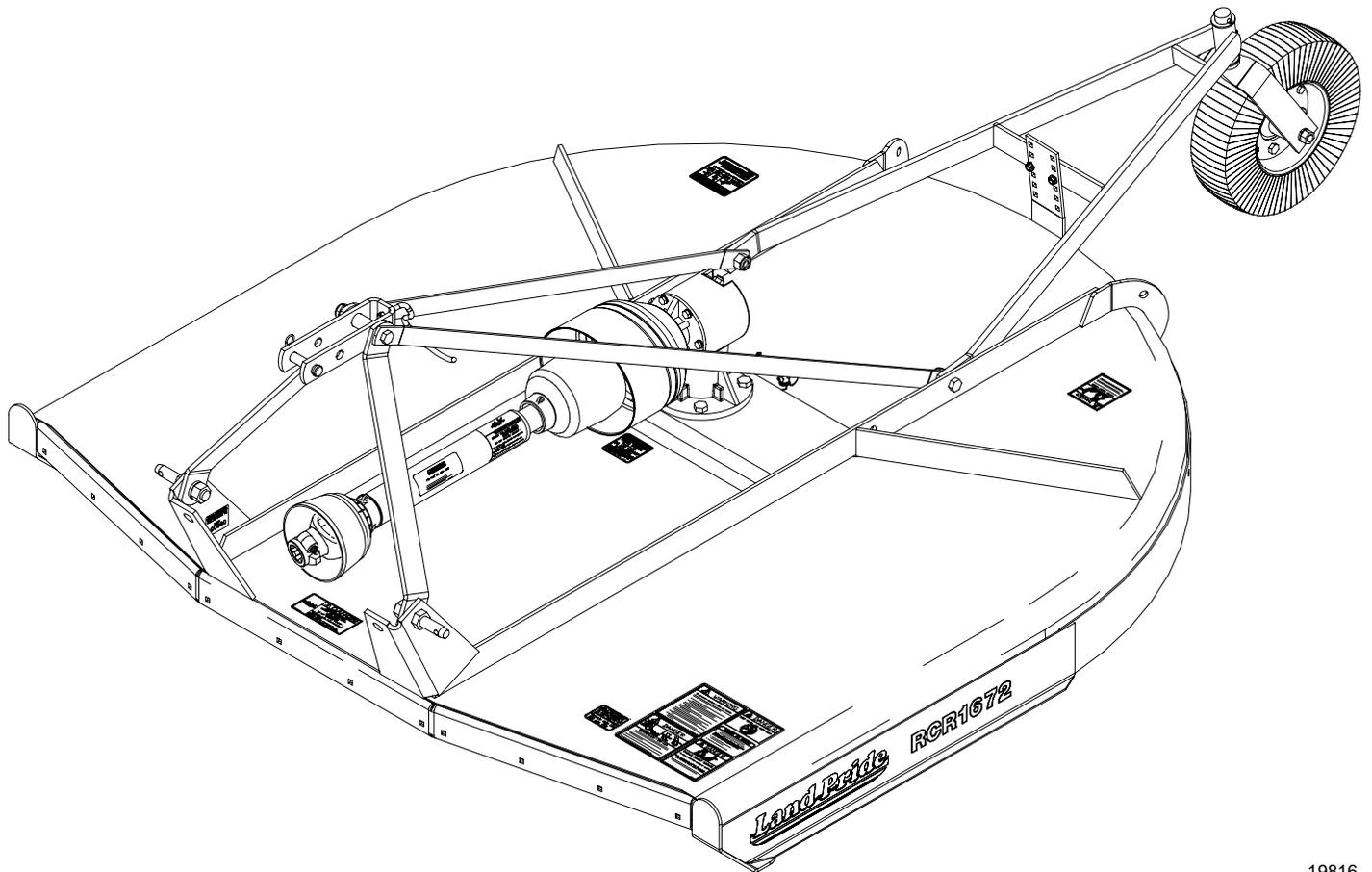


Rotary Cutters

RCR16 Series



19816

312-742M 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!

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



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Important Safety Information

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

Be Aware of Signal Words

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

⚠ DANGER

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

⚠ WARNING

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

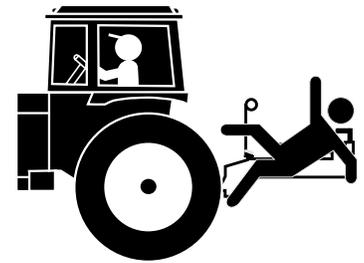
⚠ CAUTION

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



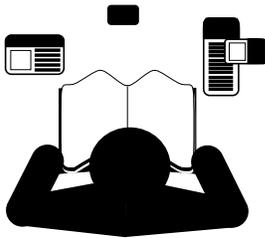
Keep Riders Off Machinery

- ▲ Riders obstruct the operator's view they could be struck by foreign objects or thrown from the machine.
- ▲ Never allow children to operate equipment.



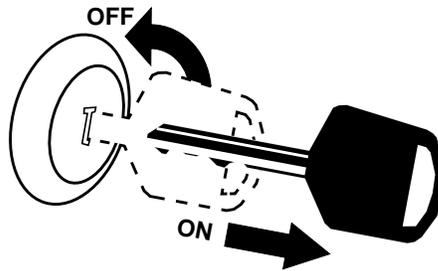
For Your Protection

- ▲ Thoroughly read and understand the "Safety Label" section, read all instructions noted on them.



Shutdown and Storage

- ▲ Lower machine to ground, put tractor in park, turn off engine, and remove the key.
- ▲ Detach and store implements in a area where children normally do not play. Secure implement by using blocks and supports.

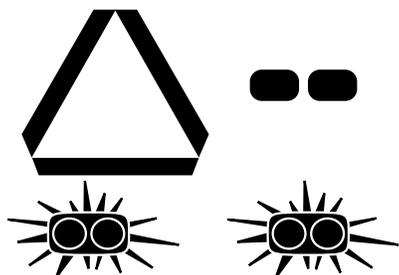


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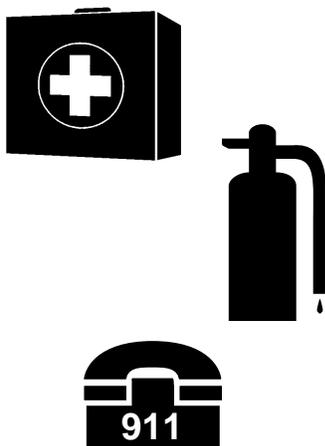
Use Safety Lights and Devices

- ▲ Slow moving tractors, self-propelled equipment, and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.
- ▲ Flashing warning lights and turn signals are recommended whenever driving on public roads. Use lights and devices provided with implement.



Prepare for Emergencies

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



Wear Protective Equipment

- ▲ Protective clothing and equipment should be worn.
- ▲ Wear clothing and equipment appropriate for the job. Avoid loose fitting clothing.
- ▲ Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- ▲ Operating equipment safely requires the full attention of the operator. Avoid wearing radio headphones while operating machinery.



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 machinery.
- ▲ Attach the chain to the tractor drawbar support or other specified anchor location. Allow only enough slack in the chain to permit turning.
- ▲ Do not use safety chain for towing.



Practice Safe Maintenance

- ▲ Understand procedure before doing work. Use proper tools and equipment, refer to Operator's Manual for additional information.
- ▲ Work in a clean dry area.
- ▲ Lower the implement to the ground, put tractor in park, turn off engine, and remove key before performing maintenance.

- ▲ Allow implement to cool completely.
- ▲ Do not grease or oil implement while it is in operation.
- ▲ Inspect all parts. Make sure parts are in good condition & installed properly.
- ▲ Remove buildup of grease, oil or debris.
- ▲ Remove all tools and unused parts from implement before operation.

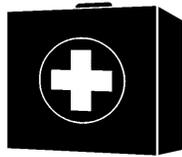


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Avoid High Pressure Fluids Hazard

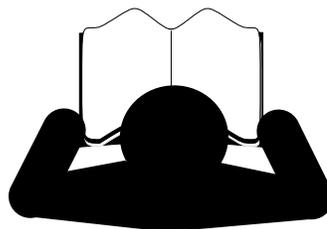
- ▲ Escaping fluid under pressure can penetrate the skin causing serious injury.
- ▲ Avoid the hazard by relieving pressure before disconnecting hydraulic lines.
- ▲ Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.
- ▲ Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- ▲ If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.



Safety at All Times

Thoroughly read and understand the instructions given in this manual before operation. Refer to the "Safety Label" section, read all instructions noted on them.

- ▲ Operator should be familiar with all functions of the unit.
- ▲ Operate implement from the driver's seat only.
- ▲ Do not leave tractor or implement unattended with engine running.
- ▲ Dismounting from a moving tractor could cause serious injury or death.
- ▲ Do not stand between the tractor and implement during hitching.
- ▲ Keep hands, feet, and clothing away from power-driven parts.
- ▲ Wear snug fitting clothing to avoid entanglement with moving parts.
- ▲ Watch out for wires, trees, etc., when raising implement. Make sure all persons are clear of working area.
- ▲ Turning tractor too tight may cause implement to ride up on wheels. This could result in injury or equipment damage.



Important Safety Information

Safety Labels

Your implement comes equipped with all safety labels in place. They were designed to help you safely operate your implement.

