



# LB

**LISTER BEDDER  
OPERATOR'S MANUAL**

# 333

**ORTHMAN  
MANUFACTURING  
INCORPORATED**

***STILL THE STRONGEST***

**ORTHMAN MFG. INC.  
75765 RD. 435  
LEXINGTON, NE 68850**

**OM05-07-01**

# 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 and 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. Lightening, 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.**

## 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

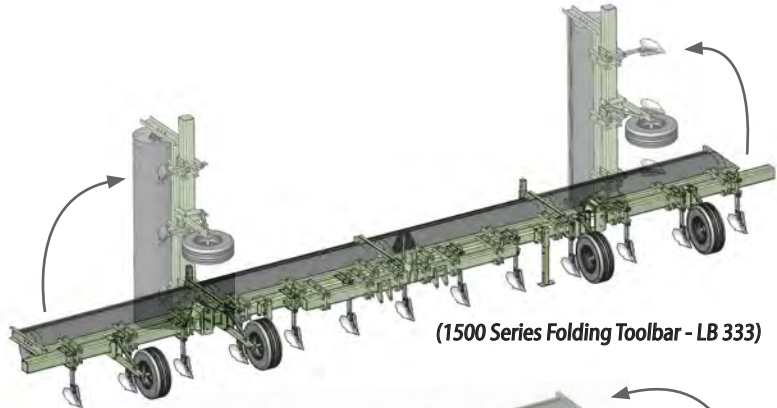
Orthman Manufacturing Provides this document in the hope that everyone that has a job to do, does it SAFELY. Our goal and yours should be to end each day in the best possible health. Better safety and health practices reduce fatalities, injuries, and illnesses as well as associated costs such as workers'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



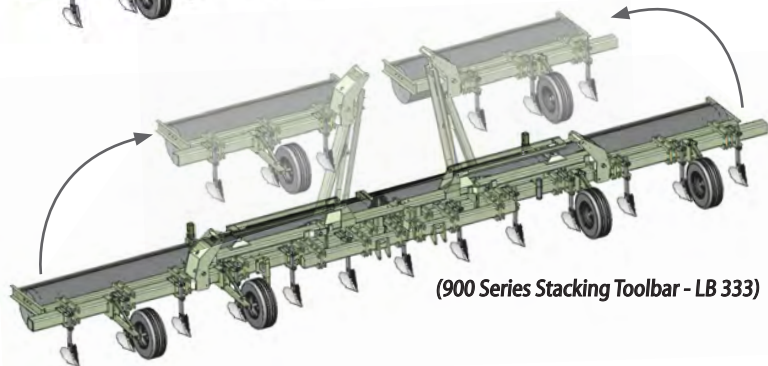
## INTRODUCTION

The Orthman Lister Bedder 333 combines a field drainage system with a firm, level, and uniform seedbed. The creation of furrows between seedbeds allow the field to drain effectively as well as assist with furrow irrigation if needed. The perfect seedbed provides the producer with an opportunity to plant in a seedbed of firm and moist soil, free of soil variabilities that could hinder seed development. Combining the listing and bedding processes into one machine reduces the number of preplant operations the producer must accomplish prior to each growing season.

**LB** LISTER  
BEDDER  
**333**



(1500 Series Folding Toolbar - LB 333)



(900 Series Stacking Toolbar - LB 333)

This manual is considered to be an integral component of the Lister Bedder 333 and is designed to educate the owner and operator's regarding safety, operation, maintenance, troubleshooting, and component identification.

All personnel involved in the operation of the Lister Bedder 333 are responsible for reading and understanding the entire content of this manual. This manual is designed to keep the operator safe and knowledgeable as well as prolong the life of the implement, minimize downtime, 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 Lister Bedder 333 is manufactured to meet the highest standards and is built with Orthman precision and strength to increase your agricultural operation's dependability and profitability.

*Thank you for choosing Orthman.*

**STILL THE STRONGEST.**





## INTRODUCTION

### WARRANTY

Orthman Mfg., Inc. warrants the whole goods products it manufactures to be free from defects in material or workmanship for a period of one (1) year from the date of sale of the product(s) to the original user. Products not manufactured, but supplied by Orthman Mfg., Inc. on Orthman products, are subject to, conform with, and are limited to the warranty of our suppliers.

Orthman Mfg., Inc. warrants the parts it manufactures to be free from defects in material or workmanship for a period of ninety (90) days from the date of delivery of the product(s) to the original user. Products not manufactured, but supplied by Orthman Mfg., Inc. on Orthman products, are subject to, conform with, and are limited to the warranty of our suppliers.

Warranty of Orthman whole goods and/or parts applies only to material and workmanship. Misuse, misapplication, neglect, alteration, accident, normal wear, or acts of God affecting Orthman products are not eligible for warranty.

Warranty of serial numbered goods will only be considered if the product has a completed Warranty Registration on file at Orthman. This Warranty Registration must be completed and returned to Orthman within thirty (30) days of the sale of the product(s) to the original user. *No serial numbered goods or related parts and/or labor will be warranted without a Warranty Registration on file.* Warranty issues falling within the first thirty days of a product's use will be handled at the discretion of Orthman. Warranty of parts will not require a Warranty Registration, but proof of date of delivery of the product to the original customer must be provided.

**WARRANTY CLAIMS:** A warranty claim and request to return defective product(s) must be presented to the Orthman Service Department by the selling dealer describing the defect in material or workmanship of an Orthman product(s) within ten (10) days of its discovery. This claim may be made via phone, e-mail, fax, or written request. Claims for warranty of serial numbered goods must include the Orthman product serial number and model number. Claims for warranty of parts will not require a product serial number or model number, but must be identified by an Orthman part number. Claims for warranty of whole goods or parts must also include proof of date of sale of the product to the original customer by an Orthman dealer.

The Orthman Service Department will proceed in making a preliminary decision as to the eligibility of the claim for warranty consideration. After the Orthman Service Department deems it necessary to proceed with warranty consideration, a Return Goods Authorization (RGA) will be completed by the Orthman Service Department in conjunction with the selling dealer. Upon completion of the RGA, the defective product(s) must be returned to Orthman to ensure warranty consideration. Defective product(s) must be returned to Orthman by either the selling dealer or the customer. Customer delivery of defective product(s) must be approved by Orthman and the selling dealer prior to delivery. The defective product(s) in question must be sent, freight prepaid, within sixty (60) days of the discovery of the product(s) failure and initial warranty claim. Replacement product(s) may be sent to the selling dealer, directly to the customer, or picked up at the Orthman facility. Replacement product(s), sent directly to the customer or picked up must be approved by Orthman and the selling dealer. At the discretion of the Orthman Service Department, replacement product(s) may be sent prior to, or after, the Orthman Service Department receives the defective product(s).

