## **All-Flex Grooming Mowers** AFM4214 and AFM4216

26560





## 315-587M **Operator's Manual**

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

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

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



## **Machine Identification**

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

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

Model Number	
Serial Number	
Machine Height	
Machine Length	
Machine Width	
Machine Weight	
Delivery Date	
First Operation	
Accessories	

#### **Dealer Contact Information**

Т

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

#### California Proposition 65

**WARNING:** Handling passenger or off-highway motor vehicle parts can expose you to chemicals such as phthalates and lead, which can cause cancer and reproductive harm. To minimize exposure, service the vehicle in a well-ventilated area, wear gloves, and wash your hands. For more information see www.P65Warnings.ca.gov/motor-vehicle-parts.



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## Parts Manual QR Locator

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



## **Dealer QR Locator**

The QR code above will link you to available dealers for Land Pride products. Download the appropriate App on your smart phone, open the App, point your phone on the QR code and take a picture.



## Safety at All Times

Careful operation is your best assurance against an accident.

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

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





### Look for the Safety Alert Symbol

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

#### **Be Aware of Signal Words**

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

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

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

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

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

**IMPORTANT:** Indicates that equipment or property damage could result if

instructions are not followed.

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

## Safety Precautions for Children

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

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

#### Tractor Shutdown & Storage

- If engaged, disengage power take-off.
- Park on solid, level ground and lower implement to ground or onto support blocks.
- Put tractor in park or set park brake.
- ▲ Turn off engine and remove ignition key to prevent unauthorized starting.
- Relieve all hydraulic pressure to auxiliary hydraulic lines.
- ▲ Wait for all components to stop before leaving operator's seat.
- ▲ Use steps, grab-handles and anti-slip surfaces when stepping on and off the tractor.





#### Use A Safety Chain

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



#### **Towing Safely**

- Comply with federal, state, and local laws.
- ▲ Use towing vehicle and trailer of adequate size and capacity. Secure equipment towed on a trailer with chocks, tie downs, and chains.
- ▲ IMPORTANT: Do not tow a load that is more than double the weight of the vehicle towing the load.
- ▲ Sudden braking can cause a towed trailer to swerve unexpectedly. Reduce speed if trailer is not equipped with brakes.

#### **Transport Safely**

- ▲ Comply with federal, state, and local laws.
- ▲ Avoid contact with any overhead utility lines or electrically charged conductors.
- Engage park brake when stopped on an incline.
- ▲ Maximum transport speed for an implement is 20 mph (32 km/h). DO NOT EXCEED.
- ▲ Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.
- ▲ Do not tow an implement that, when fully loaded, weights more than 1.5 times the weight of towing vehicle.

#### Tire Safety

▲ Tire changing can be dangerous and must be performed by trained persor using the corr



trained personnel using the correct tools and equipment.

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

#### **Practice Safe Maintenance**

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



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







#### **Prepare for Emergencies**

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



#### Wear Personal Protective Equipment (PPE)

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



#### Avoid High Pressure Fluids

- ▲ Escaping fluid under pressure will penetrate the skin or eyes causing serious injury.
- ▲ Relieve all residual pressure before disconnecting hydraulic lines or performing work on the hydraulic system.
- ▲ Make sure all hydraulic fluid connections are properly tightened/torqued and all hydraulic hoses and lines are in good condition before applying pressure to the system.
- ▲ Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.
- ▲ Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- ▲ DO NOT DELAY. If an accident occurs, seek immediate emergency medical care or gangrene may result.

### Use Safety Lights and Devices

- ▲ A slow moving power machine can create a hazard when driven on public roads. They are difficult to see, especially at night.
- ▲ Flashing warning lights and turn signals are recommended whenever driving on public roads.
- ▲ For tractors and other agriculture equipment, a Slow Moving Vehicle (SMV) sign is required when traveling on public roads.



## **Use Seat Belt and ROPS**

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



#### Keep Riders Off Machinery

- Never carry riders on the tractor or implement.
- ▲ Riders obstruct operator's view and interfere with the control of the power machine.
- ▲ Riders can be struck by objects or thrown from the equipment.
- ▲ Never use the tractor or implement to lift or transport riders.





#### Avoid Crystalline Silica (Quartz) Dust

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

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



- ▲ Be aware of and follow OSHA (or other local, State, or Federal) guidelines for exposure to airborne crystalline silica.
- ▲ Know the work operations where exposure to crystalline silica may occur.
- Participate in air monitoring or training programs offered by the employer.
- ▲ Be aware of and use optional equipment controls such as water sprays, local exhaust ventilation, and enclosed cabs with positive pressure air conditioning if the machine has such equipment. Otherwise respirators shall be worn.
- ▲ Where respirators are required, wear a respirator approved for protection against crystalline silica containing dust. Do not alter respirator in any way. Workers who use tight-fitting respirators can not have beards/ mustaches which interfere with the respirator seal to the face.

