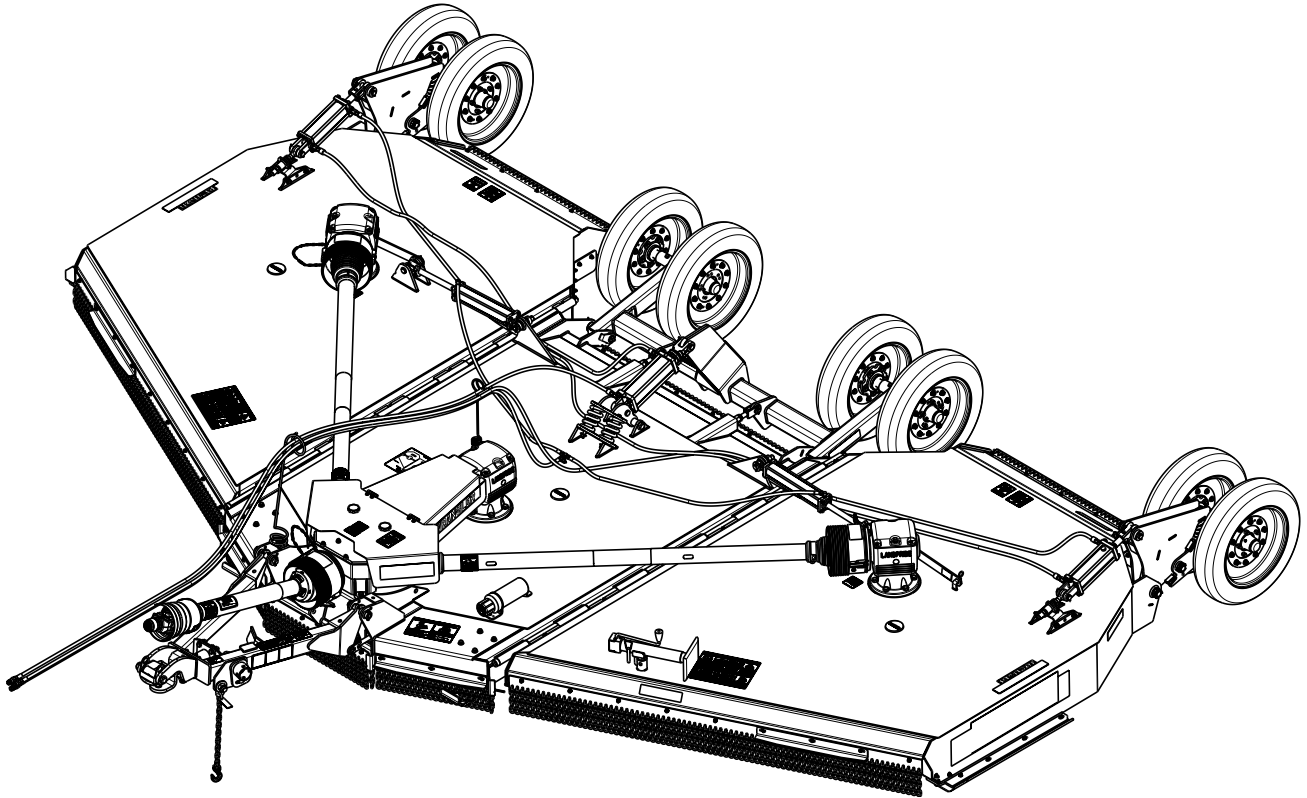


Rotary Cutters

RC4620 & RCM4620



39102

331-936M Operator's Manual



Read the Operator's Manual entirely. When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!

Cover photo may show optional equipment not supplied with standard unit.

For an Operator's Manual and Decal Kit in French Language, please see your Land Pride dealer.



Machine Identification

Record your machine details in the log below. If you replace this manual, be sure to transfer this information to the new manual.

If you, or the dealer, have added Options not originally ordered with the machine, or removed Options that were originally ordered, the weights and measurements are no longer accurate for your machine. Update the record by adding the machine weight and measurements provided in the Specifications & Capacities Section of this manual with the Option(s) weight and measurements.

Model Number	
Serial Number	
Machine Height	
Machine Length	
Machine Width	
Machine Weight	
Delivery Date	
First Operation	
Accessories	<hr/> <hr/> <hr/>

Dealer Contact Information


Name: _____

Street: _____

City/State: _____

Telephone: _____

Email: _____

 California Proposition 65 WARNING: Cancer and reproductive harm - www.P65Warnings.ca.gov

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Printed in the United States of America.

See previous page for Table of contents.



Parts Manual QR Locator

The QR (Quick Reference) code on the cover and to the left will take you to the Parts Manual for this equipment. Download the appropriate App on your smart phone, open the App, point your phone on the QR code and take a picture.



Dealer QR Locator

The QR code on the left will link you to available dealers for Land Pride products. Refer to Parts Manual QR Locator on this page for detailed instructions.

These are common practices that may or may not be applicable to the products described in this manual.

Safety at All Times

Careful operation is your best insurance against an accident.

All operators, no matter how much experience they may have, should carefully read this manual and other related manuals before operating the power machine and this implement.

- ▲ Thoroughly read and understand the "Safety Label" section, read all instructions noted on them.
- ▲ Do not operate the equipment while under the influence of drugs or alcohol as they impair the ability to safely and properly operate the equipment.
- ▲ The operator should be familiar with all functions of the tractor and attached implement, and be able to handle emergencies quickly.
- ▲ Make sure all guards and shields are in place and secured before operating implement.
- ▲ Keep all bystanders away from equipment and work area.
- ▲ Start tractor from the driver's seat with hydraulic controls in neutral.
- ▲ Operate tractor and controls from the driver's seat only.
- ▲ Never dismount from a moving tractor or leave tractor unattended with engine running.
- ▲ Do not allow anyone to stand between tractor and implement while backing up to implement.
- ▲ Keep hands, feet, and clothing away from power-driven parts.
- ▲ While transporting and operating equipment, watch out for objects overhead and along side such as fences, trees, buildings, wires, etc.
- ▲ Do not turn tractor so tight as to cause hitched implement to ride up on the tractor's rear wheel.
- ▲ Store implement in an area where children normally do not play. When needed, secure implement against falling with support blocks.



Look For The Safety Alert Symbol

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety involved and extra safety precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. In addition to design and configuration of equipment, hazard control, and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.

Be Aware of Signal Words

A signal word designates a degree or level of hazard seriousness. The signal words are:

DANGER

Indicates a hazardous situation that, if not avoided, will result in death or serious injury.

WARNING

Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION

Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.

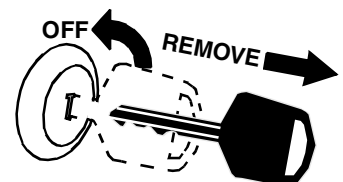
Safety Precautions for Children

Tragedy can occur if the operator is not alert to the presence of children, Children generally are attracted to implements and their work.

- ▲ Never assume children will remain where you last saw them.
- ▲ Keep children out of the work area and under the watchful eye of a responsible adult.
- ▲ Be alert and shut the implement and tractor down if children enter the work area.
- ▲ Never carry children on the tractor or implement. There is not a safe place for them to ride. They may fall off and be run over or interfere with the control of the power machine.
- ▲ Never allow children to operate the power machine, even under adult supervision.
- ▲ Never allow children to play on the power machine or implement.
- ▲ Use extra caution when backing up. Before the tractor starts to move, look down and behind to make sure the area is clear.

Tractor Shutdown & Storage

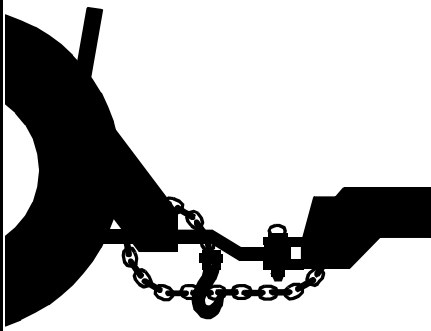
- ▲ If engaged, disengage power take-off.
- ▲ Park on solid, level ground and lower implement to ground or onto support blocks.
- ▲ Put tractor in park or set park brake, turn off engine, and remove switch key to prevent unauthorized starting.
- ▲ Relieve all hydraulic pressure to auxiliary hydraulic lines.
- ▲ Wait for all components to stop before leaving operator's seat.
- ▲ Use steps, grab-handles and skid-resistant surfaces when getting on and off the tractor.
- ▲ Detach and store implement in an area where children normally do not play. Secure implement using blocks and supports.



These are common practices that may or may not be applicable to the products described in this manual.

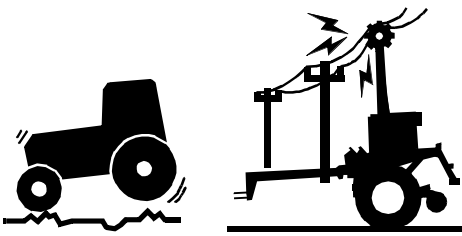
Use A Safety Chain

- ▲ A safety chain will help control drawn machinery should it separate from the tractor drawbar.
- ▲ Use a chain with the strength rating equal to or greater than the gross weight of the towed implement.
- ▲ Attach the chain to the tractor drawbar support or other specified anchor location. Allow only enough slack in the chain to permit turning.
- ▲ Always hitch the implement to the machine towing it. Do not use the safety chain to tow the implement.



Transport Safely

- ▲ Comply with federal, state, and local laws.
- ▲ Use towing vehicle and trailer of adequate size and capacity. Secure equipment towed on a trailer with tie downs and chains.
- ▲ Sudden braking can cause a towed trailer to swerve and upset. Reduce speed if towed trailer is not equipped with brakes.
- ▲ Avoid contact with any over head utility lines or electrically charged conductors.
- ▲ Always drive with load on end of loader arms low to the ground.
- ▲ Always drive straight up and down steep inclines with heavy end of a tractor with loader attachment on the "uphill" side.
- ▲ Engage park brake when stopped on an incline.
- ▲ Maximum transport speed for an attached equipment is 20 mph. **DO NOT EXCEED.** Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrains require a slower speed.
- ▲ As a guideline, use the following maximum speed weight ratios for attached equipment:
 - 20 mph** when weight of attached equipment is less than or equal to the weight of machine towing the equipment.
 - 10 mph** when weight of attached equipment exceeds weight of machine towing equipment but not more than double the weight.
- ▲ **IMPORTANT:** Do not tow a load that is more than double the weight of the vehicle towing the load.



Tire Safety

- ▲ Tire changing can be dangerous and must be performed by trained personnel using the correct tools and equipment.
- ▲ Always properly match the wheel size to the properly sized tire.
- ▲ Always maintain correct tire pressure. Do not inflate tires above recommended pressures shown in the Operator's Manual.
- ▲ When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.
- ▲ Securely support the implement when changing a wheel.
- ▲ When removing and installing wheels, use wheel handling equipment adequate for the weight involved.
- ▲ Make sure wheel bolts have been tightened to the specified torque.



Practice Safe Maintenance

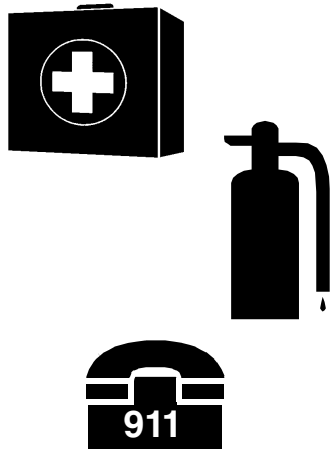
- ▲ Understand procedure before doing work. Refer to the Operator's Manual for additional information.
- ▲ Work on a level surface in a clean dry area that is well-lit.
- ▲ Lower implement to the ground and follow all shutdown procedures before leaving the operator's seat to perform maintenance.
- ▲ Do not work under any hydraulically supported equipment. It can settle, suddenly leak down, or be lowered accidentally. If it is necessary to work under the equipment, securely support it with stands or suitable blocking beforehand.
- ▲ Use properly grounded electrical outlets and tools.
- ▲ Use correct tools and equipment for the job that are in good condition.
- ▲ Allow equipment to cool before working on it.
- ▲ Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on implement.
- ▲ Inspect all parts. Make certain parts are in good condition & installed properly.
- ▲ Replace parts on this implement with genuine Land Pride parts only. Do not alter this implement in a way which will adversely affect its performance.
- ▲ Do not grease or oil implement while it is in operation.
- ▲ Remove buildup of grease, oil, or debris.
- ▲ Always make sure any material and waste products from the repair and maintenance of the implement are properly collected and disposed.
- ▲ Remove all tools and unused parts from equipment before operation.
- ▲ Do not weld or torch on galvanized metal as it will release toxic fumes.



These are common practices that may or may not be applicable to the products described in this manual.

Prepare for Emergencies

- ▲ Be prepared if a fire starts.
- ▲ Keep a first aid kit and fire extinguisher handy.
- ▲ Keep emergency numbers for doctor, ambulance, hospital, and fire department near phone.



Wear Protective Equipment

- ▲ Wear protective clothing and equipment appropriate for the job such as safety shoes, safety glasses, hard hat, and ear plugs.
- ▲ Clothing should fit snug without fringes and pull strings to avoid entanglement with moving parts.
- ▲ Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- ▲ Operating equipment safely requires the operator's full attention. Avoid wearing headphones while operating equipment.



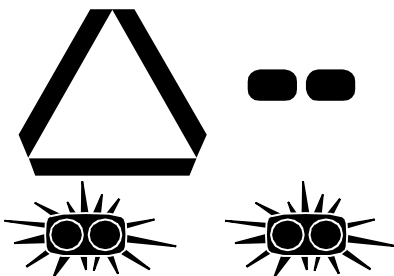
Avoid High Pressure Fluids

- ▲ Escaping fluid under pressure can penetrate the skin causing serious injury.
- ▲ Relieve all residual pressure before disconnecting hydraulic lines or performing work on the hydraulic system.
- ▲ Make sure all hydraulic fluid connections are properly tightened/torqued and all hydraulic hoses and lines are in good condition before applying pressure to the system.
- ▲ Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.
- ▲ Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- ▲ **DO NOT DELAY.** If an accident occurs, see a doctor familiar with this type of injury immediately. Any fluid injected into the skin or eyes must be treated within a few hours or gangrene may result.



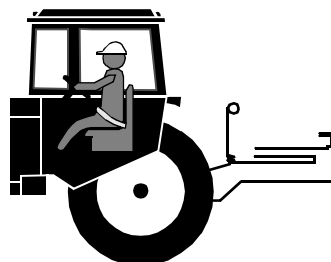
Use Safety Lights and Devices

- ▲ Slow moving tractors, and self-propelled equipment can create a hazard when driven on public roads. They are difficult to see, especially at night. Use the Slow Moving Vehicle (SMV) sign when on public roads.
- ▲ Flashing warning lights and turn signals are recommended whenever driving on public roads.



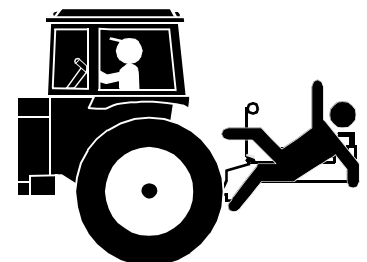
Use Seat Belt and ROPS

- ▲ Land Pride recommends the use of a CAB or roll-over-protective-structures (ROPS) and seat belt in almost all power machines. Combination of a CAB or ROPS and seat belt will reduce the risk of serious injury or death if the power machine should be upset.
- ▲ If ROPS is in the locked-up position, fasten seat belt snugly and securely to help protect against serious injury or death from falling and machine overturn.



Keep Riders Off Machinery

- ▲ Never carry riders or use tractor to lift or transport individuals.
- ▲ There is not a safe place for a person to ride.
- ▲ Riders obstruct operator's view and interfere with the control of the power machine.
- ▲ Riders can be struck by objects or thrown from the equipment.



These are common practices that may or may not be applicable to the products described in this manual.

Avoid crystalline Silica (quartz) Dust

Because crystalline silica is a basic component of sand and granite, many activities at construction sites produce dust containing crystalline silica. Trenching, sawing, and boring of material containing crystalline silica can produce dust containing crystalline silica particles. This dust can cause serious injury to the lungs (silicosis).

There are guidelines which should be followed if crystalline silica (quartz) is present in the dust.



- ▲ Be aware of and follow OSHA (or other local, State, or Federal) guidelines for exposure to airborne crystalline silica.
- ▲ Know the work operations where exposure to crystalline silica may occur.
- ▲ Participate in air monitoring or training programs offered by the employer.
- ▲ Be aware of and use optional equipment controls such as water sprays, local exhaust ventilation, and enclosed cabs with positive pressure air conditioning if the machine has such equipment. Otherwise respirators shall be worn.
- ▲ Where respirators are required, wear a respirator approved for protection against crystalline silica containing dust. Do not alter respirator in any way. Workers who use tight-fitting respirators can not have beards/mustaches which interfere with the respirator seal to the face.
- ▲ If possible, change into disposable or washable work clothes at the work site; shower and change into clean clothing before leaving the work site.
- ▲ Do not eat, drink, use tobacco products, or apply cosmetics in areas where there is dust containing crystalline silica.
- ▲ Store food, drink, and personal belongings away from the work area.
- ▲ Wash hands and face before eating, drinking, smoking, or applying cosmetics after leaving the exposure area.

Handle Chemicals Properly

- ▲ Protective clothing should be worn.
- ▲ Handle all chemicals with care.
- ▲ Follow instructions on container label.
- ▲ Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil, and property.
- ▲ Inhaling smoke from any type of chemical fire is a serious health hazard.
- ▲ Store or dispose of unused chemicals as specified by the chemical manufacturer.



Dig Safe - Avoid Underground Utilities

- ▲ **USA: Call 811**
CAN: digsafecanada.ca
Always contact your local utility companies (electrical, telephone, gas, water, sewer, and others) before digging so that they may mark the location of any underground services in the area.
- ▲ Be sure to ask how close you can work to the marks they positioned.



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Important Safety Information

Safety Labels

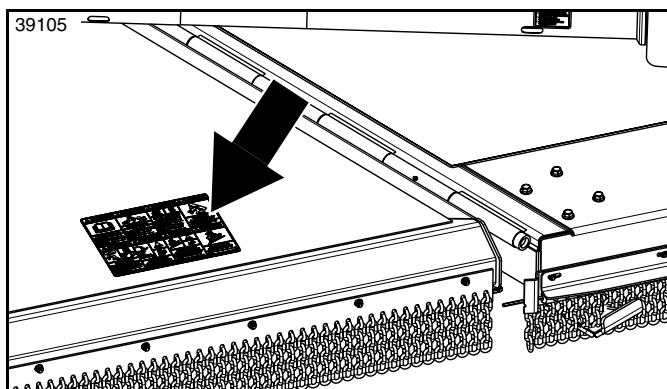
Your Rotary Cutter comes equipped with all safety labels in place. They were designed to help you safely operate your implement. Read and follow their directions.

1. Keep all safety labels clean and legible.
2. Refer to this section for proper label placement. Replace all damaged or missing labels. Order new labels from your nearest Land Pride dealer. To find your nearest dealer, visit our dealer locator at www.landpride.com.
3. Some new equipment installed during repair requires safety labels to be affixed to the replaced component as

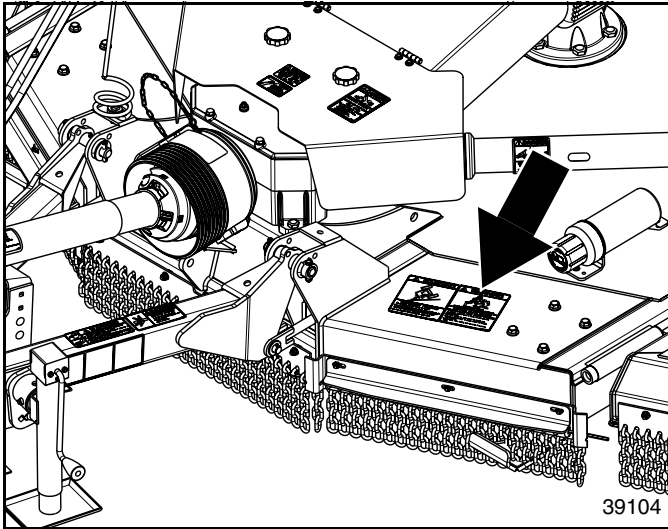
specified by Land Pride. When ordering new components make sure the correct safety labels are included in the request.

4. Refer to this section for proper label placement. To install new labels:
 - a. Clean surface area where label is to be placed.
 - b. Spray soapy water onto the cleaned area.
 - c. Peel backing from label and press label firmly onto the surface.
 - d. Squeeze out air bubbles with edge of a credit card or with a similar type of straight edge.

⚠ WARNING	⚠ DANGER	⚠ DANGER	⚠ DANGER
<p>To prevent serious injury or death:</p> <ul style="list-style-type: none"> Do not operate or work on this machine without reading and understanding the Operator's Manual. Avoid unsafe operation or maintenance. Transport with clean reflectors, SMV, and lights as required by federal, state, and local laws. If manual is lost, contact your nearest dealer for a new manual. 	<p>ROTATING DRIVELINE CONTACT CAN CAUSE DEATH KEEP AWAY!</p> <p>DO NOT OPERATE WITHOUT:</p> <ul style="list-style-type: none"> All driveline guards, tractor and equipment shields in place. Drivelines securely attached at both ends. Driveline guards that turn freely on driveline. <p>DO NOT USE PTO ADAPTORS</p>	<p>THROWN OBJECT AND ROTATING BLADE HAZARD</p> <p>To prevent serious injury or death:</p> <ul style="list-style-type: none"> Do not operate unless all guards are installed and in good condition. Inspect and clear debris from mowing area prior to mowing. Do not operate with bystanders in or around mowing area. Do not place hands or feet under deck when operating or when engine is running. Do not operate with wings raised. Do not operate without wings or weight box. 	<p>CRUSHING HAZARD</p> <p>To prevent serious injury or death:</p> <ul style="list-style-type: none"> Do not transport without transport locks securely engaged. Do not walk or work underneath raised wing unless it is securely locked. Stay clear of wings while they are being raised and lowered.
⚠ WARNING	⚠ WARNING	⚠ WARNING	⚠ WARNING
<p>CRUSHING HAZARD</p> <p>Before performing maintenance on machine and to prevent serious injury or death:</p> <ul style="list-style-type: none"> Read an understand operator's manual. Stop engine, set brake, and wait for all moving parts to stop before dismounting. Support mower securely and apply any supplied hydraulic cylinder locks before working beneath. 	<p>RUN OVER HAZARD</p> <p>To prevent serious injury or death:</p> <ul style="list-style-type: none"> Always use seat belt when operating. Never allow riders on tractor or machine. 	<p>ROLLOVER HAZARD</p> <p>To prevent serious injury or death:</p> <ul style="list-style-type: none"> Always use seat belt when operating. Only operate on tractors equipped with a rollover protective structure (ROPS). If equipped with foldable ROPS, only operate in the unfolded and locked position. Use caution when mowing along inclines. 	<p>ROLLOVER HAZARD</p> <p>To prevent serious injury or death:</p> <ul style="list-style-type: none"> Do not transport on an incline with wings raised. Do not transport without wing or weight box.

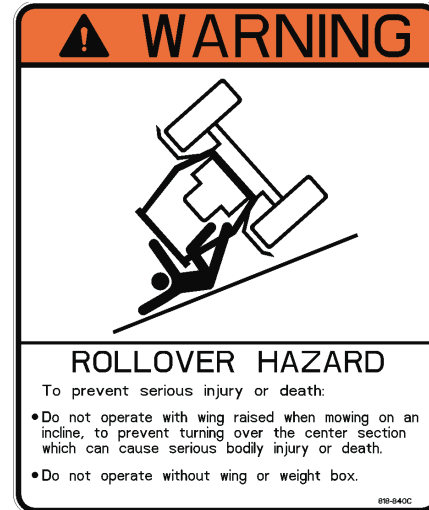
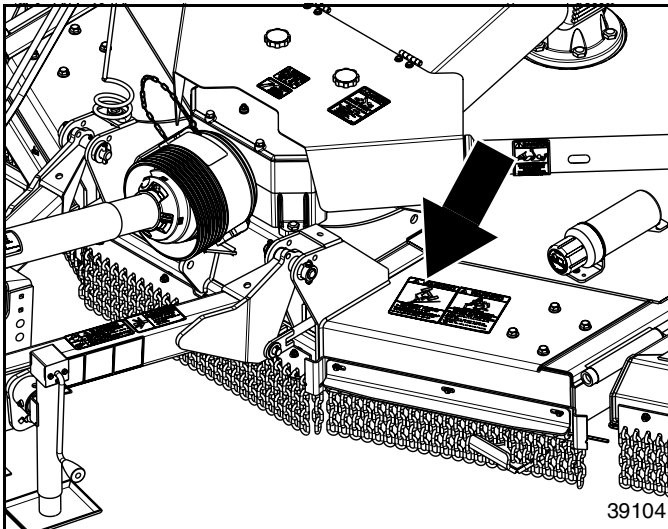


858-949C
 Safety Combo: (2-Places)
 On the right and left wing



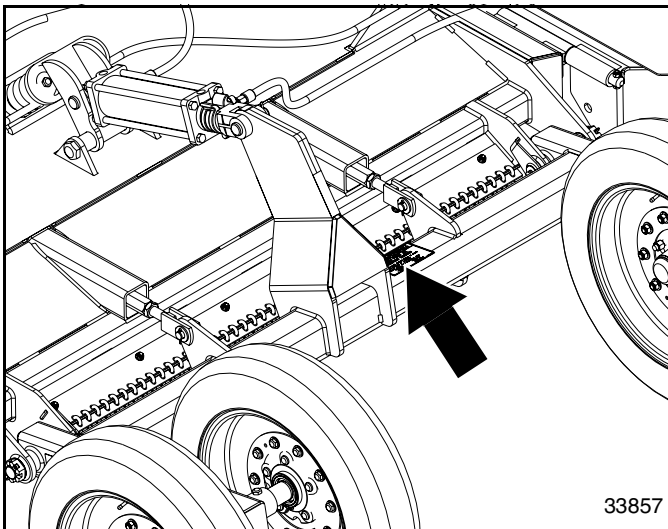
818-276C

Warning: Rotating Blade Hazard
1 - Place: Left side



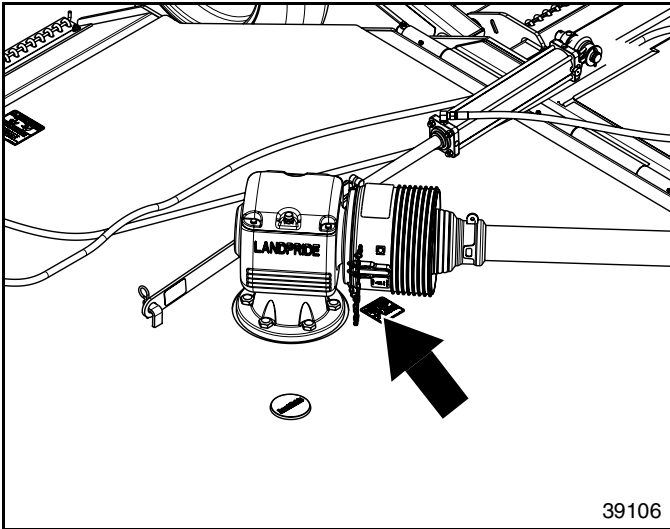
818-840C

Warning: Rollover Hazard
1 - Place: Left side



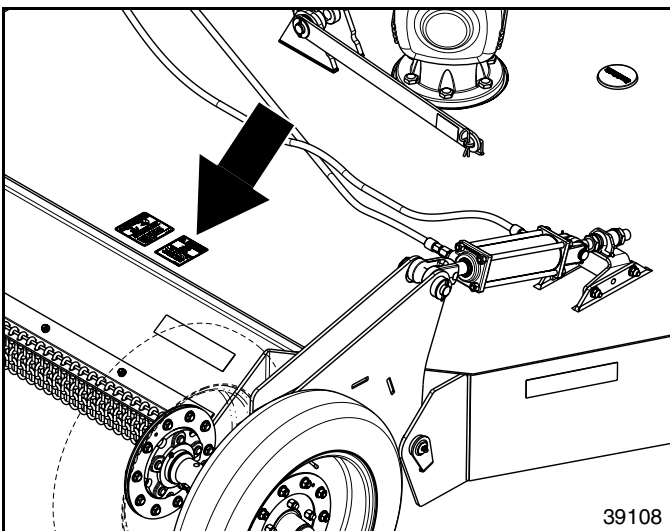
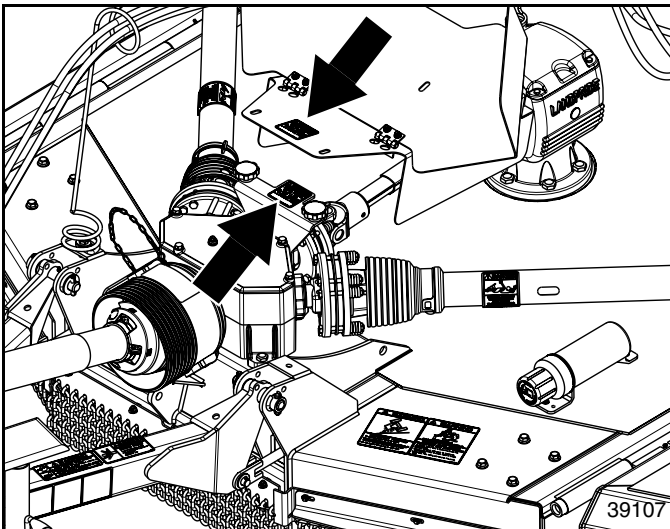
818-045C

Warning: Pinch Point or Crushing Hazard
1 - Place: Back of center axle



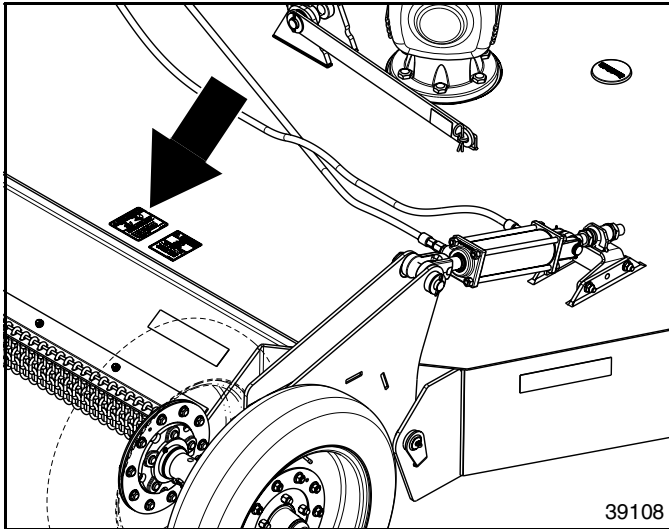
818-543C

Danger: Guard Missing - DO NOT Operate
 2 - Places: Beneath each wing gearbox shaft guard
 2 - Places: Beneath splitter box hinged guard



818-556C

Danger: Thrown Object Hazard
 2 - Places: Right and left wings

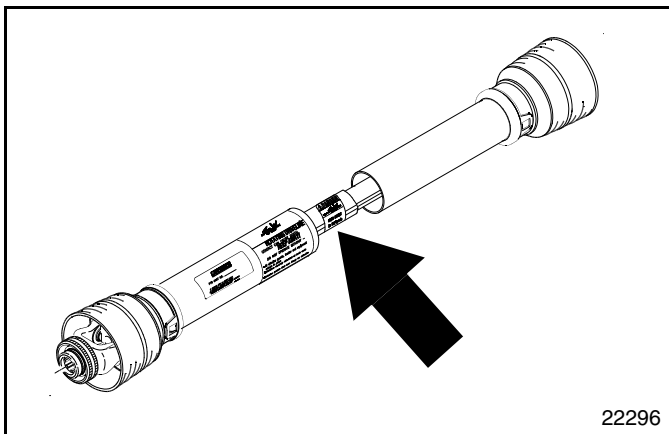


39108



818-555C

Danger: Rotating Blade
2 - Places: Right and left wings

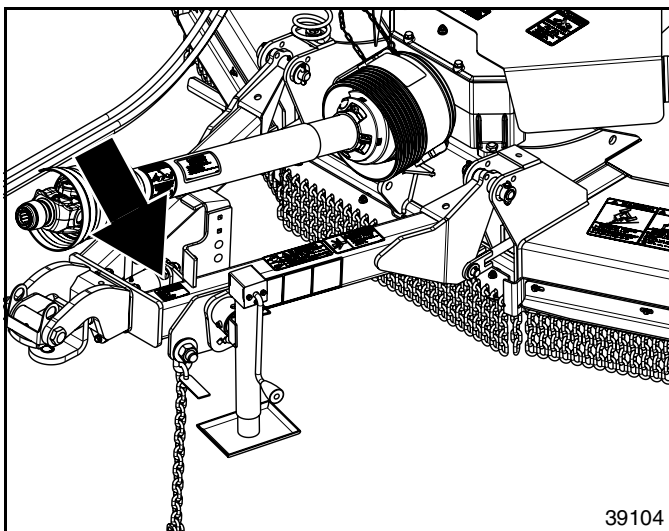


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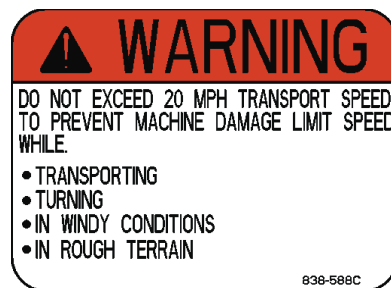


