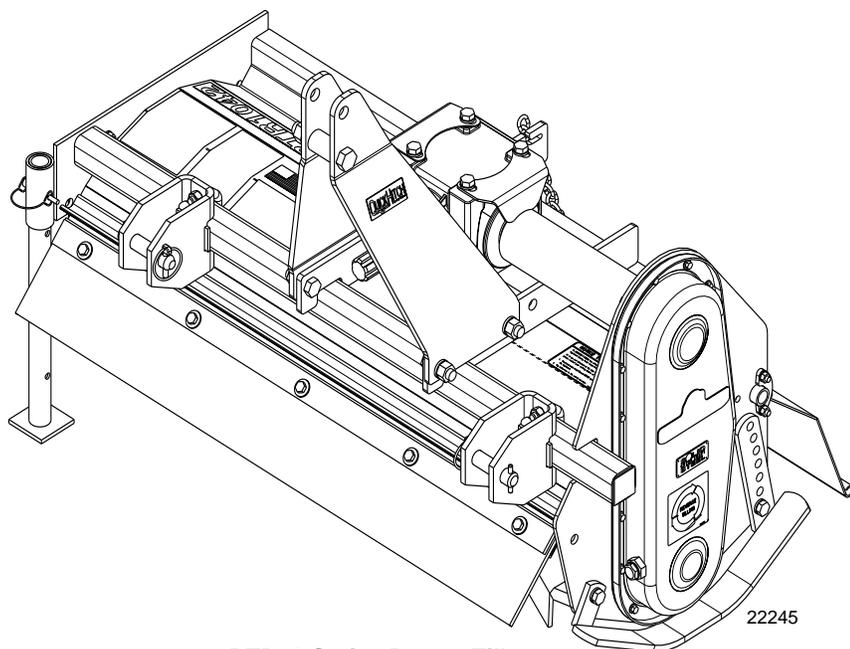


# Rotary Tillers

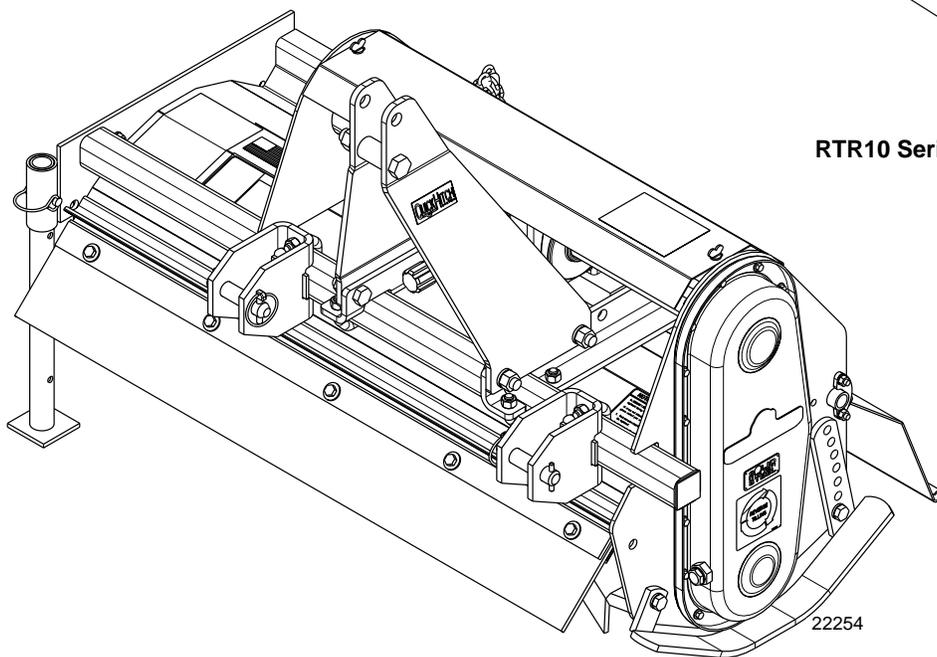
## RTR10 & RTR15 Series

RTR1042, RTR1050 & RTR1058

RTR1542, RTR1550 & RTR1558



RTR10 Series Rotary Tillers



RTR15 Series Rotary Tillers

## 311-431M Operator's Manual



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

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5/05/06

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



<b>Important Safety Information</b> . . . . .	<b>1</b>	<b>Section 4: Maintenance and Lubrication</b>	<b>19</b>
Safety at All Times . . . . .	1	Maintenance . . . . .	19
Look For The Safety Alert Symbol . . . . .	1	Tine Replacement . . . . .	19
Safety Labels . . . . .	4	Driveline Protection . . . . .	19
<b>Introduction</b> . . . . .	<b>8</b>	Clutch Run-In . . . . .	19
Application . . . . .	8	Clutches With 8-Hex Head Socket Bolts . . . . .	19
Using This Manual . . . . .	8	Clutches With 4-Tightening Nuts . . . . .	19
Terminology . . . . .	8	Clutch Disassembly & Reassembly . . . . .	20
Definitions . . . . .	8	Clutches With 8-Hex Head Socket Bolts . . . . .	20
Owner Assistance . . . . .	8	Clutches With 4-Tightening Nuts . . . . .	21
Serial Number Plate . . . . .	8	Storage . . . . .	22
Further Assistance . . . . .	8	Lubrication . . . . .	23
<b>Section 1: Assembly and Set-Up</b> . . . . .	<b>9</b>	Driveline U-Joint . . . . .	23
Tractor Requirements . . . . .	9	Driveline Shaft . . . . .	23
Hitch Assembly . . . . .	10	Chaincase . . . . .	23
Leg Stand Assembly . . . . .	10	Bearing On Right End Of Rotor Shaft . . . . .	24
Front Deflector Assembly . . . . .	10	Gearbox . . . . .	25
Rear Deflector Assembly . . . . .	11	<b>Section 5: Specifications &amp; Capacities</b> . . . . .	<b>25</b>
Tractor Hook-Up . . . . .	11	RTR10 Series Rotary Tiller . . . . .	25
Driveline Installation . . . . .	12	RTR15 Series Rotary Tiller . . . . .	25
Checking Driveline Minimum Length . . . . .	12	<b>Section 6: Features &amp; Benefits</b> . . . . .	<b>26</b>
Checking Driveline Maximum Length . . . . .	13	RTR10 Series Rotary Tiller . . . . .	26
<b>Section 2: Operating</b> . . . . .	<b>14</b>	RTR15 Series Rotary Tiller . . . . .	27
General Notes for Field Operations . . . . .	14	<b>Section 7: Troubleshooting</b> . . . . .	<b>29</b>
Operating Check List . . . . .	14	<b>Section 8: Appendix</b> . . . . .	<b>29</b>
Transporting . . . . .	14	Torque Values Chart . . . . .	29
Parking . . . . .	15	Notes . . . . .	30
Operating Instructions . . . . .	15	Warranty . . . . .	31
<b>Section 3: Adjustments</b> . . . . .	<b>16</b>		
RTR10 Tiller Hitch Offset . . . . .	16		
RTR15 Tiller Hitch Sideshift . . . . .	16		
Drive Chain . . . . .	17		
Rear Deflector . . . . .	17		
Skid Shoe Adjustment . . . . .	18		

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Printed in the United States of America.

**Important Safety Information**

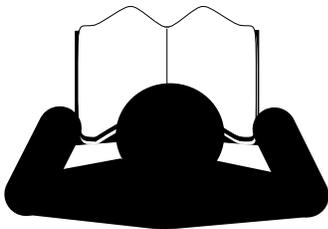
**These are common practices that may or may not be applicable to the products described in this manual.**

**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.

Do not allow anyone to operate this equipment who has not fully read and comprehended this manual and who has not been properly trained in the safe operation of the equipment.

- ▲ 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.



**Look For The Safety Alert Symbol**

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

**Be Aware of Signal Words**

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

**⚠ DANGER**

Indicates 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**

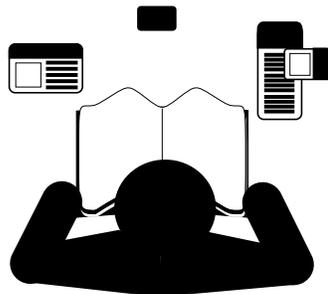
Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

**⚠ 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.

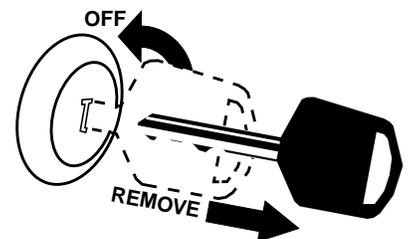
**For Your Protection**

- ▲ 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.

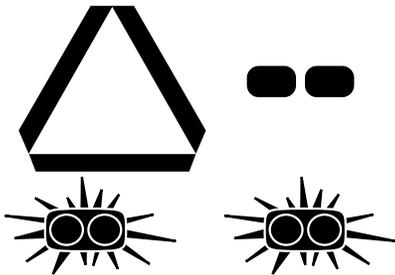


**Important Safety Information**

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

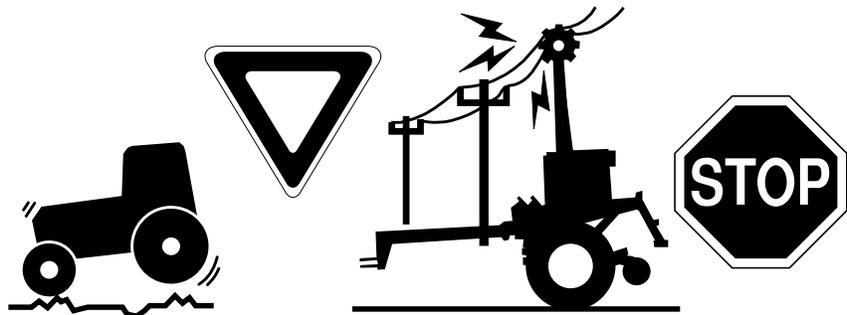
**Use Safety Lights and Devices**

- ▲ 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.



**Transport Machinery Safely**

- ▲ Comply with state and local laws.
- ▲ Maximum transport speed for implement is 20 mph. **DO NOT EXCEED.** Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrain require a slower speed.
- ▲ Sudden braking can cause a towed load to swerve and upset.



Reduce speed if towed load is not equipped with brakes.

- ▲ Use the following maximum speed - tow load weight ratios as a guideline:
- ▲ **20 mph** when weight is less than or equal to the weight of tractor.
- ▲ **10 mph** when weight is double the weight of tractor.
- ▲ **IMPORTANT:** Do not tow a load that is more than double the weight of tractor.

**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.



**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.

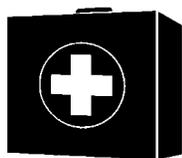


**Important Safety Information**

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

**Prepare for Emergencies**

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

**Wear Protective Equipment**

- ▲ 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.

**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.

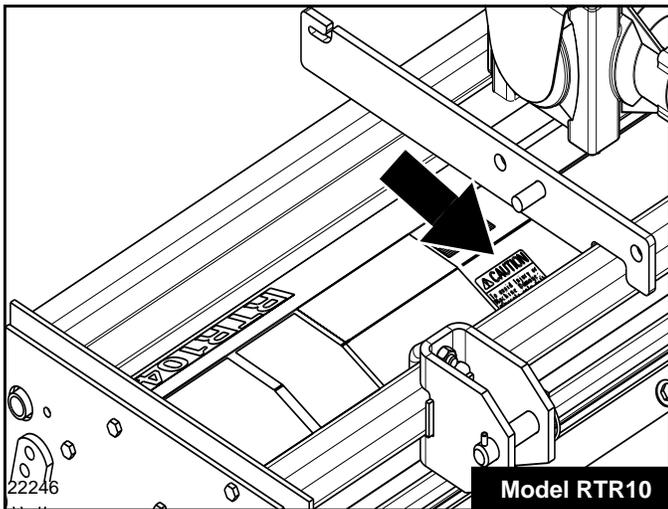


## Important Safety Information

### Safety Labels

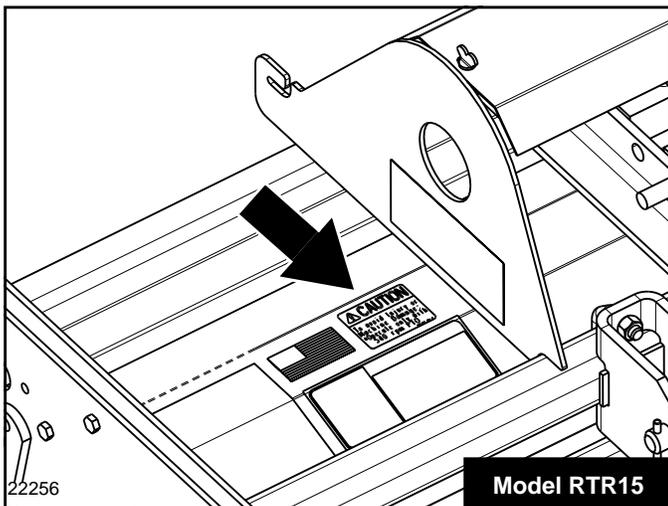
1. Your tiller comes equipped with all safety labels in place. They were designed to help you safely operate your mower. Read and follow their directions.
2. Keep all safety labels clean and legible.
3. Replace all damaged or missing labels. To order new labels go to your Land Pride dealer.
4. Some new equipment installed during repair requires safety labels to be affixed to the replaced component as specified by Land Pride. When ordering new components make sure

- the correct safety labels are included in the request. 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. Spray soapy water on the surface where the label is to be placed.
    - c. Peel backing from label. Press firmly onto the surface.
    - d. Squeeze out air bubbles with the edge of a credit card.