- ▲ If possible, change into disposable or washable work clothes at the work site; shower and change into clean clothing before leaving the work site.
- ▲ Do not eat, drink, use tobacco products, or apply cosmetics in areas where there is dust containing crystalline silica.
- ▲ Store food, drink, and personal belongings away from the work area.
- ▲ Wash hands and face before eating, drinking, smoking, or applying cosmetics after leaving the exposure area.

#### Handle Chemicals Properly

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



#### Dig Safe - Avoid Underground Utilities

▲ USA: Call 811 CAN:

- http://www.clickbeforeyoudig.com
- Always contact your local utility companies (electrical, telephone, gas, water, sewer, and others) before digging so that they may mark the location of any underground services in the area.
- Be sure to ask how close you can work to the marks they positioned.





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## Safety Labels

Your All-Flex Grooming Mower comes equipped with all safety labels in place. They were designed to help you safely operate your implement. Read and follow their directions.

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

make sure the correct safety labels are included in the request.

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





#### 818-558C

Warning: General Mower Hazard 1 Place: On the tongue







#### 838-293C

Warning: Read Operator's Manual - General Warning 1 Place: On the tongue





Warning: Negative Tongue Weight Haza 1 Place: On the tongue





Danger: Raised Wing Hazard 1 Place: On the tongue







**818-339C** Warning: High Pressure Fluid Hazard 1 Place: On the tongue





#### 818-565C

Notice: Driveline U-Joint Timing Instructions 1 Place: On the splitter gearbox shield





Notice: Read Operator's Manual and Safety Messages 1 Place: On the splitter gearbox shield







**818-187C** Danger: Rotating Driveline Entanglement Hazard 1 Place: On the gearbox



#### **818-337C** Warning: Excessive Speed Hazard 1 Place: On the splitter gearbox shield





#### 818-130C

Warning: Operate with 540 rpm Power Take-off Speed 1 Place: On the splitter gearbox shield







#### 818-353C

Caution: Disengage Transport Locks/Pins Hazard 1 Place: On the splitter gearbox shield





## 818-351C

Caution: Engage Transport Locks/Pins Hazard 1 Place: Above the park jack storage mount







**818-552C** Danger: Rotating Driveline - Keep Away 1 Place: At the back of the tongue







#### **818-555C** Danger: Rotating Blade Hazard 3 Places: On the back of all three decks





### 818-045C

Warning: Pinch Point or Crushing Hazard 3 Places: On the back of all three decks





#### **818-556C** Danger: Thrown Object Hazard 3 Places: On the back of all three decks







### 818-513C

Caution: V-Belt Installation - Tension Hazard 2 Places: Beneath the guard on the center and right-hand decks



#### 818-514C

Caution: V-Belt Installation - Tension Hazard 1 Place: Beneath guard on the left-hand deck





#### 818-543C

Danger: Guard Missing Hazard - Do not Operate 6 Places: Beneath both guards on all three decks







#### 838-614C Red Reflector: 2" x 9" 4 Places: (2 Places on back of wing deck guards) (2 Places on center deck, back side of light brackets)





**858-096C** Amber Reflector 2" x 4 1/2" 4 places: On the front of the left-hand & right-hand decks







#### 818-552C

Danger: Rotating Driveline - Keep Away 4 Places: On all driveline outer shields





**818-540C** Danger: Guard Missing - DO NOT Operate 4 Places: On all driveline inner profiles



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

## Application

The AFM4214 and AFM4216 All-Flex Mowers are designed and built by Land Pride to provide excellent cutting quality and performance on lush type turf grasses that are located on expansive and well manicured areas such as sports fields, theme parks, fairways, turf farms, and large estates.

They will deliver excellent performance when attached to 40-70 hp (30-52 kW) tractors with 540 rpm power take-off speed and pull-type draw bar. The hydraulic cylinders will easily lift up the wing decks for a 7'-11" (2.41 m) or 8'-5" (2.57 m) overall transport width when moving from one site to another on public streets or on right-of-ways.

The contour following capability, highly productive cutting widths and rear discharge design of the floating cutting decks will greatly reduce wide-area cutting times and still deliver finely groomed surfaces at mowing speeds from 2-6 mph (3-10 kph). The AFM4214 and AFM4216 All-Flex Mower can be ordered with slip-clutch or conventional wing driveline configurations and a choice of 15 inch or 18 inch deck tires.

