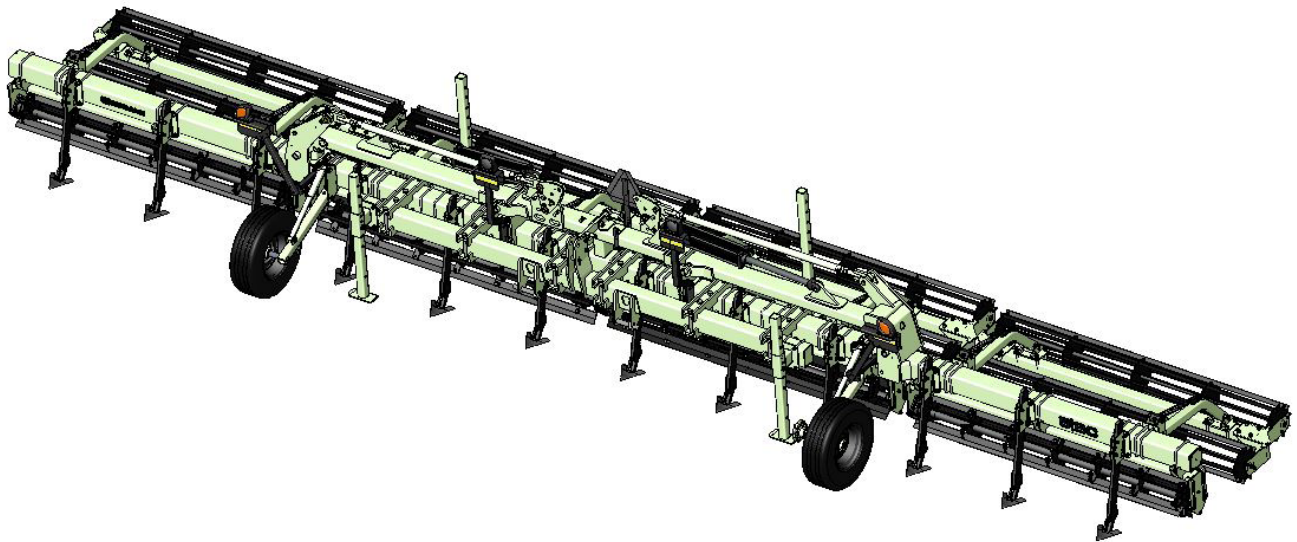


The Orthman 5|BC Bed Conditioner is the ideal tool for preparing the seedbed for the next year's crop. For bed-raised cotton, the 5|BC RaisedBed Conditioner, equipped with the full-width 5 blade chopper and front mounted sweeps, removes last season's root balls and prepares the top of the bed for planting by removing the crust and leveling the bed surface, all in one pass.

For non-bed raised crops, the 5|BC SeedBed Conditioner, equipped with the full-width 7 blade chopper, provides a planter-ready seedbed by removing the crust and leveling the seedbed surface, all in one pass.

Standard on both machines are dual rear baskets supported by a walking tandem beam for smooth travel, and adjustable down pressure arms for fine-tuning of the seedbed firmness. Optional gauge wheels offer precise height adjustment, and a harrow and board package for use in place of the dual rear baskets is also available.



12 row 38" 5|BC RAISED BED CONDITIONER shown with an Orthman Stack-fold Toolbar and optional gauge wheels.

This manual is considered to be an integral component of the 5|BC Bed Conditioner and is designed to educate the owner and/or operator(s) regarding safety, operation, maintenance, troubleshooting, and component identification. All personnel involved in the operation of this implement are responsible for reading and understanding entire manual content. This manual is designed to keep the operator safe and knowledgeable as well as prolong the life of the implement and maximize field efficiency. This manual should accompany the implement if it were ever to be sold.

We would like to thank you for placing your confidence in Orthman Mfg., Inc. Your 5|BC Bed Conditioner is manufactured to meet the highest standards and is built with precision and strength to increase your agricultural operation's dependability and profitability.

Thank you for choosing Orthman.

INTRODUCTION

To The Dealer:

Inspect the implement thoroughly after assembly to be certain it is functioning properly before delivering it to the customer. The following checklist is a reminder of points to cover. Check off each item as it is found satisfactory or after proper adjustment is made.

Pre-Delivery Checklist

- 1. All Hardware properly tightened.
- 2. Lubrication of grease fittings.
- 3. All decals properly located and readable.
- 4. All implement tools and options are installed and set.
- 5. Check overall condition of implement.
- 6. Make sure Operator's manual is included.

Date Set Up. _____ Signature. _____

Delivery

Review the operator's manual with the customer. Explain the following:

1. Introduce the machine to the customer. Give the customer this manual and encourage them to read it.
2. Make the customer aware of all the safety precautions that must be exercised when using and transporting this machine.
3. Make customer aware of the different tooling options available.
4. This machine does not come set to run in the field from the factory. The Field settings section in this manual is meant to help set the machine for optimal performance. Explain all operating adjustments.
5. Explain to the customer that the life expectancy of this machine depends on regular maintenance as directed in this manual.
6. Tell the customer to use the proper tools for service and make them aware of Orthman parts availability.
7. Write machine model number and serial number in the spaces provided below.

Date delivered. _____ Signature. _____

Model Number. _____

Serial Number. _____

INTRODUCTION

WARRANTY

Orthman warrants each new wholegood product to be free from defects in manufactured components and workmanship. This warranty is applicable only for the normal service life expectancy of the product or components, not to exceed twenty-four (24) consecutive months from date of purchase of the new Orthman product to the original purchaser.

Purchased components installed by Orthman (blades, bearings, controls, hoses, wheels, coulters, cylinders, fittings, etc.) shall be warranted by the respective manufacturer for a period of twelve (12) consecutive months from date of delivery of the new Orthman product to the original purchaser.

A completed online Warranty Registration for the original purchaser must be received by Orthman to activate warranty coverage. Non-receipt of warranty registration may void warranty coverage. The Orthman warranty is non-transferable.

Genuine Orthman replacement parts and components will be warranted for ninety (90) days from date of purchase, or the remainder of the original equipment warranty period, whichever is greater.

All warranty work is to be performed by an authorized Orthman dealer at the repairing dealer's location, unless otherwise approved by Orthman.

Under no circumstances, will this warranty cover any merchandise or component thereof, which, in the opinion of Orthman, has been subjected to misuse, unauthorized modifications or alteration, accident, collision with obstruction/ground, or if repairs have been made with parts other than those obtainable through Orthman.

Orthman warranty policies do not cover travel expenses, after-hours field/service time, overnight expenses, or expenses not related to regular shop labor rates or parts replaced during actual warranty repair. Orthman reserves the right to adjust warranty labor credits to believed normal repair times as directed by state law(s).

This warranty shall be limited to repairing or replacing, free of charge to the purchaser, any part, which Orthman's judgment shows evidence of such defect. Additionally, the defective part(s) shall be returned within thirty (30) days from the date of failure to Orthman through the dealer or distributor from whom the product was purchased or repaired; transportation charges prepaid.

This warranty shall not be interpreted to render Orthman liable for injury or damages of any kind or nature to person or property. This warranty does not extend to the loss of crops, loss of delay in harvesting/planting, or any expense or loss incurred for labor, substitute machinery, rental, or any subsequent reasons thereof.

Except as set forth above, Orthman shall have no obligation or liability of any kind on account of its equipment and shall not be liable for special or consequential damages. **Orthman makes no other warranty, expressed or implied, and, specifically disclaims any implied warranty or merchantability or fitness for a particular purpose.** Some states or provinces do not permit limitations or exclusions of implied warranties or incidental or consequential damages, so the limitations or exclusion in this warranty may not apply. This warranty is subject to any existing conditions of supply, which may directly affect ability to obtain materials or manufacture replacement parts.

Orthman reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligation to owners of units previously sold; to include, but not limit to engineering prototype machines. No one is authorized to alter, modify, or enlarge this warranty nor the exclusions, limitations, and reservations.

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Lexington, Nebraska
All rights reserved.

Orthman provides this manual without warranty of any kind, expressed or implied. This manual reflects the product at the time of publication. All information within is based upon current information on the publication date. Orthman assumes no responsibility for damages incurred due to the use of the illustrations, information, and specifications within this publication.

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SAFETY INFORMATION

Farm Safety

Contrary to the popular image of fresh air and peaceful surroundings, a farm is not a hazard-free work setting. Every year, thousands of farm workers are injured and hundreds more die in farming accidents. According to the National Safety Council, agriculture is the most hazardous industry in the nation.

How You Can Improve Farm Safety

You can start by increasing your awareness of farming hazards and making a conscious effort to prepare for emergency situations including fires, vehicle accidents, electrical shocks from equipment and wires, and chemical exposures. Be especially alert to hazards that may affect children and the elderly. Minimize hazards by carefully selecting the products you buy to ensure that you provide good tools and equipment. Always use seat belts when operating tractors, and establish and maintain good housekeeping practices. Here are some other steps you can take to reduce illnesses and injuries on the farm:

- Read and follow instructions in equipment operator's manuals and on product labels.
- Inspect equipment routinely for problems that may cause accidents.
- Discuss safety hazards and emergency procedures with your workers.
- Install approved rollover protective structures, protective enclosures, or protective frames on tractors.
- Make sure that guards on farm equipment are replaced after maintenance.
- Review and follow instructions in material safety data sheets (MSDSs) and on labels that come with chemical products and communicate information on these hazards to your workers.

Health and Safety Hazards on Farms

Farm workers including farm families and migrant workers are exposed to hazards such as the following:

| Danger | Potential Effect or Injury | Prevention |
|---------------------------|--|---|
| Chemicals/Pesticides | Skin and respiratory injury or death | MSDS and proper Personal Protective Equipment. Review Manufacturers data sheets |
| Cold | Illness, Frostbite or death | Dress properly for the day. |
| Dust | Respiratory injury or explosive combinations | Be aware of your surroundings and activity |
| Electricity | Shock, burns, fire, death | Use a qualified professional for wiring dangerous electrical devices. Never overload a circuit. Replace damaged electrical devices or cords. Electrical tape will not insulate you from injury. |
| Grain bins, Silos | Entrapment, Suffocation, Explosion from formation of dangerous gases and poisoning. | Make sure the bin is properly ventilated and maintained. Never walk the grain. |
| Hand tools | Injury including cuts abrasions, electrocution, strains, sprains and death | Make sure you hand tools are in good condition. Never leave a damaged tooling accessible for someone else to use. |
| Highway traffic | Collisions resulting in injury or death | Follow regulations, stay alert. Avoid alcohol and use of communication devices while driving |
| Lifting & lifting devices | Back injury, sprains, strains. Falling material resulting in being struck or crushed by heavy material | Use proper lifting technique. Get help when the load is too heavy. Inspect chains, straps or cables routinely to make sure they are in good condition. |
| Livestock handling | Serious injury or death resulting from being pinned struck or trampled. | Always make sure you have adequate room and an escape route |
| Machinery/Equipment | Cuts, abrasions, amputations, death. | Thoroughly read and understand your Owners Equipment Manual. Never operate the equipment without guards in place. Make sure the equipment can not be energized or otherwise put into operation while you are working on it. |
| Manure pits | Explosion from formation of dangerous gases. Suffocation. Poisoning | Proper maintenance. |
| Mud | Sprains, strains, entrapment and suffocation. Eye injury and skin irritation. | Proper Personal Protective Equipment. In some conditions a "Spotter" may be needed. |
| Noise | Hearing damage | Personal Protective Equipment. |
| Ponds | Drowning | Wear a life preserver and make sure help is readily available. |
| Slips/Trips/Falls | Sprains, strains, back and neck injury, bone breaks or death | Keep work area free from clutter and organized. If working on anything elevated make sure you have appropriate guarding and/or fall protection such as a harness and lanyard. |
| Sun/Heat | Sun burn, Heat Stroke, shock, death | Use common sense on excessively hot days, use sun screen, wear a hat and stay hydrated. |
| Toxic gases | Skin and respiratory injury or death. Explosion. | MSDS and proper Personal Protective Equipment. Review Manufacturers data sheets |
| Tractors | Cuts, abrasions, amputations, death. | Thoroughly read and understand your Owners Equipment Manual. Never operate the equipment without guards in place. Anti-roll over devices. |
| Wells | Electrocution, amputation, death | Avoid contact with water while working on an electrical device. Always be sure the equipment can/will not be energized during repair or maintenance. Make sure all guarding is in place. |
| Severe Weather | Electrocution, "struck by" injuries, death | Move to a safe place. Lightning, hail and tornadoes are unpredictable. |

Orthman Manufacturing, Inc. does not limit the potential effects or injuries nor prevention measures to those listed above. They are provided solely as a guideline to making your farm life safer. Always consult your Owner/Operators Manual for specific tool and equipment safety requirements.