*Any variation in the above procedure is at the sole discretion of the Orthman Service Department.*

*No products will be accepted at Orthman without all proper paperwork completed including Warranty Registration and RGA(s).*

*Parts returned to Orthman without proper authorization will be returned to the sender at the sender's expense.*

Orthman agrees to handle all warranty claims in a timely manner and will inform dealers of any revisions or modifications to the Orthman Warranty Policy. Eligible warranty claims will be processed by Orthman within sixty (60) days of receiving failed product(s) or a valid service or repair labor claim. Eligible warranty claims regarding returned product(s) or service and/or repair labor will be paid through a credit memo issued to the appropriate dealer's account as determined by the Orthman Service Department.

If a warranty claim is found to be ineligible for warranty coverage, the Orthman Service Department will be responsible to inform the dealer in order to determine the course of action to be taken. Orthman reserves the right to make changes in specification and design without notice and without incurring any obligations to owners of products previously sold.

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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.





## INTRODUCTION

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## IMPORTANT SAFETY INFORMATION

### 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.

*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 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.

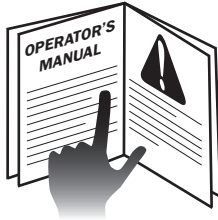




## IMPORTANT SAFETY INFORMATION

### **FOR YOUR PROTECTION**

#### **CAUTION**



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

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.

(Orthman Manufacturing Inc. - 75765 Rd. 435 - Lexington, NE 68850 - (308) 324-4654)

### **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. The operator 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.

### **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.







## IMPORTANT SAFETY INFORMATION

### **SAFE TRANSPORT**

Engage transport locking devices prior to implement 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 speeds. 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 implement gross weight.



Make sure a slow moving vehicle (SMV) placard is mounted to the implement and is easily visible to all other motorists. Refer to (pg 2 - 8) for SMV installation instructions.



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.

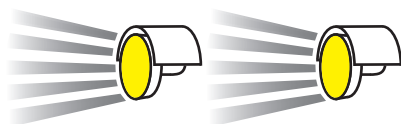
Do not coast. Always keep tractor or towing device in gear to provide engine braking when traveling downhill.

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/ASAE S279.12, is available for addition to the Lister Bedder. Contact your Orthman dealer for safety lighting package information. Refer to toolbar operator's manual for safety lighting package installation and adjustment.

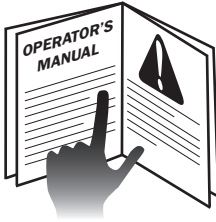




## IMPORTANT SAFETY INFORMATION

### **SAFE OPERATION**

#### **CAUTION**



**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.

#### **DANGER**



**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 your gross weight.

#### **DANGER**



**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.

#### **WARNING**



**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.





## IMPORTANT SAFETY INFORMATION

### **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 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.





## IMPORTANT SAFETY INFORMATION

### PRACTICE SAFE MAINTENANCE



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



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

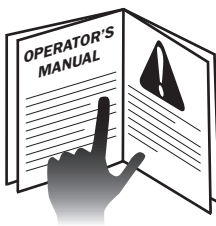


Be prepared for a fire. Keep a readily accessible fire extinguisher at all times.

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.

### 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.





## IMPORTANT SAFETY INFORMATION

### SAFETY DECALS

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

**DANGER**

**WARNING**

**CAUTION**

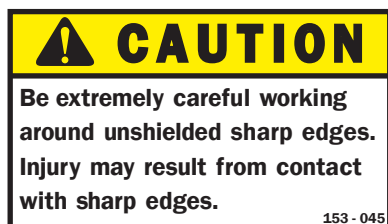
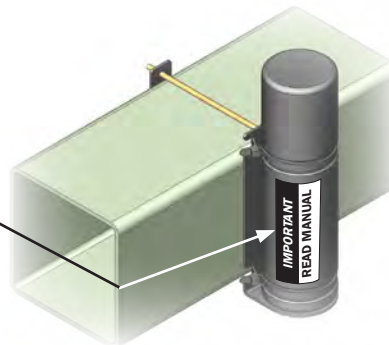


Carefully **READ ALL DECALS** in this manual as well as on the implement. Keep implement clean so safety decals are easily visible. Keep all decals in good and legible condition. Immediately replace damaged or missing decals. Replacement decals are available from your Orthman dealer.

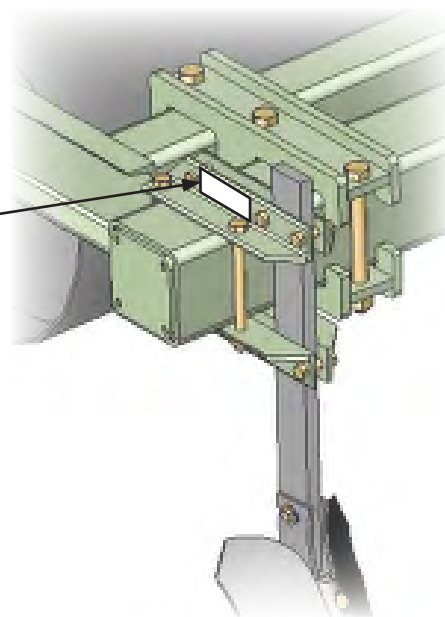
To install decals: Thoroughly clean area where decal is to be placed and attach decal void of bubbles. Refer to this safety information section for proper decal placement.



(manual enclosure)



(outer side of outer lister units)





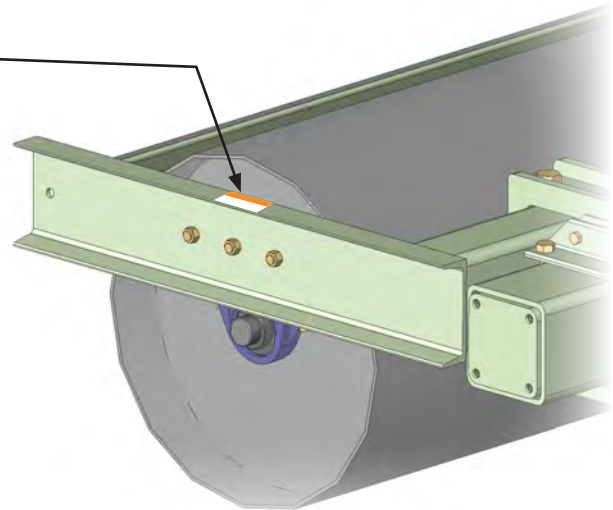
## IMPORTANT SAFETY INFORMATION

### SAFETY DECALS

- !** Safety decals promote awareness and knowledge concerning safe operation and maintenance of the implement. Keep implement clean so safety decals are easily visible. Keep all decals in good and legible condition. Immediately replace damaged or missing decals. Replacement decals are available from your Orthman dealer.

