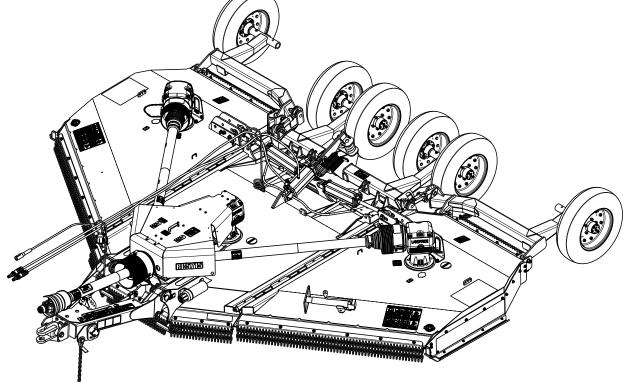
# Rotary Cutters

# 73830





# 331-431M 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	

#### **Dealer Contact Information**

Name:	
Street:	
City/State:	
Telephone:	
Email:	

#### **California Proposition 65**

**WARNING**: Cancer and reproductive harm - <u>www.P65Warnings.ca.gov</u>



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Printed in the United States of America.

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# Parts Manual QR Locator

The QR (Quick Reference) code on 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.



# Safety at All Times

Careful operation is your best assurance against an accident.

All operators, no matter how much experience they may have, should carefully read this manual and other related manuals, or have the manuals read to them, 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 appropriate for the operation are in place and secured before operating the 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 a safe and secure 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 and extra precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. 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. They are:

- **DANGER:** Indicates a hazardous situation that, if not avoided, will result in death or serious injury.
- **A 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.

#### **Be Aware of Special Notices**

Special notices are intended to point out important and helpful information that should be followed. They are usually placed inside a box. They are:

**IMPORTANT:** Indicates that equipment or property damage could result if instructions are not followed.

**NOTE:** Indicates supplementary explanations that will be helpful when using the equipment.

# 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 ignition 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 anti-slip surfaces when stepping on and off the tractor.





#### 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 unexpectedly. Reduce speed if towed trailer is not equipped with brakes.
- ▲ Avoid contact with any overhead 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 skid steer on the "uphill" side.
- Engage park brake when stopped on an incline.

- ▲ Maximum transport speed for an attached equipment is 20 mph (32 km/h). 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 (32 km/h) when weight of attached equipment is less than or equal to the weight of machine towing the equipment.
10 mph (16 km/h) 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 persor using the corr



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.







#### **Prepare for Emergencies**

- $\blacktriangle$  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 the phone.



#### Wear Personal Protective Equipment (PPE)

- ▲ Wear protective clothing and equipment appropriate for the job such as safety shoes, safety, glasses, hard hat, dust mask, 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 a machine safely requires the operator's full attention. Avoid wearing headphones while operating equipment.

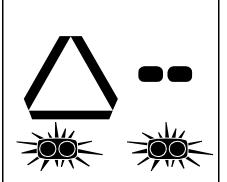


#### Avoid High Pressure Fluids

- ▲ Escaping fluid under pressure will penetrate the skin or eyes 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, seek immediate emergency medical care or gangrene may result.

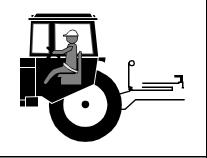
## Use Safety Lights and Devices

- ▲ A Slow moving power machine 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-protectivestructures (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 on the tractor or implement.
- ▲ 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.
- ▲ Never use the tractor or implement to lift or transport riders.

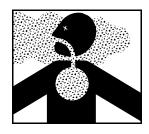




# Avoid crystalline Silica (quartz) Dust

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 can be 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
- Be sure to ask how close you can work to the marks they positioned.





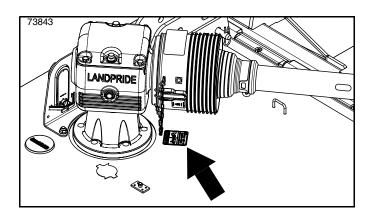
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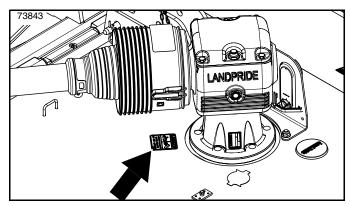


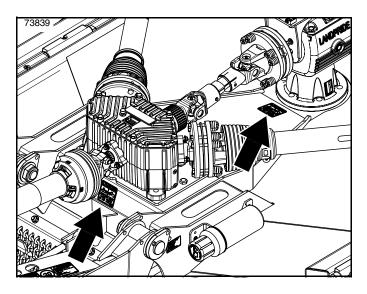
# Safety Labels

Your Folding Rotary Cutter comes equipped with all safety labels in place. They were designed to help you safely operate your equipment. 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.

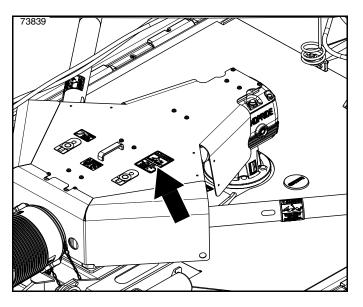
- 4. Refer to this section for proper label placement. To install new labels:
  - a. Clean surface area where label is to be placed.
  - b. Spray soapy water onto the cleaned area.
  - *c. Peel backing from label and press label firmly onto the surface.*
  - *d.* Squeeze out air bubbles with edge of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

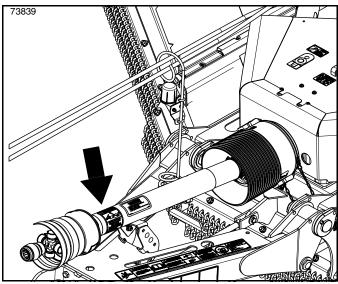


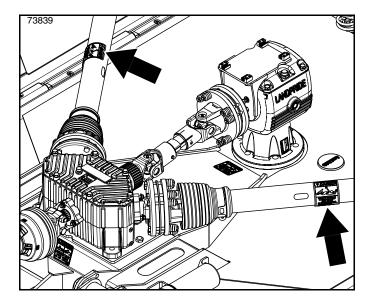
#### 858-956C

DANGER: Entanglement Hazard / Guard Missing 4 Places: Located under all gearbox input shafts.







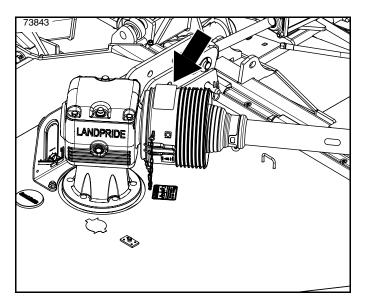




#### 818-552C

DANGER: Rotating Driveline - Keep Away 4 Places: Located on top of the sliding shield, main driveline, and wing drivelines.

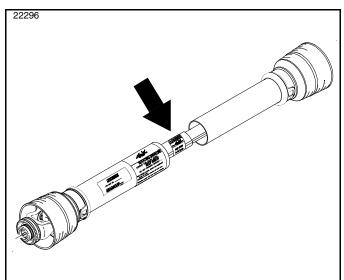






## 818-142C

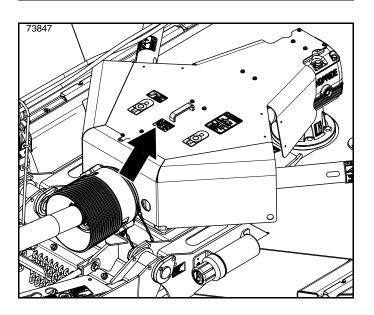
DANGER: Rotating Driveline - Keep Away 2 Places: Located on top of the wing gearbox shields.





## 818-540C

DANGER: Guard Missing - Do Not Operate 3 Places: Located on the outer pro file of the main driveline and wing drivelines.



<b>WARNING</b>
To avoid injury or implement damage: ∙Operate only_with
·Operate only with 540 rpm PTO

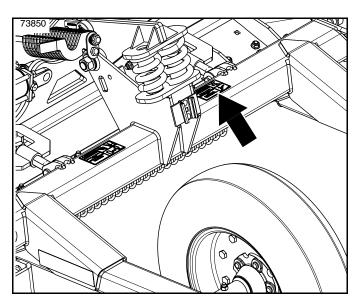
## 818-130C

WARNING: Use 540 rpm Power Take-off RC Series cutters only. 1 Place: Located on top of the sliding shield.

## 818-240C

WARNING: Use 1000 rpm Power Take-off RCM Series cutters only. 1 Place: Located on top of the sliding shield.

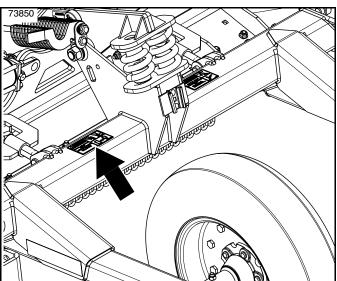


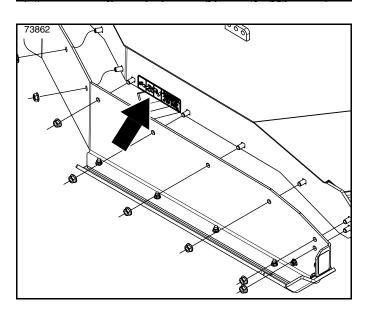


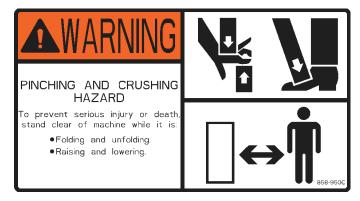


#### 858-951C

WARNING: Crushing Hazard 1 Place: Located on top of the center axle.







#### 858-950C

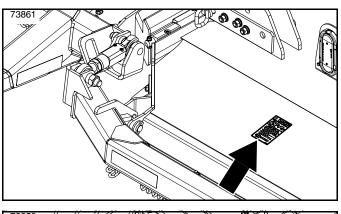
WARNING: Pinching and Crushing Hazard 1 Place: Located on top of the center axle.

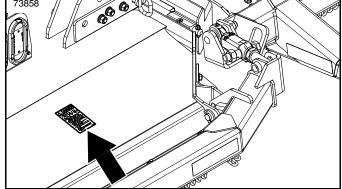


#### 844-073C

Danger: Missing Guard Hazard 2 Places: Located behind the removable wing side skirts.



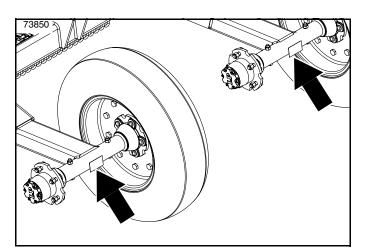






## 858-947C

DANGER: Thrown Object and Rotating Blade Hazard 2 Places: Located on the wings at the back.



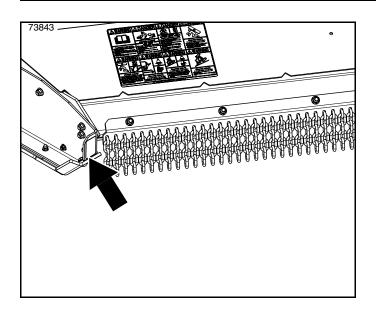


#### **818-230C** 1 11/16" x 2 13/16" Red Reflector 4 Places: Located on the back of all axle spindles.

838-614C 2" x 9" Red Reflector

2 Places: Located on the back of the wing axles.

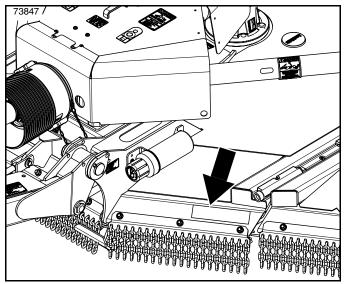


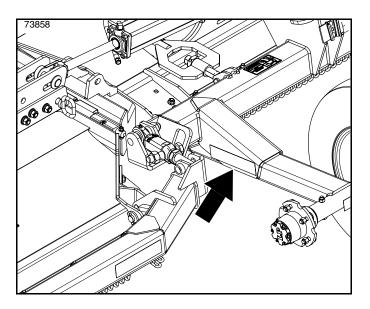


818-229C

1 3/4" x 2 3/4" Amber Reflector

2 Places: Located on the front of the wing side skirts.





## 838-615C

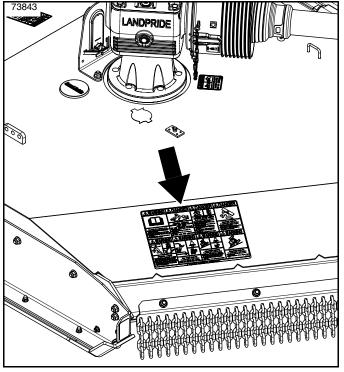
2" x 9" Amber Reflector 1 Place: Located on the front, left corner of the center deck.

## 838-615C

2" x 9" Amber Reflector 2 Places: Located on the outside surface of the two center axle arms.



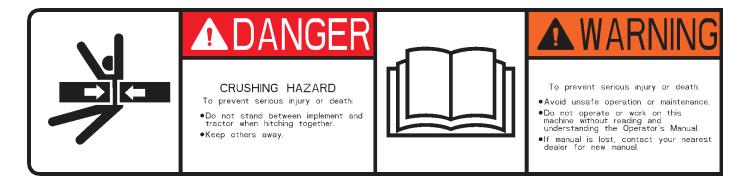




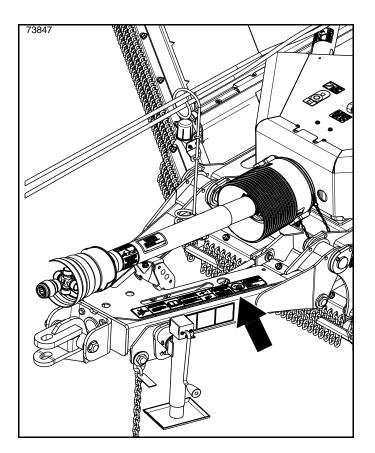
## 858-949C

Danger/Warning: Safety Combo 2 Places: Located on the front, outside corners of the wing decks.











## 858-954C

Danger/Warning: Hitch Safety Combo 1 Place: Located on top of the hitch A-frame.



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 RC5715 and RCM5715 Rotary Cutters are designed and built by Land Pride with many design options to provide superior cutting performance on gently sloping or slightly contoured right-of-ways, pastures, orchards, setaside acres, or row crop fields. The 15' (4.57 m) cutting width and ability to cut weeds and brush up to 5" (13 cm) in diameter makes this Rotary Cutter series well equipped for all listed applications.

All listed models offer a pull-type, narrow A-frame hitch, and a Cat.6 constant velocity main driveline for attachment to 60-250 hp (44.7-186.4 kW) tractors. The RC5715 attaches to 540 rpm tractors, while the RCM5715 attaches to 1000 rpm tractors.

To accommodate specific applications, Land Pride offers a multitude of options such as hitch types, driveline packages, tires, safety guards, axle combinations, and blade carriers. See "**Section 4: Options & Accessories**" starting on page 45 for additional information.

See "**Specifications & Capacities**" on page 70 and "**Features & Benefits**" on page 72 for additional information on the unique specifications and features of these Rotary Cutters.

# Patented

This cutter is protected by one or more of the following patent numbers:

- US 10,064,330
- US 10,130,025
- US 10,433,481
- US 10,844,883

## **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.

#### 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.

## **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 of this manual. 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 1-1 on page 15.

#### **Further Assistance**

Your dealer wants you to be satisfied with your new Rotary 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:

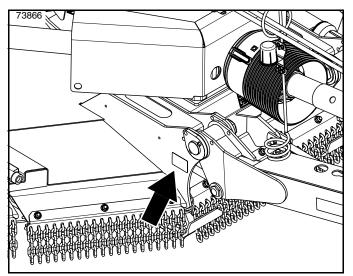
- 1. Discuss any problems you have with your implement with your dealership service personnel so they can address the problem.
- 2. If you are still not satisfied, seek out the owner or general manager of the dealership, explain the question/problem, and request assistance.
- 3. For further assistance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

#### Land Pride Service Department 1525 East North Street

P.O. Box 5060 Salina, KS. 67402-5060

E-mail address lpservicedept@landpride.com





Serial Number Plate Location Figure 1-1

# **Tractor Requirements**

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

Horsepower Rating ..... 60-250 hp (44.7-186.4 kW) Hitch Type ..... Drawbar (See "**Drawbar Set-up**" on this page)

Bear Power Take-off Speed

Rear Power Take-on Speed:
RC5715 540 rpm
RCM57151000 rpm
Hydraulic Outlets
Simultaneous Wing Fold 2 duplex outlets
Independent Wing Fold 3-duplex outlets
(See "Hydraulic Outlets" on this page)
Enclosed Cab or Operator Shield Recommended

# 

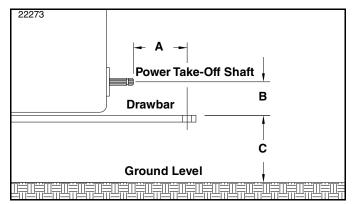
To avoid serious injury or death:

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.

# 

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 Drawbar Distance Figure 1-2

## Drawbar Set-up

Refer to Figure 1-2:



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.
- Power take-off damage may occur if distances "A" and "B" are not properly maintained.

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

540 rpm & 1 3/8", 1000 rpm power take-off speed:

"A"
"B" 8"- 10" (20.3 cm - 25.4 cm)
"C" 18"- 22" (45.7 cm - 55.9 cm)
1 3/4", 1000 rpm power take-off speed:
"A"
"B"

# 

# **Hydraulic Outlets**

Depending on purchased fold option, two to three duplex outlets are required. One of the outlets is required for raising and lowering the deck height. A second outlet is required when choosing an option to fold both wings simultaneously. The third outlet is required when choosing an option to fold each wing independently.

Land Pride highly recommends connecting the wing fold hose(s) to a duplex outlet or outlets with float capabilities and using the float capability when in field operation.

Accessory available to convert from two duplexes to one duplex. See "**Single Duplex Accessory**" on page 49.



# **Torque Requirements**

See "Torque Values Chart for Common Bolt Sizes" on page 75 to determine correct torque values when tightening hardware. View bottom of chart for "Additional Torque Values" for exceptions to common torque values.

# **Before You Start**

Be sure to read and fully understand this Operator's Manual. An understanding of how the Rotary Cutter works will aid in the assembly and setup of your machine.

It is best to go through the "**Pre-Assembly Checklist**" on this page before assembling the Rotary Cutter. To speed up your assembly task and make the job safer, have all needed parts and equipment readily at hand.

### **Pre-Assembly Checklist**

V	Check	Ref.
	Have a hoist, fork lift, or loader with properly size safety stands capable of lifting and supporting the hand.	
	Have a minimum of two people available during a	issembly.
	Make sure all major components and loose parts are shipped with the machine.	Operator's Manual
	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.	Operator's Manual 331-431M
	<b>NOTE:</b> All assembled hardware from the factory has been installed in the correct location. Remember location of a part or fastener if removed. Keep parts separated.	Parts Manual 331-431P
	Make sure working parts move freely, bolts are tight & cotter pins are spread.	Operator's Manual
	Make sure all safety labels are correctly located and legible. Replace if damaged.	Page 6
	Make sure lights are functioning properly.	Page 30
	Make sure safety guards are installed and in good working order.	53 & 61
	Make sure all grease fittings are in place and lubricated.	Page 63
	Make sure all pneumatic tires are properly inflated and all wheel bolts and axle nuts are tightened to the specific torque.	Page 75

# **Hitch Options**

Shown below are five different hitch options available for your Rotary Cutter. Visit your nearest Land Pride dealer to inquire about or purchase a new hitch option.

#### **Constant Level Clevis Hitch**

#### Refer to Figure 1-3:

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

## LP Performance Hitch

#### Refer to Figure 1-4:

The LP Performance Hitch<sup>TM</sup> is a drawbar friendly, selfleveling hitch that pivots up and down, and side-to-side. It is held upright with a customer supplied hitch pin to allow single-person hook up.

## **Bar-Tite Hitch**

#### Refer to Figure 1-5:

The Bar-Tite Hitch functions similar to the LP Performance Hitch except it clamps directly to the drawbar. The Bar-Tite Hitch is sandwiched between hardened steel plates to eliminate drawbar wear.

## **Ball Hitch**

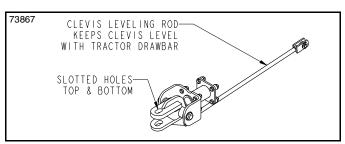
#### Refer to Figure 1-6:

The Ball Hitch allows the cutter to swivel about a 2 5/16" trailer ball mounted to the tractor drawbar. Customer supplies ball.

