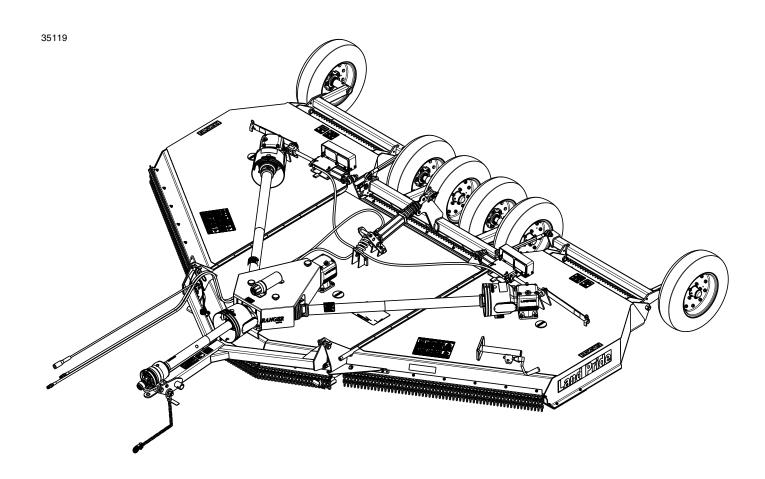
# **Rotary Cutter**

# RC2515



# 331-101M 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



ii

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

#### **Table of Contents**



Important Safety Information	1	Engage Blades	29
Safety at All Times		Disengage Blades	29
Look for the Safety Alert Symbol		Remove Blade Carrier Blockage	29
Safety Labels		Unhook Rotary Cutter	30
Introduction		General Operating Instructions	3
Application		Section 4: Options & Accessories	32
Using This Manual		Safety Guard	
Owner Assistance		Tire Options	
Serial Number		Hydraulic Accessories	
Section 1: Assembly & Set-up		Section 5: Maintenance & Lubrication	
Tractor Requirements		General Maintenance Information	
Drawbar Set-up		Hydraulic System	
Before You Start		Cutter Blade Maintenance	
Torque Requirements		Drivelines With Slip Clutches	
Remove Shipping Lugs		Tire Maintenance	
Tractor Shutdown Procedure		Skid Shoes	
Hitch & Jack Assembly		Long Term Storage	
Unfold Wings		Ordering Replacement Parts	
Unhook Dealer Tractor		Lubrication Points	
Driveline Assembly		Gearbox	
Hook-up Tractor		Splitter Gearbox	
Hook-up Driveline		Axle Pivots, Wing Decks	
Hook-up Hydraulics		Axle Pivots, Center Deck	
Hook-up LED Lights		Adjustable Turnbuckle	
Driveline Clearance Check		Axle Hub Bearing	
Purge Hydraulic System		Hitch Pivots	
Lift Cylinder Mounting Position		Intermediate Driveline Joints	
		Wing Driveline Profile Tubes	
Section 2: Adjustments		Wing Driveline Joints	
Level Center Deck		CV Main Driveline Profile Tubes	
Level Wing Decks		Constant Velocity Main Driveline Joints	
Adjust Cutter Height		Section 6: Specifications & Capacities	
		Section 7: Features & Benefits	
Section 3: Operating Instructions			
Startup Checklist		Section 8: Troubleshooting	
Safety Information		Section 9: Torque Values Chart	50
Tractor Turning Angle		Section 10: Warranty	51
Blade Operation Inspection		•	
Set Transport Locks			
Transporting			
=			
Field Set-up			
Field Inspections			
Unfold Wings			
Set Blade Cutting Height			
Place Wing folding Lever in Float Position			
Select Gear Range	29		



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Printed in the United States of America.



See previous page for Table of contents.



# Parts Manual QR Locator

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



# **Dealer QR Locator**

The QR code to 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. The signal words are:

#### **A** 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.

#### **A**CAUTION

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

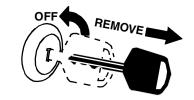
# Safety Precautions for Children

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

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

# **Tractor Shutdown & Storage**

- ▲ If engaged, disengage power take-off.
- Park on solid, level ground and lower implement to ground or onto support blocks.
- ▲ Put tractor in park or set park brake.
- ▲ Turn off engine and remove 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.

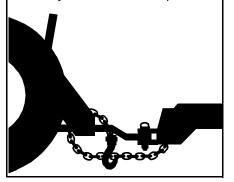


4/28/21 **1** 



### **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 over head utility lines or electrically charged conductors.
- Always drive with load on end of loader arms low to the ground.
- Always drive straight up and down steep inclines with heavy end of a tractor with loader attachment on the "uphill" side.



- ▲ Engage park brake when stopped on an incline.
- Maximum transport speed for an attached equipment is 20 mph. DO NOT EXCEED. Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrains require a slower speed.
- ▲ As a guideline, use the following maximum speed weight ratios for attached equipment:
  - **20 mph** when weight of attached equipment is less than or equal to the weight of machine towing the equipment.
  - 10 mph when weight of attached equipment exceeds weight of machine towing equipment but not more than double the weight.
- ▲ IMPORTANT: Do not tow a load that is more than double the weight of the vehicle towing the load.





# **Tire Safety**

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

#### **Practice Safe Maintenance**

- ▲ Understand procedure before doing work. Refer to the Operator's Manual for additional information.
- ▲ Work on a level surface in a clean dry area that is well-lit.
- ▲ Lower implement to the ground and follow all shutdown procedures before leaving the operator's seat to perform maintenance.
- ▲ Do not work under any hydraulically supported equipment. It can settle, suddenly leak down, or be lowered accidentally. If it is necessary to work under the equipment, securely support it with stands or suitable blocking beforehand.
- ▲ Use properly grounded electrical outlets and tools.
- ▲ Use correct tools and equipment for the job that are in good condition.
- Allow equipment to cool before working on it.





- ▲ Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on implement.
- ▲ Inspect all parts. Make certain parts are in good condition & installed properly.
- ▲ Replace parts on this implement with genuine Land Pride parts only. Do not alter this implement in a way which will adversely affect its performance.
- ▲ Do not grease or oil implement while it is in operation.
- ▲ Remove buildup of grease, oil, or debris.
- Always make sure any material and waste products from the repair and maintenance of the implement are properly collected and disposed.
- ▲ Remove all tools and unused parts from equipment before operation.
- Do not weld or torch on galvanized metal as it will release toxic fumes.

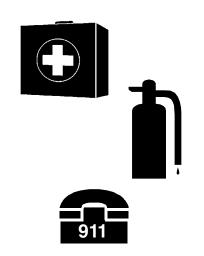






#### **Prepare for Emergencies**

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

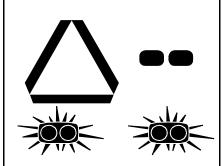


# Avoid High Pressure Fluids

- ▲ 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.

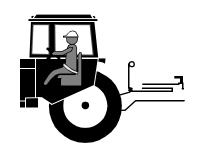
# Use Safety Lights and Devices

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



# Keep Riders Off Machinery

- Never carry riders 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.

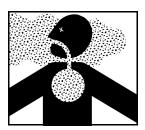




# Avoid crystalline Silica (quartz) Dust

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
- 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 work to the marks they positioned.



# Important Safety Information



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# Safety Labels

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

- Keep all safety labels clean and legible.
- 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.
- 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

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

# **▲** DANGER



To prevent serious injury or death:

- Do not operate or work on this machine without reading and understanding the Operator's Manual.
- Avoid unsafe operation or maintenance. Transport with clean reflectors, SMV, and lights as required by federal, state, and local laws.
- lf manual is lost, contact your nearest dealer for a new manual.



ROTATING DRIVELINE CONTACT CAN CAUSE DEATH KEEP AWAY!

#### DO NOT OPERATE WITHOUT:

- All driveline guards, tractor and equipmen shields in place.
- •Drivelines securley attached at both ends.
- Driveline guards that turn freely on driveline.

DO NOT USE PTO ADAPTORS





#### THROWN OBJECT AND ROTATING BLADE HAZARD

To prevent serious injury or death:

- •Do not operate unless all guards are installed and in good condition.
- •Inspect and clear debris from mowing area prior to mowing.
- Do not operate with bystanders in or around mowing area.
- Do not place hands or feet under deck when operating or when engine is running. running.
- •Do not operate with wing(s) raised. Do not operate without wing(s) or weight box.



#### CRUSHING HAZARD

To prevent serious injury or death:

- Do not transport without transport locks securely engaged.
- Do not walk or work underneath raised wing unless it is securely locked.
- Stay clear of wings while they are being raised and lowered.





6















#### ROLLOVER HAZARD

To prevent serious injury or death:

- Always use seat belt when operating.
- Only operate on tractors equipped with a rollover protective structure (ROPS).
- If equipped with foldable ROPS, only operate in the unfolded and locked postition.



#### ROLLOVER HAZARD

To prevent serious injury or death:

- Do not transport on an incline with wing(s) raised.
- •Do not transport without wing or weight box

#### CRUSHING HAZARD

Before performing maintenance on machine and to prevent serious injury or death:

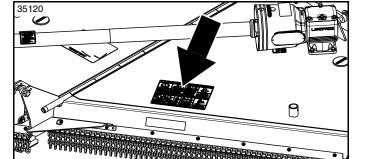
- Read an understand operator's manual. •Stop engine, set brake, and wait for all moving parts to stop before dismounting.
- Support mower securely and apply any supplied hydraulic cylinder locks before before working beneath.

# RUN OVER HAZARD

To prevent serious injury or death:

- Always use seat belt when operating.
- •Never allow riders on tractor or machine

# •Use caution when mowing along inclines



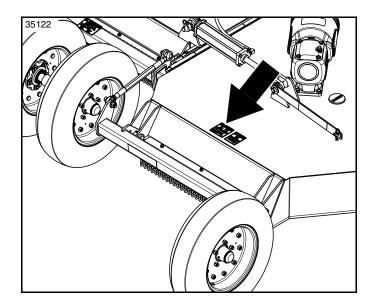
#### 858-949 C

Safety Combo:

2-Places: Front side of right and left wings

4/28/21 RC2515 Rotary Cutter 331-101 M

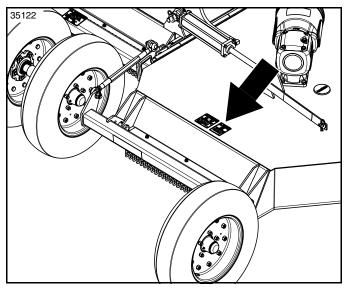






#### 818-555C

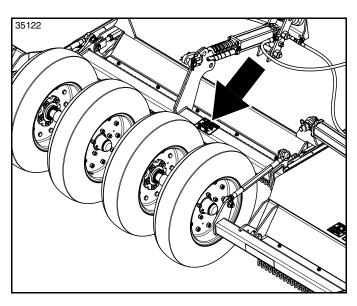
Danger! Rotating Blade Hazard 2-Places: Back side of right and left wings





# 818-556C

Danger! Thrown Object Hazard 2-Places: Back side of right and left wings

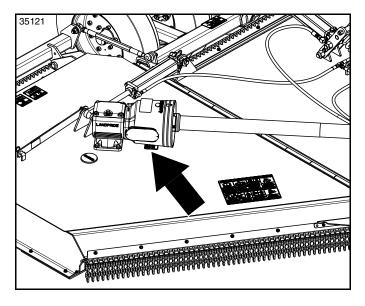


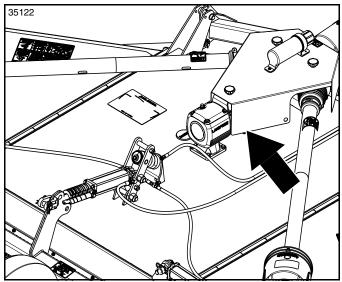


### 818-045C

Warning! Pinch Point 1-Place: Back side of center axle



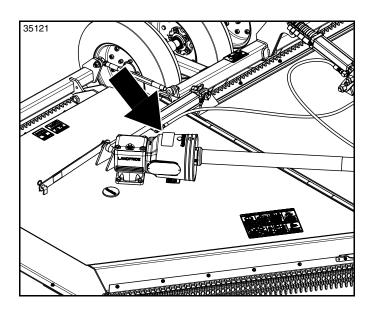






# 818-543C

Danger! Guard Missing - DO NOT Operate 3-Places: Beneath gearbox shaft shields on center, right wing, and left wing decks



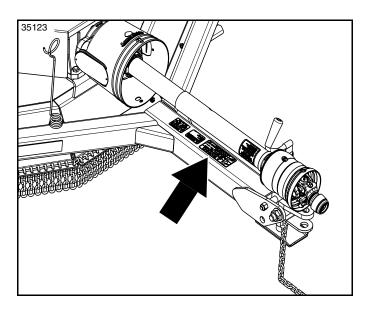
8



# 818-142C

Danger! Rotating Driveline - Keep Away 2-Places: Top side of wing gearbox shields