SAFETY INFORMATION

High Risk Factors on Farms

The following factors may increase risk of injury or illness for farm workers:

- Age – Injury rates are highest among children age 15 and under and adults over 65.
- Equipment and Machinery – Most farm accidents and fatalities involve machinery. Proper machine guarding and doing equipment maintenance according to manufacturers' recommendations can help prevent accidents.
- Protective Equipment – Using protective equipment, such as seat belts on tractors, and personal protective equipment (such as safety gloves, coveralls, boots, hats, aprons, goggles, face shields) could significantly reduce farming injuries.
- Take precautions to prevent entrapment and suffocation caused by unstable surfaces of grain storage bins, silos, or hoppers. Never "walk the grain."
- Be aware that methane gas, carbon dioxide, ammonia, and hydrogen sulfide can form in unventilated grain silos and manure pits and can suffocate or poison workers or explode.
- Take advantage of safety equipment, such as bypass starter covers, power take-off master shields, and slow-moving vehicle emblems.
- Medical Care – Hospitals and emergency medical care are typically not readily accessible in rural areas near farms.

The Benefits of Improved Safety and Health Practices

Orthman Manufacturing Provides this document in the hope that everyone that has a job to do, does it SAFELY. Our goal and yours should be to end each day in the best possible health. Better safety and health practices reduce fatalities, injuries, and illnesses as well as associated costs such as workers' compensation insurance premiums, lost production, and medical expenses. A safer and more healthful workplace improves morale and productivity.

⚠ FOR YOUR PROTECTION



READ AND UNDERSTAND THE ENTIRE CONTENT OF THIS MANUAL BEFORE OPERATING OR SERVICING IMPLEMENT. Read and understand all operator manuals for the machinery used in conjunction with your Orthman equipment.

- Carefully **READ ALL SAFETY DECALS** in this manual as well as on the implement. Keep implement clean so decals are easily visible. Keep all safety decals in good, clean, and legible condition. Immediately replace damaged and/or missing decals. Replacement decals are available from your Orthman dealer.
- Learn to operate the implement and all components properly. Do not let others operate implement without proper instruction. Unauthorized implement modifications may impair function and safety. If you do not understand any content in this manual or need assistance, contact your Orthman dealer.

⚠ EQUIPMENT SAFETY GUIDELINES

Operator safety is the primary concern when designing an Orthman implement. Orthman integrates as many safety features into the implement as possible. You can avoid many hazards and possible accidents by observing precautions in this safety section.

- Insist that yourself and personnel working with and around you follow all safety precautions. Be cautious when working with or around implement to avoid injury.

SAFETY ALERT SYMBOL



The **SAFETY ALERT SYMBOL** warns of potential hazards to personal safety and that extra precautions must be taken. When you see this symbol, carefully read the message(s) that follow. Follow all recommended precautions and safe operating practices in this manual.

NOTE: Hazard control and accident prevention are dependent upon the safety awareness and proper training of personnel involved in the operation of this implement.

⚠ BE AWARE OF SIGNAL WORDS

SIGNAL WORDS designate a degree or level of **HAZARD** seriousness. These signal words include:



RED

DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury. **DANGER** is limited to extreme situations, typically for machine components which for functional purposes, cannot be guarded.



ORANGE

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



YELLOW

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

⚠ SHUTDOWN AND STORAGE



AVOID CRUSHING. Make sure all personnel are clear of the implement. Lower implement to the ground, place tractor in park, turn off engine, and remove key.



USE BAR STANDS AND CYLINDER STOPS TO SUPPORT THE IMPLEMENT.

Store implement on a clean, dry, and level surface. An uneven surface could cause implement to shift or fall, resulting in injury or death, as well as implement damage. Securely support all implement components that must be raised. Store implement away from human activity.

⚠️ SAFE TRANSPORT

- Engage transport locking devices prior to transport.
- Plan your route to avoid traffic. Yield to traffic in all situations.
- Maximum transport speed is 20 mph (32 kph). Various conditions will require reduced speed. Travel at speeds that allow for adequate control of stopping and steering.



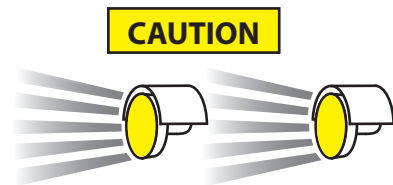
AVOID ELECTROCUTION. Be aware of overhead power lines. Contact or close proximity to power lines can result in injury or death. Use extreme care when operating implement near power lines.



- Know implement transport height and gross weight. Avoid overhead obstructions not allowing your transport height. Do not use bridges rated below combined implement and tractor weight.
- Make sure a slow moving vehicle (SMV) placard is mounted to the implement and is easily visible to other motorists.
- Make allowances for implement size when transporting. Sudden braking can cause a towed load to swerve and/or rollover. Never use independent braking with implement in tow as loss of control and/or rollover can result. Reduce speed if towed implement is not equipped with brakes.
- Do not coast. Always keep tractor or towing device in gear to provide engine braking when traveling downhill.
- Comply with state and local laws governing implement transport.

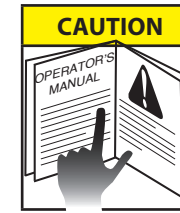


⚠️ WARNING AND SAFETY LIGHTS



- Oversized implements and slow moving vehicles create a hazard when transported on public roads.
- Make sure all warning, safety lights, and turning signals are working and clean. Use safety lighting when using public roads day and night. Replace missing or damaged lights immediately. Comply with state and local laws governing implement safety lighting.
- A safety lighting package, conforming to implement lighting standard ANSI/SAE S279.12, if not supplied with, is available for addition to your equipment. Contact your Orthman dealer for safety lighting package information. Refer to toolbar operator's manual for safety lighting package installation and adjustment.

⚠️ SAFE OPERATION



READ AND UNDERSTAND THE ENTIRE CONTENT OF THIS MANUAL BEFORE OPERATING OR SERVICING IMPLEMENT. Implement is to be operated by qualified personnel only. Never let children operate implement. A complete understanding of safety precautions, operation, and maintenance is mandatory before implement use.



AVOID ELECTROCUTION. Be aware of overhead power lines. Contact or close proximity to power lines can result in injury or death. Use extreme care when operating implement near power lines.

- Know implement transport height and gross weight. Avoid overhead obstructions not allowing your transport height. Do not use bridges rated below combined implement and tractor weight.



AVOID ROLLOVER. Do not fold or unfold implement and avoid sharp turns when on a hillside, as shift of weight could cause rollover. Operate implement at a safe distance from terrain irregularities and other obstructions that could cause rollover.



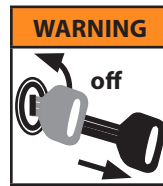
AVOID CRUSHING. Make sure all personnel are clear of implement at all times implement is in motion. Be aware of obstructions above, below, and around implement when in operation or transport. Injury or death can result from being struck by the implement.



⚠️ NO RIDERS

NEVER ALLOW RIDERS ON TRACTOR OR IMPLEMENT. Riders hinder operator visibility and can be thrown from the implement and/or be struck by foreign objects resulting in injury or death.

⚠ PRACTICE SAFE MAINTENANCE



Proper maintenance is your responsibility. Maintenance neglect and/or poor maintenance practices can result in injury or death. Always use the proper tools to maintain implement.

AVOID CRUSHING. Make sure all personnel are clear of the implement. Lower implement to the ground, place tractor in park, turn off engine, and remove key.



USE BAR STANDS AND CYLINDER STOPS TO SUPPORT THE IMPLEMENT.

Store implement on a clean, dry, and level surface. An uneven surface could cause implement to shift or fall, resulting in injury or death, as well as implement damage. Securely support all implement components that must be raised. Store implement away from human activity.



AVOID ENTANGLEMENT. Never lubricate or service implement in motion. Keep away from power driven parts when in motion. Disengage power sources prior to maintaining implement. Injury or death can result from contact with power driven parts when in motion.



AVOID CRUSHING. Do not stand between the tractor and implement when connecting or disconnecting implement. Injury or death can result from being trapped between the tractor and implement.



Escaping pressurized hydraulic fluid can penetrate skin, resulting in injury or death. Relieve hydraulic system pressure before connecting or disconnecting tractor. Use cardboard or wood, **NOT BODY PARTS**, to check for suspected hydraulic leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. If an accident occurs, see a doctor immediately for proper treatment.

⚠ PRACTICE SAFE MAINTENANCE



- Never operate a combustion engine in an enclosed area. Make sure there is adequate ventilation. Exhaust fumes can cause asphyxiation.



- Service tires safely. Tire and rim separation can result in serious injury or death. Do not over inflate tires. Only mount or dismount tires if you possess the proper equipment, otherwise contact a trained professional. Always maintain correct tire pressure. Inspect tires and wheels daily. Do not operate tires with inadequate pressure, cuts, visible damage, or missing hardware.

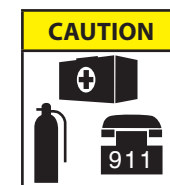


- Be extremely careful working around unshielded sharp edges. Injury may result from contact with sharp edges.

- Keep all parts in good condition and properly installed. Replace damaged or missing parts immediately.

- Remove tools and unused parts prior to implement operation.

⚠ PREPARE FOR EMERGENCIES



- Be prepared for a fire. Keep a readily accessible fire extinguisher at all times.

- Keep a readily accessible stocked first aid kit and emergency phone numbers for your doctor, hospital, ambulance, and fire department.

- Wear protective clothing and equipment. Wear clothing appropriate for the situation. Protect your eyes, ears, hands, and feet with the use of protective goggles, ear plugs, gloves, boots, etc.

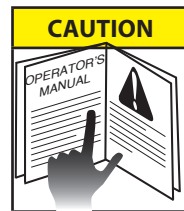
⚠ ANHYDROUS AMMONIA - NH₃ LIQUID FERTILIZER



ANHYDROUS AMMONIA (NH₃) AND LIQUID FERTILIZER APPEARS HARMLESS. DIRECT EXPOSURE TO NH₃ OR LIQUID FERTILIZER IS EXTREMELY DANGEROUS AND CAN RESULT IN INJURY AND/OR DEATH.

- Keep a clean supply of water readily accessible in case of exposure to NH₃ or liquid fertilizer.
- Wear protective goggles and gloves when working with NH₃ or liquid fertilizer. Be sure all persons involved in the operation are properly trained concerning the dangers and precautions involved in the application of NH₃ or liquid fertilizer.
- If you choose to apply NH₃ or liquid fertilizer, it is advisable to consult documented information regarding safe handling and application of NH₃ or liquid fertilizer. Information is available from the following recognized sources:

1. American National Standards Institute - www.ansi.org - (212) 642-4900
2. Material Safety Data Sheets - MSDS - www.msdsonline.com
3. National Safety Council - www.nsc.org/necas
4. The Fertilizer Institute - www.tfi.org
5. United States Department of Transportation - D.O.T. - www.dot.gov
6. Compressed Gas Association - www.cganet.com



⚠ SAFETY NEVER HURTS

READ AND UNDERSTAND THE ENTIRE CONTENT OF THIS MANUAL BEFORE OPERATING OR SERVICING IMPLEMENT.

- Understand all implement functions.
- Never stand between tractor and implement when connecting or disconnecting implement.
- Be aware of all surroundings before moving implement.
- Operate implement from operator's seat only.
- Never mount or dismount a moving tractor.
- Never leave engine running when implement is unattended.
- Keep away from power driven parts when in motion.
- Make sure all personnel are clear before lowering implement to the ground.

SAFETY DECALS

Safety decals promote awareness and knowledge concerning safe operation and maintenance of the implement.

Carefully **READ ALL SAFETY DECALS** in this manual as well as on the implement. Keep implement clean so decals are easily visible. Keep all decals in good and legible condition. Immediately replace damaged and/or missing decals. Replacement decals are available from your Orthman dealer.

To install decals: Thoroughly clean area where decal is to be placed and attach decal void of bubbles. Refer to this safety information section for proper decal placement.



