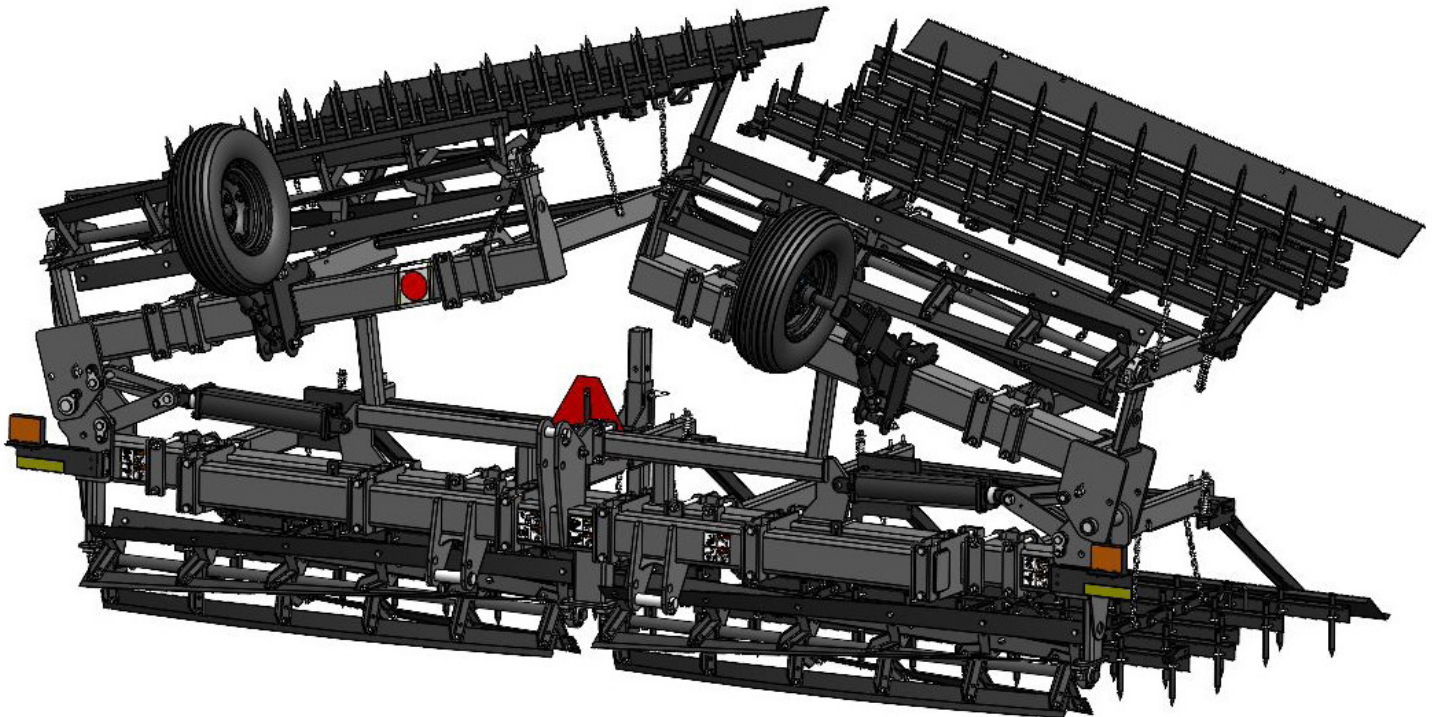


W. & A. MANUFACTURING CO.



SPECIALIZED FARM EQUIPMENT

PHONE 870/534-7420 • P.O. BOX 5238 • 1810 OHIO ST. • PINE BLUFF, ARKANSAS 71611



PULVAMIZER OWNER'S MANUAL

Revised 09.21



This manual is applicable to: Pulvamizer

Record the model number and serial number of your Pulvamizer along with date purchased:

MODEL NUMBER _____

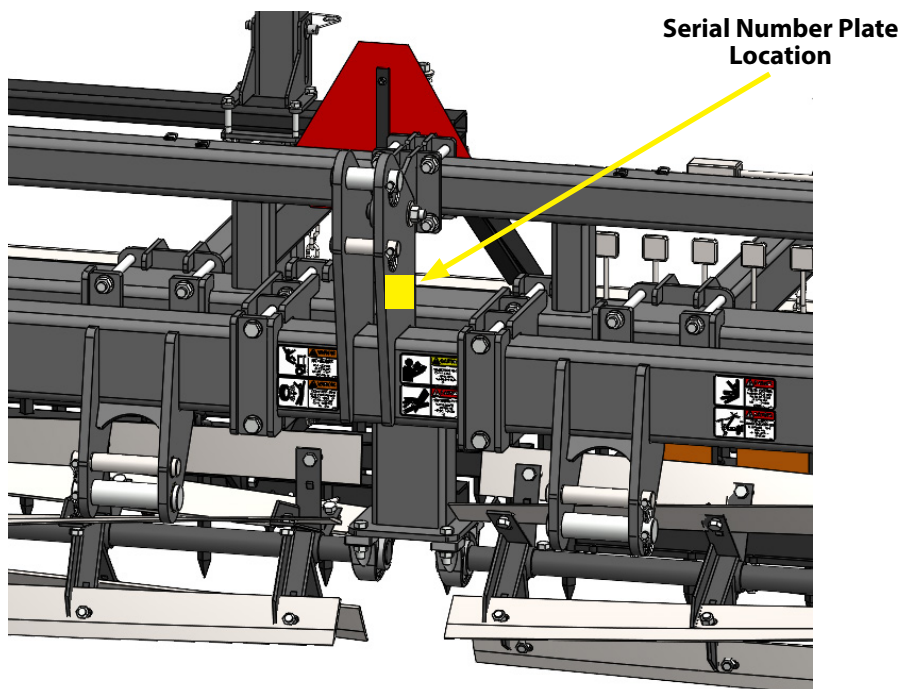
SERIAL NUMBER _____

DATE PURCHASED _____

SERIAL NUMBER

The serial number plate is located on the frame to be readily available. It is suggested that your serial number and purchase date also be recorded above.

The serial number provides important information about your Pulvamizer and may be required to obtain the correct replacement part. Always provide the model number and serial number to your W&A Manufacturing dealer when ordering parts or anytime correspondence is made with W&A Manufacturing.





TO THE DEALER

Factory to Farm™ service includes full factory assembly. Dealer is responsible for field readiness.

PRE-DELIVERY CHECKLIST

Use the following checklist after your Pulvamerizer is completely assembled. Check off each item as it is found satisfactory or after proper adjustment is made.

- All working parts move freely, bolts are tight, and cotter pins are spread.
- Check for oil leaks and proper hydraulic operation.
- Hydraulic hoses correctly routed to prevent damage.
- Inflate tires to specified air pressure and torque wheel lug bolts and lug nuts as specified in the manual.
- All safety decals correctly located and legible. Replace if damaged.
- All reflective decals and SMV sign correctly located and visible when the machine is in transport position.
- Safety/warning lights correctly installed and working properly.
- Paint all parts scratched during shipment or assembly.
- All safety lockup devices on the Pulvamerizer are correctly located.

The Pulvamerizer has been thoroughly checked and to the best of my knowledge is ready for delivery to the customer.

(Signature Of Set-Up Person/Dealer Name/Date)

NAME _____ DELIVERY DATE _____

STREET ADDRESS _____ MODEL NO. _____ SERIAL NO. _____

CITY, STATE/PROVINCE _____ DEALER NAME _____

ZIP/POSTAL CODE _____ DEALER NO. _____



DELIVERY CHECKLIST

Use the following checklist after your Pulvamerizer is delivered as a reminder of very important information which should be conveyed to retail customer/end user. Check off each item as it is fully explained.

- Life expectancy of this or any other machine is dependent on regular lubrication as directed in the Owner's Manual.
- All applicable safety precautions.
- Along with retail customer/end user, check reflective decals and SMV sign are clearly visible with Level Bander in transport position and attached to tractor. Check safety/warning lights are in working condition. Tell retail customer/end user to check federal, state/provincial, and local regulations before towing or transporting on a road or highway.
- Give Owner's Manual and all Instruction Sheets to retail customer/end user and explain all operating adjustments.
- Read warranty to retail customer/end user.
- Complete Warranty and Delivery Report form.

To the best of my knowledge, this machine has been delivered ready for field use and customer has been fully informed as to proper care and operation.

(Signature Of Set-Up Person/Dealer Name/Date)

AFTER DELIVERY CHECKLIST

The following is a list of items we suggest to check during the first season of use of the equipment.

- Check Pulvamerizer performance with retail customer/end user.
- Review importance of proper maintenance and adherence to all safety precautions with retail customer/end user.
- Check for parts that may need to be adjusted or replaced.
- Check all safety decals, reflective decals, and SMV sign are correctly located as shown in the Parts Guide and that decals are legible. Replace if damaged or missing.
- Check that safety/warning lights are properly installed.

(Signature Of Set-Up Person/Dealer Name/Date)

All registrations must be submitted to W&A Manufacturing within 5 business days of delivery. Retain a copy of this form for auditing purposes.

All registrations must be submitted to:

W&A Manufacturing
PO Box 5238
Pine Bluff, AR 71611



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GENERAL INFORMATION



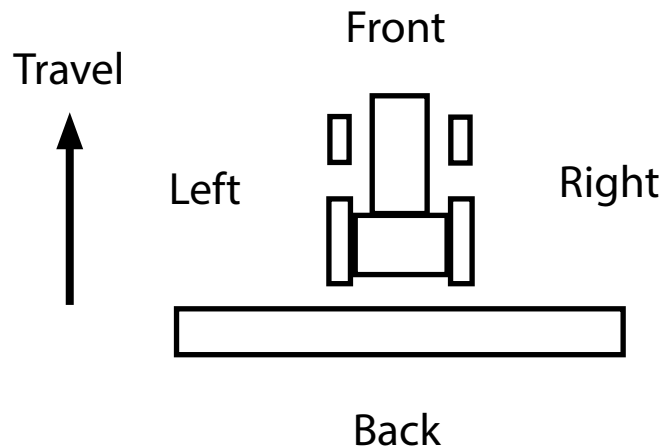
HOW TO USE THIS MANUAL

This manual is divided into sections. The first section contains a Table of Contents, General Information, and a Part Number Index. The remaining sections divide the machine into assemblies and sub-assemblies which illustrate and list all parts.

W&A Manufacturing parts in this manual are specially designed for this machine and should be replaced with W&A Manufacturing parts only.

Information in this manual was current at time of printing. However, due to W&A Manufacturing's ongoing product improvement, production changes may cause your machine to appear slightly different in detail. W&A Manufacturing reserves the right to change specifications or design without notice and without incurring obligation to install the same on machines previously manufactured.

Right-hand and left-hand as used in this manual are determined by facing the direction the machine will travel while in use.



MANUAL REPLACEMENT INFORMATION

Replacement manuals are available. Call the W&A Manufacturing Main Office at 308.708.8185, or download a printable PDF from our website, www.wamfgco.com.

MANUAL REVISIONS

When this manual is revised, the modification date is printed on the front cover and on the revised page(s).

TOUCH-UP PAINT

Repaint parts where paint is worn or scratched to prevent rust. Aerosol touch-up paint is available. To order, call W&A Manufacturing at 308.708.8185.



INTRODUCTION

Thank you for your purchase of a W&A Manufacturing Pulvamer. Putting your trust in our equipment is something we don't take lightly and are humbled that you chose W&A Manufacturing. Having designed all of our equipment with farmers like you in mind, we hope you enjoy years of productive use from it. Please read and understand this manual before operation.

WARRANTY INFORMATION

AGROdeviate LLC (AGROdeviate) warrants each W&A Manufacturing product it manufactures to be free from defects in material and workmanship for a period not to exceed one (1) year from the date of sale to the original owner. The warranty is valid provided written notice of the alleged defect is received by AGROdeviate during said period and within ten (10) working days after its discovery.

In addition, AGROdeviate warrants each TOOLBAR FRAMEWORK to be free from defects in material and workmanship for a period not to exceed three (3) years from the date of sale to the original owner. The warranty is valid providing written notice of the alleged defect is received by AGROdeviate during said period and within ten (10) working days after its discovery.

This warranty is subject to completion of Product Registration and submission to AGROdeviate. Warranty applies only if product is installed, operated, and maintained according to product manual and instructions. Warranty will be void if the product has been subject to misuse, misapplication, neglect, collision with obstruction, or alteration.

For products, parts, and components NOT manufactured by AGROdeviate, the warranty obligations of AGROdeviate shall be limited to the Original Equipment Manufacturers' warranty. Tires on AGROdeviate equipment are warranted through the respective tire manufacturer and their network of dealers.

All returns must be pre-approved by AGROdeviate and authorization issued before return. All returns must include a copy of the original invoice in order to be processed. Any returns without a copy of the original invoice will not be eligible to receive credit.

If determined that the product is defective in material and/or workmanship, the necessary parts will be replaced and/or repaired. All warranty repair or labor is to be performed by an AGROdeviate authorized party. AGROdeviate obligation under this warranty shall be limited to repairing or replacing parts deemed defective. Warranty does not cover travel expenses. AGROdeviate will bear no other costs including loss, incurred labor, rental fees, nor other.

All returns shall be pre-paid. If warranty is approved by AGROdeviate, return freight will be credited.

This warranty by AGROdeviate LLC is expressly in lieu of all other warranties, expressed or implied, including warranty of merchantability and fitness for use. We neither assume, nor authorize, any other entity to accept for us any liability relating to the sale of our products.



SAFETY

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



**THIS SYMBOL MEANS:
-ATTENTION!
-BECOME ALERT!
-YOUR SAFETY IS INVOLVED!**

SIGNAL WORDS:

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



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



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



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

If you have questions not answered in this manual, require additional copies, or the manual is damaged, please contact W&A Manufacturing, PO Box 5238, Pine Bluff, AR 71611, 308.708.8185, or visit our website: www.wamfgco.com.



SAFETY... YOU CAN LIVE WITH IT!



EQUIPMENT SAFETY GUIDELINES

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

In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.

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

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

Review the safety instructions with all users annually.

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

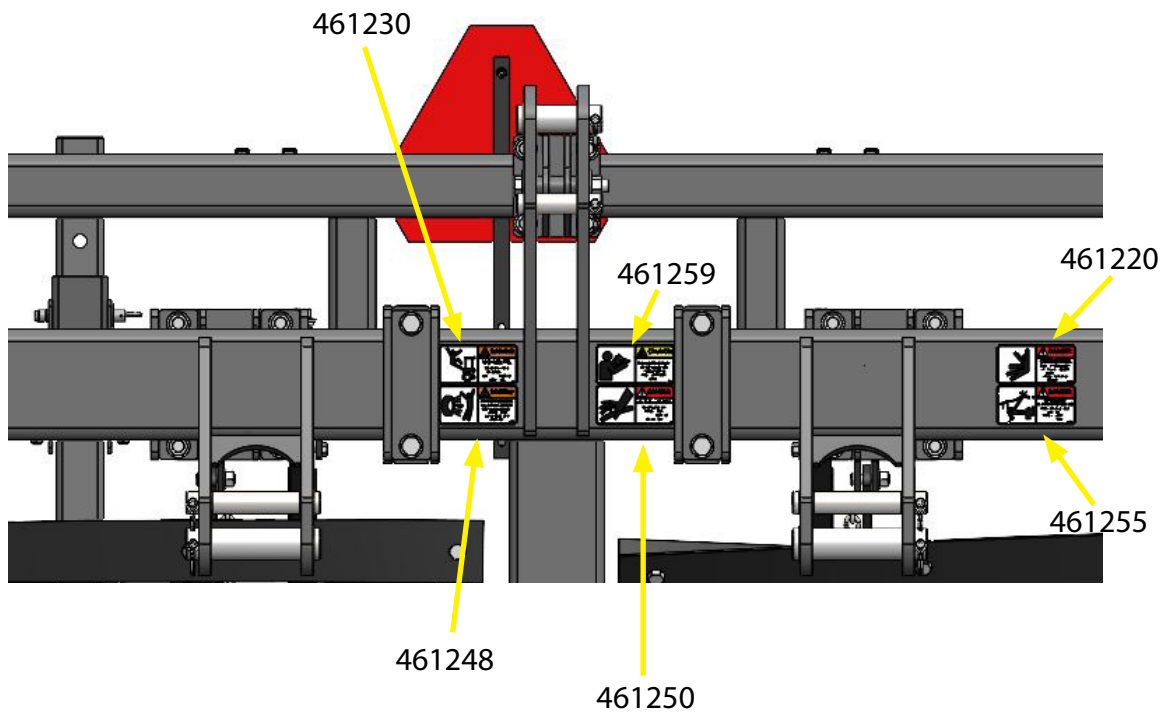
To prevent injury or death, use a tractor with a Rollover Protective Structure (ROPS). Do not paint over, remove or deface any safety signs or warning decals on your equipment. Observe all safety signs and practice the instructions on them.

Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - DON'T TRY IT.

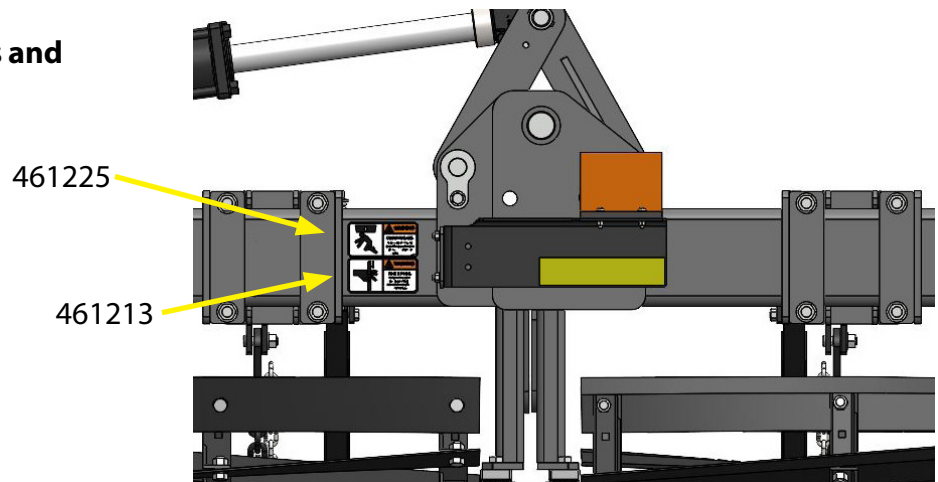


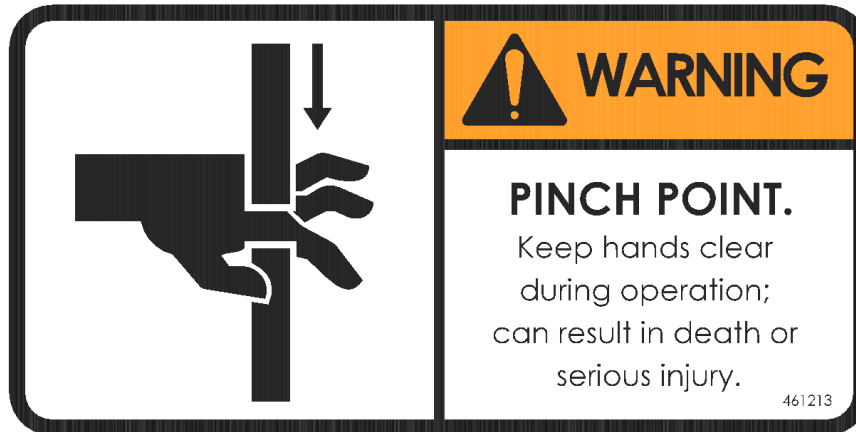
SAFETY SIGN LOCATIONS

These types of Safety Signs and locations on the equipment are shown in the illustrations below. Good safety requires that you familiarize yourself with the various Safety Signs, the type of warning and the area, or particular function related to that area, that require your SAFETY AWARENESS.