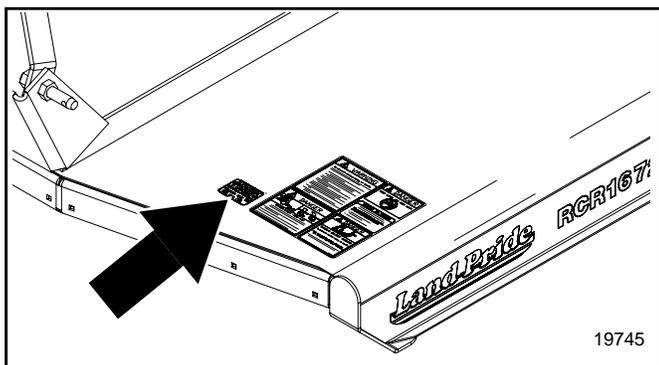
1. Read and follow label directions.
2. Keep all safety labels clean and legible.
3. Replace all damaged or missing labels.
4. Some new equipment installed during repair require safety labels to be affixed to the replaced component as specified

by Land Pride. When ordering new components make sure the correct safety labels are included in the request. To order new labels go to your Land Pride dealer.

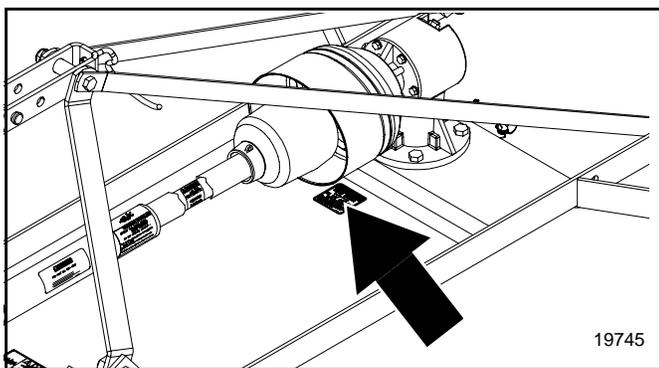
5. Refer to this section for proper label placement.

To install new labels:

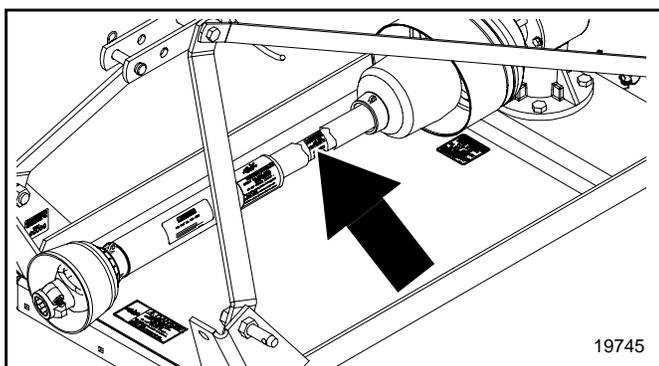
- a. Clean the area the label is to be placed.
- b. Peel backing from label. Press firmly on surface being careful not to cause air bubbles under label.



818-130C
Caution 540 RPM

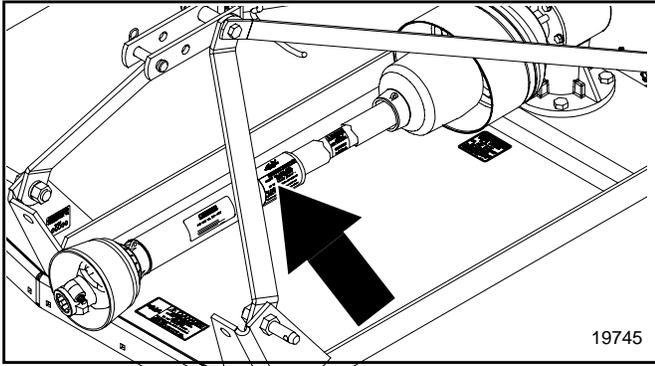


818-543C
Danger PTO Shield



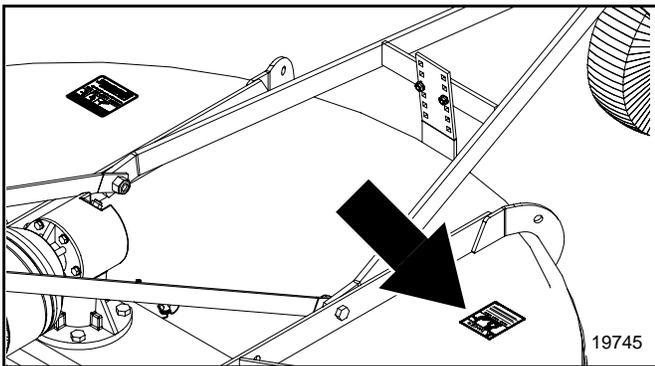
818-540C
Danger Guard Missing

Important Safety Information



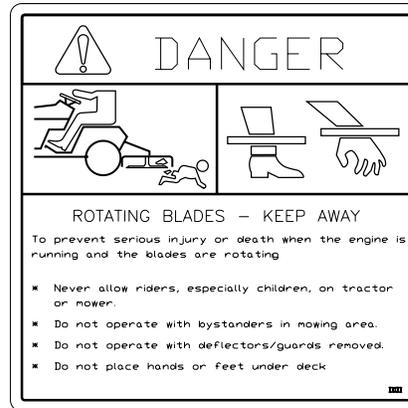
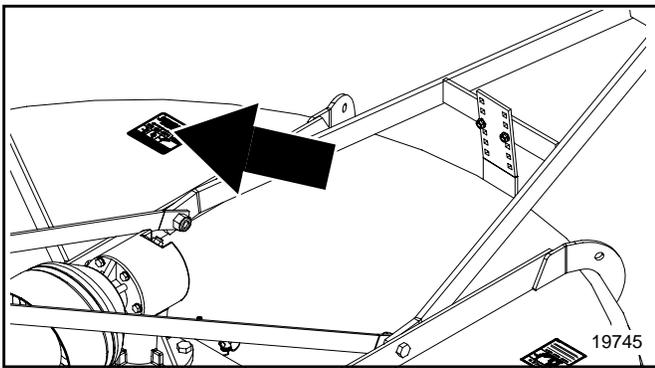
818-552C

Danger PTO Driveline



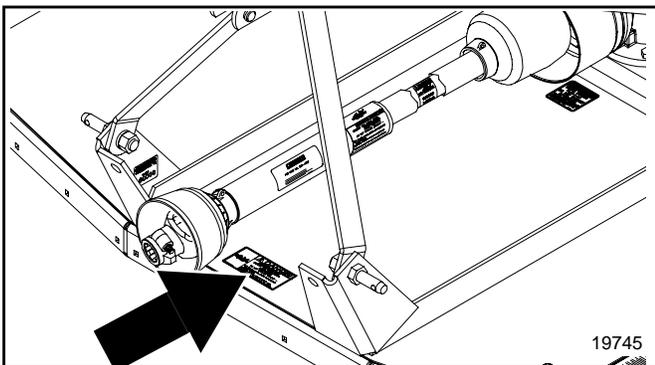
818-556C

Danger Thrown Object



818-564C

Danger Rotating Blades



818-142C

Danger Driveline

Introduction

Land Pride welcomes you to the growing family of new product owners.

This Rotary Cutter has been designed with care and built by skilled workers using quality materials. Proper assembly, maintenance, and safe operating practices will help you get years of satisfactory use from the Rotary Cutter.

Application

Land Pride's RCR16 Series Rotary Cutters are ideal for clearing grass, weeds and light brush. These cutters offer fast, clean, dependable mowing and have been extensively tested to ensure operating safety. High blade tip speeds assure a clean cut in a variety of field conditions. The standard stump jumper slides over stumps, rocks and debris and safety guards help contain material under the deck. See "**Features and Benefits**", "**Section 5**" for additional information.

Using This Manual

- This Operator's Manual is designed to help familiarize you 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 or printed from the Land Pride Service & Support Center CD-Rom which is at your dealership.

Terminology:

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

Definitions:

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

IMPORTANT: A special point of information related to its preceding topic. Land Pride's intention is that this information should be read and noted before continuing.

Owner Assistance

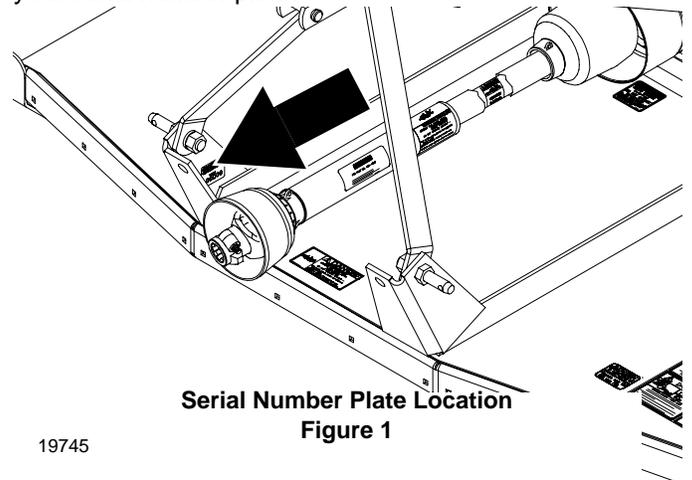
The Warranty Registration card should be filled out by the dealer at the time of purchase. This information is necessary to provide you with quality customer service.

If customer service or repair parts are required contact a Land Pride dealer. A dealer has trained personnel, repair parts and equipment needed to service the implement.

The parts on your RCR16 Series Rotary Cutter have been specially designed and should only be replaced with genuine Land Pride parts. Therefore, should your Rotary Cutter require replacement parts go to your Land Pride Dealer.

Serial Number Plate

For prompt service always use the serial number and model number when ordering parts from your Land Pride dealer. Be sure to include your serial and model numbers in correspondence also. Refer to Figure 1 for the location of your serial number plate.