818-540C

Danger: Guard Missing - Do Not Operate
3 - Places: Main driveline & wing drivelines

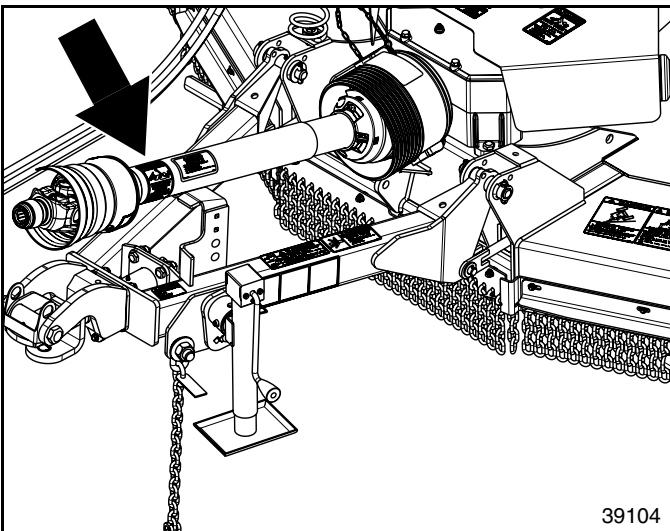
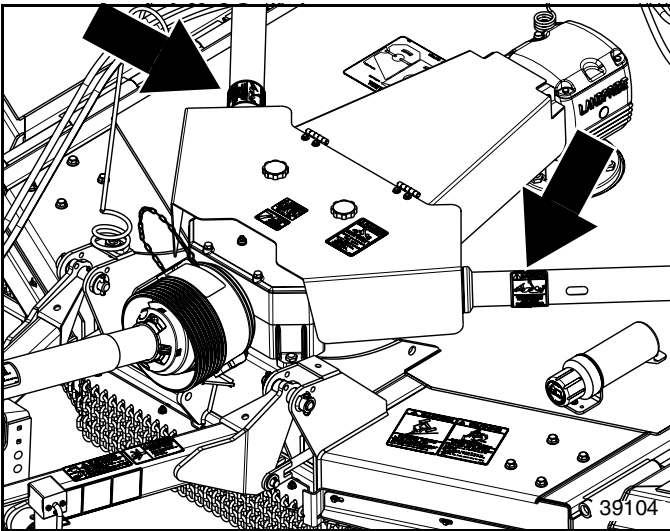
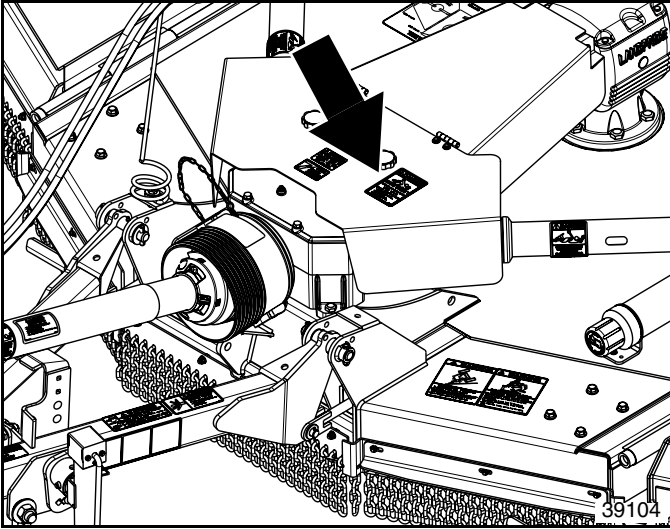


39104



838-588C

Warning: Folding Cutter Speed Warning
1 - Place: On A-frame hitch

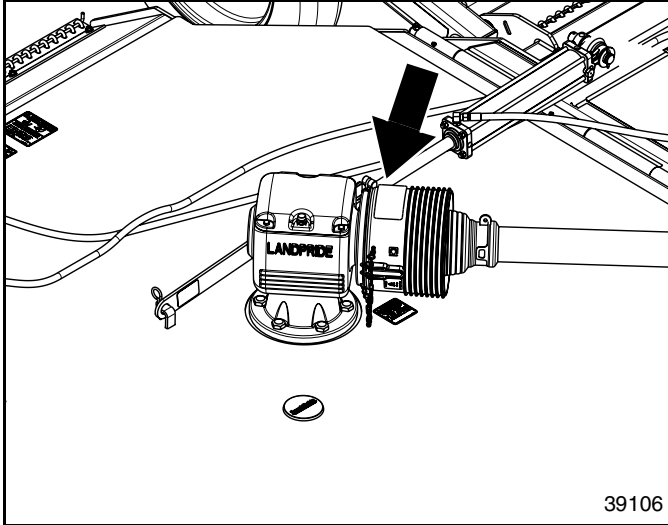


818-552C

Danger: Rotating Driveline - Keep Away

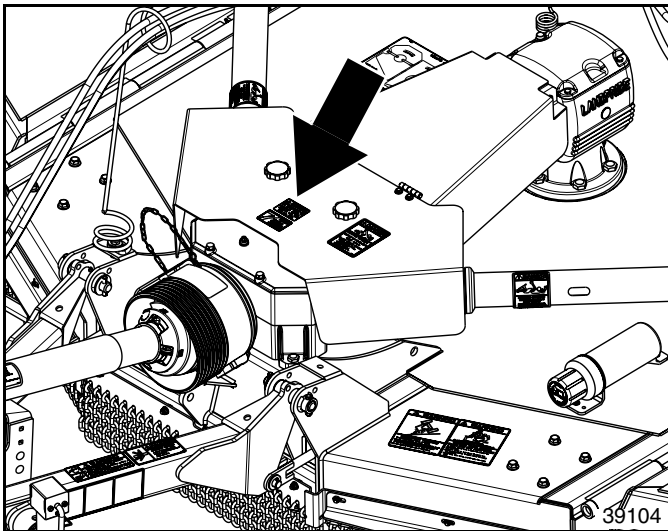
1 - Place: Top of splitter shield

3 - Places: Main driveline and both wing drivelines



818-142C

Danger: Rotating Driveline - Keep Away
2 - Places: Right and left wing gearbox shields

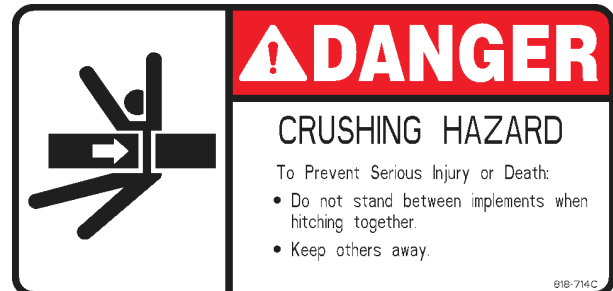
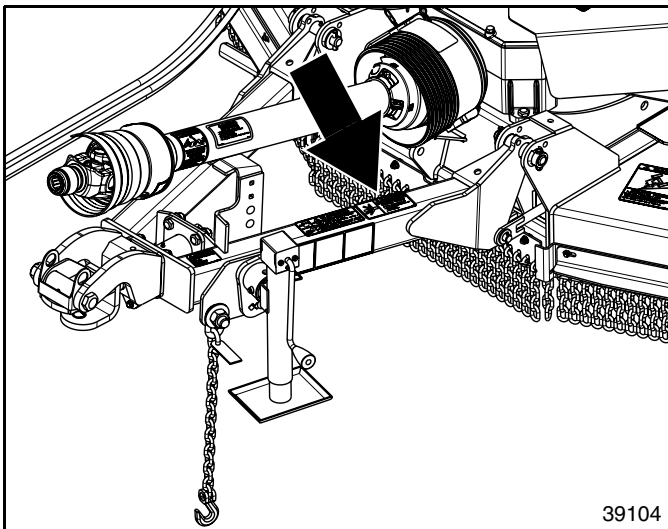


818-130C

Warning: Use 540 rpm power take-off (RC4620 only)

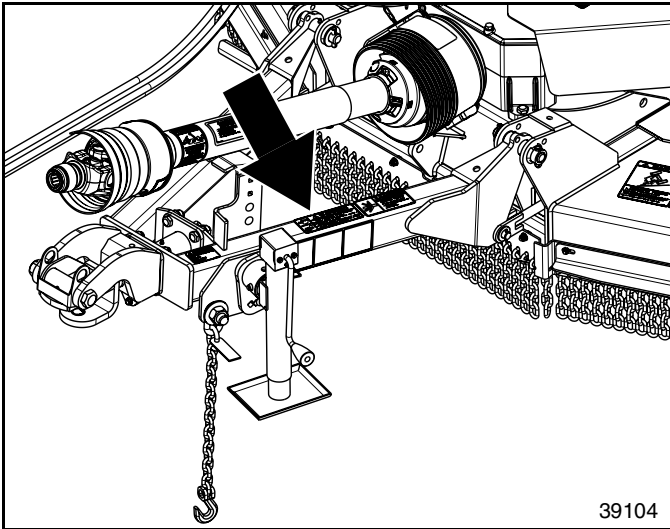
818-240C

Warning: Use 1000 rpm power take-off (RCM4620 only)



818-714C

Danger: Crushing Hazard
1 - Place: On A-frame hitch

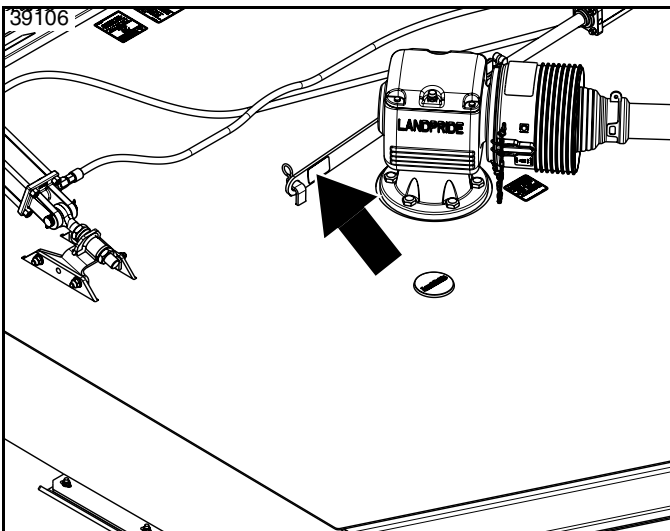


39104

		WARNING
		<p>HIGH PRESSURE FLUID HAZARD</p> <p>To prevent serious injury or death:</p> <ul style="list-style-type: none"> • Relieve pressure on system before repairing or adjusting or disconnecting. • Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands. • Keep all components in good repair.

838-094C

Warning: High Pressure
1 - Place: On A-frame hitch

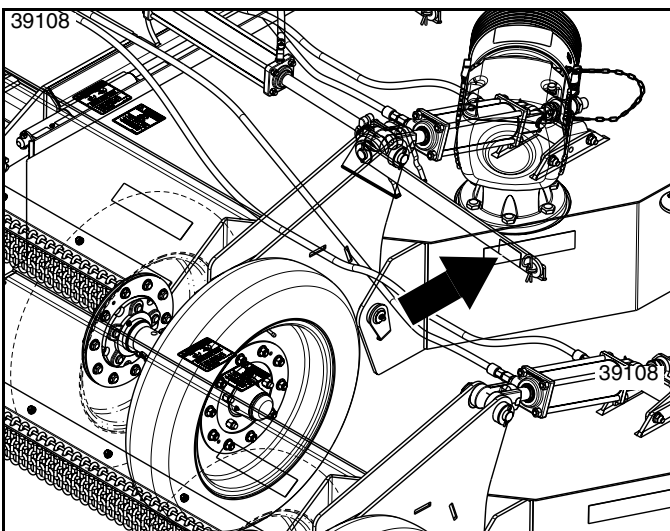


39106



818-229C

Amber Reflector
2 - Places: Front side of cylinder transport locks

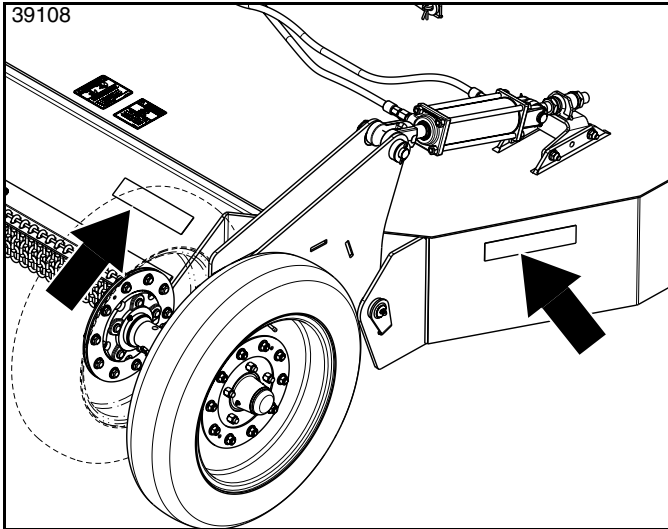


39108



818-230C

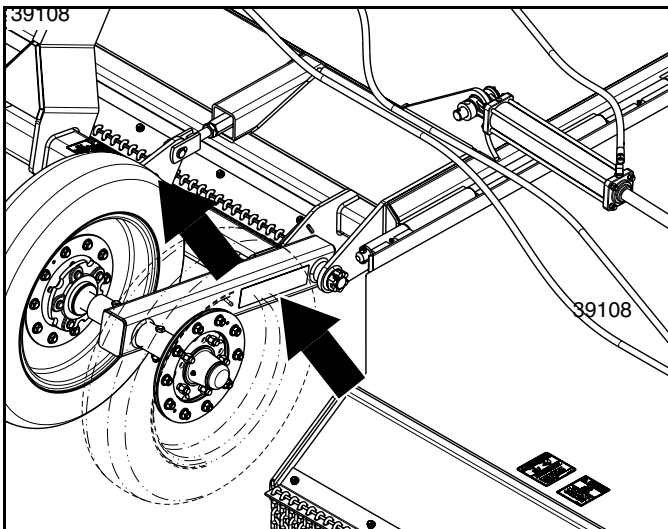
Red Reflector
2 - Places: Back side of cylinder transport locks



838-614C

2" x 9" Red Reflector

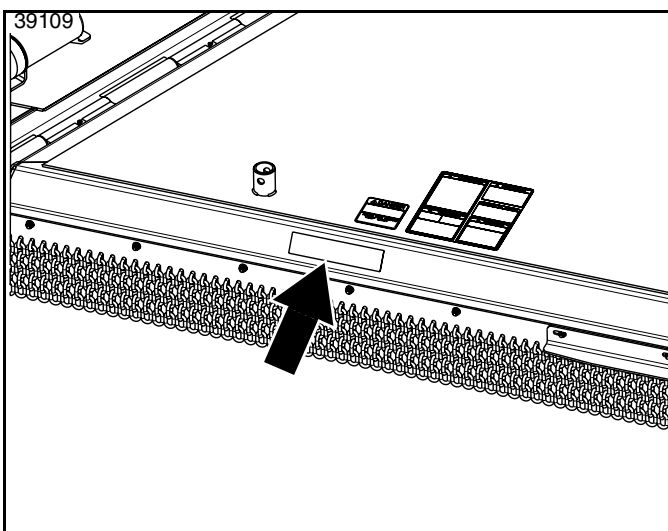
2 Places on right wing & 2 places on left wing



838-615C

2" x 9" Amber Reflector

2 -Places: Left and right arms of center axle



838-615C

2" x 9" Amber Reflector

1 - Place: On front face of left wing

Introduction

Land Pride welcomes you to the growing family of new product owners. This Rotary Cutter has been designed with care and built by skilled workers using quality materials. Proper assembly, maintenance, and safe operating practices will help you get years of satisfactory use from this Rotary Cutter.

Application

The RC4620 and RCM4620 Series Rotary Cutters are designed and built by Land Pride to provide excellent cutting performance on gently sloping or slightly contoured right-of-ways, pastures, and set-aside acres.

The 20' cutting width, 2" to 12" cutting height and ability to cut weeds and brush up to 3" in diameter make them well suited for these applications.

Both models offer pull-type, self-leveling clevis hitch, and Cat. 5 conventional or Cat. 6 constant velocity main driveline for attachment to 70-250 hp tractors. The RC4620 attaches to tractors with 540 rpm power take-off speed and RCM4620 attaches to tractors with 1000 rpm power take-off speed. They are also offered with various hitch and tire options making them an excellent choice for agricultural, airport, and municipal mowing applications.

See “**Specifications & Capacities**” on page 59 and “**Features & Benefits**” on page 61 for additional information and performance enhancing options.

Using This Manual

- This Operator’s Manual is designed to help familiarize the operator with safety, assembly, operation, adjustments, troubleshooting, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.
- The information contained within this manual was current at the time of printing. Some parts may change slightly to assure you of the best performance.
- To order a new Operator’s or Parts Manual, contact your authorized dealer. Manuals can also be downloaded, free-of-charge, from our website at www.landpride.com.
- Store this manual in the dry storage tube located on the center deck.

Terminology

“Right” or “Left” as used in this manual is determined by facing forward in the direction the machine will operate while in use unless otherwise stated.

Definitions

IMPORTANT: A special point of information related to the following topic. Land Pride’s intention is this information must be read & noted before continuing.

NOTE: A special point of information that the operator should be aware of before continuing.

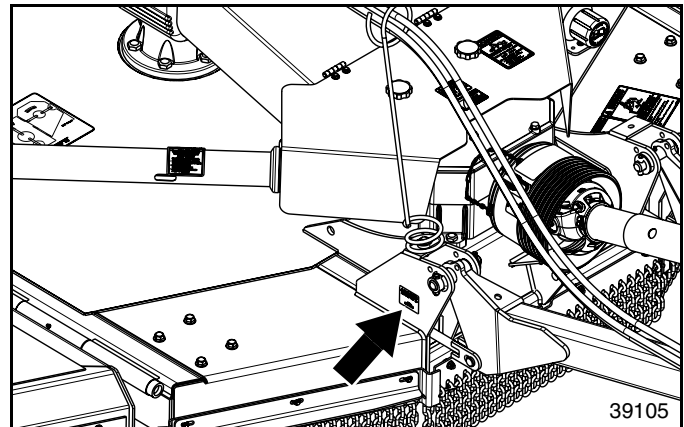
Owner Assistance

The dealer should complete the Online Warranty Registration at the time of purchase. This information is necessary to provide you with quality customer service.

The parts on your Rotary Cutter have been specially designed by Land Pride and should only be replaced with genuine Land Pride parts. Contact a Land Pride dealer if customer service or repair parts are required. Your Land Pride dealer has trained personnel, repair parts, and equipment needed to service the implement.

Serial Number

For quick reference and prompt service, record model and serial number on the inside cover page and again on the warranty page. Always provide model number and serial number when ordering parts and in all correspondences with your Land Pride dealer. For location of your serial number plate, see Figure 1.



Serial Number Plate Location
Figure 1

Further Assistance

Your dealer wants you to be satisfied with your new cutter. If for any reason you do not understand any part of this manual or are not satisfied with the service received, the following actions are suggested:

1. Discuss any problems you have with your implement with your dealership service personnel so they can address the problem.
2. If you are still not satisfied, seek out the owner or general manager of the dealership, explain the question/problem, and request assistance.
3. For further assistance write to:

Land Pride Service Department
1525 East North Street
 P.O. Box 5060
 Salina, Ks. 67402-5060
 E-mail address
lp servicedept@landpride.com

Section 1: Assembly & Set-up

Tractor Requirements

Horsepower

Tractor horsepower should be within the range noted below. Tractors outside the range must not be used.

Horsepower Rating	70-250 hp
Power Take-Off Speed	
Model RC4620	540 rpm
Model RCM4620	1000 rpm
Electrical (See Figure 1-25 on page 28)	7-pin outlet

Drawbar Set-up

Refer to Figure 1-1:



DANGER

To avoid serious injury or death:

Do not use a power take-off adapter. The adapter will increase strain on the tractor's power take-off shaft causing possible damage to shaft and driveline. It will also defeat the purpose of the tractor's power take-off shield.



WARNING

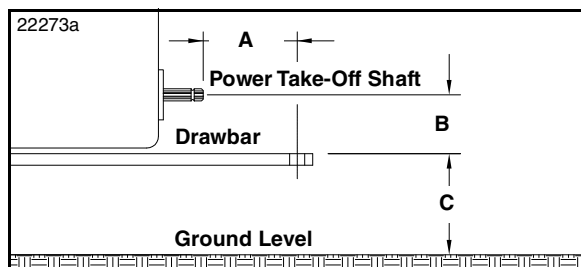
To avoid serious injury or death:

- Do not use a tractor that is too small or too large. Small tractors can be pushed around and flipped over. Large tractors can damage the attached implement.
- Power take-off and/or driveline damage may occur if distances "A" and "B" are not properly maintained.

Maintain proper distance, dimension A, between center of drawbar hitch pin hole and end of power take-off shaft.

Hitch Type	Draw Bar
540 rpm & 1 3/8", 1000 rpm rear power take-off Speed:	
A	14" - 16"
B	8" - 10"
C	18" - 22"

IMPORTANT: Do use a power take-off adapter. It can damage the power take-off drivetrain.



Power Take-Off to Drawbar Distance
Figure 1-1

Hydraulic Outlets

The number of tractor hydraulic duplex outlets is dependent upon how the Rotary Cutter is set-up.

- Two duplex outlets are required if the wings are raised and lowered simultaneously. (Factory standard)
- Three duplex outlets are required if the wings are raised and lowered independently.
- A "Selector Control Valve Kit" on page 43 is available for adding an extra outlet if the tractor does not have the required number of duplex outlets.

Before You Start

Read and understand the operator's manual for your cutter. An understanding of how it works will aid in the assembly and setup of your cutter.

It is best to go through the "Assembly Checklist" below before assembling the cutter. Speed up your assembly task and make the job safer by having all needed parts and equipment readily at hand.

Torque Requirements

See "Torque Values Chart" on page 64 to determine correct torque values when tightening hardware. See "Additional Torque Values" at bottom of chart for exceptions to common torque values

Assembly Checklist

	Check	Reference
<input type="checkbox"/>	Have a fork lift or loader with properly sized chains and safety stands capable of lifting and supporting the equipment on hand.	
<input type="checkbox"/>	Have a minimum of two people available during assembly.	
<input type="checkbox"/>	Make sure all major components and loose parts are shipped with the machine.	Operator's Manual
<input type="checkbox"/>	Double check to make sure all parts, fasteners, and pins are installed in the correct location. Refer to the Parts Manual if unsure. By double checking, you will lessen the chance of using a bolt incorrectly that may be needed later. NOTE: All assembled hardware from the factory has been installed in the correct location. Remember location of a part or fastener if removed during assembly. Keep parts separated.	Operator's Manual 331-936M Parts Manual 331-936P
<input type="checkbox"/>	Make sure working parts move freely, bolts are tight & cotter pins are spread.	Operator's Manual
<input type="checkbox"/>	Make sure all grease fittings are in place and lubricated.	Page 53
<input type="checkbox"/>	Make sure all safety labels are correctly located and legible. Replace if damaged.	Page 6
<input type="checkbox"/>	Make sure all red and amber reflectors are correctly located and visible when machine is in transport position.	Page 12
<input type="checkbox"/>	Make sure all tires are inflated to the specified air pressure and all wheel bolts and axle nuts are tightened to the specified torque.	Page 64

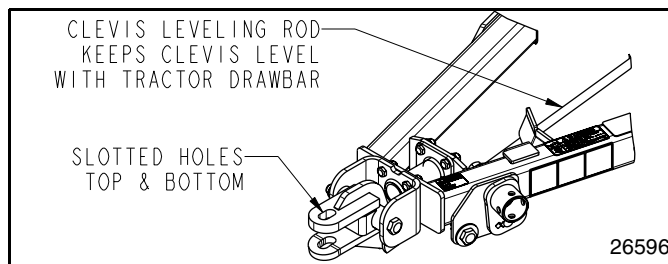
Hitch Types

The cutter is factory supplied with the standard clevis hitch. Other optional hitches are available. They include Land Pride Performance Hitch, bar-tite, ball, and pintle hitch. See your nearest Land Pride dealer should you want to change your hitch set-up.

Standard Clevis Hitch

Refer to Figure 1-2:

A clevis leveling rod attached to the underside of the clevis keeps the clevis parallel with tractor drawbar at all cutting heights. Cutter rotation about the tractor drawbar is limited to slots located in the clevis' upper and lower plates and drawbar hole size.

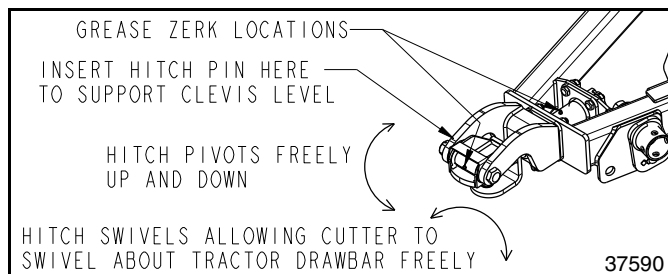


**Standard Clevis Hitch
Figure 1-2**

Land Pride Performance Hitch (Optional)

Refer to Figure 1-3:

The LP Performance Hitch is a drawbar friendly, self-leveling hitch that pivots up and down and side-to-side. It is held upright with customer-supplied hitch pin to allow single-person hook-up.

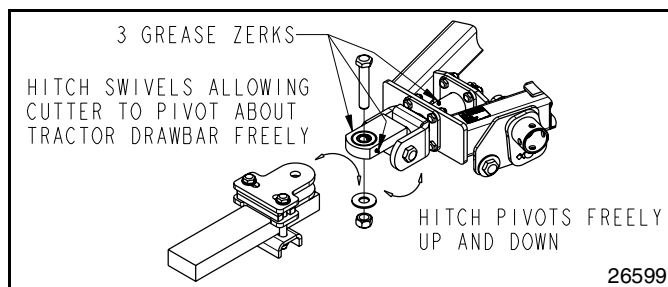


**LP Performance Hitch
Figure 1-3**

Bar-Tite Hitch (Optional)

Refer to Figure 1-4:

The bar-tite hitch functions similar to LP Performance Hitch except it clamps directly to the drawbar. The bar-tite hitch is sandwiched between hardened steel plates to eliminate drawbar wear. It has a bushing in the tongue to extend hitch life. Bushing and hitch swivel are greasable.

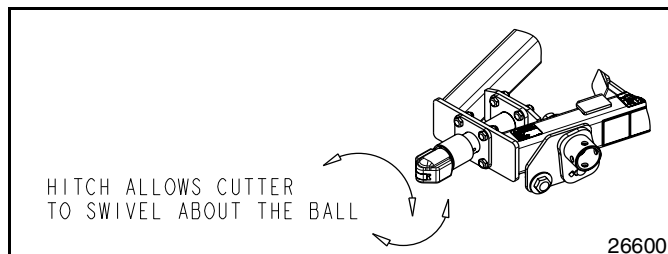


**Bar-Tite Hitch
Figure 1-4**

Ball Hitch (Optional)

Refer to Figure 1-5:

Cutter rotation about the tractor drawbar is limited to swivel movement over the 2 5/16" tractor mounted ball.

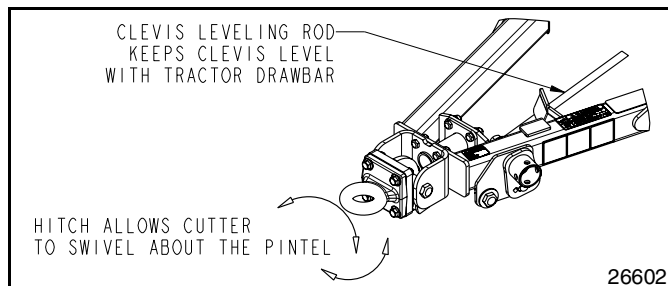


**Ball Hitch
Figure 1-5**

Pintle Hitch (Optional)

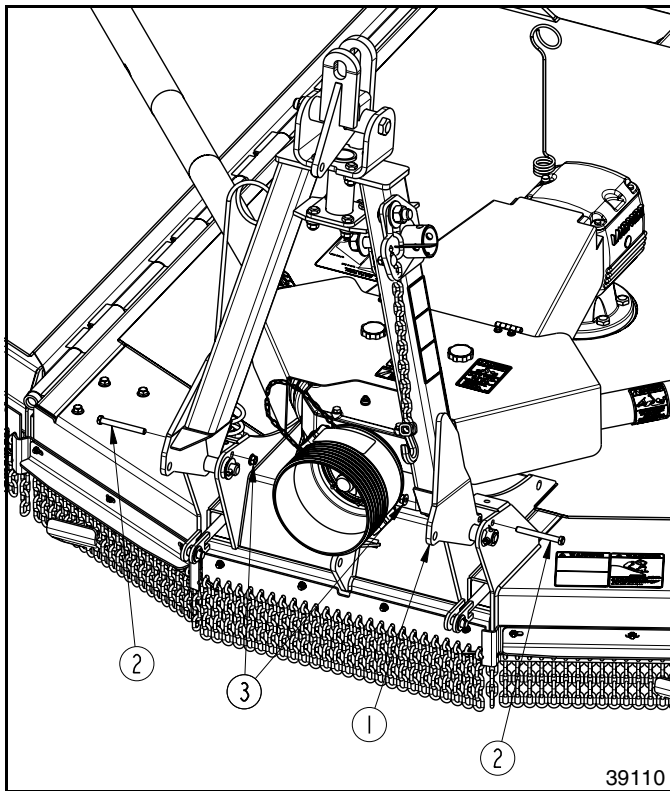
Refer to Figure 1-6:

A leveling rod attached to the underside of the pintle hitch keeps the pintle parallel with the tractor drawbar at all cutting heights. Cutter rotation about the tractor drawbar is limited to movement about the pintle connection. The pintle hitch is ideal for a drawbar hammer strap.



**Pintle Hitch
Figure 1-6**

Section 1: Assembly & Set-up



Factory Shipped With Hitch Folded Up
Figure 1-7

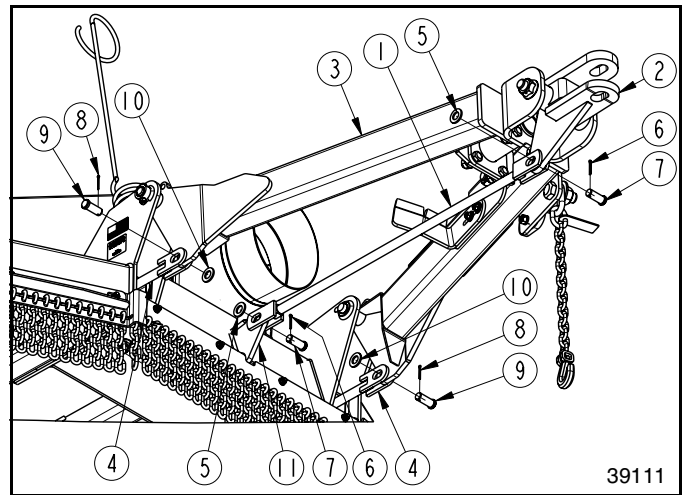
Hitch Assembly

Refer to Figure 1-7:

1. Remove and discard 1/2" hex whiz nuts (#3) and hex head bolts (#2).
2. Rotate hitch (#1) down into pulling position as shown in Figure 1-8.

Refer to Figure 1-8:

3. Instructions "a" & "b" below are for cutters equipped with standard clevis or pintle hitch. Skip to step 4 if assembling LP Performance, bar-tite, or ball hitch.
 - a. Attach clevis level rod (#1) to deck lug (#11) and clevis hitch (#2) with clevis pins (#7), flat washers (#5), and cotter pins (#6).
 - b. Secure cotter pins (#6) by bending one or more legs of each cotter pin.
4. Attach hitch frame (#3) to leveling rods (#4) by inserting clevis pins (#9) into leveling rod clevises and hitch frame (#3) as shown. Secure clevis pins with flat washers (#10) and cotter pins (#8).
5. Leveling rod adjustment will be made later. See "Level Cutter Decks" on page 32 for detailed instructions.