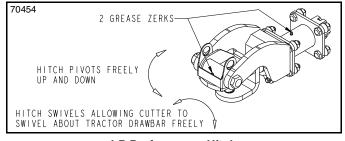
## **Constant Level Pintle Hitch**

#### Refer to Figure 1-7:

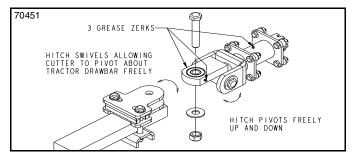
The pintle hitch is ideal for a drawbar hammer strap. The hitch allows the cutter to swivel about the pintle connection. A hitch leveling rod attached to the underside of the hitch keeps the pintle parallel with the tractor drawbar at all cutting heights.



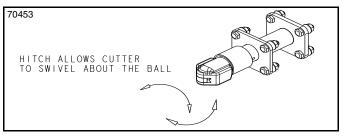
#### Constant Level Clevis Hitch Figure 1-3



#### LP Performance Hitch Figure 1-4



Bar-Tite Hitch Figure 1-5



Ball Hitch Figure 1-6

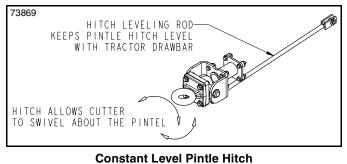
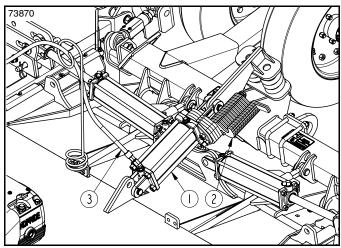


Figure 1-7







Cylinder Stroke Control Disengagement Figure 1-8

# Hitch Assembly

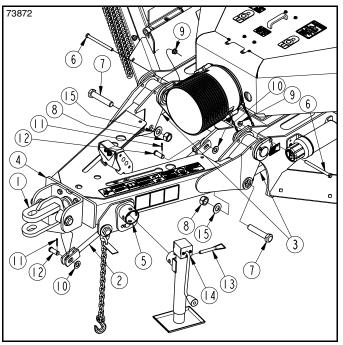
**NOTE:** The center deck lift cylinder hose (#3) will need to be connected to a tractor before the cutter hitch can be rotated down for assembly.

#### Refer to Figure 1-8:

- Connect center deck lift cylinder hose (#3) to a tractor. See "Hydraulic Hook-up" on page 23 for instructions.
- 2. Raise Rotary Cutter with tractor control lever. Remove and discard shipping bracket and cotter pin from center deck cylinder (#1).
- 3. Keep all flip spacers (#2) in the open position. Lower center deck down until unit is resting fully on the ground.

#### Refer to Figure 1-9:

- Hitch (#4) is shipped rotated up and bolted in place. Before removing bolts (#6), secure hitch (#4) with a hoist.
- 5. Remove and discard 1/2" whiz nuts (#9) and 1/2" bolts (#6).
- 6. Rotate hitch (#4) down into pulling position as shown.
- 7. Instructions a-b below are for cutters equipped with the constant level clevis or pintle hitch. Skip to step 8 if assembling LP Performance, bar-tite, or ball hitch.
  - a. Attach clevis level rod (#2) to the center deck lug and to clevis hitch (#1) with clevis pins (#12), flat washers (#10), and cotter pins (#11).
  - b. Secure cotter pins (#11) by bending one or more legs of each pin.



Hitch and Jack Assembly Figure 1-9

**IMPORTANT:** Insert bolts (#7) from outside the hitch frame. Inserting bolts from inside the hitch will result in them interfering with the tractor tires.

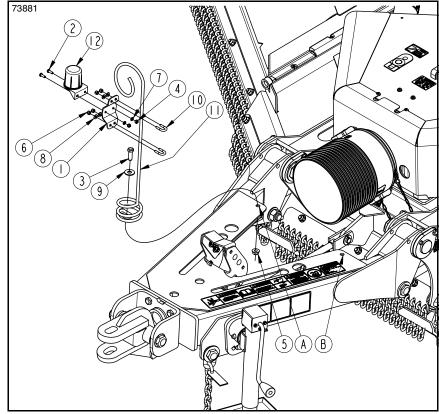
- 8. See **Important** note above. Install left and right leveling rods (#3) to hitch (#4) with 1"-8 x 5 GR8 bolts (#7), and 1" flat washers (#15).
- 9. Secure bolts (#7) with top lock nuts (#8). Draw lock nuts up snug, do not tighten.
- 10. Adjustment to the leveling rod will be made later. Refer to "Level Center & Wing Decks" on page 35.

# Attach Park Jack

#### Refer to Figure 1-9:

- 1. Attach park jack (#14) to jack mount (#5) as shown and secure with hitch pin (#13).
- 2. If park jack is not vertical, adjust jack angle according to "**Park Jack Angle Alignment**" on page 33.
- 3. Adjust jack (#14) up or down until clevis hitch (#1) is at tractor drawbar height.





Attach Spring Hose Loop and 7-Pin Connector Holder Figure 1-10

# **Attach Spring Hose Loop**

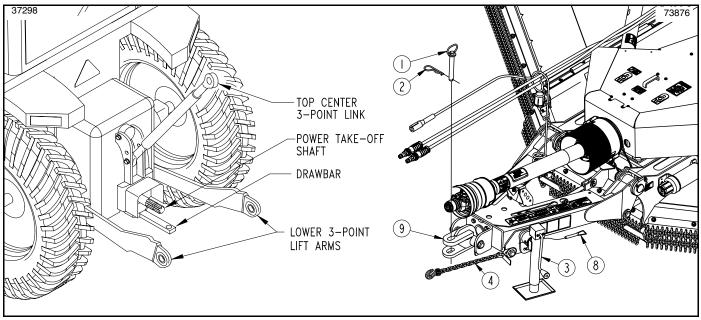
Refer to Figure 1-10:

**NOTE:** For shipping purposes, the spring hose loop is banded to the park jack on the hitch frame.

**NOTE:** Mount spring hose loop to hole (A) if tractor controls are located on the right side or to hole (B) if tractor controls are located on the left side.

- Attach spring hose loop (#11) to hole (A or B) with 1/2"-13 x 1 1/2" GR5 bolt (#3), 1/2" flat washer (#9), and 1/2" hex whiz nut (#5).
- 2. Orient spring hose loop (#11) as shown and tighten 1/2" whiz nut (#5) to the correct torque.
- 3. Attach bracket (#1) to spring hose loop (#11) with 1/4"-20 u-bolts (#10), flat washers (#8), and nylock nuts (#6). Rotate bracket (#1) to the position shown and tighten nuts (#6) to the correct torque.
- Attach electrical holder (#12) to bracket (#1) with 1/4"-20 x 3/4" GR5 bolts (#2), lock washers (#7), and hex nuts (#4). Tighten nuts to the correct torque.





#### Hook-up Constant Level Clevis Hitch Figure 1-11

# Hook-up Constant Level Clevis Hitch

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.

# **A** 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:

- 1. Make certain park jack (#3) is properly attached to the cutter hitch and secured with detent pin (#8). If park jack is not vertical, refer to "**Park Jack Angle Alignment**" on page 33.
- 2. Store tractor's top center 3-point link in its storage hook.
- 3. Start tractor and raise lower 3-point arms fully up.
- 4. Carefully back tractor within close proximity of clevis (#9).
- 5. Shut tractor down before dismounting according to "Tractor Shutdown Procedure" on page 38.
- 6. Verify tractor drawbar is adjusted correctly. Refer to "Drawbar Set-up" on page 15.

- 7. Raise or lower park jack (#3) to align clevis (#9) with tractor drawbar. Drawbar should fit between lower and upper plates of clevis.
- 8. Restart tractor and continue to back tractor up to the cutter hitch until hitch holes in tractor drawbar and clevis (#9) are aligned.
- 9. Shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.

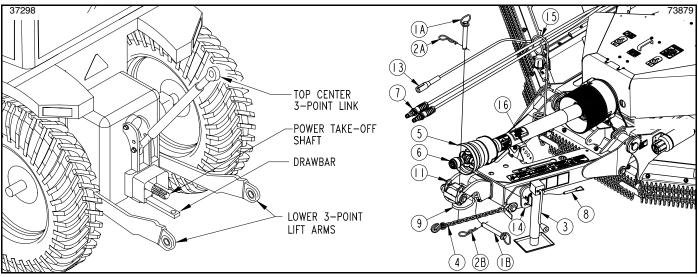
**NOTE:** Hitch pin (#1) and hairpin cotter (#2) are supplied by the customer.

- 10. Attach cutter to tractor drawbar with hitch pin (#1). Secure hitch pin with hairpin cotter (#2).
- 11. Lower park jack (#3) until hitch weight is supported by the 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.

- 12. Remove detent pin (#8) and relocate park jack (#3) from the hitch mount to the storage mount on the left wing. Secure jack with its detent pin. Ensure the jack base is level with, or lower than the jack crank head, especially after the wings are folded up. See cover picture for correct positioning.
- 13. 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.
- 14. Continue with "Hydraulic Hook-up" on page 23.





Hook-up LP Performance Hitch Figure 1-12

# Hook-up LP Performance Hitch

# **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.

# **A** 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.

**NOTE:** Hitch pin (#1A/B) and hairpin cotter (#2A/B) are supplied by the customer.

#### Refer to Figure 1-12:

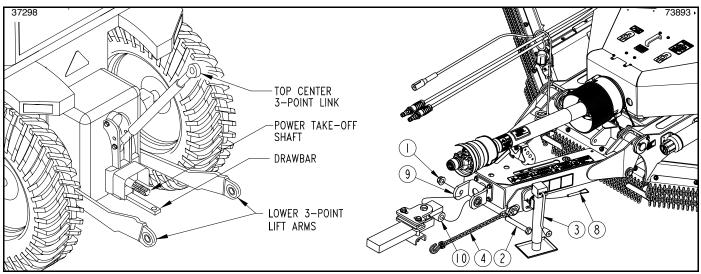
- 1. Make certain park jack (#3) is properly attached to the cutter hitch and secured with ball detent pin (#8).
- 2. Adjust park jack angle if it is not vertical. Refer to "Park Jack Angle Alignment" on page 33.
- 3. In order to properly align and hook-up the tractor's drawbar to the LP Performance Hitch<sup>TM</sup>, clevis opening should be parallel with the drawbar. This can be accomplished by rotating clevis (#9) so that the flip hitch holder (#11) is positioned on top as shown. Insert the customer supplied hitch pin (#1B) through holes in flip hitch holder (#11) as shown. Secure with hairpin cotter (#2B).
- Remove bushings in clevis (#9) if customer supplied hitch pin is larger than 1". See "LP Performance Hitch Hole Size" on page 33.
- 5. Store top center 3-point link in the tractor's storage hook.

- 6. Start tractor, raise lower 3-point arms fully up, and carefully back tractor within close proximity of clevis (#9).
- 7. Shut tractor down before dismounting according to "Tractor Shutdown Procedure" on page 38.
- 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 clevis plates.
- 10. Restart tractor and continue to back tractor up to the cutter hitch until holes in the tractor drawbar and clevis hitch (#9) are aligned.
- 11. Shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 12. Remove hairpin cotter (#2B) and hitch pin (#1B) from hitch holder (#11). Rotate hitch holder down.
- 13. Attach cutter to tractor drawbar with hitch pin (#1A). Secure hitch pin with hairpin cotter (#2A).
- 14. Lower park jack (#3) until hitch weight is supported by the 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.

- 15. Remove detent pin (#8) and relocate park jack (#3) from the hitch mount to the storage mount on the left wing. Secure jack with its detent pin. Ensure the jack base is level with, or lower than the jack crank head, especially after the wings are folded up. See cover picture for correct positioning.
- 16. 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.
- 17. Continue with "Hydraulic Hook-up" on page 23.





Hook-up Bar-Tite Hitch Figure 1-13

# Hook-up Bar-Tite Hitch Attach Bar-Tite Hitch to Tractor Drawbar

#### Refer to Figure 1-14:

- 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 off with one-quarter turn. Do not torque 1" locknut at this time.
- 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).
- Tighten 3/4" locknuts to correct torque by referring to the "Torque Values Chart for Common Bolt Sizes" on page 75.
- 4. Remove 1" x 6 1/2" GR5 hex bolt (#12) and 1" lock nut (#13) from hitch bushing (#3). Keep bolt and locknut for reuse.

#### Attach Bar-Tite Hitch to Rotary Cutter

Refer to Figure 1-13:

# 

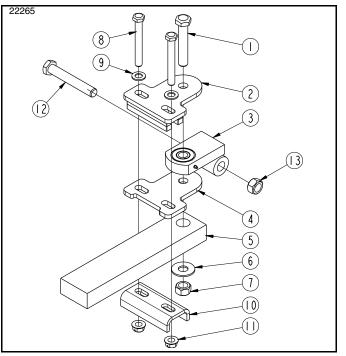
To avoid serious injury or death:

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.



#### 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.



#### Bar-Tite Hitch Assembly to Tractor Tongue Figure 1-14

- 1. Make certain park jack (#3) is properly attached to the cutter hitch and secured with detent pin (#8). If park jack is not vertical, refer to "**Park Jack Angle Alignment**" on page 33.
- 2. Store center top 3-point link in its storage hook.
- 3. Start tractor, raise lower 3-point arms fully up, and carefully back tractor within close proximity of clevis (#9).
- 4. Shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 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 hitch (#10) with bolt hole in swivel clevis (#9).
- 7. Restart tractor and back up to cutter hitch until hitch bushing (#10) aligns with holes in swivel clevis (#9).
- 8. Shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- Insert 1" x 6 1/2" GR5 hex bolt (#2) through swivel clevis (#9) and hitch bushing (#10). Secure bolt with locknut (#1). Tighten locknut snug to remove all play. Do not torque 1" locknut.
- 10. Lower park jack (#3) until hitch weight is supported by the 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 detent pin (#8) and relocate park jack (#3) from the hitch mount to the storage mount on the left wing. Secure jack with its detent pin. Ensure the jack base is level with, or lower than the jack crank 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 "Hydraulic Hook-up" below.

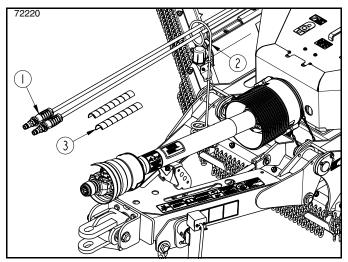
# **Hydraulic Hook-up**

The required number of duplex outlets on the tractor is dependent upon how the cutter is set-up. The standard cutter is equipped with three hydraulic cylinders with one in the center for lifting the cutter and one on each wing for folding the wings simultaneously. The center lift cylinder is set up for single-action (one way) operation. The wings can be set up with single-action (one-way) or dual-action (two-way) operation.

Each duplex outlet on your tractor can perform just one operation. One outlet is needed for lifting the cutter and one for folding the wings simultaneously. Two outlets are needed to fold the wings independently. It is highly recommended to connect the wing fold hose (singleaction) or hoses (dual-action) to a duplex outlet with float capabilities. Use float capabilities when in field operation.

#### Refer to Figure 1-16:

- The black handled hose is connected to the lift cylinder.
- The red handled hose is connected to both wing folding cylinders for simultaneous wing folding or connected to the right hand wing cylinder when folding wings independently.
- The yellow handled hose is connected to the left wing folding cylinder when folding wings independently.
- When setup for dual-action fold, the handles have directional arrows to identify which hose extends the cylinder and which hose retracts the cylinder.



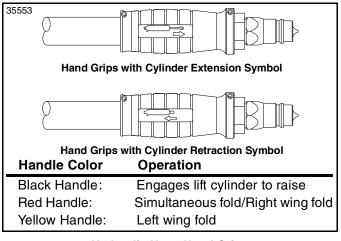
Hydraulic Hook-up (Constant Level Clevis Hitch Shown) Figure 1-15

To avoid serious injury or death:

Hydraulic fluid under high pressure will penetrate the skin 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. If an accident occurs, seek immediate emergency medical care or gangrene may result. DO NOT DELAY.

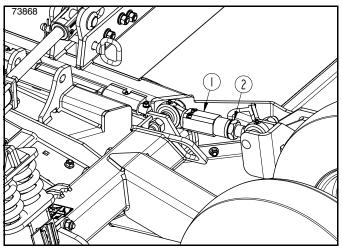
#### Refer to Figure 1-15:

- Route hydraulic hoses (#1) through hose support loop (#2) and attach couplers to the tractor remote outlets. If tractor has a float option on one of the outlets, connect wing lift hose to that outlet and set tractor control lever for that outlet in float position before cutting.
- 2. Apply spiraled hose wrap (#3) to hydraulic hoses (#1) as needed to keep hoses from becoming pinch while raising and lowering the decks, folding and unfolding the wings, and while making turns with the tractor.



Hydraulic Hose Hand Grips Figure 1-16





Wing Axle - Turnbuckle Figure 1-17

# Wing Axle Turnbuckle Set-up

Refer to Figure 1-17:

**NOTE:** The cutter is shipped with turnbuckles attached and drawn all the way in as shown in Figure 1-17.

- 1. Park tractor and cutter on a level surface.
- 2. Shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- Loosen jam nut (#2) on turnbuckle (#1) and adjust turnbuckle until center of ball swivels are approximately 10 1/2"(27 cm) apart. Do not tighten jam nut. Final adjustment will be made later when leveling wing decks.
- 4. Repeat step 3 for the left wing axle.

# Unfold Wings

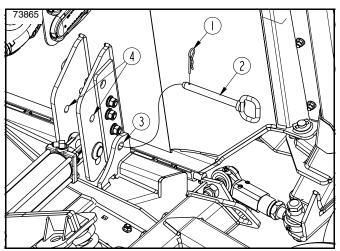
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To avoid serious injury or death:

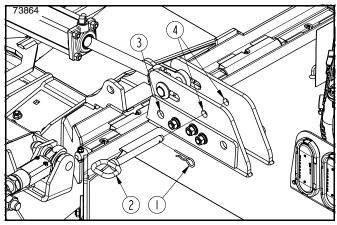
- *Keep everyone out of the area where the wing decks will unfold. One of the wing decks can fall suddenly.*
- Do not walk, stand, or allow anyone else in the area where a raised wing will fall unless the wing is securely locked in the raised position with its transport lock.

#### Refer to Figure 1-18:

- 1. Park tractor and cutter on a level surface.
- 2. Release any tension on transport lock pins (#2) by slightly folding the wing up.
- 3. Without relieving hydraulic pressure, shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 4. Remove hairpin cotter (#1) from the left and right transport pins (#2).
- 5. Pull transport pins (#2) from lock holes (#3) on both wings as shown.



Transport Pin, Locked Position Figure 1-18



Transport Pin, Storage Position Figure 1-19

#### Refer to Figure 1-19:

- 6. Store transport pins (#2) in storage holes (#4) as shown and secure with hairpin cotters (#1).
- 7. Return to the tractor, staying clear of unpinned wings.

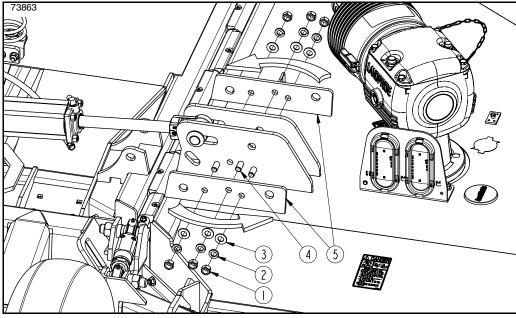
#### **Cutters With Single-Action Fold Cylinders**

- a. Start tractor, place tractor control lever for the wing fold cylinders in float position and then dismount tractor.
- b. Carefully position yourself on the center deck while being careful to stay clear of the unpinned wings.
- c. Manually push on the right wing until it starts to fall on its own. The wing should fall slowly as the hydraulic line is engaged to control the fall. If it does not fall on its own, then continue lowering the wing with tractor hydraulics.
- d. Repeat steps b-c for the left wing.

#### Cutters With Dual-Action Fold Cylinders

a. Start tractor and lower both left and right wings with tractor hydraulic control lever until both wings are on the ground.





Fold Lock Lugs Figure 1-20

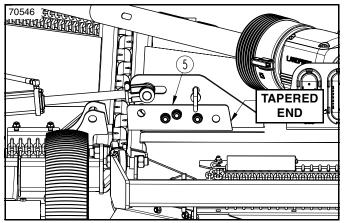
# Fold Lock Lugs Set-up

If the cutter is setup with **Dual-Action Folding Cylinders** and folding lock lugs (#5) are arranged as shown in Figure 1-21, then the lugs must be flipped around to be like Figure 1-22. Follow steps 1-7 below to flip the lugs around.