Serial Number Plate Location
Figure 1

Further Assistance

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

1. Discuss the matter with your dealership service manager making sure he is aware of any problems you may have and that he has had the opportunity to assist you.
2. If you are still not satisfied, seek out the owner or general manager of the dealership, explain the problem and request assistance.
3. For further assistance write to:

Land Pride
Service Department
 P.O. Box 5060
 Salina, KS 67402-5060

Section 1 Assembly and Set-Up

Tractor Requirements

The RCR16 Series Rotary Cutters are designed for use with tractors that are equipped with a (540 RPM 1 3/8"-6 spline) rear power take-off (PTO).

The tractor must also provide for 3-point hitch attachment Category I. The tractors rated drawbar PTO horsepower on a 3-point should be no less than 20 HP and no more than 50 HP.

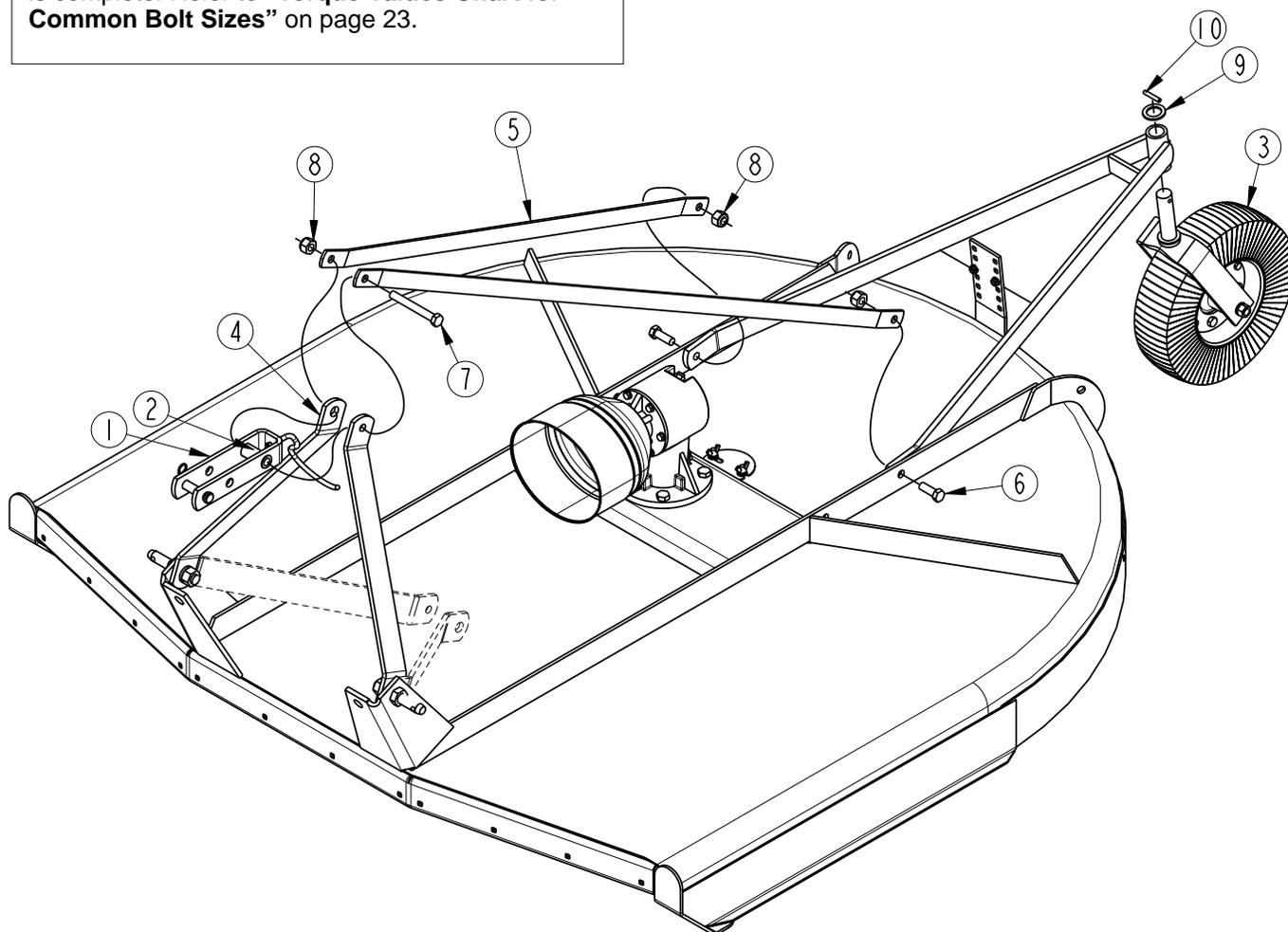
NOTE: In order to maintain steering control, ballast may need to be added to your tractor. To determine whether or not to add the ballast, refer to your tractor's operator's manual.

Dealer Assembly

NOTE: Do not tighten hardware until assembly is complete. Refer to "**Torque Values Chart for Common Bolt Sizes**" on page 23.

Refer to Figure 1-1:

1. The A-frame braces (#4) are rotated down against the deck in shipment. Loosen the nuts and rotate the A-frame braces up as shown.
2. The rear braces (#5) are disassembled and strapped to the cutter. Undo the rear braces and assemble them as shown. The rear braces (#5) should be to the outside of the front A-frame braces (#4).
3. Place the top hitch spacer (#2) in the upper hitch (#1) and between the front A-frame braces.
4. Secure with the 5/8" x 5" long bolt (#7) and 5/8" lock nut (#8).
5. Install the gauge wheel into the gauge wheel mainframe and secure with washer (#9) and roll pin (#10) as shown.



20636

Dealer Assembly
Figure 1-1

Section 1 Assembly and Set-Up

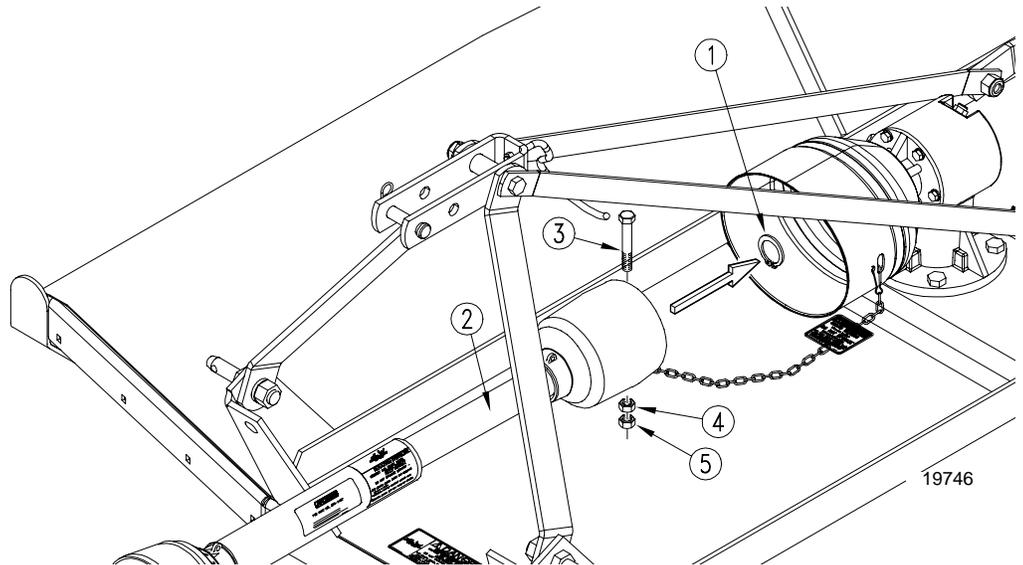
Driveline Installation

Refer to Figure 1-3:

- Remove the snap ring (#1) from the gearbox input shaft. Slide the driveline (#2) on to the gearbox shaft and replace the snap ring to the gearbox shaft. The snap ring is for extra security in case the shear bolt

(#3) should break. Align the holes in the driveline with the hole in the gearbox input shaft and insert the 1/2" x 3 1/2" long bolt (#3) and secure with the 1/2" nut (#4) and 1/2" jam nut (#5).

- Secure the chain on the driveline to the driveline cone to restrict outer shield from rotating.



Driveline Installation
Figure 1-2

19746

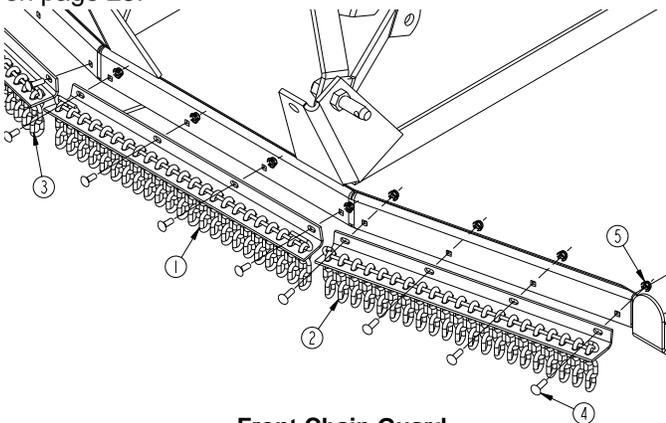
DANGER

Rotary Cutters have the ability to discharge objects at high speeds; therefore, the use of front and rear safety guards is strongly recommended when cutting along highways or in an area where people may be present.

Optional Equipment Assemblies

Front Chain Guards

Install each segment of the front chain guards (#1) center, (#2) left hand and (#3) right hand as shown in Figure 1-3, with 3/8" x 1" long carriage bolts (#4), and 3/8" flange nuts (#5). Tighten all nuts and bolts to torque as indicated in the "Torque Values Chart for Common Bolt Sizes" on page 23.