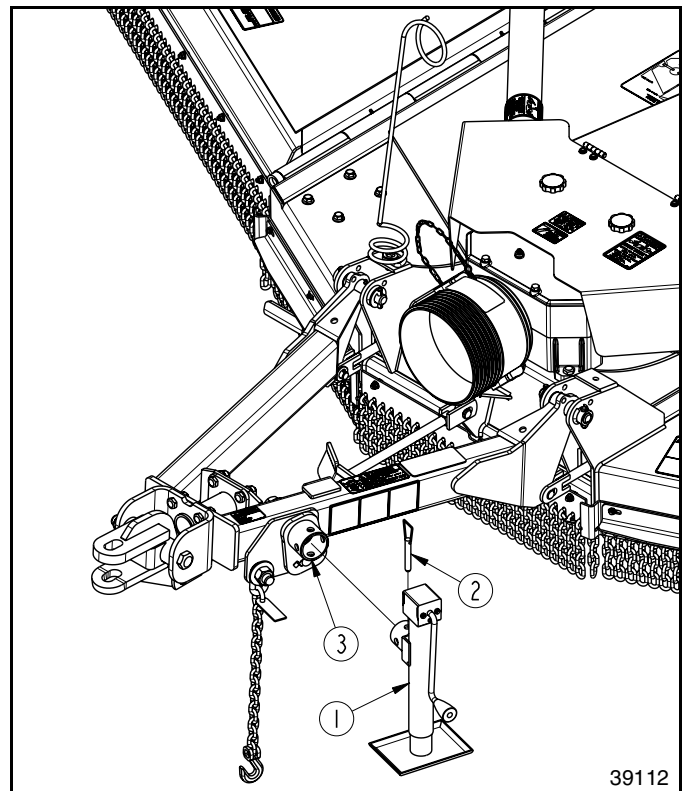


Hitch Assembly
Figure 1-8

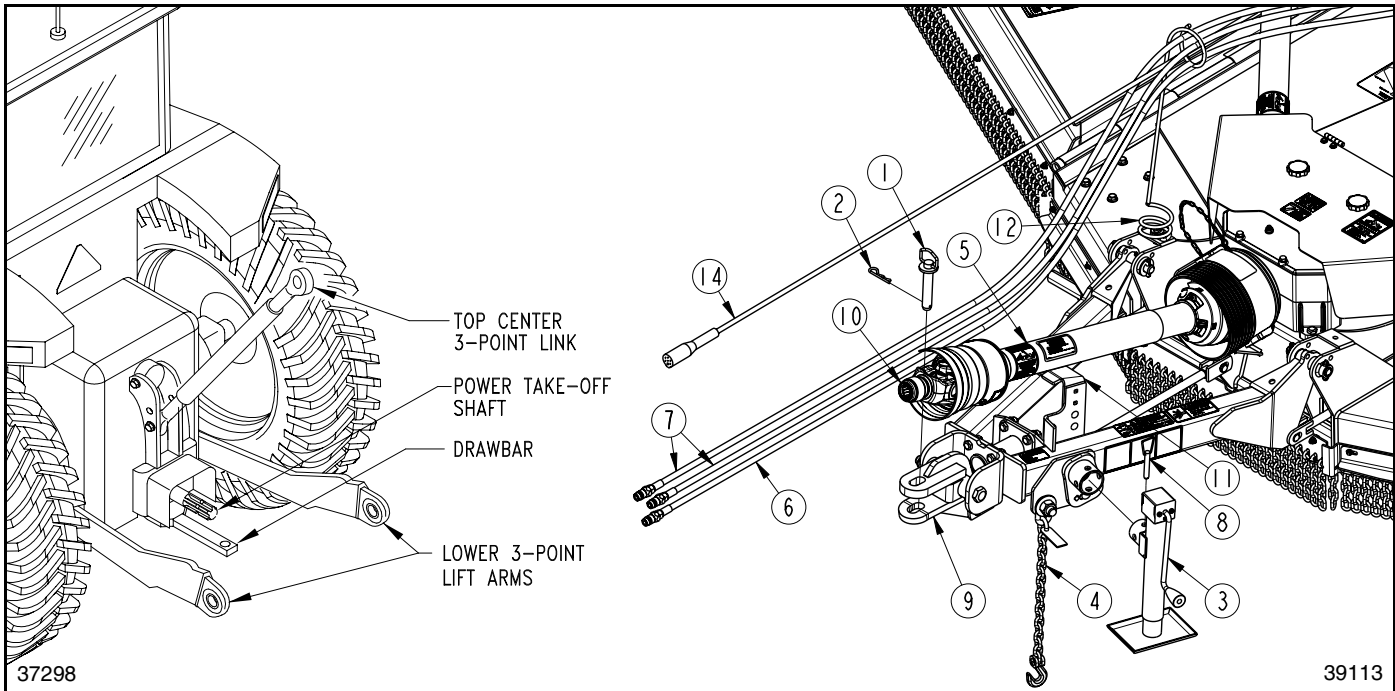
Park Jack Assembly

Refer to Figure 1-9:

1. Attach park jack (#1) to jack mount (#3) and secure with attached detent pin (#2).
2. If park jack is not vertical, adjust jack angle according to "Park Jack Angle Alignment" on page 32.
3. Adjust jack up or down until clevis hitch is at drawbar height.



Park Jack Assembly
Figure 1-9



Tractor Hook-up to Standard Clevis Hitch
Figure 1-10

Standard Clevis Hitch Hook-up

! DANGER

To avoid serious injury or death:

A crushing hazard exists while hooking-up and unhooking the implement. Keep people and animals away while backing-up to the implement or pulling away from the implement. Do not operate hydraulic controls while a person or animal is directly behind the power machine or near the implement.

! WARNING

To avoid serious injury or death:

The ball detent pin must be fully inserted into the park jack with ball visible and popped out on the far side of the jack before working on or around an unhooked cutter.

Refer to Figure 1-10:

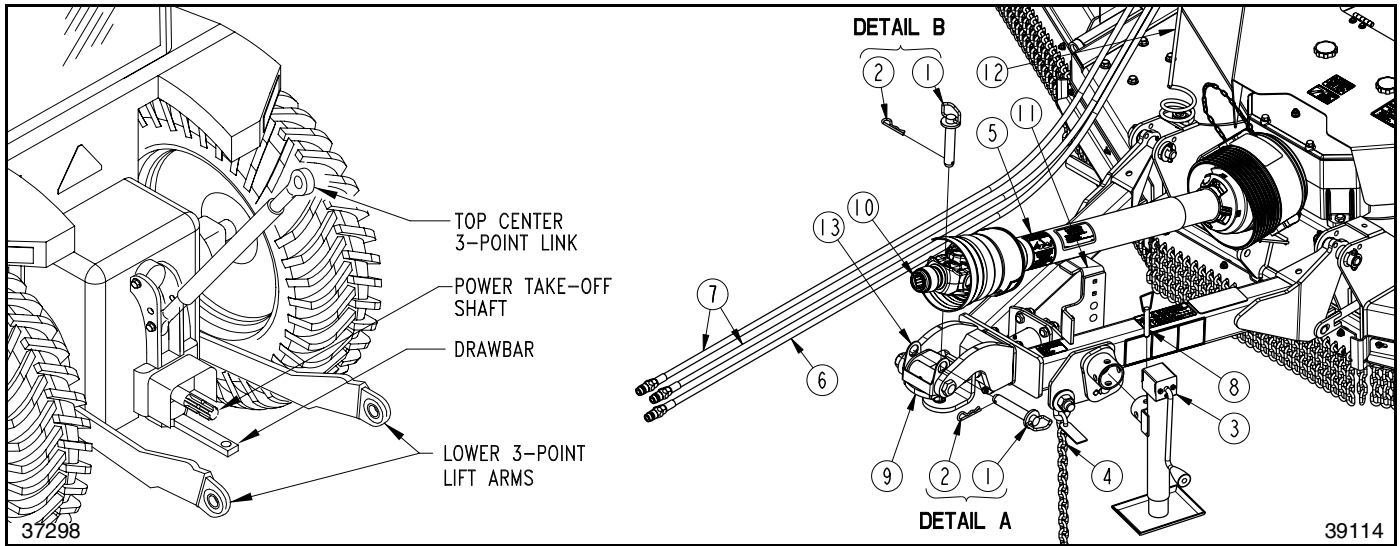
NOTE: Hitch pin (#1) and hairpin cotter (#2) are supplied by customer.

1. Make certain park jack (#3) is properly attached to cutter hitch and secured with ball detent pin (#8).
2. Store center 3-point link in the tractor's storage hook.
3. Start tractor, raise 3-point arms fully up, and carefully back tractor within close proximity of clevis (#9).
4. Shut tractor down properly before dismounting. Refer to "**Tractor Shutdown Procedure**" on page 36.
5. Verify tractor drawbar is adjusted correctly. Refer to "**Drawbar Set-up**" dimensions on page 15.

6. Raise or lower park jack (#3) to align clevis (#9) with tractor drawbar. Tractor drawbar should fit between lower and upper plates of clevis.
7. Restart tractor and continue to back tractor up to cutter hitch until hitch holes in tractor drawbar and hitch clevis (#9) are aligned.
8. Shut tractor down properly before dismounting.
9. Attach cutter to tractor drawbar with customer-supplied hitch pin (#1) and hairpin cotter (#2).
10. Lower park jack (#3) until cutter hitch weight is supported by tractor drawbar.

IMPORTANT: Before moving the cutter, relocate park jack by storing it on the left wing deck. Make sure the jack is stored with its base level or lower than the head to prevent water and freeze damage.

11. Remove park jack (#3) from hitch and attach it to the left-hand wing deck storage base with ball detent pin (#8). Make sure the base is level with or lower than the head especially after the wings are folded up. See cover picture for correct positioning.
12. Attach hitch safety chain (#4) to the tractor. Adjust chain length to remove all slack except what is necessary to permit turning. Lock chain hook securely to the safety chain.
13. Continue with "**Rephasing Cylinders & Plumbing**" on page 21.



Tractor Hookup to LP Performance Hitch
Figure 1-11

LP Performance Hitch Hook-up

DANGER

To avoid serious injury or death:

A crushing hazard exists while hooking-up and unhooking the implement. Keep people and animals away while backing-up to the implement or pulling away from the implement. Do not operate hydraulic controls while a person or animal is directly behind the power machine or near the implement.

WARNING

To avoid serious injury or death:

The ball detent pin must be fully inserted into the park jack with ball visible and popped out on the far side of the jack before working on or around an unhooked cutter.

Refer to Figure 1-11:

NOTE: Hitch pin (#1) and hairpin cotter (#2) are customer-supplied.

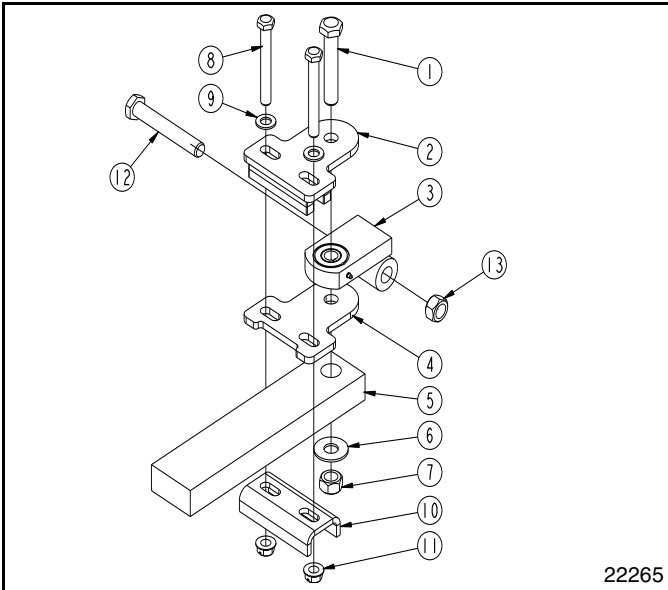
1. Make certain park jack (#3) is properly attached to the cutter hitch and secured with ball detent pin (#8).
2. Adjust park jack angle if it is not vertical. Refer to “Park Jack Angle Alignment” on page 32.
3. If clevis hitch is not already supported horizontal, rotate clevis (#9) horizontal and flip hitch holder (#11) up so that its holes are on top as shown.
4. Insert customer-supplied hitch pin (#1) through holes in hitch holder (#13) as shown in detail A. Secure with hairpin cotter (#2).
5. Store center 3-point link in its storage hook.
6. Start tractor, raise 3-point arms fully up, and carefully back tractor within close proximity of clevis (#9).
7. Shut tractor down properly before dismounting. Refer to “Tractor Shutdown Procedure” on page 36.

8. Verify tractor drawbar is adjusted correctly. Refer to “Drawbar Set-up” dimensions on page 15.
9. Raise or lower park jack (#3) to align clevis (#9) with tractor drawbar. Drawbar should fit between lower and upper plates of clevis.
10. Restart tractor and continue to back tractor up to cutter hitch until hitch holes in tractor drawbar and hitch clevis (#9) are aligned.
11. Shut tractor down properly before dismounting.
12. Remove bushings in clevis if customer supplied hitch pin diameter is larger than 1". See “LP Performance Hitch Pin Diameter” on page 34 for instructions.
13. Remove hairpin cotter (#2) and hitch pin (#1) from hitch holder (#13) and rotate hitch holder down.
14. Attach cutter to tractor drawbar with hitch pin (#1) and hairpin cotter (#2) as shown in detail B.
15. Lower park jack (#3) until cutter hitch weight is supported by tractor drawbar.

IMPORTANT: Before moving the cutter, relocate park jack by storing it on the left wing deck. Make sure the jack is stored with its base level or lower than the head to prevent water and freeze damage.

16. Remove park jack (#3) from hitch and attach it to the left-hand wing storage base with ball detent pin (#8). Make sure base is level with or lower than the head especially after the wings are folded up. See cover picture for correct positioning.
17. Attach hitch safety chain (#4) to the tractor. Adjust chain length to remove all slack except what is necessary to permit turning. Lock chain hook securely to the safety chain.
18. Continue with “Rephasing Cylinders & Plumbing” on page 21.

Section 1: Assembly & Set-up



Bar-Tite Hitch Assembly to Tractor Drawbar
Figure 1-12

Bar-Tite Hitch Hook-up

Refer to Figure 1-12:

Attach Bar-Tite Hitch to Tractor Drawbar

1. Insert 1" x 5 1/2" hex bolt (#1) through hitch top plate (#2), hitch bushing (#3), hitch wear plate (#4), tractor drawbar (#5), and washer (#6) as shown. Secure with 1" locknut (#7). Tighten 1" locknut snugly to remove all play and then back nut one-quarter turn. **Do Not** torque 1" locknut.
2. Insert two 3/4" x 6" GR5 hex bolts (#8) through, 3/4" flat washers (#9), hitch top plate (#2), hitch wear plate (#4), and formed hitch support (#10) as shown. Secure with 3/4" locknuts (#11).
3. Tighten 3/4" locknuts to correct torque.
4. Remove 1" x 6 1/2" GR5 hex bolt (#12) and 1" locknut (#13) from hitch bushing (#3). Keep bolt and locknut for reuse.

Attach Tractor to Rotary Cutter

Refer to Figure 1-13:

DANGER

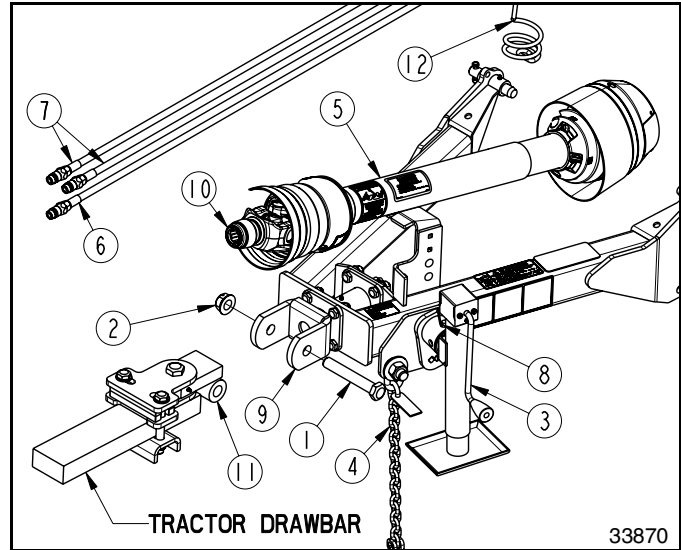
To avoid serious injury or death:

A crushing hazard exists while hooking-up and unhooking the implement. Keep people and animals away while backing-up to the implement or pulling away from the implement. Do not operate hydraulic controls while a person or animal is directly behind the power machine or near the implement.

WARNING

To avoid serious injury or death:

The ball detent pin must be fully inserted into the park jack with ball visible and popped out on the far side of the jack before working on or around an unhooked cutter.



Tractor Hook-up to Bar-Tite Hitch
Figure 1-13

1. Make certain park jack (#3) is properly attached to cutter and secured with ball detent pin (#8).
2. Store center 3-point link in the tractor's storage hook.
3. Start tractor, raise 3-point arms fully up, and carefully back tractor within close proximity of clevis (#9).
4. Shut tractor down properly before dismounting. Refer to "Tractor Shutdown Procedure" on page 36.
5. Verify tractor drawbar is adjusted correctly. Refer to "Drawbar Set-up" dimensions on page 15.
6. Raise or lower park jack (#3) to align bolt hole in swivel clevis (#9) with hitch bushing (#11).
7. Restart tractor and continue to back tractor up to cutter hitch until hole in hitch bushing (#11) aligns with holes in swivel clevis (#9).
8. Shut tractor down properly before dismounting.
9. Insert 1" x 6 1/2" GR5 hex bolt (#1) through swivel clevis (#9) and hitch bushing (#11). Secure hex bolt with locknut (#2). Tighten locknut snugly to remove all play. **Do Not** torque 1" locknut.
10. Lower park jack (#3) until cutter hitch weight is supported by tractor drawbar.

IMPORTANT: Before moving the cutter, relocate park jack by storing it on the left wing deck. Make sure the jack is stored with its base level or lower than the head to prevent water and freeze damage.

11. Remove park jack (#3) from hitch frame and attach it to the left-hand wing storage base with ball detent pin (#8). Make sure base is level with or lower than the head especially after the wings are folded up. See cover picture for correct positioning.
12. Attach hitch safety chain (#4) to tractor. Adjust chain length to remove all slack except what is necessary to permit turning. Securely lock chain hook to the safety chain.

Section 1: Assembly & Set-up

13. Continue with “Rephasing Cylinders & Plumbing” on page 21.

Rephasing Cylinders & Plumbing

Refer to Figure 1-14:

The deck cutting height and transporting height are controlled by three rephasing cylinders (#1, #2 & #3) which are plumbed together to operate in unison. The decks will not lift properly if rephasing cylinders are plumbed incorrectly. Use Figure 1-14 to verify plumbing.

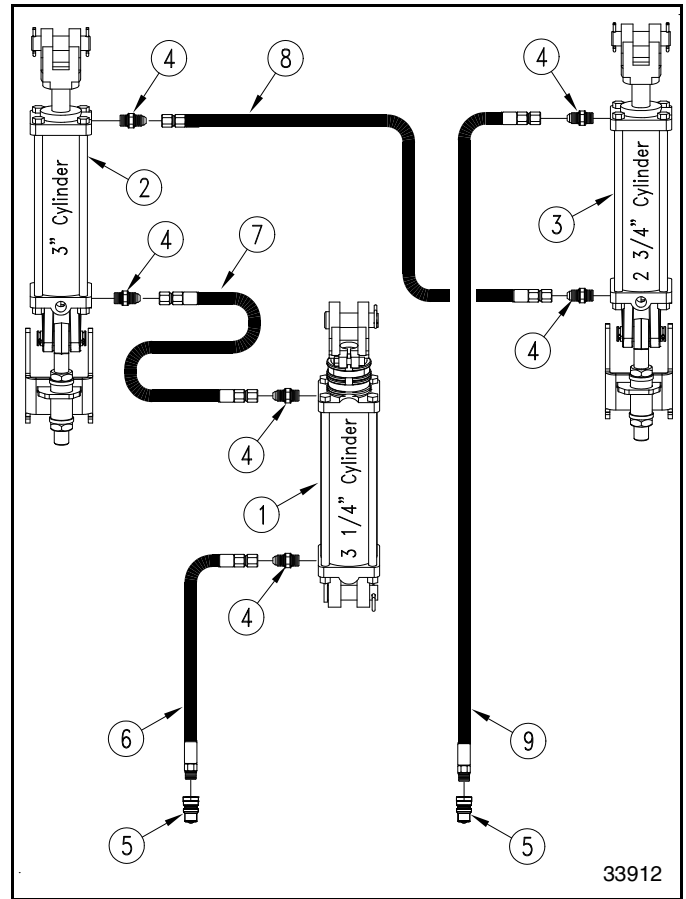
1. Rephasing hydraulic cylinder 3 1/4" x 8" x 1 1/4" rod
2. Rephasing hydraulic cylinder 3" x 8" x 1 1/4" rod
3. Rephasing hydraulic cylinder 2 3/4" x 8" x 1 1/4" rod
4. Straight adapter 3/4 MORB x 3/4MJIC
5. Quick disconnect poppet type coupler, 3/4" FORB male
6. 3/8" Hydraulic hose, 228" long x 3/4" MORB x 3/4" FJIC
7. 3/8" Hydraulic hose, 114" long x 3/4" FJIC
8. 3/8" Hydraulic hose, 234" long x 3/4" FJIC
9. 3/8" Hydraulic hose, 288" long x 3/4" MORB x 3/4" FJIC

Wing Folding Cylinders & Plumbing

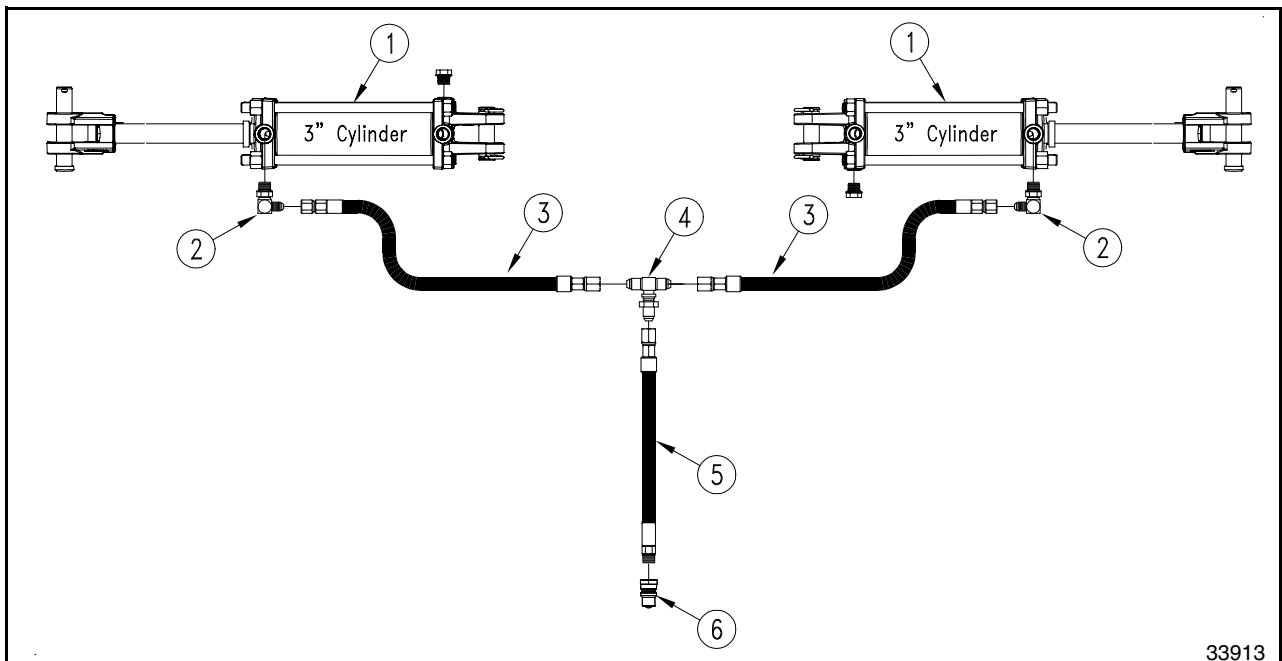
Refer to Figure 1-15:

The wing folding cylinders (#1) are single-acting and should be connected to an outlet with float option to allow the wings to flex up and down as they travel over uneven ground while cutting. Use Figure 1-15 to verify plumbing.

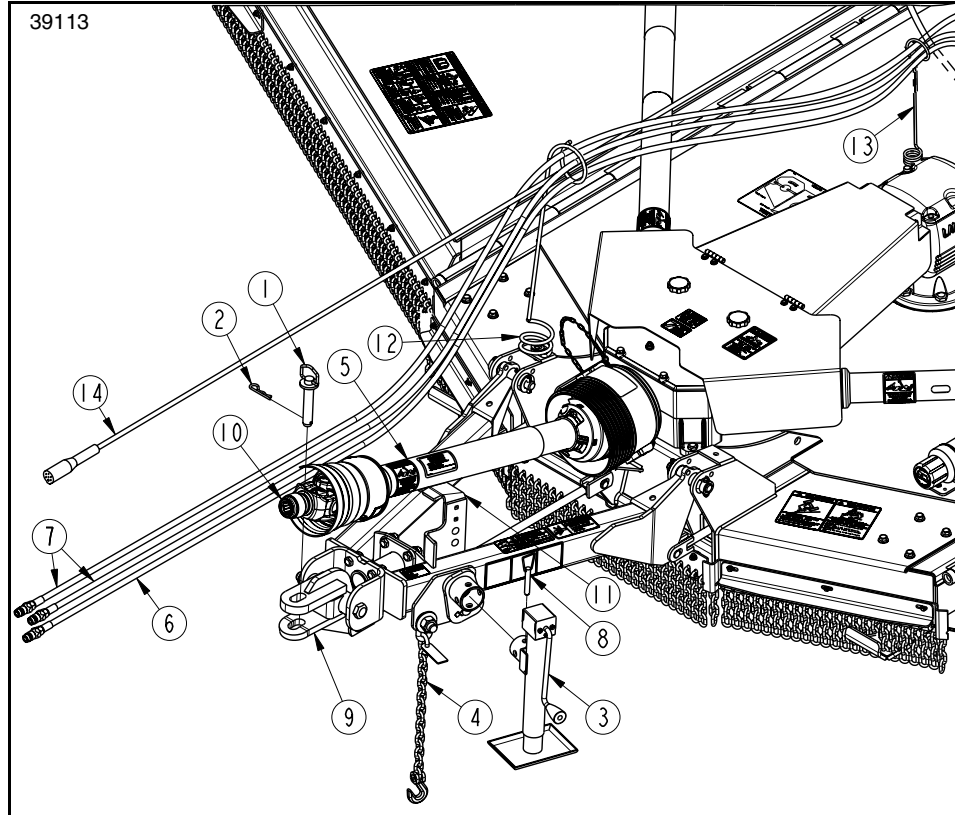
1. Hydraulic cylinders 3" x 12" x 1 1/4" rod
2. Orifice elbow, 1/16" x 9/16" MJIC x 9/16" MORB
3. 1/4" Hydraulic hose, 66" long x 9/16" FJIC x 9/16" FJIC
4. Bulkhead Tee 9/16" MJIC x 9/16" MJIC x 9/16" MJIC
5. 3/8" Hydraulic hose, 189" long x 3/4" MORB x 9/16" FJIC
6. Quick disconnect poppet type coupler, 3/4" FORB male



Rephasing Lift Cylinders and Plumbing
Figure 1-14



Wing Folding Cylinders and Plumbing
Figure 1-15



Hydraulic Hook-up
Figure 1-16

Hydraulic Hook-up

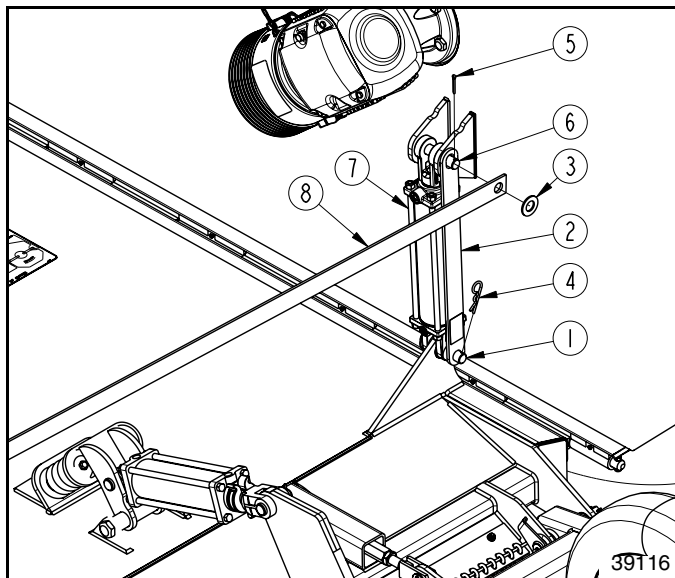
WARNING

To avoid serious injury or death:

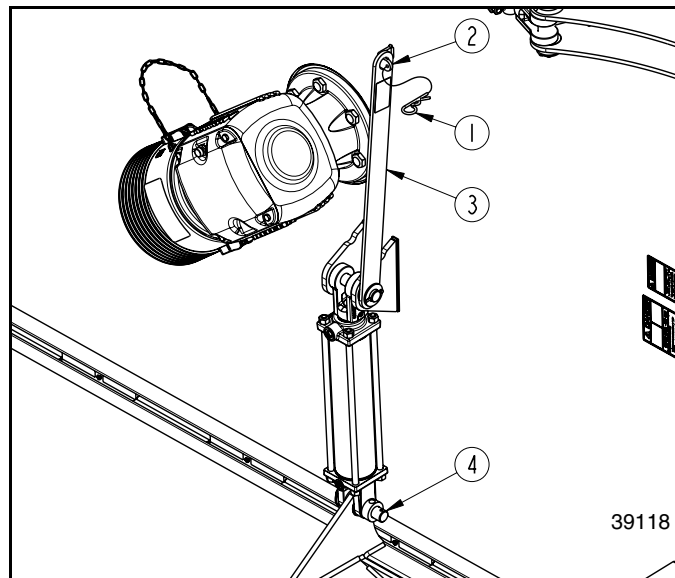
Hydraulic fluid under high pressure can penetrate the skin and/or eyes causing a serious injury. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Use a piece of cardboard or wood rather than hands when searching for leaks. A doctor familiar with this type of injury must treat the injury within a few hours or gangrene may result. DO NOT DELAY.

Refer to Figure 1-16:

1. Route wing folding cylinder hose (#6) through the two spring hose support loops (#12 & #13).
2. Route rephasing lift cylinder hoses (#7) through the two spring hose support loops (#12 & #13) and connect to a tractor remote outlet.



Remove Shipping Bar With Transport Locks Set
Figure 1-17



Transport Lock Removed & Secured for Field Work
Figure 1-18

Remove Shipping Crossbar

Refer to Figure 1-17 on page 23:

WARNING

To avoid serious injury or death:

- Make sure transport locks are set before removing shipping bar. Stay clear of wings while removing shipping bar. Once shipping bar is removed, the wings will fall suddenly until caught by transport locks.
- Metal shipping bands are under tension. Always wear eye protection when cutting bands. Keep head, body, and body extremities away from the area where the band will recoil into when cut.

NOTE: A come-along may be needed to pull wings together before shipping bar (#8) can be removed.

1. Make sure cutter is parked on a level surface with room on both sides for wings to unfold. Place gear selector in park, **fully retract wing folding cylinders (#7)**, shut tractor off, set park brake, and remove switch key.
2. Verify transport lock bars (#2) are rotated down and secured to clevis pin (#1) with hairpin cotter (#4).
3. Cut & remove shipping bands between wing wheels.
4. Remove cotter pin (#5), flat washer (#3), and shipping bar (#8) from clevis pin (#6).
5. Replace flat washer (#3) and cotter pin (#5). Bend one or more legs of cotter pin to secure it in place.
6. Repeat steps 4 & 5 for the other wing.

Unfold Wing Decks

Refer to Figure 1-18:

DANGER

To avoid serious injury or death:

Keep everyone out of the area where the wing decks will unfold. One of the wing decks can fall suddenly.