NOTE: LH/RH Safety Signs and locations are similar

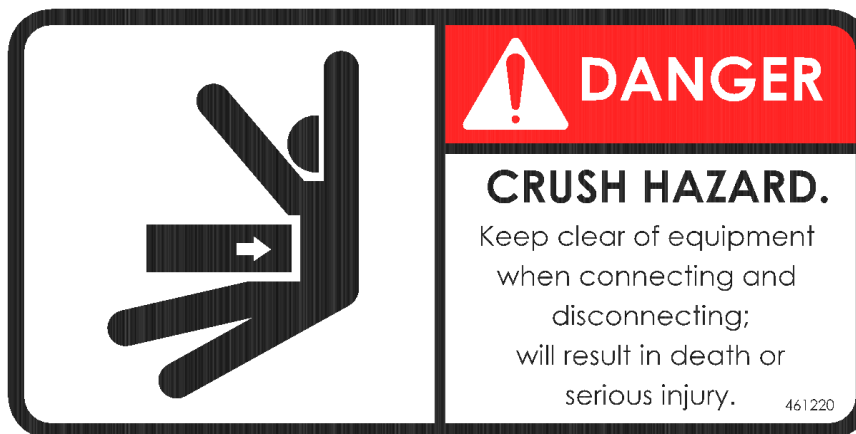




461213

PINCH POINT - WARNING

- Keep extremities clear of equipment. Object(s) can move or shift; can result in death or serious injury.
- Hazards may include, but are not limited to, hinge mechanism movement, pin movement, row unit movement and shifting, accessory movement and shifting, etc.



461220

CRUSH HAZARD - WARNING

- Keep clear of moving and shifting equipment. Equipment movement area; will result in death or serious injury.
- Hazards may include, but are not limited to, connection and disconnection of equipment, unexpected equipment shifting, etc.



461225

CRUSH HAZARD - WARNING

- Keep clear of moving and shifting equipment. Equipment can move or shift; can result in death or serious injury.
- Hazards may include, but are not limited to, folding wing movement, raised equipment movement and shifting, etc.



461230

NO RIDERS - WARNING

- Never allow riders on equipment; can result in death or serious injury.
- Hazards may include, but are not limited to, falling from equipment, falling into equipment, injury while on equipment, etc.



461248

CONTENTS UNDER PRESSURE - WARNING

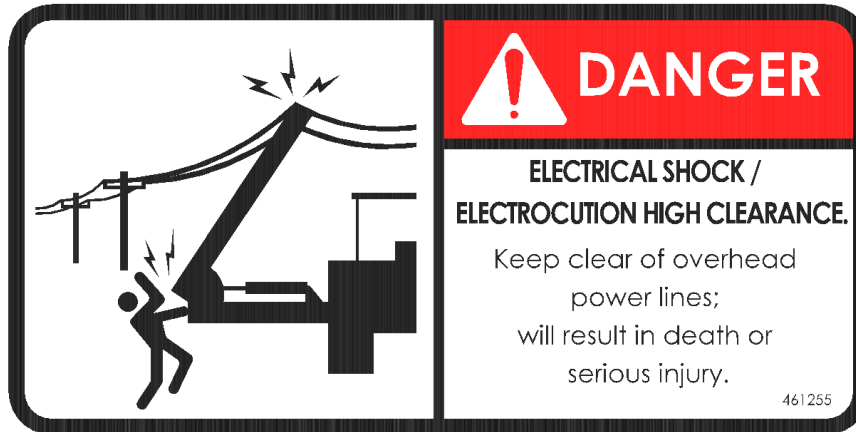
- Do not operate if damaged or improperly pressurized. Damaged or improperly pressurized components can discharge; can result in death or serious injury.
- Hazards may include, but are not limited to, damaged tire and/or rim, over pressurized tire, excessive tire wear, tire tears or punctures, ect.



461250

HIGH PRESSURE FLUID - DANGER

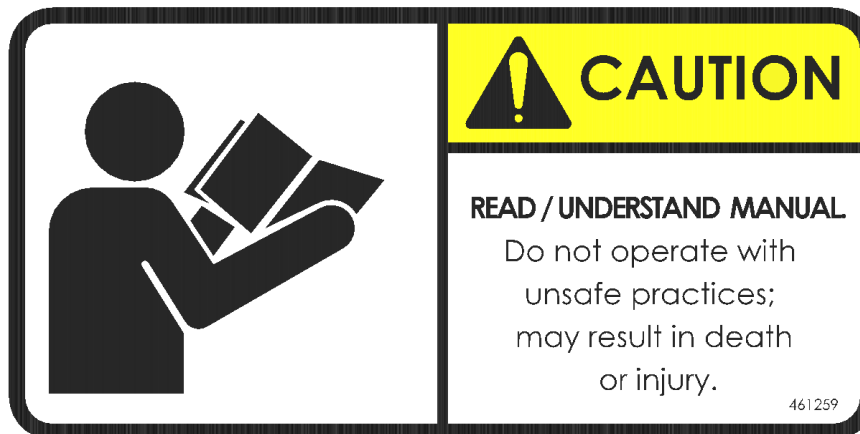
- Use safe practices. Fluid injection can occur; will result in death or serious injury.
- Hazards may include, but are not limited to, injury beyond the entry point, over pressurized components, damaged components, components with excessive wear, swollen components, ect.



461255

ELECTRICAL SHOCK/ELECTROCUTION HIGH-CLEARANCE DANGER

- Keep clear of overhead power lines, maintain 20-foot minimum distance. Electrical shock and/or electrocution can occur; will result in death or serious injury.
- Hazards may include, but are not limited to, high clearance equipment, low clearance power lines, lack of awareness of surroundings, etc.



461259

READ/UNDERSTAND MANUAL - CAUTION

- Do not operate without a complete understanding of the owner's manual. Do not operate with unsafe practices; may result in death or injury.
- Hazards may include, but are not limited to, compromising the safety of yourself and/or others, lack of awareness, damage to equipment, etc.



SAFETY SIGN CARE

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replaced parts that displayed a safety sign should also display the current sign.
- Safety signs are available from W&A Manufacturing.

HOW TO INSTALL SAFETY SIGNS

- Be sure that the installation area is clean and dry.
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the decal over the specified area and carefully press the small portion with the exposed stick backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of decal backing paper.

REMEMBER: If Safety Signs have been damaged, removed, become illegible or parts replaced without decals, new decals must be applied. New decals are available from W&A Manufacturing.

**W&A Manufacturing
PO Box 5238
Pine Bluff, AR 71611**

**308.708.8185
www.wamfgco.com**

PREPARATION & SET-UP



This section helps you prepare your tractor and Pulvamizer for use. You must level the implement, hook up the implement hydraulics to the tractor, and check that the hydraulics have been bled.

POST-DELIVERY/SEASONAL SET-UP

On initial delivery, use with a new tractor, and seasonally check and as necessary, complete these items before continuing to the routine set-up items:

- Bleed hydraulic fold system ([page 37](#))
- Check/Change Hitch Configuration
- Hitching Tractor to Implement
- Hydraulic Hose Hook-up
- Light Kit Guide and Relocation
- Electrical Hook-up
- Leveling the Implement

PRE-TILLAGE SET-UP

Complete this checklist before routine set-up:

- Read and understand important "Safety" information starting on [page 3](#).
- Check that all working parts are moving freely, bolts are tight, and cotter pins are spread.
- Check that all grease fittings are in place and lubricated. See "Maintenance & Lube" on [page 34](#).
- Check that all safety decals and reflectors are correctly located and legible. Replace if damaged. See "Safety Sign Locations" starting on [page 5](#) and "Light Kit Guide and Relocation" on [page 16](#).

PREPARATION & SET-UP



CHECK/CHANGE HITCH CONFIGURATION

On initial delivery, use with a new tractor, and seasonally check and as necessary, complete these items before continuing to the routine set-up items:

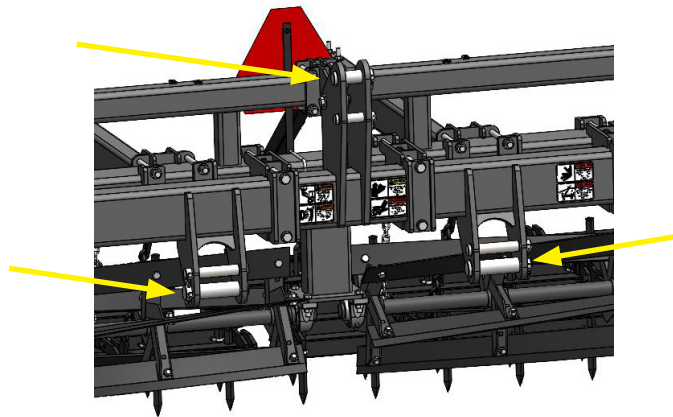
Choose a hitch option that is compatible with your tractor 3-point. The Level Bander has two hitch configurations:

- Category 3
- Category 4N

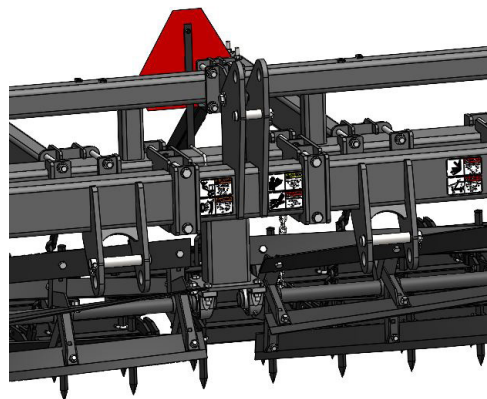
Changing between hitch categories requires removing pins at the implement hitch.

TO OPERATE AS CATEGORY 3

1. Remove and store the Category 4N pins shown.



2. Once removed, the remaining pins are set to run the implement with a Category 3 hitch.



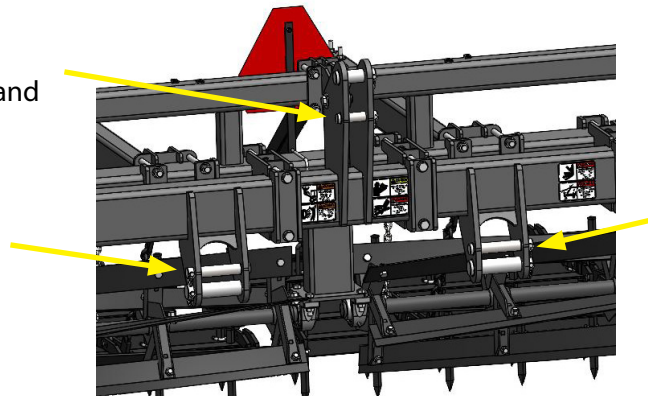
****SEE NEXT PAGE FOR CATEGORY 4N HITCH SET-UP****

PREPARATION & SET-UP

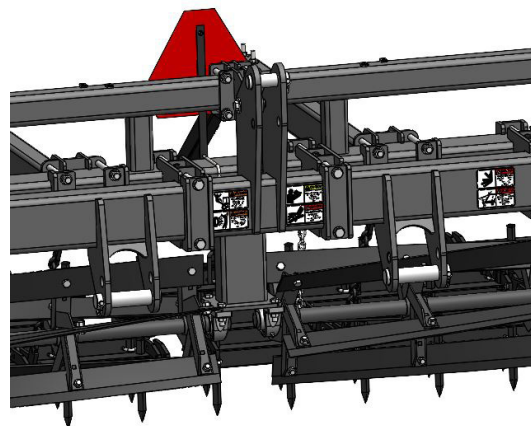


TO OPERATE AS CATEGORY 4N

1. Remove top and lower Category 3 pins shown and store them.



2. Once removed, the remaining pins are set to run the implement with a Category 4N hitch.



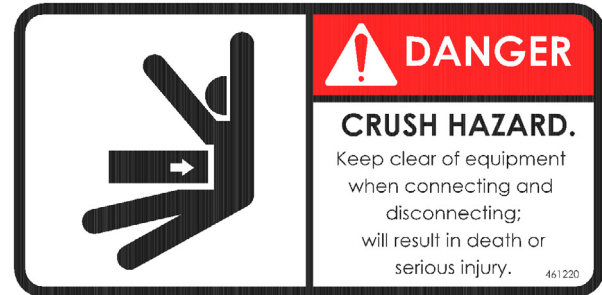
PREPARATION & SET-UP



HITCHING TRACTOR TO IMPLEMENT

On initial delivery, use with a new tractor, and seasonally check and as necessary, complete these items before continuing to the routine set-up items:

1. Connect the tractor 3-point lift arms to the lower hitch pins. If using a quick hitch, ensure that the pins lock securely.
2. Connect the top link to the upper hitch pin. Front-to-back leveling is performed in later steps.



461220

CRUSH HAZARD - WARNING

- Keep clear of moving and shifting equipment. Equipment movement area; will result in death or serious injury.
- Hazards may include, but are not limited to, connection and disconnection of equipment, unexpected equipment shifting, etc.

PREPARATION & SET-UP



HYDRAULIC HOSE HOOK-UP

Folding Pulvamizers are equipped with independently controlled fold cylinders to individually fold the left and right wings. This section does not apply to Rigid toolbar models.

This requires the use of two remote valves. Hoses at base end of cylinder will unfold machine. Rod end hoses will fold machine up.

1. Connect fold hoses for left wing into remote valve of choice.
2. Connect fold hoses for right wing into remote valve of choice.
3. Check and make sure all hoses are tied up and secure before use.



461250

HIGH PRESSURE FLUID - DANGER

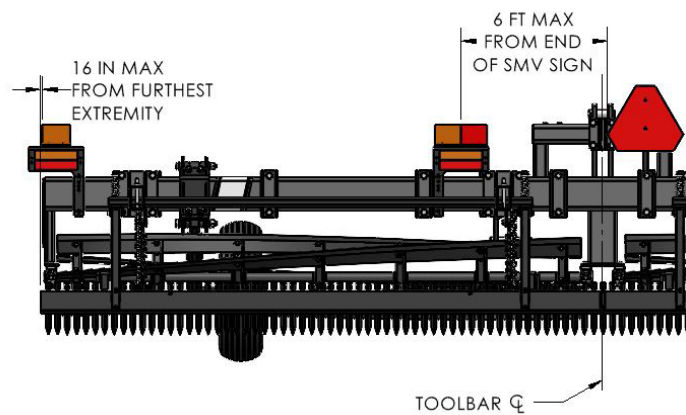
- Use safe practices. Fluid injection can occur; will result in death or serious injury.
- Hazards may include, but are not limited to, injury beyond the entry point, over pressurized components, damaged components, components with excessive wear, swollen components, ect.



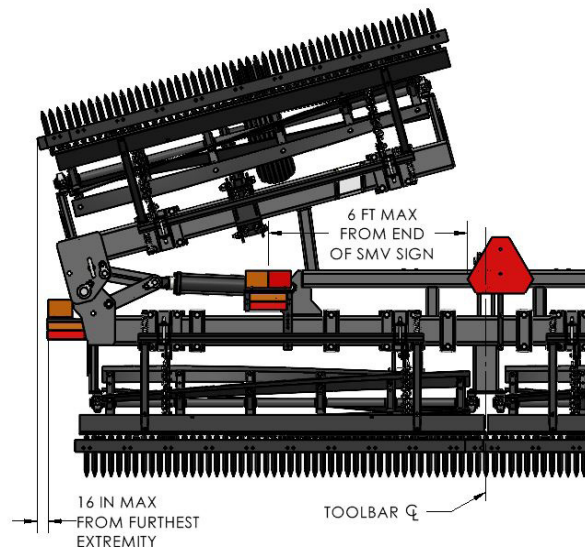
LIGHT KIT GUIDE AND RELOCATION

The light kit is installed at the factory. However, due to shipping requirements and other circumstances, some positions are altered and SMV sign or lights may need relocated before use. Typically, the SMV sign is the only component that needs relocated; please check all components. Check that all forward-facing reflectors and lights are visible from the front and all rear-facing reflectors and lights are visible from the rear. Please refer to the depiction below for component locations.

RIGID TOOLBAR



FOLDING TOOLBAR





ELECTRICAL HOOK-UP

Lights are connected using a standard 7-pin connector. To connect, simply lift receptacle cover, align plug and insert. To disconnect, lift receptacle cover and remove plug. Once connected, check to make sure all lights are working properly. If lights are not working properly, contact your dealer to fix before transporting on public roadways.

7-pin Connector



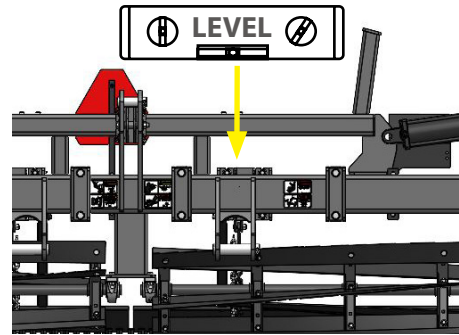


LEVELING THE IMPLEMENT - RIGID & FOLDING

Center Frame L/R Leveling (Figure 1)

1. Hitch the Pulvamerizer to a tractor ([page 12-15](#)).
2. Raise the implement.
3. Adjust the tractor 2-point lift arms so that the center section tool bar is level.

Figure 1



Wing Leveling (Folding Machines - Figure 2 & 3)

4. Once implement is completely unfolded, place Wing Lock Pin through the hinge plates (Figure 2).
5. Wings are held level by the lock pin.