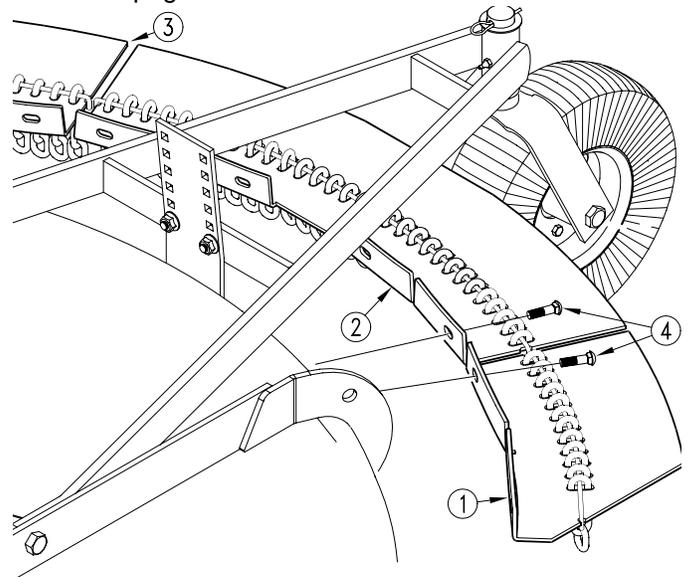


Front Chain Guard
Figure 1-3

20642

Rear Chain Guards

Install the rear chain guard (#1) (#2) and (#3) as shown in Figure 1-4, with 3/8" x 1" long carriage bolts (#4), and 3/8" flange nuts. Tighten all nuts and bolts to torque as indicated in the "Torque Values Chart for Common Bolt Sizes" on page 23.



Rear Chain Guard
Figure 1-4

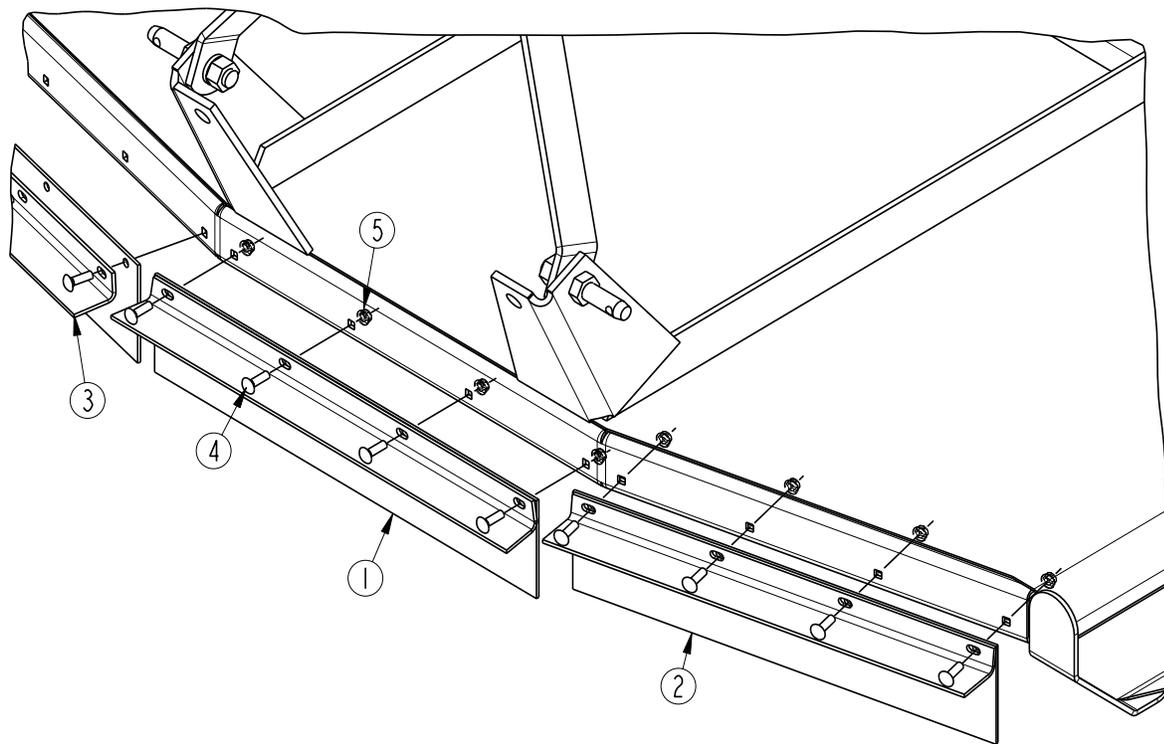
19748

Section 1 Assembly and Set-Up

Front Rubber Guards

Install front rubber guards center (#1), left hand (#2) and right hand (#3), as shown in Figure 1-5, with 3/8" x 1" long

carriage bolts (#4), and 3/8" flange nuts (#5). Tighten all nuts and bolts to torque as indicated in the "Torque Values Chart for Common Bolt Sizes" on page 23.



Front Rubber Guards
Figure 1-5

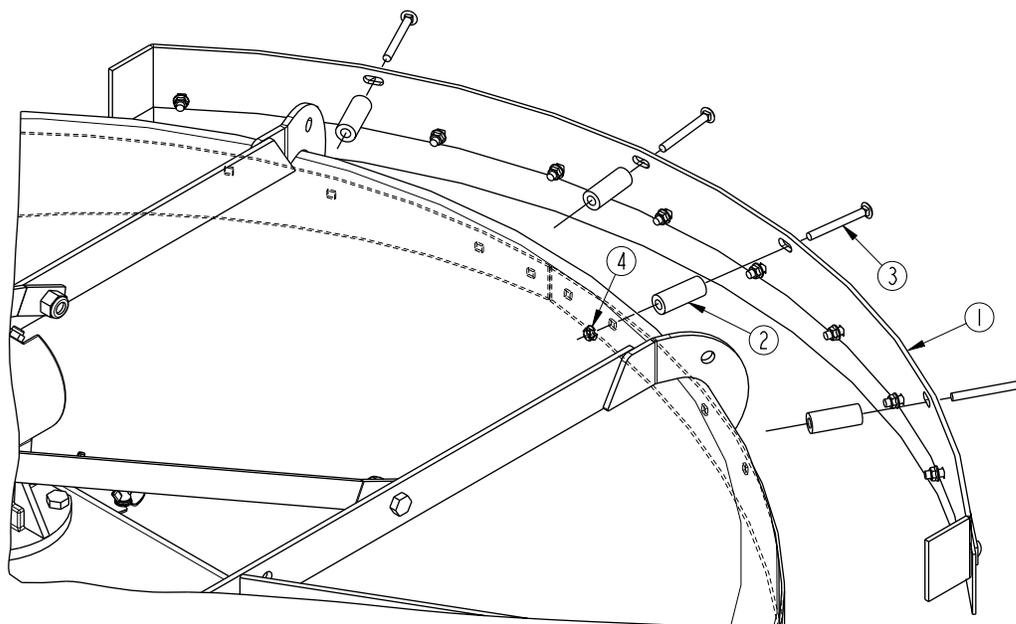
20640

Rear Rubber Guard

Refer to Figure 1-6:

Install rear rubber guard (#1) as shown in Figure 1-6, with 3/8" x 3 1/2" long carriage bolts (#3), 3/8" flange nuts (#4)

and spacers (#2). Tighten all nuts and bolts to torque as indicated in the "Torque Values Chart for Common Bolt Sizes" on page 23.



Rear Rubber Guard
Figure 1-6

20641

Section 1 Assembly and Set-Up

Tractor Hook-Up

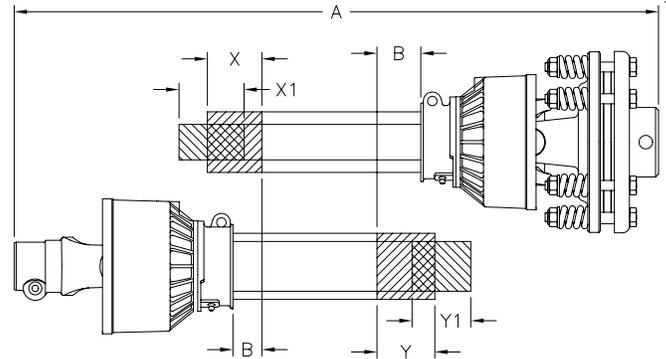
Refer to Figure 1-7:

1. Slowly back the tractor up to the cutter and use the tractor's 3-point hydraulic control to adjust the lower link arms up or down to match the height of the cutter hitch pins.
2. Simply position the lower link arms to "insert" the hitch pin into the lower hitch link hole.
3. Install a linch pin or other fastener (supplied by customer) through the hitch pin hole to lock the lower links into position.
4. Connect the driveline to the tractor's PTO output shaft and secure with locking device on driveline. Connect the safety chain to the hitch brace on the cutter to restrict outer shield of driveline from rotating.

NOTE: Chain should be attached at implement end of driveline.