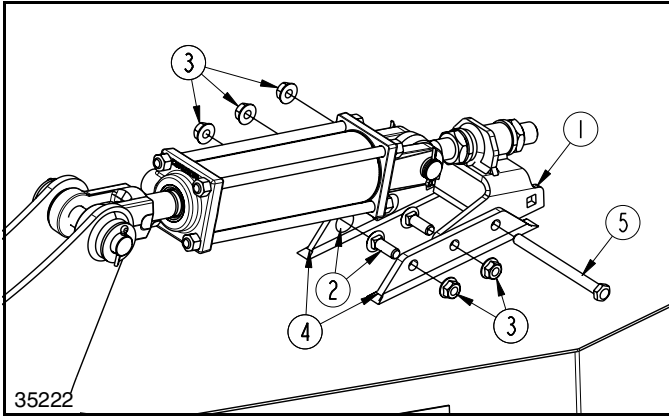
WARNING

To avoid serious injury or death:

Watch hydraulic hoses as the wings lower to be sure they don't catch causing hoses to stretch and pull loose from the hydraulic cylinders.

1. Make sure shipping crossbar is removed and all safety alerts are followed as instructed above.
2. Remove hairpin cotter (#1) from clevis pin (#4).
3. Rotate right transport lock bar (#3) up to storage bracket (#2). Secure with existing hairpin (#1).
4. Repeat step 3 for left transport lock bar (#3).
5. Start tractor and lower wings down to the ground.
6. Set tractor control lever for wing cylinders in float position.
7. To purge hydraulic cylinders, refer to **"Purge Hydraulic System"** on page 27.

Section 1: Assembly & Set-up



Wing Set-up for Shipping
Figure 1-19

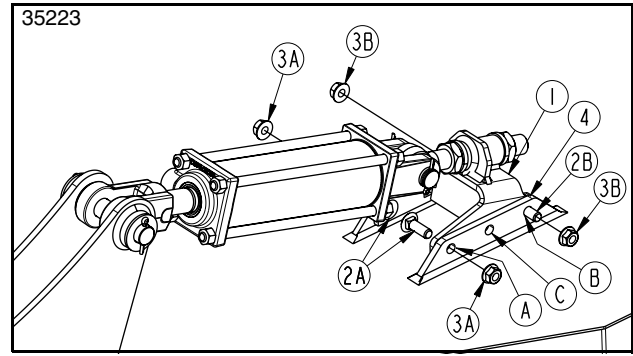
Relocate Wing Lift Cylinder Mounts

Refer to Figure 1-19:

The rephasing lift cylinders are shipped from the factory moved forward 2 1/2". Mounting brackets (#1) must be relocated 2 1/2" rearward on both wings as follows:

IMPORTANT: Relocating wing cylinder mounts is easier if hydraulic hoses for the lift cylinders have not been pressurized with hydraulic fluid.

1. With wings unfolded, lower cutter down until right wing is resting on its skid shoe and transport wheel(s). If needed, place a support block under the wing skid shoe to ensure right wing is resting on its skid shoe and transport wheels.
2. Shut tractor down properly before dismounting. Refer to **"Tractor Shutdown Procedure"** on page 36.
3. Move tractor hydraulic deck lift control lever back and forth several times to relieve all hydraulic pressure in the deck lift hydraulic system.
4. At the right-hand wing, remove all five whiz nuts (#3), cap screw (#5) and four carriage bolts (#2). Keep carriage bolts and four hex whiz nuts (#3) for reuse. Discard cap screw (#5) and one hex whiz nut (#3).
5. Remove mounting bracket (#1) from between mounting ears (#4).
6. Using tractor control lever, fold wing deck up high enough to place a support block under its skid shoe. Use a 4" support block if cutter is equipped with 21" laminated tires and a 6" support block if cutter is equipped with 29" aircraft tires.
7. Unfold wing deck until its skid shoe is resting on the 4" or 6" support block.



Wing Set-up for Field Use
Figure 1-20

Refer to Figure 1-20:

8. Extend or retract hydraulic lift cylinder on the wing until rear holes "A" in mounting bracket (#1) are slightly back of holes "A" in mounting ears (#4).
9. Shut tractor down properly before dismounting.
10. Attach a hoist or jack under the right-hand wing wheel axle and raise wheels up until carriage bolts (#2A) can be inserted. If needed, use a drift punch to align rear holes "A".
11. Insert rear carriage bolts (#2A) as shown and install hex whiz nuts (#3A). Draw nuts up snug, do not tighten at this time.
12. Use a drift punch in holes "C" to align front holes "B".
13. Insert front carriage bolts (#2B) in holes "B" as shown and install hex whiz nuts (#3B).
14. Tighten whiz nuts (#3A & #3B) to the correct torque.
15. Remove hoist or jack from under the transport wheels.
16. Fold wing up, remove support block from under its skid shoe, and return wing to its unfolded position.
17. Repeat steps 1-16 for the left wing.

Section 1: Assembly & Set-up

Driveline Assembly

⚠ DANGER

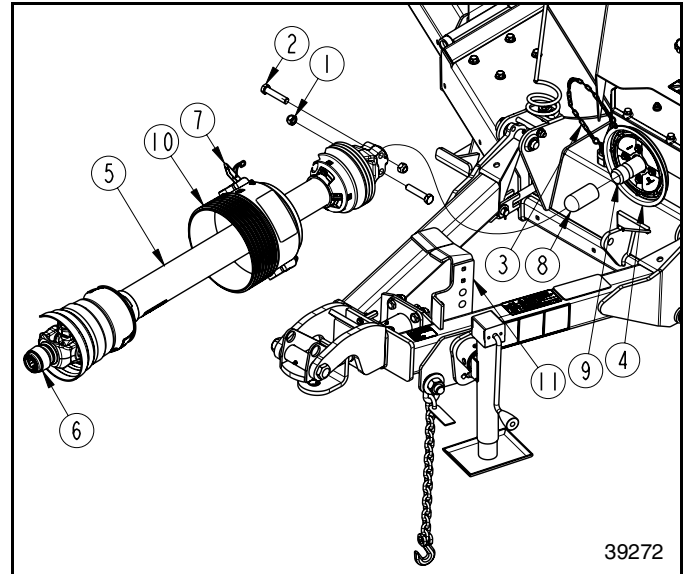
To avoid serious injury or death: Make certain driveline yokes are securely fastened at each end. A loose yoke can work free allowing the driveline to rotate uncontrollably causing implement damage and bodily injury or death to anyone nearby.

IMPORTANT: The driveline must be lubricated before putting it into service. Refer to “**Lubrication Points**” on page 53.

Refer to Figure 1-21:

The main driveline (#5) may be either constant velocity type or conventional type. Pull-collar couplers and retaining bolts are used to connect the driveline to the tractor and implement gearbox, respectively.

1. Park tractor and cutter in a straight line on a level surface. Place gear selector in park, shut tractor engine off, set park brake, and remove switch key.
2. Verify “**Drawbar Set-up**” dimensions on page 15 are correct before installing driveline.
3. Unsnap latches (#7) on both sides of gearbox shield (#10) and remove gearbox shield.
4. Remove and discard rubber shaft protector (#8) from splitter gearbox shaft (#9).
5. Remove locknuts (#1) and bolts (#2) from bolted coupler end of driveline (#5).
6. Insert bolted coupler end of driveline (#5) through gearbox shield (#10).
7. Align bolt holes in driveline coupler with grooves in gearbox input shaft.
8. Attach driveline (#5) to gearbox input shaft (#9) with removed bolts (#2) and locknuts (#1). Tighten locknuts to the correct torque.
9. Return gearbox shield (#10) to mounting plate (#4) and secure with latches (#7).
10. Check safety chain (#3). Make sure it is latched to mounting plate (#4) and gearbox shield (#10).
11. Rotate driveline hanger (#11) up and support driveline (#5) on hanger. Final adjustments to hanger will be made after tractor hook-up.



Driveline Installation
Figure 1-21

Driveline Hook-up

⚠ DANGER

To avoid serious injury or death:

- Do not engage power take-off while hooking-up or unhooking the driveline, or while someone is standing near the driveline. A person's body and/or clothing can become entangled in the driveline.
- Tractor power take-off shaft shield, driveline shields, and gearbox shaft shields must be installed and in good working condition to avoid driveline entanglement and projectiles flying off of the driveline.
- Make certain driveline yokes are securely fastened at each end. A loose yoke can work free allowing the driveline to rotate uncontrollably causing implement damage and bodily injury or death to anyone nearby.
- Do not use a power take-off adapter. The adapter will increase strain on the tractor's power take-off shaft causing possible damage to shaft and driveline. It will also defeat the purpose of the tractor's power take-off shield.

⚠ WARNING

To avoid serious injury or death:

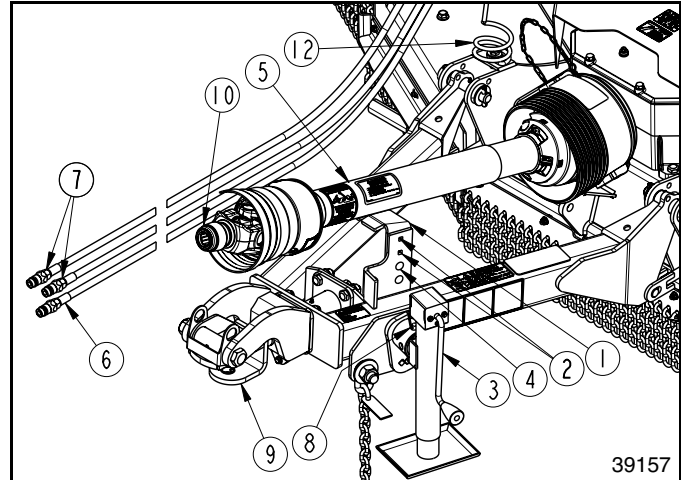
- Always follow "Tractor Shutdown Procedure" provided in this manual before dismounting the tractor.
- Some tractors are equipped with two power take-off speeds. Be certain your tractor's power take-off is set-up to operate at the implement's rated power take-off speed or equipment breakage may result. RC models are rated for 540 rpm and RCM models are rated for 1000 rpm.

Refer to Figure 1-22:

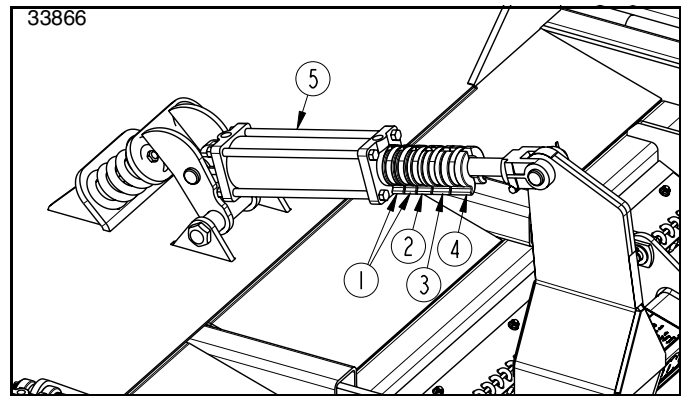
1. Rotate driveline hanger (#1) down.
2. If needed, collapse driveline (#5) by pushing tractor end of driveline against splitter gearbox.
3. Pull back on yoke locking collar (#10) and slide yoke over tractor power take-off shaft.
4. Release locking collar (#10) and continue to push outer yoke onto the power take-off shaft until locking collar snaps in place.
5. Driveline (#5) should now be moved back and forth to ensure both ends are secured.

IMPORTANT: The shields on the constant velocity driveline with overrunning clutch must not rotate. To stop rotation, attach safety chains on the inner and outer driveline shields to the implement and tractor.

6. If main driveline is constant velocity with overrunning clutch, then attach safety chain on the inner shield to the cutter and safety chain on the outer shield to the tractor. Check safety chains to make sure they are attached to the inner and outer driveline shields.
7. If attached to cutter hitch, remove park jack (#3) and stored on left-hand wing. For detailed instructions, refer to steps 10-11 on page 18.



Adjust Driveline Hanger
Figure 1-22



Hydraulic Lift Cylinder With Stroke Control Spacers
Figure 1-23

Adjust Driveline Hanger

Refer to Figure 1-23:

1. Move tractor control lever to extend hydraulic lift cylinder (#5) until pressure against stroke control spacers (#1-#4) is removed.
2. Shut tractor down properly before dismounting. Refer to "Tractor Shutdown Procedure" on page 36.
3. Remove all stroke control spacers (#1-#4) from center hydraulic lift cylinder (#5) by spreading them apart at the break line.
4. Start tractor and lower cutter until front skids are resting on the ground or on support blocks.
5. Shut tractor down properly before dismounting.
6. Replace stroke control spacers (#1-#4) as needed to support wheels at this position.

Refer to Figure 1-22:

7. With driveline attached to tractor, rotate driveline hanger (#1) up as shown.
8. Loosen nuts securing carriage bolts (#4) and adjust driveline hanger (#1) up/down until there is a small gap between driveline (#5) and hanger (#1).

Section 1: Assembly & Set-up

9. If driveline hanger (#1) is adjusted fully up and needs to adjust higher, remove carriage bolts (#4) and reattach hanger to the upper two square holes (#2) with existing flat washers, lock washers, hex nuts, and carriage bolts (#4). Continue to adjust hanger to underside of driveline.
10. Draw nuts securing carriage bolts (#4) up snug and rotate driveline hanger (#1) down. If hanger makes contact with driveline (#5), readjust hanger down until it misses the driveline.
11. Tighten nuts for carriage bolts (#4) to the correct torque.

IMPORTANT: Always rotate driveline hanger down after hook-up to prevent driveline damage.

12. Rotate driveline hanger (#1) down.

Driveline Clearance Check

Check driveline for adequate clearance under all ranges of cutter height.

NOTE: The lift cylinders should raise the cutter up while pulling the control lever back and lower while pushing the lever forward. Switch connections at the duplex outlet if lift control lever works opposite.

1. With driveline attached to the tractor, slowly raise and lower cutter to its upper and lower limits while observing clearances between hitch and driveline.
2. Adjust tractor drawbar height and length if driveline interferes. See “**Drawbar Set-up**” on page 15 for correct placement of tractor drawbar.
3. To purge hydraulic lift system of trapped air. See “**Purge Hydraulic System**” on this page.

Purge Hydraulic System

DANGER

To avoid serious injury or death:

Never remove or install a folding wing cylinder with cylinder rod retracted and wing folded-up. The wing is unstable without its folding cylinder and can suddenly fall. Also, air trapped in a new or repaired cylinder will drop the wing suddenly when lowering the wing. Either situation can render the cutter inoperable and cause serious bodily injury or death.

WARNING

To avoid serious injury or death:

Be sure center and wing decks are lowered to the ground and all hydraulic pressure is relieved before disconnecting any hydraulic lines or fittings to purge the hydraulic system.

Be sure tractor reservoir is filled properly before operating hydraulic cylinders. If tractor reservoir is low on hydraulic fluid, there is a chance of drawing air into the system causing jerky or uneven cylinder movements. The wing deck lift cylinder may be purged as follows:

1. To purge the two wing lift cylinders, lower wings until resting on the ground, shut tractor down properly and then move tractor hydraulic wing lift control lever back and forth several times to relieve all hydraulic pressure in the system.
2. Loosen hydraulic hose fittings slightly at each wing lift cylinder to allow air and fluid to escape.
3. Restart tractor. Slowly activate tractor control lever to retract wing lift cylinders and to purge trapped air.
4. Once air is purged from the hydraulic system for the wing lift cylinders, tighten hydraulic hose fittings.
5. To purge the three deck lift rephasing cylinders, fully extend rephasing cylinders with tractor hydraulic deck lift control lever. Hold control lever on long enough to give the hydraulic system time to purge of any trapped air in the lines and rephasing cylinders.

Section 1: Assembly & Set-up

Hook-up LED Lights

Refer to Figure 1-24:

The lead wiring harness (#13) is equipped with a 7-pin plug for connecting to the tractor's 7-pin electrical outlet shown in Figure 1-25.

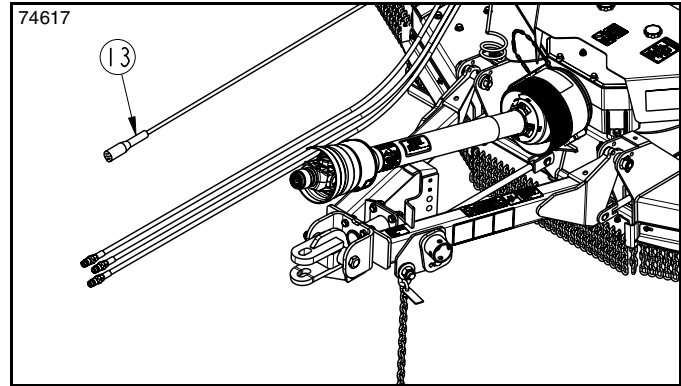
1. Route lead wire harness (#13) through the front and rear spring hose loops (#2).
2. Connect plug on lead wire harness (#13) to the tractor's 7-pin electrical outlet.
3. It is best to have a second person to verify the lights are operating. Start tractor and operate lights as follows:
 - a. Turn on headlights to verify red lights illuminate.
 - b. Turn on flasher lights to verify amber lights are blinking on and off.

Refer to Figure 1-26:

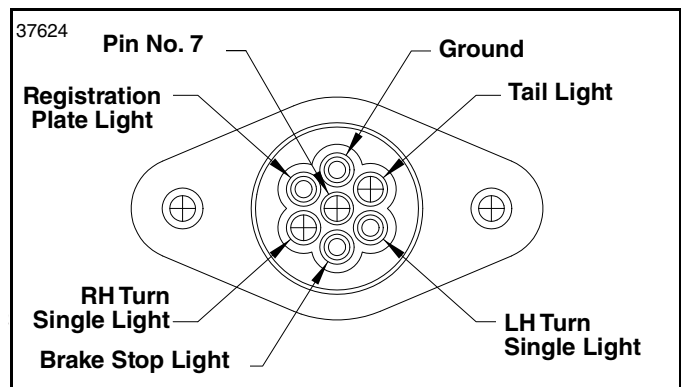
4. If the lights did not operate properly, recheck hook-up of the enhance module (#9) and wire harnesses (#8 & #13) as outlined below. Make any necessary changes and repeat step 3 above.
 - a. Reference wire harness (#8) leading to the LED lights on the right-hand side of the cutter. Make sure connector (#8R), labeled "ENHANCER", is connected to the Red wire connector (#9R) on enhancer module (#9).
 - a. Reference wire harness (#8) leading to the LED lights on the left-hand side of the cutter. Make sure connector (#8L), labeled "ENHANCER", is connected to the Yellow wire connector (#9L) on enhancer module (#9).
 - b. Make sure lead wire harness (#13) is connected to connector (#9C) on enhancer module (#9).
 - c. **Refer to Figure 1-24:** Ensure that the 7-pin plug on the end of the 15' lead wire harness (#13) is properly seated in the tractor's 7-pin electrical outlet shown in Figure 1-25.
5. Check routing of wire harness (#8) to make sure they will not be pinched as the arms fold and unfold and while raising and lowering the cutter height.

Refer to Figure 1-24:

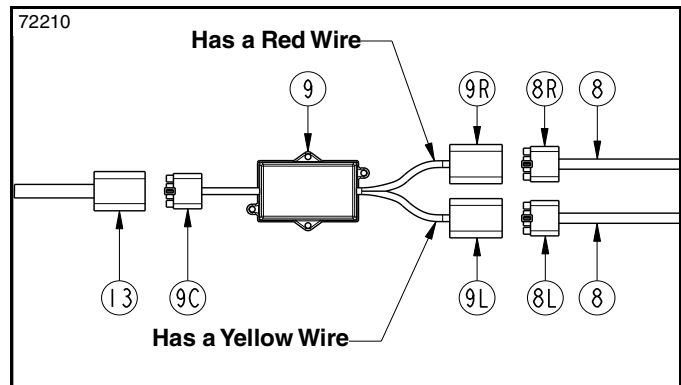
6. Check routing of lead wire harness (#13) to make sure it pass through the spring hose loop (#2).
7. Secure harness in place with spiral hose wrap (#3). If needed, add any cable ties to complete the process.



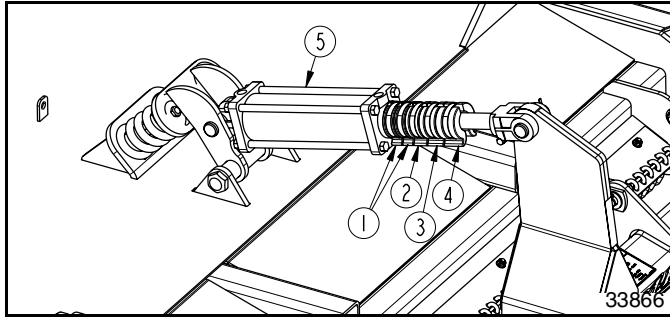
**LED Hookup
Figure 1-24**



**Tractor 7-Pin Electrical Outlet
Figure 1-25**



**Enhance Module Wire Connections
Figure 1-26**



Lift Cylinder Mounting Position
Figure 1-27

Unhook Rotary Cutter

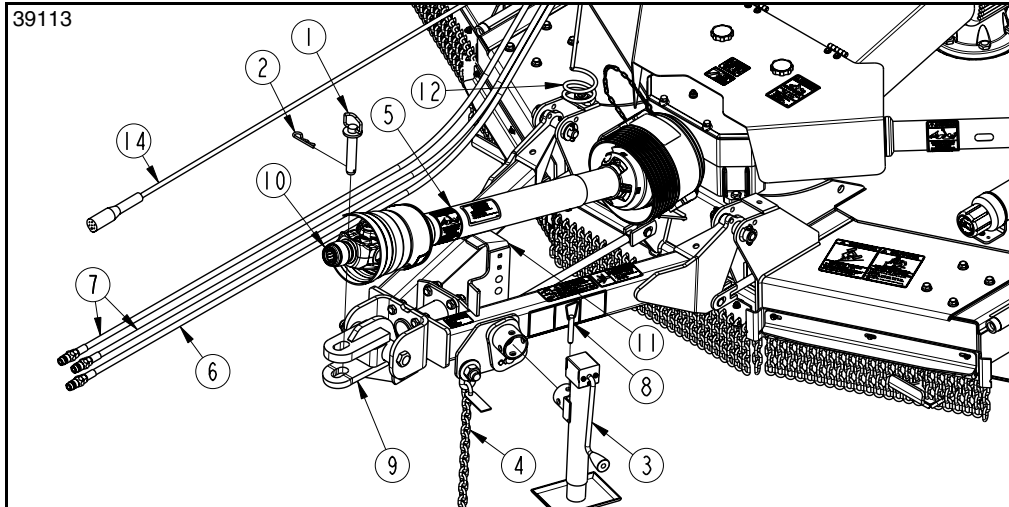
1. See “**Long-Term Storage**” on page 52 if parking cutter for long periods and end of season.
2. Idle tractor engine, disengage power take-off, park cutter on a level, hard surface. Place tractor gear selector in park or set park brake.
3. Raise center deck fully up.
4. Wait for blades to come to a complete stop and then fold wings up to transport position.
5. Shut tractor engine off and remove switch key before dismounting from tractor.
6. Lock folded wings in transport position with transport lock bars. See instructions for “**Transport Locks**” on page 38.

Refer to Figure 1-27:

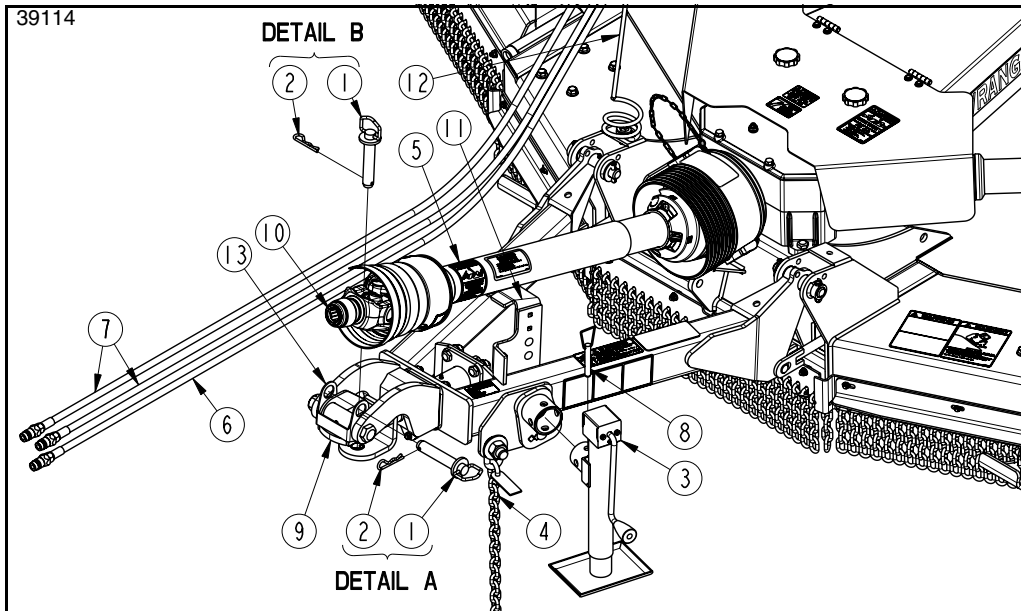
7. Remove stroke control spacers (#1, #2, #3 & #4) from hydraulic cylinder (#5).
8. Start tractor and lower cutter until front skids are resting on the ground or on support blocks.
9. Shut tractor down properly before dismounting. Refer to “**Tractor Shutdown Procedure**” on page 36.
10. Replace stroke control spacers (#1, #2, #3 & #4) as needed to support wheels at this position.
11. With no one around or near the cutter, move center deck and wing cylinder lift levers back and forth to release all hydraulic pressure at the couplers.

Refer to Figure 1-29 on page 30:

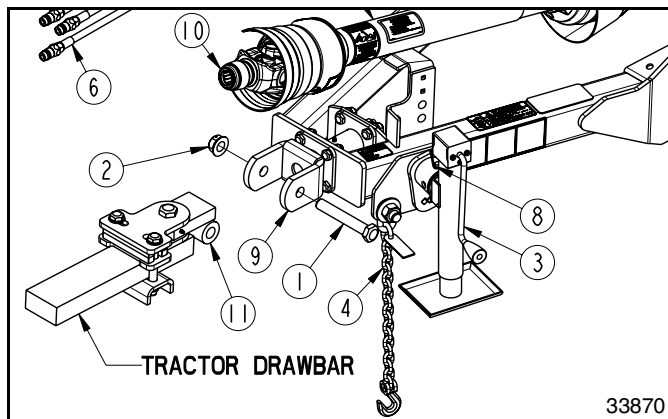
12. Remove park jack (#3) from left-hand wing deck and attach to the cutter hitch. Secure park jack in place with ball detent pin (#8).
13. Unhook hydraulic hoses (#6 & #7) from tractor duplex outlet. Insert couplers through spring hose loop (#12) to keep couplers out of the dirt.
14. Unhook wire harness (#14) from tractor outlet. Coil wire harness and store over spring hose loop (#12) with connector hanging down to keep moisture out.
15. Unhook hitch safety chain (#4) from tractor.
16. Rotate driveline support (#11) up to the position shown.
17. Pull back on locking collar (#10) and pull driveline (#5) from the power take-off shaft.
18. Collapse driveline (#5) by pushing tractor end of driveline toward the splitter gearbox.
19. Adjust park jack (#3) to raise cutter up until all load is removed from tractor drawbar.
20. Remove connecting hitch pin or bolt as follows:
 - a. **For Standard Clevis Hitch, See Figure 1-28 on page 30:**
Remove hairpin cotter (#2) and hitch pin (#1).
 - a. **For LP Performance Hitch, See Detail B in Figure 1-29 on page 30:**
Remove hairpin cotter (#2) and hitch pin (#1).
 - b. **For Bar-Tite Hitch, See Figure 1-30 on page 30:**
Remove locknut (#2) and bolt (#1).
21. Restart tractor and drive tractor slowly forward several feet.
22. Shut tractor down properly before dismounting.
23. Lower park jack (#3) until cutter is resting on its front skid shoes.
24. Replace connecting pin/bolt (#1) as follows:
 - a. **For Standard Clevis Hitch, See Figure 1-28 on page 30:**
If unhooking standard clevis, replace connecting pin (#1) in clevis (#9).
 - b. **For LP Performance Hitch, See Detail A in Figure 1-29:**
Rotate clevis (#9) horizontal and flip hitch holder (#12) up so that its holes are on top as shown. Insert customer-supplied hitch pin (#1) through holes in hitch holder (#12). Secure with hairpin cotter (#2).
 - c. **For Bar-Tite Hitch, See Figure 1-30 on page 30:**
If unhooking bar-tite hitch, remove hitch (#11) from tractor drawbar and reattach it to the hitch (#9) with removed bolt (#1) and locknut (#2) Screw locknut on 4 or 5 full turns. Do not torque nut tight.



Unhook from Standard Hitch
Figure 1-28



Unhook from LP Performance Hitch
Figure 1-29

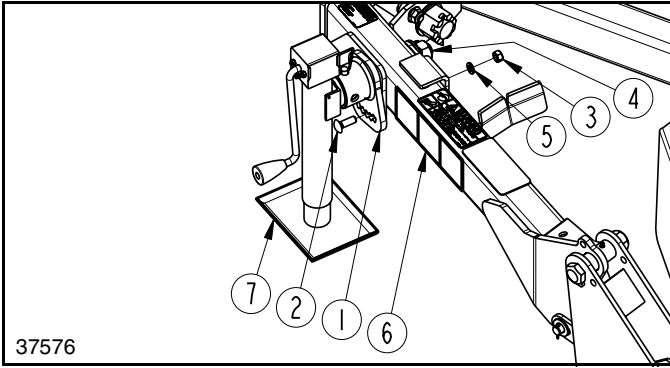


Unhook From Bar-Tite Hitch
Figure 1-30



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Section 2: Adjustments



Park Jack Alignment
Figure 2-1

Park Jack Angle Alignment

Refer to Figure 2-1:

Jack mount (#1) should be adjusted to position park jack (#7) vertical while supporting the cutter hitch. This angle will vary depending on the number and size of stroke control spacers placed on the lift cylinder rod.

NOTE: If cutter is not hitched securely to a tractor, support blocks should be placed under the front skid shoes to support cutter while aligning the park jack vertically.

NOTE: Refer to decal (#6) and instructions below for jack alignment and torque value instructions.

1. With cutter hitched to a tractor, lower cutter to storage height.
2. Shut tractor down properly before dismounting. Refer to “**Tractor Shutdown Procedure**” on page 36.
3. Install park jack (#7) to jack mount (#1). See “**Park Jack Assembly**” on page 17. Check jack angle.
 - If jack angle is vertical, skip to step 9.
 - If jack angle is not vertical, continue with step 4.
4. Remove hex nut (#3), lock washer (#5) and carriage bolt (#2).
5. Loosen 1" hex nut (#4). Do not remove.
6. Rotate jack mount (#1) to align jack as near vertical as possible.
7. Replace 1/2"-13 x 1 1/2" GR5 carriage bolt (#2) and secure with lock washer (#5) and hex nut (#3). Tighten hex nut (#3) to the correct torque.
8. Tighten 1" hex nut (#4) to 645 ft-lbs.
9. If moving cutter, skip to step 10. If unhooking cutter, see “**Unhook Rotary Cutter**” on page 29 for detailed instructions.
10. If cutter is to be moved, remove park jack (#7) from jack mount (#1) and attach it to the left-hand wing storage base. Make sure base of park jack is level with or lower than the head, especially after the wings are folded up. See cover picture for correct positioning.

Level Cutter Decks

Make adjustments with cutter hooked to the tractor operating it or to one with the same drawbar height.

Center Deck Leveling

Refer to Figure 2-2 on page 33:

1. With cutter attached to a tractor, disengage power take-off, and park on a level, hard surface. Place tractor gear selector in park or set park brake.
2. Wait for blades to come to a complete stop and then fold wings up to transport position.
3. Shut tractor engine off and remove switch key before dismounting from tractor.
4. Lock wings folded up with transport locks (#3) and hairpin cotters (#1) as shown. See “**Transport Locks**” on page 38 for detailed instructions.

Refer to Figure 2-3 on page 33:

5. With tractor hydraulics, adjust center deck until front skids (#7) are 2 to 3 inches above ground.
6. Without changing deck height, shut tractor down properly before dismounting.
7. On each side of the center deck are continuous hinges (#2). Measure height of hinges as follows:
 - a. Refer to Figure 2-2 on page 33: At the rear, measure distance from bottom of right hinge (#2) to ground and from bottom of left hinge to ground. These two measurements should be equal.
 - b. Refer to Figure 2-3 on page 33: At the front, measure distance from bottom of right hinge (#2) to ground and from bottom of left hinge to ground. These two measurements should be 1" less than the rear measurements taken in step a.