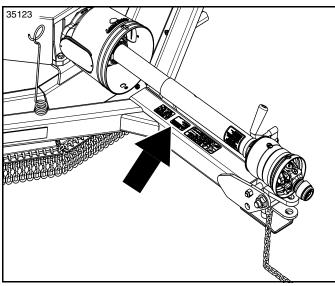






### 838-094C

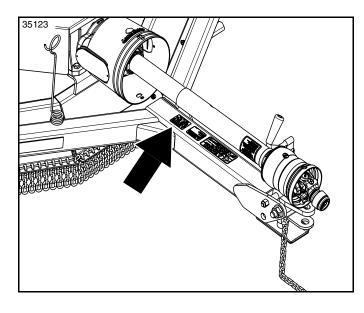
Warning! High Pressure 1-Place: Hitch





# 838-588C

Warning! Speed Warning 1-Place: Hitch





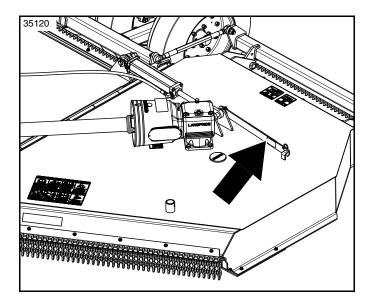
#### 818-130C

Warning!
Use 540 rpm power take-off only (RC Series Cutters)
1-Place: Hitch

9

4/28/21 RC2515 Rotary Cutter 331-101M

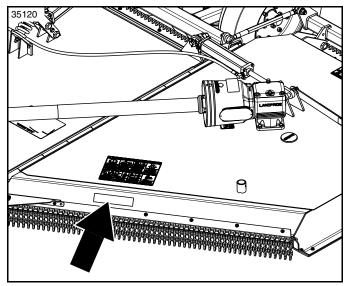






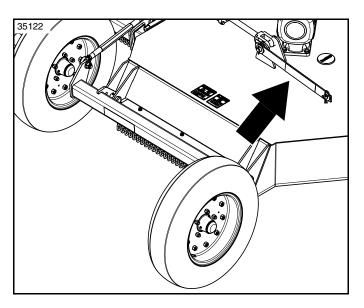
# 818-229C

1 3/4" x 2 3/4" (4.4 cm x 7 cm) Amber Reflector 2 places: Front side of left & right wing locking bars



# 838-615C

2" x 9" Amber Reflector 1 place: Front face of left wing

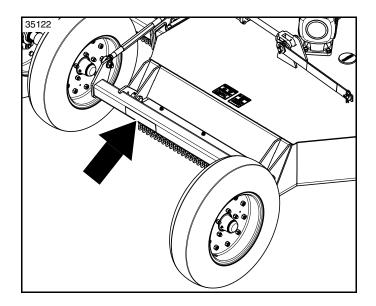


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# 838-614C

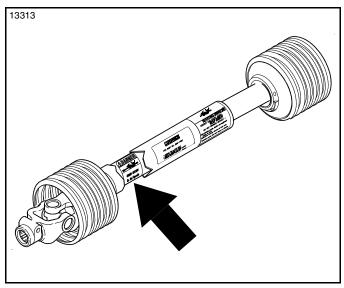
2" x 9" Red Reflector 2 places: Back side of left & right wing locking bars





# 838-614C

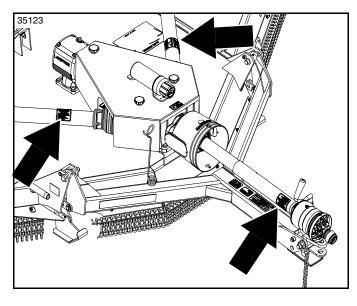
2" x 9" (5 cm x 23 cm) Red Reflector 2 places: Back side of left & right wing axles





### 818-540C

Danger! Shield Missing - DO NOT Operate 3-Places: On wing and main driveline profiles





# 818-552C

Danger! Rotating Driveline - Keep Away

3-Places: Main driveline and 2-wing drivelines

11



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 machine.

# **Application**

The RC2515 Series Rotary Cutters are designed and built by Land Pride to provide excellent cutting performance on gently sloping or slightly contoured pastures and set-aside-acres. The 15' (4.57 m) cutting width, 2" to 13" (5 to 33 cm) cutting height and ability to cut weeds and brush up to 1 1/2" (3.8 cm) in diameter make it well suited for these applications. This model features a pull-type clevis hitch for attachment to 50-100 hp (37 to 75 kW) tractors and 540 rpm Cat. 4 CV main input driveline. It is an excellent choice for light agricultural, and municipal cutting applications.

See "Specifications & Capacities" on page 46 and "Features & Benefits" on page 48 for additional information and performance enhancing accessories.

# **Using This Manual**

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

#### **Terminology**

"Right" or "Left" as used in this manual is determined by the direction the operator faces while sitting looking forward in the operator's seat unless otherwise stated.

#### **Definitions**

12

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

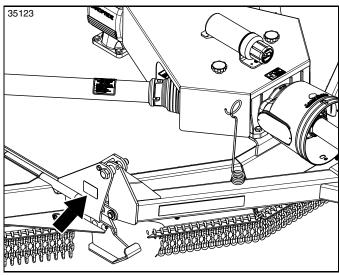
**NOTE:** A special point of information that the operator should be aware of before continuing.

#### Owner Assistance

The dealer should complete the Online Warranty Registration at the time of purchase. This information is necessary to provide you with quality customer service. The parts on your Rotary Cutter have been specially designed by Land Pride and should only be replaced with genuine Land Pride parts. Contact a Land Pride dealer if customer service or repair parts are required. Your Land Pride dealer has trained personnel, repair parts, and equipment needed to service the implement.

#### Serial Number

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



Serial Number Plate Location Figure 1

#### **Further Assistance**

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

- 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



# **Tractor Requirements**



# **WARNING**

To avoid serious injury or death:

- Do not use a tractor that is too small or too large. Small tractors can be pushed around and flipped over. Large tractors can damage the attached implement.
- Lightweight tractors with rear attached implements may need weights added to the front to maintain steering control. Consult your tractor Operator's Manual to determine proper weight requirements and maximum weight limitations.

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

Horsepower Rating	. 50-100 hp (37-75 kW)
Hitch Type	Draw Bar
Power Take-Off Speed	
Number of duplex outlets <sup>1</sup> requ	uired 2
Electrical Outlet (See Figure 1-	9 on page 20) 7 pin

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

# **Drawbar Set-up**

#### Refer to Figure 1-1:

Maintain proper distance shown in Figure 1-1 below. Be sure to keep 14" (36 cm) between center of drawbar hitch pin hole and end of power take-off shaft.

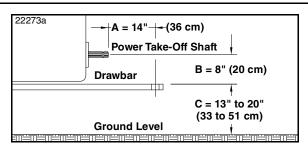


# WARNING

To avoid serious injury or death:

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

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



Power Take-Off to Drawbar Distances Figure 1-1

#### **Before You Start**

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

It is best to go through the **Assembly Checklist** before assembling the cutter. Speed up your assembly task and

make the job safer by having all needed parts and equipment readily at hand.

# **Assembly Checklist**

Check	Reference	
Have a forklift or loader with properly sized chains and safety stands capable of lifting and supporting the equipment on hand.		
Have a minimum of two people available during assembly.		
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.  NOTE: All assembled hardware from the factory has been installed in the correct location. Remember location of a part or fastener if removed during assembly. Keep parts separated.	Operator's Manual 331-101M Parts Manual 331-101P	
Make sure working parts move freely, bolts are tight & cotter pins are spread.	Operator's Manual	
Make sure all grease fittings are in place and lubricated.	Page 40	
Make sure all safety labels are correctly located and legible. Replace if damaged.	Page 6	
Make sure all red and amber reflectors are correctly located and visible when machine is in transport position.	Page 10	
Make sure all tires are inflated to the specified psi air pressure and all wheel bolts and axle nuts are tightened to the specified torque.	Page 50	

# **Torque Requirements**

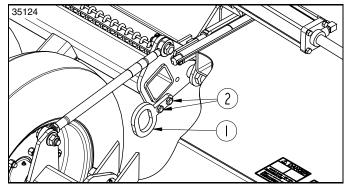
See "Torque Values Chart" page 50 to determine correct torque values when tightening hardware. See "Additional Torque Values" at bottom of chart for exceptions to common torque values.

# **Remove Shipping Lugs**

#### Refer to Figure 1-2:

The shipping lugs (#1) will interfere with wheels on both sides of the center deck and must be removed.

 Remove and discard 1/2" bolts (#2) and shipping lug (#1) from each side of center deck axle.



Remove Shipping Lugs Figure 1-2



#### **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.

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

# Hitch & Jack Assembly Refer to Figure 1-3:



### WARNING

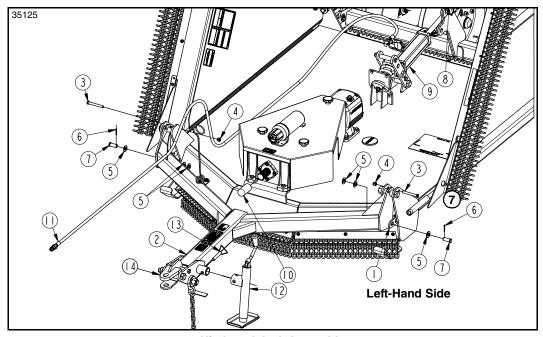
To avoid serious injury or death:

- Hitch frame is heavy and can fall suddenly while rotating hitch down into pulling position. Use hoist or other lifting device to support hitch weight while rotating hitch down.
- DO NOT REMOVE SHIPPING BAR BOLTED BETWEEN WINGS UNTIL AFTER "HYDRAULIC HOOK-UP" ON PAGE 19.

- Locate hydraulic hose (#11). This hose is attached to hydraulic cylinder (#9). Couple hose (#11) to a tractor duplex outlet.
- 2. Raise center deck fully up and remove all cylinder stops (#8) from hydraulic lift cylinder (#9).
- Lower center deck fully down, shut tractor engine off and remove switch key.
- 4. Remove and discard 1/2" nuts (#4) and bolts (#3).
- 5. Rotate hitch (#2) down into pulling position shown.

**IMPORTANT:** Clevis pins (#7) must be inserted from outside of hitch frame as shown for leveling rods to operate without interference. If necessary, lengthen leveling rods to install clevis pins. See "**Level Center Deck**" on page 22 or instructions on how to lengthen leveling rods.

- 6. On the left-hand side, attach hitch frame (#2) to leveling rod (#1) by inserting 3/4" clevis pin (#7) through flat washer (#5), leveling rod (#1) and hitch frame (#2), and out through two flat washers (#5).
- Insert 5/32" cotter pins (#6) in hole of clevis pin.
   Bend both legs of cotter pin around clevis pin to keep pin from falling out.
- 8. Repeat steps 6 & 7 for the right-hand side.
- 9. Attach parking jack (#12) to hitch frame and secure in place by fully inserting ball detent pin (#13).
- 10. Adjust jack height until clevis hitch (#14) is at tractor drawbar height.
- 11. Do not attach driveline until after "**Driveline Assembly**" on page 17.
- 12. Wait until "Section 2: Adjustments" to adjust leveling rods (#1).



Hitch and Jack Assembly Figure 1-3

14



# **Unfold Wings**



# **DANGER**

To avoid serious injury or death:

- Keep everyone out of the area where the wing decks will unfold. One of the wing decks can fall suddenly.
- Do not stand between transport tires and wing deck or be in an area where the wings can pinch or fall on you while removing shipping bar and cylinder transport locks. Make sure no one else is in the area where they can become pinched or crushed by unfolding wings. The wings can drop suddenly causing serious bodily injury or death.



# **WARNING**

To avoid serious injury or death:

- Lightweight tractors with rear attached implements may need weights added to the front to maintain steering control.
   Consult your tractor Operator's Manual to determine proper weight requirements and maximum weight limitations.
- 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.
- 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 1-4:

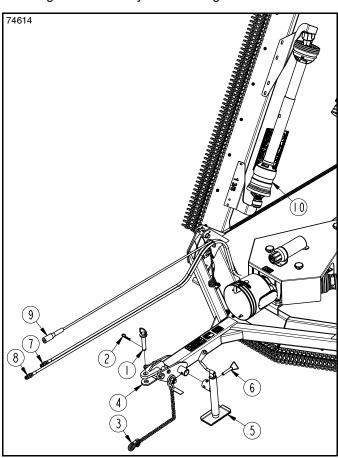
- Make certain park jack (#5) is properly attached to cutter hitch and secured with attachment pin (#6).
- 2. Back tractor within close proximity of clevis (#4).
- 3. Shut tractor down properly before dismounting. Refer to "Tractor Shutdown Procedure" on page 14.
- 4. Raise or lower park jack (#5) to align clevis (#4) with tractor drawbar. Drawbar should fit between lower and upper plates of clevis.
- 5. Verify tractor drawbar is adjusted correctly. Refer to "**Drawbar Set-up**" dimensions on page 13.
- Start tractor and continue to back tractor up to cutter hitch until hitch holes in tractor drawbar and hitch clevis (#4) are aligned.
- Shut tractor down properly before dismounting.

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

- 8. Attach cutter to tractor drawbar with customer supplied hitch pin (#1) and hairpin cotter (#2).
- 9. Lower park jack (#5) 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.