Figure 2

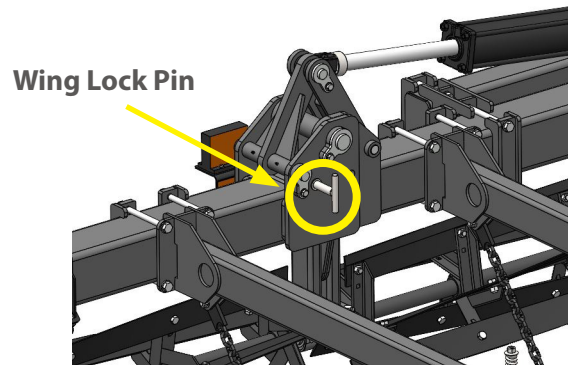
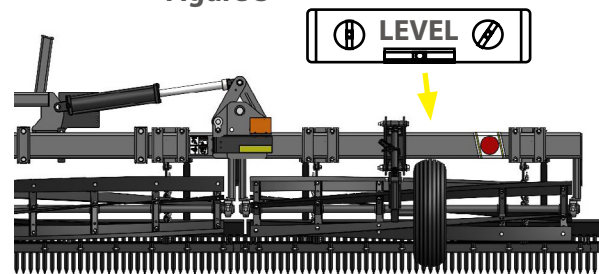


Figure 3



Front-to-Back Leveling

See "Leveling the Machine" on page 25. This adjustment needs to be completed in field conditions.



GAUGE WHEEL TIRE INFLATION

Gauge wheels inflated to the proper air pressure is an important factor in getting the best performance out of your Pulvamizer while increasing the longevity of the life of your gauge wheels.

Underinflation can damage the tire and decrease the life expectancy of your gauge wheel.

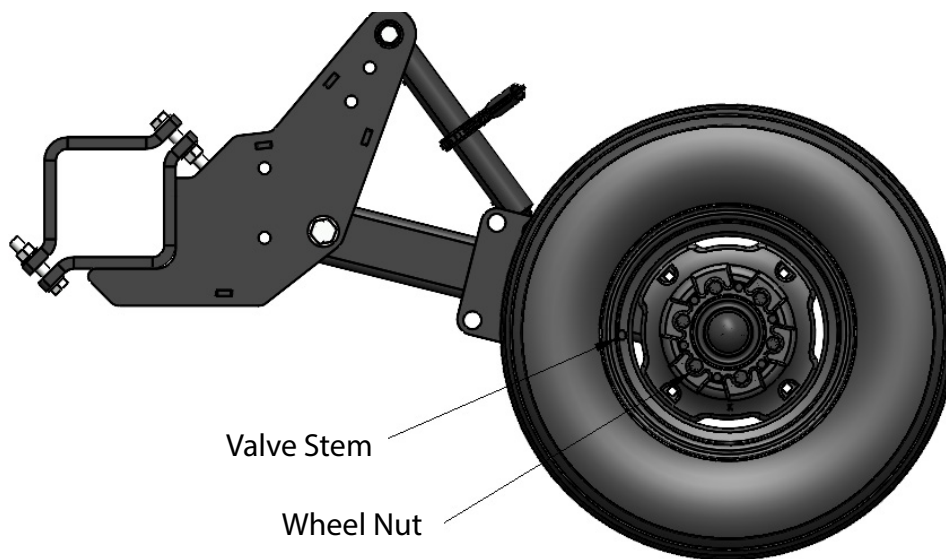
Initial tire pressure should be set at 30 PSI for your Pulvamizer gauge wheels.

If the tire buckles or wrinkles, the air pressure must be increased so the sidewalls remain smooth while operating.

NOTE: DO NOT OVERINFLATE TIRES

Check air pressure every two to three weeks and inflate when needed to prevent buckling or wrinkling of the tire.

It is recommended that all wheel nuts be checked for tightness after first day of use. Wheel nuts should be tightened to 90ft/lbs. Check periodically to be sure the wheel nuts are tight. Paint chipping or rust can cause the wheel to become loose.





REMEMBER

Your best assurance against accidents is a careful and responsible operator. If there is any portion of this manual or function you do not understand, contact W&A Manufacturing.



BEFORE OPERATION

- Carefully study and understand this manual.
- Do not wear loose-fitting clothing which may catch in moving parts.
- Always wear protective clothing and substantial shoes.
- It is recommended that suitable eye protection be worn.
- The operator may come in contact with certain materials which may require specific safety equipment (ie: extremely dusty, molds, fungus, bulk fertilizers).
- Keep bolts tightened to specific torque listed on **Bolt Torque Chart**.
- Give the unit a visual inspection for any loose bolts, worn parts or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included in this manual.
- Be sure that there are no tools lying on or near the equipment.
- Do not use the unit until you are sure that the area is clear, especially children and animals.
- Because it is possible that this equipment may be used in dry areas or in the presence of combustibles, special precautions should be taken to prevent fires and fire fighting equipment should be readily available.
- Don't hurry the learning process or take the unit for granted. Ease into it and become familiar with your new equipment.
- Practice operation of your equipment and its attachments. Completely familiarize yourself and other operators with its operation before using.



DURING OPERATION

- Keep hands, feet, and clothing clear of moving parts.
- Do not clean, lubricate or adjust your equipment while it is moving.
- Be especially observant of the operating area and terrain - watch for holes, rocks or other hidden hazards. Always inspect the area prior to operation.
- Periodically clear the equipment of brush, twigs or other materials to prevent buildup of dry combustible materials.
- Do not walk or work under raised components or attachments unless securely positioned and blocked.
- Keep all bystanders, pets and livestock clear of the work area.
- Never stand alongside of unit with engine running or attempt to start engine and/or operate machine while standing alongside of unit.
- As a precaution, always recheck the hardware on equipment following every 100 hours of operation. Correct all problems. Follow the maintenance safety procedures.



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

PRE-START CHECKLIST

Perform the following steps before transporting the Level Bander to the field.

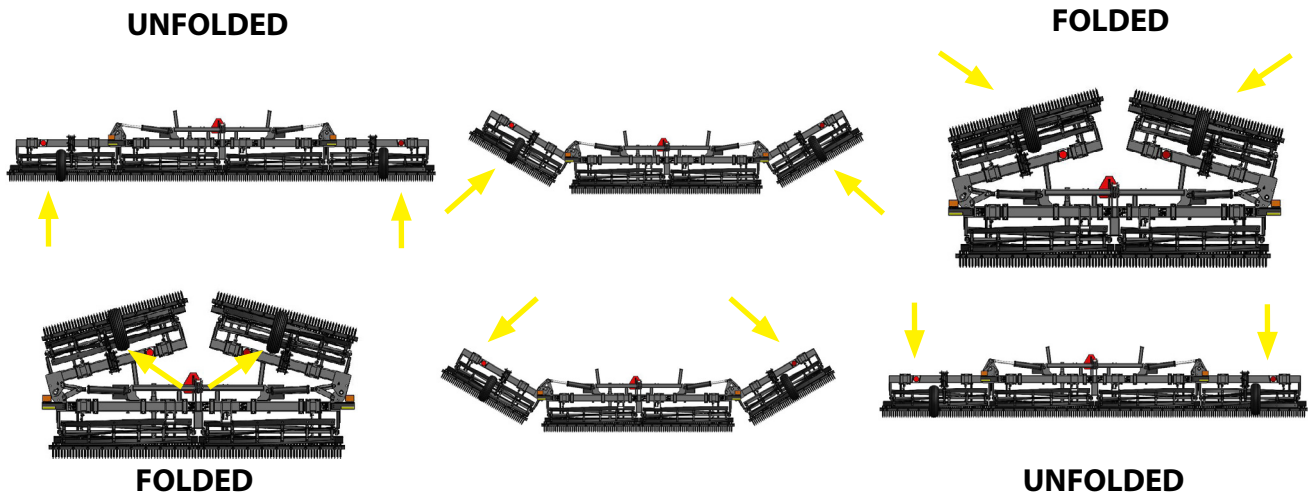
- Carefully read "Important Safety Information" on [page 3](#).
- Lubricate implement as indicated under "Maintenance & Lube" on [page 34](#).
- Check all tires for proper inflation.
- Check all bolts, pins, and fasteners. Torque as shown in "Bolt Torque Chart" on [page 38](#).
- Check implement for worn or damaged parts. Repair or replace parts before going to the field.
- Check hydraulic hoses, fittings, and cylinders for leaks. Repair or replace before going to the field.
- Perform all beginning-of-season and daily service items under "Maintenance & Lube" on [page 34-36](#).



FOLDING & UNFOLDING - FOLDING TOOLBAR

Fold the implement for movements on public roads and between fields and narrow clearances. Do not use the folded configuration for parking or storage.

1. Hitch to tractor ([page 12-15](#)).
2. Move to level ground. Be aware of vertical clearance needed to fold implement.
3. Put tractor in Park with parking brake engaged.
4. Clear all persons from on or near the implement.
5. Use the tractor 3-point hitch to raise the implement slightly (so that all tooling is off the ground).
6. Slowly move fold circuit lever(s) to retract cylinders. Observe the folding operation.
7. Slowly move fold circuit lever(s) to extend cylinders. Observe the unfolding operation.
8. Wait for both wings to reach the fully folded position. Set tractor remote(s) to Neutral to hold at folded or unfolded.



TIP OVER/CRUSHING HAZARD AND EQUIPMENT DAMAGE RISK:

Never unhitch a folded implement. A folded implement could topple backward or forward, causing serious injury or death and certain severe equipment damage. When unhitched, the implement is supported at the rear only by row unit tools and spring tension. Slopes, soft soils, and soils later softened by rain are particularly dangerous.



ELECTRICAL SHOCK/ELECTROCUTION HIGH-CLEARANCE DANGER:

- Keep clear of overhead power lines, maintain 20-foot minimum distance. Electrical shock and/or electrocution can occur; will result in death or serious injury.
- Hazards may include, but are not limited to, high clearance equipment, low clearance power lines, lack of awareness of surroundings, etc.



CRUSH HAZARD - WARNING:

- Keep clear of moving and shifting equipment. Equipment can move or shift; can result in death or serious injury.
- Hazards may include, but are not limited to, folding wing movement, raised equipment movement and shifting, etc.



TRANSPORT CHECKLIST

Before transporting the implement, check the following items.

- Transport only with a tractor of proper size and adequate ballast.
- Hitch implement securely to tractor. See “Hitching Tractor to Implement” on [page 12-15](#).
- Plug implement safety lights into tractor seven-pin connector.
- Make sure implement is folded properly. See “Folding” on [page 22](#). Raise the implement for adequate ground clearance.
- Comply with all national, regional, and local safety laws when traveling on public roads.
- Travel with caution.



LOSS OF CONTROL HAZARD:

Ensure that the towing vehicle is adequate for the task. Using an inadequate tow vehicle is extremely unsafe, and can result in loss of control, serious injury and death. To reduce the hazard, use only a 3-point towing vehicle that is both rated for the implement load, and properly ballasted for the load.



ELECTRICAL SHOCK/ELECTROCUTION HIGH-CLEARANCE DANGER:

- Keep clear of overhead power lines, maintain 20-foot minimum distance. Electrical shock and/or electrocution can occur; will result in death or serious injury.
- Hazards may include, but are not limited to, high clearance equipment, low clearance power lines, lack of awareness of surroundings, etc.



BRAKING AND LOSS OF CONTROL HAZARD:

Do not exceed 20 mph (32km/h) when driving straight. Do not exceed 13 mph (21 km/h) in turns. The weight of the implement can cause under-steer, and the height of the implement is a tipping hazard.

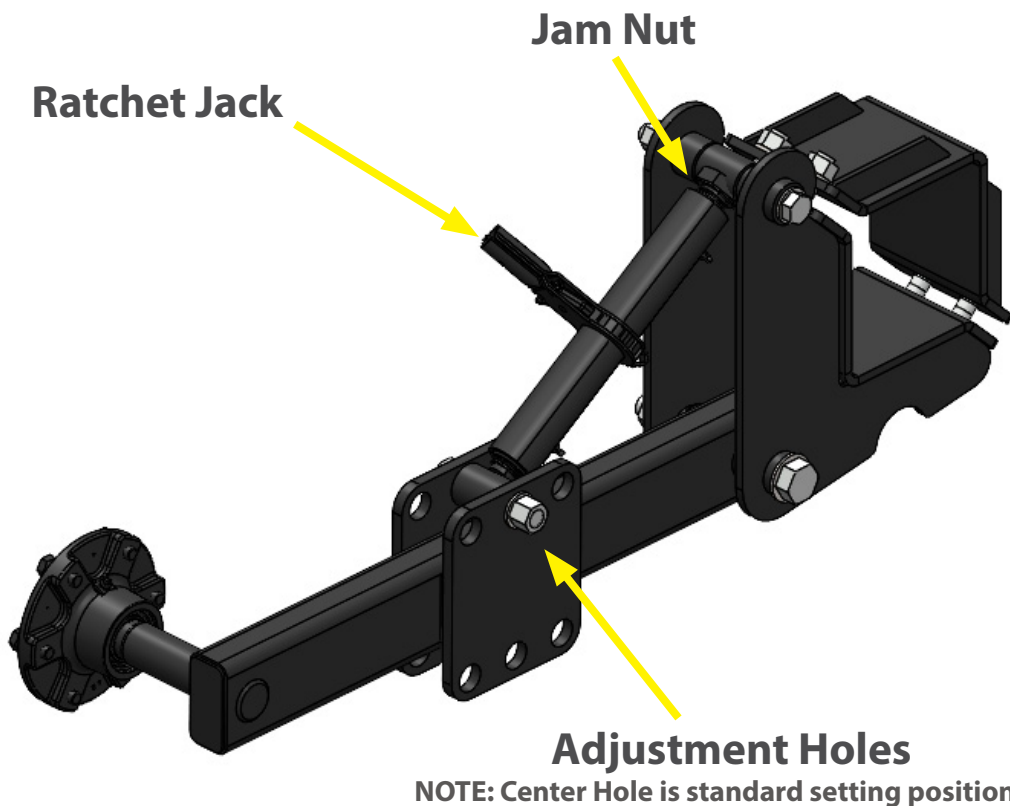


GAUGE WHEEL ADJUSTMENT

Gauge wheels are equipped with two different methods to adjust the depth of the gauge wheels. The first is to use the ratcheting turn buckle. To do this, loosen the jam nut with a combination wrench (1 ¾"). Then, turn the turn buckle to either lengthen or shorten the turn buckle. Then, re-tighten the jam nut.

The second method of adjustment is to change the lower position of the ratcheting turn buckle. The ratcheting turn buckle's standard location is in the center of the 3 holes on the lower arm and is the recommended setting for the Pulvamizer.

The gauge wheels are designed to help the tractor carry the machine through the field and hold proper depth.

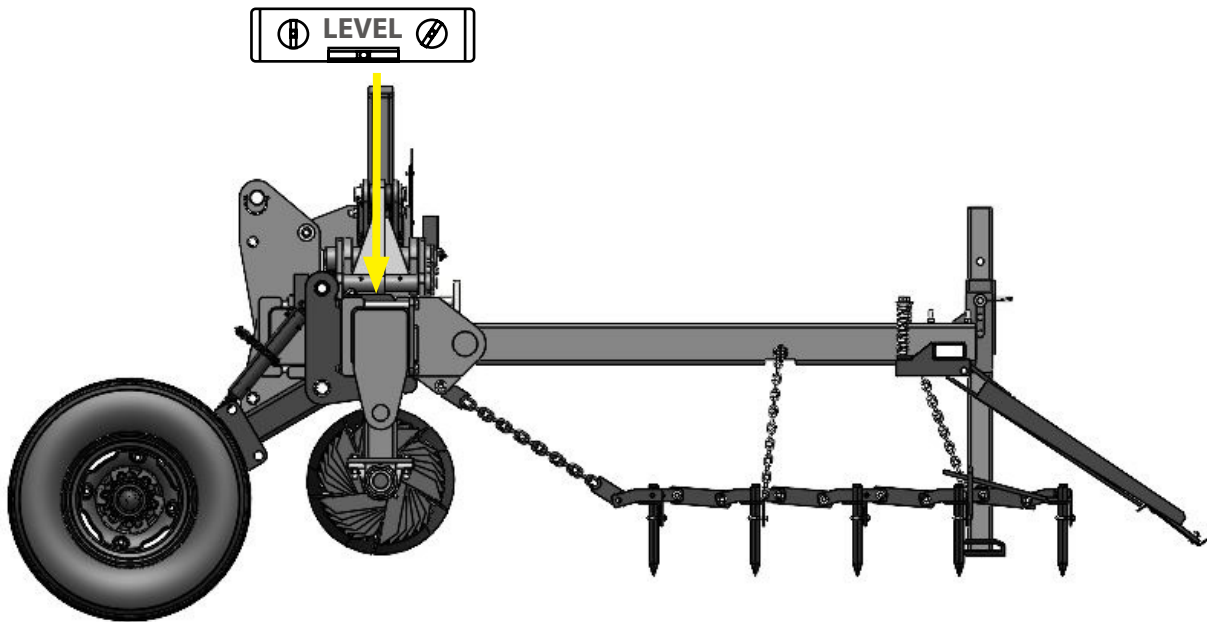




LEVELING THE MACHINE

When initially setting the Pulvamizer up to operate in the field the machine should be set level front to back and level left to right. To level center and wings refer to “Leveling the Implement” section on [page 18](#).

Initial operating setting is level front to back. Adjust third-link on tractor until toolbar is level. If using hydraulic third link, make note of setting when machine is level.