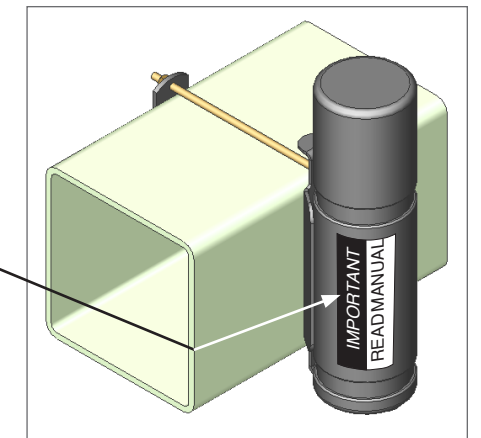
RED



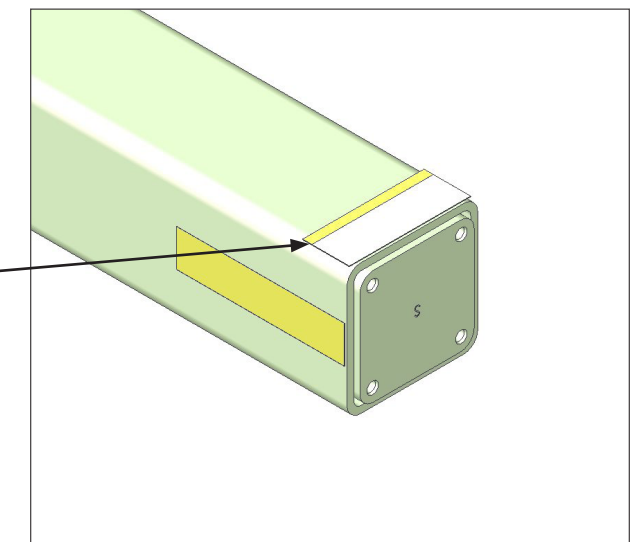
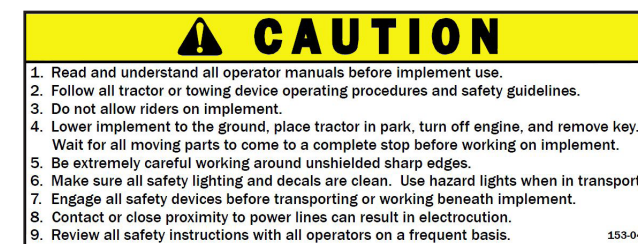
ORANGE



YELLOW



MANUAL ENCLOSURE



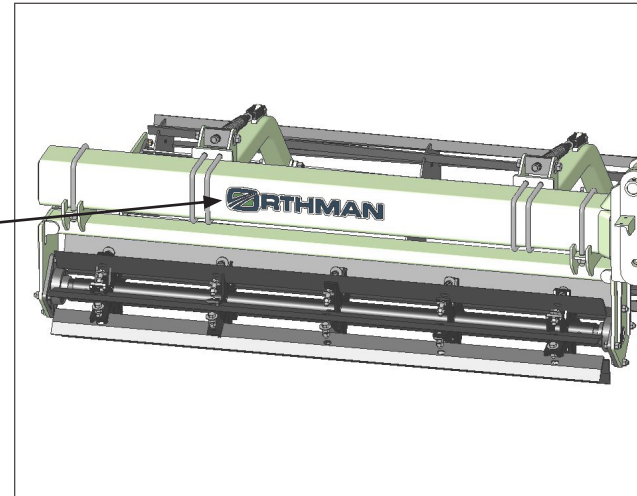
END OF TOOLBAR

ORTHMAN DECALS



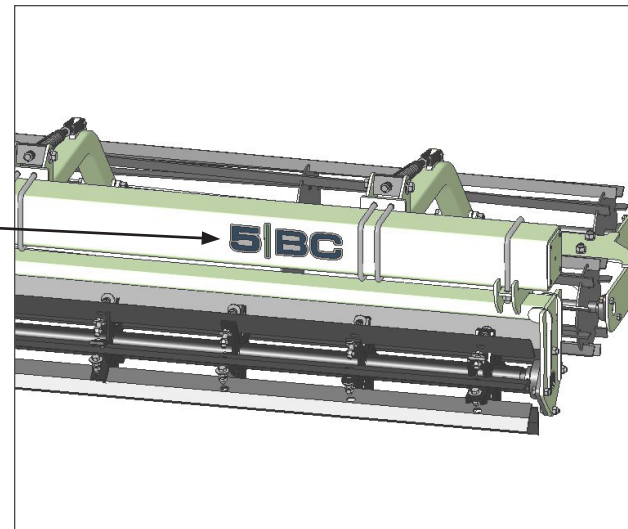
(front left and rear left of toolbar)

153-430



(front right and rear right of toolbar)

153-439

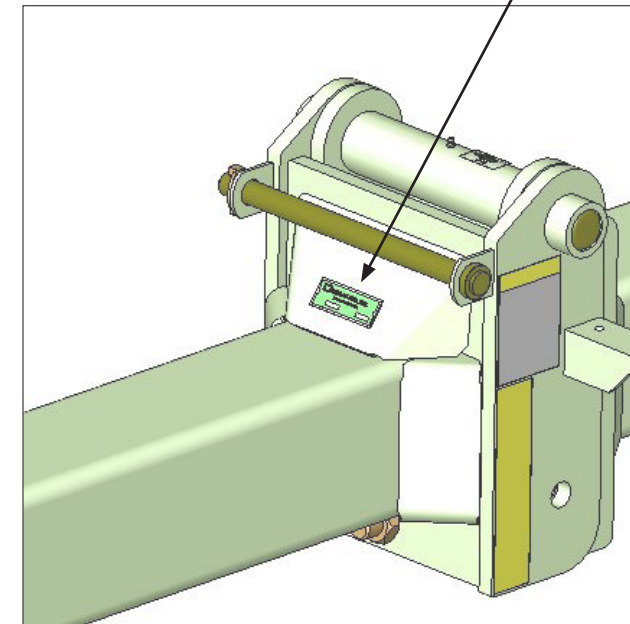


ORTHMAN SERIAL TAG

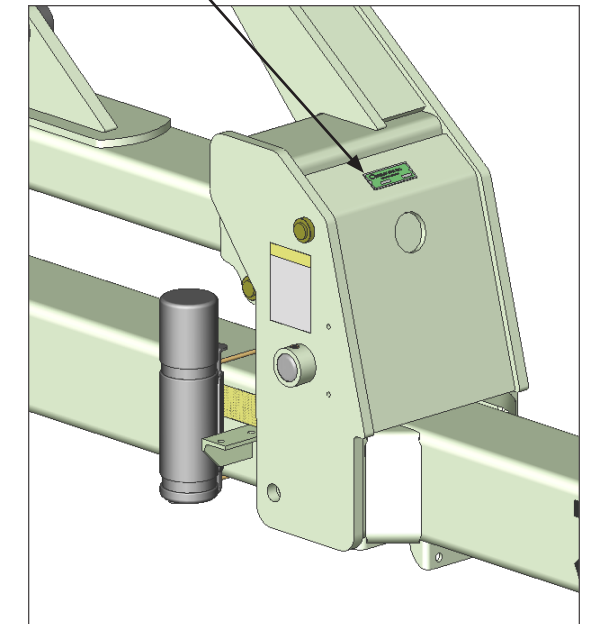
The Orthman serial tag contains valuable information. The model and serial numbers provide Orthman dealers and the Orthman Service Department with the exact specifications of your implement if any warranty or service issues need to be addressed.



153-011



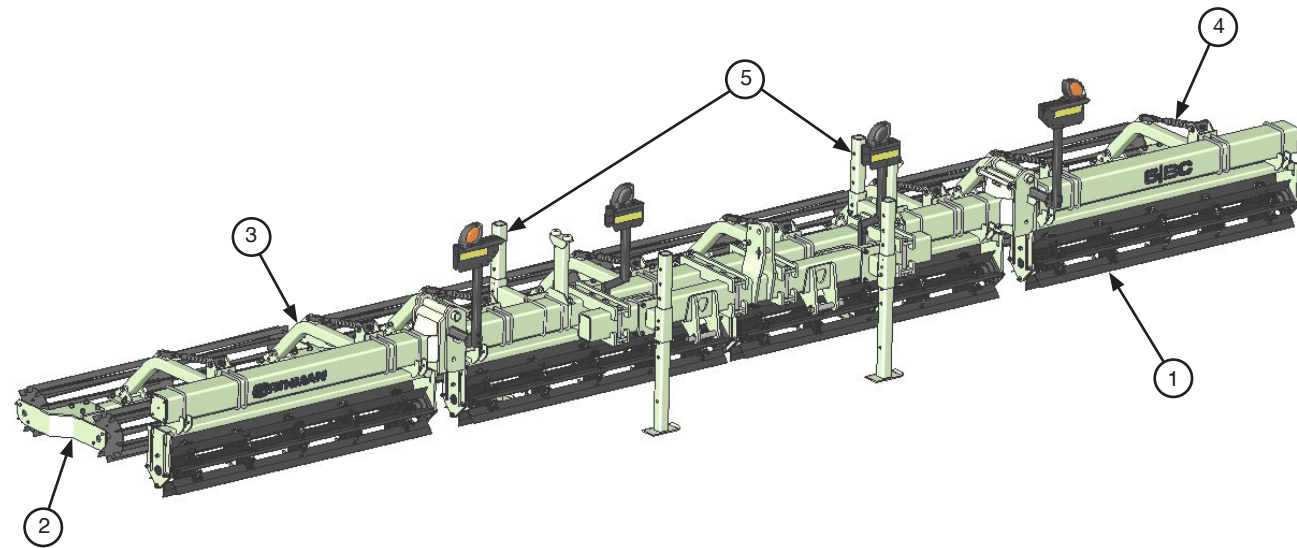
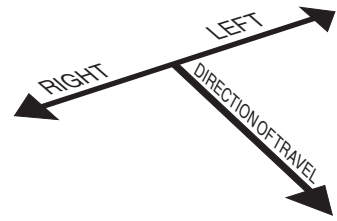
(serial tag location on vertical folding toolbar)



(serial tag location on stacking toolbar)

PREPARATION AND SETUP

**IMPLEMENT
COMPONENT IDENTIFICATION
SEED BED CONDITIONER**

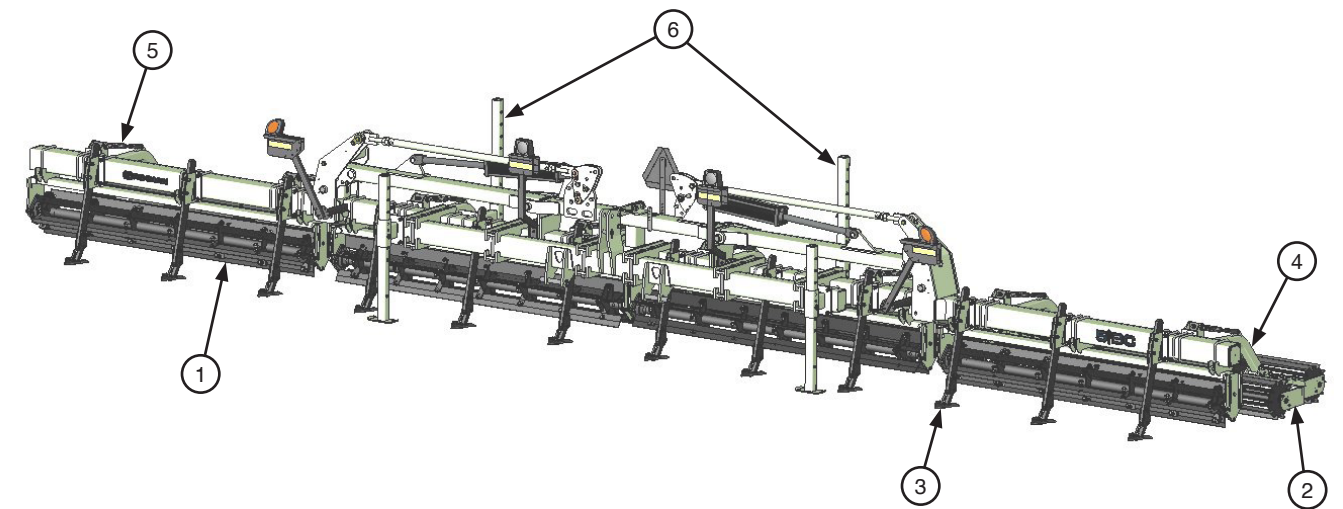
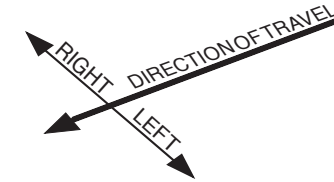


NOTE: Right and left as illustrated above and referenced from this point on, is determined by facing the same direction the implement will travel while in use.

- 1. CHOPPER REEL.** 7-blade chopper reels break down residue and lower the old crop ridge.
- 2. DUAL ROLLING BASKETS.** Rolling baskets break up any remained soil clods and firm up the seed bed for planting.
- 3. BASKET MOUNT ARM.** Unique design allows the baskets to “float” over the surface.
- 4. BASKET TENSION SPRING.** Adjustable spring provides tension to the dual rolling baskets to create the firm seed bed.
- 5. REAR BAR STANDS.** Unique to the Seed Bed Conditioner to provide more stability when implement is parked.

PREPARATION AND SETUP

**IMPLEMENT
COMPONENT IDENTIFICATION
RAISED BED CONDITIONER**



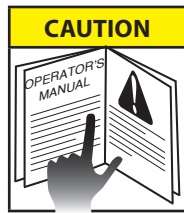
NOTE: Right and left as illustrated above and referenced from this point on, is determined by facing the same direction the implement will travel while in use.

- 1. CHOPPER REEL.** 5-blade chopper reels break down residue and lower the previous year's bed.
- 2. DUAL ROLLING BASKETS.** Rolling baskets break up any remained soil clods and firm up the bed.
- 3. RESIDUE SHOVEL.** Front mounted shovels sweep beneath the previous crop's root mass for removal from the bed.
- 4. BASKET MOUNT ARM.** Unique design allows the baskets to “float” over the surface.
- 5. BASKET TENSION SPRING.** Adjustable spring provides tension to the dual rolling baskets to create the firm seed bed.
- 6. REAR BAR STANDS.** Unique to the Raised Bed Conditioner to provide more stability when implement is parked.