- 10. 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.
- 11. Connect wing folding hydraulic hose (#7) to tractor remote outlet. If tractor has float option on one of the outlets, connect hydraulic hose to that outlet.
- 12. Connect deck lift hydraulic hose (#8) to another tractor remoter outlet.
- 13. Wire Harness (#9) can be left coiled on the center deck at this time.
- 14. Remove park jack (#5) and store it on the left wing deck
- 15. Park tractor and cutter on a level surface where the wings can be safely lowered to ground level.



Lower Wings Figure 1-4

15

4/28/21 RC2515 Rotary Cutter 331-101M



#### Refer to Figure 1-5:

**IMPORTANT:** Do not remove shipping bar (#3) from cylinder pins (#7) without having fully retracted the wing folding cylinders first

**NOTE:** Do not remove flat washers behind shipping bar (#3) from cylinder pin (#7).

- Using tractor control lever, fully retract wing folding cylinders.
- Shut tractor down properly before dismounting.
   Refer to "Tractor Shutdown Procedure" above.
- Stand where the wing cannot pinch or fall on you as it unfolds. Remove cotter pin (#6) from cylinder pin (#7) on the right-hand wing deck.
- 19. Remove shipping bar (#3) from cylinder pin (#7).
- Replace cotter pin (#6). Bend one or both legs around pin (#7) to keep cotter pin from falling out.
- 21. Remove hairpin cotter (#5) from cylinder pin (#1) on the right-hand wing deck.
- 22. Rotate transport lock bar (#4) up to transport lock storage bracket (#2). Secure transport lock bar to storage bracket with existing hairpin cotter (#5).
- 23. Repeat steps 18 to 22 for the left-hand wing deck.
- 24. Removed and discard shipping bar (#3).



16

# WARNING

To avoid serious injury or death:

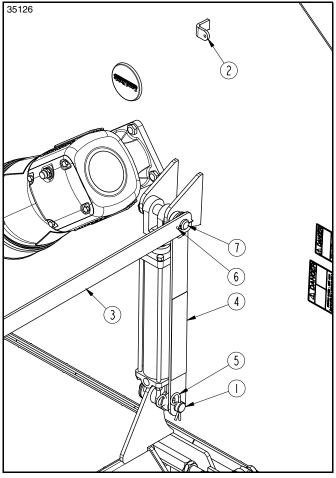
Watch hydraulic hoses as the wings lower to be sure they don't catch causing hoses to stretch and pull loose from the hydraulic cylinders.

25. Start tractor and lower cutter wings down until resting on the ground. Cycle wing folding cylinders back and forth several times to purge air from both cylinders. Also see "Purge Hydraulic System" on page 21.

#### **Unhook Dealer Tractor**

#### Refer to Figure 1-4 on page 15:

- Remove park jack (#5) from the left-hand wing deck and attach to cutter hitch. Secure park jack in place with attached ball detent pin (#6). Make sure ball detent pin is fully inserted.
- Unhook hydraulic hoses (#7 & #8), and hitch safety chain (#3) from the tractor. Store hose ends in hose spring support loop (#7).
- 3. Adjust park jack (#5) up or down as needed to remove hitch pin (#1).
- Drive tractor away from cutter and lower park jack (#5) to rest cutter on its front skid shoes.
- 5. Continue with "Driveline Assembly" on page 17.



Removal of Shipping Bar & Cylinder Transport Locks
Figure 1-5



# **Driveline Assembly**



# **DANGER**

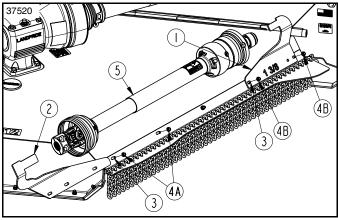
To avoid serious injury or death:

- Make certain driveline yokes are securely fastened at each end. A loose yoke can work free allowing the driveline to rotate uncontrollably.
- 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:** The driveline must be lubricated before putting it into service. Refer to Lubrication Points on page 40.

**NOTE:** Wings must be lowered before removing the driveline from its shipping location. See "**Unfold Wings**" on page 15.

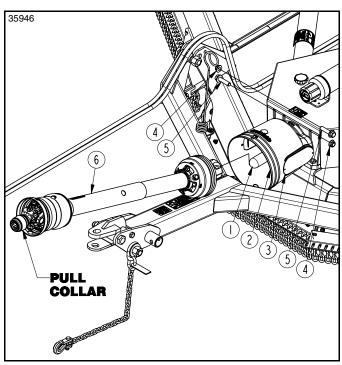
The main driveline is a constant velocity type with a pullcollar coupler for connecting it to the tractor and bolts for connecting it to the Rotary Cutter.



Remove Main Driveline from Cutter Figure 1-6

#### Refer to Figure 1-6:

- 1. Remove hex whiz nuts (#4A) and shipping bracket (#2). Discard shipping bracket.
- Slide driveline (#5) off end of shipping bracket (#1). Set driveline aside for attaching to splitter box later.
- 3. Reattach hex whiz nuts (#4A) to carriage bolts (#3) and tighten them to the correct torque.
- 4. Remove hex whiz nuts (#4B) and shipping bracket (#1). Discard shipping bracket.
- 5. Reattach hex whiz nuts (#4B) to carriage bolts (#3) and tighten them to the correct torque.



Driveline Installation Figure 1-7

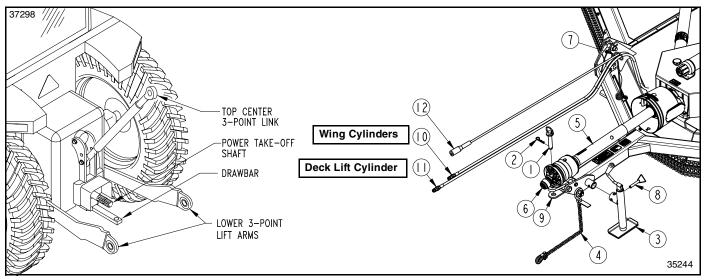
#### Refer to Figure 1-7:

- Remove shaft protector (#1) from splitter gearbox input shaft.
- 2. Unsnap doors (#3) and remove bolts (#5) from yoke end of driveline (#6). Slide that yoke onto the gearbox input shaft.
- 3. Align holes in driveline yoke with groove around gearbox input shaft and insert removed bolts (#5) through yoke end of driveline as shown.
- 4. Secure bolts (#5) with hex flange locknuts (#4). Tighten locknuts to the correct torque.
- 5. Pull back on the pull collar and push driveline yoke onto the tractor power take-off shaft. Release pull collar and continue to push driveline yoke forward until pull collar locks in place.
- The driveline should now be moved back and forth to ensure both ends are secured to the tractor and cutter. Reattach any end that is loose.

17

4/28/21 RC2515 Rotary Cutter 331-101 M





Tractor Hookup Figure 1-8

# Hook-up Tractor Refer to Figure 1-8:



# **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.



18

# 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.

- Make certain park jack (#3) is properly attached to cutter hitch and secured with attachment pin (#8).
- 2. Back tractor within close proximity of clevis (#9).
- 3. Shut tractor down properly before dismounting. Refer to "Tractor Shutdown Procedure" on page 14.
- 4. Raise or lower park jack (#3) to align clevis (#9) with tractor drawbar. Drawbar should fit between lower and upper plates of clevis.
- 5. Verify tractor drawbar is adjusted correctly. Refer to "**Drawbar Set-up**" dimensions on page 13.
- 6. Start tractor and continue to back tractor up to cutter hitch until hitch holes in tractor drawbar and hitch clevis (#9) are aligned.

7. Shut tractor down properly before dismounting.

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

- Attach cutter to tractor drawbar with customer supplied hitch pin (#1) and hairpin cotter (#2).
- 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.

- 10. Remove parking jack (#3) from hitch and attach it to the left-hand wing deck storage base with attachment pin (#8). Make sure the base is level with or lower than the head especially after the wings are folded up. See cover picture for correct positioning.
- 11. 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.



19

# **Hook-up Driveline**



# **DANGER**

To avoid serious injury or death:

- Do not engage power take-off while hooking-up or unhooking the driveline, or while someone is standing near the driveline. A person's body and/or clothing can become entangled in the driveline.
- Tractor power take-off shaft shield, driveline shields, and gearbox shaft shields must be installed and in good working condition to avoid driveline entanglement and projectiles flying off of the driveline.
- Make certain driveline yokes are securely fastened at each end. A loose yoke can work free allowing the driveline to rotate uncontrollably.
- 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 at 540 rpm. Do not exceed 540 rpm power take-off speed. Excessive speed can damage drive components, cutter blades, and/or increase the risk of a thrown object hazard.

#### Refer to Figure 1-8 on page 18:

- If needed, collapse driveline (#5) by pushing tractor end of driveline toward the splitter gearbox.
- 2. Pull back on outer yoke locking collar (#6) and slide outer yoke onto the tractor power take-off shaft.
- Release locking collar and continue to push outer yoke onto the power take-off shaft until locking collar snaps in place.
- 4. Driveline (#5) should now be moved back and forth to ensure both ends are secured to the tractor and cutter. Reattach any end that is loose.
- If park jack (#3) is attached to the hitch, it should be removed and stored on the left-hand wing. For detailed instructions, see steps 9 & 10 on page 18.

# **Hook-up Hydraulics**



# **WARNING**

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 1-8:

- 1. Make sure spring support loop (#7) is securely fastened to the hitch frame and fastener hardware is properly tightened.
- Route wing folding hose (#10) through hose support loop (#7) and connect to the tractor's duplex outlet. If tractor has float option, connect this hose to that outlet. See "Place Wing folding Lever in Float Position" on page 28 for additional information regarding the float option.
- Route center deck lift hose (#11) through spring hose support loop (#7) and connect to a different duplex outlet at the tractor.

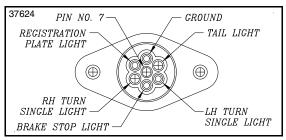
4/28/21 RC2515 Rotary Cutter 331-101M



# **Hook-up LED Lights**

#### Refer to Figure 1-8 on page 18:

The lead wiring harness (#12) is equipped with a 7-way round pin connector for connecting to the tractor's 7-pin electrical outlet shown in Figure 1-9.



**Tractor 7-Pin Electrical Outlet** Figure 1-9

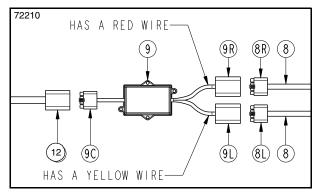
- Route lead wire harness (#12) through spring hose loop (#7).
- 2. Connect lead wire harness (#12) to the tractor's 7-way round pin receiver.
- It is best to have a second person verify the lights are operating. Start tractor and operate lights as follows:
  - a. Turn on head lights to verify red lights illuminate.
  - b. Turn on flasher lights to verify amber light are blinking on and off.

#### Refer to Figure 1-10:

- 4. If the lights did not operate properly, recheck hook-up of enhance module (#9) and wire harnesses (#8 & #12). Make any necessary changes and repeat step 3.
  - 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 (#12) is connected to connector (#9C) on enhancer module (#9).
  - c. Refer to Figure 1-9: Ensure that the 7-pin plug on the end of the 15' lead wire harness (#12) is properly seated in the tractor's 7-pin electrical outlet shown in Figure 1-9.
- 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 1-8 on page 18:

- Check routing of lead wire harness (#12) to make sure it pass through spring hose loop (#7).
- 7. Secure harness in place with cable ties as needed.



**Enhance Module Wire Connections** Figure 1-10

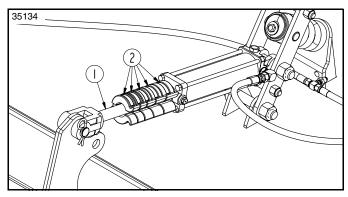
#### **Driveline Clearance Check**

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

NOTE: The lift cylinder should raise cutter up while pushing tractor control lever forward. Switch duplex connections if lift control lever works opposite.

#### Refer to Figure 1-11:

Fully extend center deck lift cylinder with tractor control lever. Place gear selector in park, shut tractor engine off, set park brake, and remove switch key.



**Remove Stroke Control Spacers** Figure 1-11

- Remove all stroke control spacers (#3) from deck lift cvlinder rod.
- Slowly retract and extend center deck lift cylinder to its most upper and lower limits while observing clearances between hitch and driveline.
- Adjust tractor drawbar height and length if driveline interferes. See "Drawbar Set-up" on page 13 for correct placement of tractor drawbar.
- It may be necessary to purge lift cylinder, wing cylinders, and hydraulic hoses of trapped air if operation is sluggish. Cycle cylinders back and forth several times to purge air from them. For additional details, see "Purge Hydraulic System" on page 21.