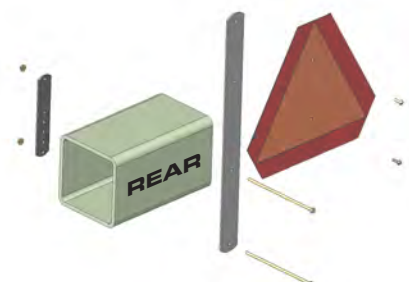
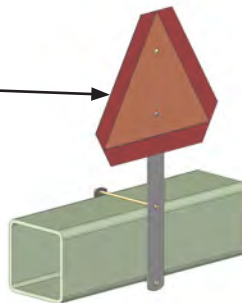
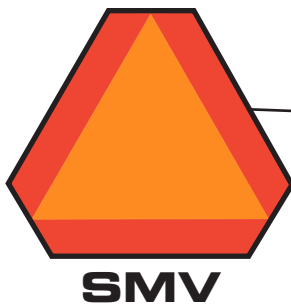


(outer side of barrel units)



To ensure transport safety and efficiency, the slow moving vehicle (SMV) placard is not assembled or installed at Orthman Mfg., Inc. Refer to instructions below for installation of the SMV placard.

Recommended tools: 7/16" wrenches, screwdriver



1. Locate a section of bare toolbar as close to the center of the implement as possible.
2. Use (2) 8" bolts and (2) flange nuts to secure SMV mount to toolbar.
3. Use (2) screws to attach SMV placard (facing rearward) to SMV mount.





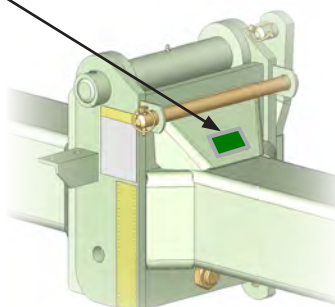
## IMPORTANT SAFETY INFORMATION

### ORTHMAN DECALS

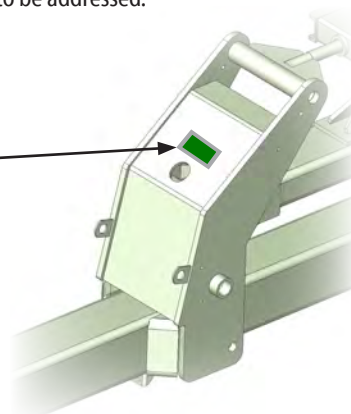
The Orthman serial tag contains valuable information. The model and serial numbers provide Orthman dealers and the Orthman Service Department with exact specifications of your implement if any warranty or service issues need to be addressed.



153-011



(folding toolbar - 1500 Series)



(stacking toolbar - 900 Series)



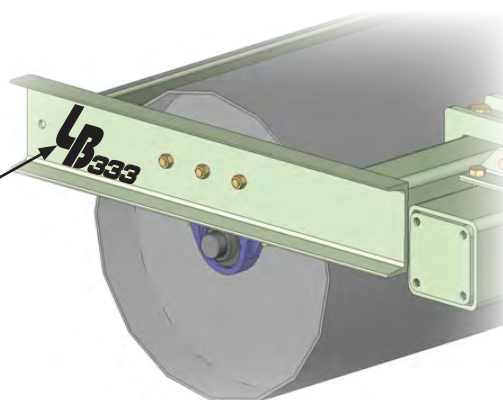
153-008

(front of toolbar)



153-221

(side of outside barrel units)

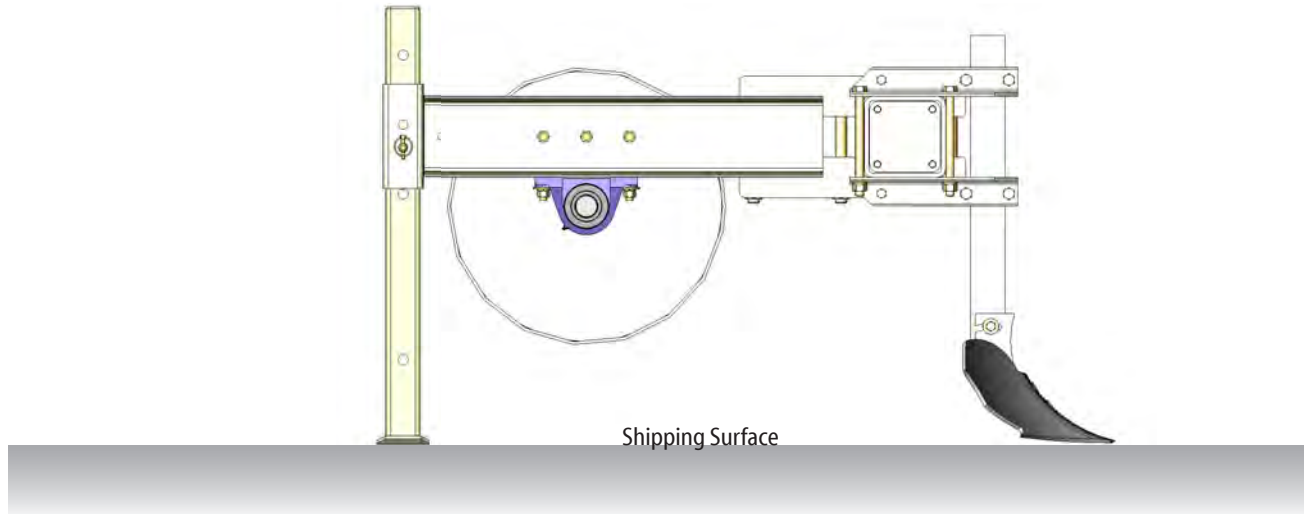




## PREPARATION AND SETUP

### SHIPPING CONFIGURATION

The Lister Bedder is fully assembled and adjusted at Orthman Mfg., Inc. to an appropriate shipping configuration to ensure transport safety and efficiency from the manufacturer. Tooling adjustment is necessary prior to an initial field trial.



The shipping configuration provides even implement weight distribution between the lister shovels and the rear bar stands as illustrated above.



**USE BAR STANDS 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.

Prior to off-season storage it is recommended to evenly distribute the implement weight between the lister shovels and the front and rear bar stands. When storing in-season it is recommended to utilize front and rear bar stands to bear the weight of the implement when not in operation.



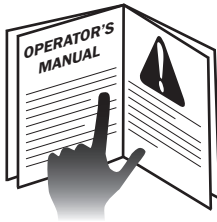




## PREPARATION AND SETUP

### PREPARING THE LISTER BEDDER

#### CAUTION



Be sure to consult the toolbar operator's manual prior to attempting to connect the implement to the tractor or operating the implement. Read and understand all operator's manuals for machinery used in conjunction with the Lister Bedder.