PREPARATION AND SETUP

NOTES

PREPARING THE IMPLEMENT



Tooling options available for added Bed Conditioner versatility are illustrated and explained in the tooling options section of this manual. Field adjustments are illustrated and explained in the field settings section of this manual.

For Toolbar operation and settings, refer to the Toolbar Operator's Manual provided with the implement.



Before each use, check hardware for wear and proper torque. Replace damaged or missing hardware with hardware of an identical grade to restore implement to original specifications.

IMPLEMENT TO TRACTOR CONNECTION



⚠ AVOID CRUSHING. Do not stand between tractor and implement when connecting or disconnecting implement. Injury or death can result from being trapped between the tractor and implement.

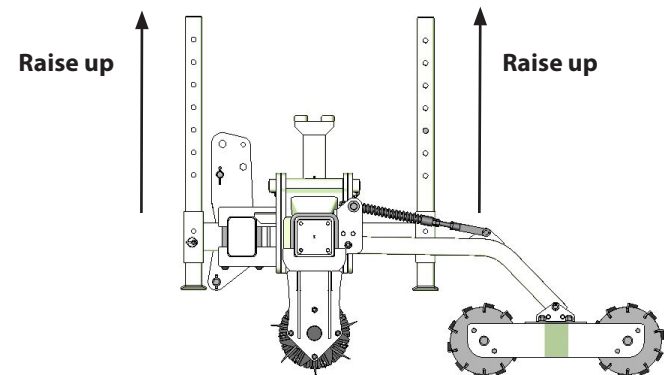
AVOID CRUSHING. Make sure all personnel are clear of the implement. Lower implement to the ground, place tractor in park, turn off engine, and remove key.



CONNECT TRACTOR 3-POINT HITCH TO IMPLEMENT HITCH POINTS:

1. Position the rear of the tractor in front of the implement.
2. Attach tractor 3-point draft links and center link to the implement hitch points. Refer to your tractor operator's manual for information on the tractor 3-point hitch.

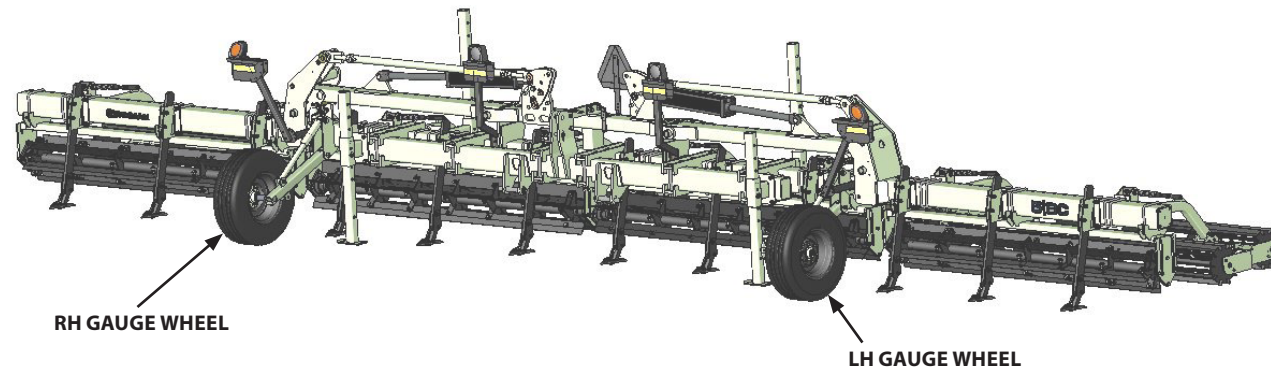
RAISE IMPLEMENT BAR STANDS:



Lined area for notes.

GAUGE WHEELS

Gauge wheels may be equipped to the 5|BC Bed Conditioner to provide consistent operating depth. Gauge wheels mount to the front of the toolbar, in front of each wing hinge. Below are installation instructions for mounting the gauge wheels.



INSTALLATION



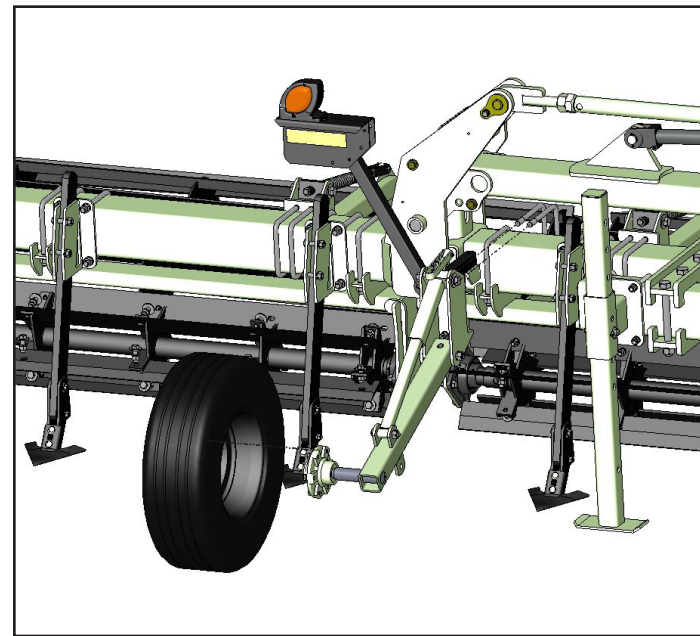
AVOID CRUSHING. Make sure all personnel are clear of the implement. Lower implement to the ground, place tractor in park, turn off engine, and remove key.

USE BAR STANDS TO SUPPORT THE IMPLEMENT. Park implement on a clean, dry, and level surface. An uneven surface could cause implement to shift or fall, resulting in personal injury or death, as well as implement damage. Securely support all implement components that must be raised. Remove buildup of grease, oil, or debris prior to installing row unit mounts.

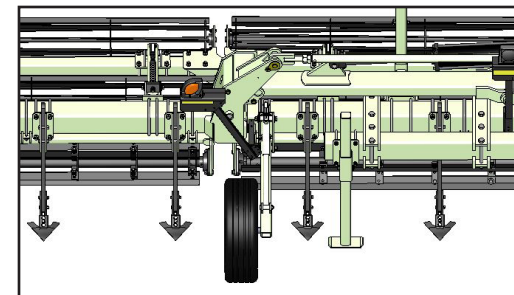
1. The gauge wheel assembly mounts directly to the 7x7 toolbar at the center section with (2) U-bolts. *There are LH and RH gauge wheel assemblies.* Be sure to mount the correct assembly in the right location.

2. The gauge wheel assembly should be mounted in the manner that allows the tire to be aligned with the toolbar hinge. See below illustration:

3. Mount the wheel and tire to the gauge wheel assembly hub and tighten all hardware.



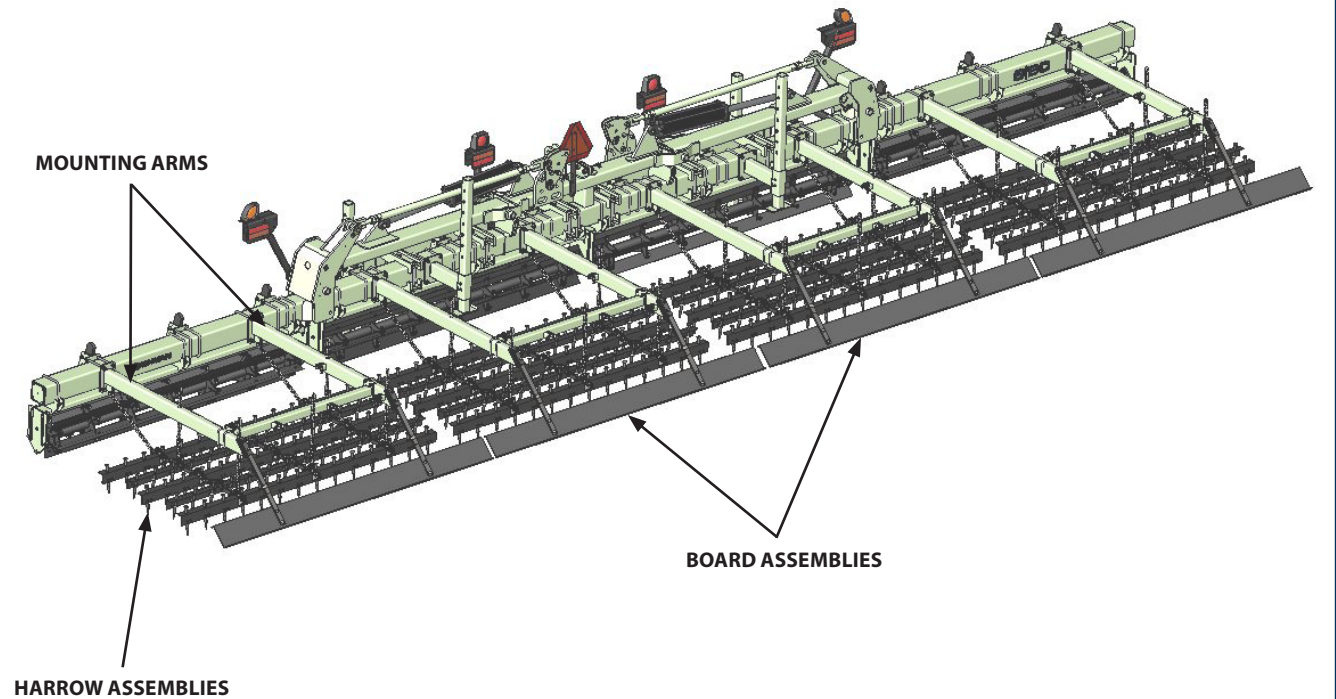
GAUGE WHEEL INSTALLATION



GAUGE WHEEL ALIGNMENT

HARROWS AND BOARDS

The 5|BC Bed Conditioner may be equipped with harrow and board assemblies in place of the dual rolling baskets. The harrow and board assemblies mount directly to the 7x7 toolbar.



HARROW ASSEMBLIES

BOARD ASSEMBLIES

FIELD OPERATION



AVOID CRUSHING. Do not stand between tractor and implement when connecting or disconnecting implement. Injury or death can result from being trapped between the tractor and implement.



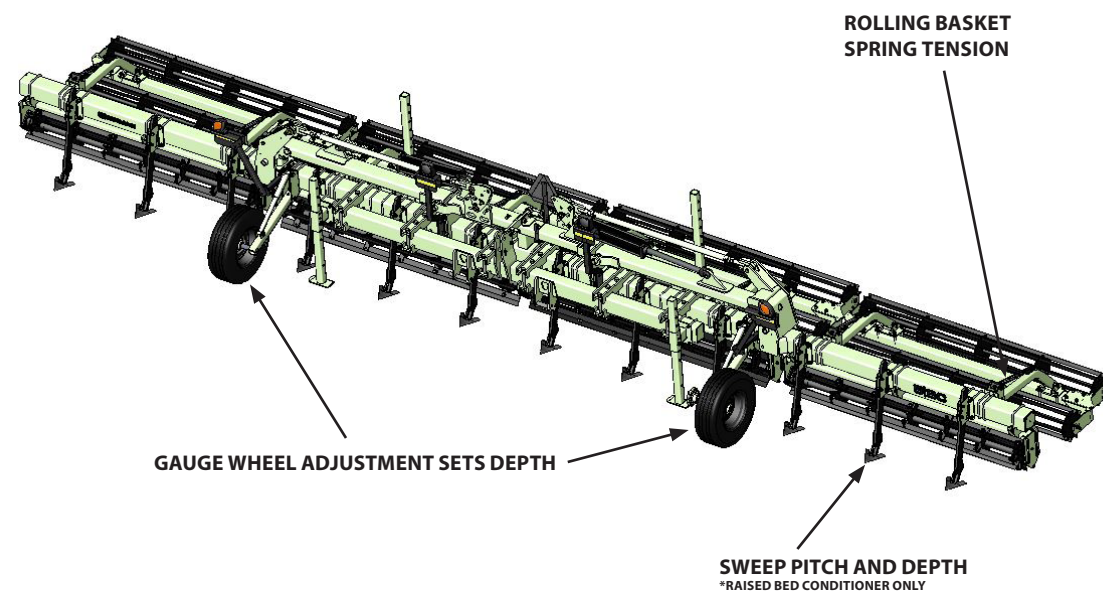
PLACE TRACTOR IN PARK AND REMOVE KEY BEFORE DISMOUNTING TRACTOR TO ADJUST IMPLEMENT.