Refer to Figure 2-2 on page 33:

8. Adjust length of leveling rods at coupler nuts (#6) if continuous hinges are not 1" lower at the front:

NOTE: Unscrewing coupler nuts (#6) will lengthen leveling rods and lower front of cutter. Tightening coupler nuts (#6) will shorten leveling rods and raise front of cutter.

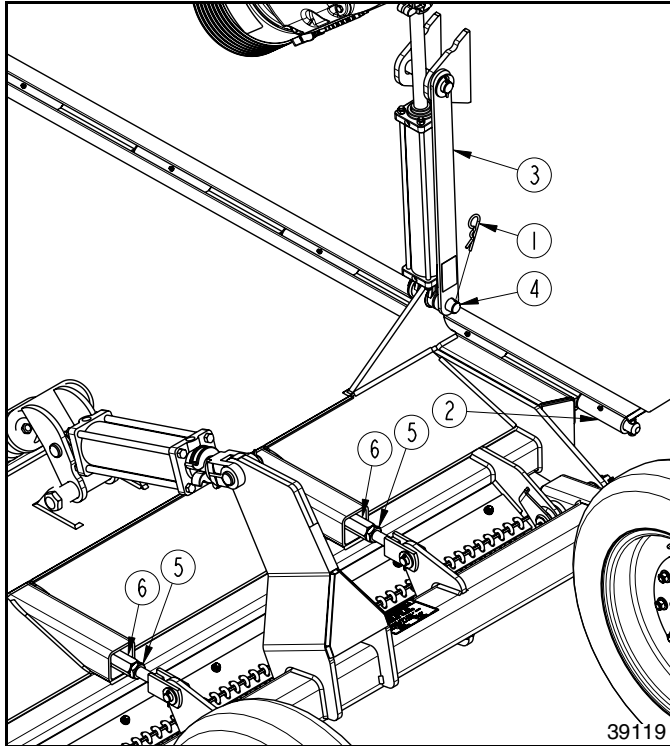
If continuous hinges are too high at the front:

- a. Loosen jam nuts (#5).
- b. Unscrew coupler nuts (#6) an equal amount to lower front of cutter until both hinges are inclined from front to back by 1" with the front being closer to the ground than the back.

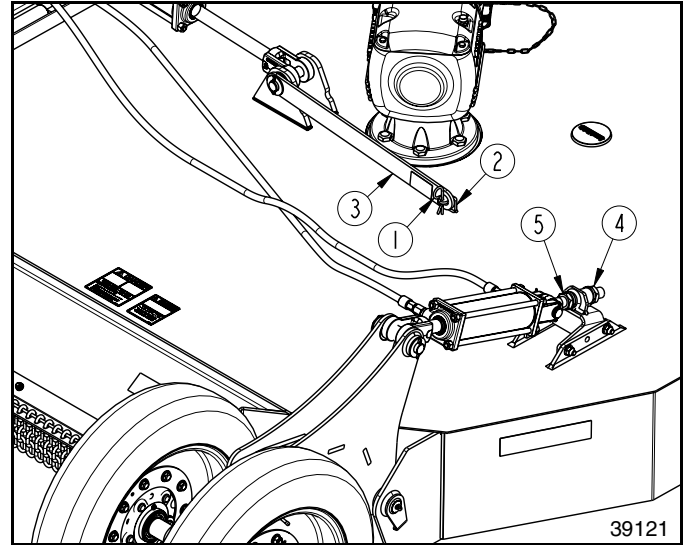
If continuous hinges are too low at the front:

- a. Loosen jam nuts (#5) several turns.
- b. Tighten coupler nuts (#6) an equal amount to raise front of cutter until both hinges are inclined from front to back by 1" with the front being closer to the ground than the back.
9. Be sure leveling rods have equal amounts of tension and then tighten jam nuts (#5) against couplers (#6).

Section 2: Adjustments



Center Deck Leveling
Figure 2-2



Leveling Wing Deck
Figure 2-4

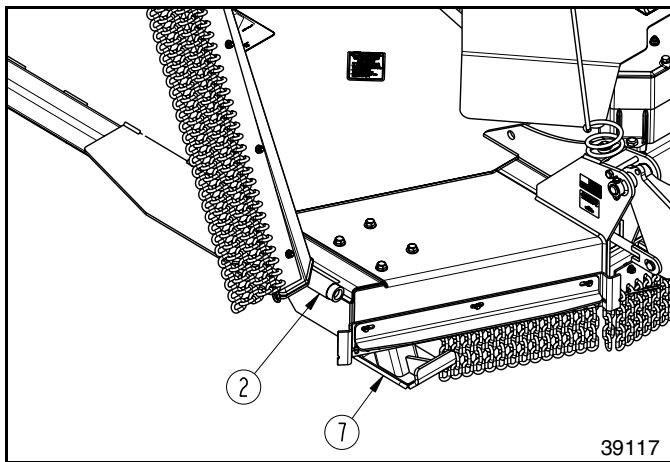
Wing Deck Leveling

Refer to Figure 2-4:

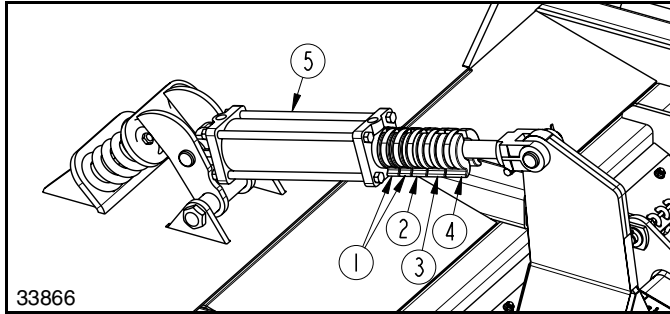
Each wing section will need adjusting if its top is not level with the top of the center deck when wings are unfolded.

IMPORTANT: Make sure wing lift cylinder mounts have been relocated for field use. See “Relocate Wing Lift Cylinder Mounts” on page 24.

1. With tractor hydraulics, raise wings fully up.
2. Shut tractor down properly before dismantling. Refer to “Tractor Shutdown Procedure” on page 36.
3. Remove transport locks (#3) from transport position to field position as shown. Be sure to secure transport locks to storage bracket (#2) with hairpin cotters (#1). See “Transport Locks” on page 38 for detailed instructions.
4. Lower wings to ground position and pull cutter straight forward six to ten feet to allow outer wing wheels to properly align themselves.
5. With tractor hydraulics, fully extend all three rephasing cylinders and then lower cutter to approximate cutting height.
6. Check wing tops to see if they are level with top of center deck. If outer edge of either wing is higher or lower than the center deck, then that wing should be leveled as follows:
 - a. **If the outer wing edge is higher** than the center deck, loosen adjusting nut (#5) to lower the outer wing edge until wing is level. Tighten adjusting nut (#4) to the correct torque when level.
 - b. **If the outer wing edge is lower** than the center deck, loosen adjusting nut (#4) several turns and tighten adjusting nut (#5) until wing is level. Tighten adjusting nut (#4) to the correct torque when level.



(Chain Guards Around Skid Shoe Removed for Clarity)
Front Skid Position
Figure 2-3



Cutting Height Adjustment
Figure 2-5

Cutter Height Adjustment

NOTE: Make all cutting height adjustments in the field using height of cut grass/material as a guide. Do not measure blade height above ground as the non-operating blade height will be different than the operating blade height.

Refer to Figure 2-5:

1. At the cutting site, unfold wings and raise center deck fully up with lift cylinder (#5). See instructions for “**Unfold Wing Decks**” on page 23.
2. Place tractor gear selector in park, set park brake, shut off tractor, and remove key before dismounting from tractor.
3. Remove all stroke control spacers (#1-#4) from center hydraulic cylinder (#5) by spreading them apart at the break line. Store spacers in a location where they can be retrieved.
4. Start tractor and engage blades. See instructions for “**Engage Blades**” on page 40.
5. Using tractor control lever, adjust cutter to the desired cutting height and then travel forward for approximately 20 to 50 feet.
6. Stop tractor, disengage power take-off, place tractor gear selector in park, set park brake, shut off tractor, remove key, and wait for blades to come to a complete stop before dismounting from tractor.
7. Measure height of cut grass/material. This distance is the cutting height. If this height is acceptable, continue with step 8. If this height is unacceptable, repeat steps 4-7 until desired cutting height is achieved.
8. Select required size and number of stroke control spacers (#1-#4) that will fit on the center hydraulic cylinder rod. The following spacers are available.
 - (#1): Two 1" spacers
 - (#2): One 1 1/4" spacer
 - (#3): One 1 1/2" spacer
 - (#4): One 1 3/4" spacer

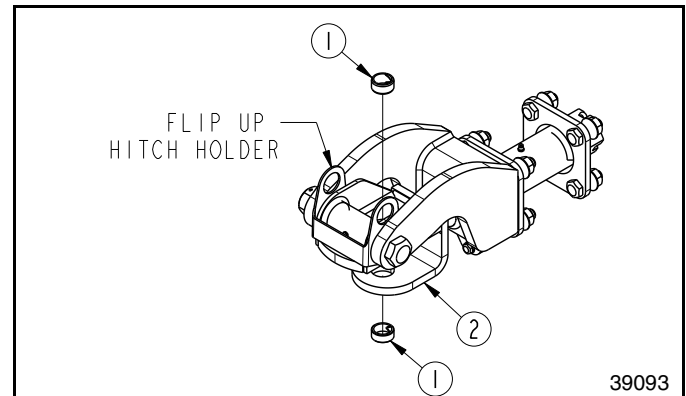
NOTE: Removing spacers lowers cutting height and adding spacers raises cutting height.

9. Return to the tractor and raise Rotary Cutter up again. With tractor shut off and switch key removed, install selected stroke control spacers on the center hydraulic cylinder rod. Do not install spacers on the wing rephasing cylinders.
10. Return to tractor and lower cutter against stroke control spacers. Recheck cutting height in steps 4-7. If needed, adjust size and quantity of stroke control spacers until desired cutting height is achieved.
11. Keep remaining spacers with tractor for field adjustments.

LP Performance Hitch Pin Diameter

Refer to Figure 2-6:

The LP Performance Hitch is designed to receive 1" diameter hitch pins. To convert the hitch to receive 1 1/4" diameter hitch pins, knock out upper and lower bushings (#1) in clevis (#2).



LP Performance Hitch Pin Diameter
Figure 2-6

Section 3: Operating Instructions

Startup Checklist

Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training involved in the operation, transport, storage, and maintenance of the Rotary Cutter. Therefore, it is absolutely essential that no one operates the cutter unless they are age 16 or older and have read, fully understood, and are totally familiar with the Operator’s Manual. Make sure the operator has paid particular attention to:

- **Important Safety Information**, page 1
- **Section 1: Assembly & Set-up**, page 15
- **Section 2: Adjustments**, page 32
- **Section 3: Operating Instructions**, page 35
- **Section 4: Options & Accessories**, page 42
- **Section 5: Maintenance & Lubrication**, page 46

Perform the following inspections before using your Rotary Cutter.

Operating Checklist

✓	Check	Page
	Make sure all guards and shields are in place and in good working condition. Refer to “Important Safety Information.”	1
	Follow hook-up and driveline installation instructions. Refer to “Section 1: Assembly & Set-up”.	15
	Make all required adjustments. Refer to “Section 2: Adjustments”.	32
	Perform all required maintenance. Refer to “Section 5: Maintenance & Lubrication”.	46
	Lubricate cutter and drivelines as needed. Refer to “Lubrication Points”.	53
	Lubricate all gearboxes and replace oil plugs properly. Refer to Gearbox lubrication.	55
	Check cutter initially and periodically for loose bolts and pins. Refer to “Torque Values Chart”.	64

Safety Information

 **DANGER**

To avoid serious injury or death:

- Do not walk, stand, or allow anyone else in the area where a raised wing will fall unless the wing is securely locked in the raised position with its transport lock.
- Rotary Cutters have the ability to discharge objects at high speeds; therefore, the use of front & rear safety guards is mandatory with this cutter. Double row chain guards should be used when cutting along roadways and in areas where people may be present. Stop blade rotation if bystanders are in or around the area. It is recommended that a safety shield be placed between the operator and cutter on an open air tractor.
- Tractor power take-off shaft shield, driveline shields, and

gearbox shaft shields must be installed and in good working condition to avoid driveline entanglement and projectiles flying off of the driveline.

- Always disconnect driveline from the tractor before servicing the drivetrain and components powered by the drivetrain. A person can become entangled in the drivetrain if the tractor is started and the power take-off is engaged.
- Always secure equipment with solid, non-concrete supports before working under it. Never go under equipment supported by concrete blocks or hydraulics. Concrete can break, hydraulic lines can burst, and/or hydraulic controls can be actuated even when power to hydraulics is off.
- Do not raise one or both wings up with power take-off engaged or drivelines rotating. Objects can be thrown by rotating blades. Always keep people away from a cutter that is operating.
- Do not use cutter as a fan. Cutting blades are not properly designed or guarded for this use.
- Do not engage power take-off while hooking-up or unhooking the driveline, or while someone is standing near the driveline. A person’s body and/or clothing can become entangled in the driveline.
- Never place hands or feet under the deck or attempt to make adjustments to the cutter with power take-off engaged. Cutter blades rotating at high speeds cannot be seen and are located close to the deck sides. Body extremities will be cut off instantly.
- This cutter is equipped with free-swinging cutting blades to reduce shock loads. However, it is best to avoid striking solid objects for your safety and to protect the cutter from damage.
- Clear area to be cut of debris and other unforeseen removable objects before cutting. Mark non-removable hazards such as tree stumps, post stubs, protruding objects, rocks, drop-offs, holes, etc. with a visible flag.
- Do not use a power take-off adapter. The adapter will increase strain on the tractor’s power take-off shaft causing possible damage to shaft and driveline. It will also defeat the purpose of the tractor’s power take-off shield.
- The cutter must be operated with wing and weight box attached. Removing one will increase risk of rollover. Removing one or both will expose the blades. Rotating blades will cut body extremities and throw objects.

 **WARNING**

To avoid serious injury or death:

- Allow only persons to operate this implement who have fully read and comprehended this manual, who have been properly trained in the safe operation of this implement, and who are age 16 or older. Serious injury or death can result from the inability to read, understand, and follow instructions provided in this manual.

Section 3: Operating Instructions

- Do not raise the wing off the ground when traveling across an incline. The weight of the wing will increase the risk of a rollover.
- Do not operate and/or travel across inclines where tractor and/or implement can rollover. Consult your tractor's manual for acceptable inclines the tractor is capable of traveling across.
- Perform scheduled maintenance. Check for loose hardware, missing parts, broken parts, structural cracks, and excessive wear. Make repairs before putting the implement back into service.
- Never carry riders on the implement or tractor. Riders can obstruct the operator's view, interfere with controls, be pinched by moving components, become entangled in rotating components, struck by objects, thrown about, fall off and be run over, etc.
- Always follow "Tractor Shutdown Procedure" provided in this manual before dismounting the tractor.
- Operate only power machines equipped with a certified Roll-Over Protective Structure (ROPS) and seat belt. Keep folding ROPS in the "locked up" position when appropriate. If ROPS is in the locked up position, fasten seat belt snugly and securely to help protect against serious injury or death from falling and machine overturn.
- Watch while making tight turns to ensure that the rear tractor tires and lower 3-point arms do not make contact with cutter hitch, driveline or deck. Keep lower 3-point arms raised at all times when hitched to a pull-type cutter.
- Wait for blades to come to a complete stop before accessing blade bolts through blade bolt access hole.
- Do not use implement to lift objects; to pull objects such as fence posts, stumps, etc; or to push objects. The unit is not designed or guarded for these uses.
- Do not use implement to tow other equipment unless it is designed with a tow hitch. Doing so can result in loss of control and damage the equipment.
- Do not operate a cutter with a hitch or hitch pin that is excessively worn, bent, broken, or has structural cracks. The hitch and/or hitch pin can break apart separating cutter from tractor.
- Avoid catching hydraulic hoses on brush, posts, tree limbs, and other protrusions that could damage and/or break them.
- Buildup of debris around moving components and gearboxes is a fire hazard. Keep rotating parts and gearboxes free from debris to avoid serious injury and property damage.
- Improper oil level can cause bearing failure and be a fire hazard. Maintain proper gearbox oil level to avoid serious injury and property damage.
- Do not exceed rated cutting capacity of your cutter. See specifications & capacities for specified cutting capacity. Exceeding rated cutting capacity can damage drive components, cutter blades, and deck components.
- Do not operate a broken or bent driveline. Such a driveline will break apart while rotating at high speeds and can cause

serious injury or death. Always remove the implement from use until the damaged driveline can be repaired or replaced.

- Some tractors are equipped with two power take-off speeds. Be certain your tractor's power take-off is set-up to operate at the implement's rated power take-off speed or equipment breakage may result. RC models are rated for 540 rpm and RCM models are rated for 1000 rpm.

IMPORTANT: Maintain correct power take-off speed. Loss of power take-off speed will allow blades to swing back and result in ragged, uneven cutting.

IMPORTANT: If wing driveline profile is bent or twisted, disconnect that driveline from the wing gearbox before folding the wing up. This will protect both the wing and divider gearboxes. Repair driveline before putting cutter back into service.

Tractor Shutdown Procedure

The following are basic tractor shutdown procedures. Follow these procedures and any additional shutdown procedures provided in your tractor Operator's Manual before leaving the operator's seat.

1. Reduce engine speed and disengage power take-off if engaged.
2. Park tractor and implement on level, solid ground.
3. Lower implement to ground or onto non-concrete support blocks.
4. Put tractor in park or set park brake, turn off engine, and remove switch key to prevent unauthorized starting.
5. Relieve all hydraulic pressure to auxiliary hydraulic lines.
6. Wait for all components to come to a complete stop before leaving the operator's seat.
7. Use steps, grab-handles and anti-slip surfaces when stepping on and off the tractor.

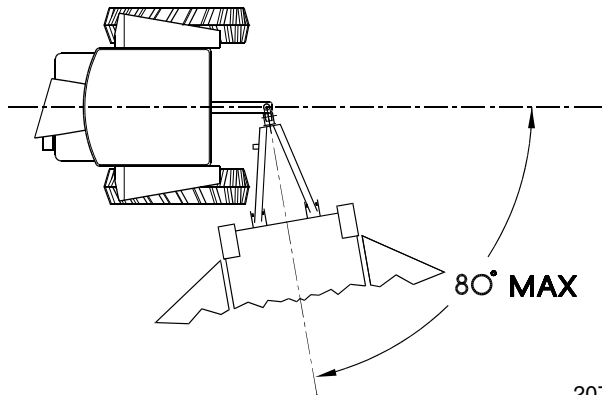
Section 3: Operating Instructions

Avoid Extreme Turning Angles

Refer to Figure 3-1:

Plan your field cutting to minimize number of turns, especially extreme turning angles. Avoid tractor-to-cutter turning angles that exceed the driveline’s maximum turning angle. If the turn cannot be avoided, disengage power take-off and wait for the driveline to stop rotating before making the turn.

- **Constant Velocity Driveline:**
Maximum turning angle = 80°.



20795

Constant Velocity (CV) Driveline
Figure 3-1

Tractor & Cutter Inspection

Make the following inspections with cutter attached to a tractor and cutter parked on a level surface, power take-off disengaged, and cutter blades stopped.

1. Inspect tractor safety equipment to make sure it is in good working condition.
2. Inspect cutter safety equipment to make sure it is installed and in good working condition.
3. Check driveline to make certain it is securely connected to the tractor and cutter. Also, make certain that the guards are in good working condition and in place.
4. Check driveline hanger. Make sure it is rotated down away from the driveline.
5. Remove 3-point lower arms or secure them in the raised position so they do not interfere with driveline, hoses, or hitch.
6. Check all hoses and wires to be sure that they will not pinch or come in contact with the folding wing and rotating drivelines.
7. Start tractor and carefully raise and lower implement to ensure tractor drawbar, tires, and other equipment on the tractor do not contact cutter or driveline.
8. Raise center deck fully up.
9. Without lowering cutter, shut tractor down properly before dismounting. Refer to “**Tractor Shutdown Procedure**” on page 36.

10. Place sturdy support blocks or jack stands under the four center deck corners.
11. Start tractor and lower center deck down onto the supports.
12. Shut tractor down properly before dismounting. Refer to “**Tractor Shutdown Procedure**” on page 36.
13. With cutter resting on solid supports, power take-off disengaged, and blade rotation completely stopped:
 - Check for and remove foreign objects wrapped around blade spindles.
 - Check for nicked, bent, broken, and worn cutting blades. Replace or sharpen blades as required. Refer to “**Cutter Blade Maintenance**” on page 48.
14. Inspect hydraulic hoses for wear, damage and hydraulic leaks. See “**Avoid High Pressure Fluids Hazard**” on page 3. Replace damaged and worn hoses with genuine Land Pride parts.
15. Make repairs to cutter and tractor.
16. Continue with “**Blade Operation Inspection**” on this page.

Blade Operation Inspection

DANGER

To avoid serious injury or death:

Tractor power take-off shaft shield, driveline shields, and gearbox shaft shields must be installed and in good working condition to avoid driveline entanglement and projectiles flying off of the driveline.

WARNING

To avoid serious injury or death:

- Stop power take-off immediately if vibration continues after a few revolutions during start-up and anytime vibration occurs thereafter.
- Always follow “**Tractor Shutdown Procedure**” provided in this manual before dismounting the tractor.

CAUTION

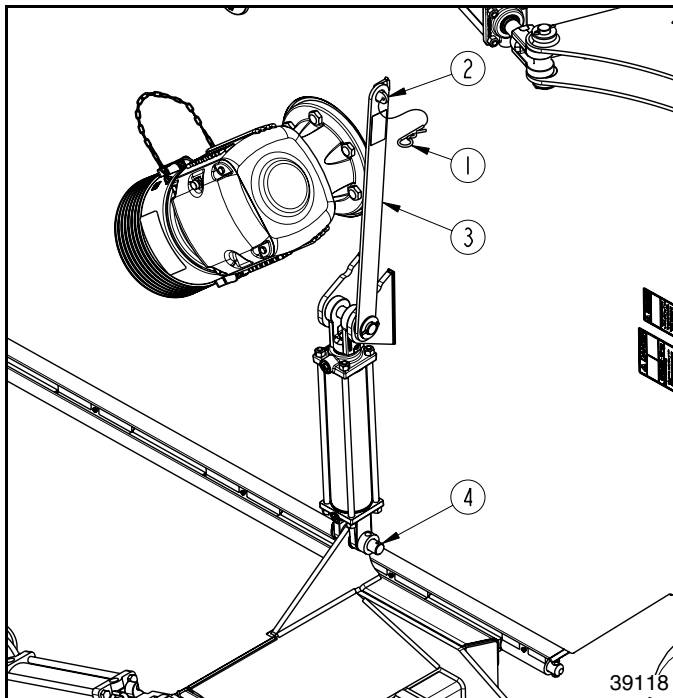
To avoid minor or moderate injury:

Some tractors are equipped with two power take-off speeds. Be certain your tractor’s power take-off is set-up to operate at the implement’s rated power take-off speed or equipment breakage may result. RC models are rated for 540 rpm and RCM models are rated for 1000 rpm.

IMPORTANT: Read “**Perform the following inspections before using your Rotary Cutter.**” starting on page 35 before operating the cutter.

Section 3: Operating Instructions

1. Make sure cutter blades are not locked against each other. See “**Field Set-up**” on page 39.
2. Remove support blocks or jack stands and set transport locks for field operations. See “**Transport Locks**” on this page
3. Lower cutter until skid shoes are 2" off the ground.
4. Start tractor and set throttle speed just above idle. Use tractor’s power take-off soft start option if available. Slowly engage power take-off to get blades rotating. (Also see “**Engage Blades**” on page 40.
5. Initial start-up vibration is normal and should stop after a few revolutions. Stop power take-off rotation immediately if vibration continues.
6. Once cutter is running smoothly, increase throttle to full power take-off speed. If cutter vibrates excessively for 3 seconds at full speed, immediately disengage power take-off, shut tractor down properly, and remove switch key.
7. Block center deck up before working under cutter.
8. Check blades for a locked-up situation. Unlock blades if locked-up.
9. Check for other probable causes such as broken or bent blades, loose blades, loose gearbox mounting bolts, and bent driveline.
10. Taking proper precautions, make necessary repairs and adjustments.
11. Repeat steps 1-10 above to verify vibration problems are fixed before putting cutter back into service.



Transport Bar, Storage Position
Figure 3-2

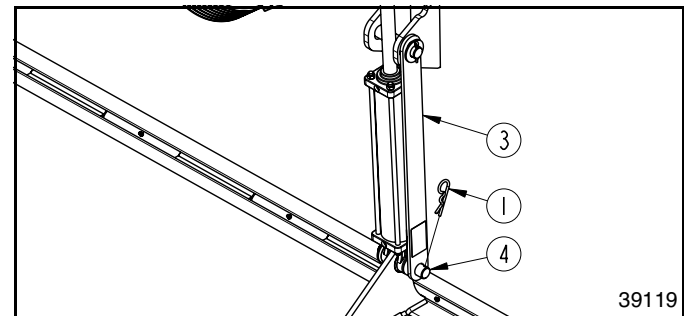
Transport Locks

IMPORTANT: Always disengage tractor’s power take-off and wait for blades to come to a complete stop before raising the wings to transport position. Wing drivelines, wing gearboxes, and splitter gearbox can be damaged if driveline is turning.

NOTE: The wings are controlled with hydraulic folding cylinders. Be certain that the wing hydraulic hose is properly attached to the tractor and is full of oil before proceeding.

Cutter wings will need to be raised and locked before transporting on a roadway or servicing the deck underside. If cutter wings are down, they will need to be raised before transporting through narrow openings.

1. Disengage power take-off and wait for cutter blades to come to a complete stop before raising the wings.
2. Raise cutter wings fully up with hydraulics.
3. Place tractor gear selector in park, shut tractor engine off, set park brake, remove switch key and dismount from tractor.
4. **Refer to Figure 3-2:** Remove hairpin cotter (#1) from storage bracket (#2).
5. **Refer to Figure 3-3:** Rotate end of transport lock bar (#3) to clevis pin (#4). Secure lock bar with hairpin cotter (#1).
6. Repeat steps 4 and 5 for the other wing section.



Transport Bar, Locked Position
Figure 3-3

Section 3: Operating Instructions

Transporting

! WARNING

To avoid serious injury or death:

- Always raise wings and set transport locks before transporting from one work site to another and before traveling on public roadways. The wings can fall if not secured with transport locks.
- When traveling on public roads, use LED lights, slow moving vehicle sign, clean reflectors, and other adequate devices to warn operators in other vehicles of your presence. If implement blocks visibility of slow moving vehicle sign, relocate sign so it is visible from the back at all times. Always comply with all federal, state, and local laws.
- Select a safe ground speed when transporting. Never travel at a speed which does not allow adequate control of steering and stopping, and never exceed 20 mph (32.2 km/h) with attached equipment. Rough terrain requires a slower speed.
- Watch while making tight turns to ensure that the rear tractor tires and lower 3-point arms do not make contact with cutter hitch, driveline or deck. Keep lower 3-point arms raised at all times when hitched to a pull-type cutter.

1. Select a safe ground speed when transporting from one area to another. Maximum transport speed for the Rotary Cutter is 20 mph. **DO NOT EXCEED.**
2. Be sure to reduce tractor ground speed when turning and leave enough clearance so the cutter does not contact obstacles such as buildings, trees or fences.
3. Always raise wings and set transport lock bars before traveling on public roadways.
4. When traveling on roadways, transport in such a way that faster moving vehicles may pass you safely. Use Light Kit to make yourself more visible on roadways. Shift tractor to a lower gear when traveling over rough or hilly terrain.

Road Side Cutting

Land Pride recommends the Rotary Cutter be equipped with chain guards to stop flying objects when cutting road sides. Refer to “Safety Guards” on page 42.

Use the LED flashing lights on the cutter to make yourself more visible when cutting road sides.

Field Set-up

! DANGER

To avoid serious injury or death:

Clear area to be cut of debris and other unforeseen removable objects before cutting. Mark non-removable hazards such as tree stumps, post stubs, protruding objects, rocks, drop-offs, holes, etc. with a visible flag.

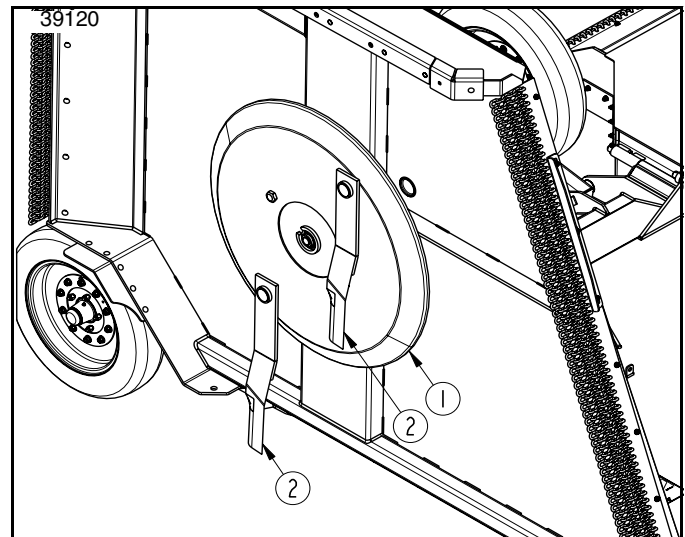
! WARNING

To avoid serious injury or death:

The following operational procedures should be carried out by the tractor operator. Other persons should not be in the area. All cutter operations including field set-up should be stopped when other persons are in the vicinity.

IMPORTANT: Cutting should **not be** done in wet conditions. Wet material will build up on the deck underside causing horsepower loss, high wear, and poor discharge.

IMPORTANT: Cutting blades may become locked together (overlapped) when the wing is raised for transport. Operating cutter in this condition will result in severe deck vibration. Inspect wing for locked blades prior to power-on operation.



Wing Deck Blade Positioning
Figure 3-4

Inspect Field and Cutter Blades

1. Thoroughly inspect area to be cut for debris and unforeseen objects. Remove all potential hazards and mark any that cannot be removed.

Refer to Figure 3-4:

2. Inspect wing blade carriers (#1) and cutting blades (#2) for locked blades prior to lowering the wings. Use a pry bar or other tool to separate locked blades.

Section 3: Operating Instructions

Lower Wing Down & Set Cutting Height

Refer to Figure 3-3 on page 38:

1. Start tractor and raise both wings up to release any tension on the transport lock bars (#3).
2. Without lowering cutter, shut tractor down properly before dismounting. Refer to “**Tractor Shutdown Procedure**” on page 36.
3. Remove hairpin cotter (#1) and transport lock bar (#3) from clevis pin (#4) on both wing sections.

Refer to Figure 3-2 on page 38:

4. Attach transport lock bars (#3) to tabs (#2) with hairpin cotters (#1).
5. Start tractor and lower both wing sections down.
6. Adjust cutter to field cutting height. See instructions for “**Cutter Height Adjustment**” on page 34.

Set Wing Folding Lever In Float Position

IMPORTANT: The wing folding levers should be in float position to avoid damage to the wing hydraulic cylinders and axles while cutting on uneven terrain.

Use the float position of your tractor’s hydraulic system to provide automatic floating of the wings for varying terrain conditions. This will ensure that the wing gauge wheels are in continuous contact with the ground at all times.

Rephasing Out Of Phase Lift Cylinders

These lift cylinders may, over time, get out of phase. The effects of this can be seen when one deck of the cutter is higher or lower than the others. This is because one lift cylinder is retracted more than the other lift cylinders. Also, tractors with pressure detents do not allow hydraulic systems to “automatically” rephase at the top of the lift cycle. This must be done manually or the rephasing cylinders will not function properly.

To rephase lift cylinders, raise cutter completely up and hold tractor hydraulic lever on a few more seconds to give lift cylinders time to rephase. Do this each time the cutter is raised and whenever the decks are uneven.

Momentarily reversing the hydraulic lever immediately after rephasing allows the cylinders to retract about 1/2" and will help maintain a level cutter during transport.

Select Gear Range

Optimum ground speed depends on density of material being cut, horsepower rating of tractor, and (in some cases) terrain. Always operate tractor at the cutter’s full-rated power take-off speed in a gear range that allows the cutter to make a smooth cut without lugging the tractor down, usually between 2 to 5 mph. Loss of power take-off speed will allow the blades to hinge back and result in ragged, uneven cutting.