Before each use, check all hardware for wear and proper torque (pg. 8 - 3). 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.



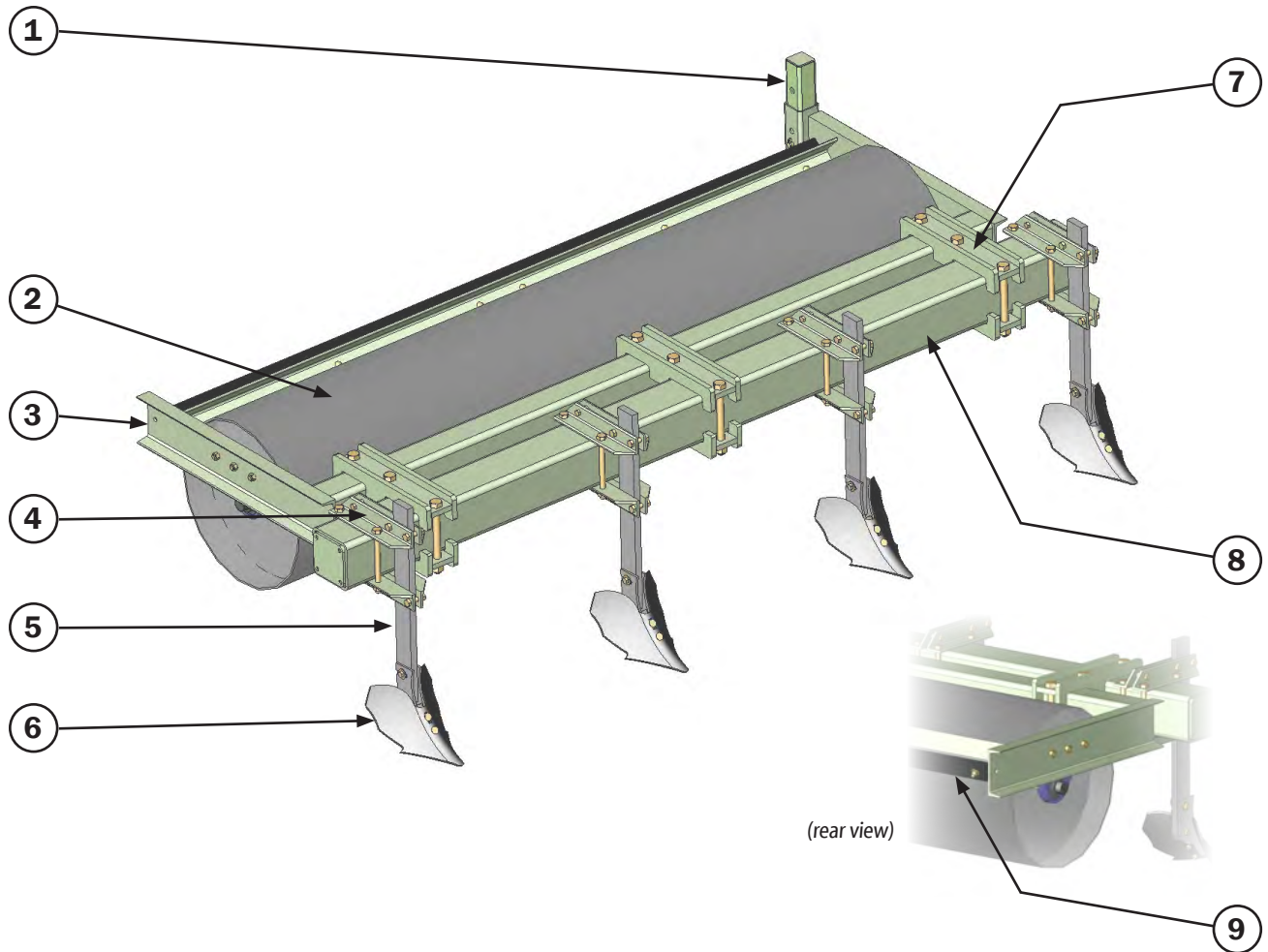
**USE BAR STANDS TO SUPPORT THE IMPLEMENT.** Store implement on a clean, dry, and level surface. An uneven surface could cause implement to shift or fall, resulting in injury or death, as well as implement damage. Securely support all implement components that must be raised. Store implement away from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





## MAJOR COMPONENT IDENTIFICATION

### COMPONENT IDENTIFICATION



1. Rear Bar Stand (front bar stand not pictured)
2. Barrel
3. Barrel Frame
4. Shank Clamp
5. Lister Shank
6. Lister Shovel
7. Barrel Frame Clamp
8. Toolbar
9. Scraper Blade





## FIELD SETTINGS

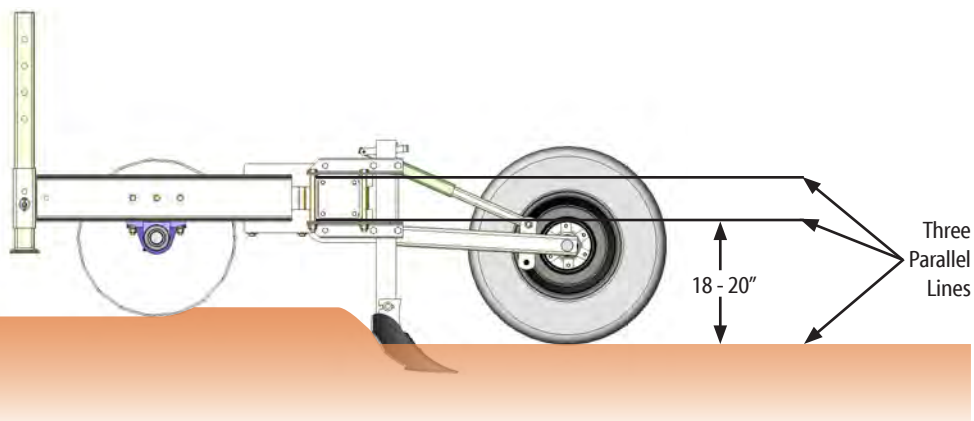
### TOOLBAR HEIGHT AND ORIENTATION



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

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

When setting toolbar height and orientation, disregard implement performance. Toolbar height and orientation must be established prior to adjusting lister shovel depth.



The bottom of the toolbar should operate approximately 18 - 20 inches above the ground surface. Use tractor hitch stop and toolbar gauge wheels, if equipped, to set desired toolbar height.

The top and bottom of the toolbar should operate parallel with the ground surface. Adjustment of tractor three point link and/or toolbar gauge wheels, if equipped, will allow the toolbar to operate parallel with the ground surface.