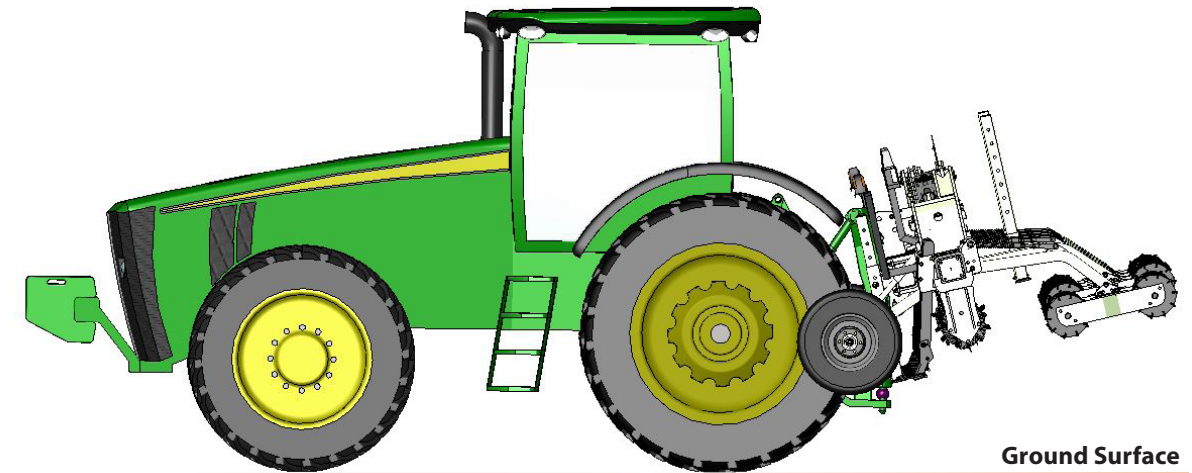
NEVER ALLOW RIDERS ON TRACTOR OR IMPLEMENT. Riders hinder operator visibility and can be thrown from the implement and/or be struck by foreign objects resulting in injury or death.



PLACE IMPLEMENT IN "FIELD READY" POSITION. MAKE NECESSARY ADJUSTMENT TO IMPLEMENT BY FOLLOWING ADJUSTMENT PROCEDURES IN THIS MANUAL. FOR TOOLBAR SETTINGS, REFER TO THE TOOLBAR OPERATOR'S MANUAL. BELOW ARE ADJUSTABLE COMPONENTS OF THE IMPLEMENT.

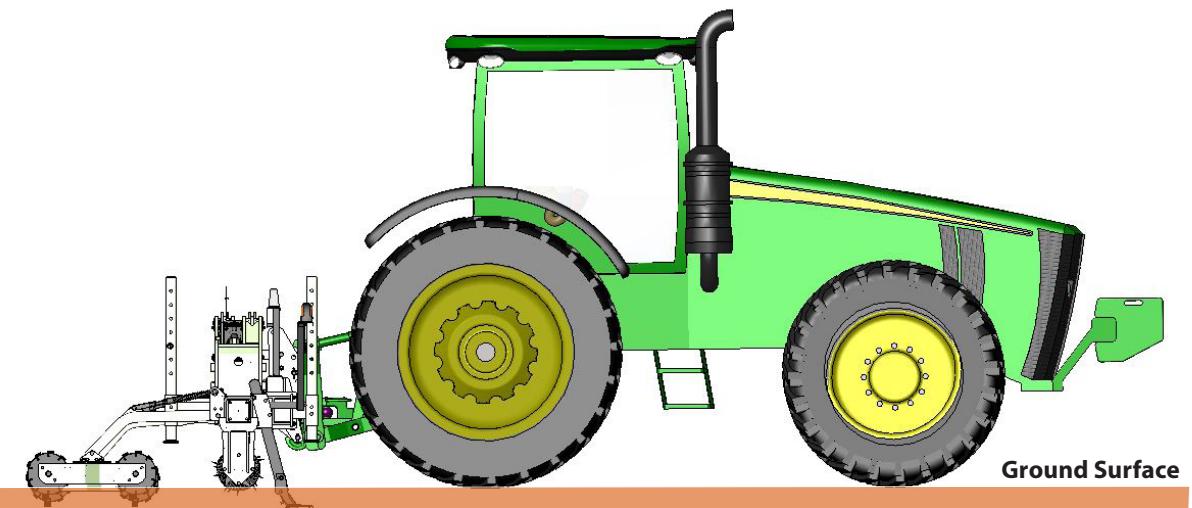


**FIELD OPERATION
RAISED BED CONDITIONER**



Ground Surface

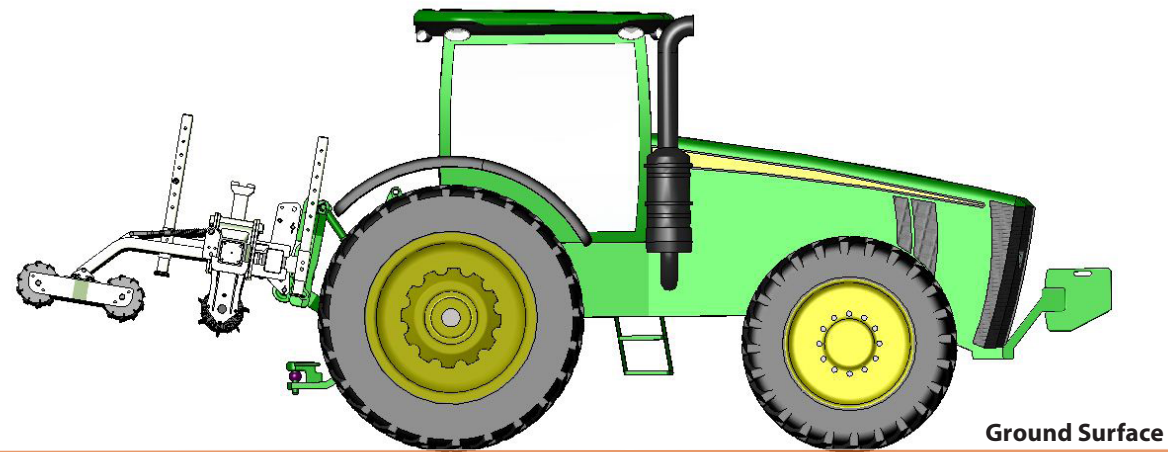
TRANSPORT POSITION. During transport, the tractor 3-point hitch should be in the fully raised position.



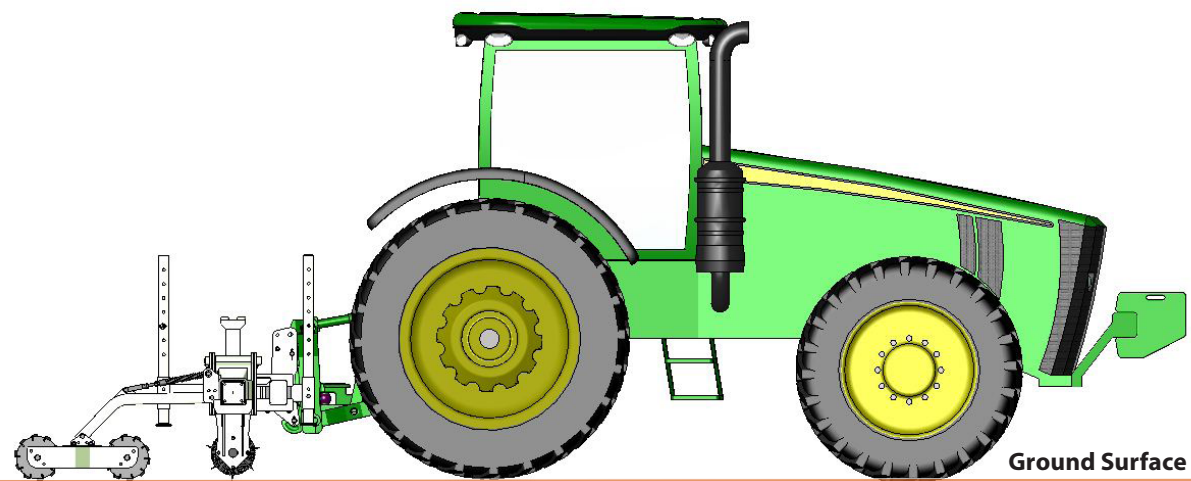
Ground Surface

FIELD POSITION. Tractor 3-point hitch should be lowered to allow all implement tooling to operate as desired. Implement should run parallel with the ground surface. Make adjustments to tractor 3-point hitch accordingly. Refer to tractor operator's manual for more information.

**FIELD OPERATION
SEED BED CONDITIONER**



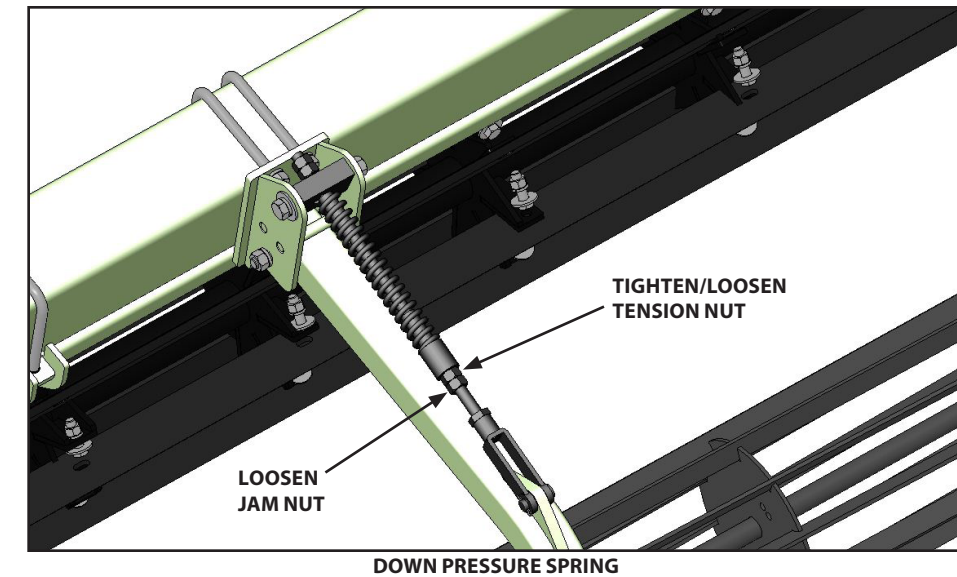
TRANSPORT POSITION. During transport, the tractor 3-point hitch should be in the fully raised position.



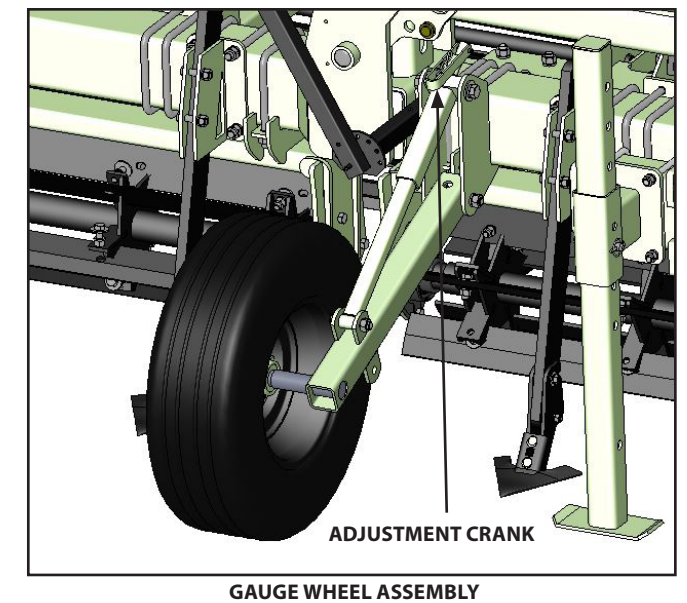
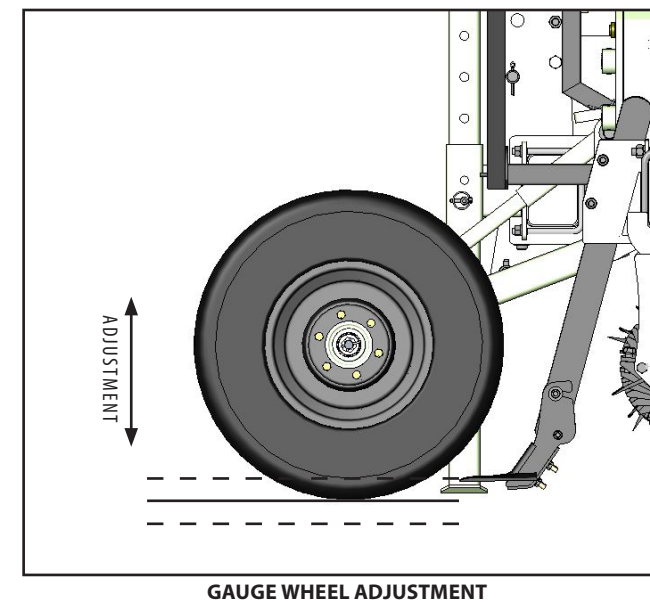
FIELD POSITION. Tractor 3-point hitch should be lowered to allow all implement tooling to operate as desired. Implement should run parallel with the ground surface. Make adjustments to tractor 3-point hitch accordingly. Refer to tractor operator's manual for more information.