5. Connect the top link to the upper pivot hitch using the 3/4" clevis pin supplied. In most cases, the lowest hole of the upper pivot hitch is the appropriate hole to use. For tractors with shorter than normal top-links, the second set of holes on the upper pivot hitch allows greater ground clearance for the tailwheel.
6. Start the tractor and slowly engage the tractor's hydraulic 3-point to lift the cutter. Check for sufficient drawbar clearance. Move the drawbar ahead, aside or remove if required. Watch the telescoping movement of the driveline to ensure that it does not bottom out while lifting the 3-point. If the driveline does bottom out, it will require shortening:
 - a. Refer to Figure 1-8. Raise the tractor 3-point hitch so the input shaft of the cutter gearbox is in line with the PTO shaft on the tractor. Shut down tractor, leaving cutter in position of shortest distance between shafts, refer to "A" dimension. Securely block cutter in position. Remove driveline from tractor and gearbox

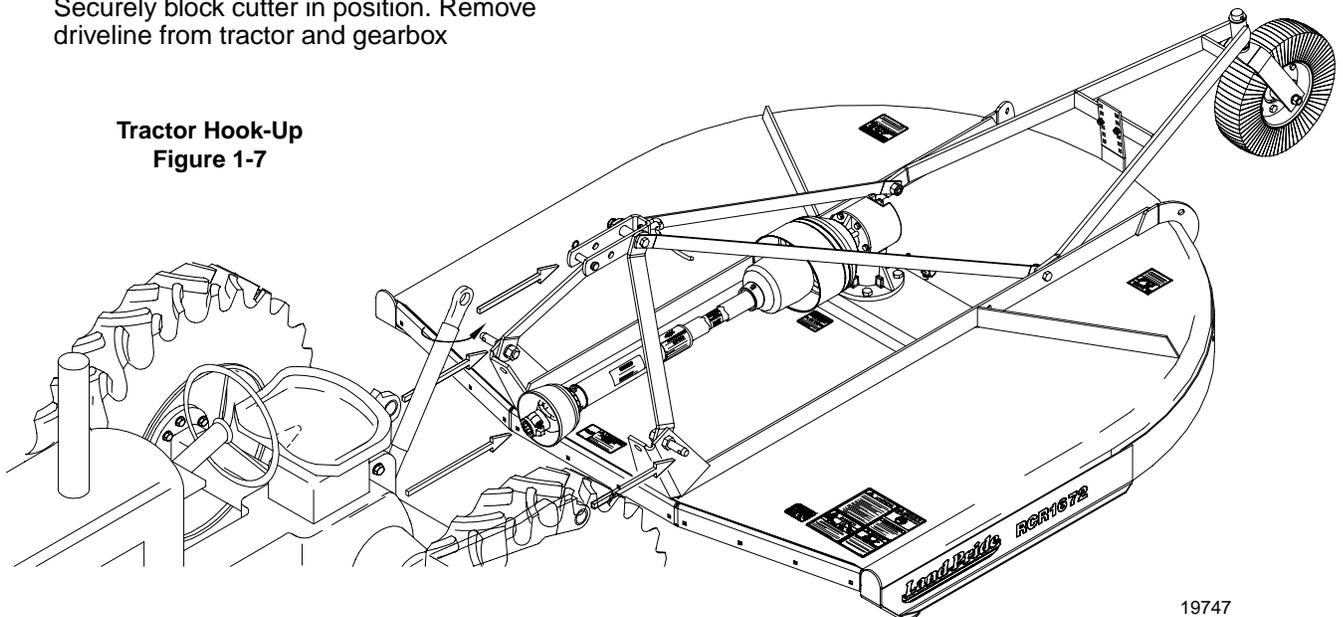
- b. Pull driveline apart. Reattach outer sections to tractor and gearbox. Pull on driveline section to be sure that yoke locks into place.
- c. Hold driveline sections parallel to each other to determine if too long. Each section should end approximately 1" ("B" dimension) short of reaching universal joint shield on opposite section. If too long, measure 1" ("B" dimension) back from universal joint shield and mark on opposite section. Do this for both sections.
- d. Cut off shield where marked ("X" dimension). Cut shaft the same amount ("X" dimension).
- e. Repeat the procedure to the other driveline half. Remove all burrs and cuttings.
- f. Apply multi-purpose grease to inside of outer (female) driveline section. Assemble driveline and install on tractor and cutter. Pull on each driveline section to be sure yokes lock into place. Make certain driveline shielding is in place and in good condition.



Shortening Driveline Shafts
Figure 1-8

18347

Tractor Hook-Up
Figure 1-7



19747

Section 2 Operating Instructions

Transporting

CAUTION

When traveling on public roads, use accessory lights and devices for adequate warning to operators of other vehicles. Comply with all federal, state and local laws.

IMPORTANT: Always disengage the tractor's PTO before raising the cutter to transport position.

1. When raising the cutter to the transport position be sure that the driveline does not contact tractor or cutter.
2. Be sure to reduce tractor ground speed when turning; and leave enough clearance so the cutter does not contact obstacles such as buildings, trees or fences.
3. Limit transport speed to 20 mph. Transport only with a tractor of sufficient size and horsepower. When traveling on roadways, transport in such a way that faster moving vehicles may pass you safely.
4. When traveling over rough or hilly terrain, shift tractor to a lower gear.

Operating Check List

In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training involved in the operation, transport, maintenance and storage of equipment. Before beginning to cut, the following inspection should be performed.

Operating Checklist

Check	Reference
<input type="checkbox"/> Read " Important Safety Information " in this Manual.	page 1
<input type="checkbox"/> Check oil level in gearboxes.	Section 3 Page 17
<input type="checkbox"/> Check that all plugs in gearbox have been replaced properly.	Section 3 Page 17
<input type="checkbox"/> Be sure nuts and bolts are tight.	Section 1
<input type="checkbox"/> Be certain all guards and shields are in place.	Section 1 page 9
<input type="checkbox"/> Lubricate the cutter as needed. Refer to " Maintenance and Lubrication ".	Section 3 Page 17

DANGER

To prevent personal injury caused by thrown objects, the use of front & rear safety guards is strongly recommended! To avoid injury or death from entanglement in rotating drivelines, the drive gearbox shields must be in place and secure when operating.

Cutting Instructions

1. Your cutter is equipped with free-swinging cutting blades to reduce shock loads to the cutter if striking obstacles.
2. Start the machine slowly; do not use full throttle. Allow 10 seconds for cutter blades to become aligned properly before going to full power.
3. The ground speed depends on two things: the density of the material being cut, and the size of the tractor. Never run fast enough to overload the tractor.
4. It is important to maintain correct RPM PTO speed. Loss of PTO speed will allow the blades to hinge back and result in ragged, uneven cutting.
5. This cutter was designed to cut grass and brush 1" maximum diameter.

CAUTION

Damage may occur if exceeding the rated cutting capacity of the cutter!

CAUTION

Do not overspeed PTO or machine damage may result. This cutter is designed to be used with tractors having a 540 RPM rear PTO. Know what your tractor specifications are.

Leveling Procedure

There are 5 primary adjustments that should be made prior to actual field operation:

1. Deck level from left to right
2. Tractor top link length
3. Tractor lower link height
4. Tailwheel height
5. Cutter slightly higher in the rear than the front.

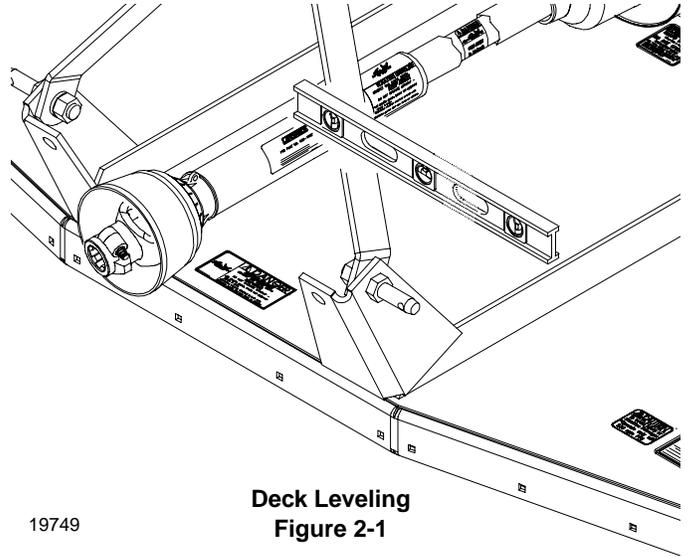
Section 2 Operating Instructions

Proper adjustment of each of these items will provide for higher efficiency, improved cutting performance and longer blade life. The following tools will be needed:

- Pliable tape measure
- Spirit or carpenters level
- Open end or hex end wrench or socket set
- Protective gloves

Having completed, the "**Tractor Hookup**", locate the tractor on a flat, level surface.

- Use the tractor's hydraulic 3-point control to lower the cutter until the tailwheel contacts ground surface.
- Place a level or other suitable leveling device on the front of the cutter deck as shown in Figure 2-1. Adjust either one or both of the tractors lower link height adjustments to level the deck from left to right. Some tractors have only a single adjusting crank.



Deck Leveling
Figure 2-1

19749

DANGER

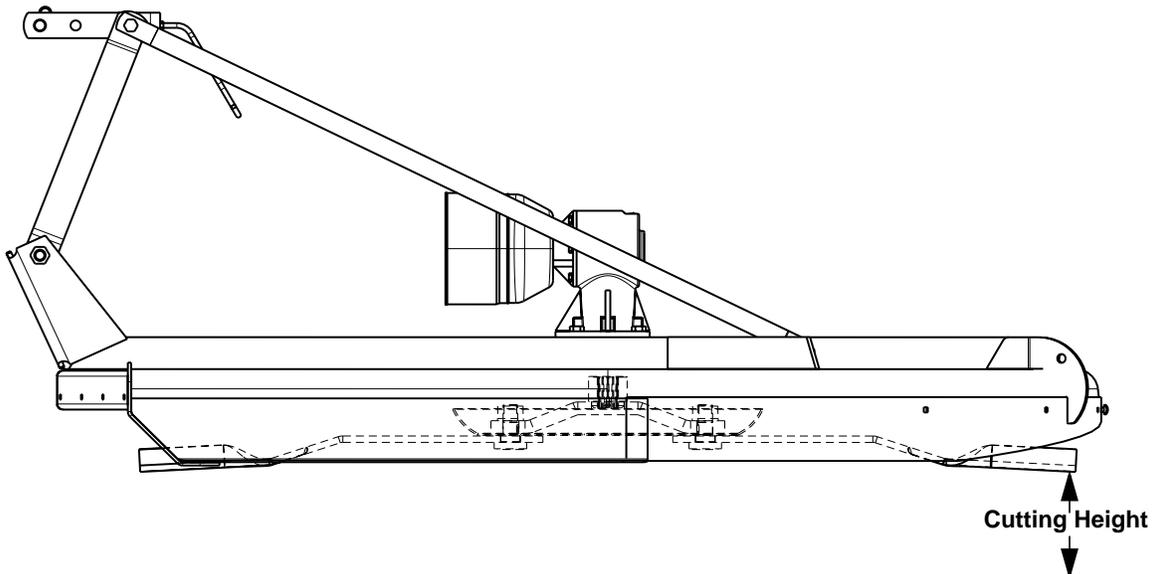
Engage parking brake, disengage PTO, shut off tractor and remove key before proceeding. Ensure that all moving parts have come to a complete stop before dismounting from the tractor.