# **Purge Hydraulic System**



# **DANGER**

To avoid serious injury or death:

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



# **WARNING**

To avoid serious injury or death:

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

Purge center deck cylinder first, right-hand wing folding cylinder next, and left-hand wing folding cylinder last:

- With center deck skid shoes resting firmly on the ground and wings lowered to the ground, shut tractor off and move hydraulic control levers back and forth several times to relieve hydraulic pressure on all three cylinders.
- 2. Loosen hydraulic hose fitting at the center deck cylinder slightly to allow air and fluid to escape.
- 3. Restart tractor and slowly activate tractor control lever to extend and retract center deck cylinder to purge trapped air from the hydraulic system.
- 4. Tighten hose fitting at the center deck cylinder after all air is purged from the cylinder.
- 5. Repeat steps 1 to 4 to purge the right-hand wing cylinder only this time loosen and re-tighten the hydraulic hose fitting at the right wing cylinder.
- 6. Repeat steps 1 to 4 to purge the left-hand wing cylinder and this time loosen and re-tighten hydraulic hose fitting at the left wing cylinder.

# **Lift Cylinder Mounting Position** *Refer to Figure 1-12:*

**NOTE:** The rod end of lift cylinder (#4) must be attached to the correct lug hole ("A" or "B") before the cutter can raise and lower properly through-out all its cutting height ranges.

- Verify rod end of hydraulic lift cylinder (#4) is pinned to the correct hole:
  - Pin rod end to upper hole "A" when cutter is supplied with 29" aircraft tires.
  - Pin rod end to lower hole "B" when cutter is supplied with 21" laminated tires.
- If hydraulic lift cylinder is pinned in the wrong hole, fold wings up with tractor control lever and set transport locks. See "Set Transport Locks" on page 27.

- 3. Using tractor control lever, fully extend hydraulic cylinder (#4) and remove all stroke spacers (#3) from hydraulic lift cylinder.
- Place minimum 5" (13 cm) high support blocks under the four corners of the center deck and with tractor control lever, lower cutter down onto the support blocks.
- 5. Place gear selector in park, shut tractor engine off, set park brake, and remove switch key.
- 6. With cutter tires resting on the ground, move tractor control lever for the hydraulic lift cylinder (#4) back and forth to release all hydraulic pressure in hydraulic cylinder (#4).
- 7. Pull hairpin cotter (#2) and remove clevis pin (#1).
- 8. Reconnect cylinder rod clevis as follows:

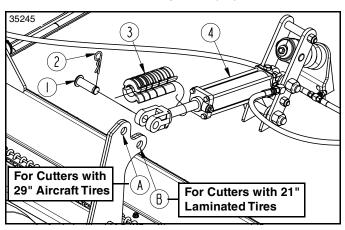
#### **Cutters With 29" Aircraft Tires**

Jack center axle up or extend hydraulic cylinder (#4) until clevis holes aligns with upper hole "A".

#### **Cutters With 21" Laminated Tires**

Retract hydraulic cylinder (#4) until clevis holes align with lower hole "B".

- Reinsert clevis pin (#1) and secure with hairpin cotter (#2).
- 10. Raise cutter back up and remove all support blocks.
- 11. Do not reinstall stroke spacers (#3) at this time.



Lift Cylinder Mounting Position Figure 1-12



# **Level Center & Wing Decks**

These adjustments should be made with the cutter hooked up to the same tractor that will be used for field operations or one having the same drawbar height. Adjust leveling rods as described below.

#### **Level Center Deck**

22

#### Refer to Figure 2-1 & Figure 2-2:

- Attach cutter to the tractor that will be pulling the cutter and position tractor and cutter on level ground.
- Raise both wings up and lock into position with transport locks to keep wings from falling. See "Set Transport Locks" on page 27.
- 3. Using hydraulic cylinder (#5), adjust center deck height until front skid shoes (#7) are 2 to 3 inches above ground.

**NOTE:** Lengthen leveling rods to lower front of cutter, & shorten leveling rods to raise front of cutter.

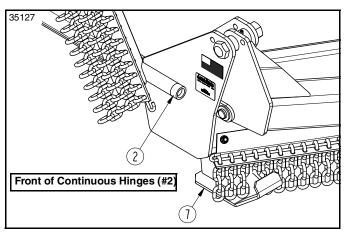
4. On both sides of the center deck are continuous hinges (#2). Measure distance from bottom of hinges to ground at the front and back. They should be equal distance off the ground at the back and 1" (2.5 cm) closer to the ground at the front.

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

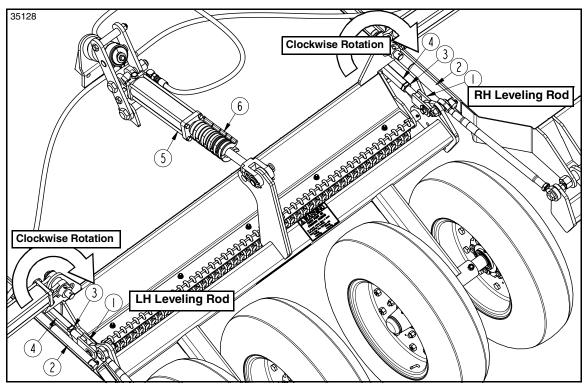
- a. Back jam nuts (#3) away from adjusting nuts (#4).
- b. Unscrew adjusting nuts (#4) clockwise an equal amount to lower front of cutter hinges (#2) until they are 1" (2.5 cm) closer to the ground at the front than they are at the back.

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

- a. Back jam nuts (#3) away from adjusting nuts (#4).
- b. Tighten adjusting nuts (#4) counterclockwise an equal amount to raise front of cutter hinges (#2) until they are 1" (2.5 cm) closer to the ground at the front than they are at the back.
- 5. Make sure continuous hinges (#2) are an equal distance off the ground at the front.
- 6. Raise cutter fully up to make accessing jam nuts (#3) and adjusting nuts (#4) easier with wrenches.
- 7. Be sure left and right leveling rods have equal amount of tension and then re-tighten jam nuts (#3) against adjusting nuts (#4).



Front Skid Position Figure 2-1



Center And Wing Deck Leveling Figure 2-2

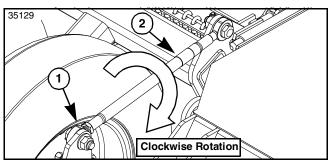


#### **Level Wing Decks**

#### Refer to Figure 2-3:

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

- With tractor hydraulics, lower wings down. Refer to "Field Set-up" on page 28 for instructions on how to lower wings.
- Pull cutter straight forward six to ten feet to allow outer wing wheels to properly align themselves.
- Check top of wings to see if they are level with the top
  of the center deck. If outer edge of either wing is
  higher or lower than the center deck, then that wing
  should be leveled as follows:
  - a. If outer wing edge is too high, loosen nut (#1) and rotate turnbuckle (#2) counterclockwise to lower outer wing edge until wing is level. Tighten nut (#1) against turnbuckle (#2) when level.
  - b. If outer wing edge is too low, loosen nut (#1) and rotate turnbuckle (#2) clockwise to raise outer wing edge until wing is level. Tighten nut (#1) against turnbuckle (#2) when level.



Leveling Wing Decks (Left Wing & Center Deck Shown)
Figure 2-3

# **Adjust Cutter Height**

Refer to Figure 2-4:



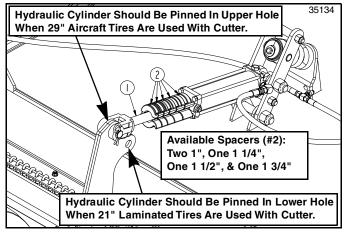
To avoid serious injury or death:

Do not attempt to add or remove stroke control spacers while Rotary Cutter blades are turning. Cutter blades rotating at high speeds cannot be seen and are close to the deck edge. Body extremities can be cut off instantly.

**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.

- 1. At the cutting site, unfold wings and raise center deck fully up with lift cylinder.
- Place tractor gear selector in park, set park brake, shut off tractor, and remove key before dismounting from tractor.

 Verify rod end of hydraulic lift cylinder (#1) is pinned in the upper hole when 29" aircraft tires are used and lower hole when 21" laminated tires are used. See "Lift Cylinder Mounting Position" on page 21 for instructions to change cylinder mounting position.



Cutting Height Adjustment Figure 2-4

- Remove all stroke control spacers (#2) from center hydraulic cylinder (#1) by spreading them apart at the break line. Store spacers in a location they can be retrieved.
- 5. Start tractor and engage blades. See instructions for "Engage Blades" on page 29.
- 6. Using tractor control lever, adjust cutter to the desired cutting height and then travel forward for approximately 20 to 50 feet.
- 7. Stop tractor, disengage power take-off, place tractor gear selector in park, set park brake, shut off tractor, remove key, and wait for blades to come to a complete stop before dismounting from tractor.
- Measure height of cut grass/material. This distance is the cutting height. If this height is acceptable, continue with step 9. If this height is unacceptable, repeat steps 5 - 8 until desired cutting height is achieved.
- 9. Select required number and size of stroke control spacers (#2) that will fill the space on the center hydraulic cylinder rod (#1).
- Return to tractor and raise Rotary Cutter up again. With tractor shut off and switch key removed, install selected stroke control spacers on the center hydraulic lift cylinder rod (#1).
- Return to tractor and lower cutter against stroke control spacers. Recheck cutting height using steps 5 - 8 above. If needed, adjust size and quantity of stroke control spacers until desired cutting height is achieved.
  - Removing spacers lowers the cutting height and adding spacers raises the cutting height.
- Keep remaining spacers with tractor for field adjustments.



# Startup Checklist

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

- Important Safety Information, page 1
- Section 1: Assembly & Set-up, page 13
- Section 2: Adjustments, page 22
- Section 3: Operating Instructions, page 24
- Section 4: Options & Accessories, page 32
- Section 5: Maintenance & Lubrication, page 34 Perform the following inspections before using your Rotary Cutter.

### **Operating Checklist**

4	Check	Page
	Make sure all guards are in place and in good working condition. Refer to "Important Safety Information".	1
	Follow "Hook-up" & "Driveline Installation" instructions. Refer to "Section 1: Assembly & Set-up".	18
	Make all required adjustments. Refer to "Section 2: Adjustments".	22
	Preform all required maintenance. Refer to "Section 5: Maintenance & Lubrication".	34
	Lubricate cutter and driveline as needed. Refer to "Lubrication Points".	40
	Lubricate all gearboxes and replace oil plugs properly. Refer to "Gearbox" lubrication.	40
	Check cutter initially and periodically for loose bolts and pins. Refer to "Torque Values Chart".	50

# **Safety Information**



24

# DANGER

To avoid serious injury or death:

- Do not engage power take-off while hooking-up or unhooking the driveline, or while someone is standing near the driveline. A person's body and/or clothing can become entangled in the driveline.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- Rotary Cutters have the ability to discharge objects at high speeds; therefore, the use of front & rear safety guards is mandatory with this cutter. 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 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.
- 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.
- 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.
- Do not use cutter as a fan. Cutting blades are not properly designed or guarded for this use.
- 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.
- 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:

- 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.
- 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. See "Tractor Requirements" at the front of Section 1: Assembly & Set-up.
- 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 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.
- 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.
- 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.
- Avoid catching hydraulic hoses on brush, posts, tree limbs, and other protrusions that could damage and/or break them.
- 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.
- 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.
- 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.
- 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.
- Wait for blades to come to a complete stop before accessing blade bolts through blade bolt access hole.
- Do not use implement to tow other equipment unless it is designed with a tow hitch. Doing so can result in loss of control and damage the equipment.

- Do not 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.
- 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 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.
- 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:** Maintain correct power take-off speed. Loss of power take-off speed will allow blades to swing back and result in ragged, uneven cutting.

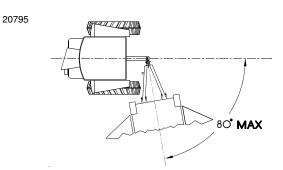
**IMPORTANT:** Do not let the wings flex down more than 20 degrees while operating the cutter. Doing so can cause damage to the cutter.

**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 Turning Angle**

#### 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 80°. If the turn cannot be avoided, disengage power take-off and wait for the driveline to stop rotating before making the turn.



Constant Velocity (CV) Driveline Figure 3-1

RC2515 Rotary Cutter 331-101 M



# **Tractor & Cutter Inspection**

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

- Inspect tractor safety equipment to make sure it is in good working condition.
- 2. Inspect cutter safety equipment to make sure it is installed and in good working condition.
- 3. Check driveline to make certain it is securely connected to the power take-off shaft and cutter gearbox shaft. Also, make certain that the guards are in good working condition and in place.
- Remove 3-point lower arms or secure them in the raised position so they do not interfere with driveline, hoses, or hitch.
- Check all hoses and wires to be sure that they will not pinch or come in contact with the folding wing and rotating drivelines.
- 6. Start tractor and carefully raise and lower implement to ensure tractor drawbar, tires, and other equipment on the tractor do not contact cutter or driveline.
- 7. Raise center deck fully up.
- Without lowering cutter, shut tractor down properly before dismounting. Refer to "Tractor Shutdown Procedure" on page 14.
- Place sturdy 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 properly before dismounting.
- With cutter resting on solid supports, power take-off disengaged, and blade rotation completely stopped:
  - Check for and remove foreign objects wrapped around blade spindles.
  - Check for nicked, bent, broken, and worn cutting blades. Replace or sharpen blades as required.
     Refer to "Cutter Blade Maintenance" on page 34.
- Inspect hydraulic hoses for wear, damage and hydraulic leaks. See "Avoid High Pressure Fluids Hazard" on page 3. Replace damaged and worn hoses with genuine OEM (Original Equipment Manufacture) parts.
- 14. Make repairs to cutter and tractor before continuing with "Blade Operation Inspection".