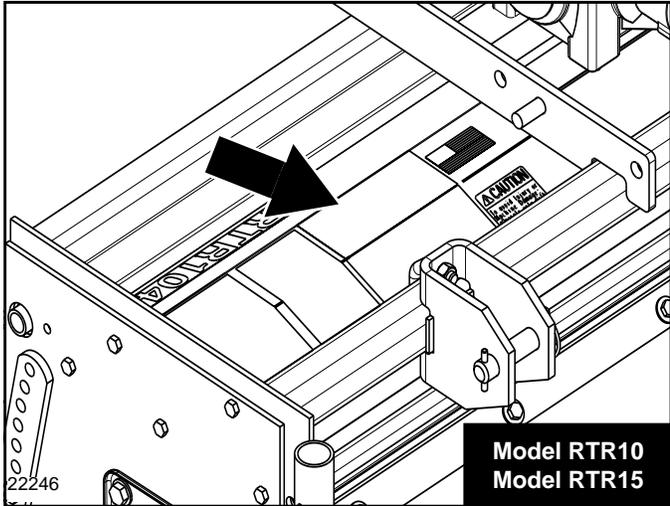


### 818-130C

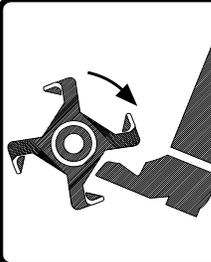
Operate only w/540 rpm PTO



**Important Safety Information**



RTR10 Series shown.



**! DANGER**

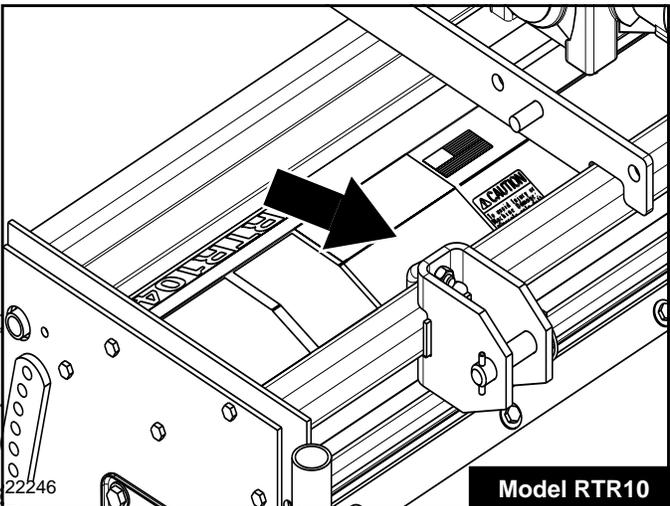
**ROTATING TINES HAZARD**

To prevent serious injury or death from rotating tines:

- DO NOT go under frame when tines are turning or engine is running. Keep others away.
- Disconnect & lockout power source BEFORE adjusting or servicing.
- Keep hands, feet, hair, and clothing away from moving parts.

818-171C Rev. C

**818-171C**  
Rotating Tines Hazard!





**! DANGER**

**THROWN OBJECT HAZARD**

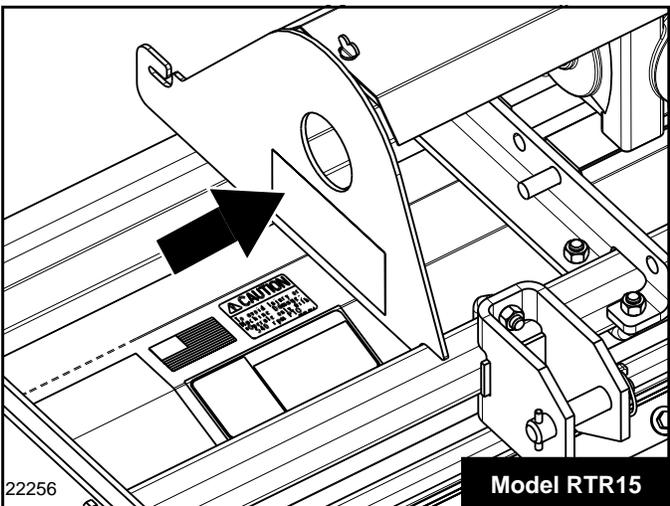
KEEP FRONT DEFLECTOR IN PLACE

To Prevent Serious Injury or Death:

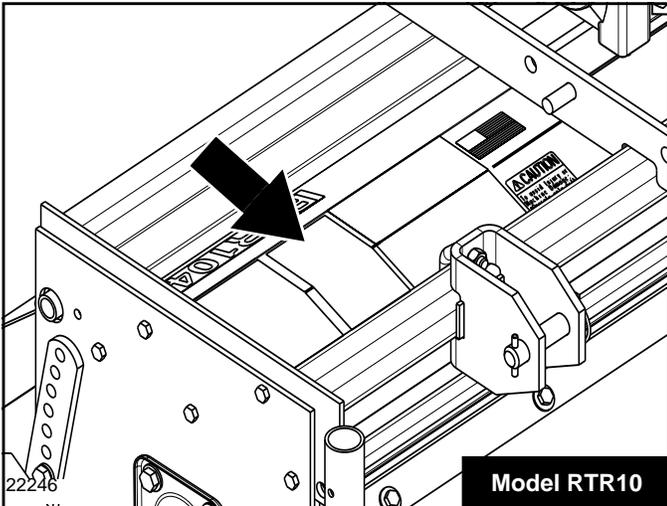
- Keep front deflector in place while operating.
- Do Not point outlet toward people, animals, or buildings.
- Stay away from outlet during operation.
- Keep others away.

818-284C Rev. A

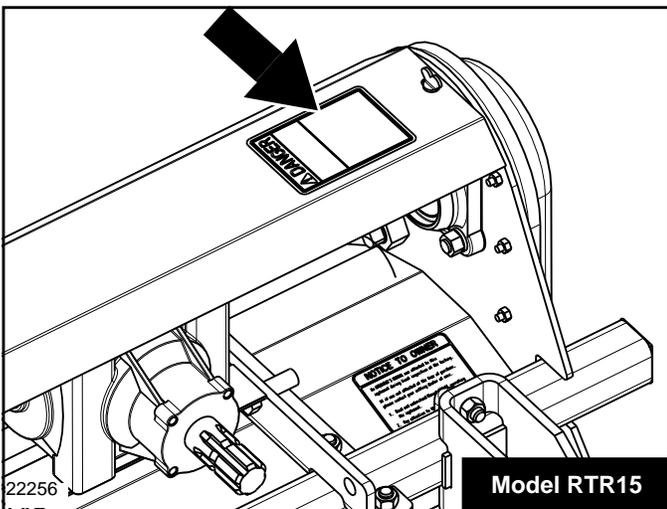
**818-284C**  
Thrown Object hazard



**Important Safety Information**



**Model RTR10**



**Model RTR15**

**! DANGER**

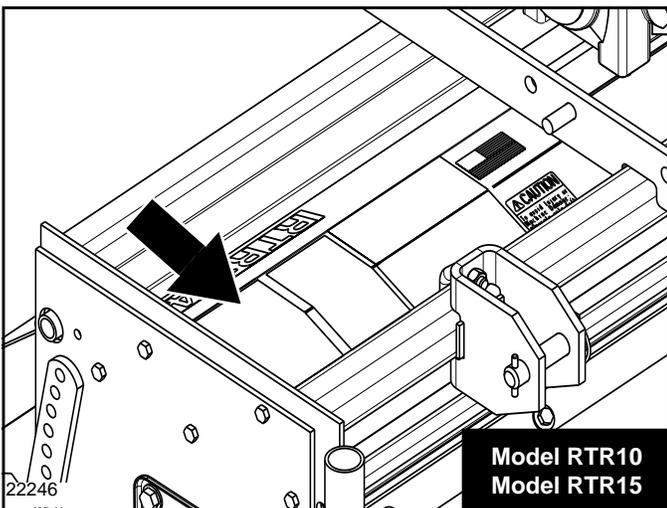
**ROTATING DRIVELINE  
CONTACT CAN CAUSE DEATH  
KEEP AWAY!**  
**DO NOT OPERATE WITHOUT –**

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

818-552C

**818-552C**

Rotating Driveline Hazard - Keep Away!



**Model RTR10  
Model RTR15**

RTR10 Series shown.

**! WARNING**

To prevent serious injury or death:

Si no lee inglés, pida ayuda a alguien que sí lo lee para que le traduzca las medidas de seguridad.

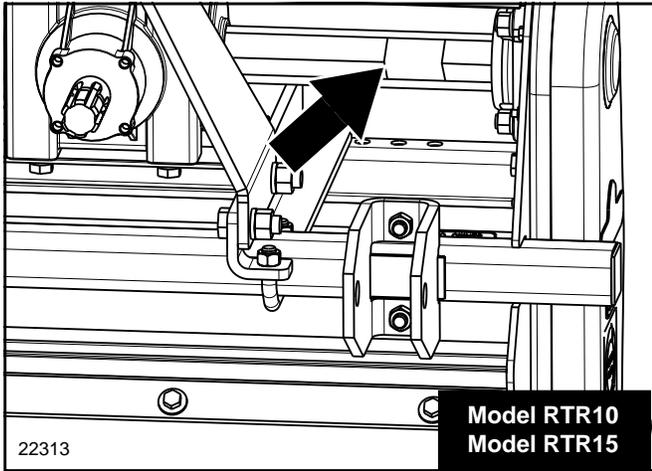
- Read and understand Operator's Manual before using. Review annually.
- Do not permit riders on the tractor or implement. Never carry children on tractor seat.
- Do not allow children to operate implement.
- Operate only with guards installed and in good condition.
- Keep away from moving parts.
- Operate only with tractor equipped with ROPS and seatbelts.
- Before operating, clear debris from working area.
- Do not operate in the raised position.
- Stop engine, set brake and wait for all moving parts to stop before dismounting.
- Support implement securely before working beneath unit.
- Transport with clean reflectors, SMV and working lights as required by federal, state, and local laws.
- Stand clear when implement is in operation.

818-858C REV.A

**818-858C**

General Safety Instructions

**Important Safety Information**

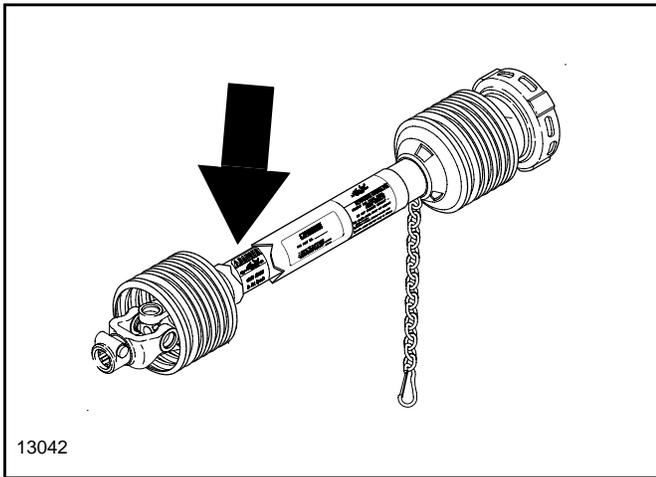


RTR15 Series shown.



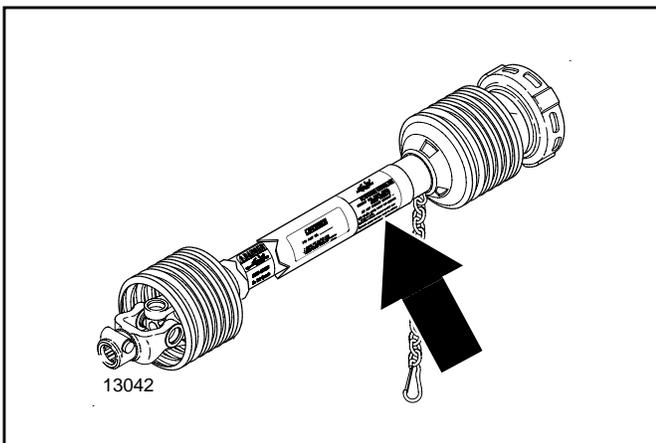
**818-543C**

Rotating Driveline Hazard - Keep Away!



**818-540C**

Shield missing - Do Not operate.



**818-552C**

Rotating Driveline Hazard Keep Away!

## Introduction

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

This rotary tiller 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 machine.

## Application

The RTR10 and RTR15 Series Reverse-Till Rotary Tillers are designed and built by Land Pride to till soil for seedbed and planting preparation. Both models are adapted for 540rpm PTO, three-point hitch Category 1 mounting and are Quick-Hitch adaptable. The RTR10 has a 17-25 horsepower tractor requirement and the RTR15 has a 17-35 horsepower requirement.

Reverse rotation tillers tend to achieve greater depth penetration resulting in moving and pulverizing more soil. Also, they bury more of the residue in the soil. These Land Pride Tillers have uses and applications in landscaping, nurseries, gardens, and light commercial use. See “**Features and Benefits**”, “**Section 6**” 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 or Parts Manual contact your authorized dealer. Manuals can also be downloaded, free-of-charge from our website at [www.landpride.com](http://www.landpride.com) or printed by your dealer from the Land Pride Service & Support Center CD-Rom.