FIELD ADJUSTMENTS

ROLLING BASKETS DOWN PRESSURE. The dual rear rolling baskets down pressure may be adjusted to achieve an optimum tillage bed. Be sure to adjust all arms evenly. Spring tension is adjusted by loosening the jam nut at the bottom of the spring stop and tightening/loosening the tension nut with a 1 1/8" wrench. Tightening the spring creates more down pressure.

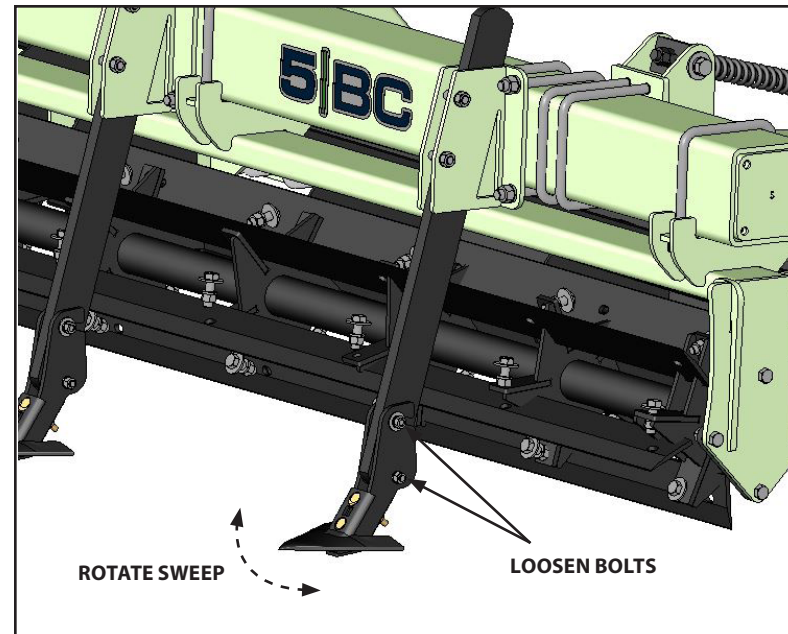


MACHINE OPERATING DEPTH (GAUGE WHEEL EQUIPPED MACHINES). Operating depth of machines equipped with gauge wheels may be adjusted by raising or lowering the gauge wheels. Lowering the gauge wheels decreases operating depth, while raising the gauge wheels increases operating depth. To adjust the gauge wheels, rotate the crank located on the gauge wheel arm assembly. Be sure to adjust all gauge wheels evenly.

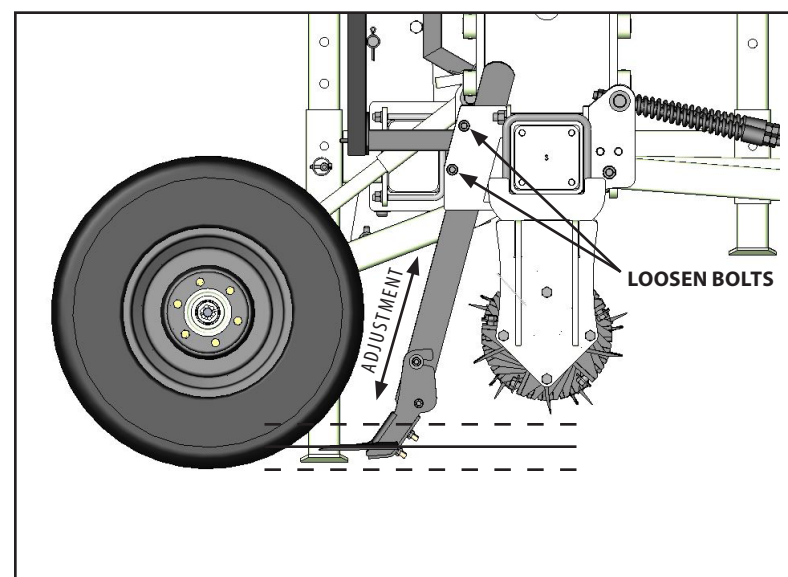


**FIELD ADJUSTMENTS
(CONTINUED)**

SWEEP PITCH. The pitch of the tillage sweeps equipped on the Raised Bed Conditioner may be adjusted to alter tillage performance. Refer to the illustrations below to perform adjustments.



SWEEP DEPTH. The depth of the tillage sweeps may be independently adjusted for deeper or shallower tillage to conform to various tillage situations. Refer to the illustration below to perform adjustments.



Series of horizontal lines for taking notes.



⚠ AVOID CRUSHING. Make sure all personnel are clear of the implement. Lower implement to the ground, place tractor in park, turn off engine, and remove key.

USE BAR STANDS TO SUPPORT THE IMPLEMENT. Park implement on a clean, dry, and level surface. An uneven surface could cause implement to shift or fall, resulting in injury or death, as well as implement damage. Securely support all implement components that must be raised. Remove buildup of grease, oil, or debris prior to adjusting implement.

PROBLEM:
Implement not operating at uniform depth

SOLUTION OPTIONS:

1. Gauge wheels not set evenly.
 - Adjust gauge wheels.



2. Tire Pressure is not equal
 - Inflate gauge wheel tires to be the same pressure.

PROBLEM:
Implement “bounces” on the soil surface

SOLUTION OPTIONS:

1. Operating speed too low.
 - Increase operating speed.



⚠ AVOID CRUSHING. Make sure all personnel are clear of the implement. Lower implement to the ground, place tractor in park, turn off engine, and remove key.

USE BAR STANDS TO SUPPORT THE IMPLEMENT. Park implement on a clean, dry, and level surface. An uneven surface could cause implement to shift or fall, resulting in injury or death, as well as implement damage. Securely support all implement components that must be raised. Remove buildup of grease, oil, or debris prior to adjusting implement.

PROBLEM:
Sweeps will not penetrate soil

SOLUTION OPTIONS:

1. Implement not level.
 - Adjust top 3-point link.



PROBLEM:
Rolling baskets are not performing aggressively

SOLUTION OPTIONS:

1. Implement not level.
 - Adjust top 3-point link.
2. Down pressure springs need more tension.
 - Adjust down pressure springs.

⚠ PRACTICE SAFE MAINTENANCE

Proper maintenance is your responsibility. Maintenance neglect and/or poor maintenance practices can result in injury or death. Always use the proper tools to maintain implement.



AVOID CRUSHING.

Make sure all personnel are clear of the implement. Lower implement to the ground, place tractor in park, turn off engine, and remove key.



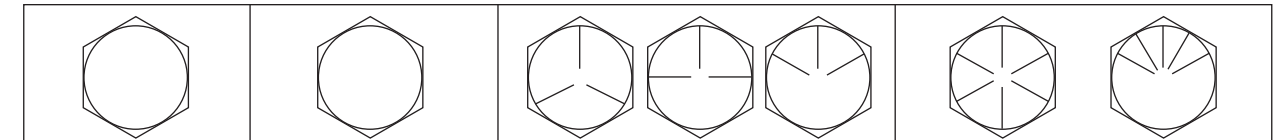
AVOID CRUSHING. Do not stand between the tractor and implement when connecting or disconnecting implement. Injury or death can result from being trapped between the tractor and implement.



CAUTION. Escaping pressurized hydraulic fluid can penetrate skin, resulting in injury or death. Relieve hydraulic system pressure before connecting or disconnecting tractor. Use cardboard or wood, NOT BODY PARTS, to check for suspected hydraulic leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. If an accident occurs, see a doctor immediately for proper treatment.

TORQUE SPECIFICATIONS

Unified Inch Bolt and Screw Torque Values



| Bolt or Screw Size | SAE Grade 1 | | | | SAE Grade 2 ^a | | | | SAE Grade 5, 5.1 or 5.2 | | | | SAE Grade 8 or 8.2 | | | |
|--------------------|-------------------------|-------|------------------|-------|--------------------------|-------|------------------|-------|-------------------------|-------|------------------|-------|-------------------------|-------|------------------|-------|
| | Lubricated ^b | | Dry ^c | | Lubricated ^b | | Dry ^c | | Lubricated ^b | | Dry ^c | | Lubricated ^b | | Dry ^c | |
| | N·m | lb-in | N·m | lb-in | N·m | lb-in | N·m | lb-in | N·m | lb-in | N·m | lb-in | N·m | lb-in | N·m | lb-in |
| 1/4 | 3.7 | 33 | 4.7 | 42 | 6 | 53 | 7.5 | 66 | 9.5 | 84 | 12 | 106 | 13.5 | 120 | 17 | 150 |
| | | | | | | | | | | | | | N·m | lb-ft | N·m | lb-ft |
| 5/16 | 7.7 | 68 | 9.8 | 86 | 12 | 106 | 15.5 | 137 | 19.5 | 172 | 25 | 221 | 28 | 20.5 | 35 | 26 |
| | | | | | | | | | N·m | lb-ft | N·m | lb-ft | | | | |
| 3/8 | 13.5 | 120 | 17.5 | 155 | 22 | 194 | 27 | 240 | 35 | 26 | 44 | 32.5 | 49 | 36 | 63 | 46 |
| | | | N·m | lb-ft | N·m | lb-ft | N·m | lb-ft | | | | | | | | |
| 7/16 | 22 | 194 | 28 | 20.5 | 35 | 26 | 44 | 32.5 | 56 | 41 | 70 | 52 | 80 | 59 | 100 | 74 |
| | N·m | lb-ft | | | | | | | | | | | | | | |
| 1/2 | 34 | 25 | 42 | 31 | 53 | 39 | 67 | 49 | 85 | 63 | 110 | 80 | 120 | 88 | 155 | 115 |
| 9/16 | 48 | 35.5 | 60 | 45 | 76 | 56 | 95 | 70 | 125 | 92 | 155 | 115 | 175 | 130 | 220 | 165 |
| 5/8 | 67 | 49 | 85 | 63 | 105 | 77 | 135 | 100 | 170 | 125 | 215 | 160 | 240 | 175 | 308 | 225 |
| 3/4 | 120 | 88 | 150 | 110 | 190 | 140 | 240 | 175 | 300 | 220 | 380 | 280 | 425 | 315 | 540 | 400 |
| 7/8 | 190 | 140 | 240 | 175 | 190 | 140 | 240 | 175 | 490 | 360 | 615 | 455 | 690 | 510 | 870 | 640 |
| 1 | 285 | 210 | 360 | 265 | 285 | 210 | 360 | 265 | 730 | 540 | 920 | 680 | 1030 | 760 | 1300 | 960 |
| 1-1/8 | 400 | 300 | 510 | 375 | 400 | 300 | 510 | 375 | 910 | 670 | 1150 | 850 | 1450 | 1075 | 1850 | 1350 |
| 1-1/4 | 570 | 420 | 725 | 535 | 570 | 420 | 725 | 535 | 1280 | 945 | 1630 | 1200 | 2050 | 1500 | 2600 | 1920 |
| 1-3/8 | 750 | 550 | 950 | 700 | 750 | 550 | 950 | 700 | 1700 | 1250 | 2140 | 1580 | 2700 | 2000 | 3400 | 2500 |
| 1-1/2 | 990 | 730 | 1250 | 930 | 990 | 730 | 1250 | 930 | 2250 | 1650 | 2850 | 2100 | 3600 | 2650 | 4550 | 3350 |

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

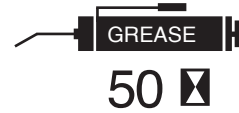
^aGrade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long. Grade 1 applies for hex cap screws over 6 in. (152 mm) long, and for all other types of bolts and screws of any length.

^b"Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C zinc flake coating.

^c"Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B zinc flake coating.