# **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.

# MARNING

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.
- Make sure cutter blades are not locked against each other. See "Field Set-up" on page 28.
- Remove support blocks or jack stands and set transport locks for field operations. See "Set Transport Locks" on page 27
- 3. Lower cutter decks down until blades are about 2" (5 cm) off the ground.

**IMPORTANT:** Read all "Safety Information" starting on page 24 before operating the cutter.

- 4. Start tractor and set throttle speed just above idle. Use tractor's power take-off soft start option if available. Slowly engage power take-off to get blades rotating. (Also see "Engage Blades" instructions on page 29.)
- 5. Initial start-up vibration is normal and should stop after a few revolutions. Stop power take-off rotation immediately if vibration continues.
- Once cutter is running smoothly, increase throttle to full power take-off speed. If cutter vibrates excessively for 3 seconds at full speed then immediately disengage power take-off, shut tractor down, and remove switch key.
- 7. Block center deck up before working under cutter.
- Check blades for a locked-up situation. Unlock blades if locked-up.
- Check for other probable causes such as broken or bent blades, loose blades, loose gearbox mounting bolts, and bent driveline.
- 10. Make necessary repairs and adjustments.
- 11. Repeat steps 1-10 to make sure vibration problems are fixed before putting cutter back into service.



# **Set Transport Locks**

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

**NOTE:** The wings are controlled with two hydraulic lift cylinders. Be certain that the wing hydraulics are attached to the tractor and hydraulic hoses are full of oil before proceeding.

Cutter wings will need to be raised and locked before transporting on a roadway, through narrow openings, and when servicing underside of deck.

- Disengage power take-off and wait for cutter blades to come to a complete stop before raising wings.
- Raise cutter wings fully up with hydraulics and shut tractor down properly before dismounting. Refer to "Tractor Shutdown Procedure" on page 14.
- 3. **See Figure 3-2:** Remove hairpin (#1) from storage bracket (#2).
- 4. **See Figure 3-3:** Rotate upper end of transport lock (#3) down to cylinder pin (#4). Secure with removed hairpin (#1).
- 5. Repeat steps 3 & 4 for the other wing section.

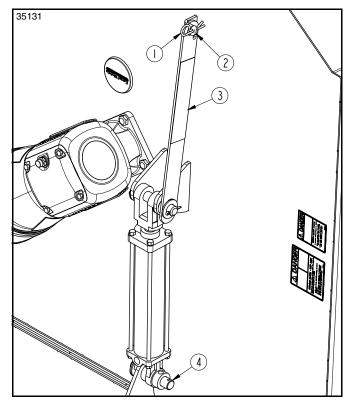
# **Transporting**

# A

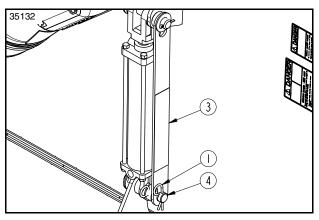
### WARNING

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 when transporting. Never travel at a speed which does not allow adequate control of steering and stopping, and never exceed 20 mph (32.2 km/h) with attached equipment. Rough terrain requires a slower speed.
- Watch while making tight turns to ensure that the rear tractor tires and lower 3-point arms do not make contact with cutter hitch, driveline or deck. Keep lower 3-point arms raised at all times when hitched to a pull-type cutter.
- 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.



Transport Lock, Field Cutting Position Figure 3-2



Transport Lock, Wings Folded Up For Transporting Figure 3-3

- 1. Always raise wings and set transport locks before transporting from one work site to another location and before traveling on public roadways.
- Select a safe ground speed when transporting from one area to another. Maximum transport speed for the Rotary Cutter is 20 mph. DO NOT EXCEED.
- 3. When traveling on roadways, transport in such a way that faster moving vehicles may pass you safely.
- 4. Shift tractor to a lower gear when traveling over rough or hilly terrain.
- 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.



# **Road Side Cutting**

When cutting road sides, Land pride recommends the Rotary Cutter be equipped with chain guards to stop flying objects. Refer to "**Safety Guard**" on page 32.

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

# Field Set-up

This cutter was designed for cutting grass, weeds, and light brush. Cutting should **not be** done in wet conditions. Wet material will build up on the deck underside creating the need for additional horsepower, high blade wear, and poor discharge.



# **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.



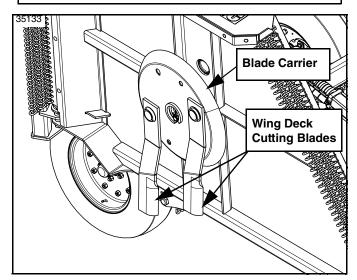
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# **WARNING**

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 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.



Wing Deck Blade Positioning Figure 3-4

#### **Field Inspections**

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

### **Unfold Wings**

Refer to Figure 3-4:



# **DANGER**

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.

 Inspect blade carriers for locked blades prior to lowering the wings. Separate locked blades.

#### Refer to Figure 3-3 on page 27:

- Start tractor and raise both wings up to release any tension on the transport lock pins.
- Without lowering cutter, shut tractor down properly before dismounting. Refer to "Tractor Shutdown Procedure" on page 14.
- 4. Remove hairpins (#1) and transport locks (#3) from cylinder pins (#4).

#### Refer to Figure 3-2 on page 27:

- 5. For storage, rotate transport locks (#3) up and catch on brackets (#2). Secure transport locks to brackets (#2) with hairpins (#1).
- 6. Start tractor and lower both wing sections down.

#### **Set Blade Cutting Height**

Adjust cutter to field cutting height. See "Adjust Cutter Height" on page 23.

### Place Wing folding Lever in Float Position

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

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



#### Select Gear Range

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

# Engage Blades

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

- With wings lowered, increase throttle to a speed just enough to get the cutter started without stalling tractor while slowly engaging drivelines. Use tractor's power take-off soft start option if available.
- 2. Ensure that all drivelines are rotating and that the cutter is not vibrating excessively.
- 3. Ramp up to 540 power take-off speed for at least 3 seconds. If excessive vibration continues longer than 3 seconds at full 540 power take-off speed, immediately disengage power take-off, shut down tractor, remove switch key, and wait for blades to stop turning before dismounting tractor.
- 4. Investigate the cause if cutter was shut down due to excessive vibration. See "Blade Operation Inspection" on page 26 for detailed instructions.
- 5. Select a gear range that will allow the cutter to make a smooth cut without lugging the tractor down. See "Select Gear Range" on page 29 for detailed instructions.
- 6. If cutter has not been shut down due to excessive vibration, commence cutting at full power take-off operating speed.
- Make a lower gear selection if tractor is lugging down or if cutter is making a rough cut.

# Disengage Blades

- 1. Slowly decrease throttle speed until engine idle speed is reached.
- Disengage power take-off.
- 3. Stay on the tractor until the blades have come to a complete stop. Always place tractor in park or set park brake, shut tractor engine off, and remove switch key before dismounting.

# **Remove Blade Carrier Blockage**



# 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.



# 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.
- 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 14.
- Install all stroke control spacers on the center hydraulic lift cylinder rod.
- Start tractor and retract lift cylinder until it is resting against the stroke control spacers.
- 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.
- Discard removed blockages appropriately so they do not pose a hazard to the cutter once cutting resumes.



# **Unhook Rotary Cutter**

- 1. See "Long Term Storage" on page 39 if parking cutter for long periods and end of season.
- Disengage power take-off, park cutter on a level, solid, hard surface. Place tractor gear selector in park and set park brake.
- Wait for blades to come to a complete stop and then fold wings up to transport position before dismounting from tractor.
- 4. Lock wings in transport position with transport lock bars. See "**Set Transport Locks**" on page 27.

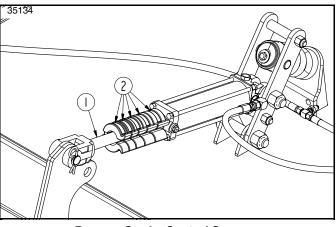
#### Refer to Figure 3-5:

- Remove all stroke control spacers (#2) from center hydraulic lift cylinder and lower cutter until front skid shoes are resting on the ground. Replace stroke control spacers as needed to support wheels at this height.
- With tractor gear selector in park and park brake set, shut tractor engine off and remove switch key. Move cylinder lift levers back and forth to release hydraulic line pressure.

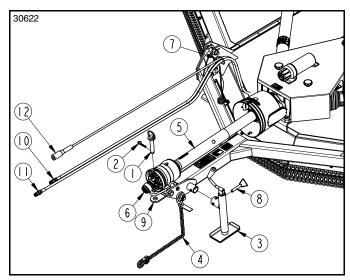
#### Refer to Figure 3-6:

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- Remove park jack (#3) from left-hand wing deck and attach it to the cutter hitch. Secure park jack with ball detent pin (#8). Make sure detent pin is fully inserted.
- Disconnect hydraulic hoses (#10 & #11), driveline (#5), and hitch safety chain (#4) from the tractor. Store hose ends in hose spring support loop (#7).
- Disconnect wire harness (#12) from the tractor. Coil harness up and store on hose spring support (#7) with coupler end hanging down to keep moisture out.
- 10. Adjust park jack (#3) up or down as needed to remove hitch pin (#1).
- 11. Drive tractor away from cutter and lower park jack (#3) until cutter is resting on its front skid shoes.
- Slowly drive tractor forward why being careful to make sure all components on the cutter do not catch on the tractor.



Remove Stroke Control Spacers Figure 3-5



Tractor Unhook Figure 3-6



# **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 RC2515 Smooth Top Rotary Cutter.

It is important that you inspect the area where you will be cutting and clear it of hazards and foreign objects before you start mowing. Never assume the area is clear. Cut only in areas 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 any necessary repairs to the cutter before resuming operation. Remove or clearly mark the struck object to prevent hitting it again. It really pays to inspect a new area and to develop a safe plan before cutting.

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

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

You should now be ready to move to the cutting site to begin cutting. It is important that you inspect the area where you will be cutting and clear it of hazards and foreign objects before you start mowing. Never assume the area is clear. Cut only in areas 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 any necessary repairs to the cutter before resuming operation. Remove or clearly mark the struck object to prevent hitting it again. It really pays to inspect a new area and to develop a safe plan before cutting.

To produce a clean cut, normal cutting speed will be between 2-5 mph at full power take-off speed. Therefore, make a tractor gear and range selection that will maintain this combination. Generally the quality of cut will be better at lower ground speeds and cutting denser ground cover may create the need to slow down. You will want to avoid very low cutting heights especially on extremely uneven terrain. Always cut downward on slopes and avoid crossing the face of steep slopes. Avoid sharp drops and cross diagonally through dips to prevent hanging up the tractor and cutter. Slow down in turns and avoid sharp turns if at all possible. Watch while making a tight turn to ensure that the rear tractor tires do not contact the deck or hitch. Remember to look back often.

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

- Reduce tractor's engine rpm.
- Make sure 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 you and your Land Pride 15' 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, set the park brake, turn off engine, remove switch key, and stay on the tractor until cutter blades have come to a complete stop.

31

4/28/21 RC2515 Rotary Cutter 331-101M



# **Safety Guard**



# **DANGER**

To avoid serious injury or death:

Rotary Cutters have the ability to discharge objects at high speeds; therefore, the use of front & rear safety guards is mandatory with this cutter. 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.



32

# MARNING WARNING

To avoid serious injury or death:

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

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

Rubber skirt guards are for light duty applications.

331-090A Front Rubber Guards 331-091A Rear Rubber Guards

 Single row chainguards are constructed with a single row of hanging chain links. They can withstand harsher applications than rubber skirts.

331-087A Front Chain Guards 331-088A Rear Chain Guards

# **Tire Options**

Land Pride offers tire/wheel options to best suit your application:

- Laminated tires are constructed of laminated layers of solid rubber that will never go flat.
- Aircraft tires are built tough to withstand the rugged use a cutter receives and to provide a smoother ride when transporting from field to field.



## **Hydraulic Accessories**

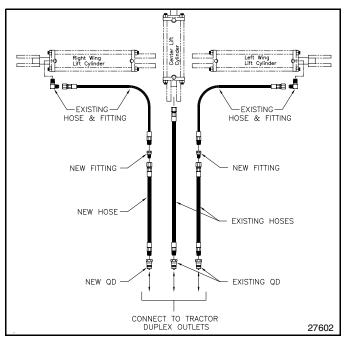
Land Pride offers two different kits for raising the deck wings independently to clear small obstacles in the field without maneuvering around them.