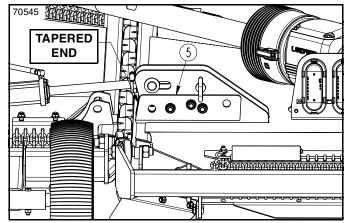
If the cutter is setup with **Single-Action Folding Cylinders** and folding lock lugs (#5) are arranged as shown in Figure 1-22, then the lugs must be flipped around to be like Figure 1-21. Follow steps 1-7 below to flip the lugs around.

#### Refer to Figure 1-20:

- 1. With wings unfolded on a level surface, remove all nuts (#1), lock washers (#2), flat washers (#3), bolts (#4), and the four folding locking lugs (#5). Set hardware aside for re-use.
- 2. On both wing decks, flip folding lock lugs (#5) length wise to be arranged as noted below.
  - For single-action cylinders, see Figure 1-21.
  - For dual-action cylinders, see Figure 1-22.
- Install locking lugs (#5) with existing 5/8"-11x1 3/4" GR5 bolts (#4), flat washers (#3), lock washers (#2), and hex nuts (#1). Hand tighten hex nuts (#1).
- 4. Once all hardware has been reinstalled, start tractor, and fold wings fully up.
- Without relieving hydraulics, shut tractor down before dismounting according to "Tractor Shutdown Procedure" on page 38.
- 6. Insert transport pins (#2) as shown in Figure 1-18 on page 24.
- 7. Secure locking lugs (#5) to the wings by tightening all nuts (#1) on both wing decks to the correct torque.

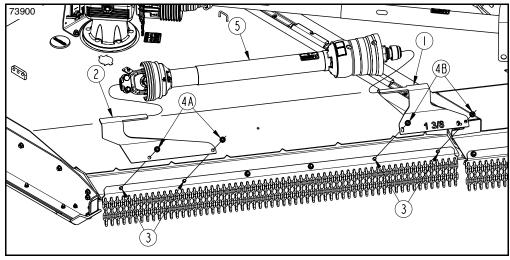


Fold Lock Lugs (#5) Set-up For Single-Action Cylinders Figure 1-21



Fold Lock Lugs (#5) Set-up For Dual-Action Cylinders Figure 1-22





Remove Main Driveline from Shipping Position Figure 1-23

# **Driveline Assembly**

The main driveline type is constant velocity, with or without over-running clutch. Pull-collar and bolted couplers are used to secure the driveline to the tractor and implement gearbox, respectively.

# **A** 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.

**NOTE:** The driveline must be lubricated before putting it into service. Refer to "Lubrication Points" on page 63.

**NOTE:** Wings must be lowered before removing the driveline from its shipping location. See "**Unfold Wings**" on page 24.

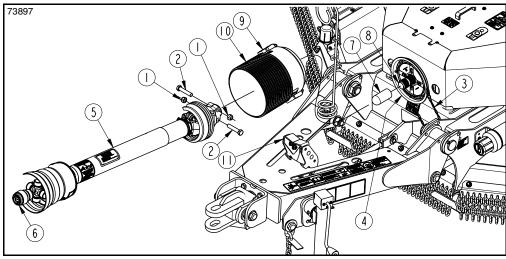
#### Refer to Figure 1-23:

- 1. Remove hex whiz nuts (#4A), carriage bolts (#3), and shipping bracket (#2). Discard shipping bracket.
- Slide driveline (#5) off end of shipping bracket (#1). Set driveline aside for attaching to the splitter box later.
- 3. Reinsert carriage bolts (#3) and secure with hex whiz nuts (#4A). Tighten whiz nuts to the correct torque for a 1/2"-13 GR5 bolt.
- 4. Remove hex whiz nuts (#4B), carriage bolts (#3), and shipping bracket (#1). Discard shipping bracket.
- 5. Reinsert carriage bolts (#3) and secure with hex whiz nuts (#4B). Tighten whiz nuts to the correct torque for a 1/2"-13 GR5 bolt.

#### Refer to Figure 1-24 on page 27:

- 6. Unsnap latches (#9) on both sides of gearbox shield (#10) and remove shield.
- 7. Remove and discard rubber shaft protector (#7) from splitter gearbox shaft (#8).
- 8. Remove locknuts (#1) and bolts (#2) from bolted coupler end of driveline (#5).
- Insert bolted coupler end of driveline (#5) through gearbox shield (#10) and attach to gearbox input shaft (#8) with removed bolts (#2) and locknuts (#1). Tighten locknuts to the correct torque for 5/8"-11 Gr8 bolts.
- 10. Collapse driveline (#5) by pushing tractor end of driveline toward the splitter gearbox.
- 11. Rotate driveline support (#11) up and support driveline (#5) on the support. Final adjustments to the support will be made after tractor hook-up.
- 12. Return gearbox shield (#10) to mounting plate (#4) and secure with latches (#9).
- 13. Check safety chain (#3). Make sure it is latched to mounting plate (#4) and gearbox shield (#10).





Driveline Assembly Figure 1-24

# Driveline Hook-up to Tractor

# 

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.
- 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**

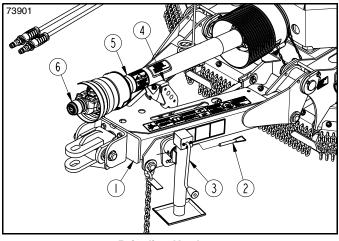
To avoid serious injury or death:

- Always disengage power take-off, put tractor in park or set park brake, shut tractor engine off, remove ignition key, and wait for blades to come to a complete stop before dismounting tractor.
- Some tractors are equipped with two power take-off speeds. Be certain your tractor's power take-off shaft is set-up to operate the implement at its rated power take-off speed. Do not exceed implement's rated power take-off speed. Excessive speed can damage drive components, cutter blades, and/or increase the risk of a thrown object hazard. RC models are rated for 540 rpm and RCM models are rated for 1000 rpm.
- Make certain driveline yokes are securely fastened at each end. A loose yoke can work free allowing the driveline to rotate uncontrollably.

#### Refer to Figure 1-25:

1. If needed, collapse driveline (#5) by pushing tractor end of driveline against the splitter gearbox.

2. Pull back on yoke lock collar (#6) and slide yoke onto the tractor power take-off shaft.





- 3. Release lock collar (#6) and continue to push outer yoke onto the tractor power take-off shaft until lock collar snaps in place.
- 4. Both yoke ends of driveline (#5) should be moved back and forth to ensure they are secured. Reattach any yoke end that is loose.

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

- 5. Rotate driveline support (#4) down.
- 6. If park jack (#3) is attached to hitch (#1), lower park jack until hitch weight is supported by the tractor drawbar.
- 7. Remove detent pin (#2) and relocate park jack (#3) from hitch frame (#1) to the left-hand wing storage base with detent pin (#4). Ensure base of park jack is level with, or lower than the jack crank head, especially after the wings are folded up. See cover picture for correct positioning.



# **Driveline Support Adjustment**

Refer to Figure 1-26:

- 1. Move tractor control lever to extend hydraulic lift cylinder (#1) until pressure against flip spacers (#2) has been eliminated.
- Without relieving hydraulic pressure, shut tractor down before dismounting according to "Tractor Shutdown Procedure" on page 38.

#### 

#### To avoid serious injury or death:

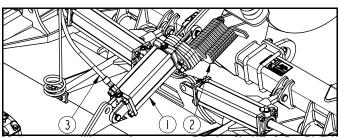
Stay clear from underneath the cutter and directly behind transport tires. The cutter could fall suddenly causing the decks to lower and tires to roll back.

- 3. Move flip spacers (#2) from closed position to their open position as shown.
- 4. Start tractor and lower cutter until front skid shoes are resting on the ground or on solid, non-concrete support blocks.
- 5. Shut tractor down before dismounting according to "Tractor Shutdown Procedure" on page 38.
- 6. Close flip spacers (#2) as needed to support wheels at this position.

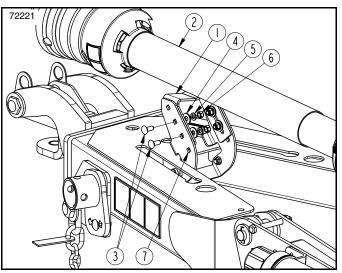
#### Refer to Figure 1-27:

**NOTE:** The driveline support must be able to rotate up and down with minimum clearance between the driveline and driveline support while the driveline is connected to the tractor's power take-off shaft.

- 7. With driveline (#2) attached to the tractor, rotate driveline support (#1) up to check clearance between the driveline and driveline support.
- 8. Adjust height of driveline support (#1) if it contacts driveline (#2) or if there is too much gap between the driveline and driveline support.
  - a. Loosen all four nuts (#6) and adjust driveline support (#1) up or down until there is a small gap under driveline (#2) while rotating the support up and down. If this gap is acceptable, skip to step f. Otherwise, continue with step b.
  - b. If the gap can not be adjusted correctly, remove nuts (#6), lock washers (#5), flat washers (#4), and carriage bolts (#3).
  - c. Adjust driveline support (#1) up or down as needed to achieve the appropriate gap. Install carriage bolts (#3) into the appropriate square holes (#7).
  - d. Secure bolts (#7) with flat washers (#4), lock washers (#5), and nuts (#6). Draw nuts up snug. Do not tighten nuts at this time.
  - e. Pivot driveline support (#1) up and down to make sure there is a small clearance gap between the support and driveline (#2). If needed, readjust driveline support until there is a small clearance.



Hydraulic Lift Cylinder and Flip Spacers Figure 1-26



#### Driveline Support (Shown rotated up) Figure 1-27

f. Tighten all four nuts (#6) to the correct torque for a 3/8"-16 GR5 bolt.

**IMPORTANT:** Always rotate driveline support down before moving cutter to prevent damage to driveline.

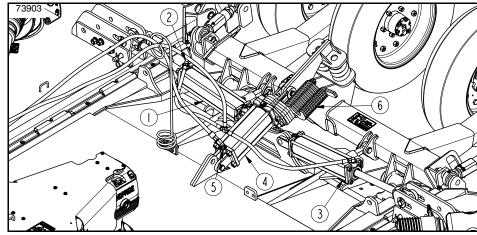
9. When adjustments are complete, rotate driveline support (#1) down and away from driveline (#2).

# **Driveline Clearance Check**

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

- 1. With driveline attached to the tractor, verify all flip spacers (#2) in Figure 1-26 are open as shown and driveline support (#1) in Figure 1-27 is rotated down.
- 2. Slowly raise and lower cutter to its upper and lower limits while observing clearances between the cutter hitch frame and driveline (#2) in Figure 1-27.
- 3. Adjust tractor drawbar height and/or length if driveline interferes. See Figure 1-2 on page 15 for correct drawbar dimensions.





Purge Wing & Center Deck Cylinders Figure 1-28

# Purge Hydraulic System



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.

# **A** WARNING

#### To avoid serious injury or death:

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

It may be necessary to purge the hydraulic system of trapped air. Cycle wing and deck lift cylinders back and forth several times to purge air from them and to determine if they operating sluggish. Purge any cylinder of air that continues to operate sluggish.

#### **Purge Wing Fold Cylinder**

#### Refer to Figure 1-28:

- 1. Lower center deck until it is supported by flip spacers (#6).
- 2. Lower wing decks until they are resting on the ground.
- 3. Shut tractor down before dismounting according to "Tractor Shutdown Procedure" on page 38.
- 4. Slightly loosen hydraulic hose fitting (#2) on wing cylinder (#1) to allow air to escape.
- 5. Restart tractor and slowly activate tractor control lever to retract wing cylinder (#1), and to purge trapped air from the hydraulic system.
- Once all air has been purged from the hydraulic system, shut tractor down once more according to "Tractor Shutdown Procedure" on page 38.

- 7. Tighten hose fitting (#2) on hydraulic cylinder (#1).
- 8. Repeat steps 4-7 to purge cylinder (#3).

## Purge Deck Lift Cylinder Refer to Figure 1-28:

# **A** WARNING

To avoid serious injury or death:

Stay clear from underneath the cutter and directly behind transport tires. The cutter could fall suddenly causing the decks to lower and tires to roll back.

- 1. Move tractor control lever to extend hydraulic lift cylinder (#4) until pressure against flip spacers (#6) has been eliminated.
- Without relieving hydraulic pressure, shut tractor down before dismounting according to "Tractor Shutdown Procedure" on page 38.
- 3. Move flip spacers (#6) from the closed position to their open position as shown.
- 4. Restart tractor and retract center deck lift cylinder until it is fully retracted.
- 5. Shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 6. Move tractor control levers back and forth to relieve all hydraulic pressure.
- 7. Slightly loosen hydraulic hose fitting (#5) on deck lift cylinder (#4) to allow air to escape.
- 8. Restart tractor and slowly activate tractor control lift lever to extend lift cylinder (#4) and to purge trapped air from the hydraulic system.
- 9. Once all air has been purged from the hydraulic system, shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 10. Tighten hose fitting (#5) on lift cylinder (#4).



# Hook-up LED Lights

#### Refer to Figure 1-29:

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 1-29.

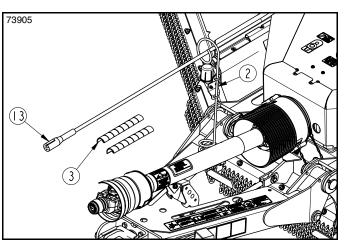
- 1. Route lead wire harness (#13) through the front and rear spring hose loops (#2).
- 2. Connect plug on lead wire harness (#13) to the tractor's 7-pin electrical outlet.
- 3. It is best to have a second person to verify the lights are operating. Start tractor and operate lights as follows:
  - a. 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 1-31:

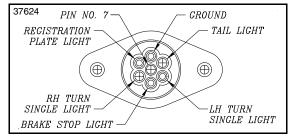
- If the lights did not operate properly, recheck hook-up of the enhance module (#9) and wire harnesses (#8 & #13) as outlined below. Make any necessary changes and repeat step 3 above.
  - a. Reference wire harness (#8) leading to the LED lights on the right-hand side of the cutter. Make sure connector (#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 1-29:** Ensure that the 7-pin plug on the end of the 15' (4.6 m) lead wire harness (#13) is properly seated in the tractor's 7-pin electrical outlet shown in Figure 1-30.
- 5. Check routing of wire harness (#8) to make sure they will not be pinched as the wing deck is folded and unfolded and while raising and lowering the cutter height.

#### Refer to Figure 1-29:

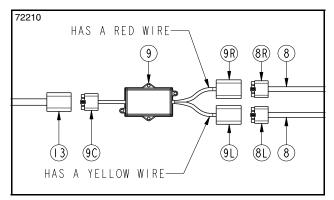
- Check routing of lead wire harness (#13) to make sure it pass through the two spring hose loops (#2).
- 7. Secure harness in place with spiral hose wrap (#3). If needed, add any cable ties to complete the process.



LED Hookup Figure 1-29



Tractor 7-Pin Electrical Outlet Figure 1-30



Enhance Module Wire Connections Figure 1-31



# **Unhook Rotary Cutter**

# 

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.

# **WARNING**

To avoid serious injury or death:

Stay clear from underneath the cutter and directly behind transport tires. The cutter could fall suddenly causing the decks to lower and tires to roll back.

#### Refer to Figure 1-32:

- 1. See "Long-Term Storage" on page 62 when storing the cutter for long periods and at end of the season.
- If power take-off is engaged, reduce tractor engine speed to an idle and then disengage power take-off.
- 3. Park cutter on a level, hard surface. Place tractor gear selector in park or set park brake.
- 4. Wait for the blades to come to a complete stop, and then raise the cutter up until all pressure is removed from flip spacers (#2).
- 5. With the blades stopped, fold the wings fully up.
- 6. Without relieving hydraulic pressure to the lift cylinder and wing fold cylinders, shut tractor off according to "Tractor Shutdown Procedure" on page 38.

#### Refer to Figure 1-33:

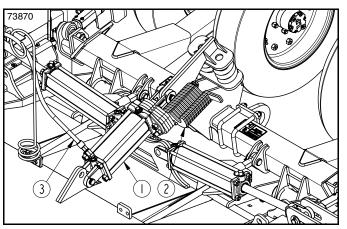
- 7. Remove hairpin cotters (#1) and transport pins (#2) from storage holes (#4).
- 8. Insert transport pins (#2) through transport lock holes (#3) and secure them with hairpin cotters (#1).

#### Refer to Figure 1-32:

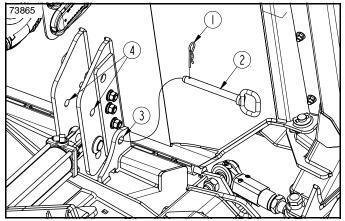
- 9. Move all flip spacers (#2) to the open position.
- 10. Start tractor and lower the cutter fully down. The front skid shoes should be resting on the ground or on solid, non-concrete support blocks.
- Without relieving hydraulics, shut tractor down before dismounting according to "Tractor Shutdown Procedure" on page 38.
- 12. Close stroke control flip spacers as needed to support wheels at this position.
- 13. Move tractor hydraulic control levers back and forth to release all hydraulic pressures at the couplers.

#### Refer to Figure 1-34:

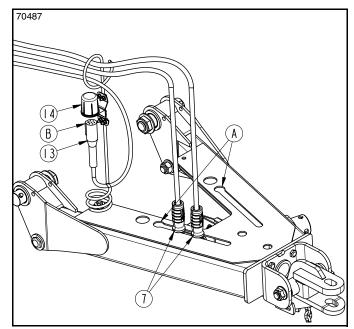
- 14. Unhook hydraulic hoses from the tractor outlets. Insert couplers (#7) through hole (A) on one side of the hitch and slide couplers down the slot to secure them and to keep them out of the dirt.
- 15. Unhook wire harness (#13) from the tractor outlet.
- Align boss (B) with notch in holder (#14). Insert connector (#13) into the holder and then turn it onequarter of a turn to secure it and keep moisture out.



Hydraulic Lift Cylinder and Flip Spacers Figure 1-32



Transport Pin, Locked Position Figure 1-33



Hydraulic Couplers & Wire Harness Storage Figure 1-34



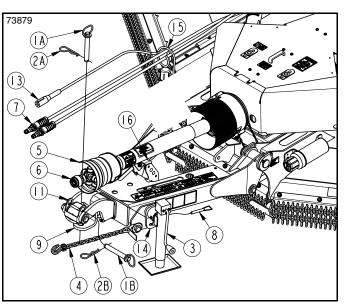
#### Refer to Figure 1-35:

- 17. Relocate park jack (#3) from the wing mount to jack mount (#14) as shown. Fully insert detent pin (#8) in jack mount to secure the park jack.
- 18. If needed, realign park jack (#3) to be vertical. Refer to "**Park Jack Angle Alignment**" on page 33.
- 19. Unhook hitch safety chain (#4) from the tractor.
- 20. Rotate driveline support (#16) up to the position shown.
- 21. Pull back on lock collar (#6) and pull driveline (#5) from the tractor power take-off shaft.
- 22. Collapse driveline (#5) by pushing tractor end of driveline toward the splitter gearbox. Store driveline on driveline support (#16).
- 23. Adjust park jack (#3) as needed to lift the weight of the cutter hitch off the tractor drawbar.
- 24. Remove connecting hitch pin or bolt as follows:
  - LP Performance Hitch, Figure 1-35: Remove hairpin cotter (#2A) and hitch pin (#1A).
  - Constant Level Clevis Hitch, Figure 1-36: Remove hairpin cotter (#2) and hitch pin (#1) from clevis hitch (#9).
  - Bar-Tite Hitch, Figure 1-37: Remove locknut (#1) and bolt (#2) from bushing (#10).
- 25. Restart tractor and drive tractor slowly forward several feet.
- 26. Shut tractor down before dismounting according to "Tractor Shutdown Procedure" on page 38.
- 27. Lower park jack until cutter is resting on its front skid shoes.
- 28. Replace connecting pin/bolt as follows:
  - LP Performance Hitch, Figure 1-35: Rotate clevis (#9) horizontal and flip hitch holder (#11) up so that its holes are on top as shown. Insert hitch pin (#1B) through holes in hitch holder (#11). Secure hitch pin with hairpin cotter (#2B).
  - Constant Level Clevis Hitch, Figure 1-36: Insert connecting pin (#1) in clevis (#9) and secure with hairpin cotter (#2).
  - Bar-Tite Hitch, Figure 1-37: Insert bolt (#2) through hitch (#9) and screw lock nut (#1) onto bolt (#2) several turns.