CAUTION

Wear a pair of gloves when performing this operation. Go to the back of the cutter and carefully rotate each blade to the position shown in Figure 2-2. Avoid direct contact with the cutting edge of the blade.

Nominal Cutting Height

Measure the distance from the end (cutting tip) of the blade to the ground surface. This distance is the nominal cutting height. Refer to Figure 2-2.



20644

Cutting Height
Figure 2-2

Section 2 Operating Instructions

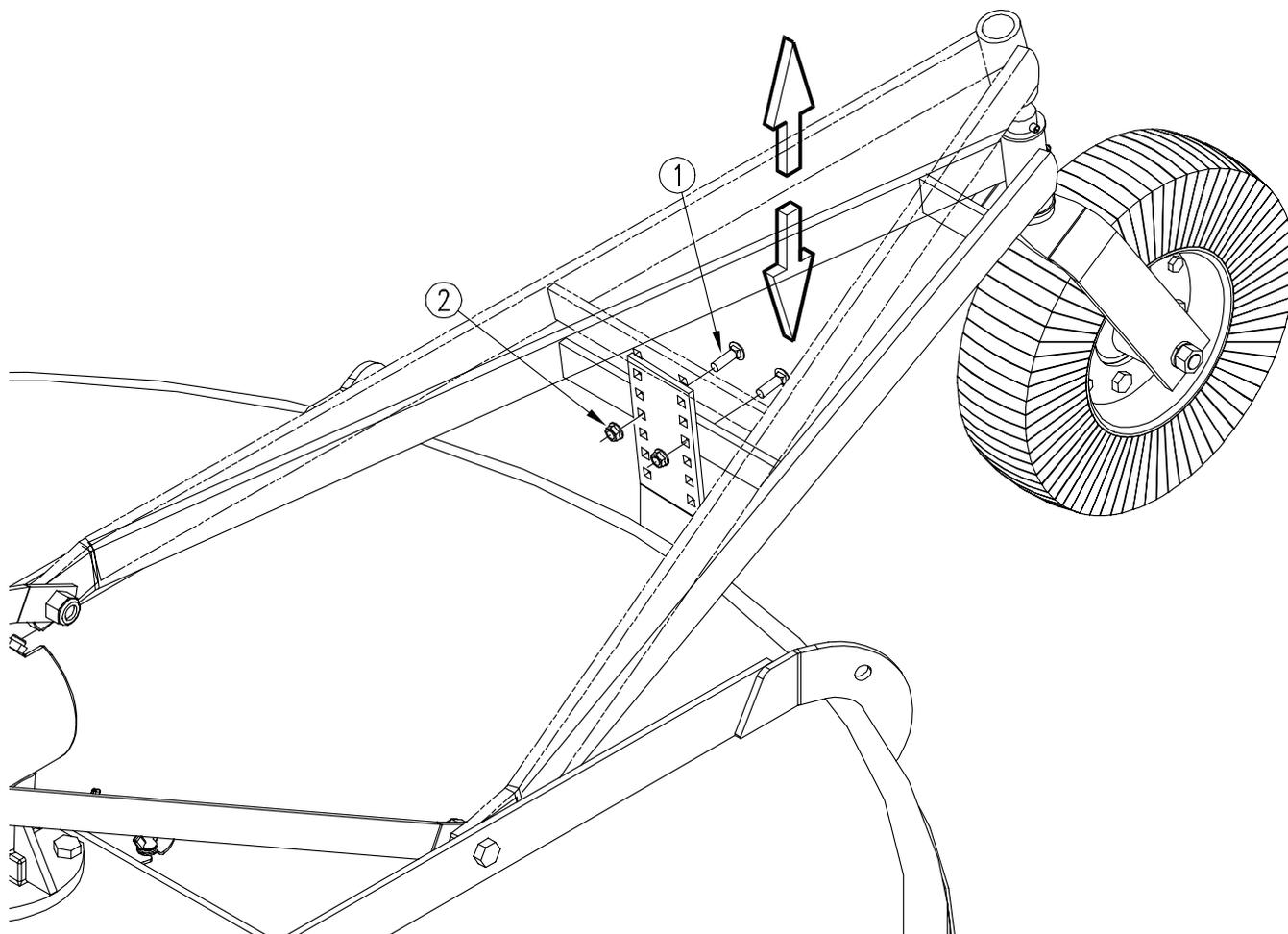
Cutter Height Adjustment

Refer to Figure 2-3:

If the cutting height is too high or too low, the gauge wheel must be adjusted as follows:

- a. Use the tractor's 3-point hydraulic control to lift the cutter such that the gauge wheel clears the ground.

- b. Remove the existing hardware; 3/8" -16 x 1" long carriage bolt (#1) and 3/8" flange nut (#2).
- c. Adjust the gauge wheel up or down to the desired cutting height and replace the hardware.



**3-Point Cutter Height Adjustment
Figure 2-3**

19753

Section 3 Maintenance and Lubrication

Maintenance

Proper servicing and adjustment can increase the life of any implement. With careful and systematic inspection, you can avoid costly maintenance, time and repair.

After using your cutter for several hours, check all bolts to be sure they are tight.

Replace any worn, damaged or illegible safety labels by obtaining new labels from your Land Pride Dealer.

Service Cutting Blades

- 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.

NOTE: Care should be taken in order not to remove any more material than necessary when sharpening blades.

- Both blades should weigh the same after sharpening.
- When replacing or sharpening the cutter blades, examine bolts for excessive wear and replace if necessary. To replace blades:
 - Order blade bolt Land Pride part # 802-277C.
 - Torque blade bolt lock nut to 450 ft. pounds. An extended cheater bar may be required to achieve proper torque.

IMPORTANT: Replace blades with genuine Land Pride blades only. Blades must be ordered and replaced in pairs.

If replacing dishpan, nut on gearbox output shaft should be torqued to 450 foot/pounds and cotter pin installed in nut with legs securely bent around nut.

Shearbolt Driveline

Shear Bolt Replacement

The Standard Shear Bolt Driveline is secured to the cutter with a shearbolt for protection of the driveline and gearbox. The shearbolt is designed to shear off when the blade impacts objects that the cutter is not designed to cut through. Should the shearbolt need replaced, replace with Land Pride part #802-264C. Refer to page 9 Figure 1-2.

IMPORTANT: A snap ring (Land Pride part #800-079C) is installed so that driveline does not come loose from the gearbox should the shearbolt shear.

Driveline Clutch (Optional)

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

Prior to initial operation and after long periods of inactivity, the clutch should be "run-in" to remove any oxidation that may have accumulated on the friction surfaces.

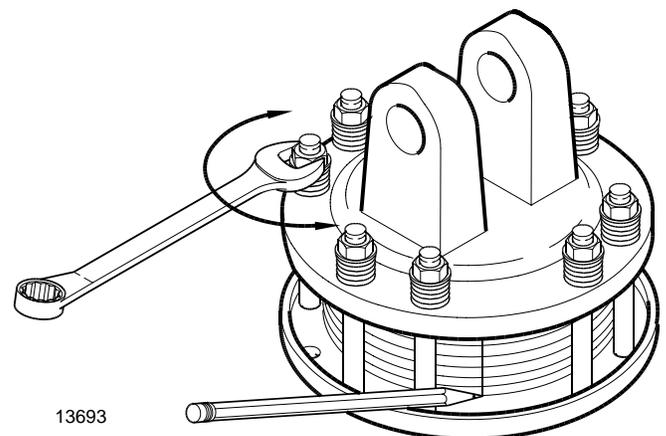
CAUTION

Engage parking brake, disengage PTO, shut off tractor, and remove key before making any of the following adjustments.

Clutch Run-In

Refer to Figure 4-1:

- Using a pencil or other marker, scribe a line across the exposed edges of the clutch plates and friction discs.



Clutch
Figure 4-1

- Carefully loosen each of the 8 spring retainer nuts on the clutch housing a total of EXACTLY 2 revolutions. It will be necessary to hold the hex end of the retainer bolt in order to count the exact number of revolutions.
- Start the tractor and engage the PTO drive for 2-3 seconds to permit slippage of the clutch surfaces. Disengage the PTO, then re-engage a second time for 2-3 seconds. Disengage the PTO, shut off tractor and remove key. Wait for all components to stop before dismounting from tractor.
- Inspect the clutch and ensure that the scribed markings made on the clutch plates have changed position. If any two marks on a friction disc and plate are still aligned, this indicates that slippage has not

Section 3 Maintenance and Lubrication

occurred and the clutch must be disassembled to separate the friction discs, see "**Clutch Assembly and Disassembly**", on page 16.