Have an assistant pull the tractor and implement slowly forward in the field position as you view the end of the toolbar from a safe distance. Observe toolbar height and orientation while in operation. Make adjustments to the tractor lower hitch stop, third link, and toolbar gauge wheels, if equipped, until the toolbar operates parallel with the ground surface and the bottom of the toolbar operates approximately 18 - 20 inches above the ground surface.

Typical ground speed is between 4 - 6 mph (planting speed). When adjusting further field settings, it is advisable for the tractor to achieve typical ground speed in order to make the proper adjustments to achieve desired results.





## FIELD SETTINGS

### LISTER SHOVEL DEPTH

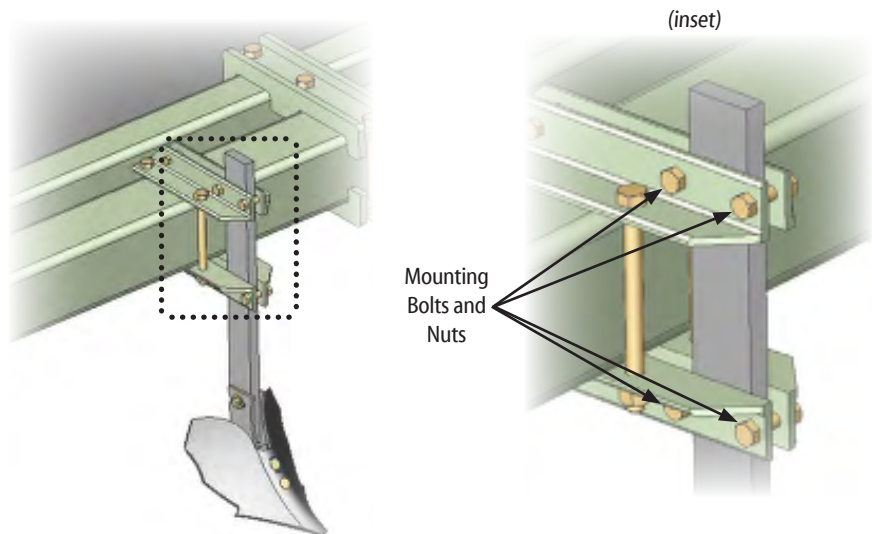
Lister shovels create furrows between the seedbeds to accomplish two goals. The development of the furrows will allow the field to effectively drain excess moisture as well as allow for irrigation if needed. Lister shovel depth and pitch adjustment (pg. 5 - 3) allows the producer to manipulate seedbed size and furrow depth to meet the needs of the operation.

Typical initial field setting consists of the lister shovel operating parallel to ground level approximately 3 - 5 inches below the ground surface. Refer to illustration (pg. 5 - 1) Further adjustment to lister shovel depth and pitch after initial field trial may be necessary.



**⚠ 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 the lister shovel depth.



Recommended tools: 15/16" wrenches

1. Physically support the weight of the lister shovel and shank.
2. Slightly loosen (4) mounting bolts and nuts.
3. Vertically adjust lister shovel and shank to desired depth.
4. Tighten mounting bolts and nuts to secure shank to shank clamp.
5. Tighten hardware to proper torque specifications. (pg. 8 - 3)





## FIELD SETTINGS

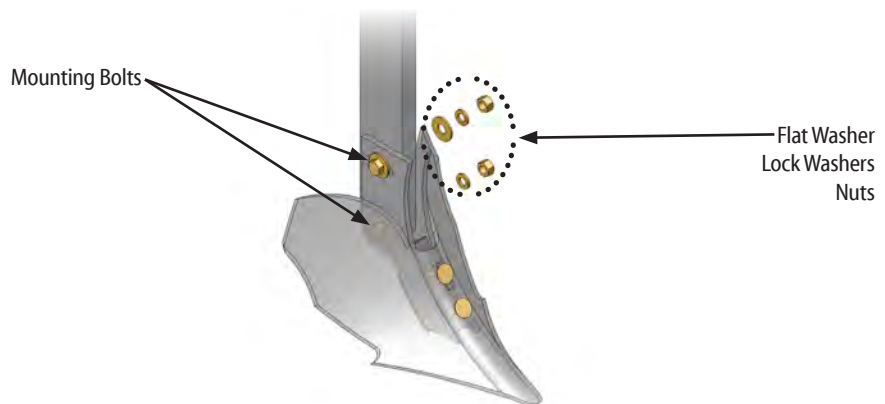
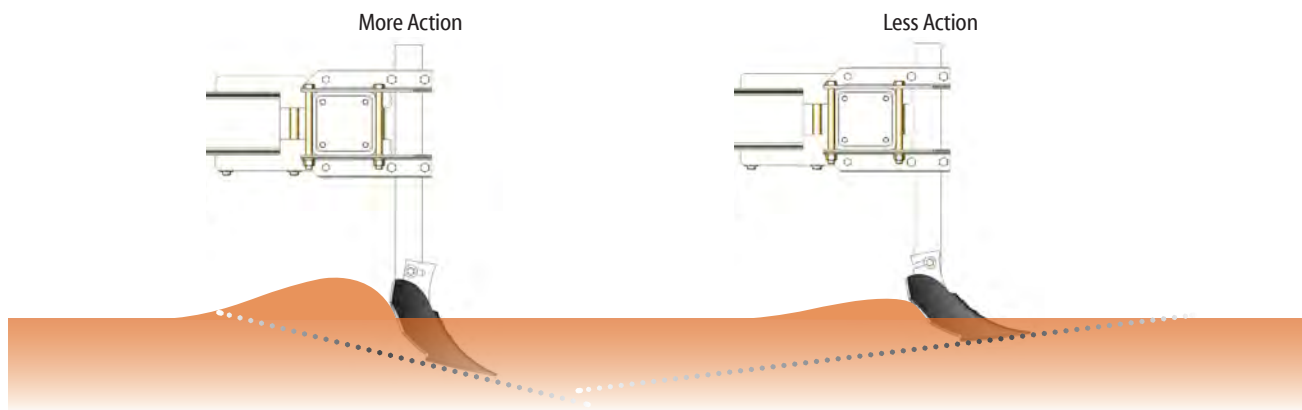
### LISTER SHOVEL PITCH

Lister shovel pitch adjustment allows the producer to dictate the amount of soil action the shovels produce. Typically, the deeper the shovel point, the greater amount of soil action.