## 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

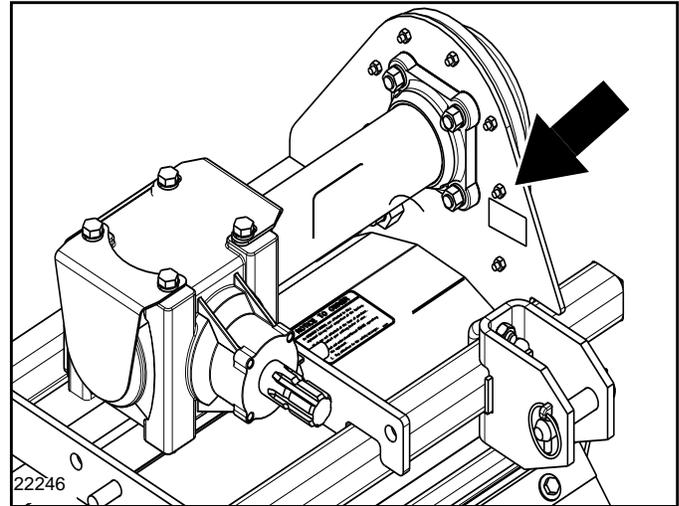
The Warranty Registration card should be filled out by the dealer at the time of purchase. This information is necessary to provide you with quality customer service.

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 Rotary Tiller have been specially designed and should only be replaced with genuine Land Pride parts. Therefore, should your Rotary Tiller 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 Rotary Tiller. 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

E-mail address

[lp servicedept@landpride.com](mailto:lp servicedept@landpride.com)

**Section 1: Assembly and Set-Up**

**CAUTION**

To avoid bodily injury caused by accidental falling of tiller, securely support tiller on safe supporting stands or blocks!

This unit is shipped almost completely assembled. Carefully follow instructions for final assembly.

Before attempting assembly check the following items. Having all the needed parts and equipment readily at hand will speed up your assembly task and will make the job as safe as possible.

- Check for fasteners and pins that were shipped with the tiller. All hardware coming from the factory has been installed in the location where it will be used. If a part or fastener is temporarily removed for assembly reasons, remember where it goes. Keep the parts separated.
- Have a fork lift or loader along with chains and safety stands that are sized for the job ready for the assembly task.

- Have a minimum of 2 people on hand during assembly.
- Check to see that all nuts are tightened. Refer to the *Torque Values Chart* in the “**Appendix**” section on page 29.

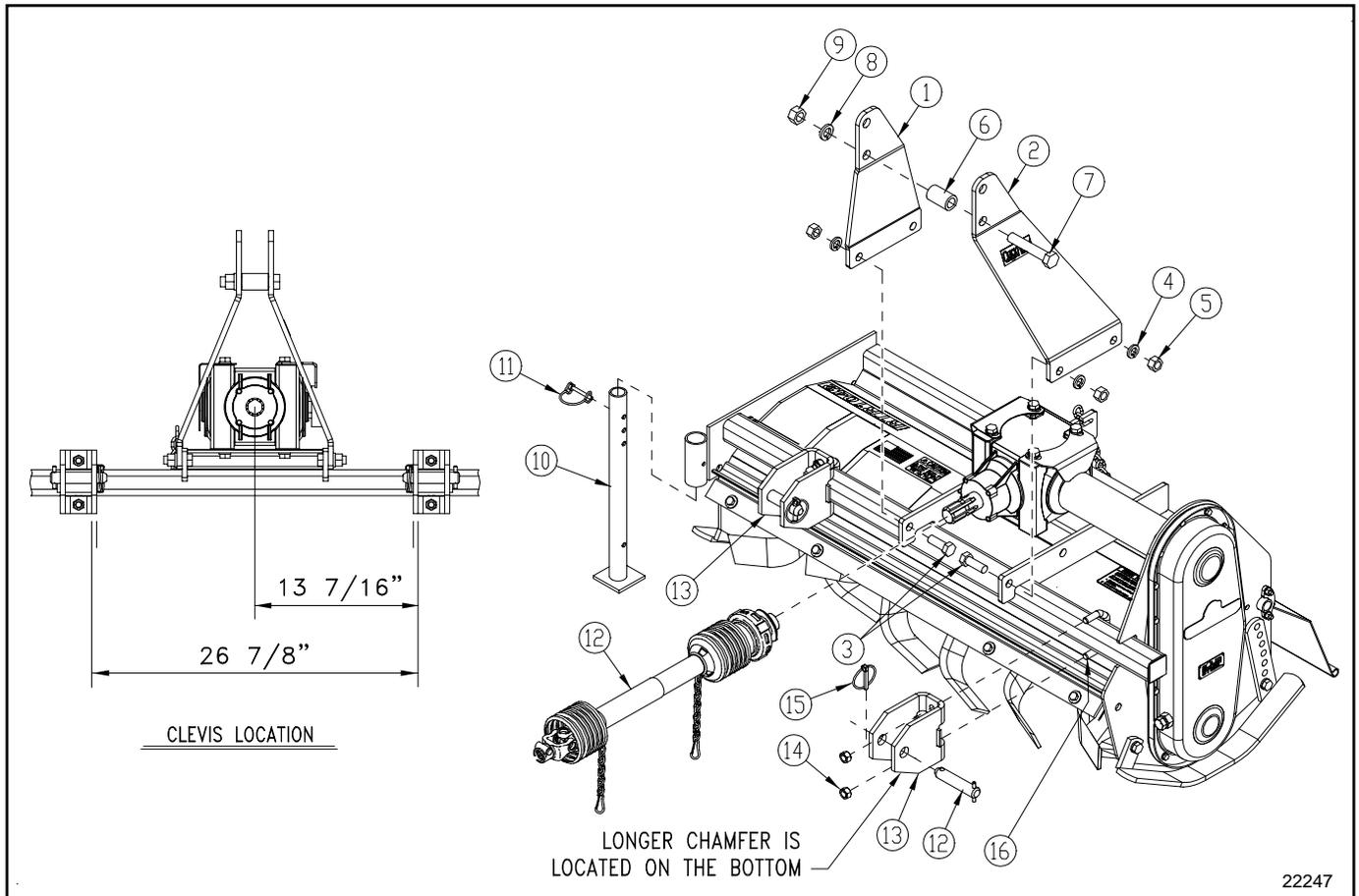
**Tractor Requirements**

This tiller is designed with a 3-point category I hitch. Horse power rating of the tractor should not exceed 25 PTO horsepower for the 10 Series Rotary Tiller and 35 PTO horsepower for the 15 Series.

**CAUTION**

Do not over speed PTO or machine damage may result. This tiller is designed to be used with a tractor using a 540 rpm rear PTO.

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



**Figure 1-1**

## Section 1: Assembly and Set-Up

### Hitch Assembly

Refer to Figure 1-1 on page 9:

1. Install both top 3-point hitch plates (#1 and #2) outside of gearbox mounting frame with 5/8" x 1 3/4" long bolts (#3), 5/8" lockwashers (#4), and 5/8" nuts (#5). Do not tighten hardware at this time.
2. Install spacer (#6) between upper 3-point hitch plates (#1 & #2) with 3/4" x 4" long bolt (#7), 3/4" lockwasher (#8) and 3/4" nut (#9).
3. Securely tighten all bolts. Refer to the *Torque Values Chart* in the "Appendix" section on page 29.
4. Mount left hand clevis (#13) over the square tube as shown. Make certain the longer chamfer is positioned on the bottom.
5. Locate u-bolt (#16) behind the square tube and insert through clevis (#13) holes as shown.
6. Secure with 1/2" hex locknuts (#14). **Do Not Tighten.**
7. Repeat steps 4 through 6 for the right hand clevis.
8. Position clevises 26 7/8" apart from inside of clevis plate to inside of clevis plate and center off the gearbox input shaft as shown.
9. Tighten 1/2" locknuts (#14) to the correct torque. Refer to the *Torque Values Chart* in the "Appendix" section on page 29.

### Leg Stand Assembly

Refer to Figure 1-1 on page 9:

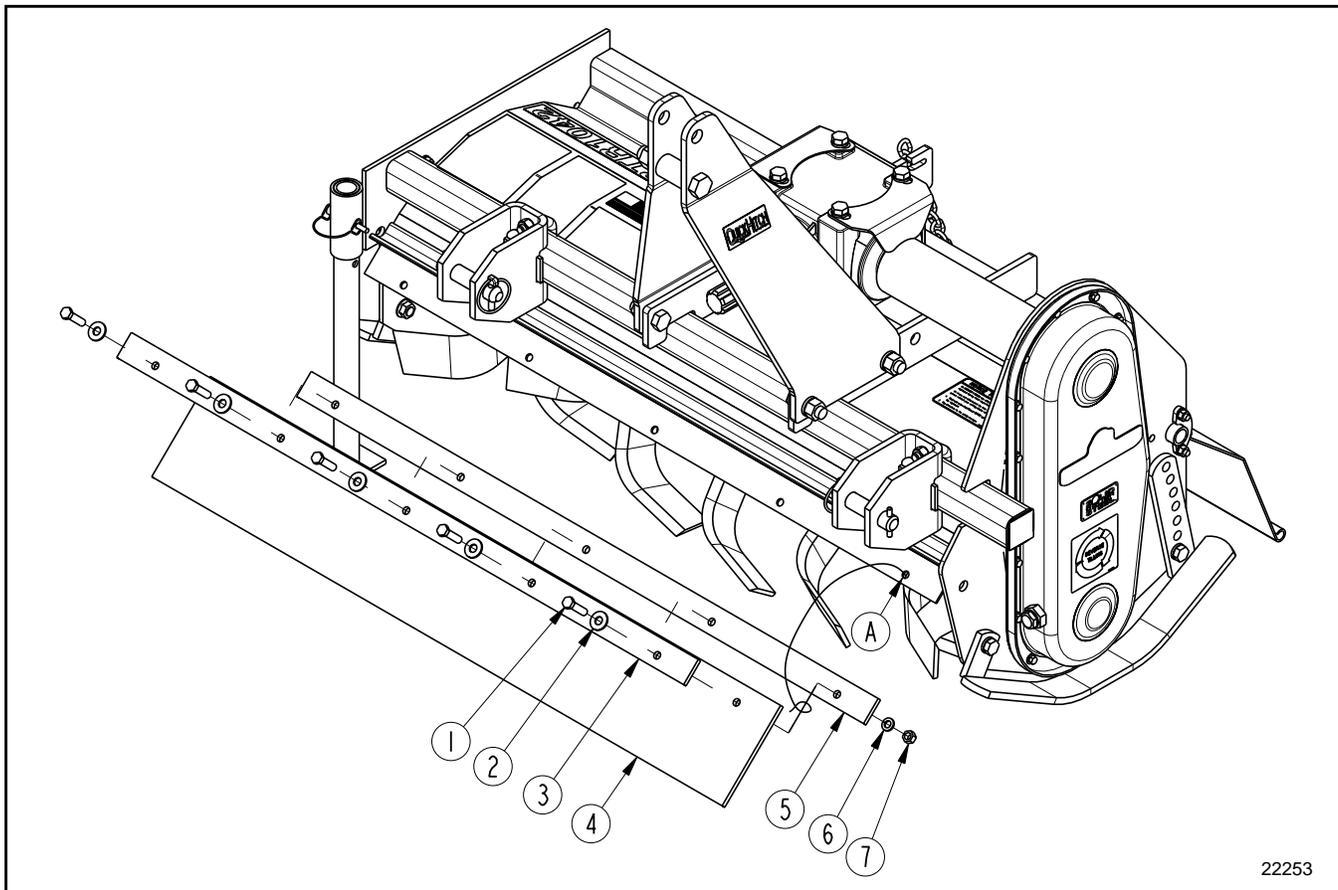
1. Insert leg stand (#10) into leg stand holder on the end of the tiller frame.
2. Adjust to the desired height and pin with 1/4" x 1 3/4" long wire lock pin (#11).

**IMPORTANT:** The three upper holes in the leg stand are used for parking the tiller. Before tilling, remove leg stand from holder, turn leg stand upside down and replace it through the top of the holder. Secure leg stand in holder using one of the upper three holes.

### Front Deflector Assembly

Refer to Figure 1-2

1. Remove 3/8" x 1 1/2" bolts (#1), washers (#2), lockwashers (#6), hex nuts (#7) and two front deflector mounting bars (#3 & #5) from the tiller frame.
2. Insert 3/8" x 1 1/2" hex head bolts (#1) through 3/8" flat washers (#2), upper front deflector mount bar (#3), front rubber deflector (#4) and mounting holes "A".
3. Secure to tiller with lower front deflector mount bar (#5), 3/8" lock washers (#6) and 3/8" hex nuts (#7).
4. Securely tighten all bolts. Refer to the *Torque Values Chart* in the "Appendix" section on page 29.