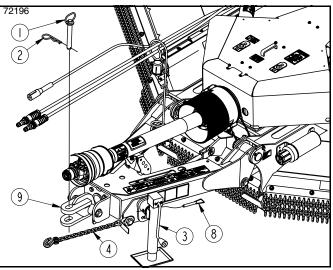
#### **Relocate SMV Sign**

#### Refer to Figure 4-15 on page 51:

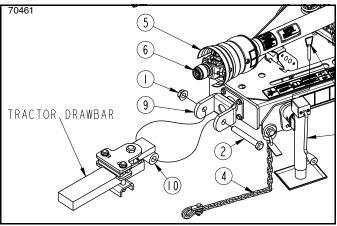
- 1. Remove SMV sign (#1) from the mounting bracket on the back of the cutter.
- 2. Reinsert SMV Sign in the mounting bracket on the back of the tractor.



Unhook LP Performance Hitch Figure 1-35

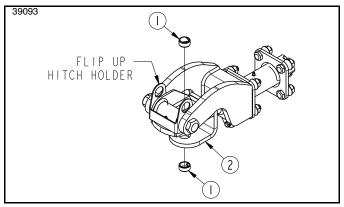


Unhook Constant Level Clevis Hitch Figure 1-36



Unhook Bar-Tite Hitch Figure 1-37





LP Performance Hitch Hole Size Figure 2-1

## LP Performance Hitch Hole Size

#### Refer to Figure 2-1:

The LP Performance Hitch is designed to receive a 1" (2.5 cm) diameter hitch pin. To convert the hitch to receive a 1 1/4" (3.2 cm) diameter hitch pin, knock out upper and lower bushings (#1) in clevis (#2).

## Park Jack Angle Alignment

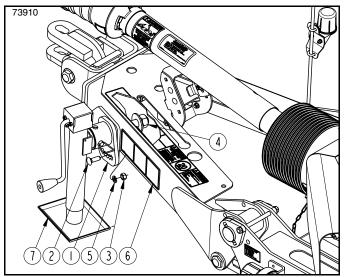
#### Refer to Figure 2-2:

The jack mount angle should be adjusted to position park jack (#7) vertical while supporting the cutter hitch. This angle will vary depending on the number of flip spacers that are closed on the lift cylinder rod.

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

**NOTE:** If the cutter is not hitched to a tractor, place solid, non-concrete support blocks under the front skid shoes to support the cutter while aligning the park jack vertically.

- 1. Move all flip spacers to the open position.
- 2. With hydraulic hoses hooked to a tractor, start tractor and lower cutter fully down. The front skid shoes should be resting on the ground or on solid, non-concrete support blocks.
- 3. Shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 4. If not installed, install park jack (#7). See "Attach **Park Jack**" on page 18. Check jack angle. If jack is not vertical, proceed with step 5 below.
- 5. Remove hex nut (#3), lock washer (#5) and carriage bolt (#2).
- 6. Loosen 1" hex nut (#4). Do not remove.
- 7. Rotate jack mount (#1) to align park jack (#7) as near vertical as possible.



Park Jack Angle Alignment Figure 2-2

- Replace 1/2"-13 x 1 1/2" GR5 carriage bolt (#2) and secure with lock washer (#5) and hex nut (#3). Tighten 1" hex nut (#4) to 645 ft-lbs (874.4 N·m).
- If moving cutter, continue with step 10. If unhooking cutter, see "Unhook Rotary Cutter" on page 31 for detailed instructions.
- Before moving the cutter, relocate park jack (#7) from the hitch mount to the storage mount on the left wing. Ensure the jack base is level with or lower than the jack crank head, especially after the wings are folded up. See cover picture for correct positioning.



## Lift Cylinder Base Mount

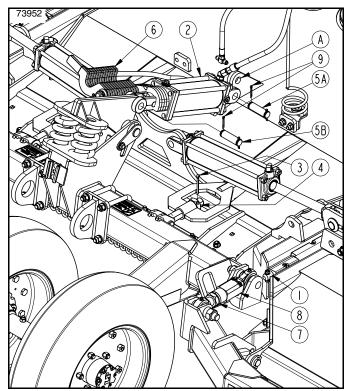
#### Refer to Figure 2-3:

To get the best range of motion with 21" to 26" tires, mount lift cylinder (#2) in the bottom hole as shown. Mount lift cylinder in top hole (A) when the cutter is supplied with 29" tires. When supplied with tires larger than 29", overall ground clearance can be increased by putting the lift cylinder in the bottom hole as shown, but lower cutting height ranges will be sacrificed.

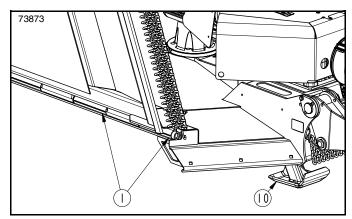
## **A** WARNING

To avoid serious injury or death: Stay clear from underneath the cutter and directly behind transport tires. The cutter could fall suddenly causing the decks to lower and tires to roll back.

- 1. Park tractor and cutter on a solid, level surface.
- 2. Fully extend deck lift cylinder (#2) to lift the cutter and unfold wings until they are resting on the ground.
- 3. Without relieving hydraulic pressure, shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 4. Place a solid, non concrete support blocks or jack stands under the four corners of the center deck.
- 5. Open flip spacers (#6).
- 6. Return to the tractor seat, start tractor, and lower center deck onto solid, non concrete support blocks.
- 7. Shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 8. Remove cotter pins (#9) and clevis pins (#5A & #5B) from lift cylinder (#2).
- If moving the base of lift cylinder (#2) from hole (A) to the bottom hole, measure and note the distance between the bottom hole and the cylinder rod mounting hole on the axle.
- Over a bucket or oil catch, loosen hose fitting on lift cylinder (#2) to drain oil and retract cylinder to length measured in step 9 above.
- 11. Tighten hose fitting, clean cylinder, and dispose of oil properly.
- Reposition the base of lift cylinder (#2) to the desired mounting hole, reinsert clevis pin (#5A) and secure with cotter pin (#9). Bend one or more legs of the cotter pin to keep it from falling out.
- With a jack or an overhead hoist, lift rear axle to align axle mounting hole with the cylinder clevis hole. Insert clevis pin (#5B) and secure with cotter pin (#9). Remove jack or hoist straps.
- 14. Return to the tractor and fully extend lift cylinder (#2).
- 15. Without relieving hydraulic pressure, shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 16. Close flip spacers (#6) and remove support blocks from under the four corners of the center deck.



Center Deck & Wing Deck Leveling Figure 2-3



Front Skid Position (Chain Guards Removed For Clarity) Figure 2-4



## Level Center & Wing Decks

These adjustments should be made with your cutter hooked to the tractor operating the cutter or to a tractor having the same drawbar height.

#### Level Center Deck

#### Refer to Figure 2-3 & Figure 2-4 on page 34:

- 1. With cutter hooked to a tractor, disengage power take-off, and park on a level, hard surface. Place tractor gear selector in park or set park brake.
- Using hydraulic lift, adjust center deck height so that front skid shoes (#10) are 2 to 3 inches above ground.
- 3. Wait for blades to come to a complete stop and then fold wings up to the transport position.
- 4. Shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 5. Lock wings in the folded-up position with transport pins. Refer to "**Transport Lock**" on page 40.

**IMPORTANT:** See **Figure 2-3**. Loosening adjusting nuts (#4) will lengthen leveling rods and lower front of cutter. Tightening adjusting nuts (#4) will shorten leveling rods and raise front of cutter.

6. On both sides of the center deck are continuous hinges (#1). Measure distance from bottom of hinges to the ground at the front and back. The hinges should be equal distance off the ground at the back and 1" closer to the ground at the front.

**NOTE:** The 1" measurement can be increased or decreased depending on cutting conditions.

#### If continuous hinges are too high at the front:

- a. Remove cotter pins (#3).
- b. Unscrew adjusting nuts (#4) an equal amount to lower the front of the cutter until both hinges are 1" lower at the front than at the back.

#### If continuous hinges are too low at the front:

- a. Remove cotter pins (#3).
- b. Tighten adjusting nuts (#4) an equal amount to raise the front of the cutter until both hinges are 1" lower at the front than at the back.
- 7. Be sure the left and right leveling rods have equal amounts of tension and then replace hairpin cotters (#3). Bend one or more legs of each cotter pin to keep them from falling out.

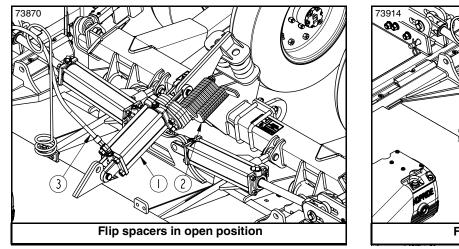
#### **Level Wing Decks**

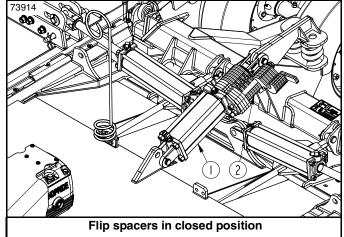
#### Refer to Figure 2-3 on page 34:

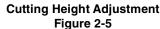
Each wing section will need adjusting if the outer edge of the wing top is not level with the top of the center deck.

- 1. Start tractor and lower wings down. Refer to "Field Set-up" on page 41 for detailed instructions.
- 2. Pull cutter straight forward six to ten feet to allow the wheels to properly align themselves.
- 3. Check wing tops for levelness. If the outer edge of either wing top is higher or lower than the center deck, then that wing should be leveled as follows:
  - a. **If outer wing edge is higher:** Loosen jam nut (#7) and tighten turnbuckle (#8) to shorten the turnbuckle until the outer wing edge is level with the top of the center deck. Tighten jam nut (#7) to the correct torque when level.
  - b. If outer wing edge is lower: Loosen jam nut (#7) and loosen turnbuckle (#8) to lengthen the turnbuckle until the outer wing edge is level with the top of the center deck. Tighten jam nut (#7) to the correct torque when level.









## **Adjust Cutter Height**

**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 the lift cylinder.
- 2. Without relieving hydraulics, shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.

## 

#### To avoid serious injury or death:

Stay clear from underneath the cutter and directly behind transport tires. The cutter could fall suddenly causing the decks to lower and tires to roll back.

**IMPORTANT:** Whether engaging or disengaging stroke control flip spacers, take time to ensure they are in the fully open or fully closed position. Flip spacers not in the fully closed or fully open position can cause damage to the lift cylinder and/or flip spacers.

- 3. Open all flip spacers (#2) on lift cylinder (#1).
- 4. Start tractor and engage blades. See "**Engage Blades**" on page 42 for detailed instructions.

- 5. Using tractor control lever, adjust cutter to the desired cutting height and then travel forward for approximately 20 to 50 feet (6 to 15 meters).
- Without relieving hydraulics, shut tractor down before dismounting according to "Tractor Shutdown Procedure" on page 38.
- 7. Measure height of cut grass/material. This measurement is the cutting height. If this height is acceptable, continue with step 8. If this height is unacceptable, repeat steps 1-7 until desired cutting height is achieved.
- 8. Count the required number of flip spacers (#2) to meet desired cutting height.

**NOTE:** Opening flip spacers lowers cutting height and closing flip spacers raises cutting height.

- 9. Return to tractor and raise Rotary Cutter up again.
- Without lowering the cutter, shut tractor down before dismounting according to "Tractor Shutdown Procedure" on page 38.
- 11. With tractor shut off and ignition key removed, close the amount of flip spacers (#2) determined in step 8.
- 12. Restart tractor and lower cutter against flip spacers (#2).
- 13. Recheck cutting height using steps 4-7. If needed, adjust number of flip spacers (#2) until desired cutting height is achieved.
- 14. Keep remaining flip spacers (#2) in the fully open position.



## **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 cutter unless they have read, fully understood, and are completely 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 33
- Section 3: Operating Instructions, page 37
- Section 5: Maintenance & Lubrication, page 52

Perform the following inspections before using your Rotary Cutter.

#### **Operating Checklist**

~	Check	Page
	Follow installation and hook-up instructions. Refer to "Section 1: Assembly & Set-up".	15
	Make all required adjustments. Refer to "Section 2: Adjustments".	33
	Perform all required maintenance. Refer to "Section 5: Maintenance & Lubrication".	52
	Make sure all guards and shields are in place and in good working condition. Refer to "Chain Guards" and "Gearbox Driveline Shielding".	61 & 53
	Lubricate cutter and drivelines as needed. Refer to "Lubrication Points".	63
	Lubricate all gearboxes and replace oil plugs properly. Refer to "Gearbox and Divider Box Lubrication".	65
	Check cutter initially and periodically for loose bolts and pins. Refer to "Torque Values Chart".	75

## **Safety Information**

## 

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.
- Always disengage power take-off, shut tractor down, and wait for cutter blades to spool down to a stop before allowing anyone to clean, service, preform maintenance, or be near the cutter. Refer to tractor shutdown procedures provided in this manual.
- 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 disconnect the driveline from the power take-off shaft before servicing underside of cutter. The tractor can be started with the power take-off engaged.

- 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.
- 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.
- 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.
- 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.
- 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.
- Keep everyone away from the cutter when folding or unfolding the wings or when raising or lowering the cutter. The cutter can pinch or crush a person when performing these operations.
- 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.
- 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.
- The cutter must be operated with both wings attached. Removing one wing will increase risk of rollover. Removing one or both wings will expose the blades. Rotating blades will cut body extremities and throw objects.
- 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.

## 

To avoid serious injury or death:

• Cutter blades can continue to rotate while decelerating after power take-off is disengaged. Remain on the tractor seat until rotating parts come to a complete stop.

## Section 3: Operating Instructions



- Always follow "Tractor Shutdown Procedure" provided in this manual before dismounting the tractor.
- 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.
- Allow only persons to operate this implement who have fully read and comprehended this manual, and who have been properly trained in the safe operation of this implement. Serious injury or death can result from the inability to read, understand, and follow instructions provided in this manual.
- 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.
- Do not operate and/or travel across inclines where the tractor and/or implement can rollover. Consult your tractor's manual for acceptable inclines the tractor is capable of traveling across. When traveling across steep inclines, ensure the wings are folded down.
- 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.
- 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 as a man lift, work platform or as a wagon to carry objects. It is not properly designed or guarded for this use.
- 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. Doing so can result in loss of control and damage the equipment.
- Do not weld or torch on galvanized metal as it will release toxic fumes.
- 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.

- Some tractors are equipped with two power take-off speeds. Be certain your tractor's power take-off shaft is set-up to operate the implement at its rated power take-off speed. Do not exceed implement's rated power take-off speed. Excessive speed can damage drive components, cutter blades, and/or increase the risk of a thrown object hazard. RC models are rated for 540 rpm and RCM models are rated for 1000 rpm.
- Do not operate a broken or bent driveline. Such a driveline will break apart while rotating at high speeds. Always remove the implement from use until the damaged driveline can be repaired or replaced.
- 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.
- Improper oil level can cause bearing failure and be a fire hazard. Maintain proper gearbox oil level.
- 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.

**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:** Do not let the wings flex down more than 20 degrees while operating the cutter. Doing so can cause damage to the cutter.

**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.

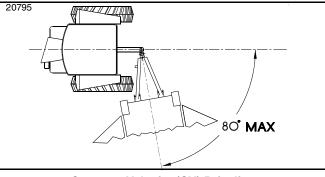
- 1. Reduce engine speed and disengage power take-off if engaged.
- 2. Park tractor and implement on level, solid ground.
- 3. Lower implement to ground or onto solid, non-concrete support blocks.
- 4. Put tractor in park or set park brake, turn off engine, and remove ignition key to prevent unauthorized 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.



## **Tractor & Cutter Inspection**

Make the following inspections parked on a level surface with cutter attached to a tractor, 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, including all safety chain guards and shielding for proper installation and that they are in good working condition.
- 3. Check driveline to make certain it is securely connected to the tractor power take-off shaft and cutter gearbox shaft. Make certain the guards are in good working condition and in place.
- 4. Check driveline support. Make sure it is rotated down away from the driveline.
- 5. Remove 3-point lower arms or secure them so they do not interfere with driveline, hoses, or hitch.
- 6. Check all hoses and wires to ensure that they will not pinch or come in contact with the folding wings and rotating drivelines.
- Start tractor and carefully raise and lower implement to ensure tractor drawbar, tires, and other equipment on the tractor do not contact cutter or power take-off driveline. Refer to "Driveline Clearance Check" on page 28.
- 8. Raise center deck fully up. Without lowering the cutter, shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 9. Place solid, non-concrete support blocks or jack stands under the four center deck corners.
- 10. Start tractor and lower center deck down onto the supports.
- 11. Shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 12. With cutter resting on solid, non-concrete 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, or worn cutting blades. Replace or sharpen blades as required. Refer to "**Cutter Blades**" on page 55.
- Inspect hydraulic hoses for wear, damage, and hydraulic leaks. Before checking for leaks, read "Avoid High Pressure Fluids Hazard" on page 3. Replace damaged and worn hoses with genuine Land Pride parts.
- 14. Make repairs to the cutter and tractor before continuing with "Blade Operation Inspection".



Constant Velocity (CV) Driveline Figure 3-1

## **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 driveline maximum turning angle. If the turn cannot be avoided, disengage tractor power take-off and wait for the driveline to come to a complete stop before making the turn.

Maximum turning angle for the constant velocity (cv) driveline is  $80^{\circ}$ .

## **Blade Operation Inspection**



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.

## 

To avoid serious injury or death:

- Always follow "Tractor Shutdown Procedure" provided in this manual before dismounting the tractor.
- Stop power take-off immediately if vibration continues after a few revolutions during start-up and anytime vibration occurs thereafter.
- Some tractors are equipped with two power take-off speeds. Be certain your tractor's power take-off shaft is set-up to operate the implement at its rated power take-off speed. Do not exceed implement's rated power take-off speed. Excessive speed can damage drive components, cutter blades, and/or increase the risk of a thrown object hazard. RC models are rated for 540 rpm and RCM models are rated for 1000 rpm.

**IMPORTANT:** Read all "**Safety Information**" starting on page 37 before operating the cutter.

- 1. Make sure cutter blades are not locked against each other. See "Field Set-up" on page 41.
- 2. Remove deck supports and set transport locks for field operations. See "**Transport Lock**" on page 40.
- 3. Lower cutter decks until blades are about 2" (5 cm) off the ground.



- Start tractor and set throttle speed just above idle. If available, use tractor's power take-off soft start option. Slowly engage power take-off to get blades rotating. (See "Engage Blades" instructions on page 42.)
- 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 the cutter is running smoothly, increase throttle to full cutter speed (540 or 1000 rpm).
- 7. If cutter vibrates excessively for 3 seconds at full cutter speed, immediately disengage power take-off, and shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 8. Block center deck up before working under the cutter.
- 9. Inspect blade carriers for locked blades prior to lowering the wings. Separate locked blades.
- Check for other probable causes such as broken or bent blades, loose blades, loose gearbox mounting bolts, bent driveline etc.
- 11. Take proper precautions to make necessary repairs and adjustments.
- 12. Repeat steps 1-11 above to make certain vibration is corrected before putting the cutter back into service.

## Transport Lock

## 

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.

**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 two hydraulic lift cylinders. Be certain that the wing hydraulics are attached to the tractor and the hydraulic hoses are purged of air before proceeding.

The cutter wings need to be folded-up and locked before transporting on a roadway, through narrow gate openings and when servicing the deck underside.

- 1. Disengage power take-off and wait for cutter blades to come to a complete stop before raising wings.
- 2. Raise cutter wings fully up with hydraulics.
- 3. Without relieving hydraulic pressure, shut tractor down before dismounting according to "**Tractor Shutdown Procedure**" on page 38.
- 4. See Figure 3-4 on page 41: Remove hairpin cotter (#1) from transport pin (#2) and remove transport pin from storage holes (#4).

- 5. See Figure 3-3 on page 41: Insert transport pin (#2) through lock hole (#3) and secure it with hairpin cotter (#1).
- 6. Repeat steps 4 and 5 for the other wing. Your cutter is now ready for transporting.

# 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.
- Always travel with cutter at a safe transport height. Be sure that it is high enough to clear ground obstacles but not too high that the cutter is unstable on hill sides or tight turns.
- Select a safe ground speed that will allow adequate control of steering and stopping. 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.
- 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.
- When transporting after dark, use the power machine's working lights to avoid hitting objects and being hit by approaching vehicles.

**IMPORTANT:** The SMV sign should not be used when transporting equipment on a truck or trailer exceeding speeds of 25 mph (40 km/h). Cover or remove the SMV sign when hauling the cutter.