**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 the lister shovel pitch.



Recommended tools: 3/4" wrenches

1. Slightly loosen (2) nuts on (2) mounting bolts.
2. Adjust shovel pitch to meet listing needs.
3. Tighten all hardware to proper torque specifications. (pg. 8 - 3)





## FIELD SETTINGS

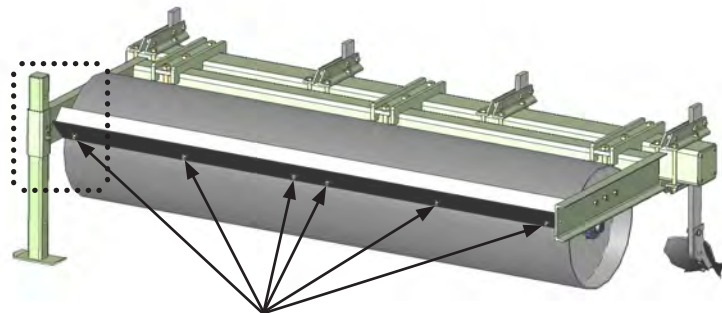
### SCRAPER BLADES

The scraper blade is designed to remove soil that has adhered itself to the barrel. Damp conditions and lister shovels set to operate in damp soil will allow soil to build up on the barrel while rolling through the field. By removing soil from the barrel, the seedbeds will remain uniform. The fully adjustable slotted scraper blade allows the producer to dictate how near to, or away from, the scraper blade will operate in regard to the barrel. Scraper blades are factory set to operate 3/8" away from the barrel. After initial field trial, scraper blades may need adjustment depending upon operator preference and field conditions.

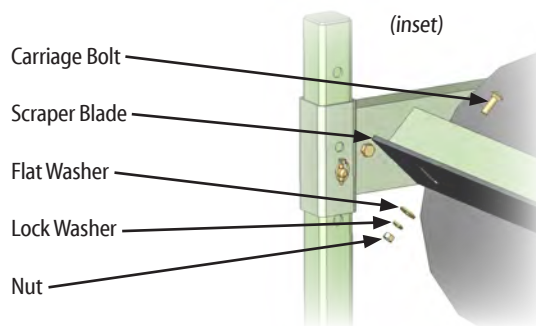


**AVOID CRUSHING.** Make sure all personnel are clear of the implement. Lower implement to the ground, place tractor in park, turn off engine, and remove key.

**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 scraper blades.



Mounting Carriage Bolts, Flat Washers, Lock Washers, and Nuts (3) per Scraper Blade



Recommended tools: 3/4" wrench

1. Slightly loosen (3) nuts per scraper blade.
2. Adjust scraper blade to operator preference.  
(It is not recommended to allow the scraper blade to come into contact with the barrel. Scraper blade and barrel contact can cause scraper blade and barrel premature wear.)
3. Tighten all hardware to proper torque specifications. (pg. 8 - 3)





## TROUBLESHOOTING



**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 working on the implement.

### TOOLBAR DOES NOT OPERATE AT PROPER HEIGHT. (pg. 5 - 1)

Completely raise toolbar gauge wheels. Have an assistant pull the tractor and implement slowly forward in the field position to allow the tillage shovels to "pull" the implement into the soil. As the implement travels forward, manipulate tractor hitch height from the cab of the tractor until approximately 18 - 20" is achieved. Stop tractor and physically measure toolbar height. If toolbar is not to correct operation height. Repeat procedure.

Once correct toolbar height is established, lower toolbar gauge wheels to ground surface, if equipped, or set lower hitch stop on the tractor. These settings will provide a consistent toolbar height when in operation.

### TOOLBAR DOES NOT OPERATE PARALLEL WITH GROUND SURFACE. (pg. 5 - 1)

Presuming correct toolbar height has been achieved, lengthen (tip back) or shorten (tip forward) the tractor third link until toolbar is parallel with ground surface. Tractor hitch height may have to be manipulated in order to lengthen or shorten third link. Make sure the implement is in the field position and the tillage shovels are in the ground when adjusting the toolbar to operate parallel with ground surface.

Make adjustments to the tractor lower hitch stop, third link, and toolbar gauge wheels, if equipped, until the toolbar operates at the correct height and orientation.

### LISTER SHOVELS PROVIDE TOO MUCH SOIL ACTION.

Raise lister shank in order that the shovels operate at a shallower depth to reduce soil action. (pg. 5 - 2) Reduce lister shovel pitch to reduce soil action. (pg. 5 - 3) Reduce ground speed to reduce soil action.

### LISTER SHOVELS PROVIDE TOO LITTLE SOIL ACTION.

Lower lister shank in order that the shovels operate at a deeper depth to increase soil action. (pg. 5 - 2) Increase lister shovel pitch to increase soil action. (pg. 5 - 3) Increase ground speed to increase soil action.