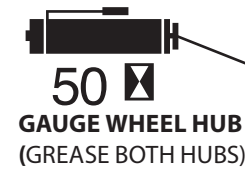
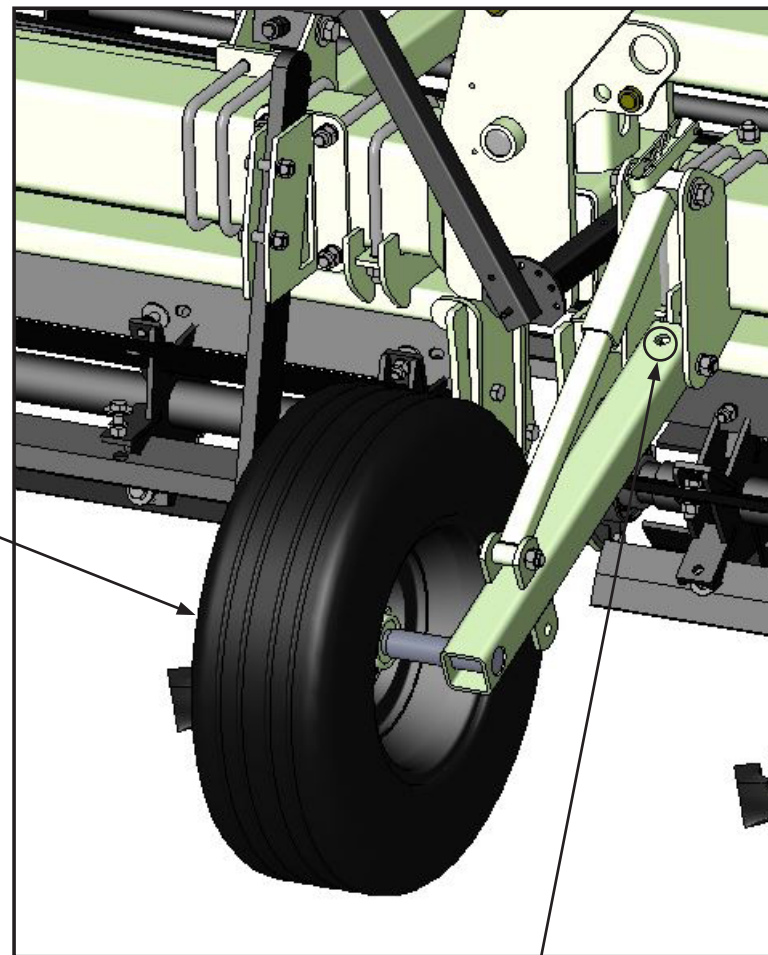
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LUBRICATION



- Grease - use high quality multi-purpose grease.
- Follow recommended 50 hour service interval illustrated below.

NOTE: THE CHOPPER REEL AND DUAL ROLLING BASKET ASSEMBLY BEARINGS ARE GREASED FROM THE FACTORY AND SHOULD NOT REQUIRE ANY LUBRICATION OVER THE BEARING'S LIFETIME.



IMPLEMENT INSPECTION



- When replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore implement to original specifications. Replace broken or worn parts immediately. Contact your Orthman dealer for replacement parts.



- During break-in (40 hours), check hardware for proper torque every 10 to 20 hours.
- Before each use, check hardware for wear and proper torque. Replace damaged or missing hardware with hardware of an identical grade to restore implement to original specifications.
- Do not allow debris to buildup on any surface of the implement.
- Replace all shields and guards. Be sure all tools, parts, and service equipment are removed prior to transporting equipment.

IMPLEMENT STORAGE



- Clean and touch up paint seasonally to avoid corrosion and rust. Contact your Orthman dealer for touch up paint.
- Inspect all safety and Orthman decals and replace if missing or damaged. Contact your Orthman dealer for replacement decals.

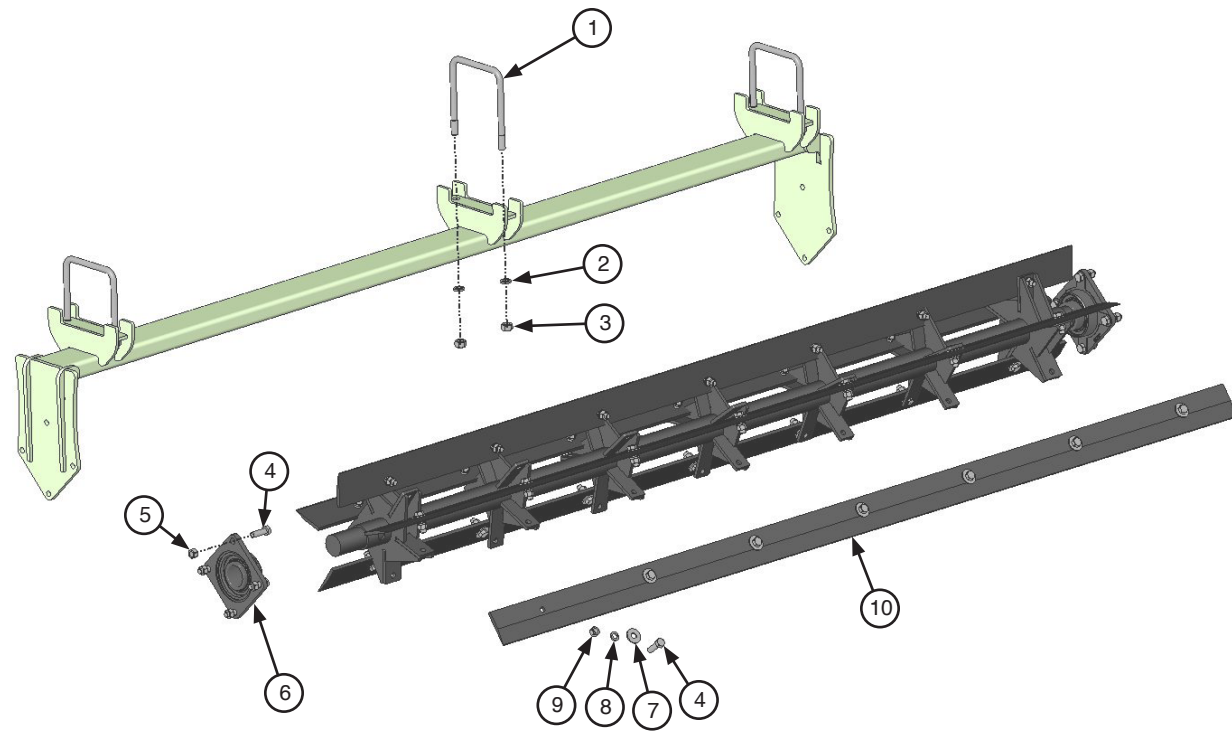
- Grease all zerks regardless of hourly interval prior to storage.
- Check all hardware according to torque specifications prior to storage.
- Replace all worn or damaged parts prior to storage.
- Store inside if possible. Storing implement inside will prolong the life of the components.



- ⚠ **AVOID CRUSHING.** Make sure all personnel are clear of the implement. Lower implement to the ground, place tractor in park, turn off engine, and remove key.

Storing implement on the ground will relieve the tractor three point hitch of hydraulic pressure.

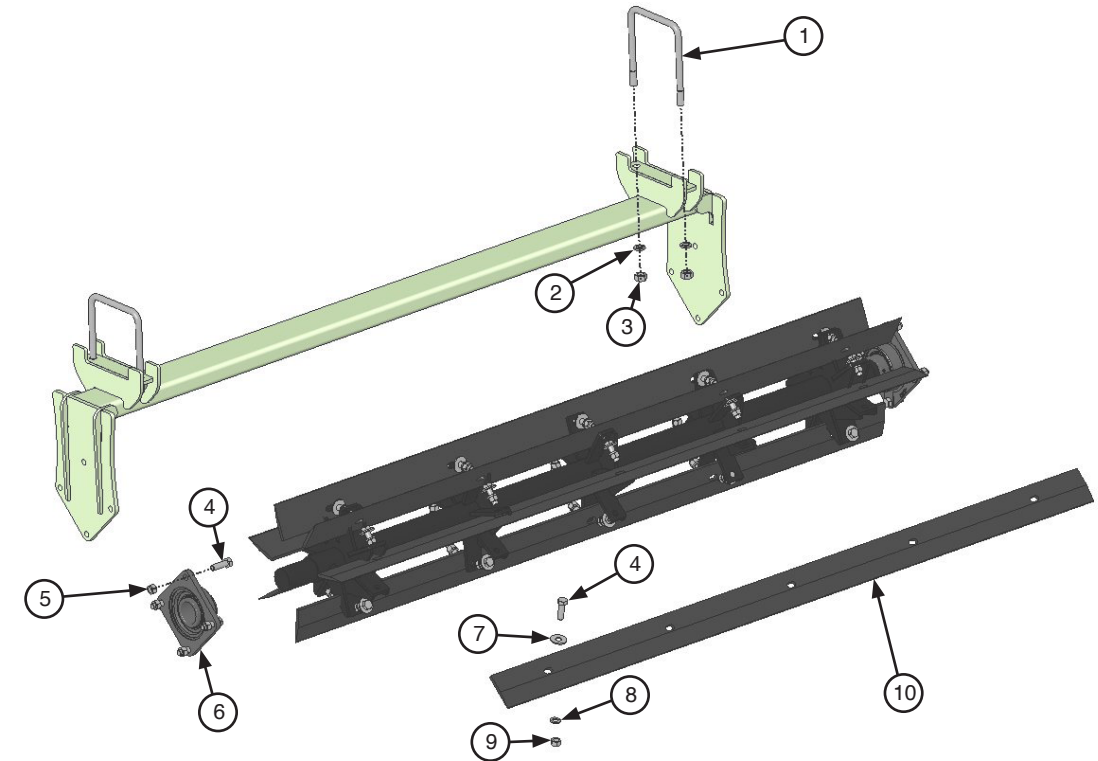
PARTS IDENTIFICATION



CHOPPER REEL ASSEMBLY - RAISED BED CONDITIONER (5 BLADE)

| Key | Part # | Description | Qty | Notes |
|-----|---------|-------------------|-----|--|
| 1 | 315-031 | U-bolt | 3 | 3/4"; 7x7 bar |
| 2 | 108-022 | Lock washer | 6 | 3/4" |
| 3 | 102-009 | Nut | 6 | 3/4" |
| 4 | 100-227 | Bolt | - | 5/8" x 2"; GR. 5 |
| 5 | 102-029 | Lock nut | 8 | 5/8" |
| 6 | 120-294 | Bearing | 2 | ---- |
| 7 | 108-010 | Flat washer | 35 | 5/8" |
| 8 | 108-021 | Lock washer | 35 | 5/8" |
| 9 | 102-008 | Nut | 35 | 5/8" |
| 10 | 386-605 | Chopper blade | 5 | 106"; 12R38 to 12R40, 16R30 |
| | 386-527 | Chopper blade | 5 | 111"; 12R38, 12R40, 16R30 |
| | 386-954 | Chopper blade | 5 | 100"; 12R36 to 12R38 |
| - | 386-930 | Complete assembly | - | 106"; 12R38 to 12R40, 16R30; Includes items 1 - 10 |
| - | 386-925 | Complete assembly | - | 111"; 12R38, 12R40, 16R30; Includes items 1 - 10 |
| - | 386-952 | Complete assembly | - | 100"; 12R36 to 12R38; Includes items 1 - 10 |

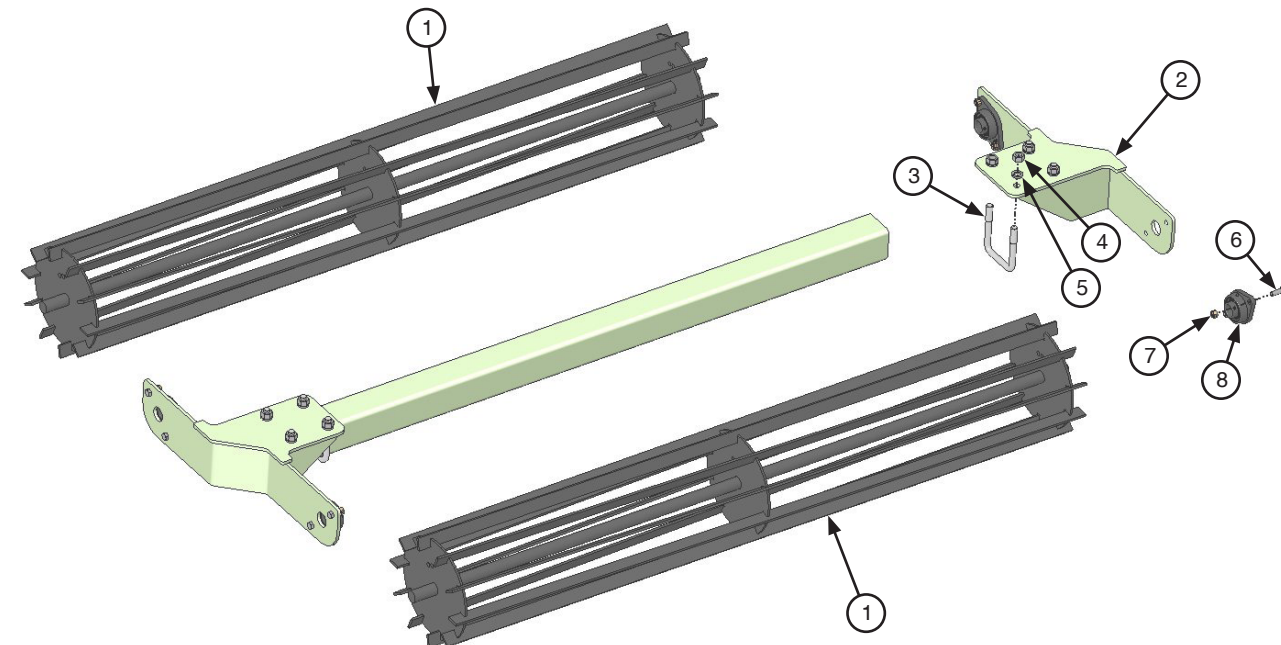
PARTS IDENTIFICATION



CHOPPER REEL ASSEMBLY - SEED BED CONDITIONER (7 BLADE)

| Key | Part # | Description | Qty | Notes |
|-----|---------|-------------------|-----|---|
| 1 | 315-031 | U-bolt | 3 | 3/4"; 7x7 bar |
| 2 | 108-022 | Lock washer | 6 | 3/4" |
| 3 | 102-009 | Nut | 6 | 3/4" |
| 4 | 100-227 | Bolt | - | 5/8" x 2"; GR. 5 |
| 5 | 102-029 | Lock nut | 8 | 5/8" |
| 6 | 120-294 | Bearing | 2 | ---- |
| 7 | 108-010 | Flat washer | - | 5/8" |
| 8 | 108-021 | Lock washer | - | 5/8" |
| 9 | 102-008 | Nut | - | 5/8" |
| 10 | 386-897 | Chopper blade | 7 | 82"; 12R30 |
| | 386-527 | Chopper blade | 7 | 111"; 16R30 and 8R30 |
| - | 386-948 | Complete assembly | - | 82"; 12R30; Includes items 1 - 10 |
| - | 386-946 | Complete assembly | - | 111"; 16R30 and 8R30; Includes items 1 - 10 |