- 1. Always fold wings up and set transport locks before traveling on public roadways.
- 2. With the center deck fully up, shut tractor down according to "**Tractor Shutdown Procedure**" on page 38. Close all flip spacers with the red handle.
- 3. Retract lift cylinder until the cylinder rod clevis comes against the flip spacers.
- Relocate slow moving vehicle sign (SMV) from the back of the tractor to the SMV mount on the back of the center axle. If needed, a SMV sign can be purchased from your nearest Land Pride dealer. Refer to "Slow Moving Vehicle Sign Accessory" on page 51.
- 5. 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.



- 6. When traveling on roadways, transport in such a way that faster moving vehicles may pass you safely.
- 7. Operate tractor at a lower speed when traveling over rough or hill-like terrain.

## **Road Side Cutting**

Land Pride recommends the cutter be equipped with chain guards to stop flying objects when cutting road sides. Refer to "**Safety Chain Guards**" on page 45.

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

## Field Set-up

## **A** 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 creating high wear, poor discharge, and the need for additional horsepower.

### **Field Inspections**

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

### **Unfold Wings**

Refer to Figure 3-2:

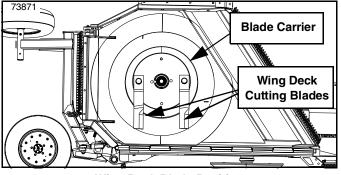
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To avoid serious injury or death:

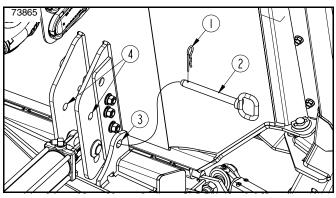
Keep everyone away from the cutter when folding or unfolding the wings or when raising or lowering the cutter. The cutter can pinch or crush a person when performing these operations.

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

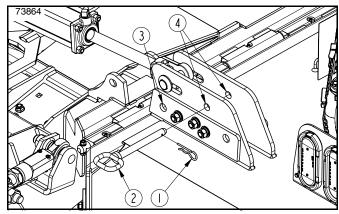
- 1. Inspect blade carriers for locked blades prior to lowering the wings. Separate locked blades.
- 2. Start tractor and raise both wings up to release any tension on the transport lock pins.



Wing Deck Blade Position (Shown with Optional Deck Armor<sup>™</sup>) Figure 3-2



Transport Pin, Locked Position Figure 3-3



Transport Pin, Storage Position Figure 3-4

 Without lowering the cutter, shut tractor down before dismounting according to "Tractor Shutdown Procedure" on page 38.

#### Refer to Figure 3-3:

4. Remove hairpin cotters (#1) from both left and right side transport pins (#2).

#### Refer to Figure 3-4:

- 5. Store transport pins (#2) in storage holes (#4) and secure them with hairpin cotters (#1).
- 6. Start tractor and lower both wings down until they are resting on the ground.



#### Set Blade Cutting Height

Adjust cutter to field cutting height. See **"Adjust Cutter Height**" on page 36.

#### Set Wing Lift Lever to 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.

**IMPORTANT:** Do not let the wings flex down more than 20 degrees while operating the cutter. Doing so can cause damage to the cutter.

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

#### Select Gear Range

Optimum ground speed depends on density of material being cut, horsepower rating of tractor, and terrain. Always operate tractor at 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 2 to 5 mph (3.2 to 8.0 km/h). Loss of power take-off speed will allow blades to hinge back and result in ragged, uneven cutting.

**NOTE:** Never run tractor in an economy mode or any other mode that will drop power or speed from the power take-off. This may result in ragged and 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.

- Select a gear range that will allow the cutter to make a smooth cut without lugging the tractor down. See "Select Gear Range" on this page.
- 2. With wings lowered, increase throttle to a speed just enough to get the cutter started without stalling the tractor while slowly engaging the power take-off. Use tractor's power take-off soft start option if available.
- 3. Ensure power shafts are rotating at full power take-off speed and cutter is not vibrating excessively for three full seconds at full cutter speed. If cutter vibrates for three full seconds, immediately disengage power take-off, shut tractor down, and remove ignition key. Wait for all blades to come to a complete stop before dismounting the tractor.
- If cutter was shut down due to excessive vibration, investigate the cause. See "Remove Blade Carrier Blockage" on page 43 for detailed instructions.
- 5. If cutter was not shut down, continue with 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.
- Periodically, shut tractor down according to "Tractor Shutdown Procedure" on page 38 and inspect the cutter.
- 7. Dismount tractor and check for objects wrapped around the 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 75.

### **Disengage Blades**

**IMPORTANT:** It will take longer for the blades to come to a complete stop on cutters equipped with a main driveline that has an over-running clutch, as opposed to a cutter with a main driveline that does not have an over-running clutch.

- 1. Slowly decrease throttle speed until engine idle speed is reached.
- 2. Disengage power take-off.
- 3. Shut tractor down according to "**Tractor Shutdown Procedure**" on page 38.



## **Remove Blade Carrier Blockage**

## **A** 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.
- 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.
- Keep everyone away from the cutter when folding or unfolding the wings or when raising or lowering the cutter. The cutter can pinch or crush a person when performing these operations.

## **A** WARNING

To avoid serious injury or death:

- Cutter blades can continue to rotate while decelerating after power take-off is disengaged. Remain on the tractor seat until rotating parts come to a complete stop.
- Always follow "Tractor Shutdown Procedure" provided in this manual before dismounting the tractor.
- Do not attempt to remove blockages from blade carriers while the wings are in the folded-up position. Blades can become locked by blockages, creating the potential for blades to swing freely in a harmful manner while removing the blockages, bringing about the potential for serious injury.

A blade carriers can become blocked with wire and/or trash wrapped around it. Trash compacted around a blade carrier interferes with the blades free swinging motion and their ability to cut grass, weeds, and/or brush efficiently.

- 1. Park tractor and cutter on a solid, level surface.
- 2. Disengage power take-off and wait for cutter blades to come to a complete stop.
- 3. Raise cutter fully up with hydraulics. Do not fold the wings up.
- Without relieving hydraulics, shut tractor down according to "Tractor Shutdown Procedure" on page 38.
- 5. Position all flip spacers to the fully closed position, demonstrated in **Figure 2-5** on page 36.
- 6. Start tractor and retract lift cylinder until it is resting against the flip spacers.
- 7. Properly shut tractor down before dismounting. Make sure to relieve all hydraulic pressure on the lift and wing cylinders.
- 8. While exercising caution, carefully proceed to cut and remove any blockages.
- 9. Discard removed blockages appropriately so they do not pose a hazard to the cutter once cutting resumes.



## **General Operating Instructions**

It is important that you familiarize yourself with the Operator's Manual, complete the Operator's Checklist, properly attach the cutter to your tractor, make leveling adjustments, preset cutting height, and set wing folding hydraulic control lever to the float position before beginning a running operational safety check on your Land Pride RC5715 or RCM5715 Rotary Cutter.

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

Before starting the tractor, make sure the park brake is engaged and power take-off is disengaged. If wings are folded-up, follow instructions in this manual to unfold wings. Start the tractor and set engine throttle speed at a low idle. Raise cutter with tractor's rear hydraulic lift control lever to transport position, making sure that the power take-off shaft does not bind and does not contact the cutter frame. Lower cutter to the ground and at a low engine speed, engage power take-off. If everything is running smoothly at a low idle, slowly raise the cutter to transport height, while checking for bind or chatter in the driveline. Lower cutter to the ground and increase tractor's engine rpm until it reaches the cutter's full power take-off operating speed which will be either 540 or 1000 rpm depending on your model. If everything is still running smoothly, once more raise the cutter to transport height to check for driveline bind or chatter. Lower cutter to the ground, return engine to a low idle, and disengage the power take-off. Be sure the tractor 3-point arms are raised and will not contact the main driveline.

You should now be ready to transport to your cutting site at a safe ground speed. On roadways, transport in such a manner that faster moving vehicles can easily see you and pass you safely. Reduce your speed when traveling over rough and hill-like terrain. Avoid quick or sharp steering corrections. Take extra care to ensure that the cutter doesn't come into contact with obstacles such as trees, buildings, or fences. Use accessory lights and appropriate reflective devices to provide adequate warning to pedestrians and other vehicle operators when traveling on public roads and in the dark of night. Comply with all local, state and federal laws.

It is important that you inspect the area where you will be cutting and clear it of safety hazards and foreign objects either before or after you arrive at the cutting site. Never assume the area is clear. Cut only in areas which you are familiar with and are free of foreign objects. Extremely tall grass should be cut twice to detect potential hazards. In the event you do strike an object, stop the cutter and tractor immediately to inspect and make necessary repairs to the cutter before resuming operation. It really pays to inspect a new area and to develop a safe plan before cutting.

Depending on your specific model, you will need to maintain either 540 or 1000 rpm power take-off speed and 2 to 5 mph (3.2 to 8.0 km/h) ground speed to produce a clean cut. Make a tractor gear and range selection that will enable you to maintain these speed combinations. Generally, the quality of cut is better at lower ground speeds. Dense ground cover will create the need to slow down even more. In certain conditions, tractor tires will roll grass down resulting in an uneven cut when the grass fails to rebound. Should this happen, you may try reversing the direction of cut and/or double cut to achieve the desired finish. 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.

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 the wheels supporting the wings are on the ground and the hydraulic control lever for folding the wings is set in the float position.
- Engage power take-off, raise engine rpm to the appropriate power take-off speed, and begin cutting.
- Try increasing or decreasing ground speed to determine the effect on quality of cut. With a little practice you will be pleased with what your Land Pride 15' Folding Rotary Cutter can do.

When you are done cutting, 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 and disengage power take-off.
- Stop on level ground, place gear selector in park or set park brake, turn off engine, remove ignition key, and stay on the tractor until cutter blades have come to a complete stop.



### Safety Chain Guards



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.

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

- Single row chain guards are constructed with a single row of hanging chain links.
- Double row chain guards are constructed with two rows of hanging chain links. The extra chain provides an additional barrier for stopping thrown objects.

331-992A ..... Single Row Chain Guards 331-993A .... Double Row Chain Guards

### **Hitches**

Land Pride offers 5 different hitches to best suit your application. See "**Hitch Options**" on page 17 for complete description of optional hitches.

334-459A	. Constant Level Clevis Hitch
334-460A	Bar-Tite Hitch
334-461A	. Constant Level Pintle Hitch
	Ball Hitch, 2 5/16"
334-471A	LP Performance Hitch <sup>TM</sup>

## Wing Fold Options

Land Pride offers four wing folding options to best suit your application. The dual-acting cylinders have a narrower transport width than single-acting cylinders.

- **Single-acting:** Simultaneously raise and lower wings with single-acting cylinders. Relies on gravity to pull wings to ground. Uses 1 hydraulic duplex.
- **Dual-acting:** Simultaneously raise and lower wings with dual-acting cylinders. Hydraulically power wings up and down. Uses 1 hydraulic duplex.
- Independent single-acting: Independently raise and lower each wing with single acting cylinders. Uses 2 hydraulic duplexes.
- Independent dual-acting: Independently raise and lower each wing with dual-acting cylinders. Uses 2 hydraulic duplexes.

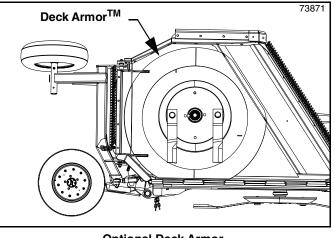
### **Tire Options & Configurations**

Land Pride offers six different tire options to choose from, with each option available in a 6 or 8 tire configuration.

- Laminated Tires: Available sizes are 21" and 26" tires. They are constructed of laminated layers of solid rubber that will never go flat.
- New Aircraft Tires: Available size is the 25.5", 20 ply pneumatic tire or foam-filled tire. Both are built tough to withstand the rugged use a cutter receives and to provide a smoother ride when transporting. Foam-filled tires will not go flat.
- Used Aircraft Tires: Available sizes are the 29", 20 ply pneumatic tire or 24" foam-filled tire. Both are built tough to withstand the rugged use a cutter receives and to provide a smoother ride when transporting. Foam-filled tires will not go flat
- 6 Tire Configuration: Four tires on transport axle and one on each wing axle.
- 8 Tire Configuration: Four tires on transport axle and two on each wing axle.

## **Deck Protection Options**

- No protection: The decks are standard construction without additional protection added to their underside such as the Deck Ring or Deck Armor<sup>TM</sup>.
- **Deck Ring:** Land Pride offers a deck ring option for extra protection for the deck sheet and structure. The deck rings are welded to the underside of the center deck and wing decks to protect from bent and deflected blades caused by hitting obstructions.
- **Deck Armor:** Land Pride's Deck Armor<sup>TM</sup> is an additional layer of steel added to the underside of the deck that is designed to increases the decks durability and reduce the possibility of deck damage caused from blade to deck contact without reducing cut quality. Refer to Figure 4-1.



Optional Deck Armor Figure 4-1



## **Axle Options and Configurations**

Land Pride offers a multitude of axle options to ensure your Rotary Cutter is properly fitted for its intended application. Purchaser must choose one center axle option and one wing axle option.

#### **Center Axle Options**

#### **HD Single Suspension Center Axle**

#### Refer to Figure 4-2:

This heavy duty (HD) center axle option provides suspension through the use of two springs located directly behind the center deck's lift cylinder. The HD axles features bigger tubing and large gussets, making it a great option when the cutters main application goes just beyond flat and even terrain. This option has few moving parts.

### Independent Suspension Center Axle

#### Refer to Figure 4-3:

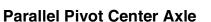
Not applicable with "HD Single Suspension Wing Axles" on page 47.

This axle option provides independent suspension. Each trailing arm features a rocker and spring to better handle rough terrain. When field terrains are less than ideal, and additional suspension support is needed. This center axle option will easily meet those expectations.

#### Walking Tandem Center Axle

#### Refer to Figure 4-4:

The walking tandem axle features a beam on each trailing arm that pivots front to back. The beam pivots in the center with a spindle in front and a spindle in back of the pivot. This front to back axle pivot is great for walking through washouts and on/off curbs.



#### Refer to Figure 4-5:

The Parallel Pivot<sup>TM</sup> axle features a beam on each trailing arm that pivots side to side. The side to side pivoting action spreads the weight evenly between the wheels. This axle is great for holding slopes while minimizing tire wear.

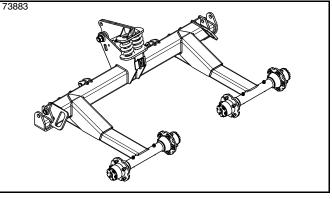


Figure 4-2

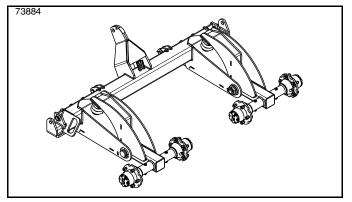
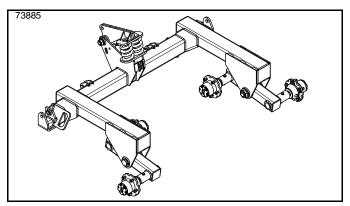


Figure 4-3





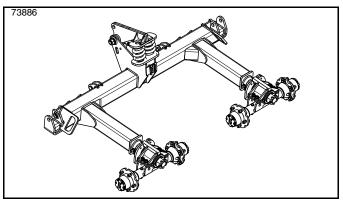


Figure 4-5



#### Wing Axle Options

## HD Single Suspension Wing Axles

#### Refer to Figure 4-6:

Not applicable with "Independent Suspension Center Axle" on page 46.

This HD wing axle option is provided with suspension support through the springs incorporated into all compatible center axle options. Each wing axle is solidly built with bigger tubing supported by a large gusset, allowing the cutter to successfully take on a vast array of field terrains.

#### Independent Suspension Wing Axles

#### Refer to Figure 4-7:

This axle option provides independent suspension to both wings. Each wing attains support through the wing axle's trailing arm, which features a rocker and spring to better handle rough terrain. When field terrains are challenging, this wing axle option ensures ample suspension support across the full width span of the cutter.

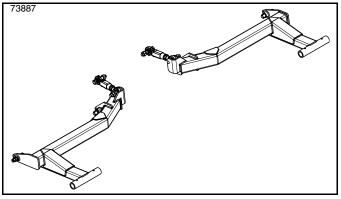


Figure 4-6

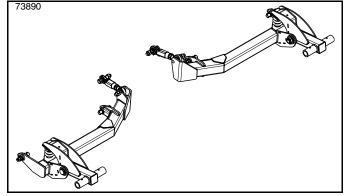


Figure 4-7

#### Walking Tandem Wing Axles Refer to Figure 4-8:

This option requires 8 tires.

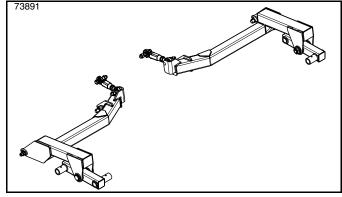
The walking tandem wing axles features a beam on each trailing arm that pivots front to back. The beam pivots in the center with a spindle in front and a spindle in back of the pivot. This front to back axle pivot is great for walking through washouts or on/off curbs.

## **Parallel Pivot Wing Axles**

#### Refer to Figure 4-9:

This option requires 8 tires.

The Parallel Pivot<sup>TM</sup> axle features a beam on each trailing arm that pivots side to side. The side to side pivoting action spreads the weight evenly between the wheels. This axle is great for holding slopes while minimizing tire wear.





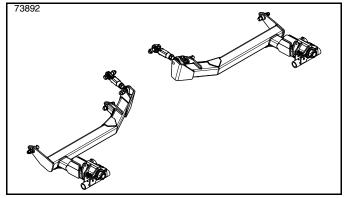


Figure 4-9



## **Driveline Options**

Land Pride offers four driveline options to best suit your application. The main driveline for all four options is a Cat. 6 constant velocity (CV) driveline with or without an overrunning clutch. Constant velocity drivelines allow the operator to make turns up to 80 degrees while cutting without damaging the driveline. When included, the overrunning (OR) clutch protects the tractor's power take-off, especially if the tractor has instant power take-off braking.

The four driveline options are:

#### 540 rpm Main Driveline W/O OR Clutch

Cat. 6, 1 3/8"-6 CV Main Driveline	
Cat. 5, 1 3/4"-20 Center Driveline W/ Slip Clutch 1	
Cat. 4, 1 3/4"-20 Wing Drivelines W/ Slip Clutch2	2

#### 540 rpm Main Driveline With OR Clutch

Cat. 6, 1 3/8"-6 CV Main Driveline W/ OR Clutch	1
Cat. 5, 1 3/4"-20 Center Driveline W/ Slip Clutch	1
Cat. 5, 1 3/4"-20 Wing Drivelines W/ Slip Clutch	2

#### 1000 rpm Main Driveline W/O OR Clutch

Cat. 6, 1 3/8"-6 CV Main Driveline 1
Cat. 5, 1 3/4"-20 Center Driveline W/ Slip Clutch 1
Cat. 4, 1 3/4"-20 Wing Drivelines W/ Slip Clutch2

#### 1000 rpm Main Driveline, With OR Clutch

Cat. 6, 1 3/8"-6 CV Main Driveline W/ OR Clutch . . . 1 Cat. 5, 1 3/4"-20 Center Driveline W/ Slip Clutch . . . 1 Cat. 5, 1 3/4"-20 Wing Drivelines W/ Slip Clutch . . . . 2

### **Blade Carrier Options**

Land Pride offers the following blade carrier options to choose from when outfitting your Rotary Cutter. Blade rotation for the options are:

Left-hand deck ..... Clockwise blade rotation Center deck ..... Counterclockwise blade rotation Right-hand deck ... Counterclockwise blade rotation

#### • Forged Blade Bar:

This blade carrier option provides critical strength to the blade mount for consistent, top level performance.

#### • Bolt-on Dishpan:

This option includes the forged blade bar with a bolt-on dishpan. It combines the strength and performance of the Forged Blade Bar and protection to the gearbox and blade spindle.

#### • Heavy Duty Dishpan:

This option includes the 1" thick blade bars mount with a bolt-on dishpan. It combines the strength and performance of the plate blade bar and protection to the gearbox and blade spindle.

#### • Shredder Kit Option:

This option includes a double stacked shredder blade configuration on each blade spindle. It is ideal for cutting residue into smaller pieces.

#### **Blade Accessories**

Land Pride offers three different cutting blade options. They include High Lift blades, standard blades, and Low Lift blades. For the removal and installation of cutting blades, refer to "**Cutter Blades**" on page 55.