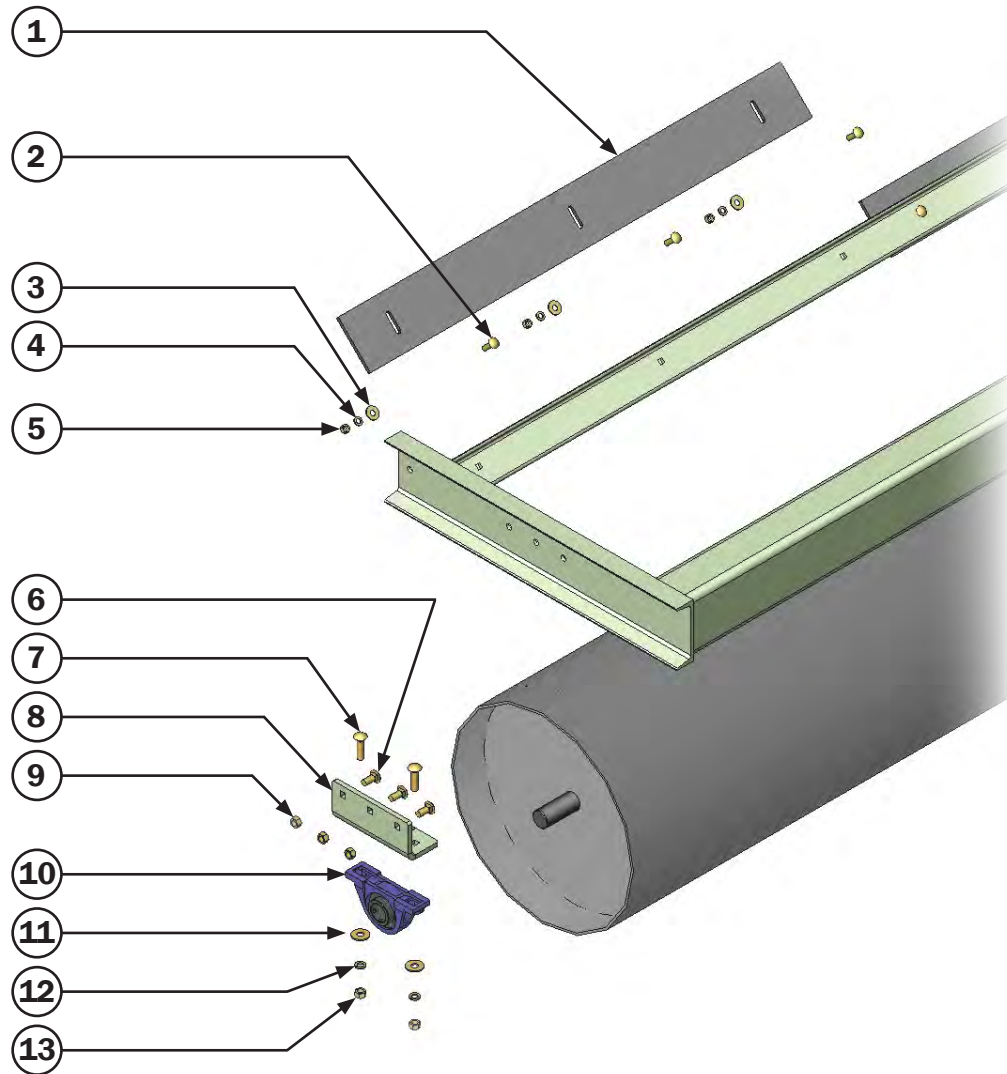






## PARTS IDENTIFICATION

### SCRAPER BLADE AND BARREL

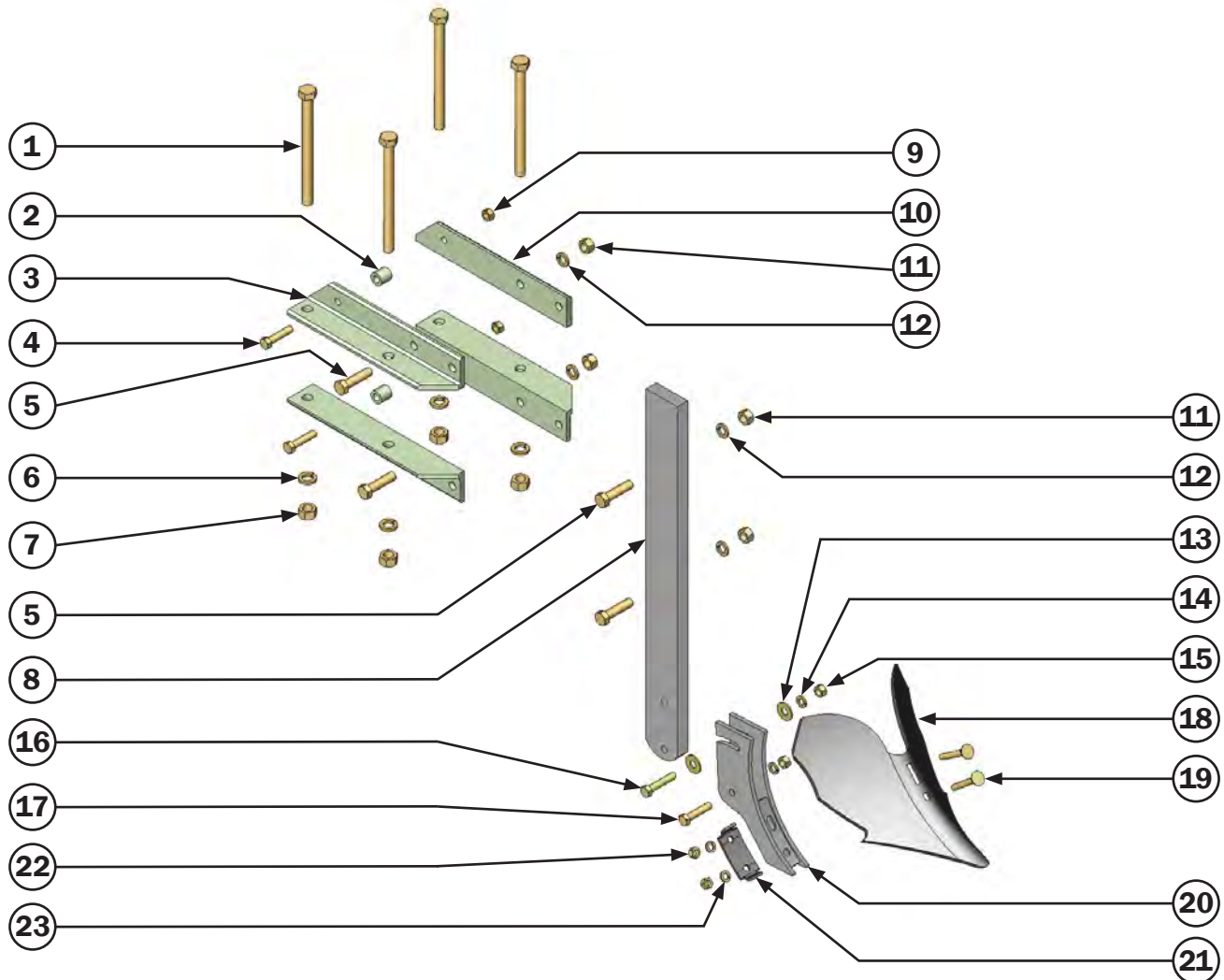


All hardware is coarse threaded unless otherwise noted.

- |   |   |
|---|---|
| 1. 308-625 (58 1/4" blade)              | 6. 100-034 (5/8 x 1 1/2" carriage bolt)   |
| 308-626 (55 1/4" blade)                 | 7. 100-039 (5/8 x 2 1/2" carriage bolt)   |
| 308-627 (52 1/4" blade)                 | 8. 308-622 (frame mount)                  |
| 308-628 (42" blade)                     | 9. 102-029 (5/8" lock nut)                |
| 2. 100-014 (1/2 x 1 3/4" carriage bolt) | 10. 120-215 (1 5/16" bearing and carrier) |
| 3. 108-009 (1/2" flat washer)           | 11. 108-010 (5/8" flat washer)            |
| 4. 108-020 (1/2" lock washer)           | 12. 108-021 (5/8" lock washer)            |
| 5. 102-007 (1/2" nut)                   | 13. 102-008 (5/8" nut)                    |





**PARTS IDENTIFICATION****LISTER UNIT**

All hardware is coarse threaded unless otherwise noted.