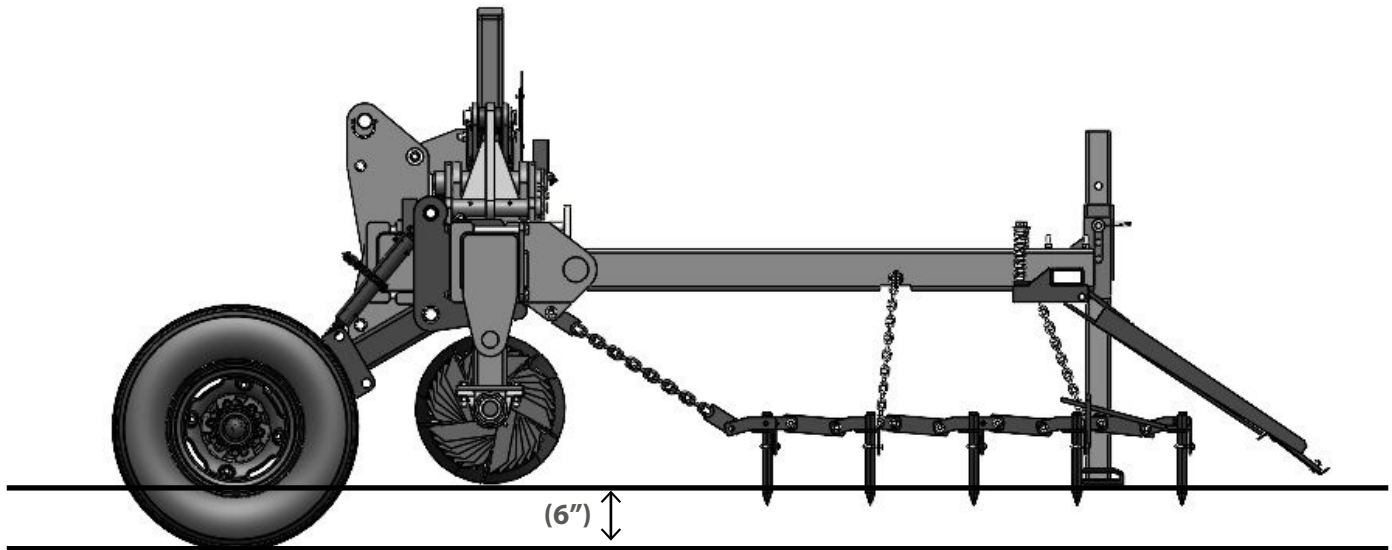
Tipping the machine front to back in operation can be used to change the shape of the beds, by increasing or decreasing depth of the rear tooling and dragboard pressure. Only minimal adjustment should be made using the third link on the tractor.

For greater adjustment, see dragboard adjustment sections.



DEPTH SETTINGS

BASIC DEPTH SETTINGS FOR USE IN FIELDS WITH EXISTING RAISED BEDS



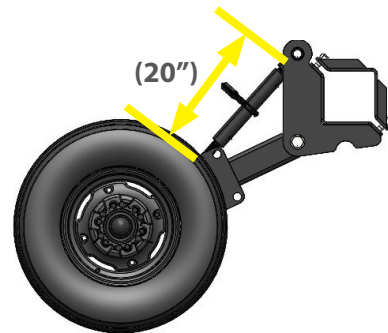
-Park the machine on a level surface.

-Use the tractor to level the implement front to rear.

GAUGE WHEELS

Adjust the gauge wheels so the measurement from the top bolt of the ratchet jack to the bottom bolt of the ratchet jack is 20".

Depending on field conditions, which includes the firmness of the soil, the tooling may be adjusted to optimize bed shape

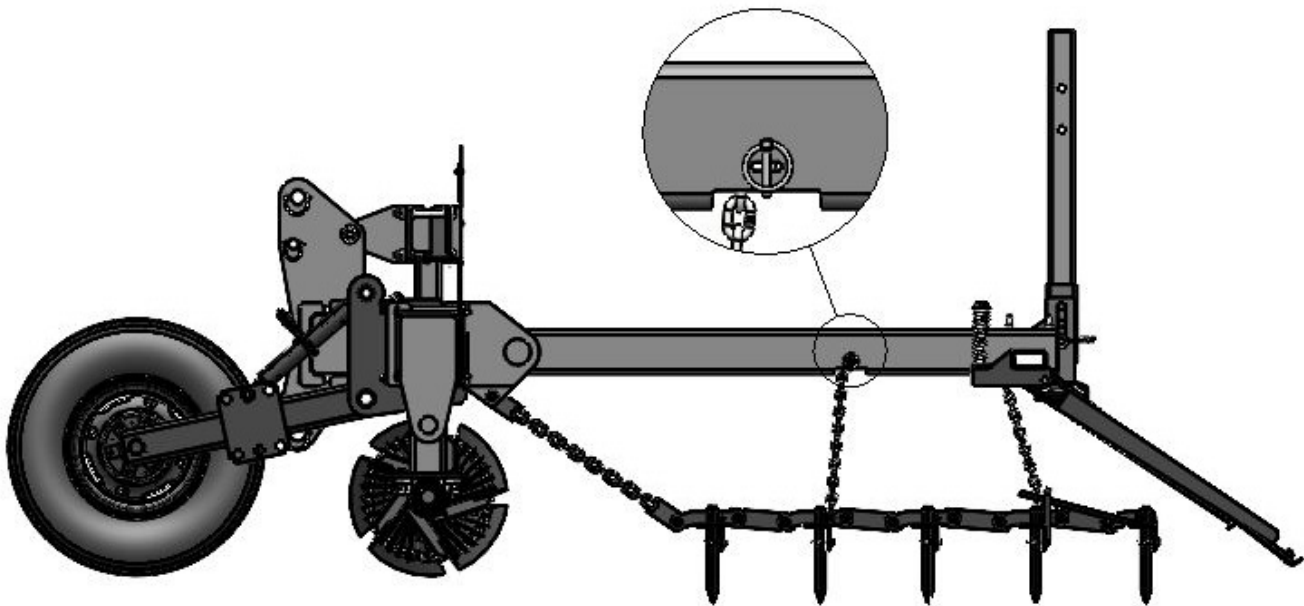




DEPTH ADJUSTMENT - HARROWS

To set the depth of the Harrows:

1. Adjust harrow chains to allow harrow teeth to penetrate to the desired depth by removing 1/4" Klik Pins, adjust height of chain to desired length and replace Klik Pin.



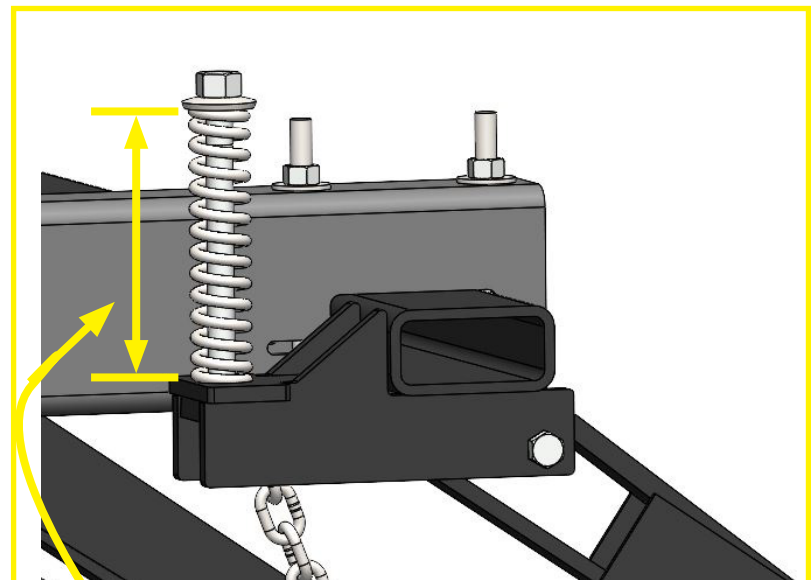
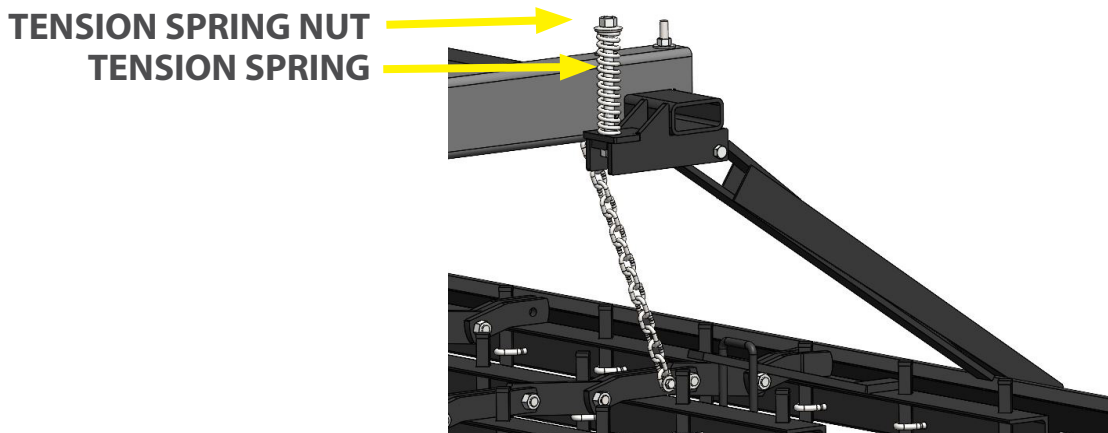


TENSION ADJUSTMENT - DRAGBOARD

To set the tension of the Dragboard:

1. Locate the spring nuts and either tighten or loosen the spring preload evenly across the machine to set the tension.

NOTE: If your Dragboards are bouncing too much, tighten the Tension Spring Nut for increased pressure on the Dragboards. If the Dragboard pressure needs to be decreased, loosen the Tension Spring Nut.



FACTORY SETTING: 6 1/4"
MAXIMUM SETTING: 5 1/4"



SPEED RECOMMENDATIONS

The ideal operating speed for the Pulvamer is 6-8 mph. Field conditions can change the effectiveness of the Pulvamer and need to be taken into consideration by the operator.

- Ideal operating speed: 6-8 mph
- Minimum operating speed: 4 mph
- Maximum operating speed: 10 mph

SPEED EFFECTS

- In most conditions, speeding up will cause the soil to pulverize and spread more evenly.
- In most conditions, slowing down will cause the soil to move less. Lack of sufficient speed will result in less chopping and mixing of soil and residue.
- Operating too slow may result in a rippled, washboard effect.
- See troubleshooting section for more information on performance issues related to speed.



PARKING

For long-term parking, see also “**Storage**” below.

1. Choose a parking location that has room for unfolding, is level, has firm soil and is unlikely to develop soft soil in rain. With the implement still hitched, maneuver it to the parking location.

If the implement must be parked folded, leave it hitched to the tractor. Skip steps 2, 4, and 7.

2. Unfold the implement. Set the fold circuit(s) to Float.
3. Lower the implement to just above ground level at the rear of the machine. Set the tractor remotes to Neutral to hold at slight lift. Shut off the tractor and remove the key.
4. Lower all parking stands to the bottom hole.
5. Unplug implement hydraulic hoses and electrical lines from tractor.
6. Start the tractor. Lower the 3-point hitch until the implement is supported by the parking stands.
7. Disconnect the hitch arms and link.

STORAGE

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

1. Thoroughly clean implement.
2. Park the implement at the storage location as per “Parking” above.
3. Lubricate areas noted under “Maintenance & Lube” on [pages 35-36](#). Apply heavy grease to exposed cylinder rods.
4. Inspect implement for worn or damaged parts. Make repairs and service during the off-season.
5. Use spray paint to cover scratches, chips, and worn areas on the implement to protect the metal.
6. Cover with a tarp if stored outside.



TIP OVER/CRUSHING HAZARD AND EQUIPMENT DAMAGE RISK:

Never unhitch, park, or store a partially folded implement. A partially folded implement could topple backward or forward immediately or at a later time, causing serious injury or death and certain severe equipment damage. When unhitched, the implement is supported at the rear only by row unit tools and spring tension. Slopes, soft soils, and soils later softened by rain are particularly dangerous.



FOLLOWING OPERATION

- Store the unit in an area away from human activity.
- Do not park equipment where it will be exposed to livestock for long periods of time. Damage and livestock injury could result.
- Do not permit children to play on or around the stored unit.
- Make sure all parked machines are on a hard, level surface.



PERFORMING MAINTENANCE

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Before working on this machine, stop the towing vehicle, set the brakes, shut off the engine and remove the ignition keys.
- Be certain all moving parts on attachments have come to a complete stop before attempting to perform maintenance.
- Always use the proper tools or equipment for the job at hand.
- Use extreme caution when making adjustments.
- Follow the torque chart in this manual when tightening bolts.
- Replace all shields and guards after servicing and before moving.
- After servicing, be sure all tools, parts and service equipment are removed.
- Never replace hex bolts with less than Grade 5 bolts unless otherwise specified. Refer to **Bolt Torque Chart** for head identification marking.
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use.
- If equipment has been altered in any way from the original design, the manufacturer does not accept any liability for injury or warranty.
- A first aid kit should be kept readily accessible while performing maintenance on this equipment.



PULVAMIZER DO'S AND DON'TS

- DO follow all safety precautions in this manual.
- DO locate and familiarize yourself with the various Safety Signs and instructional decals prior to operation.
- DO inspect equipment for damage and wear before use; repair as needed.
- DO use caution when connecting pressurized systems, such as hydraulics and pneumatics.
- DO follow recommend maintenance.
- DO level the toolbar for optimum performance.
- DO lift implements completely out of the soil before turning the unit.
- DO use caution when moving large equipment. Using a spotter is recommended when working around obstacles on the ground and/or overhead.
- DON'T fold the toolbar with locking pins in the locked position.
- DON'T over-pressurize the hydraulic system; Pulvamizer hydraulics are designed for 3,000 PSI MAX working pressure.
- DON'T exceed the limits of a piece of machinery.
- DON'T modify equipment from factory build; modification may compromise equipment safety and integrity and will void product warranty.

TROUBLESHOOTING



Troubleshooting		
Problem	Possible Cause	Solution
Chopper reel is not turning.	Chopper reel not making contact with the ground.	Make sure the machine is making contact with the ground.
	Residue build-up is preventing the reel from turning.	Remove residue build-up from the Chopper blades.
	The bearing has failed.	Replace bearing.
Beds are uneven.	Machine is not running level.	Adjust machine, or tractor hitch, to be level side to side. (See pages 18)
		Adjust the level from front to back to change shape of beds. (See page 25)
		Check gauge tire pressure to make sure all tires are equal. (See page 19)
Wings are floating up	Toolbar is not level.	Level toolbar.
Chopper reel or rolling baskets are plugging with mud.	Ground conditions too wet.	Allow soil to dry further before tilling.
Machine is throwing large clods.	Chopper reel is too shallow.	Adjust gauge wheels to lower chopper reel.
	Operating too slow.	Increase operating speed until problem alleviated. (See page 29)



MAINTENANCE

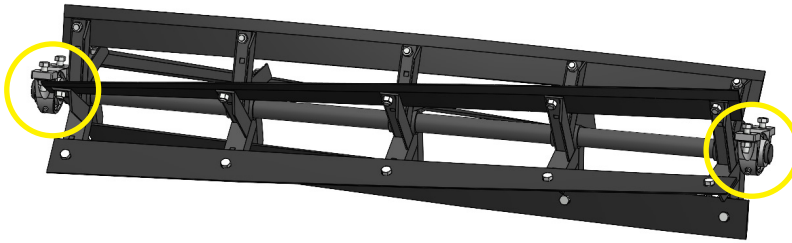
- Proper maintenance will ensure longevity and optimum performance of your W&A equipment.
- Visual inspection is recommended before each use. Check for loose bolts, worn parts, cracked welds and other damage. Replace and repair as needed.
- In addition to a visual inspection before each use, carefully inspect hydraulic components every 100 hours for leaks, excessive wear, swelling and damage. Leaks should be corrected by tightening the fittings according to the **Hydraulic Fitting Torque Chart** or replacing components. Replace any components showing signs of excessive wear, swelling or damage.
- Always replace bolts with the same grade, refer to **Bolt Torque Chart** for grade identification. Tighten bolts according to **Bolt Torque Chart**.
- Always replace parts with W&A parts only.
- We recommend greasing each grease zerk on the toolbar hinge weekly. Grease all attachment grease zerks weekly, or according to specified lubrication schedule.
- Before long-term storage (3 months or more) clean debris from equipment and touch-up paint to prevent corrosion.
- Store in a flat dry place away from human activity and livestock.
- After long-term storage (3 months or more) visually inspect equipment and carefully inspect all components. Especially parts more easily affected by weather damage, such as hydraulic hoses and wiring. Repair and replace as needed before use.



DAILY MAINTENANCE

1. Inspect machine for any loose or missing hardware.
2. Inspect hydraulic lines and connections for wear, bulging hoses, or leakage.
3. Grease the Chopper Reel bearings sparingly.

CHOPPER REEL

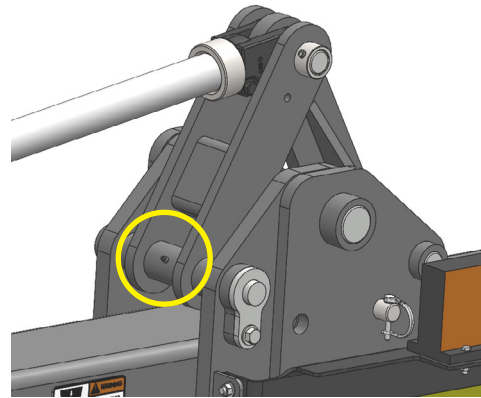
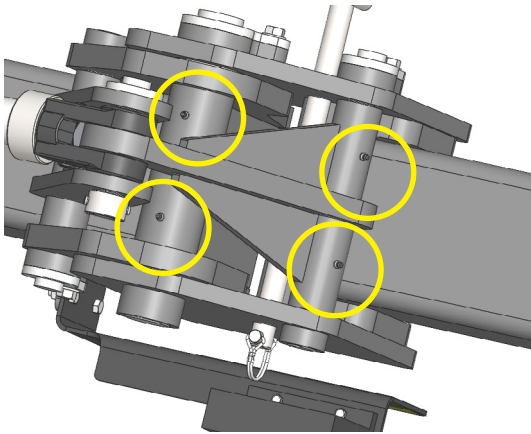




WEEKLY MAINTENANCE

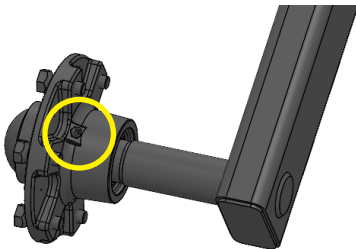
1. Grease the toolbar hinges - five (5) for a Single 7x7 hinge. (Grease zerks indicated in yellow circles below.)