**NOTE:** The "CCW" notation refers to counter clockwise rotation, where as the "CW" notation refers to clockwise rotation. Rotation direction is determined by looking down at the deck.

• **High Lift blades:** These blades are great for achieving grass-cut quality, and cutting at taller cut heights. However, they are not ideal for trees and heavy brush.

820-724C	Wing CCW rotation
820-725C	.Center CCW rotation
820-726C	Wing CW rotation

• Standard blades: These blades offer a good combination of grass-cut quality and the ability to handle trees and heavy brush.

820-720C	Wing CCW rotation
820-721C	Center CCW rotation
820-722C	Wing CW rotation

• Low Lift blades: These blades are ideal for sandy conditions to get longer blade life. They are also known to stand up well in conditions that contain gopher mounds and ant hills and work great for stemmed material, trees, and heavy brush. They are not as suitable as High Lift and standard blades when looking to achieve grass-cut quality.

820-478C	.Center CCW rotation
820-479C	Wing CCW rotation
820-480C	Wing CW rotation



## Single Duplex Accessory

#### Refer to Figure 4-10:

Land Pride offers the single duplex accessory kit to change the cutter from requiring two tractor duplex outlets to requiring only one duplex outlet.

#### **Single Duplex Fittings Bundle**

- 334-754A . . . . . . . . . . . . Single duplex accessory
- 1. Remove hydraulic hose (#1) from tee (#2) and set hose aside for reuse.
- 2. Remove hydraulic hose (#3) from tee (#2) and set hose aside for reuse.
- 3. Tee (#2) and hose (#4) can be discarded as they are no longer needed.
- 4. Remove hydraulic hose (#5) from adapter (#6) and set hose aside for reuse.
- 5. Remove adapter (#6) from cylinder port (#7) and discard as it is no longer needed.
- 6. Install new adapter (#8) to cylinder port (#7) and tighten.
- 7. Install new four-way cross (#9) to adapter (#8) as shown and tighten.
- 8. Install new adapter (#10) to four-way cross (#9) as shown and tighten.
- 9. Install existing hydraulic hose (#1) to four-way cross (#9) as shown and tighten.
- 10. Install existing hydraulic hose (#3) to four-way cross (#9) as shown and tighten.
- 11. Install existing hydraulic hose (#5) to straight adapter (#10) as shown and tighten.
- 12. Make sure all hoses and fittings are tight.

## **Dual-Acting Lift Cylinder Accessory**

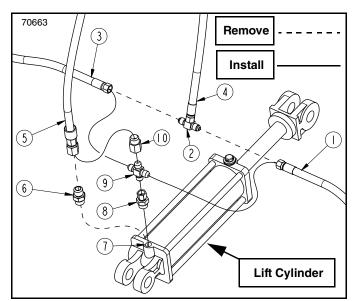
#### Refer to Figure 4-11:

Land Pride offers the Dual-Acting Lift Cylinder accessory, which allows the operator to lower the deck with hydraulic power instead of gravity. The air vent in the lift cylinder is replaced with elbow (#2) and hydraulic hose (#3). It is ideal for dirty and corrosive environments and aids in preventing contaminants from entering the cylinder.

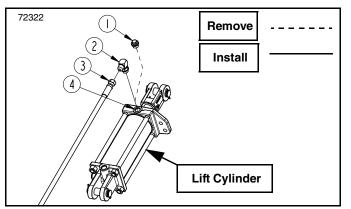
#### **Dual-Acting Lift Cylinder Kit**

334-927A . . . . . . . Dual-acting lift cylinder accessory

- 1. Remove vent plug (#1) from cylinder port (#4). Store vent plug away as it is no longer needed.
- 2. If attached, remove hydraulic hose (#3) from elbow fitting (#2).
- 3. Thread elbow (#2) into cylinder port (#4) and tighten with elbow oriented toward the front of the cutter as shown. This orientation will eliminate the potential of a pinched hose while the cutter is in use.
- 4. With elbow (#2) properly oriented, attach hydraulic hose (#3) to the elbow. Be sure to hold the elbow with a wrench while tightening to eliminate any stress.

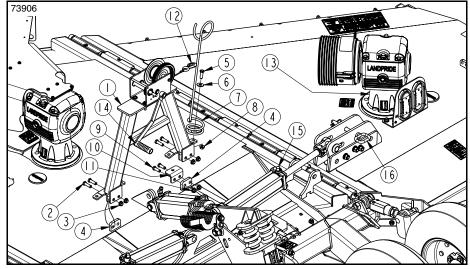


Single Duplex Hook-up Figure 4-10



Dual-Acting Lift Cylinder Accessory Hook-up Figure 4-11





Optional Winch Assembly Figure 4-12

## **Mechanical Wing Lift Option**

#### Refer to Figure 4-12:

334-014A ..... Mechanical Winch An optional mechanical winch kit is available for raising the wing to transport position when the hydraulic system is not working or when the towing vehicle is not equipped with the proper hydraulic connections.

#### Installation Instructions

- 1. Remove whiz nut (#8), bolt (#5), flat washer (#6) and spring hose loop (#7) from mount (#10). Keep spring hose loop and hardware for reuse.
- 2. Remove whiz nuts (#11), bolts (#9), and spring hose mount (#10) from the right-hand tab (#4) and discard.
- 3. Attach winch mounting frame (#1) to the center deck tabs (#4) with 1/2"-13 x 1 3/4" GR5 bolts (#2) and whiz nuts (#3). Tighten nuts to the correct torque.
- 4. Attach spring hose loop (#7) to frame (#1) in the location shown with 1/2"-13 x 1 1/2" GR5 bolt (#5), flat washer (#6), and whiz nut (#8). Tighten whiz nut to the correct torque.
- 5. Check hydraulic hoses. Make sure they are secured in spring hose loop (#7) and will not catch on any objects.

#### **Operating Instructions**

## 

To avoid serious injury or death:

- Make sure no one is in the area where the deck will be raised. The cable could come loose or break and drop the wing suddenly causing serious bodily injury or death.
- If a cylinder fitting was loosened to mechanically raise the wing deck up, be sure to also lower the wing deck with the mechanical winch. Do not use the cylinder to lower the deck. It will have an excess amount of air and will drop the deck suddenly.

**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.

- 1. Pull cable hook (#12) under the driveline and past gearbox (#13).
- Wrap cable with hook (#12) around the base of gearbox (#13) and clip the hook back to the cable. Make certain the cable is secured and will not slip or come loose before raising the deck up.
- 3. Turn mechanical winch handle (#14) to raise the deck. If the cylinder rod will not retract while raising the wing up, loosen hydraulic fitting (#15) on the rod side of the cylinder to allow air intake.
- 4. Secure the deck in the raised position with transport lock (#16). See "**Transport Lock**" on page 40.
- 5. If loosened, tighten hydraulic fitting (#15).
- 6. Lower wing deck with hydraulics as follows:

#### If hydraulic cylinder fitting was not loosened:

- a. Connect hydraulic hose to a tractor and fully retract the lift cylinder.
- b. Unhook cable and reel cable up.
- c. Remove transport lock (#16) and lower wing deck with tractor control lever.

#### If hydraulic cylinder fitting was loosened:

- a. Loosen hydraulic fitting (#15) at the cylinder to allow intake air to escape while lowering the wing deck.
- b. Remove transport lock (#16) and lower wing deck with the mechanical winch.
- c. Tighten hydraulic fitting and connect all hydraulic hoses to a tractor.
- d. Purge hydraulic system of air. See "**Purge Hydraulic System**" on page 29.



## **Toolbox Option**

#### Refer to Figure 4-13:

334-017A ...... Toolbox An optional toolbox, 30" wide x 16" deep x 12" high, complete with lockable lid and mounting frame is available. Padlock for locking the toolbox is supplied by the customer.

#### Installation Instructions

- 1. Remove whiz nut (#8), bolt (#5), flat washer (#6) and spring hose loop (#7) from mount (#10). Keep spring hose loop and hardware for reuse.
- 2. Remove whiz nuts (#11), bolts (#9), and spring hose mount (#10) from the right-hand tab (#4) and discard.
- 3. Attach toolbox mounting frame (#1) to the center deck tabs (#4) with 1/2"-13 x 1 3/4" GR5 bolts (#2) and whiz nuts (#3). Tighten nuts to the correct torque.
- Attach toolbox (#15) to mounting frame with 1/2"-13 x 1" carriage bolt (#12), flat washers (#13), and hex locknut (#14). Tighten nuts to the correct torque.
- 5. Attach spring hose loop (#7) to frame (#1) in the location shown with 1/2"-13 x 1 1/2" GR5 bolt (#5), flat washer (#6), and whiz nut (#8). Tighten whiz nut to the correct torque.
- 6. Check hydraulic hoses. Make sure they are secured in spring hose loop (#7) and will not catch on objects.

## **Tow Lug Option**

#### Refer to Figure 4-14:

331-188A ......Tow Lug Bundle An optional Tow Lug Bundle is available for pulling the cutter backwards with a tow chain or cable. This option fits all RC57 Series center axles.

- 1. Attach tow lugs (#2) 5 3/4" (14.5 cm) from center of axle on both sides as shown in Detail A with U-bolts (#1), lock washers (#3), and lock nuts (#4),
- 2. Tighten lock nuts to the correct torque for 5/8"-11 GR5 bolts.

## Slow Moving Vehicle Sign Accessory

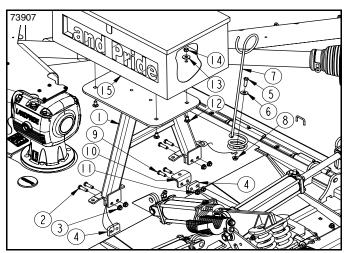
#### Refer to Figure 4-15:

\_ ...

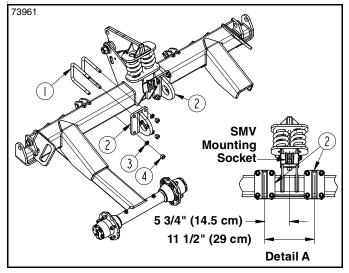
Land Pride offers as an accessory, the slow moving vehicle sign with mounting blade (#1) for tractors not equipped with a removable sign or when the tractor's sign does not fit Land Pride's mounting socket (#4). See Figure 4-14 for location of SMV mounting socket.

If you have need for mounting this sign on other equipment, mounting hardware (#2, #3, & #4) can be purchased from your nearest Land Pride dealer.

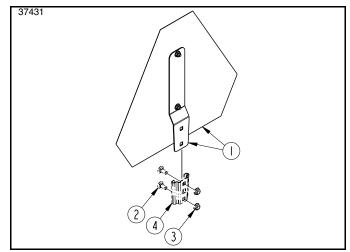
Item	Part No.	Description
1	316-362S	SLOW MOVING VEHICLE SIGN
2	802-092C	RHSNB 5/16-18X3/4 GR5
3	803-177C	NUT HEX FLG TP LK 5/16-18ZNYCR
4	890-401C	MOUNTING SOCKET



Optional Toolbox Assembly Figure 4-13



Tow Lug Option Shown with Single Suspension Center Axle Figure 4-14



Slow Moving Vehicle Sign Figure 4-15

...



### **General Maintenance**

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.

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.

Periodically, shutdown tractor by following the **"Tractor Shutdown Procedure"** on page 38. Dismount tractor and check for objects wrapped around blade spindles. Block deck up with solid, non-concrete supports before removing objects.

## **A** 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.
- Always disengage power take-off, shut tractor down, and wait for cutter blades to spool down to a stop before allowing anyone to clean, service, preform maintenance, or be near the cutter. Refer to tractor shutdown procedures provided in this manual.

## 

To avoid serious injury or death:

- Always follow "Tractor Shutdown Procedure" provided in this manual before dismounting the tractor.
- Make sure controls are all in neutral position or park before starting the power machine.
- 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.
- 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.
- Improper oil level can cause bearing failure and be a fire hazard. Maintain proper gearbox oil level.

## **Hydraulic System**

One of the most important things you can do to prevent hydraulic system problems is to ensure your tractor's hydraulic reservoir remains free of dirt and other contaminations. Use a clean cloth to wipe hose ends clean before attaching them to your tractor. Replace tractor 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.

Check for signs of damaged or worn hydraulic hoses, fittings and cylinders before each use of the cutter. Replace damaged components as needed. Order only genuine Land Pride parts from your local Land Pride dealer.

## 

To avoid serious injury or death:

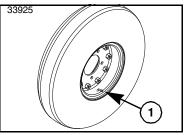
Hydraulic fluid under high pressure will penetrate the skin or eyes causing a serious injury. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Use a piece of cardboard or wood rather than hands when searching for leaks. If an accident occurs, seek immediate emergency medical care or gangrene may result. DO NOT DELAY.

## Tires

## **A** 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.
- 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. Do not over inflate tires.
- Do not weld on or heat a rim. High heat can weaken and/or warp the rim and damage the tire. Air pressure inside the tire can increase enough to cause an explosion.



Air Filled Airplane Tires with Split Rims Figure 5-1

- 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 75.



#### Refer to Figure 5-1 on page 52:

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.

## **Gearbox Driveline Shielding**

## 

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.

Shut tractor down before doing any maintenance. Refer to "Tractor Shutdown Procedure" on page 38.

Check that the wing gearbox driveline shielding and center gearbox driveline shielding is undamaged and in working order. Replace any damaged or missing components as needed. Order only genuine Land Pride parts from your local Land Pride dealer.

#### Wing Gearbox Driveline Shield Access

#### Refer to Figure 5-2:

- 1. To access the driveline slip clutch and yoke assembly, unsnap latches (#2) on both sides of guard (#1) with a flat bladed screwdriver.
- 2. Slide shaft guard (#1) forward over the driveline to expose the slip clutch and yoke assembly. Do not unhook safety chain (#3).
- 3. When servicing the driveline is completed, return shaft guard (#1) to its original position and secure it to mounting plate (#4) with latches (#2).
- 4. Check safety chain (#3) to make sure it is latched to mounting plate (#4) and shaft guard (#1).

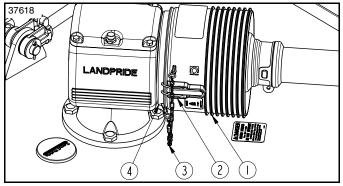
#### **Center Gearbox Driveline Sliding Shield**

#### Refer to Figure 5-3 & Figure 5-4:

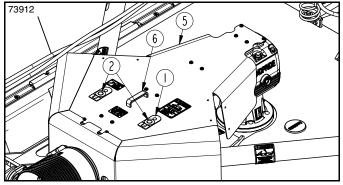
- 1. To access the center driveline slip clutch and yoke assembly, push down on latch buttons (#2) and release quickly. The levers (#1) will release and pop up as shown in Figure 5-4.
- 2. With one hand on sliding shield handle (#6), push sliding shield (#5) towards the rear of the cutter until the driveline slip clutch and yoke assembly are exposed. The center driveline is now accessible for servicing.
- 3. When servicing the driveline is completed, return sliding shield (#5) to its original position by pulling on handle (#6).
- 4. Rotate latch levers (#1) down until they click shut.

#### Refer to Figure 5-5:

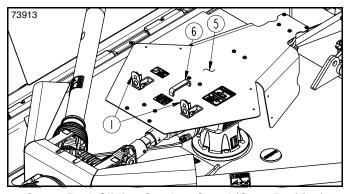
5. Latches (#1) should clamp tight to secure the guard. If it does not, loosen jam nut (#4) and adjust bolt (#3) up to increase the clamping pressure and down to decrease the clamping pressure.



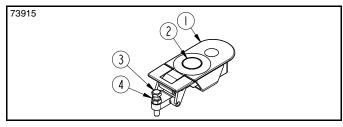
Wing Gearbox Driveline Shield Access Figure 5-2



Center Deck Sliding Gearbox Guard (Closed Position) Figure 5-3



Center Deck Sliding Gearbox Guard (Open Position) Figure 5-4



Sliding Shield Latch Figure 5-5

6. Secure bolt (#3) to its new adjusted position by tightening jam nut (#4).



## Drivelines

Before each use, check that all driveline shields and drivelines are in place, undamaged and in working order. Replace shields and drivelines as needed. Order only genuine Land Pride parts from your local Land Pride dealer.

## 

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.

## **A** WARNING

To avoid serious injury or death:

Do not operate a broken or bent driveline. Such a driveline will break apart while rotating at high speeds. Always remove the implement from use until the damaged driveline can be repaired or replaced.

## **Drivelines With Slip Clutches**

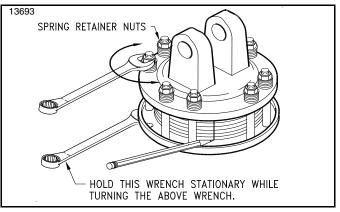
Friction clutches must be capable of slippage during operation to protect the gearboxes, drivelines, and other drive train parts. Friction clutches should be "run-in" prior to initial operation and after periods of inactivity to remove any oxidation from the friction surfaces. Repeat "run-in" at the beginning of each season and when moisture seizes the inner friction plates.

## 

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 30 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.

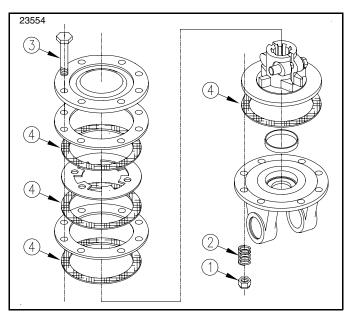


Clutch Run-In Figure 5-6

## Clutch Run-in

#### Refer to Figure 5-6:

- 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 8 spring retainer nuts by exactly two revolutions. It will be necessary to hold the hex end of the retainer bolt in order to **count the exact number of revolutions**.
- 3. Make sure the area is clear of all bystanders and the machine is safe to operate.
- 4. 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 ignition key. Wait for all components to stop before dismounting from the tractor.
- 5. 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.
- 6. Tighten each of the 8 spring retainer nuts on the clutch housing exactly two revolutions to restore clutch to original setting pressure.
- 7. Allow clutch to cool to ambient temperature before operating again. Clutch is now ready for use.
- 8. 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 5-8** to adjust spring length.



Clutch Assembly Figure 5-7

## Clutch Disassembly, Inspection & Assembly

#### Refer to Figure 5-7:

If the clutch run-in procedure performed 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.

Disassembly of clutch is simply a matter of first removing spring retainer nuts (#1), springs (#2), and bolts (#3) from the assembly. Each friction disk (#4) must then be separated from the metal surface adjacent to it.

#### Inspection

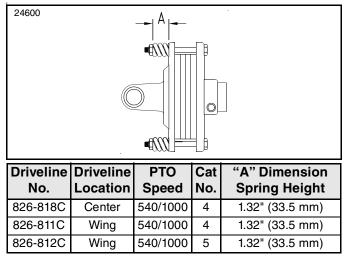
Inspect all parts for excessive wear and condition. Clean all parts that do not require replacement. The original friction disk thickness is 1/8" (3 mm) and should be replaced if thickness falls below 3/64" (1 mm). If clutches have been slipped to the point of "smoking", the friction disks may be damaged 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 5-8:

Progressively tighten each spring retainer bolt until correct spring height "A" is reached.



Clutch Spring Adjustment Figure 5-8

## **Cutter Blades**

Always inspect cutting blades before each use. Make certain they are properly installed and in good working condition. Never try to straighten a bent blade. Small nicks can be ground out when sharpening. For any blade that is damaged, worn, bent, or excessively nicked, replace with genuine Land Pride blades only. Refer to page 56 and page 57 when ordering Land Pride replacement blade components.

## 

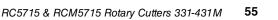
To avoid serious injury or death:

- 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.

## 

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.
- 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.
- 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.





#### Section 5: Maintenance & Lubrication



**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.

Remove cutting blades and sharpen or replace as follows:

- 1. Secure cutter deck in the up position with solid, non-concrete supports before servicing the underside of the cutter.
- 2. Shut tractor down before dismounting. Refer to "Tractor Shutdown Procedure" on page 38.
- 3. Disconnect main driveline from the tractor.

#### Refer to Figure 5-9 or Figure 5-10:

- 4. Remove rubber plug (#11). Rotate dishpan (#4) until blade bolt (#1) aligns with access hole (A).
- 5. Unscrew locknut (#3) to remove cutter blade (#10). Blade bolt (#1) is keyed and will not turn freely.
- 6. 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" (2 mm) 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. (0.04 kg) difference. Unbalanced blades will cause excessive vibration which can damage gearbox bearings and create structural cracks.