Engage Blades

IMPORTANT: Cutter blades can lock-up against each other during start-up and shut-down, especially if tractor’s power take-off engagement is “INSTANT ON” and/or “INSTANT OFF”. Follow Blade Engagement and Blade Disengagement instructions to help eliminate blade lock up.

1. Select a gear range that will allow the cutter to make a smooth cut without lugging the tractor down. See “**Select Gear Range**” above for detailed instructions.
2. With wings lowered, increase throttle to a speed just enough to get the cutter started without stalling tractor while slowly engaging power take-off. Use tractor’s soft start option if available.
3. Visually ensure that all power shafts are rotating and that the cutter is not vibrating excessively after ramping up to power take-off speed for at least 3 seconds. If excessive vibration continues after 3 seconds at full power take-off speed, disengage power take-off immediately, shut down tractor and remove switch key. Wait for blades to come to a complete stop before dismounting tractor.
4. Investigate cause if cutter was shut down due to excessive vibration. See “**Blade Operation Inspection**” on page 37 for detailed instructions.
5. If cutter was not shut down, commence forward cutting operation at full power take-off operating speed. Make a new gear selection if tractor is lugging down or if cutter is making a rough cut.
6. Periodically, shut tractor down properly and dismount to do an inspection. Refer to “**Tractor Shutdown Procedure**” on page 36 for proper shut down procedure.
7. Dismount tractor and check for objects wrapped around blade spindles. Block deck up before removing objects.
8. Frequently inspect cutter for loose bolts and nuts. Tighten all loose hardware as indicated in the “**Torque Values Chart**” on page 64.

Disengage Blades

1. Slowly decrease throttle speed until engine idle speed is reached.
2. Disengage power take-off.
3. Place tractor in park or set park brake, shut tractor engine off, remove switch key, and wait for blades to stop before dismounting from tractor.

Section 3: Operating Instructions

General Operating Instructions

Now that you have familiarized yourself with the Operator's Manual, completed the Operator's Checklist, properly attached your cutter to your tractor, made the right leveling adjustments, and preset your cutting height, you're almost ready to begin using your Land Pride 20' Smooth Top Rotary Cutter.

It's now time to do a running operational safety check. If at any time during this safety check you detect a malfunction in either the cutter or tractor, shut the tractor off immediately, remove the key, and make necessary repairs or adjustments before continuing.

Make sure the tractor's park brake is engaged, power take-off is disengaged, and the cutter is resting on the ground with both wings down. Start tractor and back throttle off until the engine is at a low idle. With tractor's rear hydraulic lift control lever, raise the cutter to transport position making sure that the power take-off shaft is not in a bind and does not come in contact with the cutter frame. Lower unit to cutting position and with the tractor still at a low idle, engage power take-off. If everything is running smoothly at this point, increase engine rpm until the tractor's engine reaches full power take-off operating speed which will be either 540 or 1000 rpm. Slowly raise the cutter to transport height to make sure the driveline does not bind or chatter. Then return the engine to low idle, disengage power take-off, and position the adjustable cylinder stops on the cutter's hydraulic lift cylinder so the cutter can be consistently returned to the same cutting and transport height. Watch while making a tight turn to ensure that the rear tractor tires do not contact the deck or hitch. Also, be sure tractor 3-point arms are raised and will not contact main driveline.

You should now be ready to move to the cutting site. Never assume an area is clear. Cut only in areas you are familiar with, have inspected, and know to be free of debris and unseen objects. Cut extremely tall grass twice to detect potential hazards. In the event you do strike an object, stop the tractor and cutter immediately to inspect cutter and make any necessary repairs before resuming operation. It pays to inspect a new area and to develop a plan before you cut.

To produce a clean cut, normal mowing speed will be between 2-5 mph at full power take-off speed. Therefore, make a tractor gear and range selection that will maintain this combination. Generally the quality of cut will be better at lower ground speeds and cutting denser ground cover may create the need to slow down. You will want to avoid very low cutting heights especially on extremely uneven terrain. Always cut downward on slopes and avoid crossing the face of steep slopes. Avoid sharp drops and cross diagonally through dips to prevent hanging up the tractor and cutter. Slow down in turns and avoid sharp turns if at all possible. Remember to look back often.

Now that you're prepared and well briefed you may begin cutting. Begin cutting by doing the following:

- Reduce tractor's engine rpm.
- Make sure cutter wings are on the ground and in cutting position.
- Engage power take-off, raise engine rpm to the appropriate power take-off speed, and begin mowing.

Operators of models with a conventional main driveline must plan ahead and choose a cutting pattern that allows for wider turns. Try increasing or decreasing ground speed to determine the effect on quality of cut. With a little practice you will be pleased with what you and your Land Pride Smooth Top Cutter can do.

When you are done mowing, need to take a break, or just need to make a few adjustments to the cutter, remember to always do the following:

- Reduce tractor's engine rpm, disengage power take-off, and stop on level ground.
- Set the park brake, turn off engine, and remove switch key.
- Stay on the tractor until cutter blades have come to a complete stop.

Section 4: Options & Accessories

Safety Guards

DANGER

To avoid serious injury or death:

Rotary Cutters have the ability to discharge objects at high speeds; therefore, the use of front & rear safety guards is mandatory with this cutter. Double row chain guards should be used when cutting along roadways and in areas where people may be present. Stop blade rotation if bystanders are in or around the area. It is recommended that a safety shield be placed between the operator and cutter on an open air tractor.

WARNING

To avoid serious injury or death:

Keep all safety guards in place. Rotary Cutters have the ability to discharge objects at high speeds. Use extreme caution when cutting in areas where people may be present. It is best to operate the cutter when no one is nearby. Stop blade rotation if someone is in or around the area.

Land Pride offers two types of safety guards to best suit your application: single row chainguards and double row chainguards.

- Single row chain guards are constructed with a single row of hanging chain links. They can withstand harsher applications than rubber skirts.
- Double row chain guards are constructed with two staggered rows of hanging chain links. The second row provides an additional barrier for stopping thrown objects.

Single Row Chain Guards

331-812A Front Single Row Chain guards
330-819A Rear Single Row Chain guards

Double Row Chain Guards

331-833A Front Double Row Chain guards
330-820A Rear Double Row Chain guards

Tire Options

Land Pride offers three different tires and two axle arrangements to best suit your application:

- Laminated tires: They are constructed of laminated layers of solid rubber that will never go flat.
- Used Aircraft tires: They are available in foam filled and air filled. Both are built tough to withstand the rugged use a cutter receives and to provide a smoother ride when transporting from field to field. Foam filled tires won't go flat.
- 6 - Wheel arrangement: Four on transport axle and one on each wing axle. Available with laminate tires or aircraft tires.
- 8 - Wheel arrangement: Four on transport axle and two on each wing axle. Available with laminate tires or aircraft tires.

Hitch Options

The cutter is factory supplied with the standard clevis hitch. Other optional hitches are available. See “**Hitch Types**” on page 16 for complete description of optional hitches.

330-225A	Standard Clevis Hitch
330-333A	Bar-Tite Hitch (Optional)
330-335A	Ball Hitch (Optional)
330-334A	Pintle Hitch (Optional)
334-045A	LP Performance Hitch (Optional)

Section 4: Options & Accessories

Hydraulic Accessories

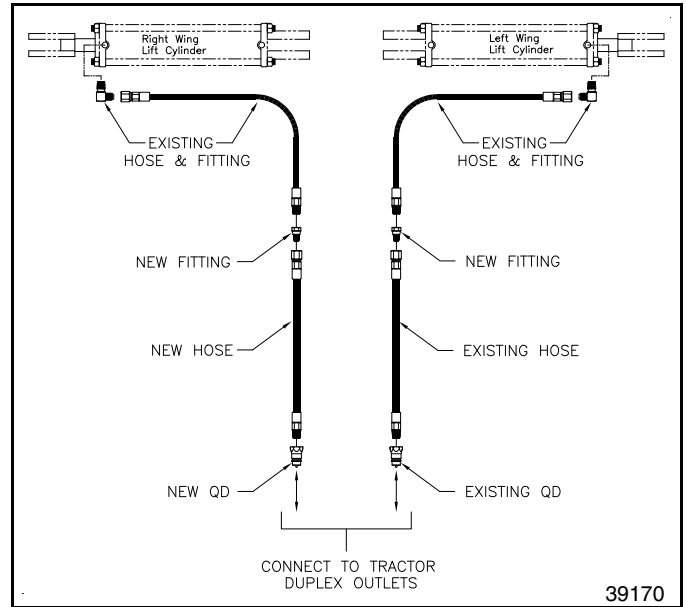
Land Pride offers two different kits for raising the deck wings independently to clear small obstacles in the field without maneuvering around them.

Hydraulic Wing Control Kit

318-316A HYDRAULIC WING CONTROL KIT

Refer to Figure 4-1:

This kit is for tractors with three duplex outlets. It consist of two adapter fittings, one hose and one quick disconnect coupling.



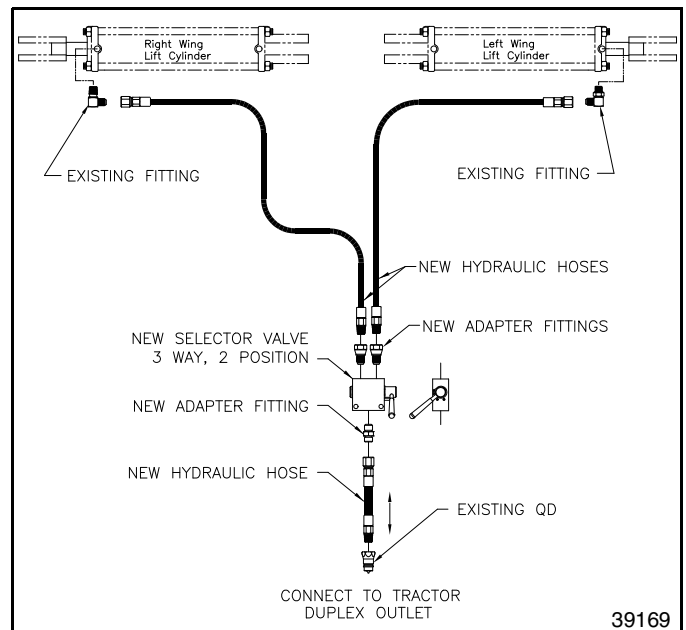
Hydraulic Wing Control Kit
Figure 4-1

Selector Control Valve Kit

312-316A SELECTOR CONTROL VALVE KIT

Refer to Figure 4-2:

This kit is for tractors with two duplex outlets. It converts one of the tractor's duplex outlets into two duplex outlets with a control valve. A selector lever on the control valve selects which wing cylinder is operational with the tractor hydraulic control lever. It attaches to the existing elbow fittings at the wing cylinders and uses the existing quick disconnect couplings supplied with the cutter to connect to one of the tractor's duplex outlets.



Selector Control Valve Kit
Figure 4-2

Section 4: Options & Accessories

Shredder Blades

331-933A Shredder Kit

The double stacked blade configuration on the shredder blade kit is ideal for cutting residue into smaller pieces.

Assembly Instructions

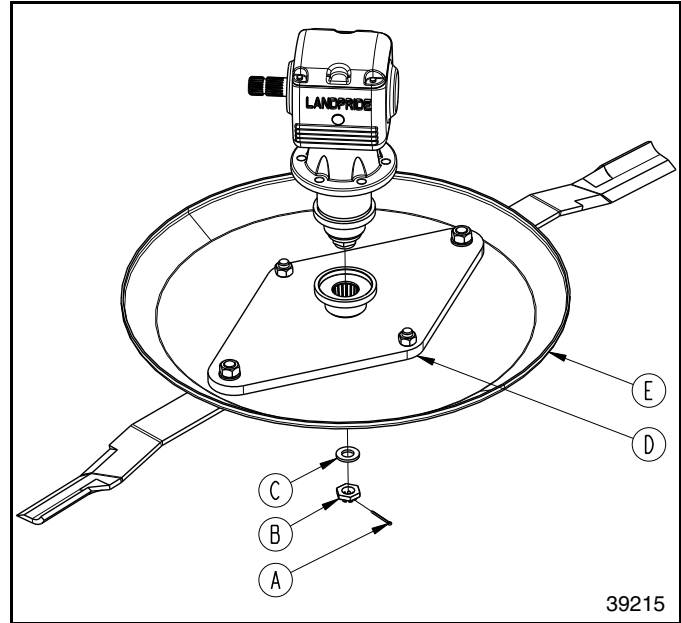
The shredder blades are assembled at the factory if purchased with the Rotary Cutter. If purchased later, the shredder blades will require assembly. The following safety precautions should be adhered to during assembly.

DANGER

To avoid serious injury or death:

- Always disconnect driveline from the tractor and secure implement in the up position with solid, non-concrete supports before servicing the underside. A person can become entangled in the drivetrain if the tractor is started and power take-off is engaged or crushed by an unsupported implement.
- Always secure equipment with solid, non-concrete supports before working under it. Never go under equipment supported by concrete blocks or hydraulics. Concrete can break, hydraulic lines can burst, and/or hydraulic controls can be actuated even when power to hydraulics is off.

1. Raise wings fully up and lock into position with transport locks.
2. Raise deck fully up and place support jacks under the four corners of the center deck. Lower center deck onto the support jacks.
3. Place tractor gear selector in park or set brake, shut engine off and remove ignition key.
4. Disconnect main driveline from tractor.



Removal of Existing Blade Carrier Assemblies
Figure 4-3

Removal of Existing Blade Carriers

Refer to Figure 4-3

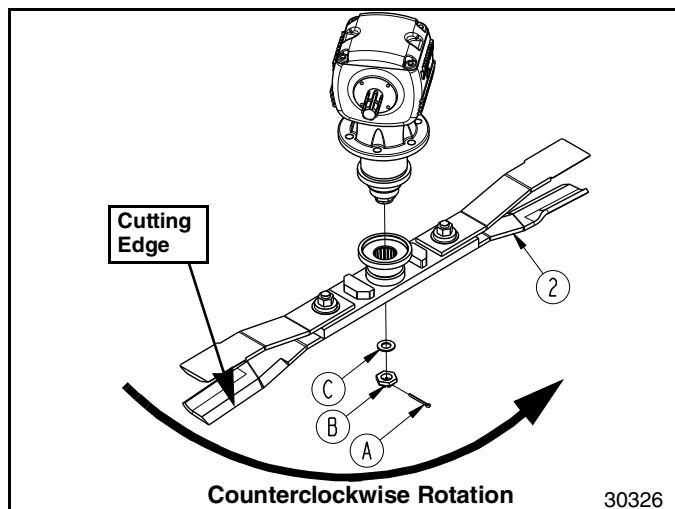
1. Remove from all three gearbox spindles: Cotter pin (A), slotted hex nut (B), flat washer (C), diamond blade carrier and blade assembly (D) with optional dishpan (E) if included.
2. Keep removed hardware (A, B & C) for assembly of shredder blades. Store diamond blade carrier assemblies (D) and dishpans (E) in a clean dry location. Inside storage is best.

Section 4: Options & Accessories

Left Wing Shredder Assembly

Refer to Figure 4-4:

1. Select 84" shredder assembly (#3) designed for counterclockwise rotation and attach to the left wing gearbox spindle with existing washer (C) and slotted hex nut (B). Torque slotted nut to 550 ft-lbs.
2. Insert cotter pin (A) through slotted hex nut and gearbox spindle. Secure cotter pin by bending both legs opposite directions around slotted hex nut.

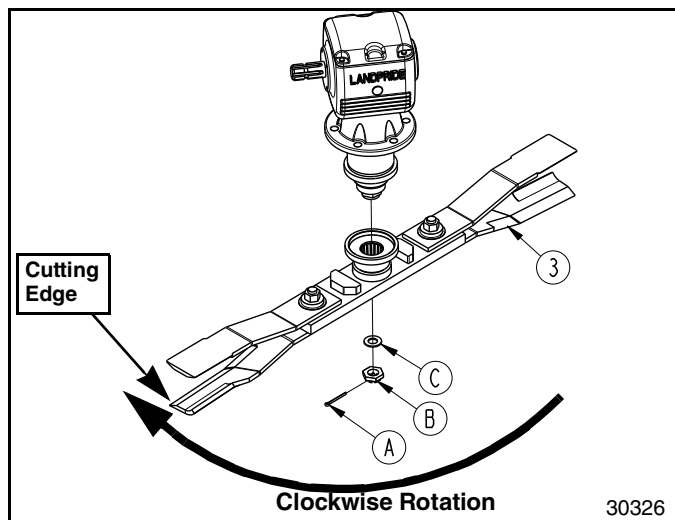


Left-Hand Wing Shredder Assembly
Figure 4-4

Right Wing Shredder Assembly

Refer to Figure 4-5:

1. Select 84" shredder assembly (#3) designed for clockwise rotation and attach to the right wing gearbox spindle with existing washer (C) and slotted hex nut (B). Torque slotted nut to 550 ft-lbs.
2. Insert cotter pin (A) through slotted hex nut and gearbox spindle. Secure cotter pin by bending both legs opposite directions around slotted hex nut.

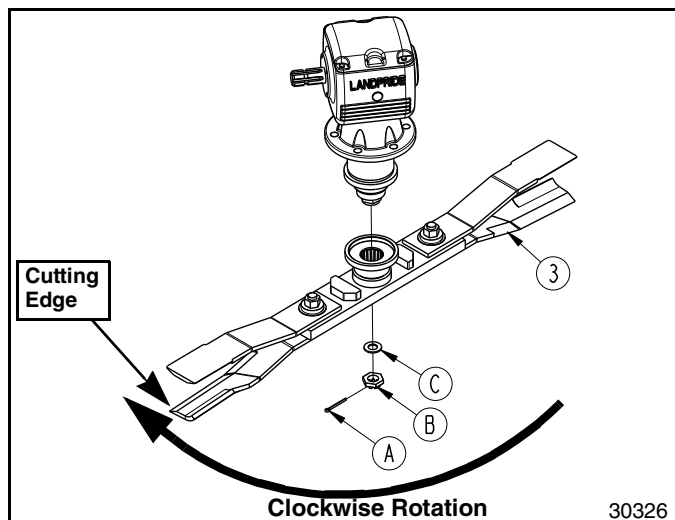


Right-Hand Wing Shredder Assembly
Figure 4-5

Center Deck Shredder Assembly

Refer to Figure 4-6:

1. Select 84" shredder assembly (#3) designed for clockwise rotation and attach to the center deck gearbox spindle with existing washer (C) and slotted hex nut (B). Torque slotted nut to 550 ft-lbs.
2. Insert cotter pin (A) through slotted hex nut and gearbox spindle. Secure cotter pin by bending both legs opposite directions around slotted hex nut.



Center Deck Shredder Assembly
Figure 4-6

Section 5: Maintenance & Lubrication

General Maintenance Information

Proper servicing and adjustments are key to the long life of any implement. With careful inspection and routine maintenance, you can avoid costly downtime and repair.

The parts on your Rotary Cutter have been specially designed and should only be replaced with genuine Land Pride parts. Do not alter the cutter in a way which will adversely affect its performance.

Check all bolts and pins after using the cutter for several hours and on a regular basis thereafter to ensure they are tight and secured. Replace worn, damaged or illegible safety labels by obtaining new labels from your Land Pride dealer.

DANGER

To avoid serious injury or death:

Always secure equipment with solid, non-concrete supports before working under it. Never go under equipment supported by concrete blocks or hydraulics. Concrete can break, hydraulic lines can burst, and/or hydraulic controls can be actuated even when power to hydraulics is off.

WARNING

To avoid serious injury or death:

- *Perform scheduled maintenance. Check for loose hardware, missing parts, broken parts, structural cracks, and excessive wear. Make repairs before putting the implement back into service.*
- *Always shut tractor down using “Tractor Shutdown Procedure” provided in this manual before servicing, adjusting, cleaning, or maintaining this implement.*
- *Do not alter implement or replace parts on the implement with other brands. Other brands may not fit properly or meet OEM (Original Equipment Manufacturer) specifications. They can weaken the integrity and impair the safety, function, performance, and life of the implement. Replace parts only with genuine OEM parts.*
- *Buildup of debris around moving components and gearboxes is a fire hazard. Keep rotating parts and gearboxes free from debris to avoid serious injury and property damage.*
- *Improper oil level can cause bearing failure and be a fire hazard. Maintain proper gearbox oil level to avoid serious injury and property damage.*

Hydraulic System

One of the most important things you can do to prevent hydraulic system problems is ensure that your tractor's reservoir remains free of dirt and contamination.

Use a clean cloth to wipe hose ends before attaching them to your tractor. Replace your tractor's hydraulic filter element at the prescribed intervals. These simple maintenances will go a long way to prevent occurrence of control valve and hydraulic cylinder problems.

Tires

WARNING

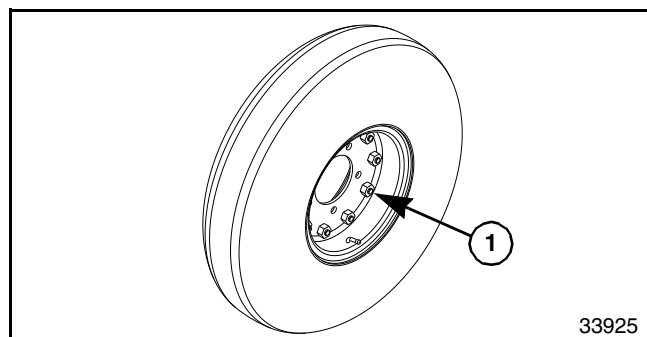
To avoid serious injury or death:

- *Tire changing can be dangerous and should be performed by trained personnel using correct tools and equipment. When removing and installing wheels, use wheel handling equipment adequate for the weight involved.*
- *Always release all air pressure in air-filled airplane tires before removing hardware bolting the split rims together. Not doing so can cause the split rims to blow apart instantly and could result in serious injury or death.*
- *Tire changing can be dangerous and should be performed by trained personnel using correct tools and equipment. When removing and installing wheels, use wheel handling equipment adequate for the weight involved.*
- *Do not weld on or heat a rim. Air pressure inside the tire can increase enough to cause an explosion. High heat can weaken and/or warp the rim, damage the tire, and destroy foam filling inside a tire.*

1. Check tires for low air pressure, missing nuts, missing lug bolts, wear, separated rubber, and bent, broken, or cracked wheel rims.
2. Inflate air filled tires to the proper pressure. Refer to “**Tire Inflation Chart**” on page 64.

Refer to Figure 5-1:

3. Replace wheel rims and tires as needed with genuine Land Pride parts. Do not loosen split rim hardware (#1) until all air pressure in the tire has been removed.



Air Filled Airplane Tires with split Rims
Figure 5-1

Skid Shoes

WARNING

To avoid serious injury or death:

Excessive wear on skid shoes may cause inadequate operation of cutter and create a safety hazard.

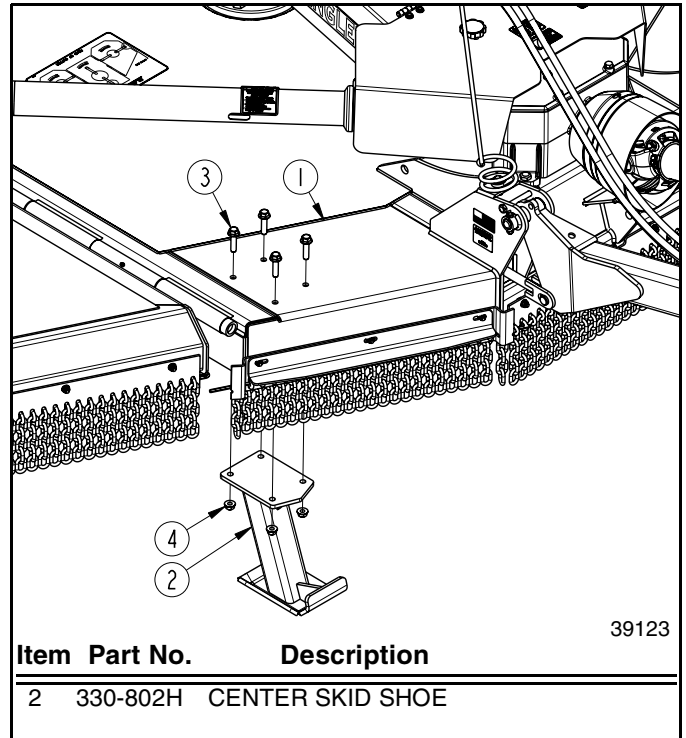
There are two skid shoes mounted on each wing deck and two skid shoes mounted on the center deck. Check all skid shoes for wear and replace if necessary. Order only genuine Land Pride parts from your local Land Pride dealer.

Center Skid Shoes

Refer to Figure 5-2:

Replace center skid shoes as follows:

1. Remove 1/2" hex whiz nuts (#4), 1/2" hex bolts (#3), and center skid shoes (#2) from center deck (#1).
2. Attach new skid shoes (#2) to cutter with existing 1/2"-13 x 2" GR5 hex bolts (#3) and secure with 1/2" hex whiz nuts (#4). Tighten whiz nuts to the correct torque.



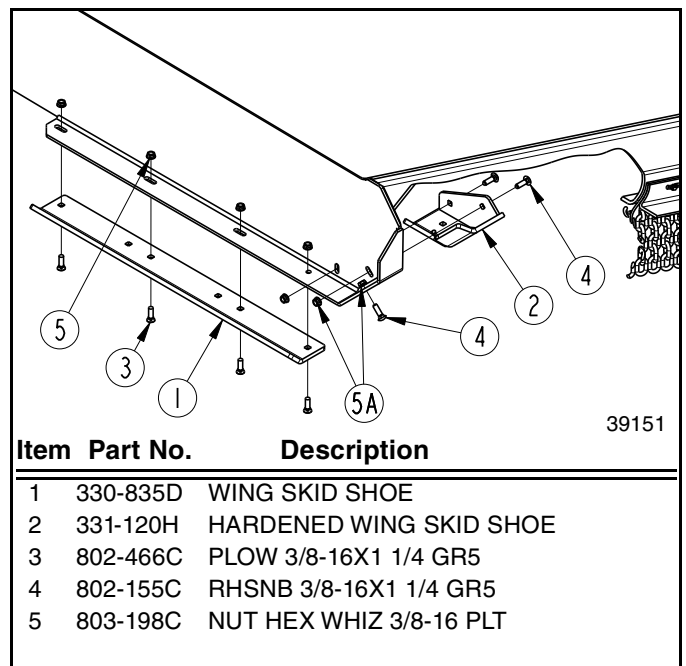
Center Skid Shoes
Figure 5-2

Wing Skid Shoes

Refer to Figure 5-3:

NOTE: Wing skid shoes can be reversed and mounted on the opposite wing to increase their life.

1. Remove 3/8" whiz nuts (#5A), carriage bolts (#4), and hardened skid shoes (#2) from both wing decks.
2. Remove 3/8" whiz nuts (#5), plow bolts (#3), and wing skid shoes (#1) from both wing decks.
3. Inspect plow bolts for wear and replaced if needed.
4. Inspect skid shoes (#1) and hardened skid shoes (#2) for wear. If skid shoes can be reversed and reused, reattach existing skid shoes to the opposite wing deck.
5. Attach new/existing hardened skid shoes (#2) to cutter side panels with removed 3/8"-16 x 1 1/4" GR5 carriage bolts (#4) and whiz nuts (#5A). Do not torque nuts tight at this time.
6. Attach new/existing skid shoes (#1) to cutter side panels with new/existing 3/8" -16 x 1 1/4" GR5 plow bolts (#3) and hex whiz nuts (#5).
7. Tighten whiz nuts (#5 & #5A) to the correct torque.



Wing Skid Shoes
Figure 5-3

Section 5: Maintenance & Lubrication

Cutter Blade Maintenance

DANGER

To avoid serious injury or death:

- Always disconnect driveline from the tractor and secure implement in the up position with solid, non-concrete supports before servicing the underside. A person can become entangled in the drivetrain if the tractor is started and power take-off is engaged or crushed by an unsupported implement.
- Always secure equipment with solid, non-concrete supports before working under it. Never go under equipment supported by concrete blocks or hydraulics. Concrete can break, hydraulic lines can burst, and/or hydraulic controls can be actuated even when power to hydraulics is off.

WARNING

To avoid serious injury or death:

- Do not operate cutter with blades that are out-of-balance, bent, excessively worn, excessively nicked, or with blade bolts that are excessively worn. Such blades can break loose at high speeds.
- Wait for blades to come to a complete stop before accessing blade bolts through blade bolt access hole.
- Wear eye protection and gloves while inspecting, removing, sharpening, and replacing a blade.
- Do not attempt to straighten a bent blade or weld on a blade. Do not attempt to modify a blade such as hard surfacing, heat treating, cold treating, or by any other method. Always replace blades with genuine OEM blades to assure safety.

IMPORTANT: Cutting blades must be replaced in mating pairs. Not replacing both blades will result in an out-of-balance condition that will contribute to premature bearing breakdown on the spindle hub and create structural cracks in the cutter housing.

Always inspect cutting blades before each use. Make certain they are properly installed and in good working condition. Replace any blade that is damaged, worn, bent, or excessively nicked. Never try to straighten a bent blade! Small nicks can be ground out when sharpening.

Remove cutting blades and sharpen or replace as follows:

1. Place tractor gear selector in park and/or set brakes, shut engine off and remove ignition key.
2. Disconnect main driveline from tractor and secure cutter deck in the up position with solid supports before servicing underside of cutter.

Refer to Figure 5-5 on page 49:

3. Remove rubber plug (#6) above cutter blade (#7). Rotate blade bolt (#1) until in alignment with access hole (A).
4. Unscrew locknut (#3) to remove cutting blade (#7). Blade bolt (#1) is keyed and will not turn freely.
5. Both blades should be sharpened at the same angle as the original cutting edge and must be replaced or re-ground at the same time to maintain proper balance in the cutting unit. The following precautions should be taken when sharpening blades:
 - a. Do not remove more material than necessary.
 - b. Do not heat and pound out a cutting edge.
 - c. Do not grind blades to a razor edge. Leave a blunt cutting edge approximately 1/16" thick.
 - d. Always grind cutting edge so end of blade remains square to cutting edge and not rounded.
 - e. Do not sharpen back side of blade.
 - f. Both blades should weigh the same with not more than 1 1/2 oz. difference. Unbalanced blades will cause excessive vibration which can damage gearbox bearings and create structural cracks.

Refer to Figure 5-4 on page 49:

6. Carefully check cutting edges of blades in relation to blade carrier rotation to ensure correct blade placement. Cutter blades must be installed with cutting edge leading in rotation.

Refer to Figure 5-5 on page 49:

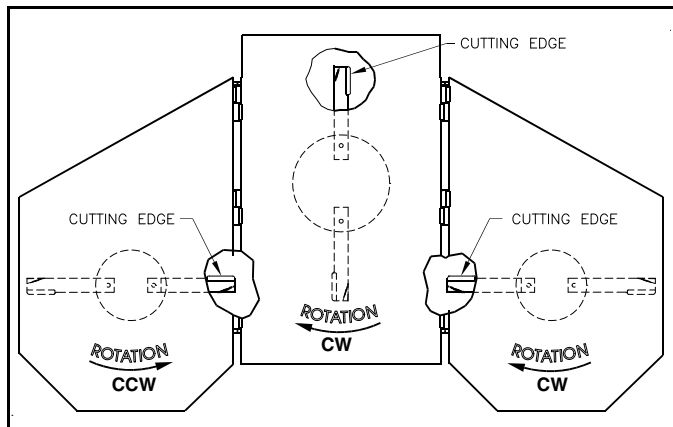
IMPORTANT: Examine blade bolts and their flat washers for excessive wear and replace if worn.

WARNING

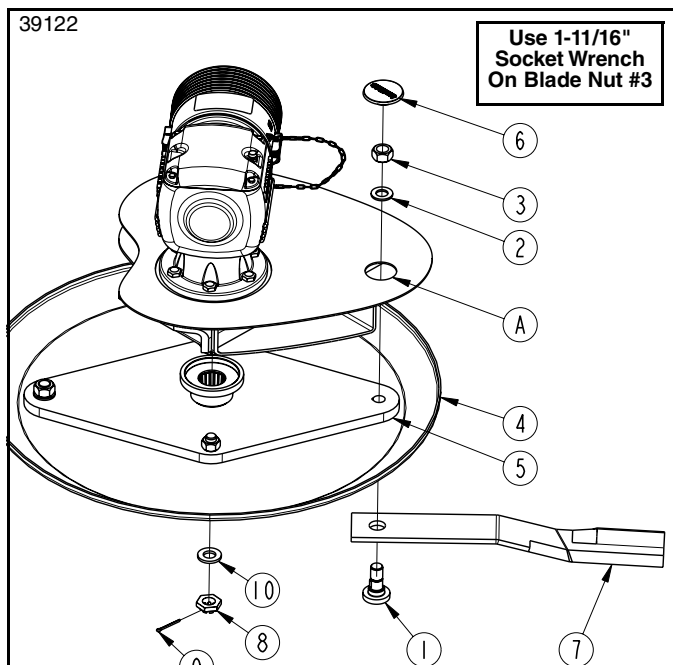
To avoid serious injury or death:

Locknuts can lose their ability to lock properly once removed. Always use a new locknut when installing blades.