See **"Specifications & Capacities**" on page 46 and **"Features & Benefits**" on page 50 for additional information and performance enhancing options.

## **Using This Manual**

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

#### Terminology

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

### **Owner Assistance**

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

#### Serial Number

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



Serial Number Plate Location Figure 1

#### **Further Assistance**

Your dealer wants you to be satisfied with your new All-Flex Grooming mower. 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. If you have any issues or questions with your new implement/attachment, please contact the service department at your local dealership to address your concerns.
- If you are still not satisfied, seek out the owner or general manager of the dealership, explain the guestion/issue, and request assistance.
- 3. For further assistance write to:

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

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

E-mail address lpservice@landpride.com



## **Tractor Requirements**



To avoid serious injury or death:

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

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

Horsepower Rating40-70 hp (30-52 kW)
Rear power take-off Shaft Type 1 3/8"-6 Spline
Rear power take-off Speed 540 rpm
Hitch Type Drawbar
Hydraulic Outlets One duplex outlet
Hydraulic Pressure 3,000 psi (207 Bar) maximum
Electrical Hook-up (See Figure 1-1) 7-Pin outlet
Tractor Weight See warning above
Positive Hitch Weight on Tractor Drawbar
AFM4214 Approximately 540 lbs (245 kg)

AFM4216..... Approximately 580 lbs. (263 kg)

## **Electrical Hook-up**

#### Refer to Figure 1-1:

The LED wire harness is equipped with a 7-way round pin connector for connecting to the tractor's 7-pin electrical outlet shown in Figure 1-3.



Tractor 7-Pin Electrical Outlet Figure 1-1

## **Drawbar Set-Up**

Refer to Figure 1-2:



To avoid serious injury or death:

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

## 

To avoid serious injury or death:

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

The 14" (36 cm) between center of drawbar hitch pin hole to end of power take-off shaft and 8" (20 cm) from top of drawbar hitch to center of power take-off shaft must be maintained.



Figure 1-2



## **Dealer Preparations**

This mower has been partially assembled at the factory. some additional preparations will be necessary to finish assembling the mower and to attach it to the customer's tractor. Ensure that the intended tractor conforms to the requirements stated under "**Tractor Requirements**" on page 16.

Go through the "**Pre-Assembly Checklist**" below before assembling the mower. To speed up your assembly task and make the job safer, have all needed parts and equipment readily at hand.

#### **Pre-Assembly Checklist**

The Assembly Oneoknot			
~	Check	Ref.	
	Make sure miscellaneous assembly tools are on har tape measure, and assortment of wrenches.	ıd: Hammer,	
	Have a forklift or hoist with properly sized chains and safety stands on hand capable of lifting 2500 lbs.		
	Have a minimum of two people available during assembly.		
	Check to see if auxiliary tractor weights are needed.		
	Check to make sure all fasteners and pins are installed in the correct location. Refer to the Parts Manual if unsure. <b>NOTE:</b> Remember location of a part or fastener if removed. Keep parts separated.	Parts Manual	
	Make sure all major components and loose parts are shipped with the machine.	Operator's Manual	
	Make sure working parts move freely, bolts are tight and cotter pins are spread.	Operator's Manual	
	Make sure all safety labels are legible and correctly located. Reflectors must be visible when machine is in transport position. Replace all missing / damaged labels and reflectors.	Page 6	
	Make sure all grease fittings are in place and lubricated. Refer to Lubrication Points.	Page 41	
	80-90 EP Gear Lube must be added to the gearbox and motor as indicated in the "Maintenance & Lubrication".	Page 41	
	Make sure all tires are inflated to the specified psi air pressure.	Page 54	
	Make sure all wheel bolts and axle nuts are tightened to the specified torque.	Page 54	

### **Hardware Torque Information**

When tightening hardware, refer to "**Torque Values Chart for Common Bolt Sizes**" on page 54 to determine standard torque values. Refer to "**Additional Torque Values**" at the bottom of the chart for exceptions to the standard torque values.

## **Tractor Shutdown Procedure**

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

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





Mower to Tractor Hook-Up Figure 1-3

# Tractor Hook-Up

To avoid serious injury or death:

A crushing hazard exists while connecting and disconnecting the implement. Keep people and animals away while backingup to the implement or pulling away from the implement. Do not operate hydraulic controls while a person or animal is directly behind the power machine or near the implement.