#### Hydraulic Wing Control Kit 318-316A HYDRAULIC WING CONTROL KIT Refer to Figure 4-1:

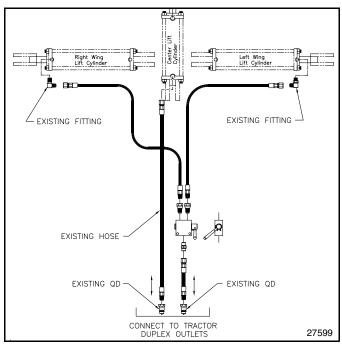
This kit is for tractors with three duplex outlets. It consist of two adapter fittings, one hose, and one quick disconnect coupling. If your tractor is equipped with only two duplex outlets, an optional control kit is available from your local Land Pride dealer. See "Selector Control Valve Kit" below.

#### Selector Control Valve Kit 312-316A SELECTOR CONTROL VALVE KIT Refer to Figure 4-2:

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



Hydraulic Wing Control Kit Figure 4-1



Selector Control Valve Kit Figure 4-2

33



#### **General Maintenance Information**

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



## **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.



## **WARNING**

To avoid serious injury or death:

- 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.
- Always shut tractor down using "Tractor Shutdown Procedure" provided in this manual before servicing, adjusting, cleaning, or maintaining this implement.
- Do not alter implement or replace parts on the implement with other brands. Other brands may not fit properly or meet OEM (Original Equipment Manufacturer) specifications. They can weaken the integrity and impair the safety, function, performance, and life of the implement. Replace parts only with genuine OEM parts.
- Buildup of debris around moving components and gearboxes is a fire hazard. Keep rotating parts and gearboxes free from debris.
- Improper oil level can cause bearing failure and be a fire hazard. Maintain proper gearbox oil level.

## **Hydraulic System**



## WARNING

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.

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. Such maintenance will go a long way to prevent the 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.

### **Cutter Blade Maintenance**



## **DANGER**

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.



## **WARNING**

To avoid serious injury or death:

- Wait for blades to come to a complete stop before accessing blade bolts through blade bolt access hole.
- 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.
- Wear eye protection and gloves while inspecting, removing, sharpening, and replacing a blade.

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

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

RC2515 Rotary Cutter 331-101 M



#### Refer to Figure 5-1:

Remove cutting blades and sharpen or replace as follows:

- Place tractor gear selector in park or set park brake, shut engine off and remove ignition key.
- 2. Disconnect main driveline from the tractor and secure cutter deck in the up position with solid supports before servicing underside of cutter.
- 3. Remove rubber plug (#5) above cutter blade (#6). Rotate blade bolt (#1) until in alignment with access hole (A).
- 4. Unscrew locknut (#3) to remove cutting blade (#6). Blade bolt (#1) is keyed and will not turn freely.
- 5. Both blades should be sharpened at the same angle as the original cutting edge and must be replaced or re-ground at the same time to maintain proper balance in the cutting unit. The following precautions should be taken when sharpening blades:
  - a. Do not remove more material than necessary.
  - b. Do not heat and pound out a cutting edge.
  - c. Do not grind blades to a razor edge. Leave a blunt cutting edge approximately 1/16" (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. Do not weld on blades.
  - g. Both blades should weigh the same with not more than 1 1/2 oz. difference. Unbalanced blades will cause excessive vibration which can damage gearbox bearings and create structural cracks.

#### Refer to Figure 5-2:

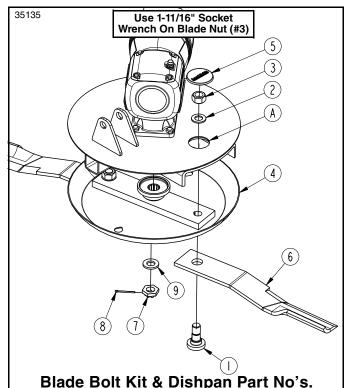
 Carefully check cutting edges of blades in relation to blade carrier rotation to ensure correct blade placement. Cutter blades must be installed with cutting edge leading in rotation.

#### Refer to Figure 5-1:

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

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

- Insert keyed blade bolt (#1) through blade (#6), keyed hole in dishpan (#4), and flat washer (#2).
   Secure blade with a new locknut (#3) and torque locknut to 450 ft-lbs.
- 8. If replacing dishpan (#4), nut (#7) on gearbox output shaft should be torqued to 450 ft-lbs minimum and secured with cotter pin (#8) with both legs bent opposite directions around the nut.
- 9. Replace rubber plug (#5).
- 10. Reconnect main driveline to the tractor.



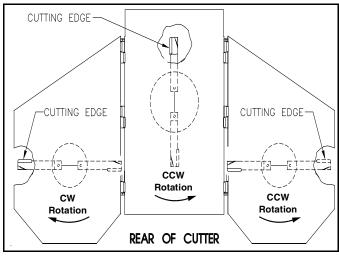
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Item Part No. Part Description

318-586A BLADE BOLT KIT (Item No's 1, 2, & 3)

- 1 802-277C BLADE BOLT 1 1/8-12 x 3 7/16 WITH KEY
- 2 804-147C WASHER FLAT 1 HARD ASTMF436 PN
- 3 803-170C NUT HEX TOP LOCK 1 1/8-12 PLATE
- 4 331-068H WELDMENT DISHPAN
- 5 840-273C PLUG LP 3" ID RUBBER
- 6 820-112C CUTTER BLADE 1/2 x4x25 CW (LH Wing)
- 6 820-137C CUTTER BLADE 1/2 x3x25 CCW (RH Wing)
- 6 820-138C CUTTER BLADE 1/2 x3x31 CCW (CTR Deck

#### Cutter Blade Assembly (Right Wing Shown) Figure 5-1



Blade Rotation Figure 5-2



## **Drivelines With Slip Clutches**



## WARNING

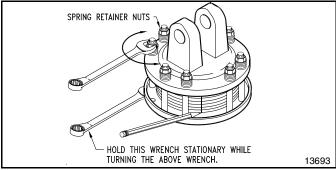
To avoid serious injury or death:

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

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

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

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



Clutch Run-In Figure 5-3

#### Clutch Run-In

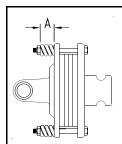
#### Refer to Figure 5-3:

- Using a pencil or other marker, scribe a line across the exposed edges of the clutch plates and friction disks.
- Carefully loosen each of the 8 spring retainer nuts by exactly 2 revolutions. It will be necessary to hold hex end of retainer bolt in order to count the exact number of revolutions.
- Make sure the area is clear of all bystanders and machine is safe to operate.
- 4. Start tractor and engage power take-off drive for 2-3 seconds to permit slippage of friction disks.

- Disengage power take-off, shut tractor engine off, and remove switch key. Wait for all components to come to a complete stop before dismounting from tractor.
- Inspect clutch to ensure that all scribed markings made on the clutch plates and friction disc have changed positions.
- 7. If any two marks are still in alignment, loosen all 8 spring retaining nuts one more revolution. Make sure the nuts have full thread engagement and then repeat steps 4-6 one more time.
- Skip to step 10 if all scribed marks are out of alignment.
- 9. 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" on this page.
- Tighten the 8 spring retainer nuts exactly two revolutions to restore the clutch to its original pressure setting.
- 11. Allow clutch to cool to ambient temperature before operating again. Clutch is now ready for use.
- 12. The clutch should be checked during the first hour of cutting and periodically each week. An additional set of scribe marks can be added to check for slippage.

## **Clutch Disassembly, Inspection & Assembly**

The clutch must be disassembled into its separate friction disks if clutch run-in procedure indicated that one or more scribed marks are still in alignment with each other. See "Clutch Disassembly" instructions below.



Measured and record length "A" for each spring before disassembling the clutch.

Use 1 1/4" (31.8mm) for "A" dimension if measurements were not taken before disassembling the clutch.

Spring Length Figure 5-4

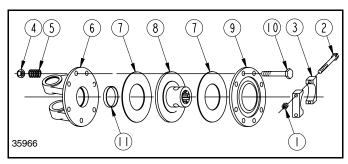
# Clutch Disassembly Refer to Figure 5-4:

**IMPORTANT:** After clutch run-in but before clutch disassembly, spring retainer nuts must be returned to their original position to measure spring length "A".

- 1. If not completed, tighten each of the 8 spring retainer nuts to their original location.
- 2. Measure and record distance "A" of each spring. Keep these measurements for reassembly.

RC2515 Rotary Cutter 331-101 M





2-Plate Clutch Assembly Figure 5-5

#### Refer to Figure 5-5:

- 3. Remove nuts (#1), bolts (#2), and bridge blocks (#3).
- Remove spring retainer nuts (#4), springs (#5), and bolts (#10).
- 5. Separate all friction disks (#7), flanged yoke (#6), clutch support (#8), and pressure plate (#9).

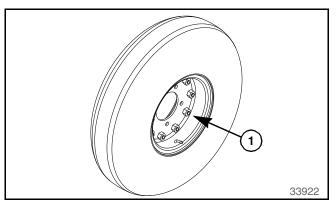
#### **Clutch Inspection**

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

#### **Clutch Assembly**

#### Refer to Figure 5-5:

- Make sure bushing (#11) is still seated in flanged yoke (#6).
- 2. Reassemble each friction disk (#7) next to the metal plate it was separated from as shown.
- 3. Insert all 8 bolts (#10) through pressure plate (#9) and flanged yoke (#6).
- Insert springs (#5) over bolts (#10) and secure with spring retainer nuts (#4). Tighten each nut to the measured distance "A" recorded in step 2 under "Clutch Disassembly" on page 36.
- Do not install bridge blocks (#3) until installation of clutch to divider gearbox. At that time, secure slip clutch to the output shaft with bridge blocks (#3), bolts (#2), and nuts (#1). Tighten nuts (#1) to the correct torque.
- 6. Pull/push on the slip clutch end of driveline to make sure it is secured to the output shaft.
- Push/pull on opposite end of driveline to make sure it is secured to the input shaft on the blade spindle gearbox.



Air-filled Airplane Tires with split Rims Figure 5-6

#### **Tire Maintenance**



## **WARNING**

To avoid serious injury or death:

- Tire changing can be dangerous and should be performed by trained personnel using correct tools and equipment. When removing and installing wheels, use wheel handling equipment adequate for the weight involved.
- Always release all air pressure in air-filled airplane tires before removing hardware bolting the split rims together.
   Not doing so can cause the split rims to blow apart instantly and could result in serious injury or death.
- Tire changing can be dangerous and should be performed by trained personnel using correct tools and equipment. When removing and installing wheels, use wheel handling equipment adequate for the weight involved.
- Do not weld on or heat a rim. 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.
- 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 50.

#### Refer to Figure 5-6:

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.

37



#### **Skid Shoes**



## **WARNING**

To avoid serious injury or death:

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

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

	Land Pride Replacement Parts								
No.	Part No.	Part Description							
1	312-602D	WING SKID SHOE							
2	802-603C	PLOW BOLT, 3/8" - 16 x 1" grade 5							
3	803-198C	HEX WHIZ NUT, 3/8"-16 PLT							
4	330-697H	SKID SHOE (CENTER DECK)							
5	802-106C	RHSNB 1/2-13 X 1 1/2 GR5							
6	803-169C	NUT HEX FLG LOCK 1/2-13 PLT							

#### Wing Skid Shoe

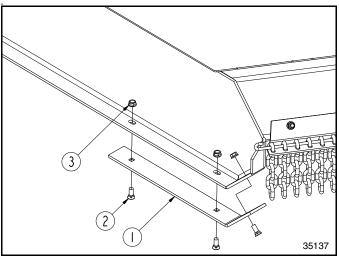
#### Refer to Figure 5-7:

38

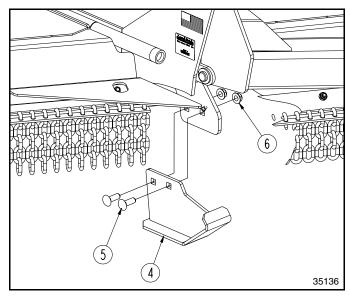
**IMPORTANT:** Excessive wear on skid shoes can weaken cutter side panels and cause damage that will require extensive repairs. Always replace skid shoes at the first sign of wearing thin.

Replace wing skid shoes as follows:

- Remove 3/8" hex whiz nuts (#3), 3/8" plow bolts (#2), and wing skid shoe (#1) as shown.
- 2. Plow bolts should be checked for wear and replaced if necessary.
- Attach new skid shoe (#1) to cutter with 3/8"-16 GR5 plow bolts (#2) and secure with 3/8" hex whiz nuts (#3). Tighten hex whiz nuts to the correct torque.
- 4. Repeat steps 1 through 3 on opposite wing section.



Wing Skid Shoe Figure 5-7



Center Deck Skid Shoe Figure 5-8

#### **Center Deck Skid Shoes**

#### Refer to Figure 5-8:

Replace skid shoes as follows:

- 1. Remove hex whiz nuts (#6), carriage bolts (#5), and skid shoe (#4) from cutter.
- 2. Attach new skid shoe (#4) to cutter with existing 1/2" carriage bolts (#5) and secure with 1/2" hex whiz nuts (#6). Tighten whiz nuts to the correct torque.
- Repeat on opposite side of center deck.