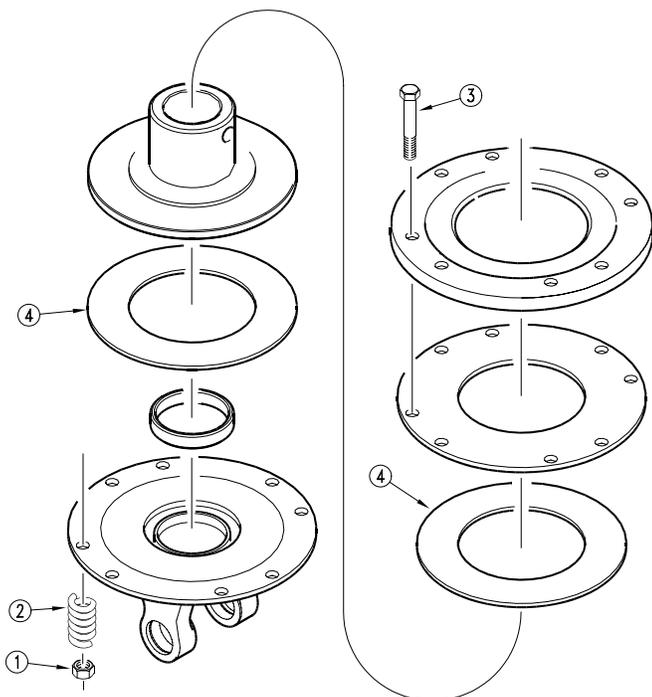
5. Tighten each of the 8 spring retainer nuts on the clutch housing EXACTLY 2 revolutions to restore the original clutch setting pressure.
6. The clutch should be checked during the first hour of cutting and periodically each week. An additional set of scribe marks can be added to check for slippage. See "**Clutch Assembly and Disassembly**", on page 16, to adjust for proper spring length.

Clutch Assembly and Disassembly

If the clutch run-in procedure, (see "**Clutch Run-In**" on page 15), indicated that one or more of the friction discs did not slip, the clutch must be disassembled to separate the friction discs. Refer to the Parts Section of this manual for a detailed parts breakdown.

Refer to Figure 4-2:

To disassemble the clutch, first remove the spring retainer nuts (#8), springs (#1) and bolts (#3) from the assembly. Each friction disc (#4) must then be separated from the metal surface adjacent to it. Inspect all parts for excessive wear and condition. Clean all parts that do not require replacement.

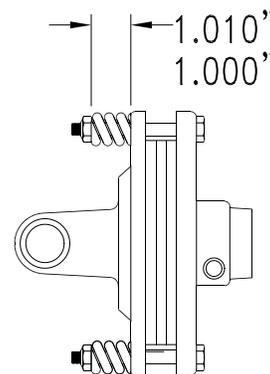


Clutch Disassembly
Figure 4-2

19783

The original friction disc thickness is 1/8" (3.2mm) and should be replaced if the thickness falls below 3/64" (1.1mm). If the clutches have been slipped to the point of "smoking", the friction discs may be damaged and should be replaced. Heat build-up may also affect the yoke joints.

Install new friction discs if needed and reassemble all components in proper order. Progressively tighten each spring retainer bolt until the spring length is 1.010 inches. Figure 4-3.



Clutch Adjustment
Figure 4-3

19784

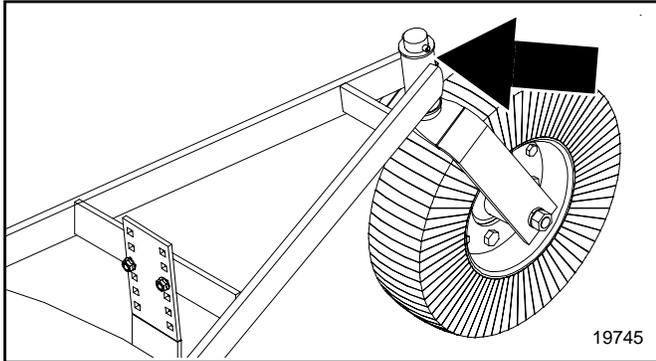
Storage

At the end of the working season or when the cutter will not be used for a long period, it is good practice to clean off any dirt or grease that may have accumulated on the cutter and any of the moving parts.

1. Clean the cutter as necessary.
2. Check the blades for wear and replace if necessary, see "**Service Cutting Blades**", page 15.
3. Inspect the cutter for loose, damaged or worn parts and adjust or replace as needed.
4. Lubricate as noted in "**Lubrication**" starting on page 17
5. Store the cutter inside if possible for longer cutter life.
6. Repaint parts where paint is worn or scratched to prevent rust. Ask your dealer for Aerosol Land Pride Beige touch-up paint part #821-011C.

Lubrication

Lubrication Legend	 Multipurpose spray lube	 Multipurpose grease lube	 Multipurpose oil lube	 Intervals at which lubrication is required

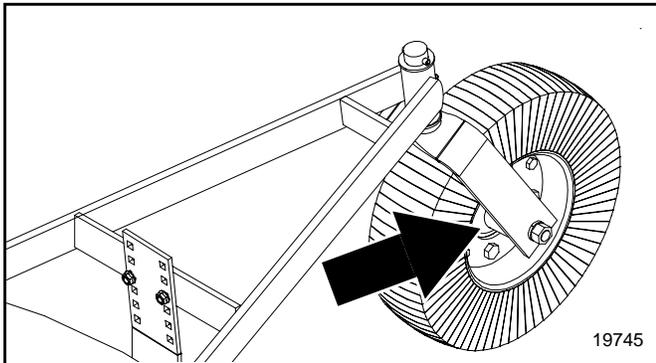


	
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Gauge Wheel Spindle Tube

Type of Lubrication: Grease

Quantity = 6 pumps



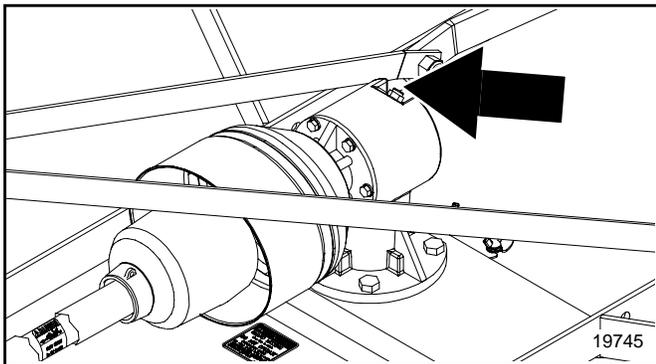
	
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Gauge Wheel Hub

The gauge wheel hub is equipped with a relief hole located directly opposite the grease fitting. The relief hole releases pressure from inside the hub casting when it is greased. The hub should be greased until grease purges from the relief hole.

Type of Lubrication: Multipurpose Grease

Quantity = Until grease purges from the relief hole



	
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Gearbox

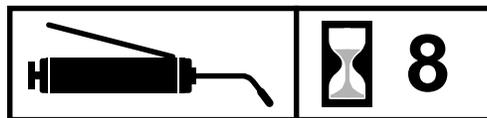
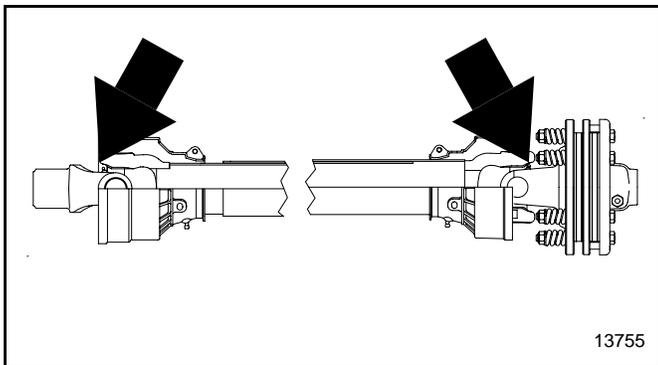
Check oil level in the gearbox by removing the side plug in the gearbox case. If the oil level is low, remove the top plug in the gearbox case and fill with EP90 oil until oil flows from the side port of gearbox case. Reinstall plugs and tighten.

NOTE: Do not overfill! Cutter should be level when checking oil.

Type of Lubrication: EP90 Oil

Quantity = Fill until oil flows from the side port of gearbox case.

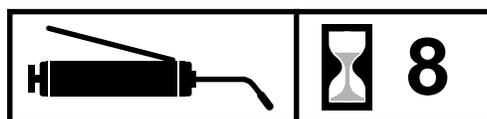
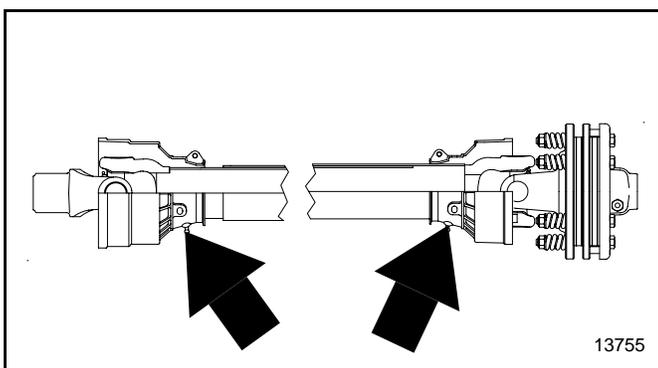
Section 3 Maintenance and Lubrication



Driveline U-Joints

Type of Lubrication: Grease

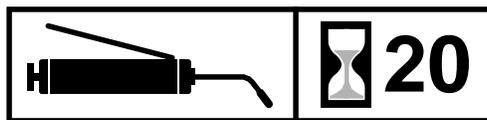
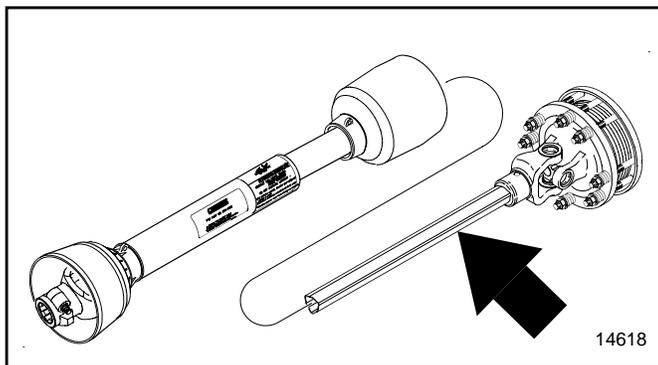
Quantity = 6 pumps



Driveline Shield Bearings

Type of Lubrication: Grease

Quantity = 6 pumps



Driveline Profiles

Quantity = Clean & coat the inner tube of the driveline with a light film of grease and then reassemble.