#### Refer to Refer to Figure 1-3:

- 1. Make certain park stand (#1) is attached to the mower hitch and secured with retaining pin (#2).
- 2. Check drawbar set-up. Refer to "Drawbar Set-Up" on page 16.
- 3. Back tractor within close proximity of clevis (#3).
- 4. Raise or lower park stand (#1) to align clevis (#3) with tractor drawbar. Drawbar should fit between lower and upper plates of clevis.
- 5. Back tractor up to mower hitch until holes in tractor drawbar and clevis are aligned.
- Attach mower with a 3/4" hitch pin (#4) and flat washer(#5) as shown. Secure hitch pin with hairpin (#6). Always use a hitch pin that contains a safety locking device to prevent it from coming out.
- 7. Retract park stand (#1) until weight of mower is fully removed from the stand. Remove stand and store on storage tube (#7) located on divider gearbox shield.
- 8. Attach safety chain (#8) on the hitch to the tractor. Adjust chain length to remove all slack except what is necessary to permit turning of mower. Lock chain hook securely onto the chain.

## Main Driveline Hook-up

## **DANGER**

To avoid serious injury or death:

• All guards and shields must be installed and in good working condition while operating the implement.

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

## 

To avoid serious injury or death:

- Do not operate a broken or bent driveline. Such a driveline will break apart while rotating at high speeds. Always remove the implement from use until the damaged driveline can be repaired or replaced.
- Always follow "Tractor Shutdown Procedure" provided in this manual before dismounting the tractor.
- Some tractors are equipped with two power take-off speeds. Be certain your tractor's power take-off shaft is set-up to operate at 540 rpm. Do not exceed 540 rpm power take-off speed. Excessive speed can damage drive/driven components and increase the risk of a thrown object hazard.

**IMPORTANT:** The driveline must be lubricated before putting it into service. Refer to "**Lubrication Points**" on page 41.

**NOTE: Refer to Figure 1-3 on page 18:** Driveline (#9) should rest on driveline support (#10) when mower and driveline are not hitched to a tractor.

**NOTE:** Always engage power take-off at low engine rpm to minimize start-up torque on driveline.

#### Refer to Figure 1-3

- If driveline collapsible length has not been checked, go to "Check Driveline Collapsible Length" on page 20. Otherwise, continue with step 2 below.
- 2. Place tractor gear selector in park, shut tractor engine off, set park brake, and remove switch key.
- 3. Pull main driveline profiles apart, apply multipurpose grease to the inside of the outer profile and reassemble the two profiles.



- 4. If needed, attach driveline to the gearbox input shaft:
  - a. Pull back on inner driveline yoke lock collar and slide yoke over the mower's gearbox input shaft.
  - b. Release lock collar and continue to push yoke onto the gearbox input shaft until pull collar snaps in place.
- 5. Attach driveline to the power take-off shaft:
  - a. Pull back on outer driveline yoke lock collar and slide yoke over the tractor's power take-off shaft.
  - b. Release lock collar and continue to push yoke onto the power take-off shaft until pull collar snaps in place.
  - c. Move driveline back and forth to ensure both ends are secured. Reattach any end that is loose.
- 6. Continue with "Hydraulic Hook-Up" below.



Hydraulic Hook-Up Figure 1-4

## Hydraulic Hook-Up

#### Refer to Figure 1-4:

This mower is equipped and plumbed from the factory with double acting cylinders, hydraulic hoses, and couplings for folding the wings and center deck.

- 1. Cut plastic ties securing hydraulic hoses (#1) to hose support loop (#2). Be careful not to cut plastic tie securing the ten linchpins (#5) to the support loop.
- 2. Route hoses (#1) through hose support loop (#2) and connect to tractor remote outlets. Quick disconnect hydraulic fittings for your tractor are supplied attached to the hoses.
- 3. Locate carbon steel wire (#3) attached between wing cylinders (#4). This wire secures the wing decks in the folded position during shipment. Remove wire and dispose of it in a trash container.

## **Hook-up Transport Lights**

#### Refer to Figure 1-5:

The lead wiring harness (#4) is equipped with a 7-way round pin connector for connecting to the tractor's 7-pin electrical outlet shown in Figure 1-1 on page 16.

- 1. Route lead wire harness (#4) through spring hose loop as shown.
- 2. Connect wire harness (#4) to the tractor's 7-pin electrical outlet.



Enhance Module Wire Connections For LED Lights Figure 1-5

3. Check LED lights to make certain they are operating correctly.

**IMPORTANT:** Connectors on wire harness (#1 & #2) are labeled "Light" on one end and "Enhancer" on the other end. Ends labeled "Light" connect to the LED lights. Ends labeled "Enhancer" connect to enhance module (#3).

**IMPORTANT:** Connector (#1D) has a Red wire and connects to wire harness (#1) on the right side of the implement. Connector (#2D) has a yellow wire and connects to wire harness (#2) on the left side.