Toolbar Hinge Single 7x7

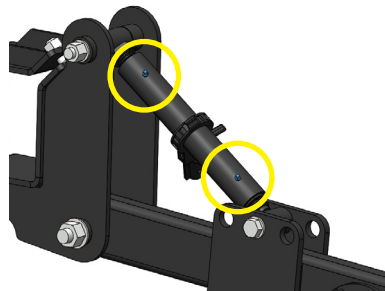


2. Grease Gauge Wheel bearings and turnbuckles and check air pressure.

GAUGE WHEEL HUB



GAUGE WHEEL TURNBUCKLE



GAUGE WHEEL VALVE STEM



YEARLY MAINTENANCE

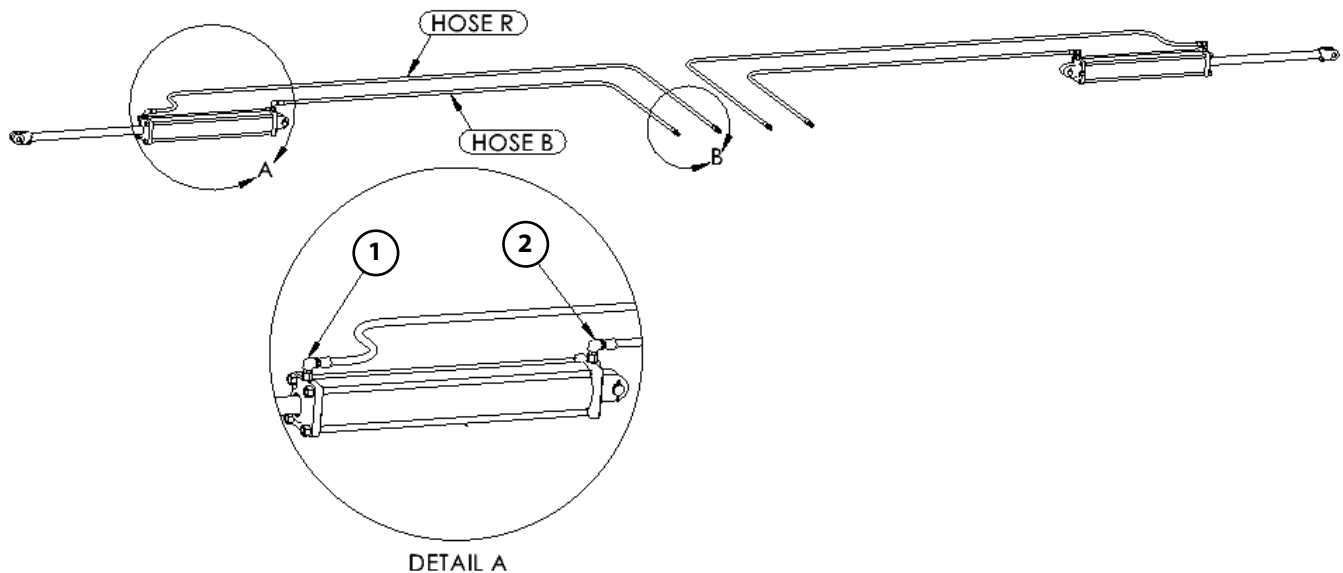
1. Clean machine off.
2. Grease all grease zerks.
3. Replace all worn or damaged parts as necessary.
4. Check Bolt Torque on Hubs.



BLEEDING FOLD HYDRAULICS

To function properly, the hydraulics must be free of air. If hydraulics have not been bled, they will operate with jerky, uneven motions and could cause wings to drop rapidly during folding or unfolding. If hydraulics were not bled during initial implement setup or if you replace a part in the hydraulic system during the life of the implement, complete the following procedures:

1. Check hydraulic fluid level in tractor reservoir and fill to proper level. Add fluid to system as needed.
2. With implement unfolded and fold cylinders completely extended, disconnect rod end pins and swing the cylinders so they will not contact anything when extended.
3. Loosen rod end hose fittings (1) at the NPTF connection.
4. Slowly supply oil to rod end of fold cylinders until oil appears at loosened hose fitting. Tighten fitting and completely retract fold cylinders.
5. With cylinders completely retracted, loosen base end hose fittings (2) at the NPTF connection.
6. Slowly supply oil to base end of fold cylinders until oil appears at loosened hose fitting. Tighten base end hose fitting and cycle fold cylinders in and out several times.
7. Re-pin cylinder rod clevises.



DANGER

HIGH PRESSURE FLUID - DANGER

- Use safe practices. Fluid injection can occur; will result in death or serious injury.
- Hazards may include, but are not limited to, injury beyond the entry point, over pressurized components, damaged components, components with excessive wear, swollen components, ect.



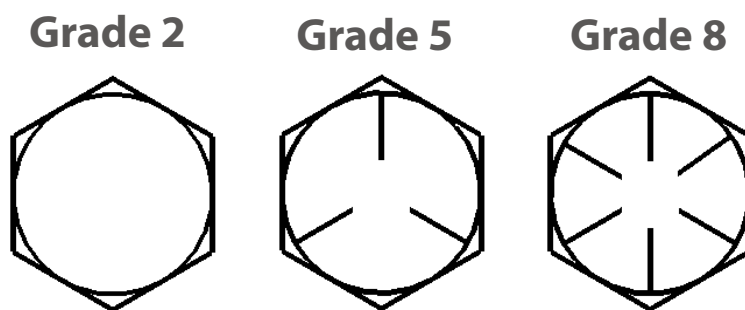
CHECKING BOLT TORQUE

The table shown below gives correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same grade bolt.

BOLT TORQUE CHART

Torque Specifications						
Bolt Diameter	Bolt Torque*					
	SAE Grade 2		SAE Grade 5		SAE Grade 8	
INCH	lbft	(Nm)	lbft	(Nm)	lbft	(Nm)
1/4	6	(8)	9	(12)	12	(17)
5/16	10	(13)	19	(25)	27	(36)
3/8	20	(27)	33	(45)	45	(63)
7/16	30	(41)	53	(72)	75	(100)
1/2	45	(61)	80	(110)	115	(155)
9/16	70	(95)	115	(155)	165	(220)
5/8	95	(128)	160	(215)	220	(305)
3/4	165	(225)	290	(390)	400	(540)
7/8	170	(230)	420	(570)	650	(880)
1	226	(345)	630	(850)	970	(1320)

BOLT HEAD IDENTIFICATION





HYDRAULIC FITTING IDENTIFICATION

Hydraulic fitting styles, types and sizes are numerous and at times easily confused. The chart below shows the most common types and sizes of hydraulic fittings for the industry, male ends depicted. This chart is printed at 1 to 1 for ease of identification.

NPTF (National Pipe Taper Fuel) uses tapered threads to create a seal.

ORB (O-Ring Boss) uses an O-ring to seal after threads.

JIC (Joint Industry Council) 37-degree flare sealing surface before threads.

ORFS (O-Ring Face Seal) uses an O-ring to seal before threads.



-4 NPTF



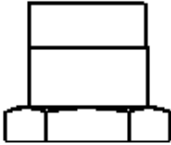
-4 ORB



-4 JIC



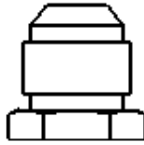
-4 ORFS



-6 NPTF



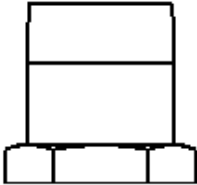
-6 ORB



-6 JIC



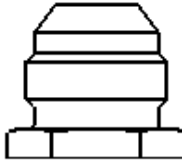
-6 ORFS



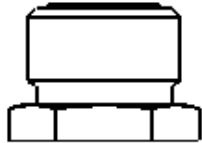
-8 NPTF



-8 ORB

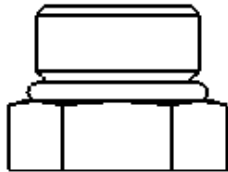


-8 JIC

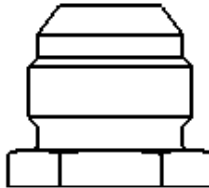


-8 ORFS

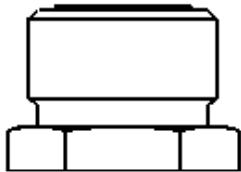
N/A



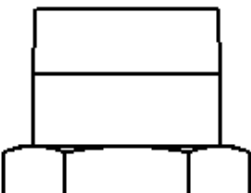
-10 ORB



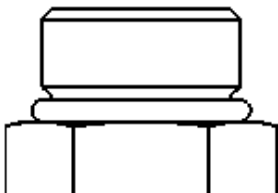
-10 JIC



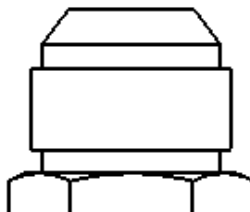
-10 ORFS



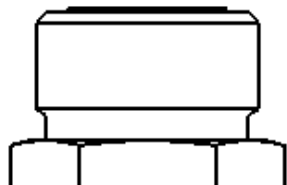
-12 NPTF



-12 ORB



-12 JIC

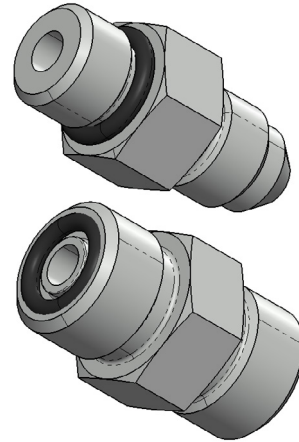


-12 ORFS



CHECKING HYDRAULIC FITTINGS

- Before connecting hydraulic fittings, check that fittings are clean and undamaged. Replacement fittings and hoses are available from W&A Manufacturing.
- Ensure O-ring(s) are installed properly as shown in the image. (ORB fitting above, ORFS fitting below)
- “Wet Torque” fittings according to the chart below. Wet Torque is the process of lubricating all threads, O-rings and sealing surfaces with the hydraulic fluid used in the system. Then tightening to a specified torque.
- Do not force fittings together. Ensure male and female are of the same type and size, align sealing surfaces and threads properly.
- Do not apply force to a connection or use the connection as support. Doing so may damage components and/or cause the connection to leak.

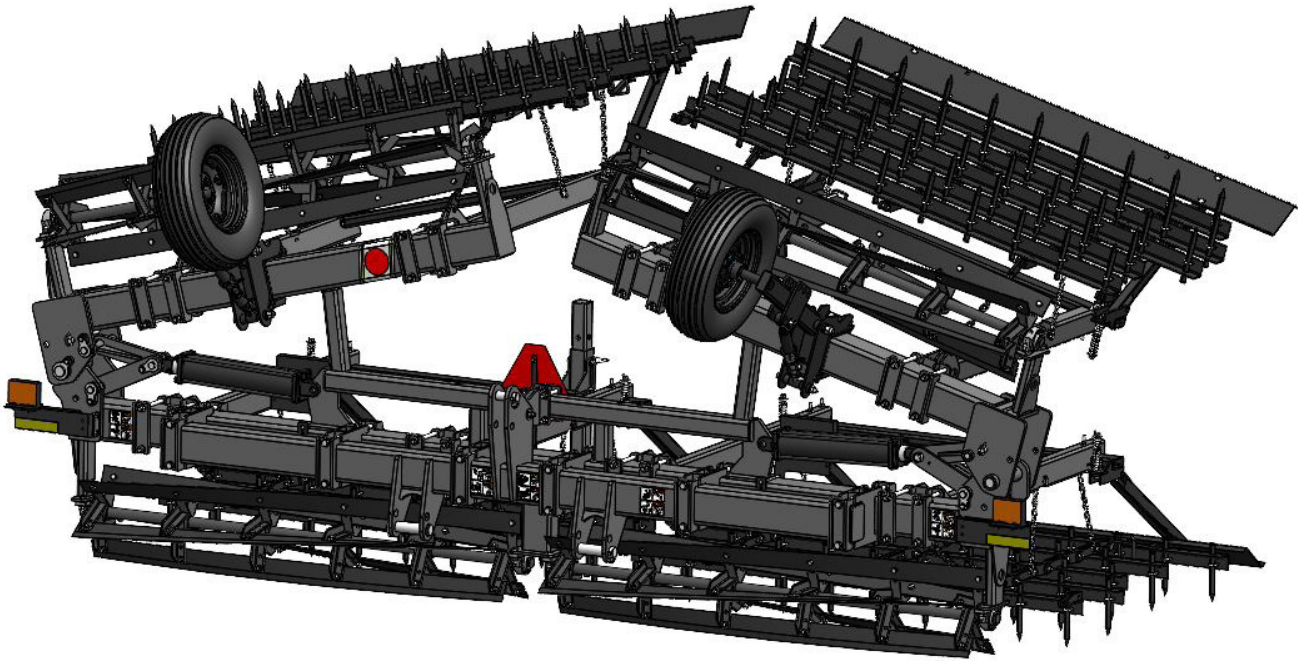


HYDRAULIC FITTING TORQUE CHART

Torque lbft (Nm)				
Dash Size	NPTF	ORB	JIC	ORFS
-4	12-16 (16-22)	10-15 (14-20)	11-13 (15-18)	10-12 (14-16)
-6	14-32 (19-43)	17-21 (23-28)	20-22 (27-30)	18-20 (24-27)
-8	32-40 (43-54)	30-35 (41-47)	43-47 (58-64)	32-35 (43-47)
-10	-	30-35 (41-47)	55-65 (75-88)	45-50 (61-68)
-12	40-48 (54-65)	30-35 (41-47)	80-90 (108-122)	65-70 (88-95)



PARTS GUIDE



This Parts Guide applies to:

Serial Number: Starting with L or newer (Pulvamizers manufactured between June 2020-June 2021). Starting June 2021, Serial Numbers will change to a 9-digit number (ex. 26XXXXX0721).

For parts for models prior to serial numbers beginning with L (K or older), or manufactured before July 2020, please refer to the Legacy section of manuals under Pulvamer on the Support page at WAMFGCO.com.

USE ONLY GENUINE, W&A REPLACEMENT PARTS

We will not claim responsibility for use of non-approved parts and/or accessories and other damages as a result of their use.



HOW TO USE THIS PARTS GUIDE

1. Determine your Pulvamerizer Model by referring to the Model No. on your Serial Number plate on the hitch of your Pulvamerizer.



2. Using your Model Number (eg. 3711 for a 6 Row 38"/40" Pulvamerizer - Rigid Toolbar) find the Parts Guide Reference section that covers your specific model (See page 55 for Model Number Index).
3. Once you find the correct Parts Guide Reference section, look through each table to find the parts assembly you need to review. Each assembly will have the page number of a parts breakdown for that assembly. When you find the page of the assembly you need to review, turn to that page.
4. Within each parts breakdown, you'll find: Item Number, Part Number, Description, and Quantity for each part in each assembly.

PARTS GUIDE REFERENCE

MODEL 3711 - 6 ROW 38"/40" RIGID

TOOLBAR	
Section	Page
Hitch & Pins	47
Toolbar Sub Assemblies	49
Bar Stand	55

REAR FINISHING TOOLS	
Section	Page
Harrow	58
Rear Arm and Tube	60
Dragboard	61

LIGHT KITS	
Section	Page
Whole	62

GAUGE WHEELS	
Section	Page
Whole	66

TOOLBAR

Section	Page
Hitch & Pins	47
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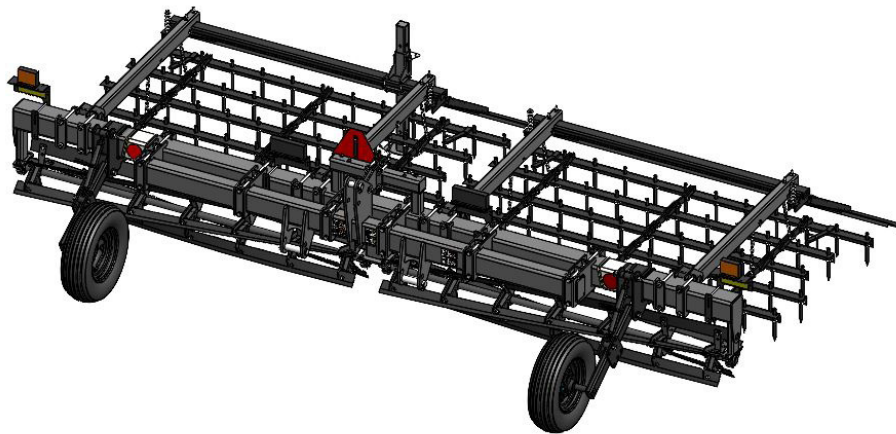


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MODEL 3711 - 6 ROW 38"/40" RIGID



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LIGHT KITS

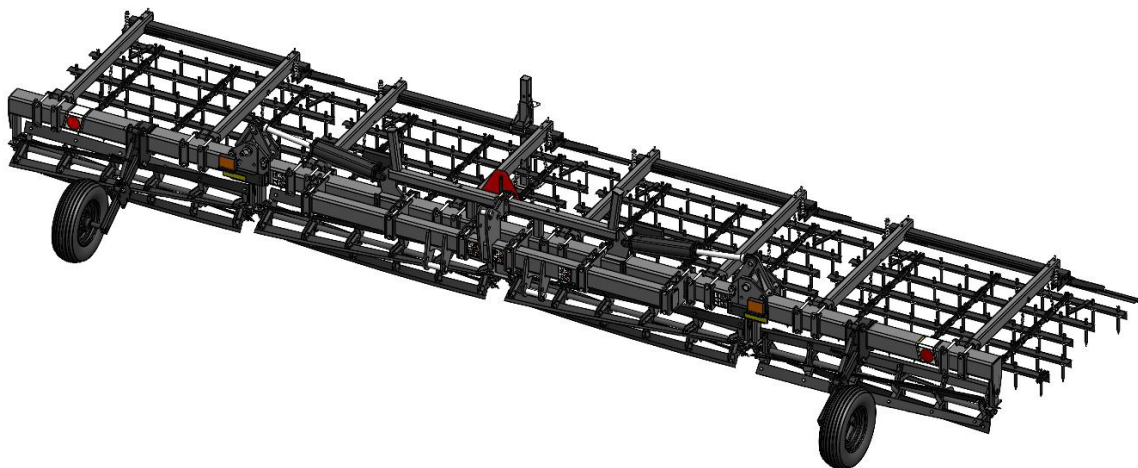
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MODEL 3715 - 12 ROW 30" FOLDING



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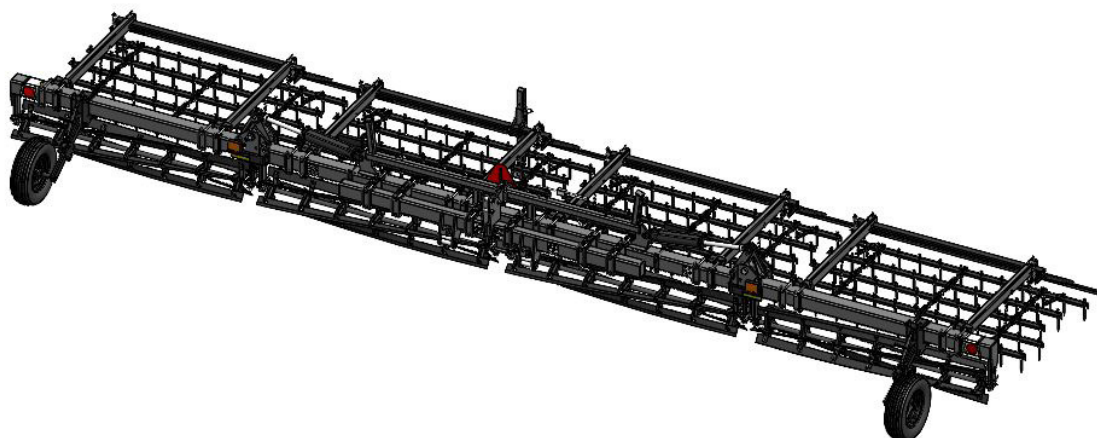
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PARTS GUIDE REFERENCE