Section 4 Specifications and Capacities

Model	RCR1660	RCR1672
Cutting Width	60"	72"
Overall Width	62"	74"
Overall Length (Including Tailwheel)	101"	113"
Blade Tip Speed	16,362 fpm/1042 rpm	14,873 fpm/790 rpm
Gearbox	540 rpm PTO Driven Gearbox 1:1.93 Speed-Up Beveled Gears Cast Iron Housing 50 HP	540 rpm PTO Driven Gearbox 1:1.46 Speed-Up Beveled Gears Cast Iron Housing 50 HP
Machine Weight (with Chain Guards)	567#	648#
Recommended Tractor PTO HP	20-50	20-50
Cutting Height	1" - 9"	
Hitch	Category I	
Deck Material Thickness	12 Ga. (.105")	
Deck Height (Bottom of Deck to Bottom of Skid Shoe)	7 1/2"	
Blades	1/2" x 3" Heat Treated Alloy Steel Free-Swinging High Lift - Low Friction	
Blade Holder	Round Pan 10 ga. x 24"	
Drive Shaft	ASAE Category 3 Shear Bolt or Slip Clutch	
Slip Protection	2 Plate Slip Clutch or 1/2" Shear Bolt Protection	
Tailwheel	4.00 x 8 x 15 Laminated Tire or 4.00 x 16 Solid Tire	

Section 5 Features and Benefits

Features	Benefits
Floating top link	Permits deck to follow the terrain for an even cut.
Fully welded deck	Robotic welded. Adds additional strength.
Round back design	Helps discharge grass better than enclosed or partially enclosed cutters.
High blade tip speed	Ensures clean cut.
Rubber or chain guards	Protect against flying debris.
Full length skid shoes	Provides sidewall reinforcement and full protection to bottom of sidewall.
Cat. 3 driveline with shear-bolt	Shear-bolt offers maximum driveline protection.
Cat. 3 driveline with 2-plate slip-clutch	Slip-clutch driveline offers convenience for continual work.
Laminated tailwheel	Laminated material is long lasting in rough conditions.
Solid rubber tailwheel	Can't go flat.
Heavy-duty spindle on tailwheel	Tailwheels take a beating, 1 1/4 " spindle gives the strength to protect tailwheel assembly.
Splined bladebar hub	Allows for tight positive fit of stump jumper and blade bar to gearbox output shaft.
Stump jumper	Standard 10 gauge round stump jumper slides over stumps, rocks and debris.
Surpassed rugged industry standards	All Land Pride Cutters have been designed and tested and meet rigorous voluntary testing procedures specified by ANSI.
2 Year gearbox warranty	Shows our confidence in the gearbox integrity.

Section 6 Troubleshooting

Problem	Cause	Solution
Oil seal leaking	Gearbox overfilled	Drain to side plug hole
	Seals damaged	Replace seals
	Grass or wire wrapped on shaft in seal area	Check seal areas daily
Driveline yoke or cross failing	Shock load	Avoid hitting solid objects
	Needs lubrication	Lubricate every 8 hours
Driveline clutch slipping	Scalping the ground	Raise cutting height
	Cutting too fast	Reduce travel speed
	PTO being engaged too fast at high engine rpm	Slowly engage PTO at low engine rpm
	Cutting over solid objects	Avoid solid objects
Bent Driveline (NOTE: driveline should be repaired or replaced if bent)	Contacting frame	Reduce lift height in transport position
	Contacting drawbar	Reposition drawbar
	Bottoming out	Shorten driveline
Driveline telescoping tube failing	Shock load	Avoid hitting solid objects
Driveline telescoping tube wearing	Needs lubrication	Lubricate every 20 hours
Blades wearing excessively	Cutting on sandy ground	Raise cutting height
	Contacting ground frequently	Raise cutting height
Blades breaking	Hitting solid objects	Avoid hitting solid objects
Blades coming loose	Blades not tightened properly	Tighten blade hardware (refer to "Servicing Cutter Blades" on page 15)
	Improper deck attitude	Lower front of deck, see page 14
Blade carrier becomes loose	Running loose in the past	Replace gearbox output shaft and blade carrier
	Blade carrier hardware not tight enough	Tighten to specified torque
Blade bolt holes worn	Blade hardware running loose	Replace blades and blade bolts if worn
Blade carrier bent	Hitting solid objects	Avoid hitting solid objects and replace blade carrier
Excessive side skid wear	Cutting height not level	Adjust cutter height
	Soil abrasive	Adjust cutter height
	Cutting too low	Adjust cutter height
Tail wheel support failing	Lowering too fast	Adjust rate of drop
	Hitting objects when turning	Reduce speed on turns

Section 6 Troubleshooting

Problem	Cause	Solution
Excessive vibration	Driveline bent	Replace driveline
	Blades loose	Tighten blade bolts
	Blade carrier bent	Replace blade carrier
	Blade broken	Replace blade
	Blade will not swing	Remove and inspect blade
	Blades have unequal weight	Replace both blades

Section 6 Appendix

Torque Values Chart for Common Bolt Sizes

Bolt Size (Inches) in-tpi ¹	Bolt Head Identification					
						
	Grade 2		Grade 5		Grade 8	
	N · m ²	ft-lb ³	N · m	ft-lb	N · m	ft-lb
1/4" - 20	7.4	5.6	11	8	16	12
1/4" - 28	8.5	6	13	10	18	14
5/16" - 18	15	11	24	17	33	25
5/16" - 24	17	13	26	19	37	27
3/8" - 16	27	20	42	31	59	44
3/8" - 24	31	22	47	35	67	49
7/16" - 14	43	32	67	49	95	70
7/16" - 20	49	36	75	55	105	78
1/2" - 13	66	49	105	76	145	105
1/2" - 20	75	55	115	85	165	120
9/16" - 12	95	70	150	110	210	155
9/16" - 18	105	79	165	120	235	170
5/8" - 11	130	97	205	150	285	210
5/8" - 18	150	110	230	170	325	240
3/4" - 10	235	170	360	265	510	375
3/4" - 16	260	190	405	295	570	420
7/8" - 9	225	165	585	430	820	605
7/8" - 14	250	185	640	475	905	670
1" - 8	340	250	875	645	1230	910
1" - 12	370	275	955	705	1350	995
1-1/8" - 7	480	355	1080	795	1750	1290
1 1/8" - 12	540	395	1210	890	1960	1440
1 1/4" - 7	680	500	1520	1120	2460	1820
1 1/4" - 12	750	555	1680	1240	2730	2010
1 3/8" - 6	890	655	1990	1470	3230	2380
1 3/8" - 12	1010	745	2270	1670	3680	2710
1 1/2" - 6	1180	870	2640	1950	4290	3160
1 1/2" - 12	1330	980	2970	2190	4820	3560

Bolt Size (Metric) mm x pitch ⁴	Bolt Head Identification					
						
	Class 5.8		Class 8.8		Class 10.9	
	N · m	ft-lb	N · m	ft-lb	N · m	ft-lb
M 5 X 0.8	4	3	6	5	9	7
M 6 X 1	7	5	11	8	15	11
M 8 X 1.25	17	12	26	19	36	27
M 8 X 1	18	13	28	21	39	29
M10 X 1.5	33	24	52	39	72	53
M10 X 0.75	39	29	61	45	85	62
M12 X 1.75	58	42	91	67	125	93
M12 X 1.5	60	44	95	70	130	97
M12 X 1	90	66	105	77	145	105
M14 X 2	92	68	145	105	200	150
M14 X 1.5	99	73	155	115	215	160
M16 X 2	145	105	225	165	315	230
M16 X 1.5	155	115	240	180	335	245
M18 X 2.5	195	145	310	230	405	300
M18 X 1.5	220	165	350	260	485	355
M20 X 2.5	280	205	440	325	610	450
M20 X 1.5	310	230	650	480	900	665
M24 X 3	480	355	760	560	1050	780
M24 X 2	525	390	830	610	1150	845
M30 X 3.5	960	705	1510	1120	2100	1550
M30 X 2	1060	785	1680	1240	2320	1710
M36 X 3.5	1730	1270	2650	1950	3660	2700
M36 X 2	1880	1380	2960	2190	4100	3220

¹ in-tpi = nominal thread dia .in inches-threads per inch

² N · m = newton-meters

³ ft-lb= foot pounds

⁴ mm x pitch = nominal thread dia. in millimeters x thread pitch

Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.

Warranty

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

Overall Unit: One year Parts and Labor

Gearbox: 2 years on housing, gears and shafts

Blades, tires and driveline friction discs considered wear items

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

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

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

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

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

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



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