7. Insert blade bolt (#1) through cutter blade (#7), dishpan (#4), blade carrier (#5), and flat washer (#2). Secure blade with a new 1 1/8"-12 hex top lock nut (#3). Torque locknut to 450 ft-lbs.
8. Replace rubber plug (#6).
9. If replacing dishpan (#4) and/or blade carrier (#5), nut (#8) on gearbox output shaft should be torqued to 550 ft-lbs minimum and secured with cotter pin (#9) with both legs bent opposite directions around nut.
10. Reconnect main driveline to the power take-off shaft and remove support blocks.



Blade Rotation (Rear of Cutter Shown)
Figure 5-4



Land Pride Cutter Blade Parts

Item	Part No.	Part Description
	318-586A	BLADE BOLT KIT (Item No's 1, 2, & 3)
1	802-277C	BLADE BOLT 1 1/8-12 x 3 7/16 WITH KEY
2	804-147C	WASHER FLAT 1 HARD ASTM436
3	803-170C	NUT HEX TOP LOCK 1 1/8-12 PLATE
4	330-482D	DISHPAN 31" CENTER
5	318-871H	BLADE CARRIER WELDMENT
6	840-273C	PLUG LP 3" ID RUBBER
7	820-249C	CUTTER BLADE, CW (Center Deck)
7	820-249C	CUTTER BLADE, CW (Right Wing)
7	820-168C	CUTTER BLADE, CCW (Left Wing)

Cutter Blade Assembly
Figure 5-5

Drivelines With Slip Clutches

WARNING

To avoid serious injury or death:

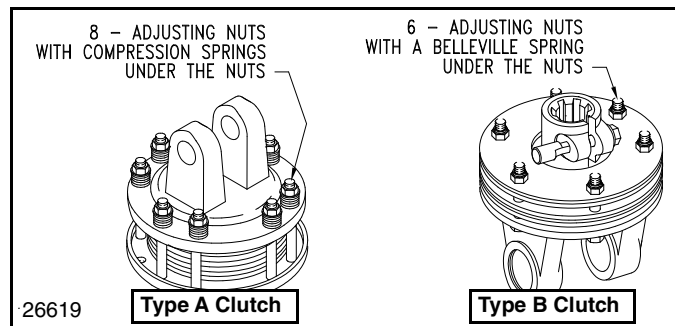
- Always follow "Tractor Shutdown Procedure" provided in this manual before dismounting the tractor.
- A slip clutch that has been in use or has slipped for as little as only two or three seconds during run-in may be too hot to touch. Allow a hot clutch to cool before working on it.

IMPORTANT: Prior to initial operation and after 10 days of inactivity, slip friction disks to remove oxidation and moisture. Moisture allows disks to slip easily. Oxidation can prevent disk from slipping causing driveline damage. This damage is NOT covered under the warranty.

Cutter drive components are protected from shock loads by a friction slip clutch. The clutch must be capable of slippage during operation to protect the gearbox, driveline, and other drive train parts.

Friction clutches should be "run-in" prior to initial operation and after long periods of inactivity to remove any oxidation that may have accumulated on the friction surfaces. Repeat "run-in" instructions at the beginning of each season and when moisture and/or condensation seizes the inner friction plates.

Refer to Figure 5-6 to determine which friction clutch your cutter has. Follow "run-in" instructions on the following pages for your specific clutch type.



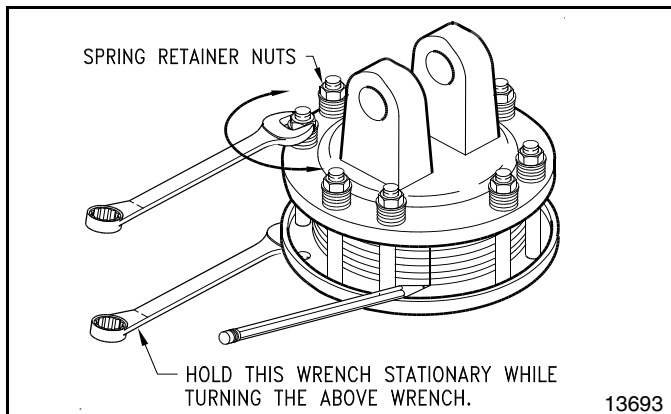
Clutch Types
Figure 5-6

Type A Clutches

Clutch Run-In

Refer to Figure 5-7:

- Using a pencil or other marker, scribe a line across the exposed edges of the clutch plates and friction disks.
- Carefully loosen each of the 8 spring retainer nuts by exactly 2 revolutions. It will be necessary to hold hex end of retainer bolt in **order to count the exact number of revolutions**.



Type A Clutch Run-In
Figure 5-7

- Make sure the area is clear of all bystanders and machine is safe to operate.
- Start tractor and engage power take-off drive for 2-3 seconds to permit slippage of the clutch surfaces. Disengage power take-off, then re-engage a second time for 2-3 seconds. Disengage power take-off, shut off tractor, and remove key. Wait for all components to stop before dismounting from tractor.
- Inspect clutch and ensure that the scribed markings made on the clutch plates have changed position. Slippage has not occurred if any two marks on the friction disk and plate are still aligned. A clutch that has not slipped must be disassembled to separate the friction disk plates. See **“Clutch Disassembly, Inspection & Assembly”** below.
- Tighten each of the 8 spring retainer nuts on the clutch housing exactly 2 revolutions to restore clutch to original setting pressure.
- Allow clutch to cool to ambient temperature before operating again. Clutch is now ready for use.
- The clutch should be checked during the first hour of cutting and periodically each week. An additional set of scribe marks can be added to check for slippage. See Figure 5-9 to adjust spring length.

Clutch Disassembly, Inspection & Assembly

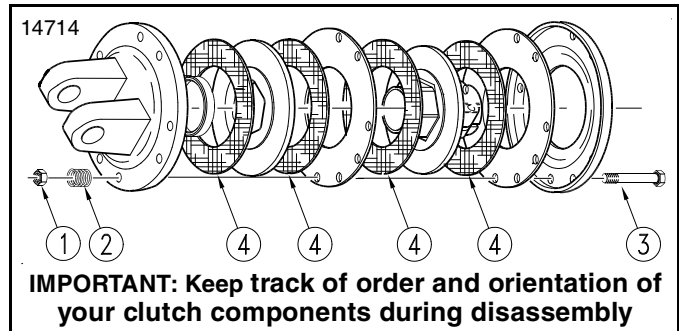
Refer to Figure 5-8:

If clutch run-in procedure above indicated that one or more friction disks did not slip, then the clutch must be disassembled to separate the friction disks.

Disassembly

IMPORTANT: Not all clutches are assembled the same with the same number of components. Be sure to keep track of order and orientation of your clutch components during disassembly.

- Removing spring retainer nuts (#1), springs (#2), and bolts (#3).
- Separate disk (#4) from metal surfaces adjacent to them.



Type A Clutch Assembly
Figure 5-8

Inspection

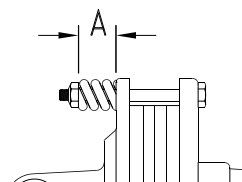
Inspect all parts for excessive wear and condition. Clean all parts that do not require replacement. The original friction disk thickness is 1/8" (3.2mm) and should be replaced if thickness falls below 3/64" (1.1 mm). If clutches have been slipped to the point of “smoking”, the friction disks may be damaged and should be replaced. Heat build-up may also affect the yoke joints.

Assembly

- Reassemble each friction disk (#4) next to the metal plate it was separated from.
- Install bolts (#3) through end plates and intermediate plates as shown.
- Place springs (#2) over the bolts and secure with nuts (#1).

Refer to Figure 5-9:

- Progressively tighten each spring retainer bolt until correct spring height “A” is reached.



Driveline No.	Driveline Location	Cat No.	Spring Height "A" Dimension
826-819C	Wing	5	1.32 in. / 33.5 mm
826-820C	Center	5	1.32 in. / 33.5 mm

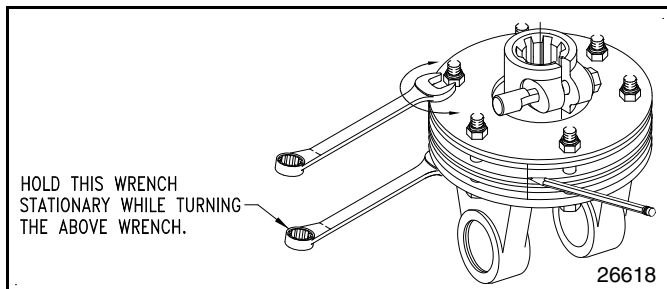
Type A Clutch Adjustment
Figure 5-9

Type B Clutches

Clutch Run-In

Refer to Figure 5-10:

1. Using a pencil or other marker, scribe a line across the exposed edges of the clutch plates and friction disks.
2. Carefully loosen each of the 6 nuts by exactly 1 revolution. It will be necessary to hold hex end of retainer bolt in order to **count exact number of revolutions**.



Type B Clutch Run-In
Figure 5-10

3. Make sure the area is clear of all bystanders and machine is safe to operate.
4. Start tractor. With engine at an idle, engage power take-off for 2-3 seconds to permit slippage of friction plates. Disengage power take-off, shut off tractor and remove key. Wait for all components to come to a complete stop before dismounting from tractor.
5. Inspect clutch to ensure that the scribed markings made on the clutch plates and friction disc have changed positions. If any two marks are still aligned, then the clutch did not slip as it should. Skip to step 8 if all clutch plates slipped.
6. If the friction clutch did not slip, loosen the nuts one more revolution. Make sure the nuts have full thread engagement on the bolt and then repeat steps 4 - 5.
7. A clutch that does not slip must be disassembled to separate the friction disk plates. See **“Clutch Disassembly, Inspection & Assembly”** below.
8. Tighten each of the nuts on the clutch back to their original location to restore clutch pressure.
9. Allow clutch to cool to ambient temperature before operating again. Clutch is now ready for use.
10. The clutch should be checked during the first hour of cutting and periodically each week. An additional set of scribe marks can be added to check for slippage.

Clutch Disassembly, Inspection & Assembly

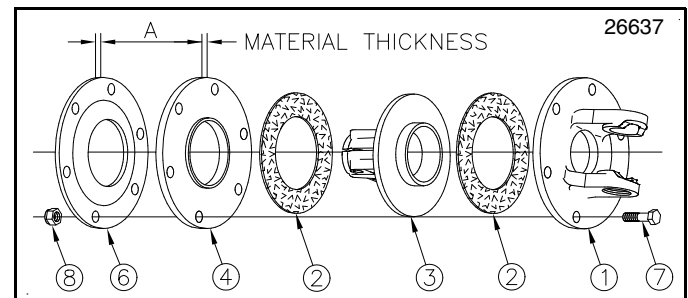
Refer to Figure 5-11:

The clutch must be disassembled into its separate friction disks if clutch run-in procedure indicated that one or more friction disks did not slip. See disassembly instructions.

Disassembly

IMPORTANT: Do not remove nuts (#8) from bolts (#7) until after Belleville spring (#6) is relaxed and not pressing against any of the six nuts (#8).

1. Unscrew nuts (#8) equal amounts until all belleville spring tension is removed. Do not remove nuts until tension against all nuts has been removed.
2. Remove nuts (#8) and bolts (#7).
3. Separate all friction disks (#2) from plates (#4 & #5), hub (#3) and yoke flange (#1).



Type B Clutch (2-Plate Assembly)
Used With Drivelines 826-715 & 826-716C
Figure 5-11

Inspection

Inspect all parts for excessive wear and condition. Clean all parts that do not require replacement. The original friction disk thickness is 1/8" (3.2mm) and should be replaced if thickness falls below 3/64" (1.1mm). If clutches have been slipped to the point of “smoking”, the friction disks may be damaged and should be replaced. Heat build-up may also affect the yoke joints.

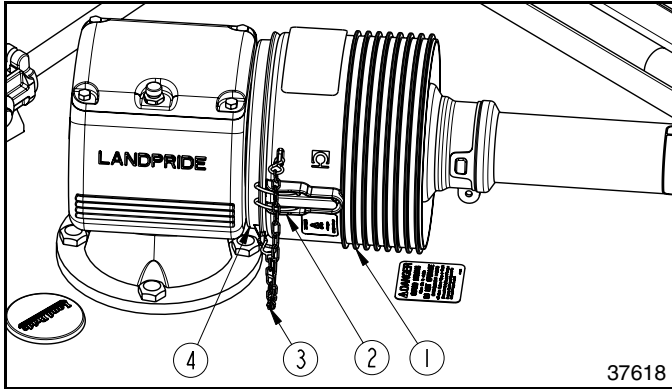
Assembly

1. Reassemble each friction disk (#2) next to the metal plate it was separated from.
2. Install bolts (#7) through end plates and intermediate plates as shown and secure with nuts (#8).

IMPORTANT: Measurement “A” is an approximate gap. Variations in spring force and friction materials may cause some differences in torque values. Tightening nuts (#8) 1/6 of a turn will compress belleville spring (#6) 0.25 mm (.010”).

3. Tighten belleville spring (#6) until spring is tight against drive plate (#4) & then back nuts (#8) up 2 2/3 revolutions, “A” should = 4.0 mm (0.157”).

Section 5: Maintenance & Lubrication



Gearbox Shaft Guard
Figure 5-12

Gearbox Shaft Guard

Refer to Figure 5-12:

1. To remove shaft guard (#1) at the spindle gearbox, unsnap latches (#2) on both sides of guard (#1) and slide shaft guard over driveline to expose driveline yoke. Do not unhook safety chain (#3).
2. When servicing of driveline yoke is completed, return shaft guard to its original position and secure with latches (#2).
3. Check safety chain (#3). Make sure it is latched to shaft guard mounting plate (#4) and shaft guard (#1).

Long-Term Storage

Clean, inspect, service, and make necessary repairs to the implement when storing it for long periods and at the end of the season. This will help ensure the unit is ready for field use the next time you hook-up to it.

! DANGER

To avoid serious injury or death:

- Always disconnect driveline from the tractor and secure implement in the up position with solid, non-concrete supports before servicing the underside. A person can become entangled in the drivetrain if the tractor is started and power take-off is engaged or crushed by an unsupported implement.
- Always secure equipment with solid, non-concrete supports before working under it. Never go under equipment supported by concrete blocks or hydraulics. Concrete can break, hydraulic lines can burst, and/or hydraulic controls can be actuated even when power to hydraulics is off.

1. Clean off any dirt and grease that may have accumulated on the cutter and moving parts. Scrape off compacted dirt from the bottom of deck and then wash surface thoroughly with a garden hose. A coating of oil may also be applied to the lower deck area to minimize oxidation.
2. Check blades and blade bolts for wear and replace if necessary. See “**Cutter Blade Maintenance**” on page 48.

3. Inspect for loose, damaged, or worn parts and adjust or replace as needed.
4. Repaint parts where paint is worn or scratched to prevent rust. Ask your Land Pride dealer for aerosol touch-up paint. Paint is also available in touch-up bottles with brush, quarts, and gallon sizes by adding TU, QT, or GL to the end of the aerosol part number.

Land Pride Aerosol Touch-up Paint	
Part No.	Part Description
821-011C	PAINT LP BEIGE SPRAY CAN
821-054C	PAINT MEDIUM RED SPRAY CAN
821-058C	PAINT GREEN SPRAY CAN
821-066C	PAINT ORANGE SPRAY CAN
821-070C	PAINT GP GLOSS BLACK SPRAY CAN

5. Replace all damaged or missing guarding and decals.
6. Lubricate as noted in “**Lubrication Points**” starting on page 53.
7. Store cutter on a level surface in a clean, dry place. Inside storage will reduce maintenance and make for a longer cutter life.
8. Follow all unhooking instructions on page 29 when disconnecting tractor from cutter.

Ordering Replacement Parts

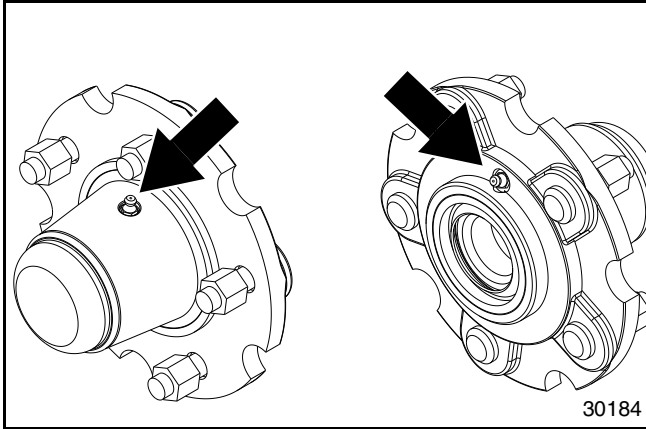
Land Pride offers equipment in factory standard beige color with black highlights. Equipment in special colors may be purchased in Green, Red, and Orange. Because of the variety of colors available, special attention must be given to the part number to prevent ordering the wrong replacement part. A suffix number corresponding to one of the colors below must be added at the end of Land Pride’s part number when ordering a replacement part with that color. Parts ordered without a suffix number will be supplied in factory standard colors.

81 Green 82 Orange
83 Red 85 Black

For example, if you are ordering a replacement part with part number 555-555C and the existing part is red, then add the suffix 83 to the end of the number to make the part number read 555-555C83.

Lubrication Points

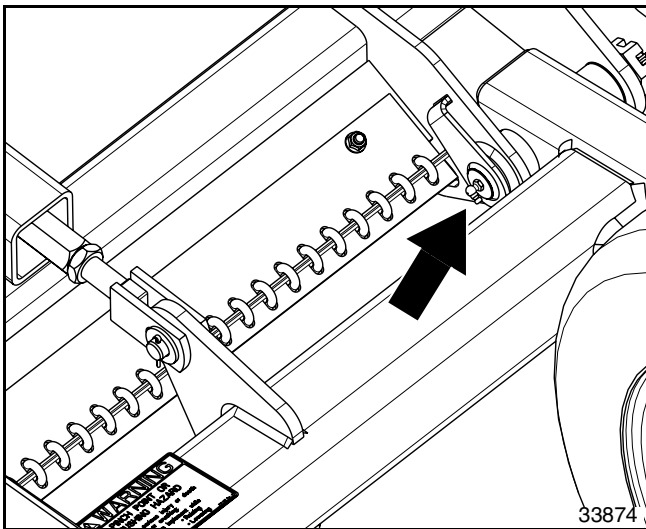
Lubrication Legend	Multi-purpose spray lube	Multi-purpose grease lube	Multi-purpose oil lube	50 Hrs Intervals in hours at which lubrication is required



		50 Hours	Repack Annually
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Axle Hub Bearing

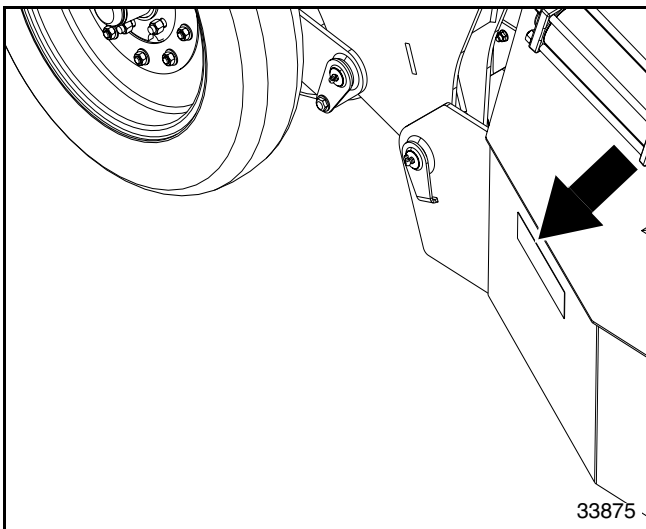
Type of Lubrication: Multi-Purpose Grease
 Grease wheel bearings every 50 hours.
 1 - zerk per wheel (zerk can be on either side)
 Quantity = 2 pumps
 Repack wheel bearings annually



		50 Hours
--	--	-----------------

Center Axle Pivots

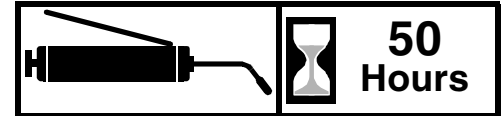
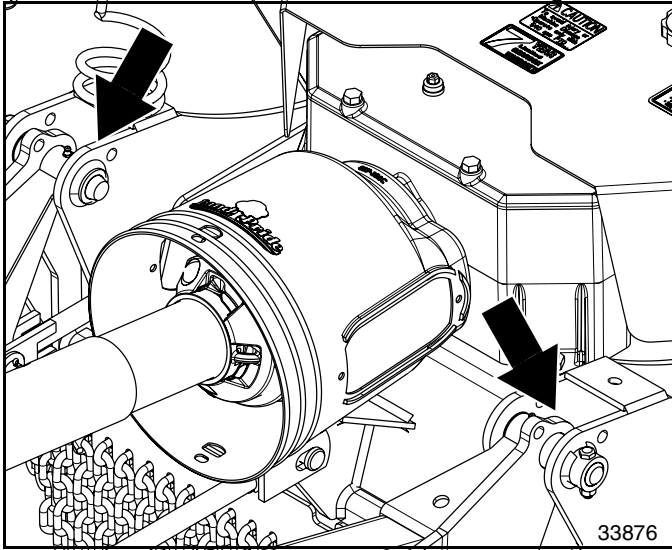
2 - zerks (left and right side of center axle)
 Type of Lubrication: Multi-Purpose Grease
 Quantity = As required



		50 Hours
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Wing Axle Pivots

2 - zerks (1 per wing axle arm pivot)
 Type of Lubrication: Multi-Purpose Grease
 Quantity = As required

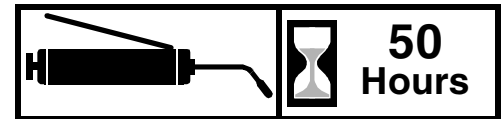
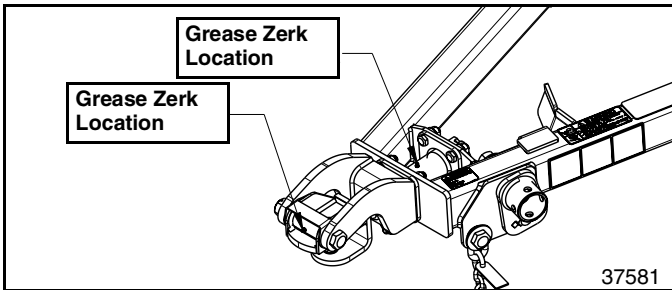


Hitch Frame

2 - zerks

Type of Lubrication: Multi-Purpose Grease

Quantity = As required

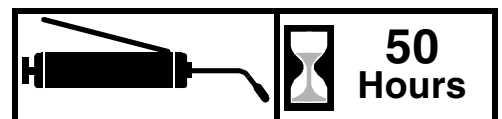
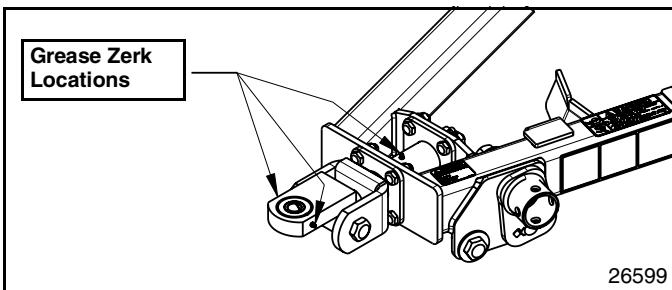


LP Performance Hitch (Optional)

2 - zerks

Type of Lubrication: Multi-purpose Grease

Quantity = As required

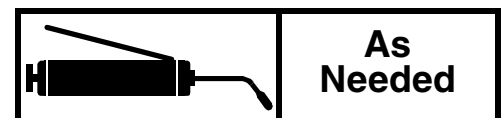
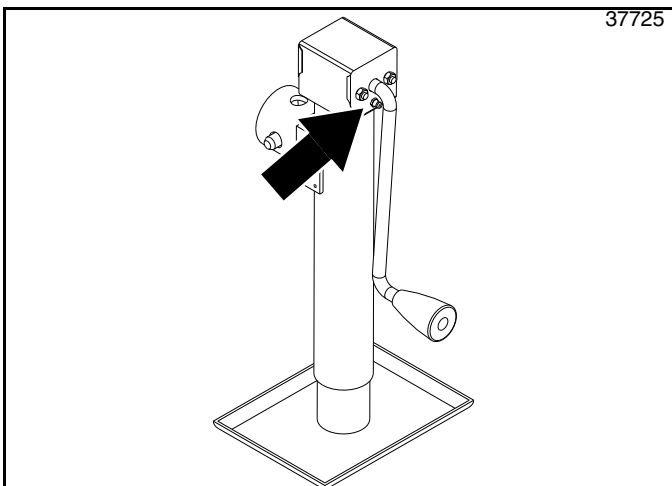


Bar-Tite Hitch (Optional)

3 - zerks

Type of Lubrication: Multi-purpose Grease

Quantity = As required



Park Jack

1 - zerk

Type of Lubrication: Multi-purpose Grease

Quantity = As required

Frequency = As needed and when unhooking for longterm storage.

Do Not Overfill

30215

METHOD 1:
SCREW DIPSTICK FULLY IN & THEN UNSCREW TO CHECK LEVEL. OIL LEVEL SHOULD BE BETWEEN THE TWO MARKS ON DIPSTICK. ADD OIL IF BELOW BOTTOM MARK.

METHOD 2:
OIL SHOULD BE LEVEL WITH BOTTOM OF HOLE. ADD OIL THROUGH DIPSTICK HOLE UNTIL OIL RUNS OUT OF PLUG HOLE.

NOTE: Use a suction or siphon pump to drain gearbox of oil when there is not an oil drain plug.

8 Hours

Gearbox

IMPORTANT: Do not overfill gearbox with oil. Oil will expand when hot. Make sure implement is level and oil is cool before checking oil level.

If oil has been removed from the gearbox, refill gearbox to plug level or full mark on the dipstick. Allow time for air to bleed up from the lower cavity, and then recheck.

Method 1: With a wrench, unscrew top vented dipstick (#1). Wipe oil from dipstick and screw dipstick in without tightening. Unscrew dipstick and check oil on dipstick. If below bottom level mark, add recommended gear lube through dipstick hole until oil reaches top mark on dipstick. Reinstall vented dipstick and tighten.

Method 2: Remove side oil plug (#2). If oil is below bottom of plug hole, add recommended gear lube through top dipstick hole until oil flows out of side plug hole. Reinstall and tighten side oil plug (#2) and vented dipstick (#1).

Type of Lubrication: 80-90W EP Gear Lube

Quantity = Fill until oil reaches top mark on dipstick or begins to flow out side plug hole in gearbox.

OIL FILL / VENTED PLUG

OIL LEVEL PLUG
OIL DRAIN PLUG

39463

8 Hours

Divider Box

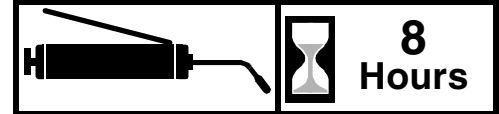
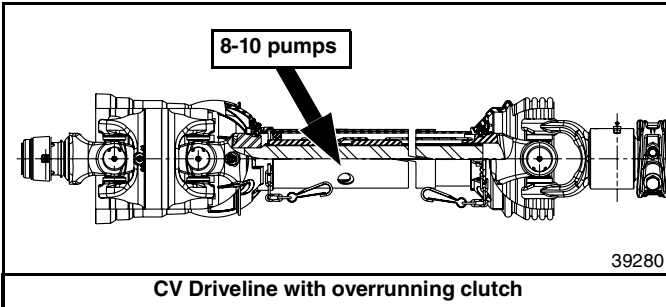
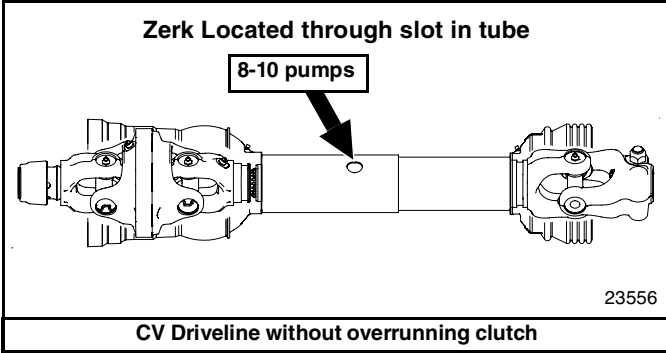
IMPORTANT: Do not overfill gearbox with oil. Oil will expand when hot. Make sure implement is level and oil is cool before checking oil level.

If oil has been removed from the gearbox, refill gearbox to plug level or full mark on the dipstick. Allow time for air to bleed up from the lower cavity, and then recheck.

Instructions: Remove oil level plug. If oil is below bottom of plug hole, add recommended gear lube through oil fill/vent plug hole until oil flows out of oil level plug hole. Reinstall and tighten oil level plug and oil fill/vent plug.

Type of Lubrication: 80-90W EP

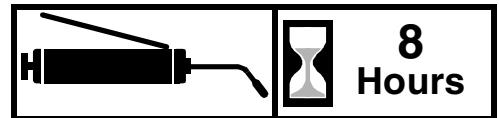
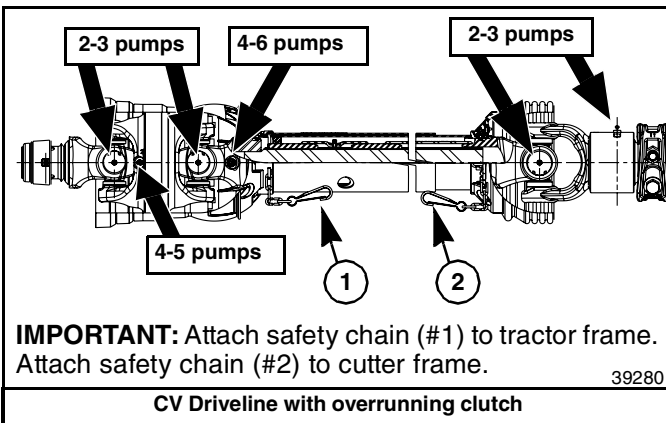
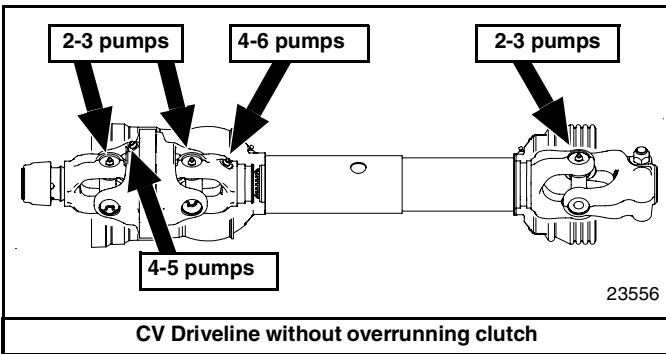
Quantity = Fill until oil begins to flow out oil level plug hole in gearbox.



**CV Main Driveline Profile Tubes
With External Grease Point**

CV = Constant Velocity
Type of Lubrication: Multi-purpose Grease
Quantity = 8-10 pumps

IMPORTANT: To extend the life of the constant velocity joint, extensive lubrication must be performed every 8 hours of operation.



CV Main Driveline Joints

CV = Constant Velocity
Type of Lubrication: Multi-purpose Grease

For instructions on how to access grease zerks shown in Figure 5-13, see **“Accessing CV Driveline Joints”** on page 57.

IMPORTANT: To extend the life of the constant velocity joint, extensive lubrication must be performed every 8 hours of operation.

- The constant velocity joint should be greased in a straight position forcing grease through the passages and into the cavity. After lubrication, grease should be visible around the ball joints.
- Grease fittings located on the u-joints should be lubricated every 8 hours of operation.