MODEL 3713 - 12 ROW 38"/40" & 16 ROW 30" FOLDING



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LIGHT KITS

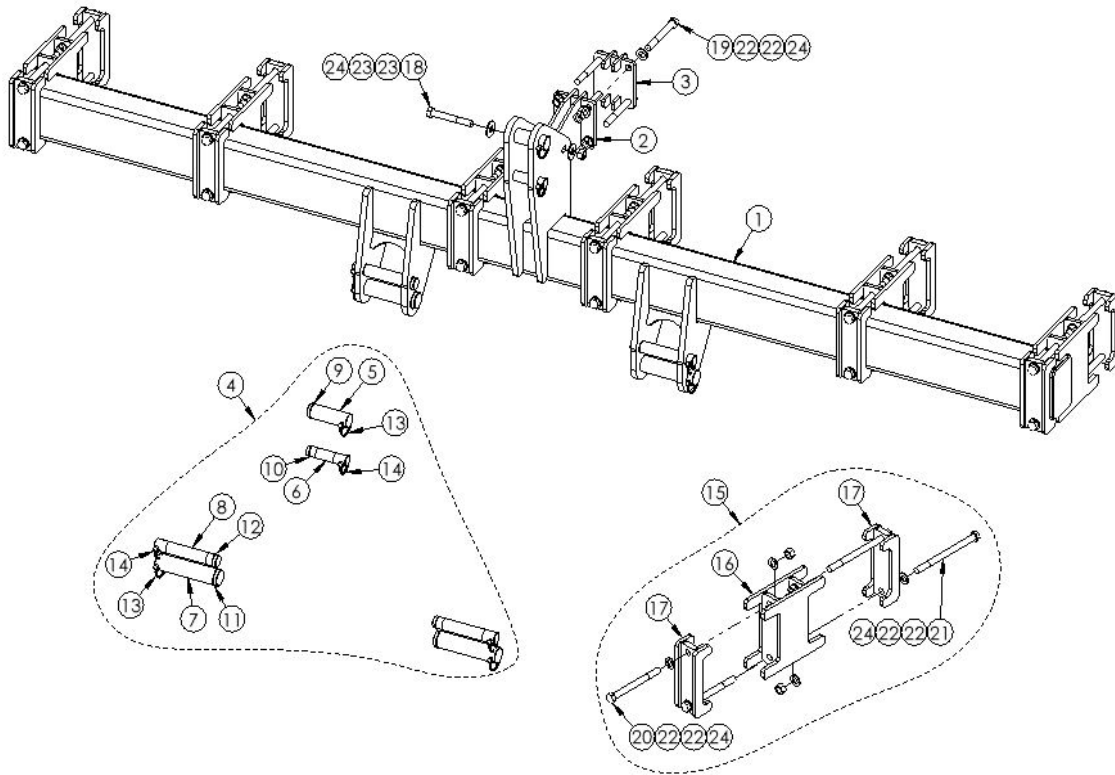
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GAUGE WHEELS

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HITCH & PINS



Item Number	Part #	Description	Quantity
1	315072	BOLT-ON HITCH CAT 3, 4N	1
2	315637	TIE-IN	1
3	315640	TIE-IN CLAMP	1
4	315150	HITCH PIN PACK 3, 3N & 4N	1
5	315151	TOP PIN CAT 4N	1
6	315152	TOP PIN CAT 3	1
7	315153	LOWER PIN CAT 4N	2
8	315154	LOWER PIN CAT 3	2
9	315155	EXTERNAL RETAINING RING FOR 1 3/4" SHAFT	1
10	315156	EXTERNAL RETAINING RING FOR 1 1/4" SHAFT	1

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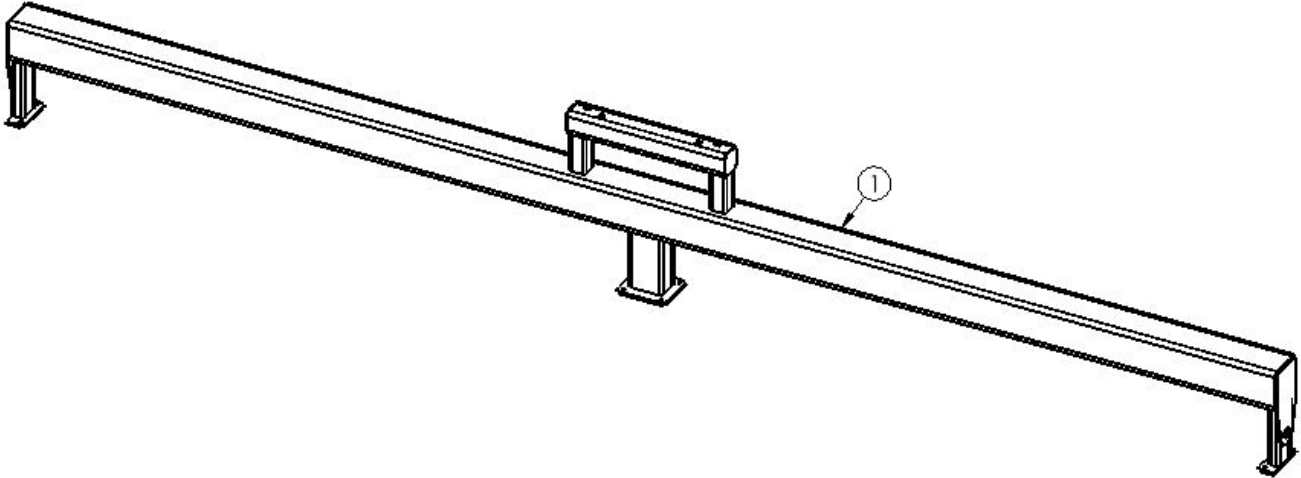
HITCH & PINS

Item Number	Part #	Description	Quantity
11	315157	EXTERNAL RETAINING RING FOR 2" SHAFT	2
12	315158	EXTERNAL RETAINING RING FOR 1 7/16" SHAFT	2
13	315161	WIRE LOCKING PIN 1/4 X 2 1/8 USEABLE LENGTH	2
14	315162	WIRE LOCKING PIN 1/4 X 1 3/8 USEABLE LENGTH	2
15	602012	CLAMP ASSEMBLY FOR 7 X 7 TO 5 X 7 TUBE	6
16	302014	HITCH H CLAMP WELDMENT	6
17	322009	CLAMP CAP FOR 7" TUBE	12
18	411595	3/4-10 X 5 1/2 BOLT GR5	1
19	411598	3/4-10 X 6 1/2 BOLT GR5	4
20	411600	3/4-10 X 8 BOLT GR5	2
21	411604	3/4-10 X 10 BOLT GR5	2
22	413072	3/4 SAE FLAT WASHER	16
23	413012	3/4 USS FLAT WASHER	2
24	410012	3/4-10 CENTER LOCK NUT	9

PARTS GUIDE



TOOLBAR - 3711 - 6 ROW 38/40"

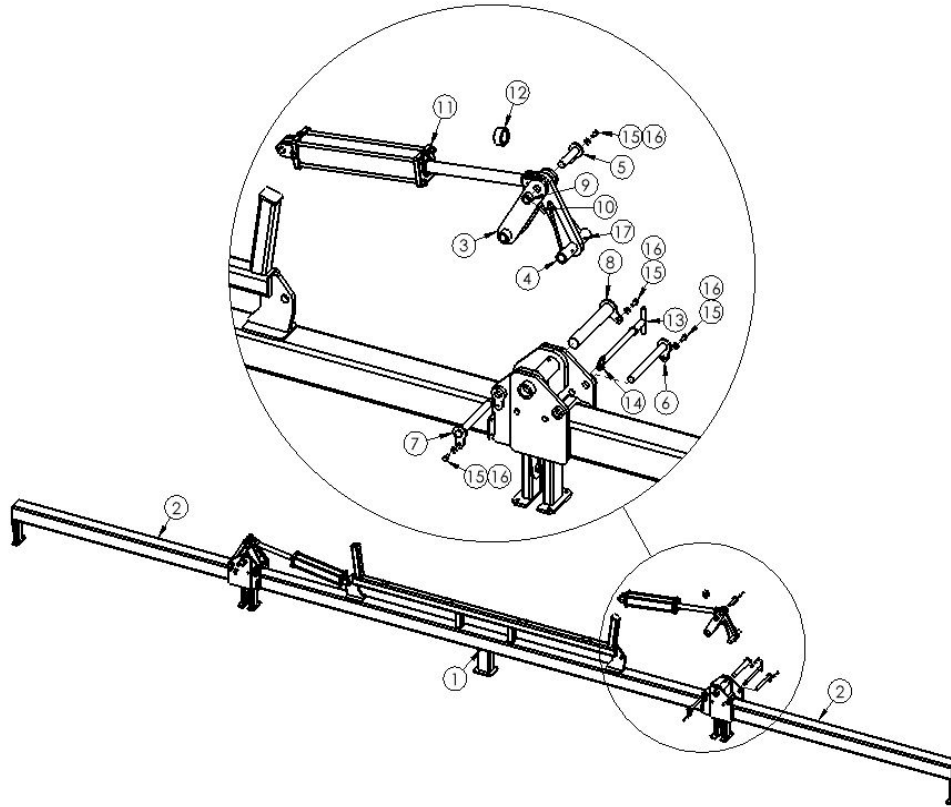


Item Number	Part #	Description	Quantity
1	315799	6 ROW 38/40 RIGID TOOLBAR	1

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TOOLBAR - 3715 - 12 ROW 30



Item Number	Part #	Description	Quantity
1	315811	SINGLE BAR CENTER SECTION - 12 ROW 30	1
2	315810	SINGLE BAR WING - 12 ROW 30	2
3	315613	FOLD LINK CENTER PLATE	2
4	315620	FOLDING CYLINDER LINK	2
5	315622	SHORT PIN	2
6	315624	LONG PIN	2
7	315627	MEDIUM PIN	2
8	315630	Ø2.00 PIN	2
9	315631	BUSHING RETAINER	2
10	416120	3/8 X 2 ROLL PIN	2

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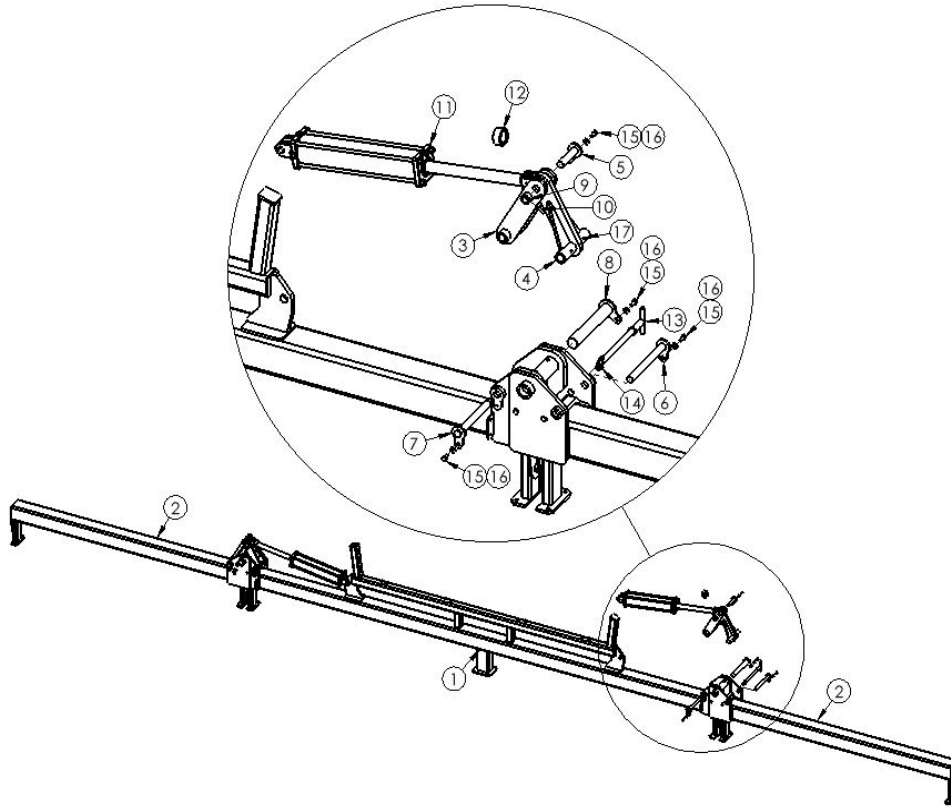
TOOLBAR - 3715 - 12 ROW 30

Item Number	Part #	Description	Quantity
11	476023	4 1/2 X 20 TIE ROD HYDRAULIC CYLINDER	2
12	315647	CYLINDER STOP	2
13	306284	WING LOCK PIN	2
14	315162	WIRE LOCK PIN 1/4 X 1 3/8 USEABLE LENGTH	2
15	411543	1/2-13 X 1 BOLT GR5	8
16	413007	1/2 SAE FLAT WASHER	8
17	450004	1/4 DRIVE IN GREASE ZERK	10

PARTS GUIDE



TOOLBAR - 3713 - 12 ROW 38/40" & 16 ROW 30"



Item Number	Part #	Description	Quantity
1	315809	SINGLE BAR CENTER SECTION - 12 ROW 38/40 & 16 ROW 30	1
2	315808	SINGLE BAR WING - 12 ROW 38/40 & 16 ROW 30	2
3	315613	FOLD LINK CENTER PLATE	2
4	315620	FOLDING CYLINDER LINK	2
5	315622	SHORT PIN	2
6	315624	LONG PIN	2
7	315627	MEDIUM PIN	2
8	315630	Ø2.00 PIN	2
9	315631	BUSHING RETAINER	2
10	416120	3/8 X 2 ROLL PIN	2

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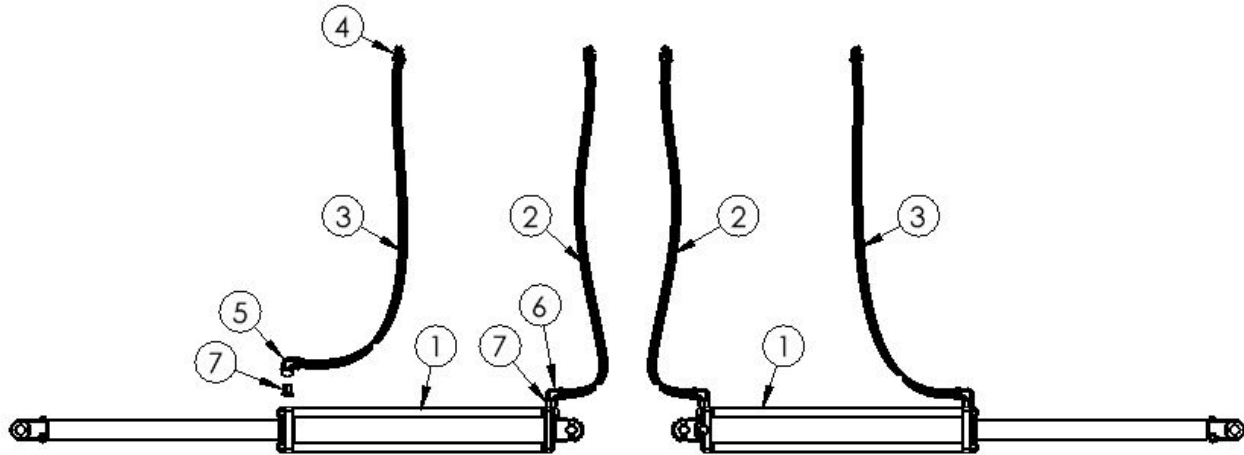


TOOLBAR - 3713 - 12 ROW 38/40" & 16 ROW 30"

Item Number	Part #	Description	Quantity
11	476023	4 1/2 X 20 TIE ROD HYDRAULIC CYLINDER	2
12	315647	CYLINDER STOP	2
13	306284	WING LOCK PIN	2
14	315162	WIRE LOCK PIN 1/4 X 1 3/8 USEABLE LENGTH	2
15	411543	1/2-13 X 1 BOLT GR5	8
16	413007	1/2 SAE FLAT WASHER	8
17	450004	1/4 DRIVE IN GREASE ZERK	10



TOOLBAR - FOLDING HYDRAULICS

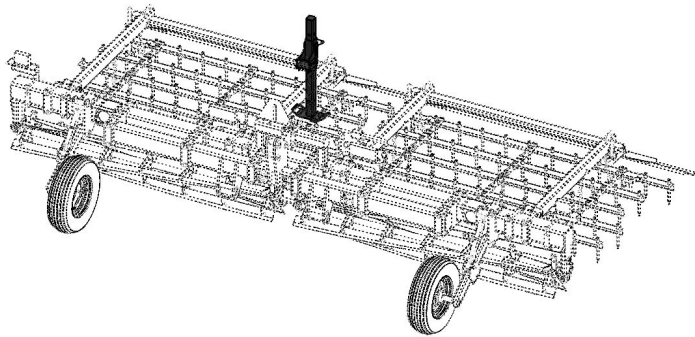
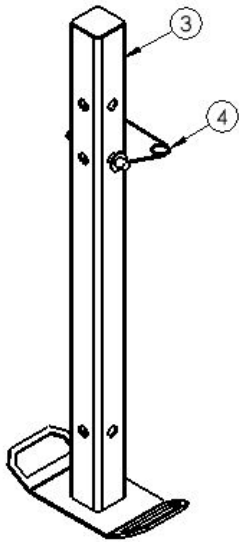
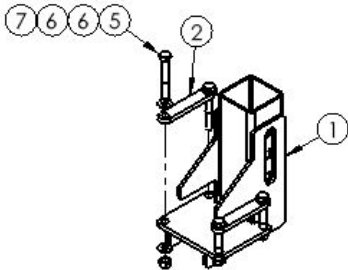


Item Number	Part #	Description	Quantity
1	476023	4 1/2 X 20 TIE ROD HYDRAULIC CYLINDER	2
2	306190	120" HOSE ASSEMBLY	2
3	306191	148" HOSE ASSEMBLY	2
4	457240	1/2" MALE AGTIP Q. COUPLER -8FORB STRAIGHT	4
5	457241	RESTRICTION 3/64" ORIFICE 8MORB X 8FORB SOLID 90° ELBOW FITTING	2
6	457261	8MORB X 8FORB 90° ELBOW SOLID FITTING	2
7	457274	10MORB X 8FORB STRAIGHT SOLID FITTING	4