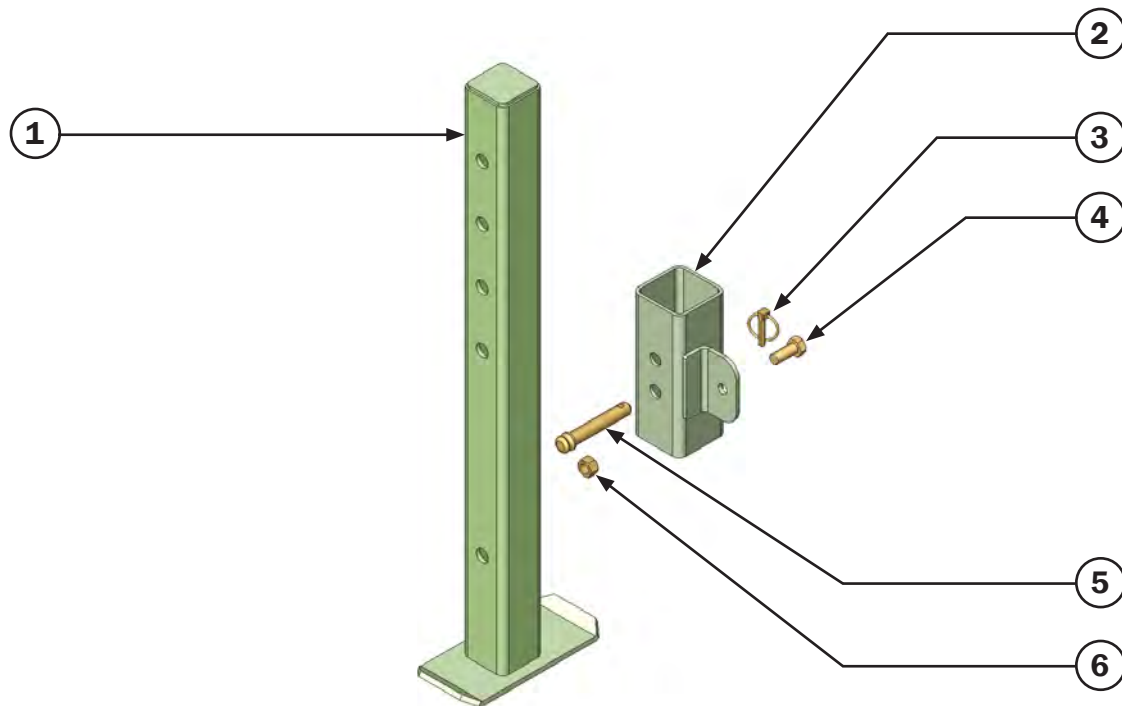
- |                                  |                                  |                                   |
|----------------------------------|----------------------------------|-----------------------------------|
| 1. 100-174 (3/4 x 9" bolt)       | 9. 102-028 (1/2" lock nut)       | 17. 100-119 (1/2 x 2 1/4" bolt)   |
| 2. 315-134 (1" bushing)          | 10. 315-212 (left shank bracket) | 18. 162-009 (lister shovel)       |
| 3. 315-211 (right shank bracket) | 11. 102-008 (5/8" nut)           | 19. 100-402 (7/16 x 3" plow bolt) |
| 4. 100-119 (1/2 x 2 1/4" bolt)   | 12. 108-021 (5/8" lock washer)   | 20. 311-006 (foot piece)          |
| 5. 100-135 (5/8 x 2 1/2" bolt)   | 13. 108-009 (1/2" flat washer)   | 21. 311-008 (foot piece heel)     |
| 6. 108-022 (3/4" lock washer)    | 14. 108-020 (1/2" lock washer)   | 22. 102-006 (7/16" nut)           |
| 7. 102-009 (3/4" nut)            | 15. 102-007 (1/2" nut)           | 23. 108-019 (7/16" lock washer)   |
| 8. 311-016 (1 x 3" shank)        | 16. 100-120 (1/2 x 2 1/2" bolt)  |                                   |





## PARTS IDENTIFICATION

### BAR STANDS



All hardware is coarse threaded unless otherwise noted.

1. 303-840 (bar stand)
2. 308-653 (sleeve)
3. 104-065 (linch pin)
4. 100-131 (5/8 x 1 1/4" bolt)
5. 303-846 (pin)
6. 102-029 (5/8" lock nut)





## MAINTENANCE

### **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 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.





## MAINTENANCE

### PRACTICE SAFE MAINTENANCE



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



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

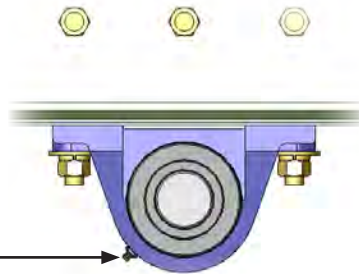
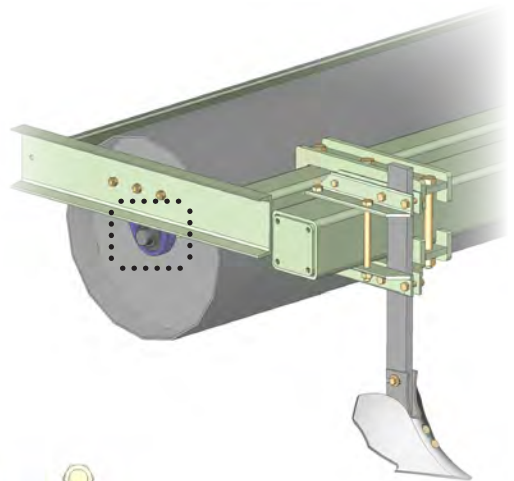
Keep all parts in good condition and properly installed. Replace damaged or missing parts immediately.

Remove tools and unused parts prior to implement operation.

### LUBRICATION



Grease - use a high quality multi-purpose grease.  
Follow recommended hourly service interval illustrated below.



**10** 

(2) zerks per barrel





**MAINTENANCE**

**TORQUE SPECIFICATIONS**

**RECOMMENDED DRY BOLT TORQUE**

**SAE GRADE 5**

Bolt Size	ft. - lb.
3/8	32
7/16	52
1/2	80
9/16	115
5/8	160
3/4	280
7/8	455
1	680
1 1/8	850
1 1/4	1200

**SAE GRADE 8**

Bolt Size	ft. - lb.
3/8	36
7/16	59
1/2	88
9/16	130
5/8	175
3/4	315
7/8	510
1	760
1 1/8	1075
1 1/4	1500





## MAINTENANCE

### 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) frequently (10 hours) check hardware for proper torque. (pg.8 - 3)



Before each use, check hardware for wear and proper torque. (pg.8 - 3) Replace damaged or missing hardware with hardware of an identical grade to restore implement to original specifications.

Do not allow debris to build up on any surface of the implement.

Replace all shields and guards. Be sure all tools, parts, and service equipment are removed prior to operating implement.

### 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. (pg.2 - 7)

Grease all zerks regardless of hourly interval prior to storage. (pg.8 - 2)



Check all hardware according to torque specifications prior to storage. (pg.8 - 3)

Replace all worn or damaged parts prior to storage.

Store inside if possible. Storing implement inside will prolong the life of the Lister Bedder 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.



**USE BAR STANDS 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.





**NOTES**

LB