22253

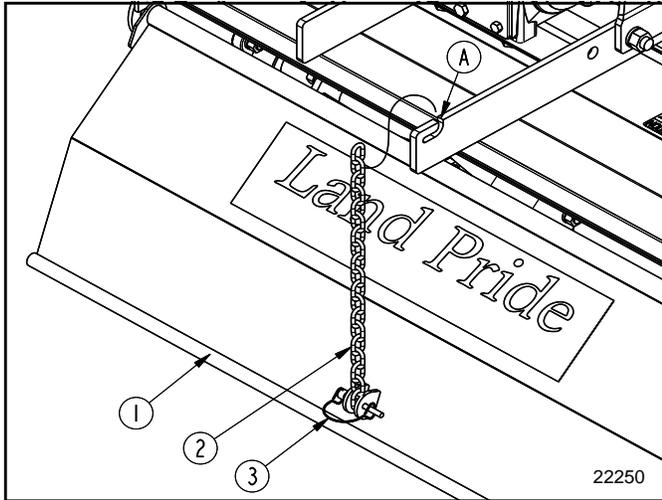
Figure 1-2

## Section 1: Assembly and Set-Up

### Rear Deflector Assembly

Refer to Figure 1-3:

Attach Chain (#2) to rear deflector (#1) with wire retaining pin (#3). Place 2nd chain loop on opposite end of chain into slot "A".



Rear Deflector  
Figure 1-3

### Tractor Hook-Up

Refer to Figure 1-4:

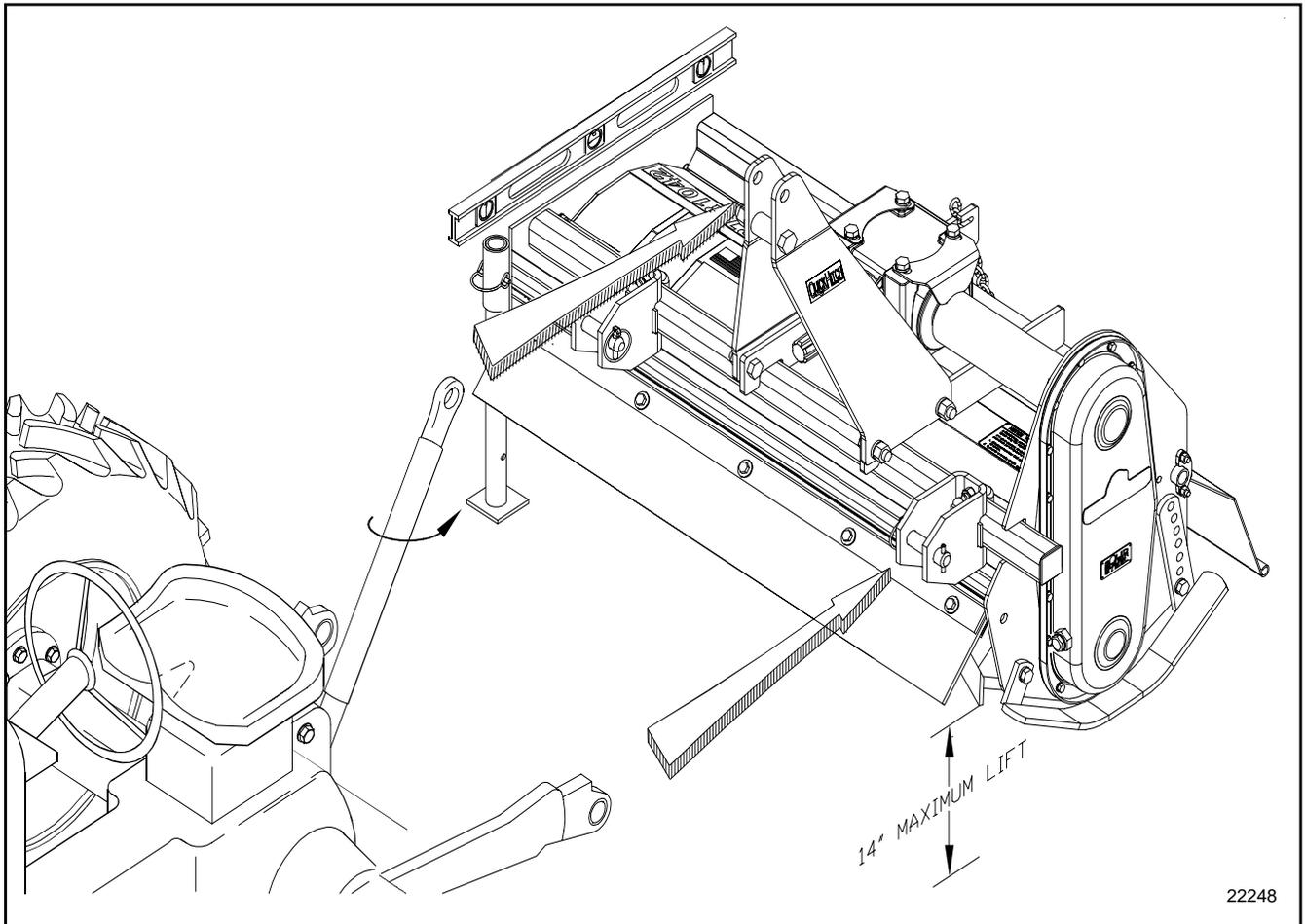
1. Some tractors are equipped with multi-speed PTO ranges. Be certain your tractor PTO is set for 540 rpm.
2. Back tractor up to tiller until lower 3-Point links are aligned with the hitch clevises on the tiller.
3. Secure tractor's 3-Point lower links to the lower hitch clevises using 7/8" diameter hitch pins.
4. Secure the tractor's top link to the tiller top hitch using a 3/4" diameter hitch pin (supplied by customer). Adjust tractor top link in order to level the tiller.
5. Prevent damage to the driveline u-joints by adjusting the tractor's 3-Point lift height so that the tiller tines are not lifted more than 14 inches off the ground.



### WARNING

Damaged drivelines could cause serious injury or death.

**IMPORTANT:** PTO operation and/or engagement with unit higher than 14" will damage driveline components. See Figure 1-4.



Tractor Hook-Up  
Figure 1-4

**Section 1: Assembly and Set-Up**

**Driveline Installation**

Refer to Figure 1-5, Figure 1-6 and Figure 1-7

The tiller driveline is coupled to the tractor and implement shafts with either push pin couplers, pull collar couplers or a combination of both and with either a shear bolt or slip clutch on one end for protection from shock loads.

Always engage the PTO at low engine rpm to minimize start-up torque on the driveline. **Drivelines with friction clutches must go through a “run-in” operation prior to initial use and after long periods of inactivity.** See “Section 4: Maintenance and Lubrication” on page 19 for a detailed description of maintaining the driveline.

**CAUTION**

Tractor PTO shield and all tiller guards must be in place at all times during operation!

**IMPORTANT:** Always check driveline maximum and minimum length during initial setup, when connecting to a different tractor and when alternating between using a quick hitch and a standard 3-point hitch. More than one driveline may be required to fit all applications.

**IMPORTANT:** It is necessary to aligning the tractor’s PTO shaft level with tiller’s PTO shaft when checking to see if the driveline’s minimum length is correct. Too long a driveline can damage the tractor, gearbox and driveline.

**Checking Driveline Minimum Length**

Refer to Figure 1-1 on page 9

1. Start tractor and slowly engage tractor’s hydraulic 3-point to lift the lower arms until the Rotary Tiller’s driveline shaft is approximately level with tractor’s PTO shaft.
2. Slide the slip clutch or shear bolt yoke end of driveline (#12) over the splined input shaft of gearbox. Secure with driveline yoke locking device.
3. Slide the opposite driveline yoke end over the tractor’s splined driveline shaft. Secure with driveline yoke locking device. Skip to step 4 if driveline fits between tractor and implement.

Refer to Figure 1-8 on page 13:

4. The driveline will require shortening if it is too long to fit between the tractor and tiller gearbox. Shorten driveline as follows:
  - a. Raise 3-point lower arms until tiller and tractor PTO shafts are approximately level with each other. Securely block Rotary Tiller frame in this position. Set tractor in park, shut tractor engine off, set park brake and remove switch key.

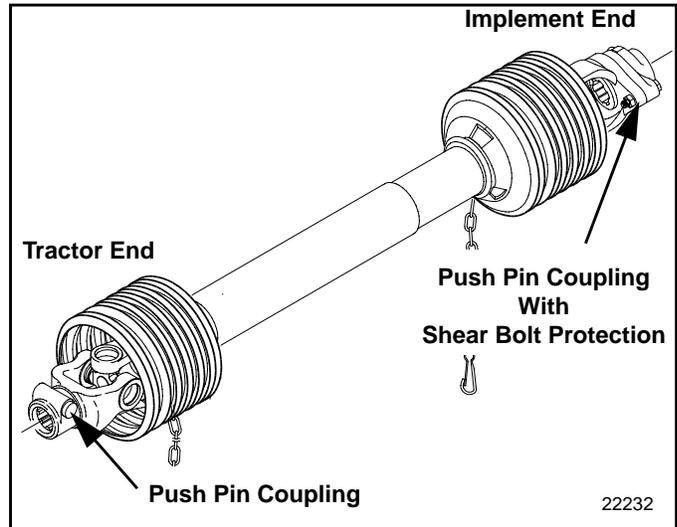


Figure 1-5

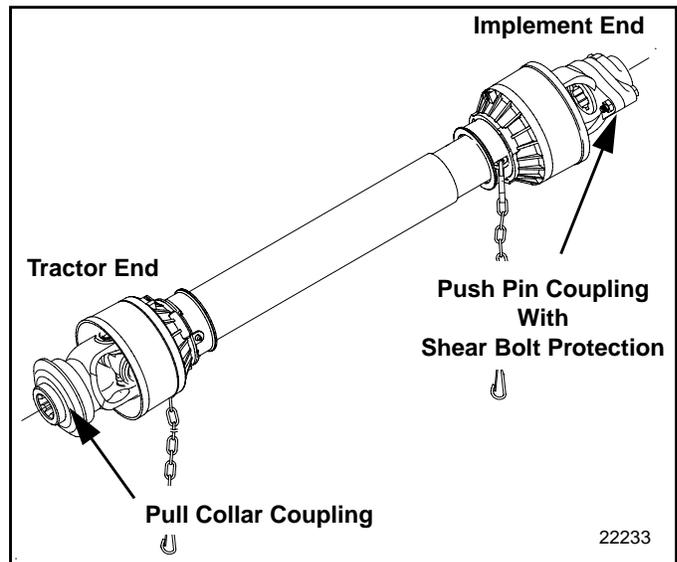


Figure 1-6

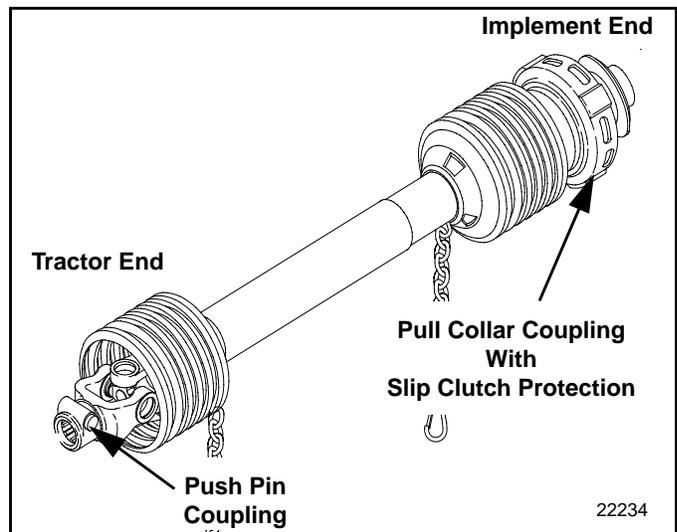
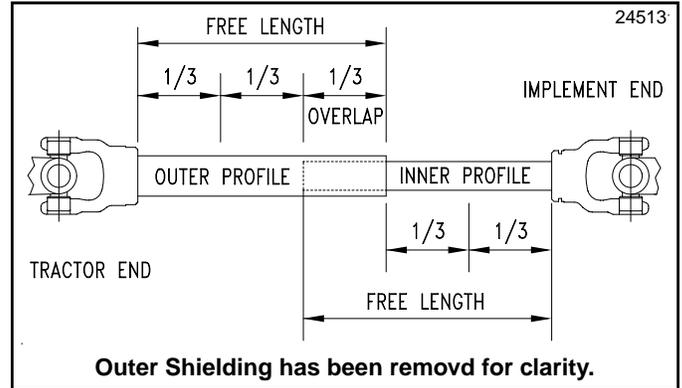


Figure 1-7

**Section 1: Assembly and Set-Up**

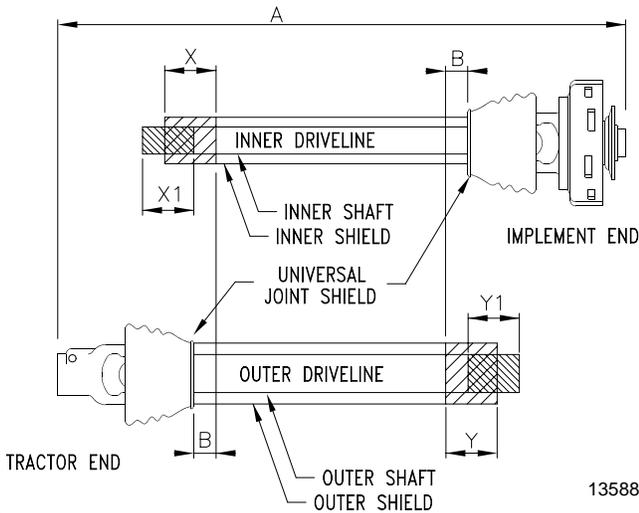
- b. Pull driveline apart into two sections as shown in Figure 1-8. Attach the outer driveline universal joint to the tractor shaft and inner driveline universal joint to the tiller gearbox shaft. Pull on each driveline section to be sure the universal joints are secured to the shafts.
- c. Hold driveline sections parallel to each other to determine if they are too long. The inner and outer shields on each section should end approximately 1" short of reaching the universal joint shield on the adjacent section (see "B" dimension). If they are too long, measure 1" ("B" dimension) back from the universal joint shield and make a mark at this location on the inner and outer driveline shields.
- d. Cut off inner shield at the mark ("X" dimension). Cut the same amount off the inner shaft ("X1" dimension). Repeat cut off procedure ("Y" & "Y1" dimensions) to the outer driveline half.
- e. Remove all burrs and cuttings.