#### Refer to Figure 5-12 on page 57:

 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 5-9:

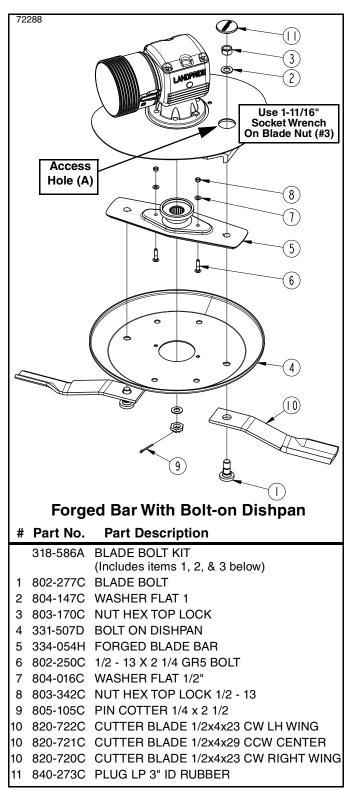


To avoid serious injury or death:

A locknut that has been removed can lose its thread locking properties. Reusing a used locknut can result in a thrown blade. Always use a new locknut when installing blades.

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

 Insert blade bolt (#1) through blade (#10), dishpan (#4), and flat washer (#2). Secure blade with a new locknut (#3) and torque to 450 ft-lbs (610 N·m).

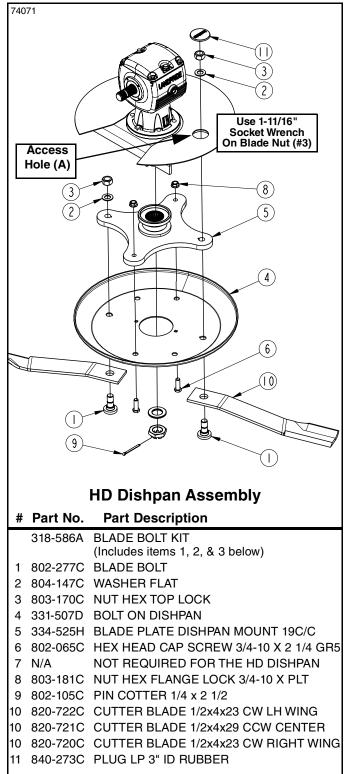


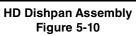
#### Forged Bar With Bolt-on Dishpan Assembly Figure 5-9

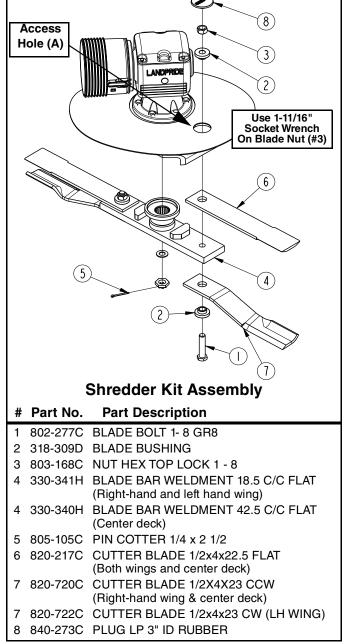
- 9. Replace rubber plug (#11).
- 10. Reconnect main driveline to tractor power take-off.

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#### Section 5: Maintenance & Lubrication







#### Shredder Kit Assembly Figure 5-11

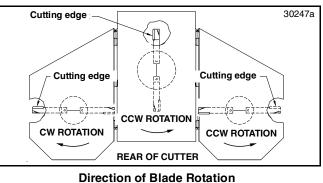


Figure 5-12





### **Hitch Wear Points**

Before each use, check the wear points for the specific hitch on your cutter. Replace worn hitch components as needed. Order only genuine Land Pride parts from your local Land Pride dealer.

#### **Constant Level Clevis Hitch Wear Point**

#### Refer to Figure 5-13:

On the Swivel Clevis Hitch, check plate (#1) for excessive wear around underside of hitch pin hole. If the thickness of plate (#1) is worn down to 9/16" (14 mm) or less at the hitch pin hole, the hitch must be replaced.

#### LP Performance Hitch Wear Points

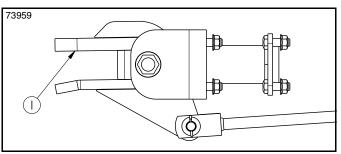
#### Refer to Figure 5-14:

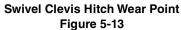
On the LP Performance Hitch<sup>TM</sup>, check plate (#1) for excessive wear. If the thickness of plate (#1) is worn down to 1/2" (13 mm) or less at the hitch pin hole, the hitch must be replaced. Check for excessive wear on flat washer (#2). Replace as needed.

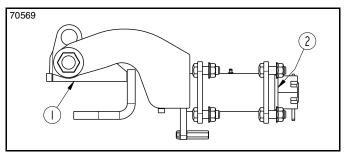
#### **Bar-Tite Hitch Wear Points**

#### Refer to Figure 5-15:

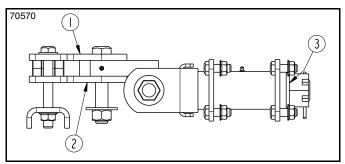
On the Bar-Tite Hitch, check plates (#1 & #2) for excessive wear. If the thickness of the plates are worn down to 3/8" (10 mm) or less at the bolt hole, the hitch must be replaced. Check for excessive wear on flat washer (#3). Replace as needed.







LP Performance Hitch Wear Points Figure 5-14



Bar-Tite Hitch Wear Points Figure 5-15

## Skid Shoes



To avoid serious injury or death:

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

**IMPORTANT:** Excessive wear on skid shoes can cause damage to the cutter frame and side skirts requiring extensive repairs. Always replace skid shoes at the first sign of wearing thin.

Check skid shoes for wear and replace as needed. Order only genuine Land Pride parts from your local Land Pride dealer.



#### Wing Deck Skid Shoes

#### Refer to Figure 5-16:

Replace wing skid shoes as follows:

- 1. Remove whiz nuts (#5A), carriage bolts (#4), and hardened skid shoes (#2) from both wing decks.
- 2. Remove 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 & #2) for wear. Worn skid shoes can be reversed and attach to the opposite wing deck.
- 5. Attach new/existing hardened skid shoes (#2) to the side skirts with existing carriage bolts (#4) and whiz nuts (#5A). Do not torque nuts tight at this time.
- 6. Attach new/existing skid shoes (#1) to the side skirts with new/existing plow bolts (#3) and whiz nuts (#5).
- Tighten whiz nuts (#5 & #5A) to the correct torque for 3/8"-16 GR5 bolts. Refer to the "Torque Values Chart" on page 75.

#### Wing Skid Skirts

#### Refer to Figure 5-17:

**NOTE:** Side skirt assembly part numbers include side skirt, skid shoes, decals & mounting hardware.

- 1. Remove whiz nuts (#3), carriage bolts (#2), and side skirt (#1).
- Attach new side skirt with 1/2"-13 x 1 1/4" GR5 carriage bolts (#2) and whiz nuts (#3). Tighten whiz nuts to the correct torque. Refer to the "Torque Values Chart" on page 75
- 3. If needed, repeat steps 1-2 for the other wing.

#### **Center Skid Shoes**

#### Refer to Figure 5-18:

This Rotary Cutter comes standard with two center deck skid shoes (#1). They are shipped from the factory attached to mounts (A). The skid shoes can be relocated to mounts (B) if customer prefers. Replace or relocate center skid shoes as follows:

- 1. Remove whiz nuts (#3), bolts (#2), and center skid shoes (#1) from mounts (A or B).
- Attach new skid shoes (#1) to mounts (A or B) with existing bolts (#2) and flange lock nuts (#3). Tighten lock nuts to the correct torque for 5/8"-11 GR5 bolts. Refer to the "Torque Values Chart" on page 75.

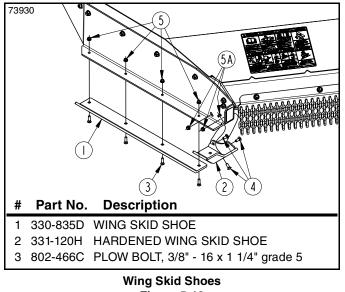
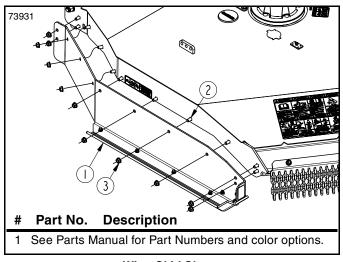
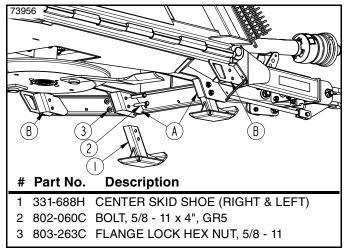


Figure 5-16



Wing Skid Shoes Figure 5-17



#### Center Skid Shoes (Viewed From Beneath) Figure 5-18

#### Section 5: Maintenance & Lubrication

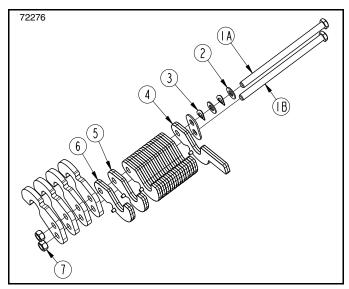
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## **Flip Spacer Replacement**

Overtime, the flip spacers may show signs of wear such as bending or gouging. When the spacers become difficult to close or they open too easily, then it is time to order replacement parts. Order only genuine Land Pride parts from your local Land Pride dealer.

The flip spacers included on your cutter are not all the same. When ordering new parts, compare damaged flip spacers to a matching illustration below to ensure ordering the right part. Additional assembly components are also listed below.

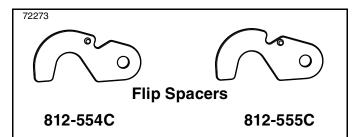
**IMPORTANT:** Worn or bent flip spacers can open too easily or become difficult to close, possibly resulting in spacers self-shifting from a fully-closed or fullyopen position. This can potentially cause damage to the lift cylinder and/or flip spacers.



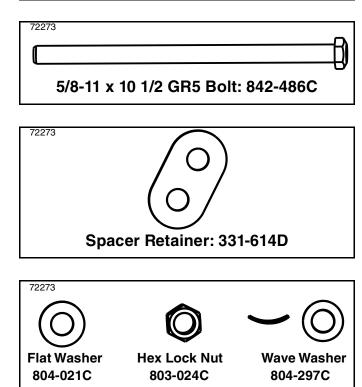
Flip Spacer Assembly Figure 5-19

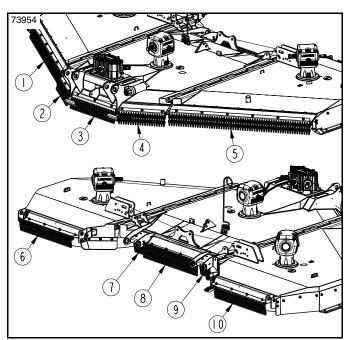
#### Refer to Figure 5-19:

- 1. Remove hex lock-nut (#7) from 5/8-11 GR5 bolt (#1A).
- 2. Carefully remove 5/8-11 GR5 bolt (#1A) from alternating flip spacers (#5 & #6), leaving both wave washers (#3) and both flat washers (#2) on bolt (#1A).
- 3. Remove any worn flip spacers (#5 & #6) and replace with new flip spacers, ensuring they are alternating in sequence.
- 4. Replace removed 5/8-11 GR5 bolt (#1A), ensuring both wave washers (#3) and both flat washers (#2) are on bolt (#1A).
- 5. Secure 5/8-11 GR5 bolt (#1A) by attaching a new hex lock-nut (#7). Tighten until flip spacers will not pivot freely, then back off 1/2 to 1 turn.









Front and Rear Chain Guard (Tires, Axles, Hydraulics, & Drive Components are Omitted for Clarity) Figure 5-20

## **Chain Guards**

Refer to Figure 5-20:



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.

Before each use of the cutter, ensure all ten chain guard sections (1-10) are present and undamaged. Replace any damaged or missing chain guard components as needed. Order only genuine Land Pride parts from your local Land Pride dealer.

## **Axle Pivot Bushings**

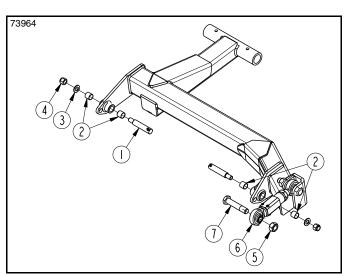
Refer to Figure 5-21 & Figure 5-22:

817-875C ..... Wing Axle Sleeve Bearing 1"8 ea 827-185C ..... Center Axle Sleeve Bearing 2" 4 ea

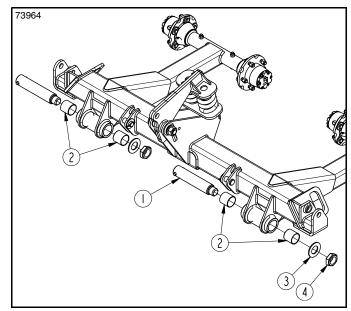
## 

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.



Wing Axle Sleeve Bearings (#2) Figure 5-21



Center Axle Sleeve Bearings (#2) Figure 5-22

It is recommended that the wing and center axle pivot bushings (#2) be replaced every 1500 hours of operation.

- 1. Disconnect turn buckles (#6) from the center axle by removing lock nuts (#5) and bolts (#7).
- 2. Remove wing axles by removing mounting hardware (#1, #3, & #4).
- 3. Remove center axle by removing mounting hardware (#1, #3, & #4).
- 4. Replace bushings (#2) in the axles.
- 5. Reassemble center and wing axles to the cutter.



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## Long-Term Storage

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

## 

To avoid serious injury or death:

- 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.
- 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 or touch up paint 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 Blades" on page 55.
- 3. Inspect for loose, damaged, or worn parts and adjust or replace as needed.
- 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
821-070C	PAINT LP BLACK SPRAY CAN
821-054C	PAINT MEDIUM RED SPRAY CAN
821-058C	PAINT GREEN SPRAY CAN
821-066C	PAINT ORANGE SPRAY CAN

- 5. Replace all damaged or missing guarding & decals.
- 6. Lubricate as noted in "Lubrication Points" starting on page 63.
- 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 "Unhook Rotary Cutter" instructions on page 31 when disconnecting tractor from cutter.

### **Ordering Replacement Parts**

Land Pride offers equipment in factory standard Beige with black highlights. This implement may also be purchased in Orange, Green, Red, or Yellow.

When ordering an optional color, the suffix number corresponding to the color must be added at the end of the part number. Parts ordered without the suffix number will be supplied in factory standard colors.

81 Green	85 Black	(
82 Orange	86 Yellov	W
83 Red		

For example, if you are ordering a replacement part with part number 555-555C and the existing part is orange, then add the suffix 82 to the end of the number to make the part number read 555-555C82.

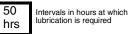


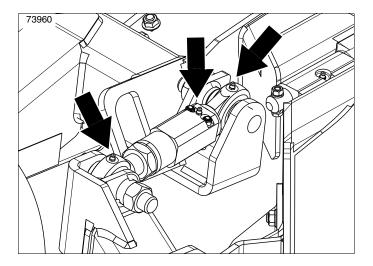
### **Lubrication Points**

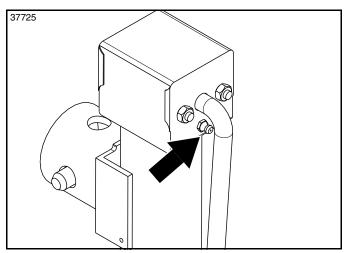




Multi-purpose grease lube Multi-purpose oil lube









K

#### Axle Hub Bearing 1 zerk per wheel

Type of Lubrication: Multi-Purpose Grease Grease wheel bearings every 150 hours. Quantity = 2 pumps Repack wheel bearings annually.



### Adjustable Turnbuckle

3 zerks

Type of Lubrication: Multi-Purpose Grease

Grease both left & right hand side turnbuckles every 50 hours.

Quantity = As required

Grease with wings folded-up to remove pressure on turnbuckle and allow grease to reach more areas.



### Park Jack

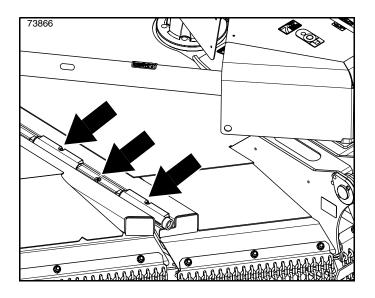
1 zerk

Type of Lubrication: Multi-purpose Grease

Frequency = As needed and when unhooking for longterm storage

Quantity = As required







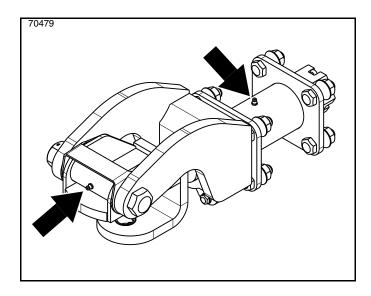
#### **Deck Hinges With Wings Down**

20 zerks (10 zerks per hinge)

Type of Lubrication: Multi-purpose Grease

Frequency = As needed and when unhooking for longterm storage.

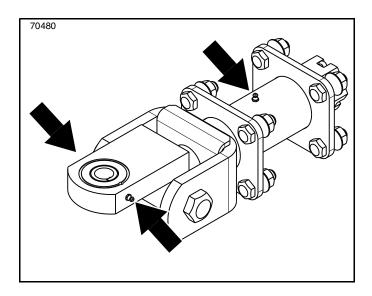
Quantity = As required





#### LP Performance Hitch (Optional) 2 zerks

Type of Lubrication: Multi-purpose Grease Frequency = Every 50 hours Quantity = As required

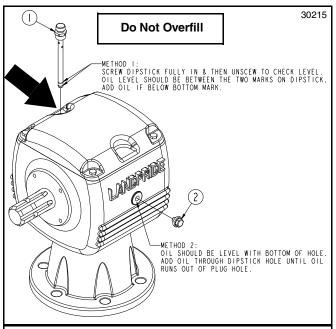




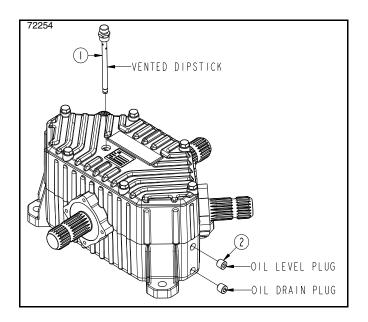
**Bar-Tite Hitch (Optional)** 3 zerks Type of Lubrication: Multi-purpose Grease Frequency = Every 50 hours Quantity = As required

#### Section 5: Maintenance & Lubrication





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





#### **Gearbox and Divider Box Lubrication**

Change oil after first 50 hours, then change it yearly or every 600 hours.

**IMPORTANT:** Do not overfill the gearbox and divider box with oil. Oil will expand when hot. Make sure the 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:** 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.

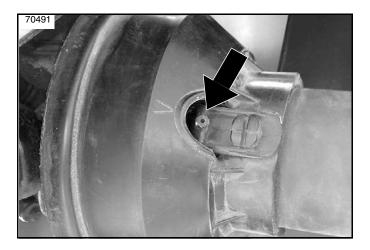
**Method 2:** Remove side oil plug (#2). If oil is below bottom of plug hole, add recommended gear lube through top dipstick hole until oil flows out of side plug hole. Reinstall and tighten side oil plug (#2) and vented dipstick (#1).

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.