Figure 5-13

Accessing CV Driveline Joints

Refer to Figure 5-13 on page 56:

There are two ways the constant velocity driveline joints shown in Figure 5-13 can be accessed for lubrication. One is through holes in the driveline shield and the other is to slide the shields back to expose the grease zerks.

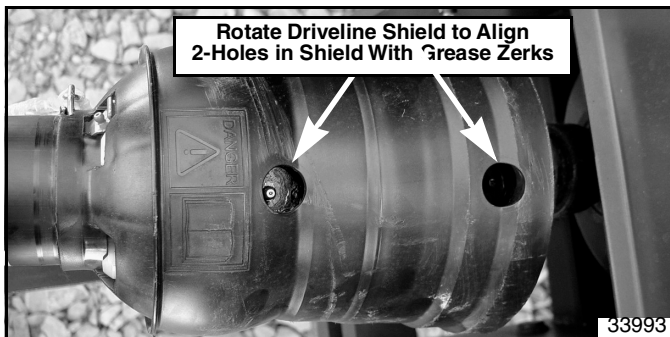
Lubrication Through Access Holes

1. Refer to Figure 5-14: Rotate driveline shield until holes in shield align with grease zerks in CV joint.
2. Apply proper amount and type of lubrication. Refer to “CV Main Driveline Joints” on page 56 for quantities and type of lubrication.



Lubrication Through Three Holes In Driveline Shield
Figure 5-14

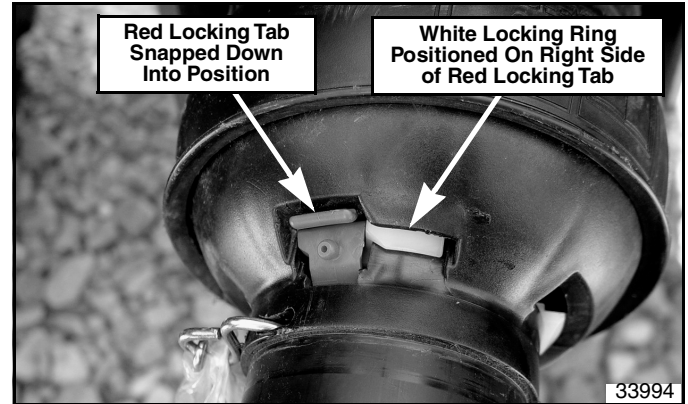
3. Refer to Figure 5-15: Rotate driveline shield 180° until holes on opposite side of shield aligns with remaining grease zerks in CV joint.
4. Repeat step 2 above on any grease zerks that were not greased in step 2.
5. Steps 1-2 can be repeated to lubricate universal joint on opposite end of driveline. (Opposite end of driveline has only one grease zerk.)



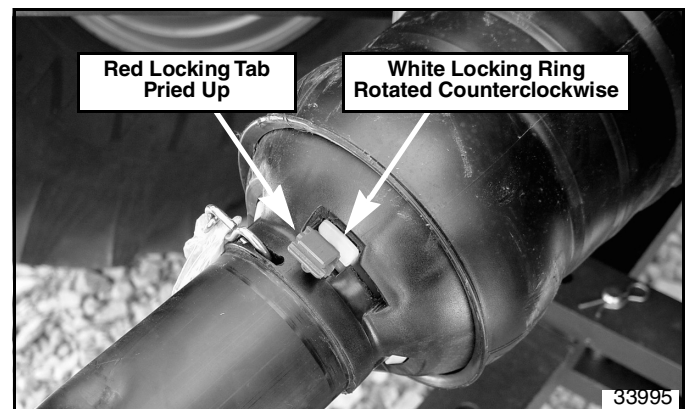
Lubrication Through Two Holes In Driveline Shield
Figure 5-15

Lubrication By Sliding Driveline Shields Back

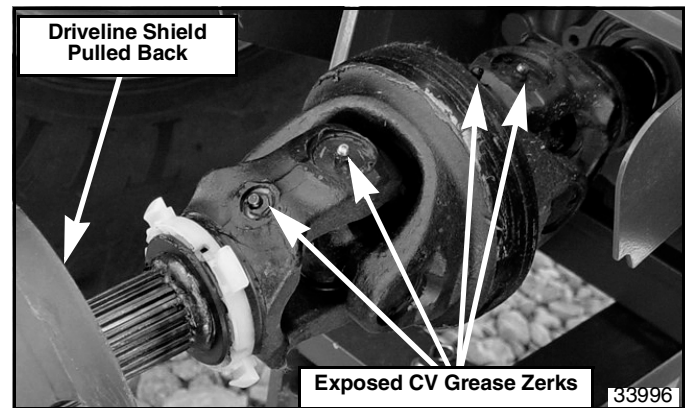
1. Refer to Figure 5-16: With a flat bladed screwdriver or similar tool, pry top of red locking tab up.
2. Refer to Figure 5-17: Rotate white locking ring fully counterclockwise to the position shown.
3. Refer to Figure 5-18: Pull back on driveline shielding until CV joint is exposed.



Locked Driveline Shield
Figure 5-16

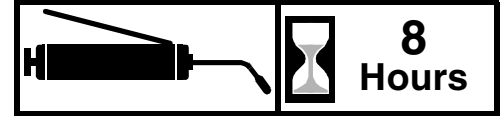
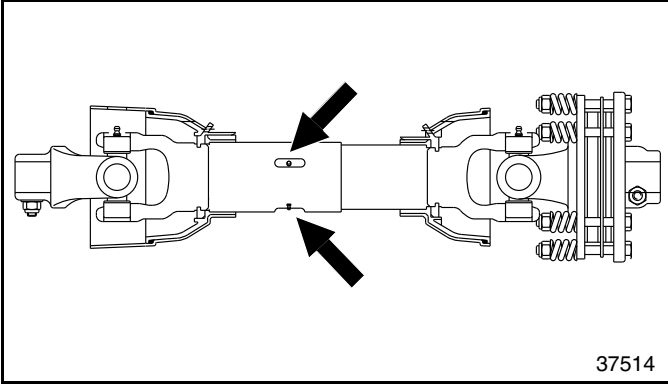


Unlocked Driveline Shield
Figure 5-17



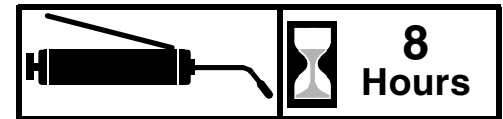
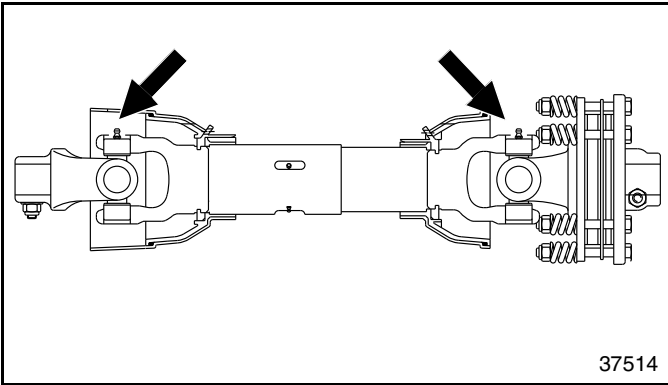
Slide Driveline Shield Back To Expose Grease Zerks
Figure 5-18

4. Apply proper amount and type of lubrication. Refer to “CV Main Driveline Joints” on page 56 for quantities and type of lubrication.
5. Slide driveline shield back to its operating position.
6. Refer to Figure 5-16: Rotate white locking ring clockwise and press locking tab down until it snaps in place as shown.
7. Steps 1-6 can be repeated to lubricate universal joint on opposite end of driveline.



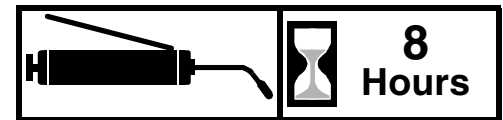
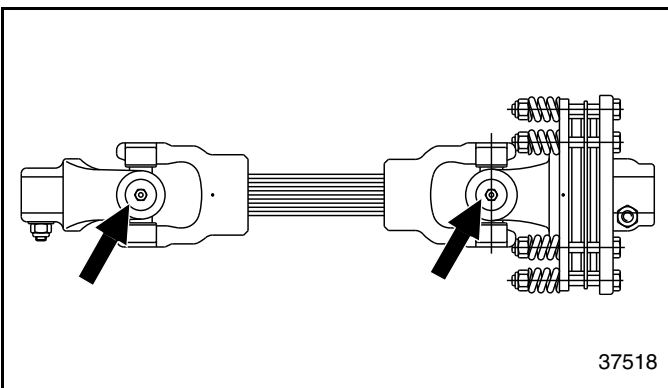
Wing Driveline Profile Tubes

Type of Lubrication: Multi-purpose Grease
Quantity = Coat Generously



Wing Driveline Joints

Type of Lubrication: Multi-purpose Grease



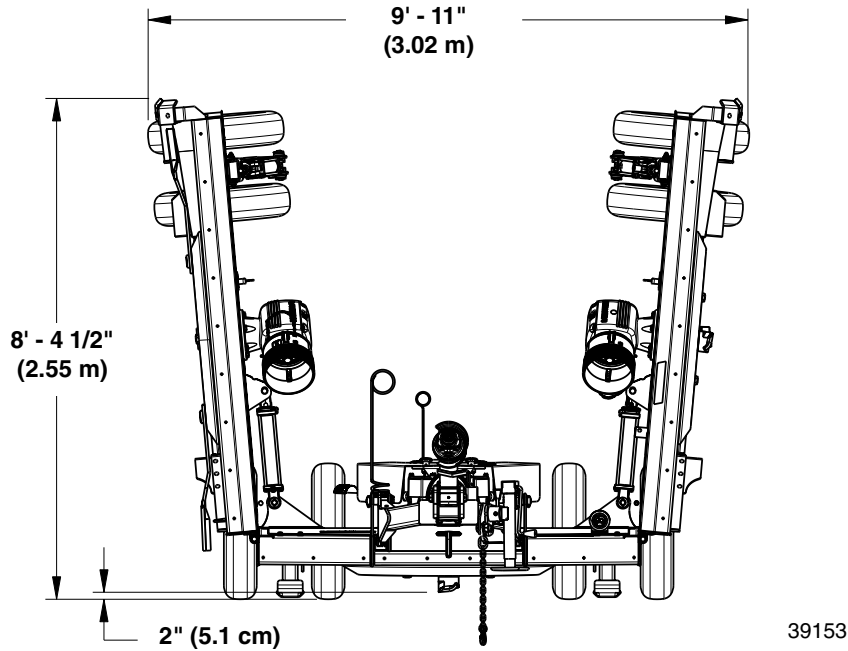
Intermediate Driveline Joints

Type of Lubrication: Multi-purpose Grease

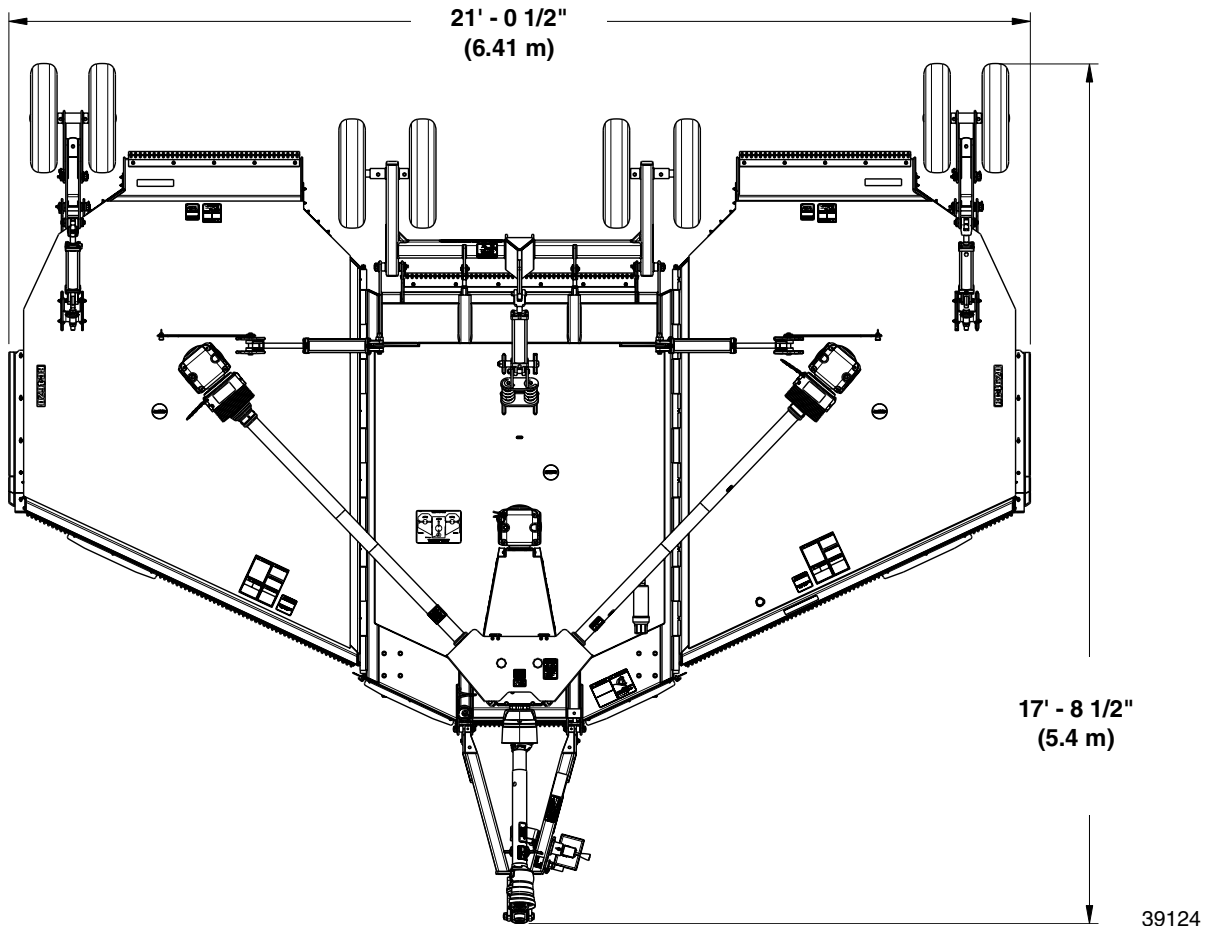
RC4620 & RCM4620 Models

Specifications & Capacities	
Tractor horsepower	70 hp (52.2 kw) to 250 hp (186.4 kw)
Gearbox Horsepower	250 hp (186.4 kw) Splitter 210 hp (156.6 kw) Center & Wing
Gearbox Oil Capacity	6.2 Pints (2.93 L): Divider Gearbox 4.7 Pints (4.7 L): Center deck, LH deck & RH deck spindle gearboxes
Gearbox Lubrication	Gear Lube 80-90W EP
Cutting Capacity	3" (7.6 cm)
Weights	Total Machine 6,540 lb (2966.5 kg) Front & rear single chain guards, 6 - AC/FF tires, CV Driveline, standard clevis, & diamond blade bar with dishpan. Tongue Weight 2,160 lb (979.8 kg)
Blade Tip Speed	RC4620 Up to 17,000 fpm (86.4 mps) RCM4620 Up to 18,000 fpm (91.4 mps)
Hitch Types	Self-Leveling Clevis Hitch, LP Performance Hitch, Bar-Tite Hitch, Pintle Hitch, or Ball Hitch
Hitch Jack	Standard 7,000 lbs (3175.1 kg)
Signal lights	LED
7 Pin connector	SAE J560 pin configuration
Cutting Width	20' - 0" (6.1 m)
Overall Width	21' - 0 1/2" (6.41)
Minimum Transport Width	9' - 11" (3.02m) With cutting height at 2" (5.1 cm)
Overall Length	17' - 8 1/2" (5.4 m) With cutting height at 2" (5.1 cm)
Deck Height	13" (33 cm)
Cutting Height*	2" (5.1 cm) to 12" (30.5 cm)
Lift Hydraulics	Center Deck 3 1/4" x 8" Rephasing hydraulic cylinder with hoses, fittings & stroke control spacers. Right Wing 3" x 8" Rephasing hydraulic cylinder with hoses & fittings. Left Wing 2 3/4" x 8" Rephasing hydraulic cylinder with hoses & fittings.
Wing Folding Hydraulics	Two 3" x 12" single-acting hydraulic cylinders complete with hoses & fittings.
Wing Flex	45° up, 20° down while cutting.
Deck Material	1 - Piece, 10 gauge (3.4 mm)
Side Skirt Material	1/4" (6 mm) plate.
Skid Shoes	Wing Deck Reversible & Replaceable: 2 straight skid shoes and 2 AR400 leading skid shoes. Center Deck Replaceable: 2 skid shoes
Six Blades (2 per Carrier)	1/2" (13 mm) x 4" (10.2 cm) Heat treated free swinging alloy steel with up lift.
Blade Overlap	6" (15.2 cm)
Blade Bolt	Keyed with hardened flat washer & locknut.
Stump Jumper / Blade Holder	Standard: 1" (2.5 cm) Thick diamond blade bar Optional: 1" (2.5 cm) Thick diamond blade bar with round dishpan Optional: Shredder kit
Shredder Blade Kit (Optional)	Double stacked 1/2" (30.5 cm) x 4" (10.23 cm) heat treated free swinging alloy steel blades with up lift on the bottom and 1/2" (30.5 cm) x 4" (10.23 cm) heat treated free swinging flat alloy steel blades on top.
Deck Ring (Optional)	3/8" (10 mm) formed and welded.
Front & Rear Guards	Single chain or double chain.
Input Driveline	ASAE Cat. 6 with constant velocity u-joint
Intermediate & Wing Drivelines	Cat. 5 with slip-clutch
Tire Options	6" x 9 x 21" Laminated tires 29" x 9" Used aircraft tires without foam filling 27" x 7.75" Used aircraft tires with foam filling
Number of Wheels	6 - Wheel option: 4 on transport axle and one on each wing axle. 8 - Wheel option: 4 on transport axle and two on each wing axle.
Standard Transport Axle	Spring-cushioned on center transport axle.
Axle Fasteners	1 1/4" (3.2 cm) Greaseable pins
Hubs	Cast iron five-bolt hubs with tapered roller bearings and 1 3/4" (4.4 cm) shafts.

* Maximum cut height is dependent on tire options selected.



Overall Width With Lift & Folding Cylinders Fully Retracted



Dimensions Shown Are With Lift Cylinders Fully Retracted.



RC4620 & RCM4620 Models

Features	Benefits
Surpassed rugged industry standards	All Land Pride Rotary Cutters have been designed and tested and meet rigorous voluntary testing procedures according to ISO 4254-13.
Factory assembled	Saves customer set-up time and money. Adjustments should always be made by dealer.
7 Year gearbox warranty*	Shows confidence in gearbox integrity. Years 6 & 7 parts only
250 hp divider gearbox 210 hp center & wing gearboxes	Rugged heavy-built gearboxes capable of handling heavy-cutting applications.
Gearbox seal protection	Gearbox bottom seal protection for longer bearing life.
2 3/8" Output gearbox shaft	Large output shaft handles shock loads better.
Input driveline: Cat. 6 CV	Holds up to shock loads and harsh mowing conditions. Constant velocity (CV) U-joint allows for 80 degree turns without doing damage to the driveline.
Easy greasable drivelines	Drivelines have access holes for greasing the U-joints and to grease the inner profiles.
4 Plate slip-clutch	Protects drivelines and gearboxes by slipping clutches rather than twisting the driveline when impacts are encountered.
High blade tip speed	Allows clean cutting of material & even distribution. See Specifications for actual FPM.
6" Blade overlap	Eliminates skipping during turns.
Good cutting capacity	Can cut brushy areas with saplings up to 3".
13" Deck height	Handles heavy cutting, which reduces balling-up of cut material under the deck.
Diamond shaped blade holder	Heavy diamond shaped blade holder for protecting the gearbox seal and gearbox output shaft. Can hold up to tough conditions.
Optional dishpan	Dishpan provides extra protection against stumps and other protrusions. Excluding the dishpan eliminates grass/dirt buildup which can cause vibration.
Spindle Nut Protected	Spindle nut and threads extending beyond the nut are guarded to protect against damage from hitting solid objects.
Shredder Blade Kit (Optional)	Ideal for cutting residue into smaller pieces. Replaces standard blade bar/dish configuration.
10 gauge smooth deck top	Reduces accumulation of debris and is easier and faster to clean.
1/4" side skirt	Reduces debris piercing possibilities.
Self-leveling hitch	Reduces drawbar wear by keeping hitch level while going through ditches.
LED Signal lights	Lights are bright, long lasting, and resistant to vibration, unlike incandescent counterparts.
Hinged wing sections	Allows cutter to follow terrain. Ideal for rough ground where hillsides, ditches, and hollows can cause uneven cutting.
1" Solid hinge rods	Larger diameter hinge gives greater strength to cutter and hinge area.
Wing transport locks	Holds transport wings in the folded-up position in case of hydraulic pressure loss.
Enclosed front to rear dual leveling rods	Dual leveling rods enable the cutter to pull equally on the rear axle during travel over rough terrain. Many competitors only use one leveling rod.
5-Bolt hubs	5-Bolt hubs makes the wheel assembly more durable and longer lasting.
Drain holes in wheel rims	Allows water to drain from wheels mounted on folded-up wings. Helps prevent paint deterioration and rusting to the wheel rims.
Spring-cushioned center axle	Protects unit from bumps and ground shock, cushions loads on drawbar.
Replaceable wheel spindles	Wheel spindles can be replaced when damaged without replacing the entire axle. Simply remove one bolt to replace damaged spindle.
Rephasing lift cylinders	Allows cutter to be leveled using hydraulic cylinders versus mechanical turnbuckles.
7/8" Leveling rods	Large diameter leveling rods provide superior supporting strength over rough terrain.



RC4620 & RCM4620 Models

Features	Benefits
LP Performance Hitch option	Great for uneven terrain, reduces drawbar wear. Hitch pivots freely up and down and pivots about the tractor drawbar.
Bar-tite hitch option	Ideal for extreme conditions. Clamps tight to drawbar eliminating drawbar wear.
Roadway light kit option	Allows operator to transport on public roads safer when headlights are turned on and/or when flasher lights are turned on.
Wheel options	<p>Laminated tires: Eliminates flats.</p> <p>Air-filled tires: Give better cushion while transporting.</p> <p>Foam-filled tires: Give better cushion while transporting & can't go flat.</p>
Deck rings (optional)	Keeps blades from damaging the deck.



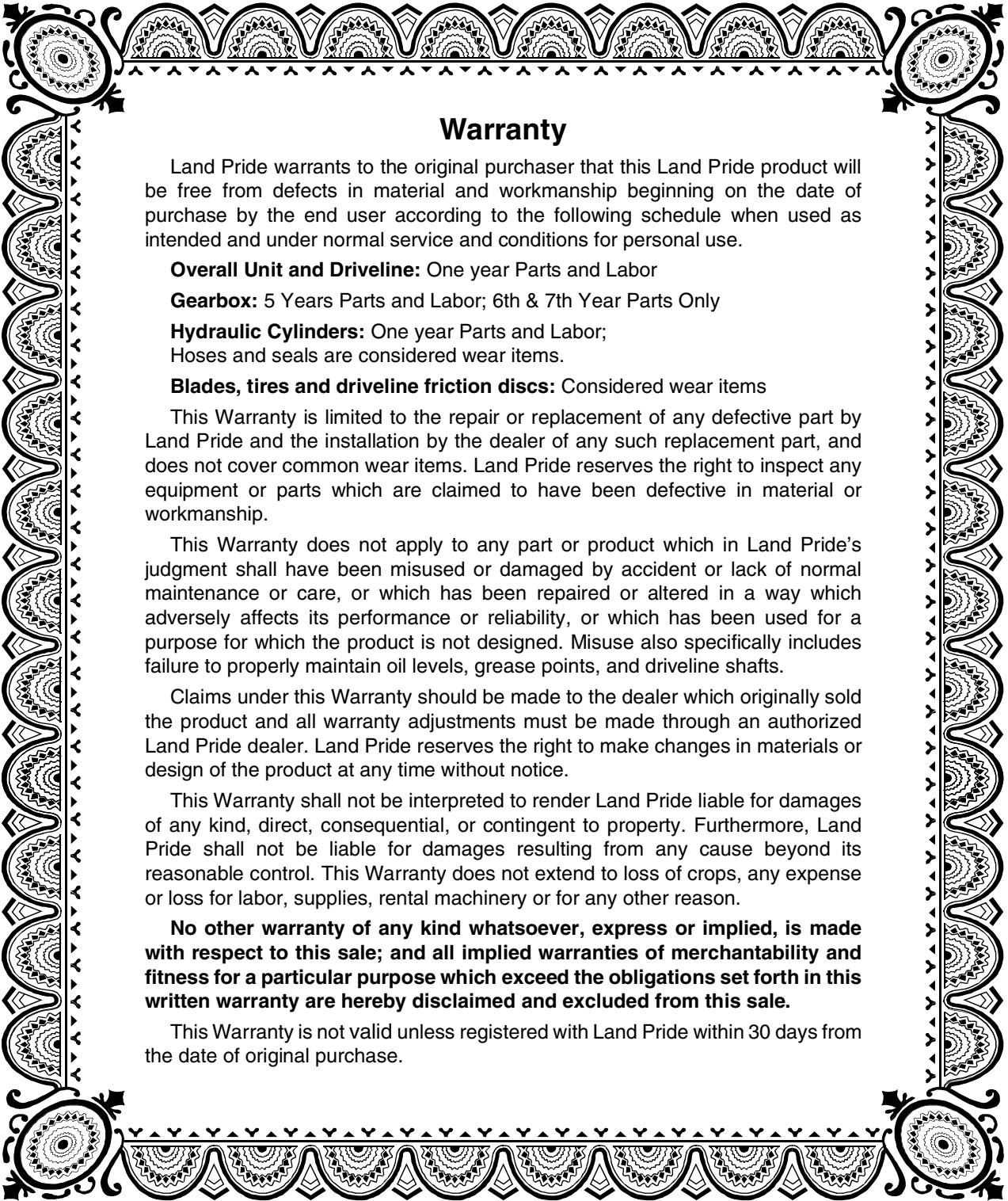
Troubleshooting Chart

Problem	Cause	Solution
Oil seal leaking	Gearbox overfilled	Drain oil level with fill hole or to full mark on dipstick.
	Seals damaged	Replace seals.
	Grass or wire wrapped on shaft in seal area	Clean off wrapped material and check seal areas daily.
Driveline yoke or cross failing	Clutch is froze	Slip clutches per instructions under "Drivelines With Slip Clutches" on page 49.
	Shock load	Avoid hitting solid objects.
	Needs lubrication	Lubricate every 8 hours.
Slip clutches slip even with a light load	Scalping the ground	Raise cutting height.
	Clutch is not properly adjusted	Adjust clutch per instructions under "Drivelines With Slip Clutches" on page 49.
	Clutch plates are worn out	Replace clutch plates.
	Foreign object caught between clutch plates	Remove foreign object.
Bent driveline shaft (Note: Shaft should be repaired or replaced if bent)	Contacting frame	Reduce lift height in transport position.
	Contacting 3-point arms	Raise or remove 3-point arms.
	Contacting 3-point arms	Raise or remove 3-point arms.
	Bottoming out	Lengthen drawbar
	Binding up	Not lubricating enough.
Driveline shaft telescoping tube failing	Shock load	Avoid hitting solid objects.
Driveline shaft telescoping tube wearing	Needs lubrication	Lubricate every 8 hours of operation.
Blades Lock Up	Blades locked together (overlapped) when the wing was raised to transport position	Use pry bar or other tool to separate cutting blades before lowering the wing.
	Tractor has instant on power take-off	Engage power take-off at low rpms and then slowly increase engine speed to full power take-off speed. See "Engage Blades" on page 40.
	Tractor has Instant off power take-off	Decrease engine speed slowly to an idle and then disengage power take-off. See "Disengage Blades" on page 40.
Blades wearing excessively	Cutting on sandy ground	Raise cutting height.
	Contacting ground frequently	Raise cutting height.
	Power take-off speed too high	Maintain power take-off speed by slowing down.
Blades coming loose	Blades not tightened properly	Tighten blade hardware, refer to "Cutter Blade Maintenance" on page 48.
	Over speeding power take-off	Operate cutter at proper power take-off speed.
Blades breaking	Hitting solid objects	Avoid hitting solid objects.
Loose blade carrier	Blade carrier hardware not tight	Tighten shaft nut to specified torque.
	Running loose in the past	Replace gearbox bearings and / or shaft.
Blade carrier bent	Hitting solid objects	Avoid hitting solid objects. Replace blade carrier.
Excessive side skid wear	Soil abrasive	Adjust cutter height.
	Cutting too low	Raise cutting height.
Excessive vibration	Hitting solid objects	Inspect area before cutting. Do not hit solid objects.
	Driveline bent	Replace driveline or distribution shaft.
	Blade carrier bent	Replace blade carrier.
	Blade broken	Replace blades.
	Blade will not swing	Inspect and unlock blades.
	High torque start-up or hitting solid objects.	Disassemble and inspect driveline for incorrectly located needles or damaged bearing cap.
	Blades have unequal weight	Replace each pair of blades on affected carrier.
Wing cylinder movement too slow	Orifice is plugged	Remove elbow fitting and unplug orifice.



Torque Values Chart for Common Bolt Sizes													
Bolt Size (inches)	Bolt Head Identification						Bolt Size (Metric)	Bolt Head Identification					
	 Grade 2		 Grade 5		 Grade 8			 Class 5.8		 Class 8.8		 Class 10.9	
in-tpi ¹	N · m ²	ft-lb ³	N · m	ft-lb	N · m	ft-lb	mm x pitch ⁴	N · m	ft-lb	N · m	ft-lb	N · m	ft-lb
1/4" - 20	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
1/4" - 28	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
5/16" - 18	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
5/16" - 24	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
3/8" - 16	27	20	42	31	59	44	M10 X 1.5	33	24	52	39	72	53
3/8" - 24	31	22	47	35	67	49	M10 X 0.75	39	29	61	45	85	62
7/16" - 14	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
7/16" - 20	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
1/2" - 13	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
1/2" - 20	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
9/16" - 12	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	215	160
9/16" - 18	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
5/8" - 11	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
5/8" - 18	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
3/4" - 10	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
3/4" - 16	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
7/8" - 9	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
7/8" - 14	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1" - 8	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1" - 12	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1-1/8" - 7	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
1-1/8" - 12	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
1-1/4" - 7	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
1-1/4" - 12	750	555	1680	1240	2730	2010	¹ in-tpi = nominal thread diameter in inches-threads per inch ² N · m = newton-meters ³ ft-lb= foot pounds ⁴ mm x pitch = nominal thread diameter in millimeters x thread pitch						
1-3/8" - 6	890	655	1990	1470	3230	2380							
1-3/8" - 12	1010	745	2270	1670	3680	2710							
1-1/2" - 6	1180	870	2640	1950	4290	3160							
1-1/2" - 12	1330	980	2970	2190	4820	3560							
Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.													
Additional Torque Values													
Blade Bolt Locknut							450 ft-lbs						
Blade Carrier Hub Nut							550 ft-lbs minimum						
Wheel Lug Nuts							85 ft-lbs						

Tire Inflation Chart	
Tire Size	Inflation PSI
29 x 9 - 15 x 16 plys	40



Warranty

Land Pride warrants to the original purchaser that this Land Pride product will be free from defects in material and workmanship beginning on the date of purchase by the end user according to the following schedule when used as intended and under normal service and conditions for personal use.

Overall Unit and Driveline: One year Parts and Labor

Gearbox: 5 Years Parts and Labor; 6th & 7th Year Parts Only

Hydraulic Cylinders: One year Parts and Labor;
Hoses and seals are considered wear items.

Blades, tires and driveline friction discs: Considered wear items

This Warranty is limited to the repair or replacement of any defective part by Land Pride and the installation by the dealer of any such replacement part, and does not cover common wear items. Land Pride reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

This Warranty does not apply to any part or product which in Land Pride's judgment shall have been misused or damaged by accident or lack of normal maintenance or care, or which has been repaired or altered in a way which adversely affects its performance or reliability, or which has been used for a purpose for which the product is not designed. Misuse also specifically includes failure to properly maintain oil levels, grease points, and driveline shafts.

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

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

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

This Warranty is not valid unless registered with Land Pride within 30 days from the date of original purchase.

IMPORTANT: The Online Warranty Registration should be completed by the dealer at the time of purchase. This information is necessary to provide you with quality customer service.

Model Number _____ **Serial Number** _____



Corporate Office: P.O. Box 5060
Salina, Kansas 67402-5060 USA
www.landpride.com