- 4. It is best to have a second person available for this operation. Start tractor and operate lights as follows:
  - a. Turn on head lights to verify red lights illuminate.
  - b. Turn on flasher lights to verify amber light are blinking on and off.
- 5. If lights did not operate properly, recheck hook-up of wire harness (#1, #2, & #4) to enhance module (#3).
  - Make sure connector (#1D) with a red wire is connected to the right-hand wire harness (#1).
  - Make sure connector (#2D) with a yellow wire is connected to the left-hand wire harness (#2).
  - Make sure connector (#3B) on the lead wire harness (#4) is connected to connector (#3A) on enhancer module (#3).
- 6. Check wire harness routing to make sure wires will not be pinched as the decks are folded and unfolded and while raising and lowering mower height.
- 7. Add cable ties to wire harness (#1, #2, & #4) as needed to secure them in place.
- 8. Continue with "Pull Rope Hook-Up" on page 21.





## **Check Driveline Collapsible Length**

**IMPORTANT:** A driveline that is too long can bottom out causing structural damage to the tractor and implement. Always check driveline minimum length during initial setup, and when connecting to a different tractor. More than one driveline may be required to fit all applications.

- 1. Do not attach driveline to the tractor. Instead, make sure it is removed or secured to the mower before moving the mower to a level surface.
- 2. If parked on an uneven surface, start tractor and move mower and tractor to a level, flat surface.
- 3. Continue to pull mower straight forward until the driveline makes a straight line between the tractor power take-off shaft and the gearbox input shaft.
- 4. Shut tractor down according to "**Tractor Shutdown Procedure**" on page 17.

#### Refer to Figure 1-6:

- 5. With driveline attached only to the cutter, remove outer driveline (tractor end) from inner driveline to separate the two profiles as shown in Figure 1-6.
- 6. If needed, attach inner driveline to the mower's input shaft. Refer to step 4 on the left side of page 19.
- 7. Attach outer driveline to the tractor's power take-off shaft. Refer to step 5 on the left side of page 19.
- 8. Hold inner and outer drivelines parallel to each other as shown in Figure 1-6. Measure dimension "A".
  - If "A" is less than 1" (2.5 cm), continue with step 9.
  - If "A" is greater than or equal to 1" (2.5 cm), skip to "Assemble Inner & Outer Driveline Halves" on this page.



#### Shorten Driveline Length Figure 1-7

- 9. Shorten driveline as follows:
  - a. Measure 1" (2.5 cm) ("**B1**" dimension) back from outer driveline shield and make a mark at this location on the inner driveline shield.
  - b. Measure 1" (2.5 cm) ("**B2**" dimension) back from the inner driveline shield and make a mark at this location on the outer driveline shield.
- 10. Remove outer driveline from the tractor power takeoff shaft and inner driveline from the implement's gearbox shaft.
- 11. Cut off non-yoke end of inner driveline as follows:
  - a. Measure from end of inner shield to scribed mark ("X" dimension) and record.
  - b. Cut off inner shield at the mark. Cut same amount off the inner shaft ("X1" dimension).
- 12. Cut off non-yoke end of outer driveline as follows:
  - a. Measure from end of outer shield to scribed mark ("**Y**" dimension) and record.
  - b. Cut off outer shield at the mark. Cut same amount off the outer shaft ("**Y1**" dimension).
- 13. Remove all burrs and cuttings.
- 14. Continue with "Assemble Inner & Outer Driveline Halves" below.

#### Assemble Inner & Outer Driveline Halves Refer to Figure 1-6:

- 1. Apply multi-purpose grease to the inside of the outer shaft and reassemble the driveline halves.
- 2. Continue attaching the driveline to the mower and tractor. Refer to steps 4-5 on the left side of page 19.





## **Pull Rope Hook-Up**

Skip to **"Gauge Wheel Assembly**" below if mower is equipped with **"Hydraulic Wing Unlock Option**".

#### Refer to Figure 1-8:

The operator on the tractor seat will need to be able to access the pull rope from the tractor seat when lowering the folded decks to ground level.

- 1. Attach pull rope (#3) to an area within the operator's reach. Make sure the pull rope can not become tangled with the operator and driveline.
- 2. See "**Unfold Mower Decks**" on page 30 for detailed unfolding instructions.

### **Gauge Wheel Assembly**

Refer to Figure 1-9:

**IMPORTANT:** Do not bend spring steel mounting bracket supporting the slow moving vehicle sign. This bracket is purposely angled back to cause the sign to be vertical when the rear deck is folded-up for transporting on public roads.