3. Attach inner driveline yoke end to the tiller gearbox input shaft.
4. Attach outer driveline yoke end to the tractor's PTO shaft.
5. The driveline should now be moved back and forth to insure that both ends are secured to the tractor and Rotary Tiller PTO shafts. Reattach any end that is loose.



**Driveline Maximum Length**  
Figure 1-9

**IMPORTANT:** A small chain is supplied with the driveline. This chain must be attached to the inner driveline shield and to the tiller to restrict shield rotation.



**Shortening the driveline**  
Figure 1-8

**Checking Driveline Maximum Length**

Make sure you have gone through the steps in "Checking Driveline Minimum Length" on page 12 before checking maximum length.

**Refer to Figure 1-9**

The driveline maximum length must, when fully extended, have a minimum overlap of the profile tubes by not less than 1/3 the free length with both inner and outer profile tubes being of equal length.

1. Apply multi-purpose grease to the inside of the outer shaft and reassemble the driveline.
2. Assemble the two driveline profiles together with just 1/3 overlapping of the profile tubes as shown in Figure 1-9. Measure and record this overall length for checking driveline length in step 9 below.

6. Hook driveline safety chain in the hole in the inner driveline guard. Attach the other end to the tiller's main frame.
7. Start tractor and raise tiller just enough to remove blocks used to support the tiller frame in step 3a on page 12.
8. Slowly engage the tractor's hydraulic 3-point to lower the Rotary Tiller. Check for sufficient drawbar clearance. Move drawbar ahead, aside or remove if required.
9. Raise and lower implement to find maximum extended driveline length. Check to make certain that the driveline overall length does not extend beyond the maximum recorded length in step 2.

**Section 2: Operating**

**General Notes for Field Operations**

Before beginning to till, the following inspection should be performed:

1. Check oil level in gearbox and chaincase. Refer to the *Lubrication* portion of the “**Maintenance and Lubrication**” section on page 23.
10. Check that all plugs have been replaced properly in the gearbox and chaincase.
11. Check drive chain tension. Refer to the *Drive Chain* portion of the “**Adjustments**” section on page 17.
12. Be sure all tiller tines, bolts and nuts are tight.
13. Be certain all guards, shields and dirt deflectors are in place and secure.
14. Grease PTO shaft and all other grease fittings. Refer to the *Lubrication* portion of the “**Maintenance and Lubrication**” section on page 23.
15. Clear the area to be tilled of rocks, branches and other foreign objects.
16. Tall grass and weeds should be mowed before tilling.
17. Operate with 540 rpm PTO tractor.
18. At first begin tilling at a slow forward speed and shift up as ground conditions warrant.
19. Tiller should be operated with the tiller deck level to the ground.
20. Tiller tines will cut better at a faster rotor speed than at reduced throttle.
21. Do not engage PTO at full throttle.
22. Tilling should not be done in wet conditions as soil will stick to tines.
23. After tilling the first 50 feet, stop and check to see that the tiller is adjusted properly.
24. Do not make sharp turns or attempt to back up while tiller is in the ground.
25. Do not engage PTO with machine in the fully raised or lowered position.
26. Periodically check for foreign objects wrapped around the rotor shaft and remove them after disengaging PTO, turning off tractor, and removing ignition key.

**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 its operation, transport, maintenance and storage of equipment. Before beginning operation the following inspections should be performed.

<input type="checkbox"/>	Read and follow the “ <b>Important Safety Information</b> ” section on starting on page 1 carefully.
<input type="checkbox"/>	Read all of <i>Tractor Hookup</i> in the “ <b>Assembly and Setup</b> ” section on page 11.
<input type="checkbox"/>	Read all of the “ <b>Operating Instructions</b> ” section on page 14.
<input type="checkbox"/>	Lubricate the tiller as needed. Refer to the <i>Lubrication</i> portion of the “ <b>Maintenance and Lubrication</b> ” section on page 19.
<input type="checkbox"/>	Check the tiller initially and periodically for loose bolts & pins, using the <i>Torque Values Chart</i> in the “ <b>Appendix</b> ” section on page 29.
<input type="checkbox"/>	Make sure all guards, shields and dirt deflectors are in place.
<input type="checkbox"/>	Check initially and periodically for loose bolts, pins, and chains.

**Transporting**



**CAUTION**

*When traveling on public roads whether at night or during the day, use accessory light and devices for adequate warning to operators of other vehicles. Comply with all federal, state and local laws.*

**IMPORTANT:** Always disengage the PTO before raising the tiller to transport position.

1. When raising the tiller to the transport position, be sure that the driveline does not contact tractor or tiller. Adjust the tractor’s 3-point hitch lift height so that the tiller tines are not lifted more than 14 inches off the ground to prevent damage to the driveline.
2. Be sure to reduce tractor ground speed when turning, and leave enough clearance so the tiller does not contact obstacles such as buildings, trees or fences.
3. Select a safe ground travel speed when transporting from one area to another. 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.

## Section 2: Operating

### Parking

The following steps should be done when preparing to store the tiller or unhitch it from the tractor. See also *Storage* in the “**Maintenance and Lubrication**” section on page 22 for additional information on long term storage of your tiller.

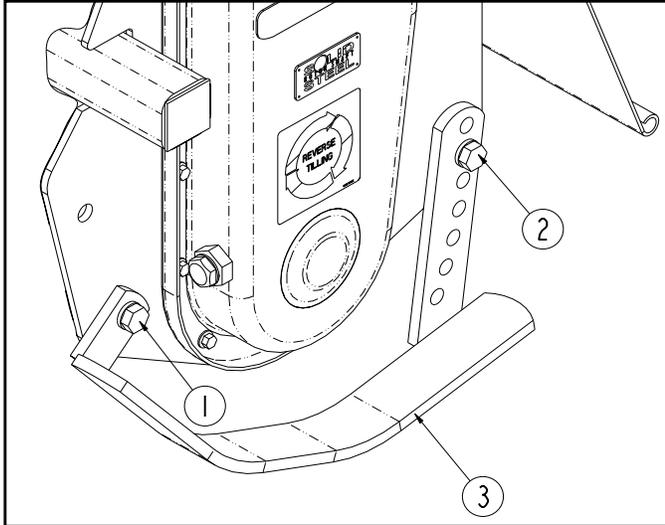


Figure 2-1

**IMPORTANT:** It is important to adjust the skid shoes down as shown in Figure 2-1 to stabilize the tiller when parked. Always follow “Skid Shoe Adjustment” steps on page 18 when repositioning the skid shoes.

1. Reposition the left hand skid shoe (#3) by loosening bolt (#1) and removing bolt (#2). Pivot skid shoe down and replace bolt (#2) in the second hole from the top as shown in Figure 2-1. Tighten bolts (#1 & #2) to the correct torque. Refer to *Torque Values Chart* in the “**Appendix**” section on page 29.
2. Repeat step #1 for the right hand skid shoe.
3. See Figure 1-1 on page 9. Remove leg stand from the holder, turn it up right and replace it through the bottom of the holder.
4. Set leg stand to desired height to maintain tiller height for re-hook-up and install pin to lock in place.
5. Park tiller on a level, solid area.
6. Shut tractor engine off and engage parking brake.
7. Unhitch from tractor.

### **WARNING**

Place blocks under the tiller as needed to prevent it from tipping over onto a child and/or an adult. A tiller that tips over can result in injury or death.

8. Check tiller for stability by physically applying pressure at the hitch plates to see if it will tip forward or backwards. If the tiller moves in either direction, then block under the tiller as needed to prevent that movement.

### Operating Instructions

Before using your Land Pride RTR10 or RTR15 Series Rotary Tiller, you should have completely read the Operator's Manual, properly attached the Tiller to the tractor, cut the driveline to proper length, Run-in the clutch, and gone through the Operating Checklist. If you have missed any of these steps, please complete them before proceeding.

Now that you have properly prepared yourself and your tiller, it's time to do some tilling. Carefully drive the tractor to the site where you intend to till. **You should have already cleaned this site of any large limbs, rocks, trash, metal or other debris.** Best results will be achieved if you have mounted your tiller offset to the right far enough to cover the tread of your right tractor wheel. Line the tractor up just to the right of center on your tillage plot. You will be working from the center out and always turning to the right to line up for your next pass.

Lower the tiller half way to the ground and reduce your tractor engine speed to about one quarter throttle. Engage the PTO and gradually increase the engine speed until you reach full PTO speed of 540 rpm. Lower the Tiller to the ground and simultaneously commence forward travel of approximately 2 mph.

Travel about 50 ft. and then stop to check your results. When stopping, remember to lift the tiller out of the ground, stop the tractor, reduce engine speed, disengage the PTO, set the park brake, shut off the tractor, and remove the keys. If you are tilling too shallow or too deep, adjust the skid shoes accordingly. If the soil texture is too coarse, lower the rear deflector and reduce your ground speed. If the soil texture is too fine, you will need to raise your rear deflector and increase your ground speed. For any other problem conditions that may arise, you will want to refer to the Troubleshooting section on page 28.

When you are done tilling for the day, make sure you use proper tractor shut down procedures before you get off of the tractor. If you are detaching your tiller, make sure you park it on a dry and level surface leaving it clean and ready for the next use. When you put your tiller up for the season, make sure you refer to the Storage Directions on page 22.

With a little practice and a few adjustments, you will soon be achieving the results you want with your Land Pride Rotary Tiller. See “**Features and Benefits**” **Section 6** or “**Specifications and Capacities**” **Section 5** for additional information and performance enhancing options.

## Section 3: Adjustments

### RTR10 Tiller Hitch Offset

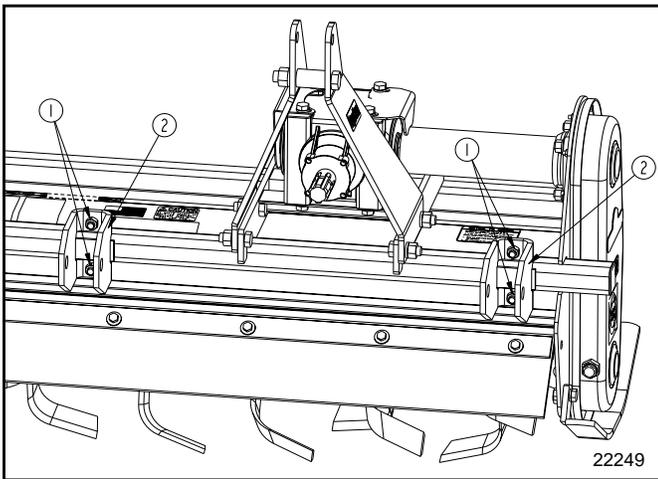
Refer to Figure 3-1:

By shifting the lower hitch clevises (21) to the side, a limited amount of offset can be obtained.

1. Loosen the two u-bolts (#1) which hold the two lower hitch clevises (#2) to the front tube.
2. Slide the two lower hitch clevises (#2) to the desired location.
3. Retighten all bolts and nuts referring to the *Torque Values Chart* in the “**Appendix**” section on page 29.

#### CAUTION

After offsetting check to see that the PTO shaft clears all shields on the tiller, tractor and the tiller hitch. If not, decrease the offset until clearance is obtained.



RTR10 Tiller Hitch Offset  
Figure 3-1

### RTR15 Tiller Hitch Sideshift

Refer to Figure 3-2:

The three point and gearbox can be sideshifted to the left of tiller center for various working conditions.