#### Long Term Storage

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



## **DANGER**

To avoid serious injury or death:

- Always disconnect driveline from the tractor 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 may also be applied to the lower deck area to minimize oxidation.
- 2. Check blades and blade bolts for wear and replace if necessary. See "Cutter Blade Maintenance" on page 34.
- 3. Inspect for loose, damaged, or worn parts and adjust or replace as needed.
- 4. Repaint parts where paint is worn or scratched to prevent rust. Ask your Land Pride dealer for aerosol touch-up paint. Paint is also available in touch-up bottles with brush, quarts, and gallon sizes by adding TU, QT, or GL to the end of the aerosol part number.

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

- 5. Replace all damaged or missing guarding & decals.
- 6. Lubricate as noted in "Lubrication Points" starting on page 40.
- Store cutter on a level surface in a clean, dry place. Inside storage will reduce maintenance and make for a longer cutter life.
- 8. Follow all unhooking instructions on page 30 when disconnecting tractor from cutter.

## **Ordering Replacement Parts**

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

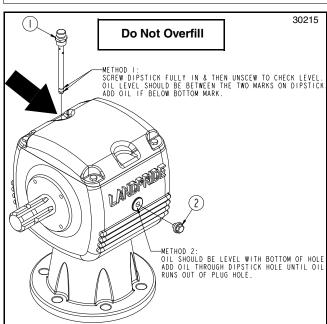
80	Green	82 Orange
83	Red	85 Black

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

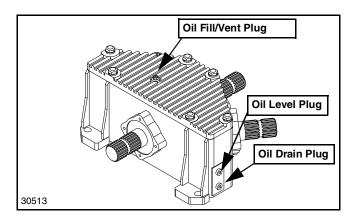


#### **Lubrication Points**





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



40



#### Gearbox

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

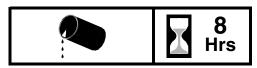
If oil has been removed from the gearbox, refill gearbox to plug level or full mark on the dipstick. Allow time for air to bleed up from the lower cavity, and then recheck.

**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.



### **Splitter Gearbox**

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

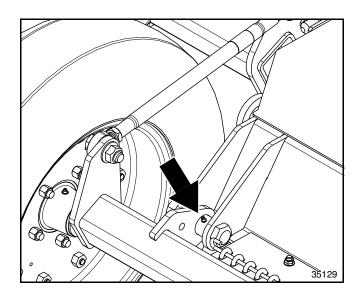
If oil has been removed from the gearbox, refill gearbox to plug level or full mark on the dipstick. Allow time for air to bleed up from the lower cavity, and then recheck.

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

Type of Lubrication: 80-90W EP

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





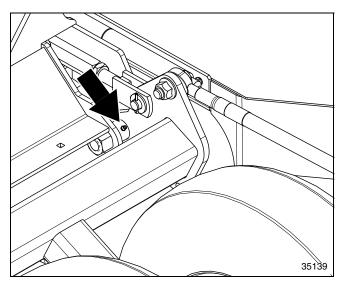


## **Axle Pivots, Wing Decks**

4 - Zerks (2 - zerks per wing axle)

Type of Lubrication: Multi-purpose Grease

Quantity = As required



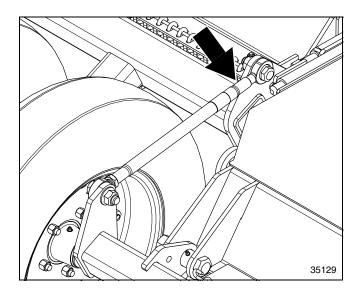


## **Axle Pivots, Center Deck**

2 - Zerks

Type of Lubrication: Multi-purpose Grease

Quantity = As required





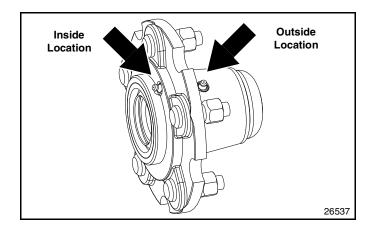
## **Adjustable Turnbuckle**

Oil threads

Type of Lubrication: Multi-purpose oil lube

Quantity = As required







#### **Axle Hub Bearing**

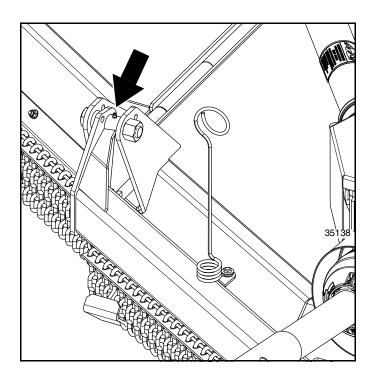
Type of Lubrication: Multi-purpose Grease

Grease wheel bearings every 50 hours.

1 - Zerk per wheel (zerk can be on either side as shown)

Quantity = 2 pumps

Repack wheel bearings annually



42



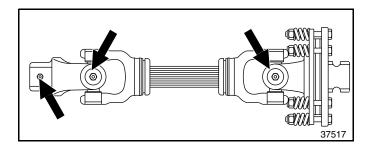
#### **Hitch Pivots**

2 - Zerks

Type of Lubrication: Multi-purpose Grease

Quantity = As required



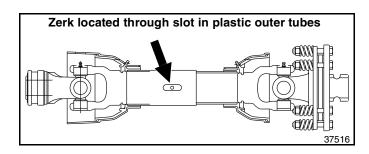




#### **Intermediate Driveline Joints**

3 - Zerks

Type of Lubrication: Multi-purpose Grease

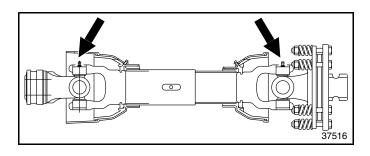




## **Wing Driveline Profile Tubes**

1 - Zerks

Type of Lubrication: Multi-purpose Grease





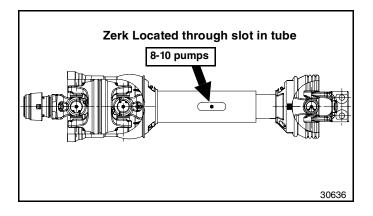
43

## **Wing Driveline Joints**

2 - Zerks

Type of Lubrication: Multi-purpose Grease







#### **CV Main Driveline Profile Tubes**

CV = Constant Velocity

Type of Lubrication: Multi-purpose Grease

Quantity = Coat Generously

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

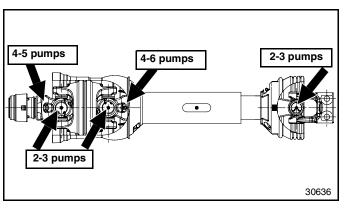


Figure 5-9

44



#### **Constant Velocity Main Driveline Joints**

Type of Lubrication: Multi-purpose Grease

For instructions on how to access grease zerks shown in Figure 5-9, see "Accessing CV Driveline Joints" on page 45.

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

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

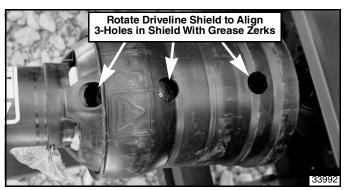


## Accessing CV Driveline Joints Refer to Figure 5-9 on page 44:

There are two ways the constant velocity driveline joints shown in Figure 5-9 can be accessed for lubrication. One is through holes in the driveline shield and the other is to slide the shields back to expose the grease zerks.

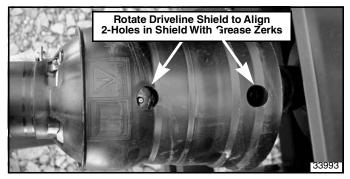
#### **Lubrication Through Access Holes**

- Refer to Figure 5-10: Rotate driveline shield until holes in shield align with grease zerks in CV joint.
- 2. Apply proper amount and type of lubrication. Refer to "Constant Velocity Main Driveline Joints" on page 44 for quantities and type of lubrication.



Lubrication Through Three Holes In Driveline Shield Figure 5-10

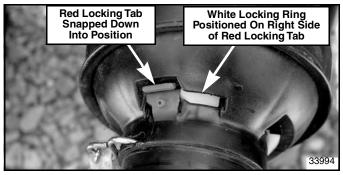
- 3. **Refer to Figure 5-11:** Rotate driveline shield 180° until holes on opposite side of shield aligns with remaining grease zerks in CV joint.
- 4. Repeat step 2 above on any grease zerks that were not greased in step 2.
- Steps 1-2 can be repeated to lubricate universal joint on opposite end of driveline. (Opposite end of driveline has only one grease zerk.)



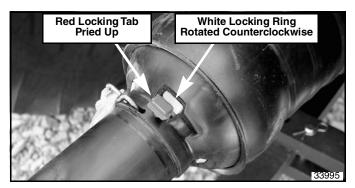
Lubrication Through Two Holes In Driveline Shield Figure 5-11

#### **Lubrication By Sliding Driveline Shields Back**

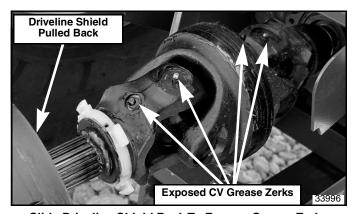
- Refer to Figure 5-12: With a flat bladed screwdriver or similar tool, pry top of red locking tab up.
- 2. **Refer to Figure 5-13:** Rotate white locking ring fully counterclockwise to the position shown.
- 3. **Refer to Figure 5-14:** Pull back on driveline shielding until CV joint is exposed.



Locked Driveline Shield Figure 5-12



Unlocked Driveline Shield Figure 5-13



Slide Driveline Shield Back To Expose Grease Zerks Figure 5-14

- Apply proper amount and type of lubrication. Refer to "Constant Velocity Main Driveline Joints" on page 44 for quantities and type of lubrication.
- While outer shield is slid back, the hole in the outer shield will align with the hole in the inner shield to access the profile grease zerk. Grease accordingly. See "CV Main Driveline Profile Tubes" on page 44 for lubricating instructions.
- Slide driveline shield back to its operating position.
- 7. **Refer to Figure 5-12:** Rotate white locking ring clockwise and press locking tab down until it snaps in place as shown.
- 8. Steps 1 7 can be repeated to lubricate universal joint on opposite end of driveline.

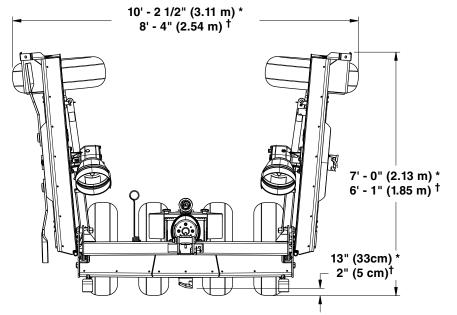
45



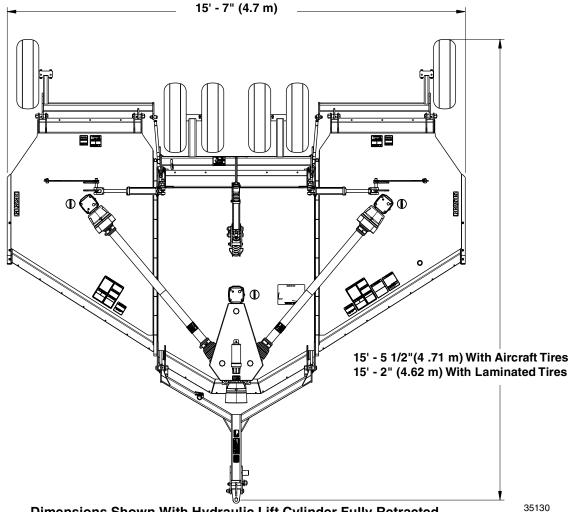
## RC2515 Model

1102515 Wodel								
Specifications & Capacities								
Tractor Horsepower	50-100 hp (37-75 kW)							
Gearbox horsepower splitter	160 hp (119 kW)							
center & wings	100 hp (75 kW)							
Gearbox shafts input shaft output shaft	1 3/8" 6 Spline 1 5/8"							
Gearbox capacity & lubrication								
splitter	4.5 Pints (2.13 L) of gear lube 80-90W EP							
center & wings	5.75 Pints (2.72 L) of gear lube 80-90W EP							
Cutting capacity	1 1/2" (3.8 cm)							
Hitch weight	1,022 lb (464 kg)							
Machine weight	3,202 lbs. with chain guards & four laminated tires.							
Blade tip speed at 540 rpm	Center blades & wing blades = 14,963 fpm (76 mps)							
Hitch types	Pull-type hitch & clevis							
Hitch jack	Standard: 2,000 lbs (907 kg)							
Cutting width Overall width	15' - 0" (4.57 m) 15' - 7" (4.75 m)							
Normal transport width	10' - 2 1/2" (3.11 m) With transport locks set and cutter blade 13" (33 cm) off the ground.							
Minimum transport width	8' - 4" (2.54 m) With transport locks set and cutter blade 2" (5 cm) off the ground.							
Overall length	15' - 2" (4.62 m) With laminated tires 15' - 5 1/2" (4.71 m) With aircraft tires							
Deck height	11 1/4" (29 cm)							
Cutting height	2" to 13" (5 cm to 33 cm)							
Lift hydraulics	2 1/2" x 8" hydraulic cylinder, hoses, fittings & stroke control spacers							
Wing hydraulics	2 1/2" x 10" hydraulic cylinders, hoses & fittings							
Wing flex while operating	Max. 20° down, can float up as needed as long as the wheel(s) are still on the ground.							
Wing transport protection	Wing transport locks							
Deck material	10 Gauge (3.4 mm) deck							
Side skirt material	1/4" (6 mm) Plate							
	Wing Deck: 1 replaceable shoe per wing							
Skid shoes	Center Deck: 2 replaceable shoes							
Blade rotation left wing	Clockwise							
center deck right wing								
Blades - 6 (2 per deck)	1/2" x 4" (13 mm x 10.2 cm) Heat treated free swinging alloy steel with up lift							
Blade overlap	6" (15 cm)							
Blade bolt	Keyed with hardened flat washer & locknut							
	10 Gauge (3.4 mm) round dish shaped pan, reinforced							
Stump jumper / blade holder	with 1" x 4" (2.5 cm x 10.2 cm) blade bar							
Front & rear guards	Single chain or rubber							
Input driveline	ASAE Category 4 with constant velocity u-joint							
Intermediate & wing drivelines	ASAE Category 3 with slip-clutch							
Wheels	29" Used aircraft tires or 21" laminated wheels							
Number of wheels	4 or 6 Total							
Transport axle	Spring-cushioned lift cylinder							
Hubs	Cast iron five-bolt hubs with tapered roller bearings and 1 3/4" shafts.							
Colors	Standard color: Beige; Optional colors: Green, Orange, or Red							