Center deck gauge wheels (#4) are mounted in the carrier frames spindle support tubes upside down.

- 1. Remove nuts (#7) and bolts (#6) from the center deck carrier frames and remove gauge wheels from the frames.
- 2. Check spacer location on the other gauge wheels. Note how many and what sizes are above and below the gauge wheel spindle support tube and then place an equal number of spacers (#1, 2, & 3) and sizes above and below the spindle support tube while inserting the gauge wheel spindle into the spindle support tubes.
- 3. Raise center deck up just enough to insert gauge wheel spindles into the carrier frame spindle support tubes as shown in Figure 1-9.

#### Refer to Figure 1-10:

- 4. Secure gauge wheels with linchpins (#8) supplied attached to the support loop with plastic ties. Insert linchpins from the front and flip clasp shut over the spindles towards the back. Attaching linchpin in this manner will prevent vegetation from catching on the clasp and flipping it open while traveling forward.
- 5. Lower all mower decks fully down. Decks should be supported by the gauge wheels with gauge wheels on the ground.
- 6. Remove bolts (#6) from the remaining gauge wheel spindles and replace with remaining linchpins (#8). Insert linchpins from the front and flip clasp shut over the spindles towards the back.



Pull Ropes Figure 1-8



Center Deck Rear Gauge Wheels Figure 1-9



Center Deck Rear Gauge Wheels Figure 1-10





Transport Fold Hydraulic Plumbing Figure 1-11

## Purge Hydraulic System

Refer to Figure 1-11:

## 

To avoid serious injury or death:

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

Hydraulic hoses and cylinders are supplied fully charged with oil from the factory and should not require bleeding. If any deck raises or lowers in a jerking motion, then bleed hydraulics as follows:

- 1. With mower decks lowered onto the ground, remove connecting pins (#1) from rod end of the two wing cylinders (#2) and center deck cylinder (#3).
- 2. Support cylinders vertically with rod end up.

- Cycle hydraulic system to extend both wing cylinders and center deck cylinder. Retract cylinders and repeat this process 2 times.
- 4. On each cylinder, crack rod end cylinder fitting (#4) and apply hydraulic pressure until air free oil leaks from fitting and then retighten fitting.
- 5. Support cylinders in a vertical position with base end of cylinder up and repeat bleeding process on the base end fitting (#5).
- 6. Re-pin all clevises. Secure pins with cotter pins (#6) by bending one or more legs of the cotter pin.
- 7. Slowly cycle all decks to transport position checking to make sure hydraulic hoses are not pinched in the process.



## Belt Tension

Refer to Refer to Figure 2-1:



To avoid minor or moderate injury:

The belt drive system is under spring tension. Use care when servicing the system to avoid injury caused by forces built up in the spring.

**IMPORTANT:** Belt tension should be rechecked on new belts after approximately 20 hours of operation.

- 1. Check belt tension by applying force at arrow "A" with a tension tester until belt deflects 1/4" (6mm). The force required to get this deflection should range from 7-10 lbs (3-5 kg).
- 2. Adjust belt tension by adjusting eyebolt (#1) as needed. This adjustment will increase or decrease tension on spring (#2).

#### **Excessive Belt Tension May Lead to:**

- Premature belt damage and drive components.
- A safety hazard to the operator or bystanders.

#### Not Enough Belt Tension May lead to:

• Premature belt damage due to excessive slipping.



Belt Tension (Top View of Left-Hand Deck Belt) Figure 2-1



## **Center & Wing Deck Cutting Heights**

These adjustments should be made with mower hooked to the tractor that will be used for field operations or one having the same drawbar height.

## 

To avoid serious injury or death:

Always disconnect driveline from the tractor before servicing the drivetrain and components powered by the drivetrain. A person can become entangled in the drivetrain if the tractor is started and the power take-off is engaged.

## 

To avoid serious injury or death:

- Block decks up before making cutting height adjustments.
- Always follow "Tractor Shutdown Procedure" provided in this manual before dismounting the tractor.

**IMPORTANT:** When going over a raised area, make sure main driveline does not make contact with mower tongue, especially near hitch end of tongue.

**IMPORTANT:** Before continuing, read instructions on raising and lowering decks starting with "**U-Joint Timing**" on page 29.

#### Refer to Figure 2-2:

- 1. Position mower on a level surface and adjust hitch clevis up or down on end of tongue until tongue is close to level with the ground. Tire pressure will affect mowing height. Make sure all tires have proper pressure. See "**Tire Inflation Chart**" on page 54.
- 2. Lower mower decks fully down on a flat level surface.
- Make measurement (A) (top of deck to ground) on all three decks. Check measurements in Cutting Height Chart to determine if the decks need to be raised or lowered to obtain preferred cutting height (B).
- 4. Raise all three mower decks up to an adequate height and block under the decks to prevent them from falling during gauge wheel height adjustments.