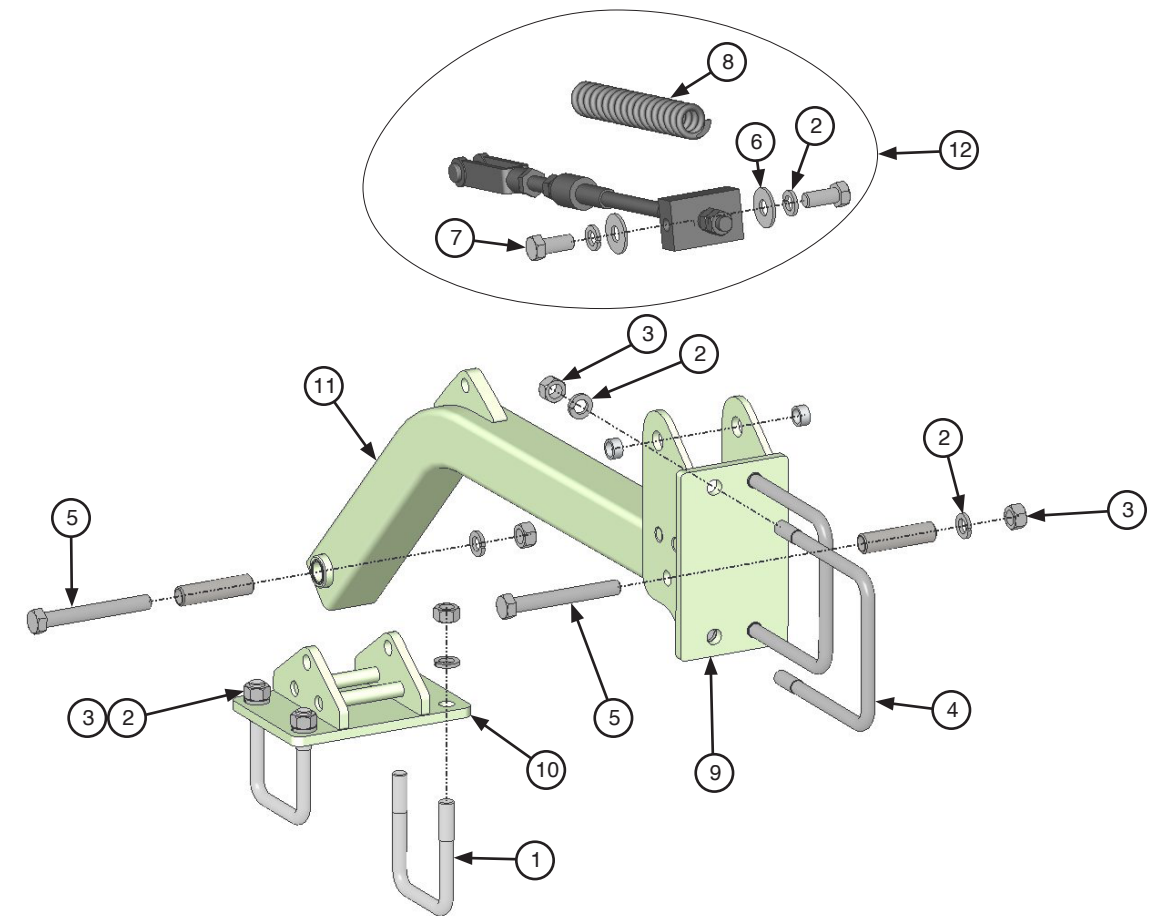
PARTS IDENTIFICATION



DUAL ROLLING BASKETS ASSEMBLY

| Key | Part # | Description | Qty | Notes |
|-----|---------|-------------------|-----|---|
| 1 | 386-622 | Basket assembly | 2 | 111" |
| | 386-880 | Basket assembly | 2 | 106" |
| | 386-900 | Basket assembly | 2 | 85" |
| 2 | 386-612 | End plate | 2 | Bearings not included |
| 3 | 150091 | U-bolt | 4 | 3/4"; 4 x 4 bar |
| 4 | 102-009 | Nut | 8 | 3/4" |
| 5 | 108-022 | Lock washer | 8 | 3/4" |
| 6 | 100-116 | Bolt | 8 | 1/2" x 1 1/2"; GR. 5 |
| 7 | 102-028 | Nut | 8 | 1/2" |
| 8 | 120-295 | Bearing | 4 | ---- |
| - | 386-617 | Complete assembly | - | 111"; 12R38, 12R40, 16R30, 8R30; Includes items 1 - 8 |
| - | 386-883 | Complete assembly | - | 106"; 12R36 and 12R38; Includes items 1 - 8 |
| - | 386-898 | Complete assembly | - | 85"; 12R30; Includes items 1 - 8 |

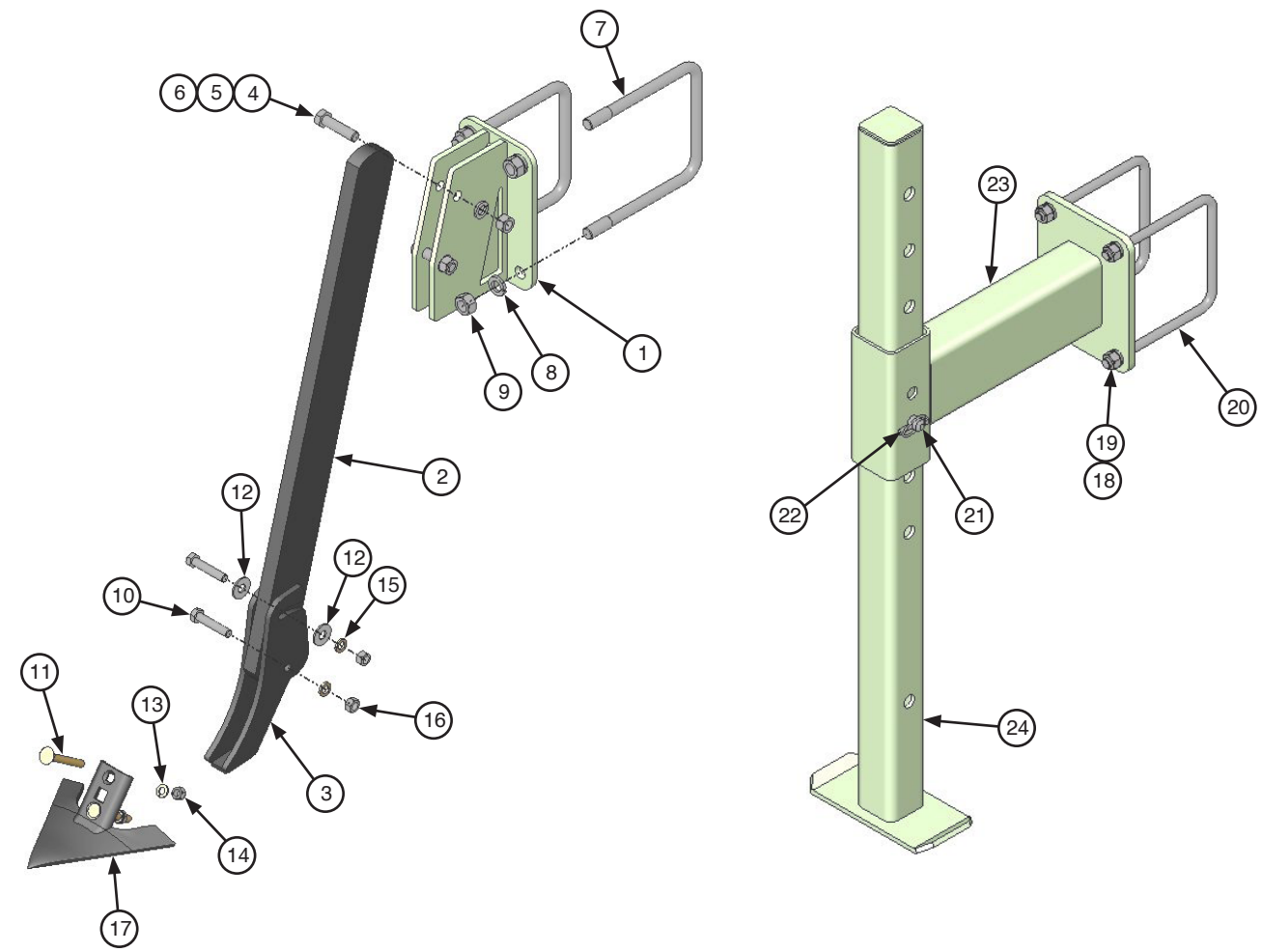
PARTS IDENTIFICATION



DOWN PRESSURE ARM ASSEMBLY

| Key | Part # | Description | Qty | Notes |
|-----|---------|-------------------------------|-----|--|
| 1 | 150091 | U-bolt | 2 | 3/4"; 4 x 4 bar |
| 2 | 108-022 | Lock washer | 12 | 3/4" |
| 3 | 102-009 | Nut | 10 | 3/4" |
| 4 | 315-031 | U-bolt | 2 | 3/4"; 7 x 7 bar |
| 5 | 100-167 | Bolt | 2 | 3/4" x 6"; GR. 5 |
| 6 | 108-011 | Flat washer | 2 | 3/4" |
| 7 | 100-155 | Bolt | 2 | 3/4" x 1 3/4"; GR. 5 |
| 8 | 361003 | Spring | 1 | ---- |
| 9 | 386-774 | Mount | 1 | Arm to toolbar mount fixture |
| 10 | 386-771 | Mount | 1 | Basket pivot |
| 11 | 386-777 | Arm | 1 | Mounts not included |
| 12 | 386-781 | Down pressure spring assembly | - | Includes item 8 and spring rod assembly; Mount hardware not included |
| - | 386-775 | Complete assembly | - | Includes items 1 - 12 |

PARTS IDENTIFICATION



RBC SWEEP ASSEMBLY

| Key | Part # | Description | Qty | Notes |
|-----|---------|-------------|-----|-----------------------|
| 1 | 386-515 | Mount | - | Shank mount |
| 2 | 386-519 | Shank | - | ---- |
| 3 | 311-350 | Foot piece | - | ---- |
| 4 | 100-135 | Bolt | 2 | 5/8" x 2 1/2"; GR. 5 |
| 5 | 108-021 | Lock washer | 2 | 5/8" |
| 6 | 102-008 | Nut | 2 | 5/8" |
| 7 | 315-031 | U-bolt | 2 | 3/4"; 7 x 7 bar |
| 8 | 108-022 | Lock washer | 4 | 3/4" |
| 9 | 102-009 | Nut | 4 | 3/4" |
| 10 | 100-120 | Bolt | 2 | 1/2" x 2 1/2"; GR. 5 |
| 11 | 100-403 | Bolt | 2 | 7/16" x 3 1/2"; GR. 5 |
| 12 | 108-009 | Flat washer | 2 | 1/2" |
| 13 | 108-019 | Lock washer | 2 | 7/16" |

| Key | Part # | Description | Qty | Notes |
|-----|---------|-------------|-----|-------|
| 14 | 102-006 | Nut | 2 | 7/16" |
| 15 | 108-020 | Lock washer | 2 | 1/2" |
| 16 | 102-007 | Nut | 2 | 1/2" |
| 17 | 162-015 | Shovel | 1 | ---- |

REAR BARSTAND ASSEMBLY

| Key | Part # | Description | Qty | Notes |
|-----|---------|-------------|-----|-----------------|
| 18 | 102-008 | Nut | 4 | 5/8" |
| 19 | 108-021 | Lock washer | 4 | 5/8" |
| 20 | 315-030 | U-bolt | 2 | 5/8"; 7 x 7 bar |
| 21 | 303-846 | Pin | 1 | ---- |
| 22 | 104-065 | Linch pin | 1 | ---- |
| 23 | 332-113 | Sleeve | 1 | ---- |
| 24 | 303-744 | Stand | 1 | ---- |

NOTES