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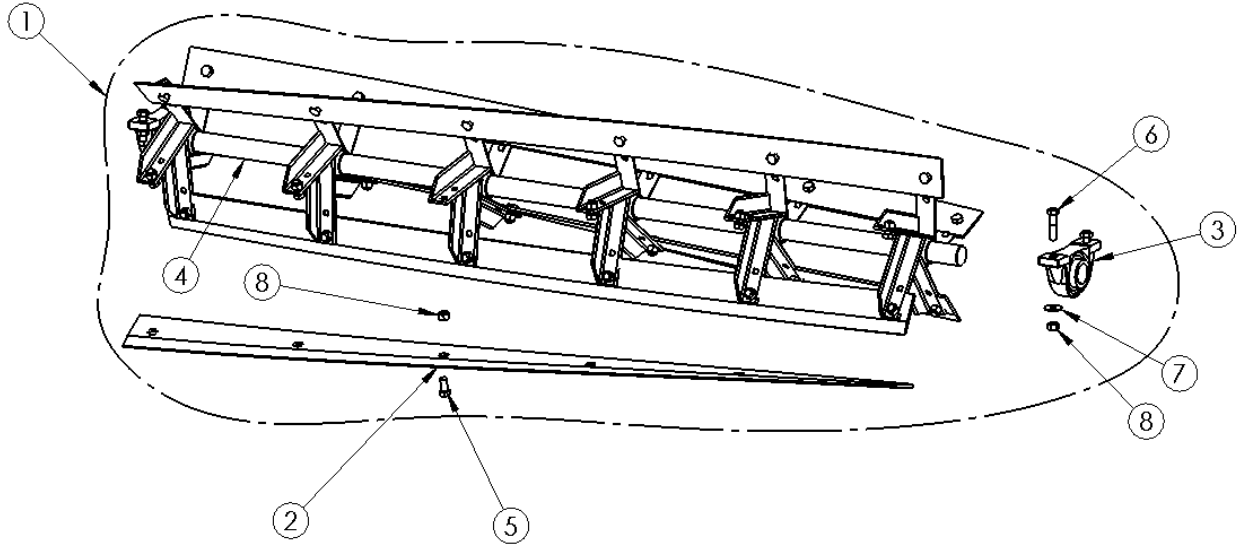
BAR STANDS



Item Number	Part #	Description	Quantity
1	350146	BAR STAND RECEIVER	1
2	350149	TOP STRAP	2
3	315203	LONG BAR STAND LEG	1
4	416230	SNAP LOCK PIN 3/4 X 4 USAEBLE LENGTH	1
5	411552	1/2-13 X 3 1/2 BOLT GR5	4
6	413007	1/2 SAE FLAT WASHER	8
7	410008	1/2-13 CENTER LOCK NUT	4



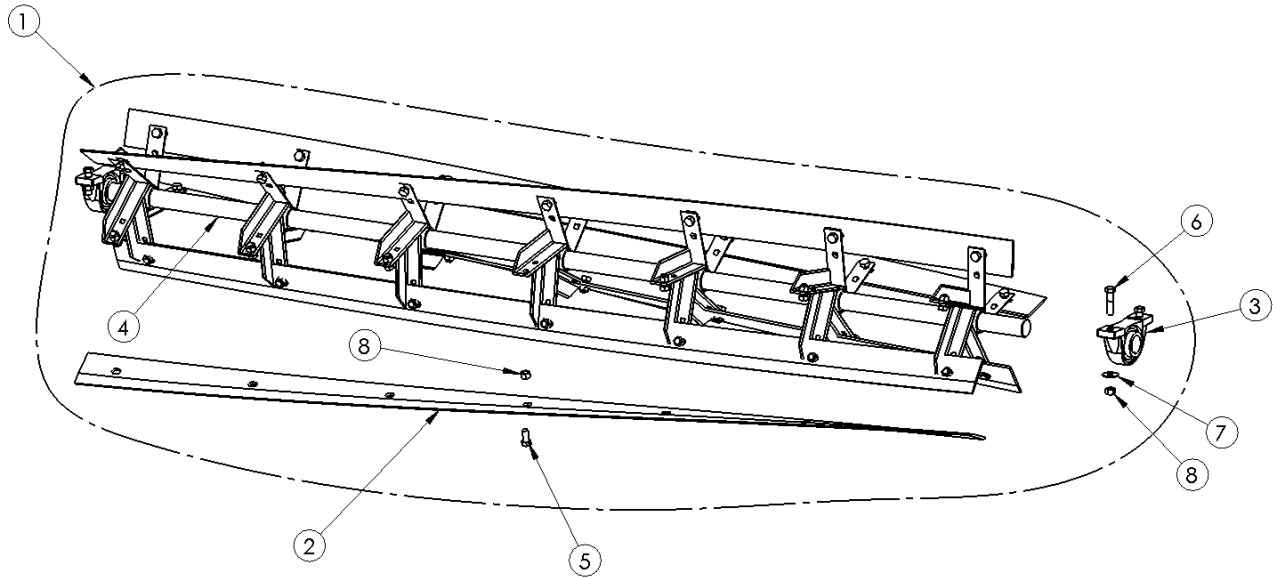
CHOPPER REEL - 89"



Item Number	Part #	Description	Quantity
1	770032	89" SPIRAL REEL ASSEMBLY	1
2	202335	89" SPIRAL REEL BLADE	5
3	482101	REEL BEARING	2
4	301127	SPIRAL REEL FOR 89" BLADES 6 SUPPORTS	1
5	411558	5/8-11 X 1 1/4 BOLT GR5	30
6	411562	5/8-11 X 2 1/2 BOLT GR5	4
7	413010	5/8 USS WASHER	4
8	410009	5/8-11 NUT CENTER LOCK GR2	34



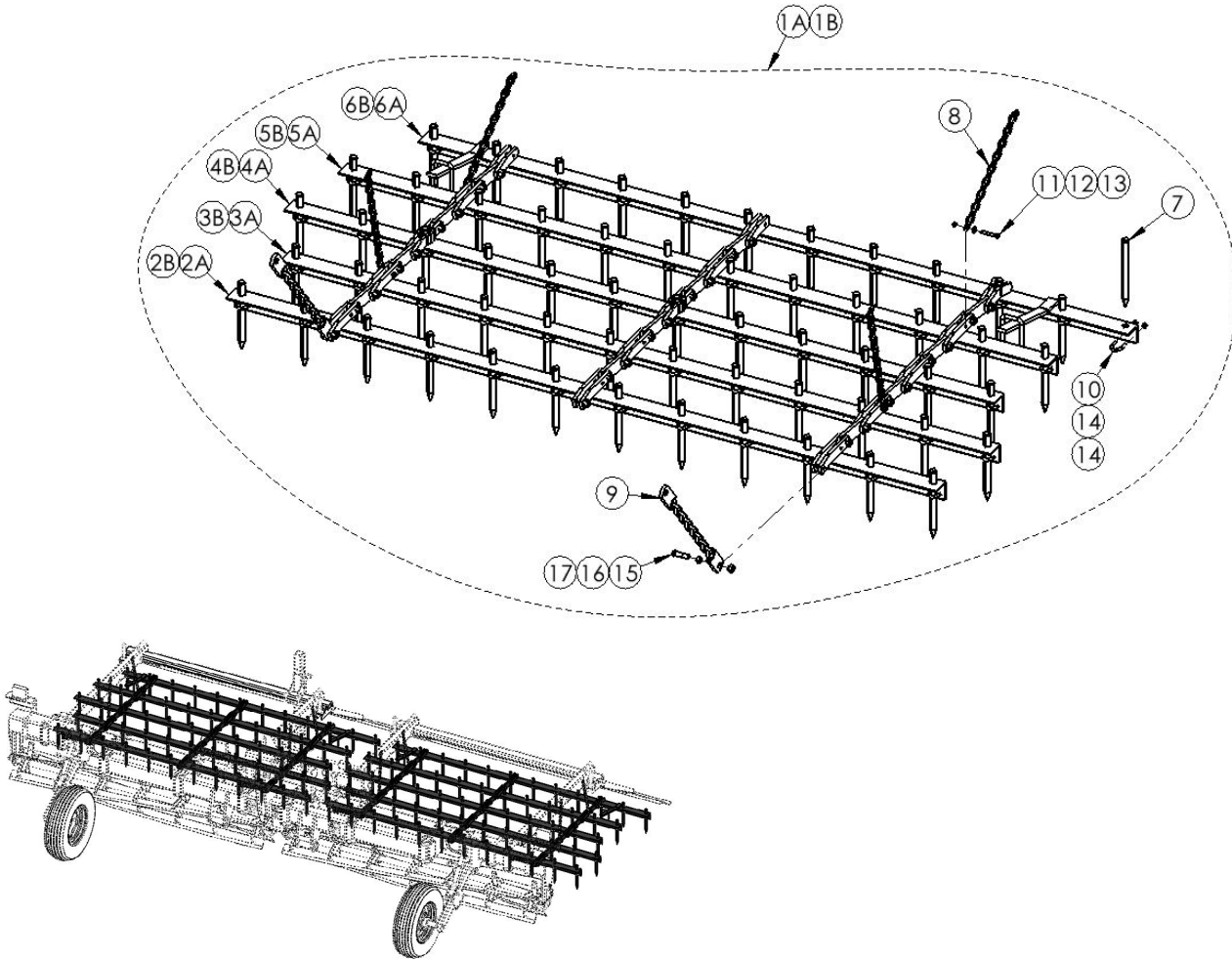
CHOPPER REEL - 110"



Item Number	Part #	Description	Quantity
1	770022	110" SPIRAL REEL ASSEMBLY	1
2	202180	110" SPIRAL REEL BLADE	5
3	482101	REEL BEARING	2
4	301068	SPIRAL REEL FOR 110" BLADES 7 SUPPORTS	1
5	411558	5/8-11 X 1 1/4 BOLT GR5	35
6	411562	5/8-11 X 2 1/2 BOLT GR5	4
7	413010	5/8 USS WASHER	4
8	410009	5/8-11 NUT CENTER LOCK GR2	39



HARROW ASSEMBLY



Item Number	Part #	Description	Quantity
1A	773024	111" HARROW ASSEMBLY	1
1B	773040	92" HARROW ASSEMBLY	1
2A	301391	111" HARROW #1 RAIL	1
2B	302186	92" HARROW #1 RAIL	1
3A	301392	111" HARROW #2 RAIL	1
3B	302182	92" HARROW #2 RAIL	1
4A	301393	111" HARROW #3 RAIL	1
4B	302183	92" HARROW #3 RAIL	1

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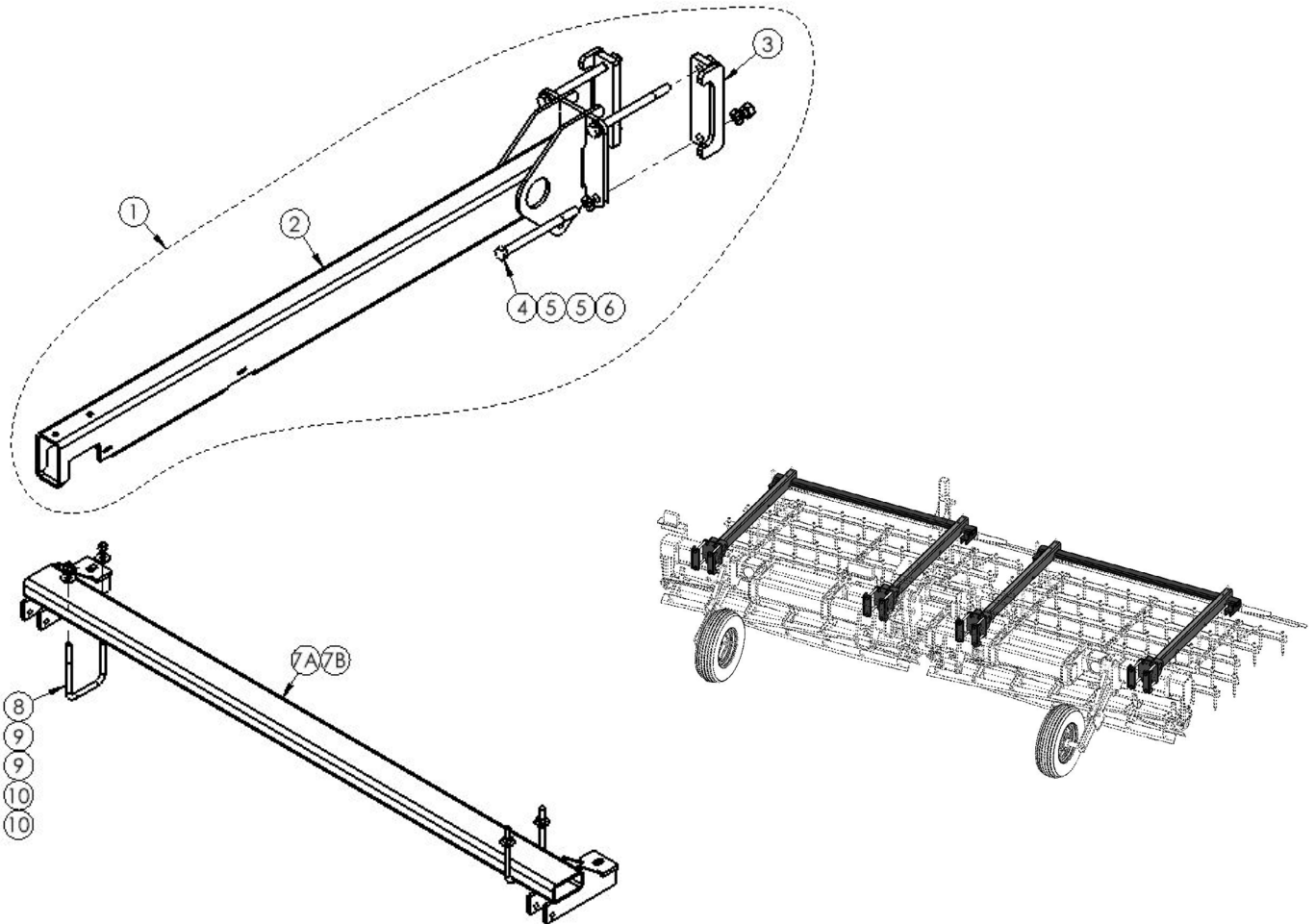


HARROW ASSEMBLY

Item Number	Part #	Description	Quantity
5A	301394	111" HARROW #4 RAIL	1
5B	302184	92" HARROW #4 RAIL	1
6A	301395	111" HARROW #5 RAIL	1
6B	302185	92" HARROW #5 RAIL	1
7	472010	3/4 X 11 HARROW TOOTH	NA
8	402015	1/4 X 19 LINK HIGH TEST CHAIN	4
9	300583	15 LINK PULL CHAIN	2
10	415105	3/8-16 X 1 1/8 X 1 7/8 LEG A BOLT	NA
11	411512	3/8-16 X 2 1/2 BOLT GR5	NA
12	413006	3/8 USS FLAT WASHER	NA
13	412056	3/8-16 NUT	NA
14	410006	3/8-16 CENTER LOCK NUT	NA
15	416633	5/8-11 X 2 1/4 KNURLED & THREADED CLEVIS PIN	NA
16	401055	5/8 ID SPRING BUSHING	NA
17	410009	5/8-11 CENTER LOCK NUT	NA



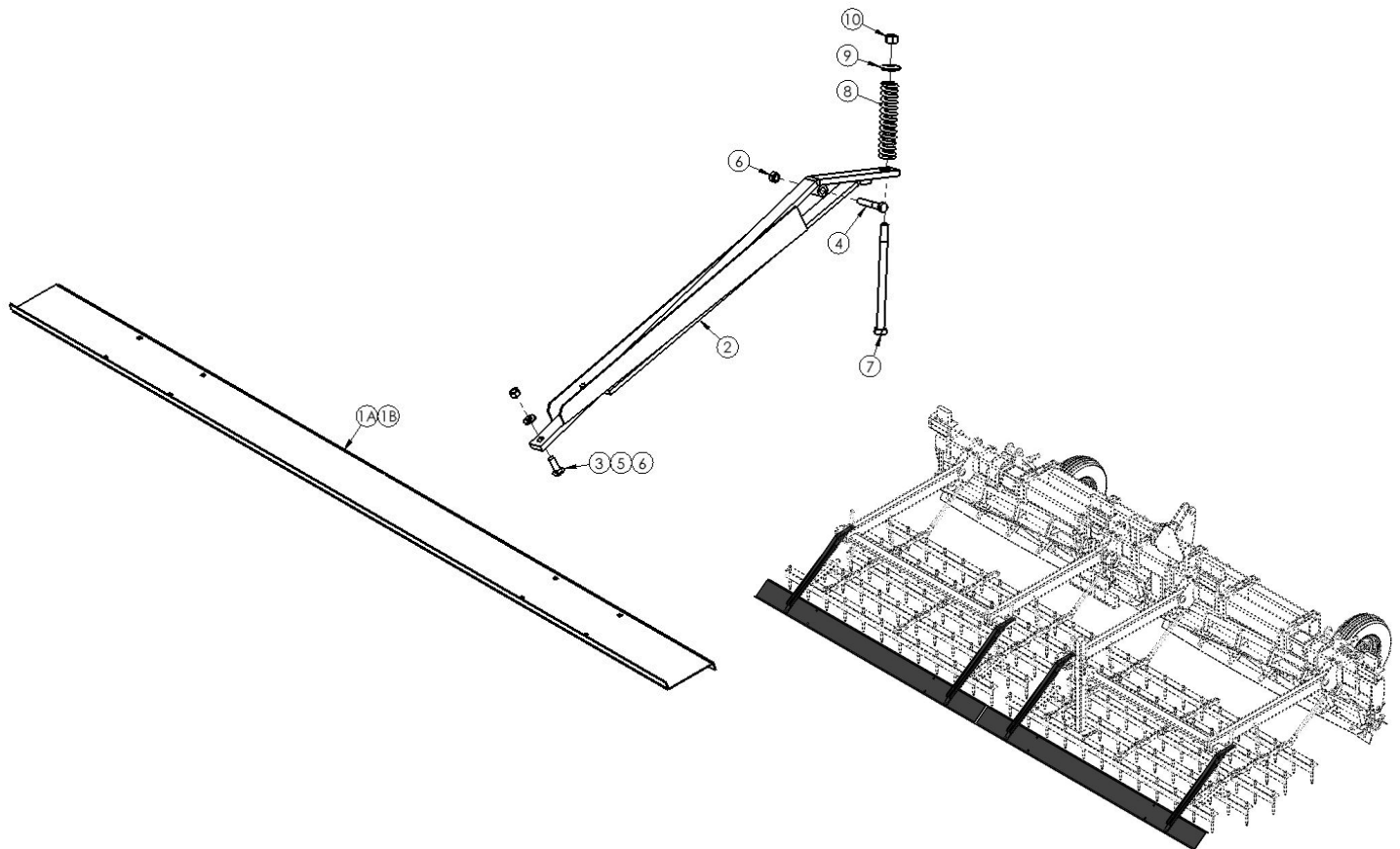
REAR ARM AND TUBE ASSEMBLY



Item Number	Part #	Description	Quantity
1	350125	PULVAMIZER ARM ASSEMBLY	1
2	350119	PULVAMIZER ARM	1
3	322063	ROW MOUNT CLAMP	2
4	411603	3/4-10 X 9 1/2 BOLT GR5	4
5	413072	3/4 SAE FLAT WASHER	8
6	410012	3/4-10 CENTER LOCK NUT	4
7A	350126	BOARD MOUNT FOR 111" HARROW	1
7B	350150	BOARD MOUNT FOR 92" HARROW	1
8	UBT30001	1/2-13 X 4W X 6H U-BOLT	2
9	413008	1/2 USS FLAT WASHER	4
10	410008	1/2-13 CENTER LOCK NUT	4