#### Refer to Figure 2-4 on page 25:

5. Add or remove spacers below the spindle tubes equal to the number of inches the gauge wheel needs to be adjusted. Adding spacers will raise the cutting height and removing spacers will lower the cutting height. When finished, all 10 gauge wheels will usually have an equal number of spacers below the spindle tubes. See note below.

**NOTE:** Due to manufacturing tolerances and tire size differences, it may be necessary to readjust some spacers. Because of this, you may not end up with equal number of spacers on all gauge wheels.



Cutting Height Profile Figure 2-2

Α	B A B		В
inches (cm)	inches (cm)	inches (cm)	inches (cm)
4 7/8 (12.4)	1 (2.5)	7 3/8 (18.7)	3 1/2 (8.9)
5 3/8 (13.7)	1 1/2 (3.8)	8 3/8 (21.3)	4 1/2 (11.4)
6 3/8 (16.2)	2 1/2 (6.4)	9 3/8 (23.8)	5 1/2 (14)

#### **Cutting Height Chart**





#### Figure 2-4

**IMPORTANT:** Linchpins should always be inserted into the gauge wheel spindle from the front with the locking clasp flipped shut over the spindle toward the back. Attaching the pin in this manner will prevent vegetation from catching on the clasp and flipping it open while traveling forward.

- After making height adjustments, always replace linchpins by inserting them into the gauge wheel spindle pin holes from the front to keep from loosing the pins and gauge wheels.
- 7. Lower mower decks to the field position making sure all fold cylinders are fully extended.

#### Refer to Figure 2-5:

**IMPORTANT:** Slide-on spacers are 1/2" thick. Use two 1/2" slide-on spacers at the front of the rear deck for every 1" spacer used at the back of the rear deck.

- 8. Adjust front of center deck height to match height at rear of center deck:
  - a. Attach jack stand to jack mount located in front of the center gearbox channel. Make sure stand is secured with attachment pin.
  - b. Screw jack out to lift front of mower deck and in to lower deck front.
  - c. Place same number and thickness of C-spacers below the spindle tube as what was placed below the rear gauge wheel spindle tubes.
  - d. There is a groove in the carrier rod for adding or removing C-spacers. Turn the C-spacer so that the open end will slide in or off the groove as needed.
  - e. Remove jack stand and return it to the storage tube located in front of the divider gearbox.
  - f. Place additional C-spacers above metal spindle tubes.

- 9. Take measurements at the same location on all three decks to verify they are all at the same cutting height.
- 10. Additional fine tuning adjustments may be needed after a test mowing run.



Adding or Replacing Spacers Figure 2-5





Wire Rope Adjustment Figure 2-6

## Hydraulic Transport Locks, Optional

#### Refer to Figure 2-6:

When transport locking cylinder (#6) is fully retracted, transport locks (#1) should be fully seated in tool bar locking lugs (#2) and aircraft cables (#5) should have a small amount of slack. If cables hang loosely or are tight, then shorten or lengthen cables (#5) as follows:

**NOTE:** Figure 2-6 is shown with mower decks down for clarity. Mower decks will need to be folded up and locked in the transport locks to check for adjustment of transport locks.

- 1. Fully retract deck lifting cylinders (#7) and transport lock cylinder (#6).
- 2. Check slack in all three aircraft cables (#5):
  - a. They should have slight slack and not be tight.
  - b. They should not be too slack or cables (#5) will not be able to pull transport locks (#1) out of tool bar locking lugs (#2).

- 3. If needed, adjust aircraft cables (#5) as follows:
  - a. Loosen cable clamps (#4A & #4B) and pull or let out aircraft cable (#5) to create slight slack in cable.
  - b. Use cable clamp (#4A) closest to the spring to create a loop about 1 1/4" in (3 cm) diameter. The loop should be big enough to allow rotation around the spring but small enough not to come off the washers.
  - c. Tighten cable clamp (#4A).
  - d. Secure excess cable with remaining clamp (#4B) and then tighten clamp (#4B).



## Introduction

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

- Important Safety Information, pages 1
- Section 1: Assembly & Set-Up, page 16
- Section 3: Operating Instructions, page 27
- Section 2: Adjustments, page 23
- Section 5: Maintenance & Lubrication, page 35

Perform the following inspections before using your mower.