#### Section 5: Maintenance & Lubrication

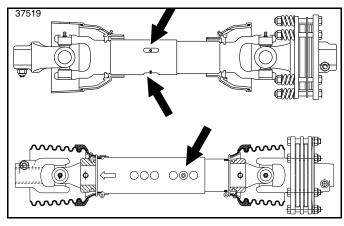


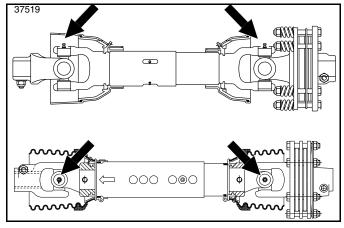




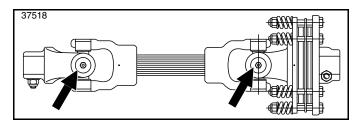
### Wing Driveline Shield Grease Point

Type of Lubrication: Multi-purpose Grease Frequency = Every 8 hours Quantity = 2-3 Pumps





Drivelines with external profile tube grease point





### Wing Driveline Profile Tubes

Type of Lubrication: Multi-purpose Grease Frequency = Every 8 hours Quantity = Coat Generously



## Wing Driveline Joints

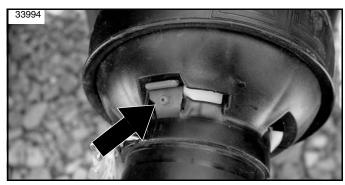
Type of Lubrication: Multi-purpose Grease Frequency = Every 8 hours Quantity= 2-3 Pumps

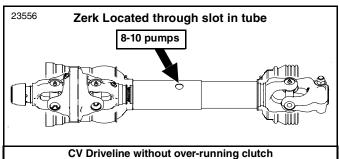


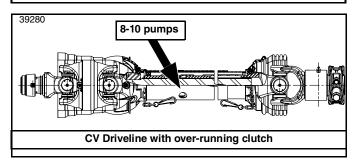
#### **Intermediate Driveline Joints**

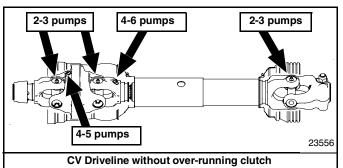
Type of Lubrication: Multi-purpose Grease Frequency = Every 8 hours Quantity= 2-3 Pumps











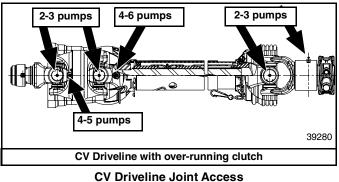


Figure 5-23



## **CV Main Driveline Shield Grease Point** Type of Lubrication: Multi-purpose Grease

Frequency = Every 8 hours Quantity = 2-3 Pumps



## CV Main Driveline Profile Tubes With External Grease Point

Type of Lubrication: Multi-purpose Grease

Frequency = Every 8 hours

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**

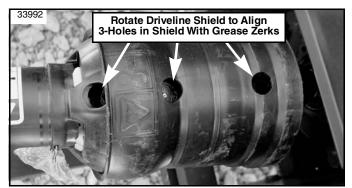
Type of Lubrication: Multi-purpose Grease

Frequency = Every 8 hours

For instructions on how to access grease zerks shown in : See "Accessing CV Driveline Joints" on page 68.

- 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, driveline shields and over-running clutch should be lubricated every 8 hours of operation.





Lubrication Through Three Holes In Driveline Shield Figure 5-24

#### Accessing CV Driveline Joints

#### Refer to "CV Driveline Joint Access" on page 67

There are two ways the constant velocity driveline joints shown in Figure 5-24 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 as shown in Figure 5-28.

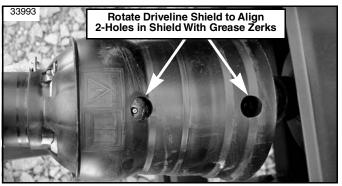
#### **Lubrication Through Access Holes**

- 1. **Refer to Figure 5-24:** Rotate driveline shield until holes in shield align with grease zerks in CV joint.
- Apply correct type and amount of lubrication. Refer to "CV Main Driveline Joints" on page 67 for quantities and type of lubrication.
- 3. **Refer to Figure 5-25:** Rotate driveline shield 180<sup>o</sup> 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.)

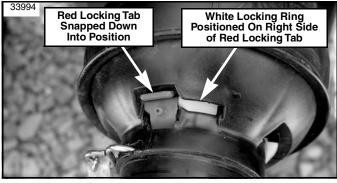
#### Lubrication By Sliding Driveline Shields Back

- 1. **Refer to Figure 5-26:** With a flathead screwdriver or similar tool, pry top of red locking tab up.
- 2. **Refer to Figure 5-27:** Rotate white locking ring counterclockwise to the position shown.
- 3. **Refer to Figure 5-28:** Pull back on driveline shielding until CV joint is exposed.
- Apply correct type and amount of lubrication. Refer to "CV Main Driveline Joints" on page 67 for quantities and type of lubrication.
- 5. Slide driveline shield back to its operating position.
- 6. **Refer to Figure 5-26:** Rotate white locking ring clockwise and press locking tab down until it snaps in place as shown.

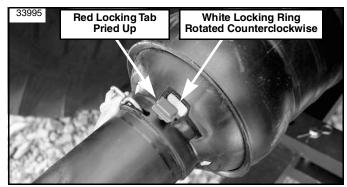
Steps 1-6 can be repeated to lubricate universal joint on opposite end of driveline.



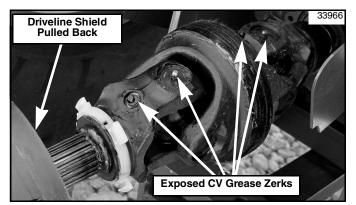
Lubrication Through Two Holes In Driveline Shield Figure 5-25



Locked Driveline Shield Figure 5-26



Unlocked Driveline Shield Figure 5-27



Slide Driveline Shield Back To Expose Grease Zerks Figure 5-28



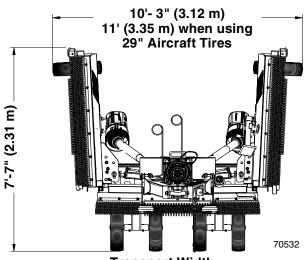
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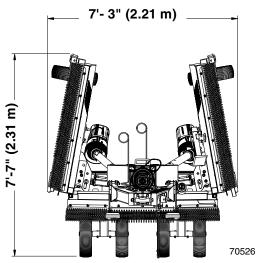
Engine horsepower range	Specifications & Capacities           60 - 250 hp (44.7 - 186.4 kW)
Coarboy boroonowor	540 rpm or 1000 rpm
Gearbox horsepower	250 hp (186 kW) Divider and 225 hp (168 kW) Center & Wings
Gearbox lubrication	Gear Lube 80-90W EP
Gearbox oil capacity	Splitter: 5.5 pints (2.6 L); Center deck & Wings: 12.4 pints (5.87 L)
Cutting capacity	5" (13 cm)
Machine weight	5,880 lbs (2667 kg) - Weight includes base unit, six 21" laminated tires, HD single suspension center & wing axles, 540 CV Cat. 4 main driveline package, front & rear single chain guards, single acting fold cylinders, constant level clevis hitch, and forged blade bar with bolt-on dishpan blade carriers.
Tongue weight	2,226 lbs (1010 kg) with wings down.
Blade tip speed At 540 rpm At 1000 rpm	Center Blades & Wing Blades = 16,400 FPM (83 mps) Center Blades = 16,400 FPM (83 mps) & Wing Blades = 16,000 FPM (81.3 mps)
A-frame tongue	5" x 3" (12.7 cm x 7.6 cm) rectangular tubing.
Hitch types	Constant Level Swivel Clevis Hitch, LP Performance Hitch <sup>TM</sup> , Self Leveling Bar-Tite Hitch, Ball Hitch, or Constant Level Pintle Hitch.
LP Performance Hitch & Bar- Tite hitch pivot shaft diameter	2 1/4" (5.7 cm)
Hitch jack	Standard 7,000 lbs. (3175.1 kg)
Signal lights	LED
Seven pin connector	SAE J560 pin configuration
Cutting width	15'-0" (4.57 m)
Overall width Transport width with 21" tires	16'-0" (4.88 m) 10'-3" (3.12 m) - Single-acting fold option, 7'-3" (2.21 m) - Dual-acting fold option.
Overall length	16'-3" (4.95 m) - With center deck raised fully up.
Deck height	12" (30.5 cm)
Cutting height	1-1/2" - 16" (3.8 cm - 40.6 cm) - Varies by tire option.
Lift hydraulics	3 1/2" x 8" hydraulic cylinder, hoses, fittings & flip-over spacers.
Wing flex while operating	Max. $20^{\circ}$ down, Can float up as needed as long as the wheel(s) are still on the ground.
Wing hydraulics	3" x 12" hydraulic cylinders, hoses & fittings.
Wing transport protection	Wing Transport Lock Pin.
Deck material thickness	Top deck plate = 10 Gauge (3.4 mm); Bottom deck plate = 3/16" (5 mm)
Side skirt construction	Removable/replaceable 1/4" (6 mm) steel.
Deck Armor <sup>™</sup> (Optional)	5/16" (8 mm) Steel plate
Wing deck skid shoes	Each wing has one leading hardened beveled skid shoe and one trailing standard beveled skid shoe. Both are reversible and replaceable.
Center deck skid shoes	Two replaceable beveled skid shoes and multiple mounting locations.
Blades - 6 (2 per carrier)	1/2" x 4" (1.3 cm - 10.2 cm) Heat-treated, free-swinging alloy steel with uplift.
Blade overlap	6" (15.2 cm)
Blade bolt	Keyed with hardened flat washer & locknut.
Stump jumper / blade holder options	Forged blade bar without the dish pan. Thick 3/16" (5 mm) round dish shaped pan, reinforced with the forged blade bar. Thick 3/16" (5 mm) round dish shaped pan, reinforced with the heavy duty blade plate. Stacked blade shredder Kit without the dish pan.
Front & rear guards	Optional single row chain or dual row chain.
Input driveline 540 & 1000 rpm	Cat. 6 with constant velocity u-joint with or without over-running clutch.
Intermediate driveline	Standard - Category 5 with slip-clutch.
Wing drivelines	Standard - Category 4 with slip-clutch or Category 5 with slip-clutch.
Number of wheels	<ul><li>6 - Wheel option: Four on transport axle and one on each wing axle.</li><li>8 - Wheel option: Four on transport axle and two on each wing axle.</li></ul>



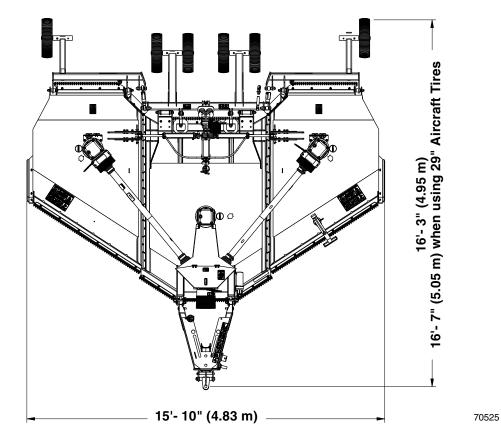
	Specifications & Capacities Continued	
Wheel options	<ul> <li>21" (53.3 cm) or 26" (66 cm) Laminated tires.</li> <li>24" (61 cm) Used aircraft, foam filled tires.</li> <li>25.5" (64.8 cm) 20 ply tires, foam filled or pneumatic.</li> <li>29" (73.7 cm) Used aircraft tires.</li> </ul>	
Transport axle	Many configurations to choose from.	
Hubs	Cast iron five-bolt hubs with tapered roller bearings and 1 3/4" (4.4 cm) shafts.	
SMV Sign (Accessory)	SMV decal on galvanized steel back sign and plated or galvanized blade mount.	



Transport Width With Single Action Fold Option



Narrow Transport Width With Dual Action Fold Option





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	Arrives for quick and easy set-up. Minimal time wasted setting or prepping the unit.
Seven Year gearbox warranty	Shows confidence in gearbox integrity.
Rugged heavy built gearboxes	Capable of handling heavy cutting applications.
Gearbox seal protection	Gearbox bottom seal protection for longer bearing life.
Sliding guard for splitter gearbox	Sliding guard offers protection and easy access for improved efficiency of splitter gearbox maintenance.
Detachable shields on the wing gearboxes	Provides easy maintenance access to the driveline slip clutches and yokes.
Two piece driveline shields	Driveline grease zerks are easier to access.
Low hitch weight on tractor drawbar	Ideal for smaller hp tractors by reducing the amount of weight on the drawbar.
Narrow A-frame tongue	Allows for a tighter turning radius.
Adjustable park jack angle	Park jack can be adjusted to be perpendicular to the ground.
Adjustable driveline support	Serves as support rest for the driveline when the cutter is unhooked from the tractor. Assist operator when attaching driveline to the tractor power take-off shaft.
Input driveline: Cat. 6 CV	Driveline is matched just right for tractor capacity. Constant velocity (CV) U-joint allows for 80 degree turns without doing damage to the driveline.
Drivelines with slip-clutches: Cat. 5 intermediate Cat. 4 or Cat. 5 wings	Driveline is sized right for the intended cutting capacity. Slip-clutches will slip under load to minimize twist damage to driveline profiles.
Grease zerks on end caps of driveline	Intermediate and wing driveline cross journals are easier to grease.
High blade tip speed	Allows clean cutting of material.
6" Blade overlap	Eliminates skipping during turns.
Forged blade bar (Optional)	Provides the critical strength needed for consistent, top performance.
3/16" Round stump jumper (Optional)	Standard thick stump jumper material keeps damage to a minimum.
Smooth top design	Reduces accumulation of debris and is easier and faster to clean.
Tops of decks are 100% welded	Makes center and wing decks stronger.
Deck Armor <sup>™</sup> (Optional)	Reduces deck damage from blade to deck contact without affecting cut quality.
Replaceable 1/4" side skirt thickness	Increased thickness reduces damage from objects thrown into the side skirts.
Multiple center skid shoe locations	Run two skid shoes under the hitch pivots or two skid shoes under the wing hinges.
Beveled skid shoes on wings	Reduces gouging the ground when turning.
LED signal lights	LED lights are bright, long lasting, and resist vibration, unlike incandescent lights.
Wire harness 7-pin plug holder	Spring hose loop mounted holder keeps wire harness plug out of the dirt and rain.
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 rod provides greater strength in the hinge area.
Wing transport lock pins	Transport lock pins hold the wings in the folded position in the event of hydraulic loss.
Enclosed dual 1" leveling rods	Cutter pulls equally on the rear axle while traveling over rough terrain.
Five-bolt hubs with larger bearings, five lip hub seals, and bolted-on hub caps	Makes the wheel assembly more durable and longer lasting. Five hub seals make it harder for water & debris to enter the hub and grease to leave the hub. Hub caps cannot be knocked off by foreign material.
Drain holes in wheel rims	Allows water to drain from wheels mounted on the folded-up wings. Helps prevent paint deterioration and rusting to the wheel rims.
Replaceable individual wheel spindles	Spindles can be replaced when damaged without replacing entire axle assembly.

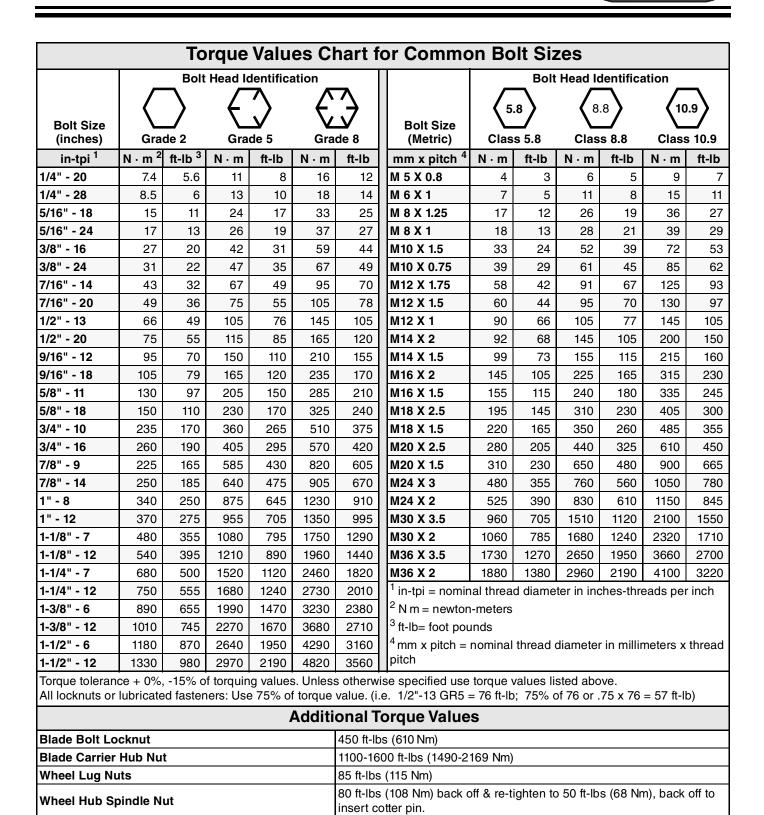


Features	Benefits	
Tire options	Laminated tires: Eliminates flats. Air-filled tires: Give better cushion while transporting. Foam-filled tires: Give better cushion while transporting and can't go flat.	
LP Performance Hitch <sup>™</sup> (Optional)	One person Hook-up. Great for uneven terrain, reduces drawbar wear. Hitch pivots reely up and down and pivots about the tractor drawbar up to 12 degrees in both left and right directions.	
Bar-Tite hitch (Optional)	Ideal for extreme conditions. Clamps tight to drawbar eliminating drawbar wear.	
Maintenance free tongue & axle pivots	Self lubricating journal bearings make for less maintenance.	
Color-coded hydraulic hose handles	Easy hose identification & sturdy handle to easily connect & disconnect from tractor.	
Hydraulic hose holders	Tongue mounted hose holder keeps hose tips out of the dirt.	
Greasable cast steel, continuous hinges	Cast steel hinges make a strong connection & are easy to lubricate.	
Center axle options	<ul> <li>HD Single suspension center axle: Spring cushion at the cylinder for cushion with least amount of moving parts.</li> <li>Independent suspension center axle: Offers additional suspension support per wheel axle.</li> <li>Walking tandem center axle: Designed for versatility over a multitude of terrains.</li> <li>Parallel pivot center axle: Provides unmatched ground contact for hill-like terrains.</li> </ul>	
Wing axle option	<ul> <li>HD Single suspension wing axles: One piece wing axles that get support from the center cylinder spring cushioning on the center axle for cushioning with the least amount of moving parts.</li> <li>Independent suspension wing axles: Offers additional suspension support on each wing axle.</li> <li>Walking tandem wing axles: Designed for versatility over a multitude of terrains.</li> <li>Parallel pivot axles: Provides unmatched ground contact for hill-like terrains.</li> </ul>	
Dual-acting fold cylinders (optional)	Allows for a narrow transport width of 7'3" (2.21 m).	
Flip spacers	Easily change cut height with a flip of a spacer.	
SMV Mounting Socket (Standard)	SMV mounting socket receives most SMV signs equipped with a mounting blade for ease of attachment and removal when transporting on a truck or trailer.	
SMV Sign (Accessory)	SMV sign is offered as an accessory when the tractor's SMV sign and mounting blade does not fit the cutter's standard SMV mounting socket.	



## **Troubleshooting Chart**

Problem	Cause	Solution
	Gearbox overfilled	Drain oil level with fill hole or to full mark on dipstick.
	Seals damaged	Replace seals.
Oil seal leaking	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 "Lubrication Points" on page 63.
	Shock load	Avoid hitting solid objects.
	Needs lubrication	Lubricate every 8 hours.
	Scalping the ground	Raise cutting height.
Slip Clutches slip even with a	Clutch is not properly adjusted	Adjust clutch per instructions under "Lubrication Points" on page 63.
light load	Clutch plates are worn out	Replace clutch plates.
	Foreign object caught between clutch plates	Remove foreign object.
Bent driveline shaft	Contacting frame	Reduce lift height in transport position.
(Note: Shaft should be repaired or	Contacting drawbar	Reposition drawbar.
replaced if bent)	Bottoming out	Shorten driveline shaft.
. ,	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 locked together (overlapped) when wings were folded-up to transport position	Use pry bar or other tool to separate cutting blades before unfolding the wings.
lades lock-up	Tractor has instant on power take-off	Engage power take-off at low rpm and then slowly increase engine speed to full power take-off speed. See "Engage Blades" on page 42.
	Tractor has Instant off power take-off	Disengage blades at low rpm or change to a driveline with over-running clutch.
Blades wearing excessively	Cutting on sandy ground	Raise cutting height. Change to low lift blades.
blades wearing excessively	Contacting ground frequently	Raise cutting height.
Blades coming loose	oming loose tightened properly page 55.	
	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.
Excessive side skid wear	Soil abrasive	Adjust cutter height.
	Cutting too low	Raise cutting height.
	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.
Excessive vibration	Blade broken	Replace blade.
	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.
Wing online day many states and	Blades have unequal weight	Replace each pair of blades on the affected carrier.
Wing cylinder movement too slow	Orifice is plugged	Remove elbow fitting and unplug orifice.
Wing decks are not staying level	Hinge and/or turnbuckle wear	Adjust turnbuckle as need to keep decks level. Axle bushings may need replacing.



Tire Inflation Chart				
TireSize	Inflation PSI			
25.5" and 29" tire	40 PSI (276 kPa)			



## 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 Drivelines: One year Parts and Labor **Gearbox**: Five years Parts and Labor. 6th and 7th year parts only. Hydraulic Cylinder: One year Parts and Labor

Hoses and seals 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 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