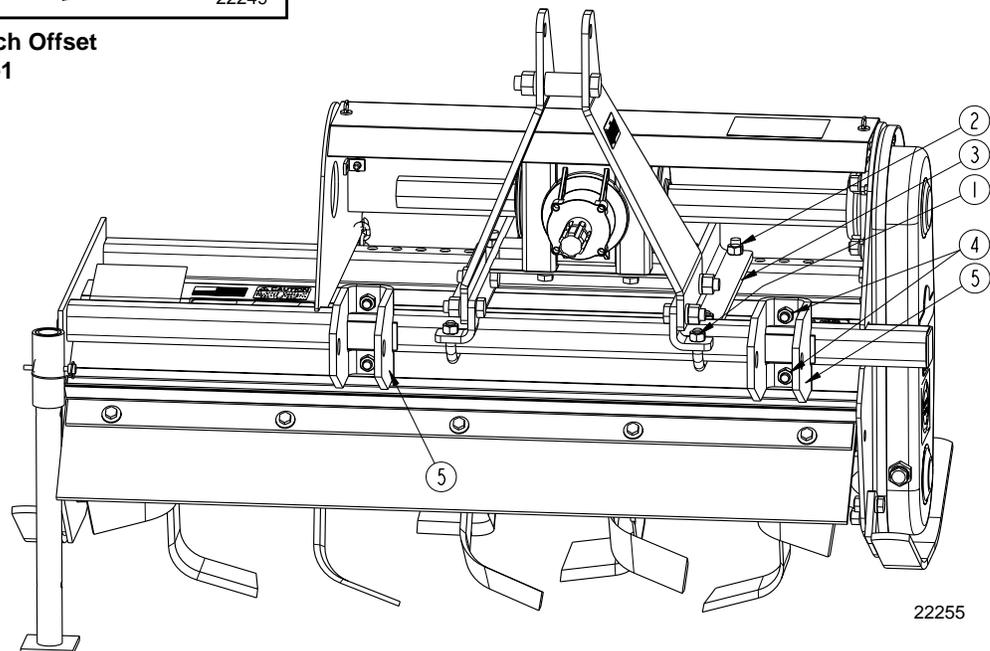
#### CAUTION

After sideshifting check to see that the PTO shaft clears all shields on the tiller, tractor and the tiller hitch. If not, decrease the sideshift until clearance is obtained.

1. Loosen the two u-bolts (#1) which hold the top hitch and gearbox frame (#3) to the front tube.
2. Remove the two bolts (#2) which hold the top hitch and gearbox frame (#3) to the rear of the tiller.
3. Loosen the two u-bolts (#4) which hold the two lower hitch clevises (#5) to the front tube.
4. Slide the top hitch and gearbox assembly (#3) to the desired location.
5. Re-center the lower hitch clevises (#5) with respect to the gearbox.

**NOTE:** For maximum sideshift, the left lower hitch clevis can be located on the left hand side of the left end plate.

6. Retighten all bolts and nuts referring to the *Torque Values Chart* in the “**Appendix**” section on page 29.



RTR15 Tiller Hitch Sideshift  
Figure 3-2

**Section 3: Adjustments**

**Drive Chain**

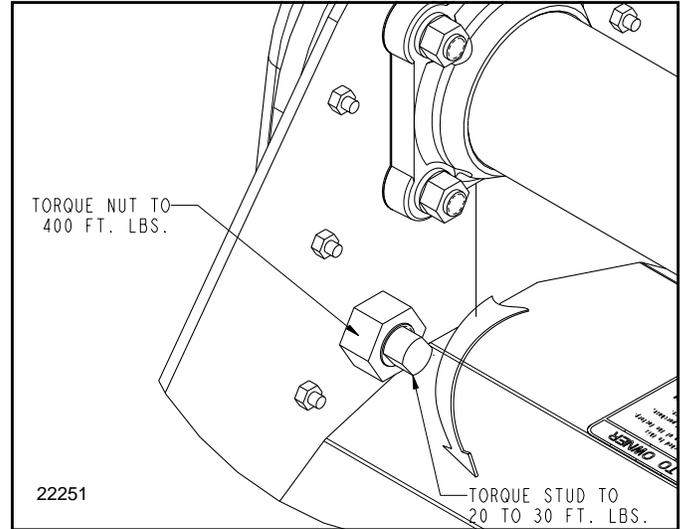
**Refer to Figure 3-3:**

The tension on the drive chain can be easily adjusted by using the chain tightener stud. Should backlash occur, loosen the nut and torque the stud counterclockwise to 20 - 30 foot pounds and tighten nut to 400 foot pounds.

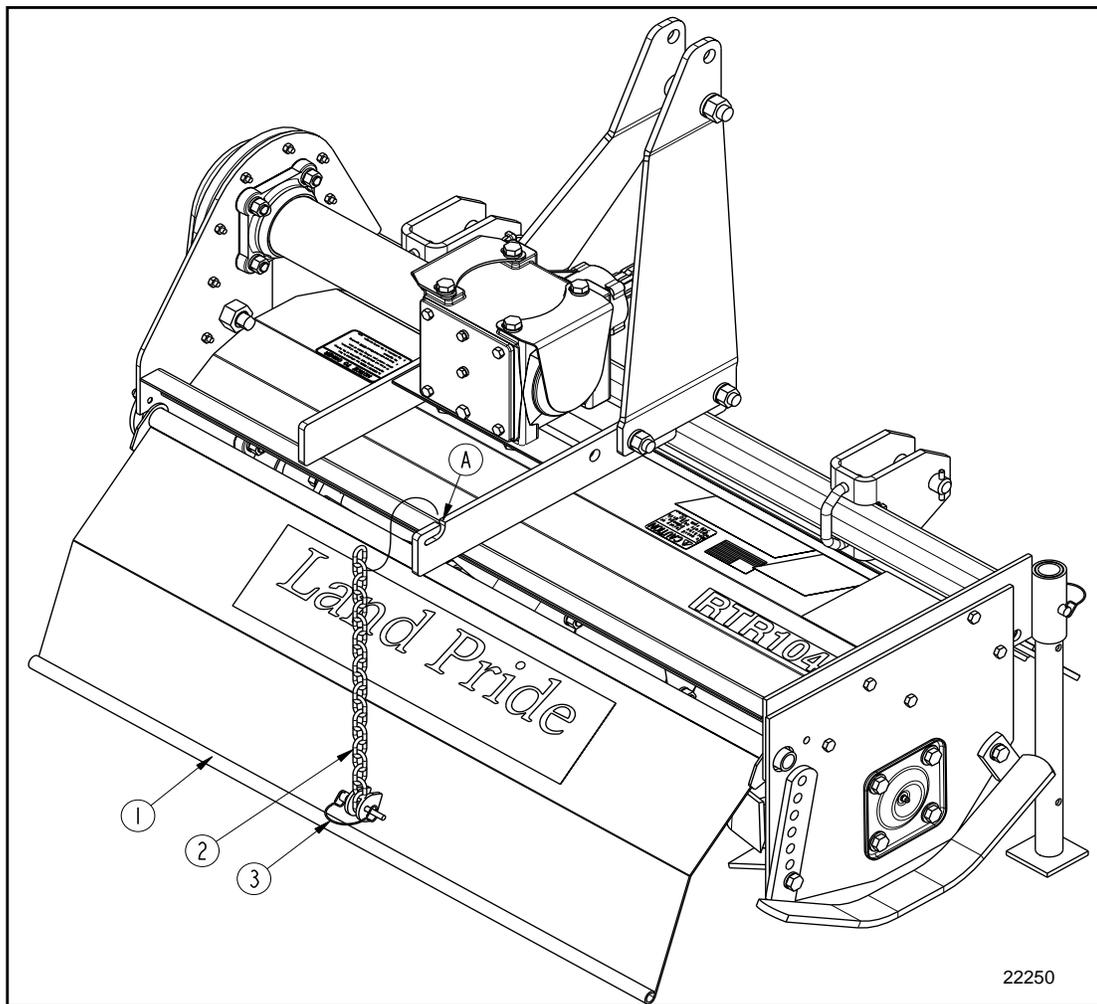
**Rear Deflector**

**Refer to Figure 3-4:**

The rear deflector (#1) can be adjusted closer to the ground to produce a fine soil texture or can be raised to produce a coarse soil texture. Adjust the chain length by repositioning the chain (#2) in slot "A". The chain should be secured to the rear deflector with wire retaining pin (#3).



**Chain Tightener  
Figure 3-3**



**Rear Deflector  
Figure 3-4**

## Section 3: Adjustments

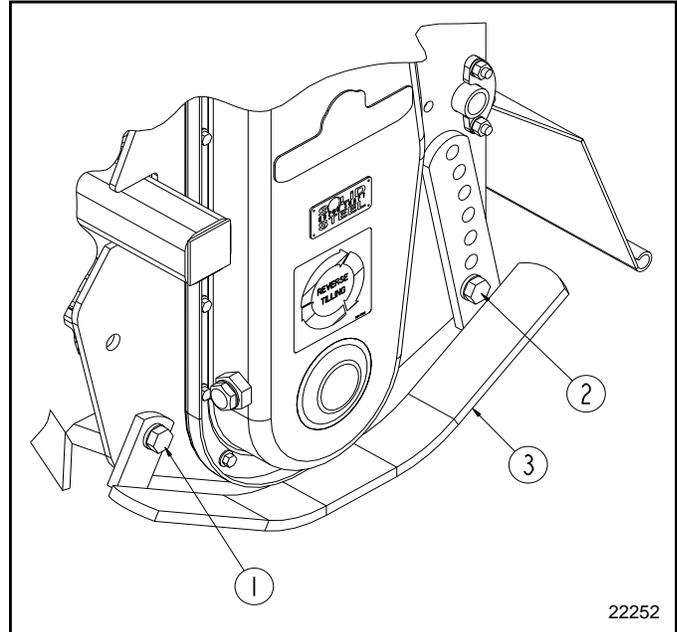
### Skid Shoe Adjustment

Refer to **Figure 3-5**:

The skid shoes can be adjusted to the desired tilling depth by raising or lowering them as follows:

1. Raise tiller off the ground. Place a support under the tiller (not under the skid shoes) and lower the tiller onto the support. Make certain the tiller is secure resting on the support before working on or around the tiller.
2. Always place tractor in park, set tractor brakes, shut tractor engine off and remove switch key before dismantling the tractor.
3. Loosen pivot bolt (#1) at the shoe's front.
4. Remove adjusting bolt (#2) at the shoe's rear.
5. Adjust skid shoe (#3) to the desired height.
6. Reinstall adjusting bolt (#2) and tighten both the adjusting bolt and the pivot bolt (#1).

**IMPORTANT:** Be sure both skid shoes are adjusted the same.



**Skid Shoe Adjustment**  
**Figure 3-5**

## Section 4: Maintenance and Lubrication

### Maintenance



#### CAUTION

For safety reasons, each maintenance operation must be performed with the tractor's PTO disengaged, the Tiller lowered completely to the ground or on safely supported blocking, tractor engine shut off and ignition key removed.

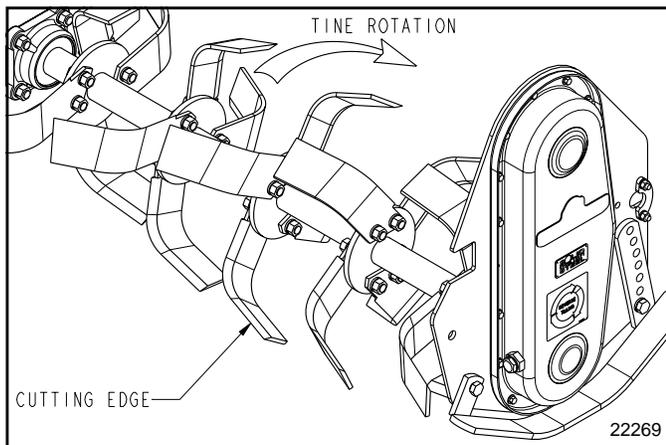
Proper servicing and adjustment is the key to the long life of any implement. With careful and systematic inspection, you can avoid costly maintenance, time and repair.

After using your tiller 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.

### Tine Replacement

Refer to Figure 4-1:



**Tine Replacement**  
Figure 4-1

**IMPORTANT:** Always install tines with cutting edge facing direction of rotor shaft rotation. When ordering replacement tines, be sure to order both right and left hand tines.

7. Remove 2 hex head cap screws and fasteners from each tine being replaced. Remove tine.
8. Attach each new tine to the flange making certain it is mounted so that the cutting edge crosses over the flange and leads in rotation as shown in Figure 4-1.
9. Replace the cap screws and fasteners. Tighten nuts to proper torque. See *The Torque Values Chart* in the "Appendix" section on page 29.

**IMPORTANT:** Replace tines with genuine Land Pride tines only.



#### WARNING

Worn tines may be very sharp!

### Driveline Protection

Tiller drive components are protected from shock loads by either a two plate friction clutch or a shear bolt. Avoid shear bolt failure by engaging the PTO slowly at low engine rpm. See your Land Pride Dealer when replacing shear bolts. Torque shear bolt nuts to 7-9 ft. lbs.

#### Shear Bolt and Lock Nut Part Numbers

Part No.	Part Description
<b>RTR10</b>	
802-267C	M6 x 35 GR 8.8
803-154C	M6 Lock Nut (Torque nut to 7-9 ft. lbs.)
<b>RTR15</b>	
802-115C	5/16"-18 GR 5 bolt.
803-011C	5/16"-18 Lock Nut (Torque nut to 7-9 ft. lbs.)

Friction clutches should be "run-in" prior to initial operation and after long periods of inactivity. You may have one of two types of friction clutches. Refer to Figure 4-2 and Figure 4-3 page 20 to determine which friction clutch your Rotary Tiller has. Follow "Clutch Run-In" instructions for your particular tiller.

To prevent driveline and gearbox damage, repeat "Run-In" instructions at the beginning of each season and when moisture and/or condensation seizes the inner friction plates.

### Clutch Run-In

#### Clutches With 8-Hex Head Socket Bolts

Refer to Figure 4-2 on page 20

1. Loosen counterclockwise all 8 hex head socket bolts uniformly 6 full turns.
2. Cycle clutch on and off 5 or 6 times (15 seconds on and 15 seconds off) with the engine operating at half throttle. Disengage driveline, shut off tractor and remove key. Wait for all components to stop before dismounting from tractor.
3. Tighten hex head socket bolts fully back. Clutch is ready for use
4. The clutch should be checked during the first hour of cutting and periodically each week.