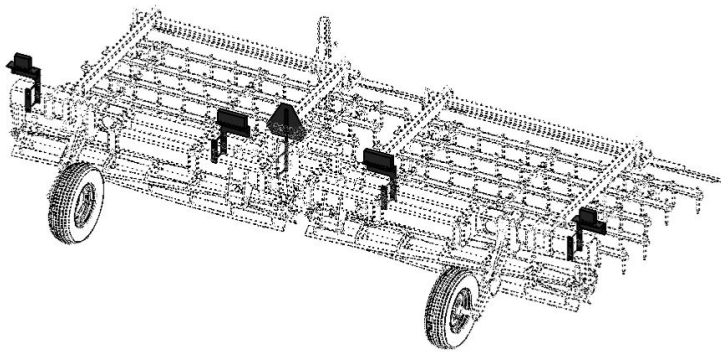
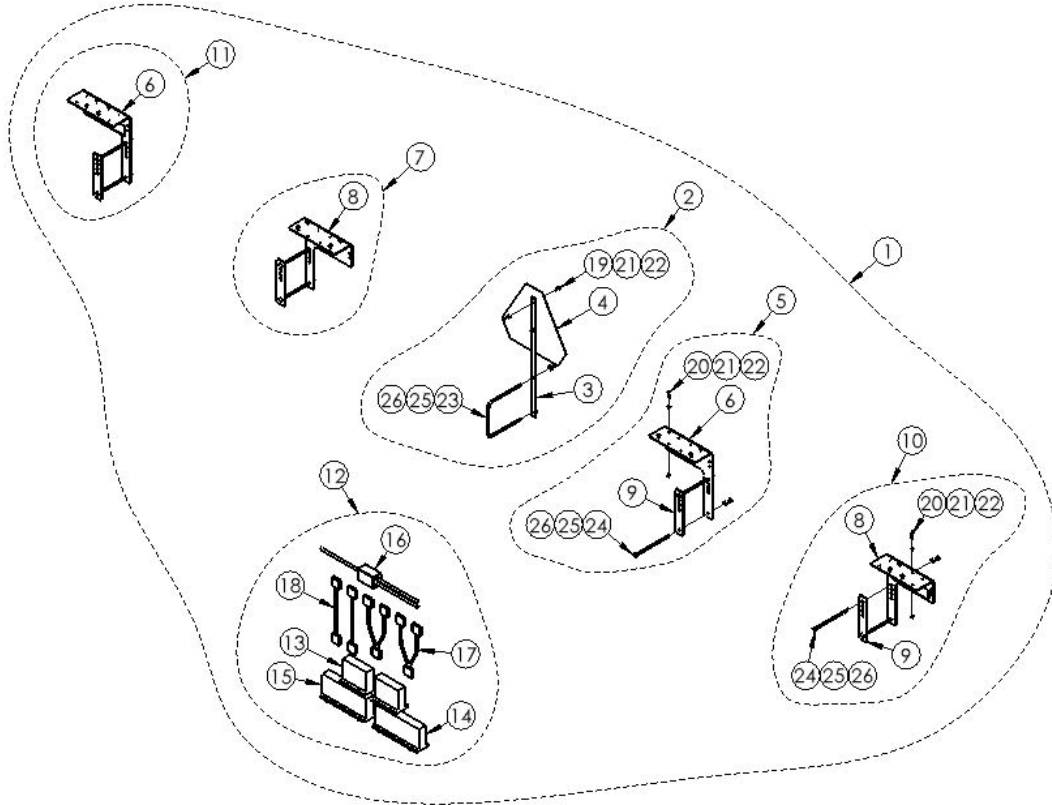
DRAGBOARD



Item Number	Part #	Description	Quantity
1A	350142	117 1/2" DRAGBOARD - MODEL 3711 & 3713	1
1B	350143	98" DRAGBOARD - MODEL 3715	1
2	300388	DRAGBOARD LEG	1
3	411785	1/2-13 X 1 1/2 CARRIAGE BOLT GR5	1
4	411551	1/2-13 X 3 BOLT GR5	1
5	413007	1/2 SAE FLAT WASHER	1
6	410008	1/2-13 CENTER LOCK NUT	1
7	411239	5/8-11 X 9 BOLT GR5	1
8	471005	.25 X 1.44 OD X 6.38 FREE LENGTH COMPRESSION SPRING	1
9	202350	SPRING RETAINING WASHER	1
10	410009	5/8-11 CENTER LOCK NUT	1



LIGHT KIT - RIGID TOOLBAR



Item Number	Part #	Description	Quantity
1	302840	LIGHT KIT FOR RIGID TOOLBAR	1
2	302851	SMV SIGN & STRAIGHT BRACKET ASSEMBLY	1
3	204845	SMV SIGN STRAIGHT BRACKET	1
4	204836	SMV SIGN WITH GLAVANIZED BACKING	1

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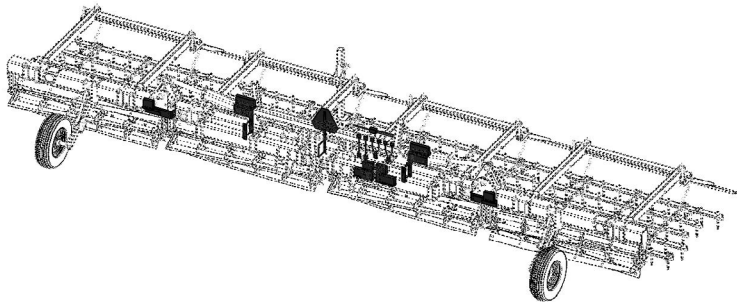
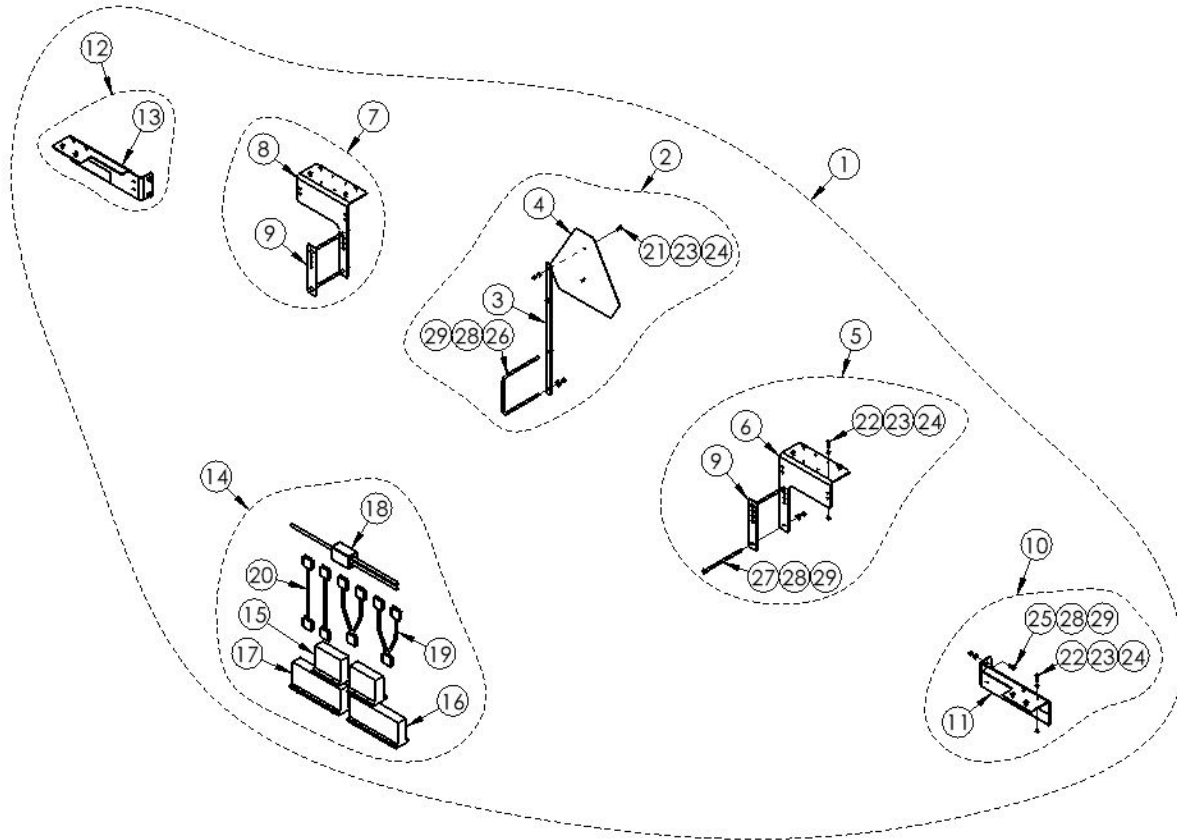


LIGHT KIT - RIGID TOOLBAR

Item Number	Part #	Description	Quantity
5	302855	LH REAR FLAG BRACKET ASSEMBLY	1
6	204843	LH FLAG BRACKET	2
7	302854	RH REAR FLAG BRACKET ASSEMBLY	1
8	204842	RH FLAG BRACKET	2
9	204844	FLAG BRACKET STRAP	4
10	302861	LH FRONT FLAG BRACKET ASSEMBLY	1
11	302862	RH FRONT FLAG BRACKET ASSEMBLY	1
12	302836	LIGHT AND HARNESS KIT ASSEMBLY	1
13	204825	FRONT LIGHT	2
14	204824	LH REAR LIGHT	1
15	204823	RH REAR LIGHT	1
16	204826	LIGHT KIT MODULE	1
17	204827	LIGHT KIT "Y" CABLE	2
18	204828	LIGHT KIT EXTENSION CABLE	2
19	411470	1/4-20 X 3/4 BOLT GR5	2
20	411472	1/4-20 X 1 1/4 BOLT GR5	16
21	413004	1/4 SAE FLAT WASHER	18
22	305144	1/4-20 NYLOC NUT	18
23	415126	3/8-16 X 7W X 8H U-BOLT	1
24	305000	3/8-16 X 8 1/2 CARRIAGE BOLT GR5	4
25	413009	3/8 SAE WASHER	6
26	410006	3/8-16 CENTER LOCK NUT	6



LIGHT KIT - FOLDING TOOLBAR



Item Number	Part #	Description	Quantity
1	302873	LIGHT KIT FOR SINGLE FOLDING TOOLBAR (MEDIUM)	1
2	302851	SMV SIGN & STRAIGHT BRACKET ASSEMBLY	1
3	204845	SMV SIGN STRAIGHT BRACKET	1
4	204836	SMV SIGN WITH GALVANIZED BACKING	1

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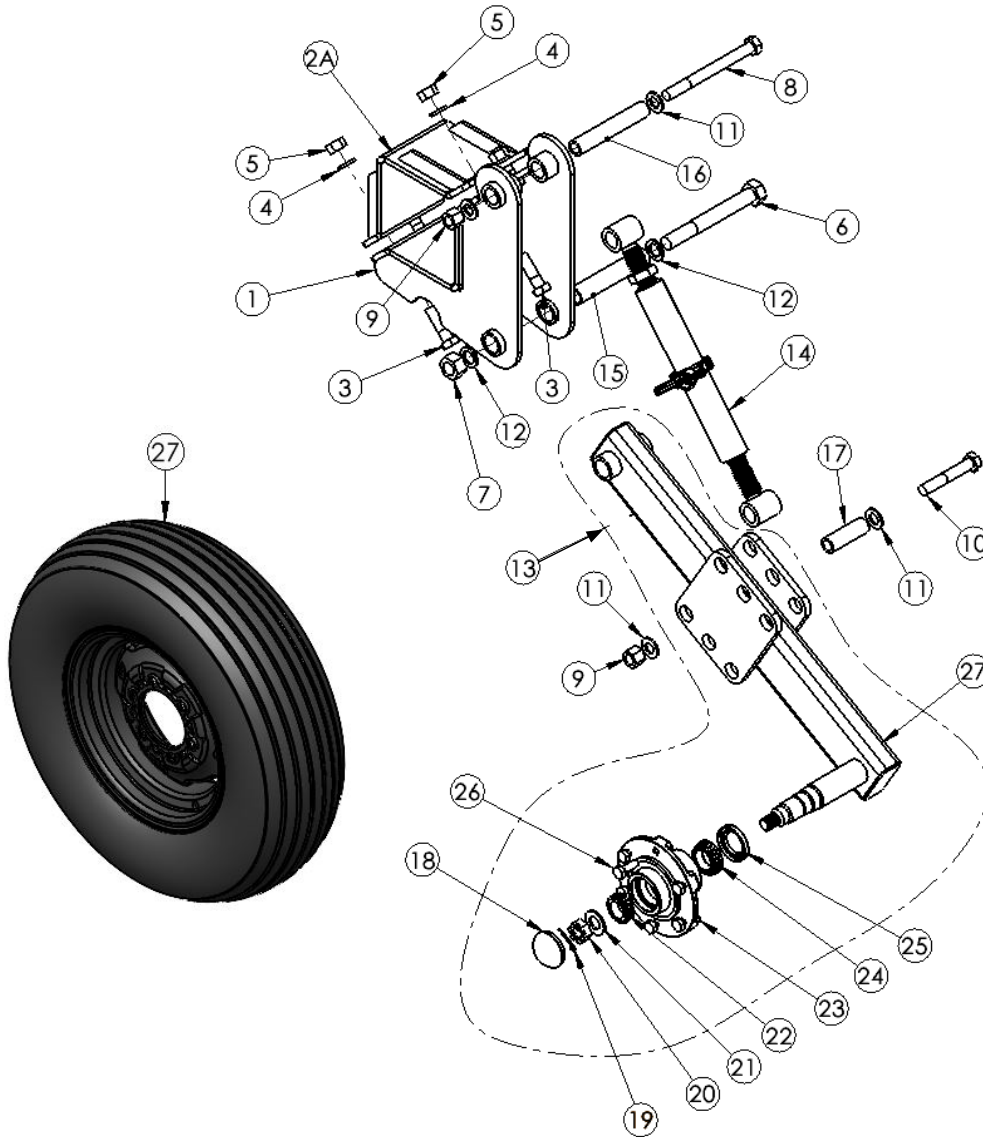


LIGHT KIT - FOLDING TOOLBAR

Item Number	Part #	Description	Quantity
5	302872	LH REAR FLAG BRACKET ASSEMBLY	1
6	204842	LH FLAG BRACKET	1
7	302871	RH REAR FLAG BRACKET ASSEMBLY	1
8	204843	RH FLAG BRACKET	1
9	204844	FLAG BRACKET STRAP	2
10	302877	LH FRONT MEDIUM FOLDING BAR BRACKET ASSEMBLY	1
11	302878	LH FRONT MEDIUM FOLDING BAR BRACKET	1
12	302874	RH FRONT MEDIUM FOLDING BAR BRACKET ASSEMBLY	1
13	302875	RH FRONT MEDIUM FOLDING BAR BRACKET	1
14	302836	LIGHT AND HARNESS KIT ASSEMBLY	1
15	204825	FRONT LIGHT	2
16	204824	LH REAR LIGHT	1
17	204823	RH REAR LIGHT	1
18	204826	LIGHT KIT MODULE	1
19	204827	LIGHT KIT "Y" CABLE	2
20	204828	LIGHT KIT EXTENSION CABLE	2
21	411470	1/4-20 X 3/4 BOLT GR5	2
22	411472	1/4-20 X 1 1/4 BOLT GR5	16
23	413004	1/4 SAE FLAT WASHER	18
24	305144	1/4-20 NYLOC NUT	18
25	411506	3/8-16 X 1 BOLT GR5	4
26	415126	3/8-16 X 7W X 8H U-BOLT	1
27	305000	3/8-16 X 8 1/2 CARRIAGE BOLT GR5	4
28	413009	3/8 SAE WASHER	6
29	410006	3/8-16 CENTER LOCK NUT	6



GAUGE WHEELS



Item Number	Part #	Description	Quantity
1	250001	GAUGE WHEEL MAIN BODY	1
2A	250002	GAUGE WHEEL REAR CLAMP	1
2B	ZNF40506	GAUGE WHEEL REAR CLAMP NARROW (NOT SHOWN)	1
3	411586	3/4-10 X 2 1/2 GR5 Z/C	4
4	413512	3/4 LOCK WASHER	4

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GAUGE WHEELS

Item Number	Part #	Description	Quantity
5	410012	3/4-10 NUT CENTER LOCK Z/C	4
6	411650	1-8 X 8 GR5 Z/C	1
7	410016	1-8 NUT CENTER LOCK Z/C	1
8	411600	3/4-10 X 8 GR5 Z/C	1
9	305101	3/4-10 NUT NYLON LOCK Z/C	2
10	411592	3/4-10 X 4 1/2 GR5 Z/C	1
11	413072	3/4 FLAT WASHER SAE Z/C	4
12	10000008	10GA BUSHING	2
13	350045	LOWER ARM ASSEMBLY	1
14	350041	RATCHET JACK	1
15	350034	MAIN PIVOT BUSHING	1
16	350036	UPPER RACKET JACK BUSHING	1
17	350038	LOWER RACHET JACK BUSHING	1
18	GWX20016	HUB CAP	1
19	CLT21011	COTTER PIN .15 X 1.5	1
20	GWX20014	7/8-14 CASTLE NUT	1
21	GWX20013	HEAVY WASHER	1
22	GWX20007	OUTER GAUGE WHEEL BEARING	1
23	GWX20009	GAUGE WHEEL HUB	1
24	GWX20011	INNER GAUGE WHEEL BEARING	1
25	GWX20006	GAUGE WHEEL SEAL	1
26	GWX20012	1/2-20 X 1.25 HUB BOLT	6



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