- \* Normal Transport Dimensions With Transport Locks Set & Unit Fully Raised
- <sup>†</sup> Minimum Transport Dimensions With Transport Locks Set & Unit Lowered



Dimensions Shown With Hydraulic Lift Cylinder Fully Retracted and Center Deck Cutting Blade 2" (5.1 cm) Off The Ground



## RC2515 Model

Features	Benefits							
Surpassed rugged industry standards	All Land Pride Cutters have been designed and tested and meet rigorous voluntary testing procedures.							
Factory assembled	Saves customer set-up time and money.							
Five Year gearbox warranty	Shows confidence in gearbox integrity.							
Divider gearbox 160 hp (119.3 kW) wing gearboxes 100 hp (74.6 Kw)	A rugged heavy built gearboxes capable of handling heavy cutting applications.							
Gearbox seal protection	Gearbox bottom seal protection for longer bearing life.							
Input driveline: Cat. 4 CV	Driveline is matched just right for capacity of tractor. Constant velocity (CV) U-joint allows for 80 degree turns without doing damage to the driveline.							
Easy greasable drivelines	Drivelines have access holes for greasing the U-joints and to grease the inner profiles.							
Two Plate slip-clutch	Protects drivelines and gearboxes by slipping clutches rather than twisting the driveline when impacts are encountered.							
high blade tip speed	Allows clean cutting of material and even distribution.							
Blade overlap: 6" (15 cm)	Eliminates skipping during turns.							
Deck height: 11 1/4" (29 cm)	Handles heavy cutting, which reduces balling-up of cut material under the deck.							
Stump jumper backed with a thick mounting bar	Allows cutter to slide over obstructions protecting gearbox output shaft & bottom seal.							
Smooth 10 ga (3.4 mm) deck top	Reduces accumulation of debris and is easier and faster to clean.							
Heavy 1/4" (6mm) Plate Side skirts	Reduces debris piercing possibilities.							
Low hitch weight	Less drawbar wear. Less ballast required. Works well with lighter tractors.							
Dual remote hydraulics	Easy to operate. Fits most tractors, only two duplex outlets required to lift wings and change cutting height separately.							
Hinged wing sections	Allows cutter to follow terrain. Ideal for rough ground where hillsides, ditches and hollows can cause uneven cutting. Wings will hinge 20° down.							
Solid 7/8" (22 mm) hinge rods	Gives great strength to the cutter from front to rear, and in the hinge area itself.							
Wing transport locks	Holds transport wings in the folded-up position in case of hydraulic pressure loss.							
Enclosed front to rear dual leveling rods	Dual leveling rods enable the cutter to pull equally on the rear axle during travel over rough terrain. Many competitors only use one leveling rod.							
Five Bolt hubs	5-Bolt hubs makes the wheel assembly more durable and longer lasting.							
Drain holes in wheel rims	Allows water to drain from wheels mounted on folded-up wings. Helps prevent paint deterioration and rusting to the wheel rims.							
Spring-cushioned lift cylinder	Cushions loads on drawbar.							
Replaceable wheel spindles	Wheel spindles can be replaced when damaged without replacing the entire axle. Simply remove two bolts to replace damaged spindle.							
Heavy 7/8" (22 mm) Leveling rods	Large diameter leveling rods provide superior supporting strength over rough terrain.							
Airplane tires	Gives better cushion while transporting and provides flotation in soft ground.							



## **Troubleshooting Chart**

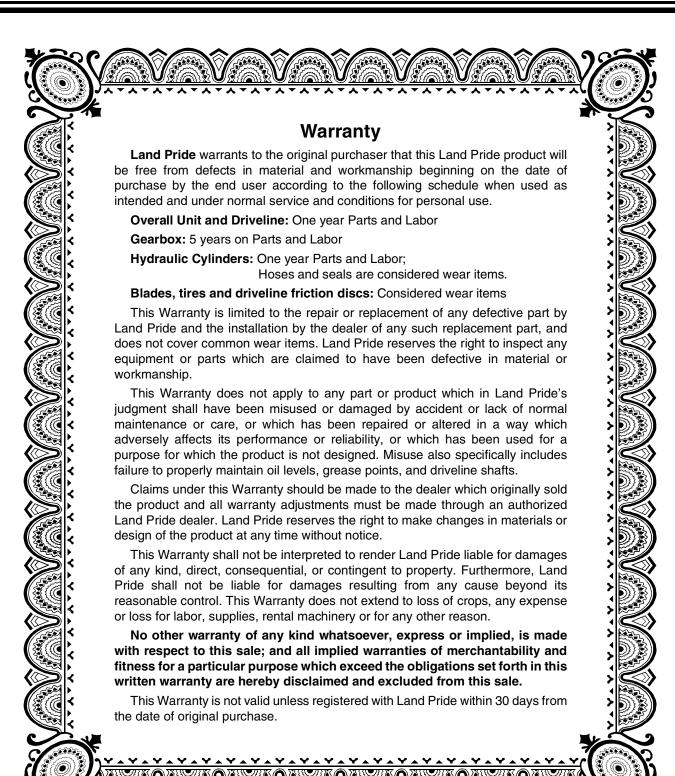
Problem	Cause	Solution						
	Gearbox overfilled	Drain oil level with fill hole or to full mark on dipstick.						
Oil seal leaking	Seals damaged	Replace seals.						
on sear reaking	Grass or wire wrapped on shaft in seal area	Clean off wrapped material and check seal areas daily.						
	Clutch is froze	Slip clutches. See "Long Term Storage" on page 39.						
Driveline yoke or cross failing	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. See "Long Term Storage" on page 39.						
light load	Clutch plates are worn out	Replace clutch plates.						
	Foreign object caught between clutch plates	Remove foreign object.						
	Contacting frame	Reduce lift height in transport position.						
Bent driveline shaft	Contacting drawbar	Reposition drawbar.						
(Note: Shaft should be repaired or	Contacting 3-point arms	Raise or remove 3-point arms.						
replaced if bent)	Bottoming out	Shorten driveline shaft.						
Duivaline abot	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 20 hours of operation.						
	Blades locked together (overlapped) when wings were raised to transport position	Use pry bar or other tool to separate cutting blades before lowering wings.						
Blades 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 29.						
	Tractor has Instant off power take-off	Decrease engine speed slowly to an idle and then disengage power take-off. See "Disengage Blades" on page 29.						
	Cutting on sandy ground	Raise cutting height.						
Blades wearing excessively	Contacting ground frequently	Raise cutting height.						
<b>3</b> · · · · · <b>3</b>	Not maintaining power take-off speed	Maintain power take-off speed by slowing down.						
Blades coming loose	Blades not tightened properly	Tighten blade hardware. Refer to "Cutter Blade Maintenance" on page 34						
	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.						
Diada assistant	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 Driveline bent	Inspect area before cutting. Do not hit solid objects.  Replace driveline or distribution shaft.						
	Blade carrier bent	Replace blade carrier.						
	Blade broken	Replace blade.						
Excessive vibration	Blade will not swing	Inspect and unlock blades.						
	High torque start-up or hitting	Disassemble and inspect driveline for incorrectly						
	solid objects.	located needles or damaged bearing cap.						
	Blades have unequal weight	Replace each pair of blades on affected carrier.						
Wing cylinder movement too slow	Orifice is plugged	Remove elbow fitting and unplug orifice.						
		Tremove elbow hung and unplug offlice.						



Torque Values Chart for Common Bolt Sizes															
	Bolt Head Identification								Bolt Head Identification						
Bolt Size			7.7		マブ			Bolt Size	5.8		$\langle 8.8 \rangle$		(10.9)		
(inches)	Grade 2		Grade 5		Grade 8			(Metric)	Class 5.8		Clas	s 8.8	Clas	Class 10.9	
in-tpi <sup>1</sup>	N·m²	ft-lb <sup>3</sup>	N·m	ft-lb	N⋅m	ft-lb	Ī	mm x pitch <sup>4</sup>	N⋅m	ft-lb	N·m	ft-lb	N · m	ft-lb	
1/4" - 20	7.4	5.6	11	8	16	12	Ī	M 5 X 0.8	4	3	6	5	9	7	
1/4" - 28	8.5	6	13	10	18	14	I	M 6 X 1	7	5	11	8	15	11	
5/16" - 18	15	11	24	17	33	25	Ŀ	M 8 X 1.25	17	12	26	19	36	27	
5/16" - 24	17	13	26	19	37	27	L	M 8 X 1	18	13	28	21	39	29	
3/8" - 16	27	20	42	31	59	44	ı	M10 X 1.5	33	24	52	39	72	53	
3/8" - 24	31	22	47	35	67	49	ı	M10 X 0.75	39	29	61	45	85	62	
7/16" - 14	43	32	67	49	95	70	I	M12 X 1.75	58	42	91	67	125	93	
7/16" - 20	49	36	75	55	105	78	I	M12 X 1.5	60	44	95	70	130	97	
1/2" - 13	66	49	105	76	145	105	I	M12 X 1	90	66	105	77	145	105	
1/2" - 20	75	55	115	85	165	120	ı	M14 X 2	92	68	145	105	200	150	
9/16" - 12	95	70	150	110	210	155	ı	M14 X 1.5	99	73	155	115	215	160	
9/16" - 18	105	79	165	120	235	170	L	M16 X 2	145	105	225	165	315	230	
5/8" - 11	130	97	205	150	285	210	L	M16 X 1.5	155	115	240	180	335	245	
5/8" - 18	150	110	230	170	325	240	I	M18 X 2.5	195	145	310	230	405	300	
3/4" - 10	235	170	360	265	510	375	I	M18 X 1.5	220	165	350	260	485	355	
3/4" - 16	260	190	405	295	570	420	ı	M20 X 2.5	280	205	440	325	610	450	
7/8" - 9	225	165	585	430	820	605	ı	M20 X 1.5	310	230	650	480	900	665	
7/8" - 14	250	185	640	475	905	670	I	M24 X 3	480	355	760	560	1050	780	
1" - 8	340	250	875	645	1230	910	I	M24 X 2	525	390	830	610	1150	845	
1" - 12	370	275	955	705	1350	995	I	M30 X 3.5	960	705	1510	1120	2100	1550	
1-1/8" - 7	480	355	1080	795	1750	1290		M30 X 2	1060	785	1680	1240	2320	1710	
1-1/8" - 12	540	395	1210	890	1960	1440	l	M36 X 3.5	1730	1270	2650	1950	3660	2700	
1-1/4" - 7	680	500	1520	1120	2460	1820	L		1880	1380	2960	2190	4100	3220	
1-1/4" - 12	750	555	1680	1240	2730	2010		<sup>1</sup> in-tpi = nomin			eter in ind	ches-thr	eads pe	r inch	
1-3/8" - 6	890	655	1990	1470	3230	2380		$^{2}$ N· m = newtor		3					
1-3/8" - 12	1010	745	2270	1670	3680	2710		<sup>3</sup> ft-lb= foot pou							
1-1/2" - 6	1180	870	2640	1950		3160		4 mm x pitch =	nominal	thread	diamete	r in milli	meters x	thread	
1-1/2" - 12															
Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.															
					Additi	onal T	OI	rque Value	S						
Wheel Hub St	ud 1/2"-	20 UNF	Gr. 5		85 ft-lbs	s (115 Nr	Nm)								
Blade Bolt Lo	Blade Bolt Locknut 450 ft-lbs					bs (610 Nm)									
Blade Carrier Hub Nut					450 ft-lbs (610 Nm) minimum										

Tire Inflation Chart							
TireSize Inflation PSI							
20.5" x 6.75" - 10	35 (241 kPa)						





**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 \_\_\_\_\_



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