#### Clutches With 4-Tightening Nuts

Refer to Figure 4-3 on page 20 (View - A):

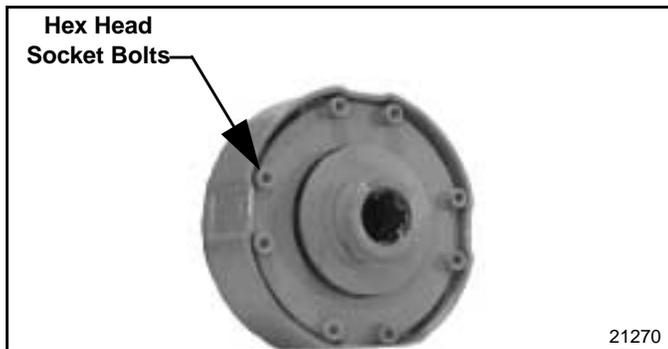
1. Using a pencil or other marker, scribe a line across the exposed edges of the clutch plates and friction disks.
2. Tighten all 4 nuts uniformly until the spring load is low enough that the clutch slips freely with the PTO engaged.
3. Start the tractor and engage driveline for 2-3 seconds to permit slippage of the clutch surfaces. Disengage the driveline, then re-engage a second time for 2-3 seconds. Disengage driveline, shut off tractor and remove key. Wait for all components to stop before dismounting from tractor.

**Section 4: Maintenance and Lubrication**

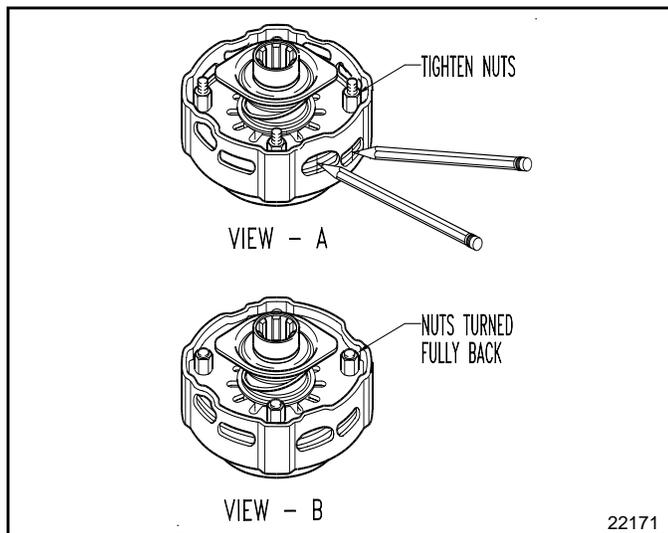
4. Inspect the clutch and ensure that the scribed markings made on the clutch plates have changed position. Slippage has not occurred if any two marks on the friction disk and plate are still aligned. A clutch that has not slipped must be disassembled to separate the friction disk plates. See Clutch Disassembly & Reassembly on page 21.

**Refer to Figure 4-3 (View - B):**

5. Turn all 4 nuts fully back if no two marks on the friction disk and plate are still aligned. Clutch is ready for use.
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.



**Clutch Run-In With 6- Hex Head Socket Bolts  
Figure 4-2**



**Clutch Run-In With 4 Tightening Nuts  
Figure 4-3**

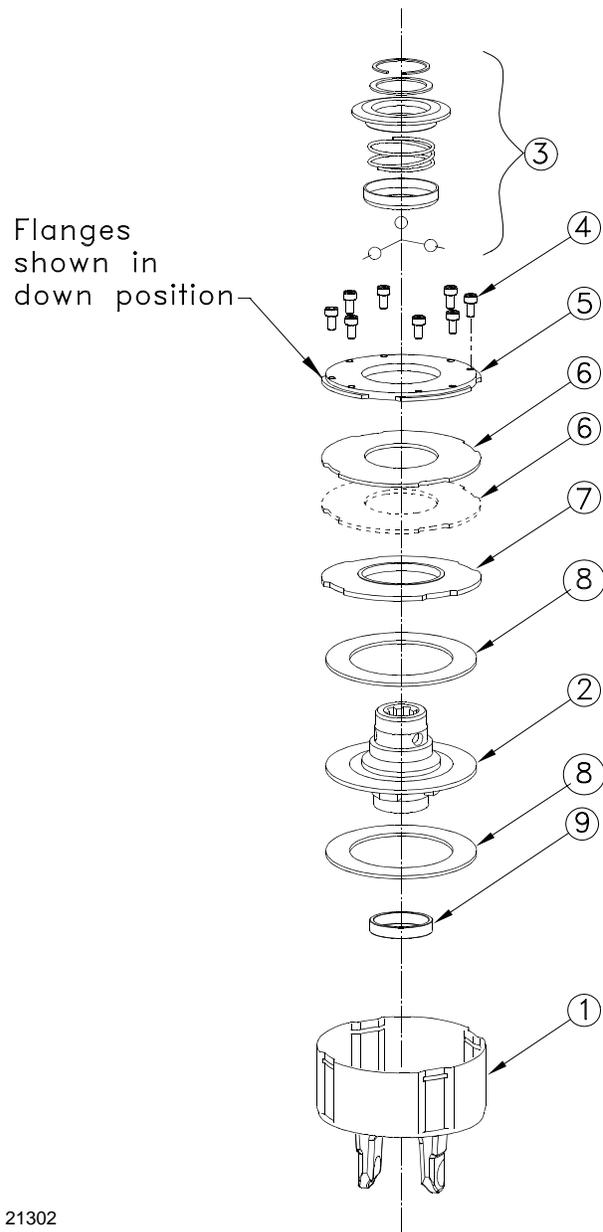
**Clutch Disassembly & Reassembly  
Clutches With 8-Hex Head Socket Bolts**

**Refer to Figure 4-4**

If the clutch run-in procedure, see *Clutches With 8-Hex Head Socket Bolts*, indicated that one or more of the friction disks did not slip, then the clutch must be disassembled to separate the friction disks.

1. Rotate 8 hex head socket bolts (#4) all the way out to free stop flange (#5).

2. Rotate stop flange (#5) and remove from housing (#1)
3. Remove the following inner components:
  - a. Spring kit (#6)
  - b. Pressure flange (#7)
  - c. 1st Friction Disc (#8)
  - d. Hub with flange and pull collar (#2 & #3)
  - e. 2nd Friction disc (#8)
  - f. Bearing (#9)
4. Inspect all components and replace to their original position. Make certain stop flange (#5) is replaced with its flanges down as shown.
5. Fully tighten all 8 hex head socket bolts (#4).



**Clutch Assembly  
Figure 4-4**

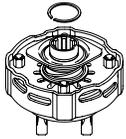
**Section 4: Maintenance and Lubrication**

**Clutches With 4-Tightening Nuts**

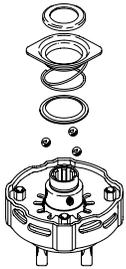
If "Clutch Run-In" procedure indicated that one or more of the friction discs did not slip, then the clutch must be disassembled to separate the friction discs.

**NOTE:** Before proceeding, secure the clutch firmly in a vise or other clamping device to prevent injury.

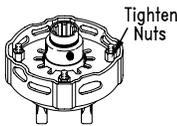
**Disassembly**



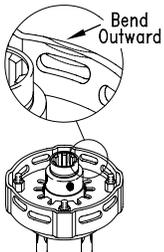
◀ **Step 1**  
Remove snap ring.



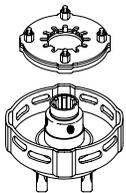
◀ **Step 2**  
Remove backup ring, lock collar, compression spring, bottom backup ring, and balls.



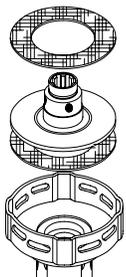
◀ **Step 3**  
Tighten the four hex nuts uniformly until the clutch pack and hub are loose.



◀ **Step 4**  
Bend all four retaining lugs out on the edge of the clutch housing.



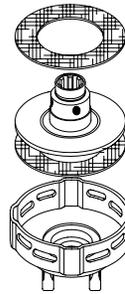
◀ **Step 5**  
Remove the thrust plate with the Belleville Springs and lug rings to access friction discs and hub for inspection or service.



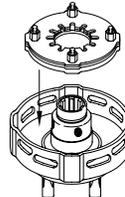
◀ **Step 6**  
Inspect friction discs and hub.

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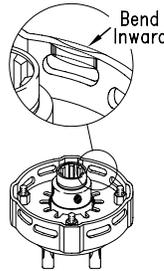
**Assembly**



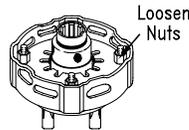
◀ **Step 1**  
Place the hub and friction discs into the housing.



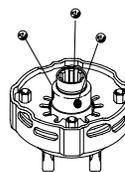
◀ **Step 2**  
Compress the Belleville Springs to the pressure plate by tightening the four hex nuts and then placing the assembly into the clutch housing.



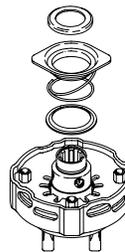
◀ **Step 3**  
Bend the retaining lugs inward over the Belleville Spring edges to secure the spring before backing the four hex nuts off.



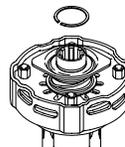
◀ **Step 4**  
With the lugs bent in, loosen the four hex nuts completely to the end of the threaded studs.



◀ **Step 5**  
Insert greased balls.



◀ **Step 6**  
Install bottom backup ring, compression spring, lock collar, and top backup ring.



◀ **Step 7**  
Install snap ring.

10449

## Section 4: Maintenance and Lubrication

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### Storage



#### CAUTION

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

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

Check the tines for wear and replace if necessary. See *Tine Replacement* on page 19.

Inspect the tiller for loose, damaged or worn parts and adjust or replace if needed.

Lubricate as noted in *Lubrication* on page 23.

Repaint parts where paint is worn or scratched to prevent rust.

Drain gearbox and chaincase oil. Drain oil in gearbox by removing the bottom drain plug, or right hand cap. Drain oil in chaincase by removing the bottom plug and tipping tiller backwards. Be sure to refill gearbox and chaincase at this time.

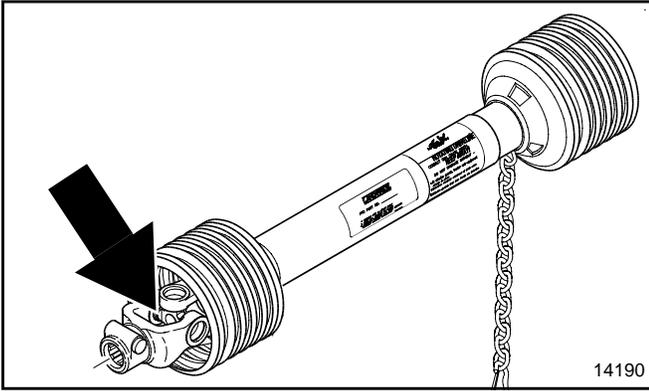
Store tiller in a clean, dry place.

Section 4: Maintenance and Lubrication

Lubrication

**Lubrication Legend**

	Multi-purpose spray lube		Multi-purpose grease lube		Multi-purpose oil lube		20 Hrs	Intervals in hours at which lubrication is required.
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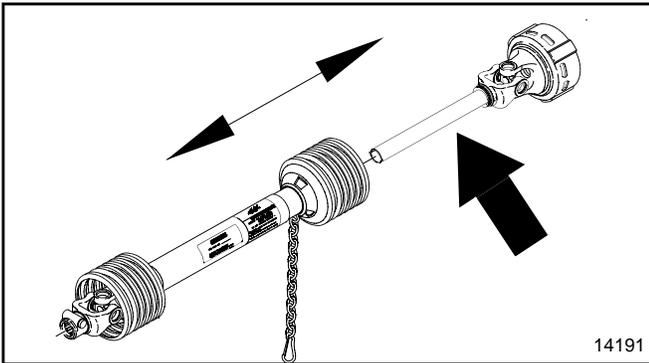
		8 Hrs
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**Driveline U-Joint**

Coat driveline u-joint with grease every 8 hours of operation

Type of grease = Multi-Purpose

Quantity = Coat Generously



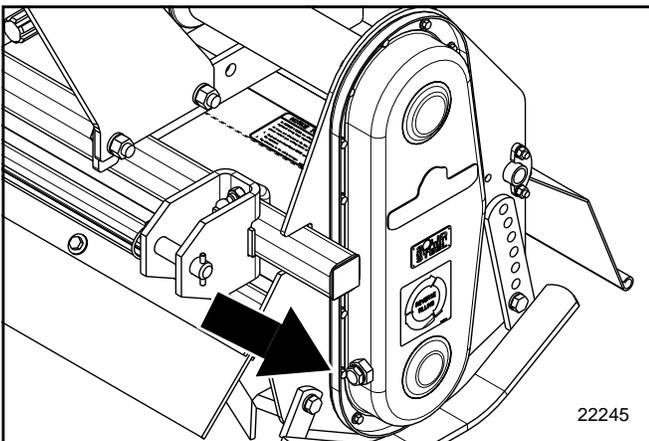
		20 Hrs
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**Driveline Shaft**

Disconnect driveline shaft from the tractor and slide apart. Clean and coat the inner tube of the driveline shaft with a light film of grease and then reassemble.

Type of grease = Multi-Purpose

Quantity = Coat Generously



		As Required
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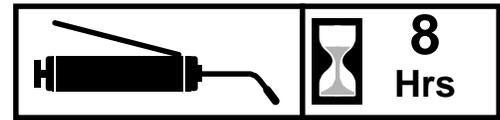
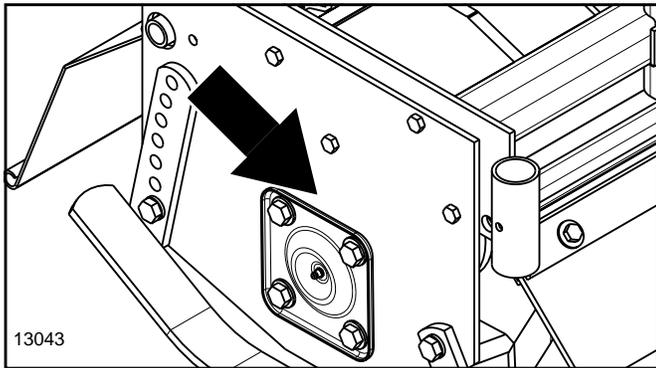
**Chaincase**

With tiller on level ground, check oil level in chaincase by removing lower plug. Oil should reach the plug hole. Fill if necessary with Shell Alvania EP 00 oil and retighten plug. Tiller should be level when checking.

Type = Recommended: Shell Alvania EP00 Oil  
Alternate: SAE 90 wt. oil

Quantity = As required

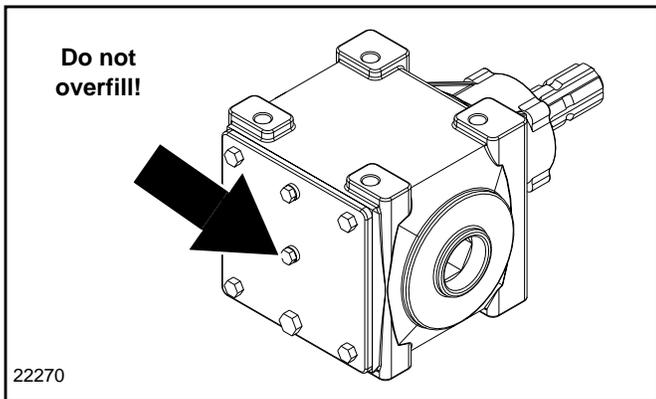
**Section 4: Maintenance and Lubrication**



**Bearing On Right End Of Rotor Shaft**

Type of Lubrication: Multi-Purpose

Quantity = As Required



**Gearbox**

Check oil every 50 hours of operation. Check the oil level in the gearbox by removing the center plug at the rear of the box, oil should come to bottom of center plug.

Type of Lubrication: SAE 90 Oil

**Section 5: Specifications & Capacities**

<b>RTR10 Series Rotary Tiller</b>			
<b>Model</b>	<b>RTR1042</b>	<b>RTR1050</b>	<b>RTR1058</b>
<b>Width</b>	42"	50"	58"
<b>Overall Width</b>	47 5/16"	55 5/16"	63 5/16"
<b>Weight</b>	403#	430#	474#
<b>Number of flanges</b>	5	6	7
<b>Number of Tines per Flange</b>	4	4	4
<b>Driveline</b>	Category II Shear bolt - standard Slip Clutch - optional		
<b>Gearbox</b>	25 HP input at 540rpm 1.92:1 ratio Cast iron housing, straight bevel gears		
<b>Gearbox Lubrication</b>	SAE 90 oil		
<b>Drive Chain</b>	#80 roller chain in flowable grease bath		
<b>Drive Chain Lubrication</b>	Shell Alvania EP 00 or equivalent		
<b>Sprockets</b>	Case hardened teeth, splined bores		
<b>Rotor Swing Diameter</b>	15"		
<b>Rotor Shaft Speed</b>	225 rpm at 540 rpm PTO		
<b>Recommended Maximum PTO HP</b>	25 HP		
<b>Hitch Type</b>	Category I, offsetable, works with Land Pride Quick-Hitch (Note: Cannot be offset when using the Quick-Hitch)		

<b>RTR15 Series Rotary Tiller</b>			
<b>Model</b>	<b>RTR1542</b>	<b>RTR1550</b>	<b>RTR1558</b>
<b>Width</b>	42"	50"	58"
<b>Overall Width</b>	48 1/4"	56 1/4"	64 1/4"
<b>Weight</b>	420#	455#	489#
<b>Number of Flanges</b>	5	6	7
<b>Number of Tines per Flange</b>	4	4	4
<b>Driveline</b>	Category III Heavy Duty Shear bolt - standard Slip Clutch - optional		
<b>Gearbox</b>	35 HP input at 540 rpm 1.92:1 ratio Cast iron housing, straight bevel gears		
<b>Gearbox Lubrication</b>	SAE 90 oil		
<b>Drive Chain</b>	#80 roller chain in flowable grease bath		
<b>Drive Chain Lubrication</b>	Shell Alvania EP 00 or equivalent		
<b>Sprockets</b>	Case hardened teeth, splined bores		
<b>Rotor Swing Diameter</b>	15"		
<b>Rotor Shaft Speed</b>	211 rpm at 540 rpm PTO		
<b>Recommended Maximum PTO HP</b>	35 HP		
<b>Hitch Type</b>	Category I, Sideshift capabilities, works with Land Pride Quick-Hitch (Note: Sideshift capability also works with Land Pride Quick-Hitch)		



**RTR10 Series Rotary Tiller**

Features		Benefits
<b>American made</b>		Many tillers are imported. American made means better parts availability.
<b>5 Pack pricing</b>		Order in pack of 5 units to save money.
<b>Gearbox Warranty</b>		3 Years on housing, seals, & bearings. shows our confidence in the product.
<b>Working widths</b>		42", 50", 58" to meet specific customer needs.
<b>Tractor HP range</b>		17-25 HP
<b>Reverse tilling action</b>		Reverse action 'sucks' tiller into ground, does not walk on top of hard ground like forward rotation tillers can.
<b>Front deflector</b>		Front deflector is flexible to take the beating from rocks or debris.
<b>Formed and reinforced rear deflector</b>		Keeps dirt in and leaves a level finish. Forming gives deflector additional strength. Adjustable deflector allows for various finish results.
<b>Adjustable skid shoes</b>		Control depth with seven adjustments.
<b>Solid rotor shaft</b>		1 3/4" Solid steel rotor shaft for strength.
<b>Double lip seal on rotor bearing</b>		Double lip seal helps keep the dirt out and the grease in.
<b>4 'C' shaped heat-treated tines per flange</b>		'C' Shaped tines require less HP to move through the ground.
<b>15" Rotor swing diameter</b>		For deep tilling and turning the soil over faster.
<b>6 1/2" Digging depth</b>		For deep soil penetration.
<b>Fully shielded shear pin or slip-clutch driveline</b>		Protects the gearbox and rotor shaft upon hitting obstructions. Slip-clutch saves having to replace shear-pins.
<b>Stamped chain cover</b>		Stamped forming gives the chain cover strength.
<b>#80 Drive chain enclosed in oil bath</b>		Heavy drive chain stretches less, and oil bath keeps wear to a minimum.
<b>Adjustable parking stand</b>		Allows for easy hook-up and storage.
<b>Plate steel upper hitch</b>		Plate steel is stronger than flat bar type hitch.
<b>Clevis lower hitch</b>		Provides additional strength and easy one person hook-up.
<b>Adjustable lower hitch</b>		Offset unit to cover right tire track.
<b>Offset Dimensions</b>	<b>42" width</b>	16"-26" std. 13"-29" Maximum Right 23"-19" Maximum Left
	<b>50" width</b>	25"-25" std. 18"-32" Maximum Right 32"-18" Maximum Left
	<b>58" width</b>	29"-29" std. 22"-36" Maximum Right 36"-22" Maximum Left
<b>Fits Land Pride Quick-Hitch</b>		Allows for quick and easy one person hook-up. (Offset cannot be used with Quick-Hitch.)

**Section 6: Features & Benefits**

**RTR15 Series Rotary Tiller**

Features		Benefits
<b>American made</b>		Many tillers are imported. American made means better parts availability.
<b>5-Pack pricing</b>		Order in 5-pack to save money.
<b>Working widths</b>		42", 50", 58" To meet specific customers needs.
<b>Tractor HP Range</b>		17 - 35 HP
<b>Gearbox Warranty</b>		3 Years on housings, seals, bearings. Shows our confidence in the product.
<b>Reverse tilling action</b>		Reverse action 'sucks' tiller into ground, does not walk on top of hard ground like forward rotation tillers can.
<b>Front deflector</b>		Front deflector is flexible to take the beating from rocks or debris.
<b>Formed and reinforced rear deflector</b>		Forming gives deflector additional strength. Adjustable deflector allows for various finish results.
<b>Adjustable skid shoes</b>		Control depth with various settings.
<b>Solid rotor shaft</b>		1 3/4" Solid steel shaft for strength.
<b>Double lip seal on rotor bearing</b>		Double lip seal helps keep the dirt out and the grease in.
<b>4 'C' Shaped heat-treated tines per flange</b>		'C' Shaped tines require less HP to move through the ground.
<b>15" Rotor swing diameter</b>		For deep tilling and turning the soil over faster.
<b>6 1/2" Digging depth</b>		For deep soil penetration.
<b>Cat. 3 Driveline</b>		Cat. 3 Driveline with heavy-duty shear-bolt or slip-clutch
<b>Fully shielded shear pin or slip-clutch driveline</b>		Protects the gearbox and rotor shaft upon hitting obstructions. Slip-clutch saves having to replace shear-pins.
<b>Stamped chain cover</b>		Stamped forming gives the chain cover strength.
<b>#80 Drive chain enclosed in oil bath</b>		Heavy drive chain stretches less, and oil bath keeps wear to a minimum.
<b>Parking stand</b>		Makes hooking-up and unhooking easy. It is also adjustable.
<b>Plate steel upper hitch</b>		Plate steel is stronger than flat bar type hitch.
<b>Clevis lower hitch</b>		Provides additional strength and easy one person hook-up.
<b>Hitch sideshift capabilities</b>		Sideshift tiller to cover right tire track. Gearbox slides with tiller.
<b>Sideshift dimensions</b>	<b>42" width</b>	21"-21" Std. 12"-30" Max. right 26"-16" Max. left
	<b>50" width</b>	25"-25" Std. 12"-38" Max. right 31"-19" Max. left
	<b>58" width</b>	29"-29" Std. 12"-46" Max. right 35"-23" Max. left
<b>Fits Land Pride Quick-Hitch</b>		Allows for quick & easy one person hook-up. Offset cannot be used with Quick-Hitch.



**Section 7: Troubleshooting**

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
<b>Machine makes intermittent clicking noise</b>	Loose tines Gearbox tooth damaged Chain damaged	Tighten tines Replace damaged gear Replace damaged chain link
<b>Driveline vibrates</b>	Worn universal joint Excessive trash wrapped on rotor Machine lifted too high	Replace universal joint Remove trash Lower machine and readjust tractor lift stop
<b>Gearbox noise is noticeable and constant</b>	May be normal on new machine Low oil level Worn gears	Allow time for break-in Add oil Replace gears
<b>Oil leaking from gearbox</b>	Damaged seals or gaskets Gearbox overfilled	Replace seals or gaskets Drain to proper level
<b>Rotor will not turn</b>	PTO not engaged Broken drive chain Driveline shearbolt sheared Friction clutch slipping	Engage PTO Repair drive chain Replace shearbolt Reduce load to tiller
<b>Tillage depth insufficient</b>	Tiller carried by tractor Insufficient power Skid Shoes need adjusting Worn or bent tines Tines incorrectly installed Obstacles entangled in tines and/or rotor Lower hitch clevises on tiller in wrong position	Lower tractor 3-point arms Increase tractor rpm Adjust skid shoes Replace tines Check tine placement Clear rotor and/or tines Relocate lower hitch clevises
<b>Soil texture too coarse</b>	Rear deflector too high PTO speed too slow Ground speed too fast	Lower rear deflector Increase PTO speed Decrease ground speed
<b>Soil texture too fine</b>	Rear deflector too low Ground speed too slow	Raise rear deflector Increase Ground Speed
<b>Machine skips or leaves crop residue</b>	Badly worn tines Friction clutch slipping Ground speed too fast for conditions	Replace worn tines Reduce load Reduce ground speed
<b>Tines balling up with soil</b>	Worn or bent tines Tines incorrectly installed Rear deflector too low Tractor speed too fast Soil too wet	Replace tines Install tines correctly Raise rear deflector Decrease tractor speed Wait until soil dries
<b>Tiller bumping on ground</b>	Obstacles entangled in tines and/or rotor Tines not installed correctly	Clear rotor and/or tines Install tines correctly



Section 8: Appendix

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

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

**Section 8: Appendix**

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**Notes**

**Section 8: Appendix**

## Warranty

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

**Overall Unit and Driveline:** One year Parts and Labor

**Gearbox:** 5 years Parts and Labor

**Tines and Driveline Friction Discs:** Considered wear items

**Rental or Commercial Use:** 90 days on overall unit, driveline & gearbox

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 should 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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