#### **Operating Checklist**

~	Check	Ref.
	Read and follow all Safety Rules carefully. Refer to "Important Safety Information".	1
	Make sure all guards and shields are in place. Refer to "Important Safety Information".	1
	Make sure their are no hydraulic leaks. Refer to "Avoid High Pressure Fluids Hazard".	3
	Read and follow hook-up and preparation instructions. See "Section 1: Assembly & Set-Up".	18
	Make sure the hitch safety chain is securely attached to the mower hitch and tractor	18
	Make a thorough examination of drivelines. Check all driveline connections.	18
	Read and make all required adjustments. Refer to "Section 2: Adjustments".	23
	Inspect blades for wear and sharpness.	36
	Read and follow all Maintenance Instructions. Refer to "Section 5: Maintenance & Lubrication".	35
	Read and follow all Lubrication Instructions. Refer to "Lubrication Points".	41
	Check mower initially and periodically for loose bolts and pins. Refer to "Torque Values Chart".	54
	Check tire pressure. Add air if needed.	54

## **General Safety**



To avoid serious injury or death:

- Clear area to be cut of debris and other unforeseen removable objects before cutting. Mark non-removable hazards such as tree stumps, post stubs, protruding objects, rocks, drop-offs, holes, etc. with a visible flag.
- Tractor power take-off shaft shield, driveline shields, and gearbox shaft shields must be installed and in good working condition to avoid driveline entanglement and projectiles flying off of the driveline.

- Do not allow anyone near the tractor or implement while operating. Stop operation if bystanders are too close. They can be hit by flying projectiles, become entangled in the equipment, or ran over.
- All guards and shields must be installed and in good working condition while operating the implement.
- Keep all persons away from the blades while they are rotating. Never place hands or feet under the deck with blades rotating or when tractor engine is running. Do not operate implement or tractor if bystanders are in the area.
- Do not transport without transport locks securely engaged. Do not walk or work underneath a raised wing unless all transport locks are securely engaged. Wings can drop suddenly if a transport lock is not securely engaged.
- Do not use a power take-off adapter. The adapter will increase strain on the tractor's power take-off shaft causing possible damage to shaft and driveline. It will also defeat the purpose of the tractor's power take-off shield.

## A WARNING

To avoid serious injury or death:

- Always follow "Tractor Shutdown Procedure" provided in this manual before dismounting the tractor.
- Allow only persons to operate this implement who have fully read and comprehended this manual, and who are properly trained in the safe operation of this implement.
- Operate only power machines equipped with a certified Roll-Over Protective Structure (ROPS) and seat belt. Keep folding ROPS in the "locked up" position when appropriate. If ROPS is in the locked up position, fasten seat belt snugly and securely to help protect against serious injury or death from falling and machine overturn.
- Never carry riders on the equipment or power machine. Riders can obstruct the operator's view, interfere with controls, be pinched by moving components, become entangled in rotating components, struck by objects, thrown about, fall off and be run over, etc.
- Select a safe ground speed that will allow adequate control of steering and stopping. Never exceed 20 mph (32 km/h) with attached equipment. Rough terrain requires a slower speed.
- Slow down when traveling over rough or hilly terrain. If needed, shift to a lower gear to maintain engine rpm.
- Do not operate and/or travel across inclines where the tractor and/or implement can rollover. Consult your tractor's manual for acceptable inclines the tractor is capable of traveling across.
- Do not engage power take-off with AFM decks in the raised position or with engine speed above idle. Doing so will damage the power train components.
- Always disengage tractor PTO before raising mower decks to transport position to avoid power train damage, injury from thrown objects, or blade contact.

### Section 3: Operating Instructions



- Do not operate a broken or bent driveline. Such a driveline will break apart while rotating at high speeds. Always remove the implement from use until the damaged driveline can be repaired or replaced.
- Do not alter implement or replace parts on the implement with other brands. Other brands may not fit properly or meet OEM (Original Equipment Manufacturer) specifications. They can weaken the integrity and impair the safety, function, performance, and life of the implement. Replace parts only with genuine OEM parts.
- Do not use implement as a man lift, work platform, or as a wagon to carry objects. It is not properly designed or guarded for this use.
- Do not use implement to lift objects; to pull objects such as fence posts, stumps, etc; or to push objects. The unit is not designed or guarded for these uses.
- High wear may occur to mower blades when mowing in areas with sandy soil. Frequent inspection should be made and blades replaced if worn excessively or damaged.
- Buildup of debris around moving components and gearboxes is a fire hazard. Keep rotating parts and gearboxes free from debris.
- Improper oil level can cause bearing failure and be a fire hazard. Maintain proper gearbox oil level.
- Avoid catching hydraulic hoses on brush, posts, tree limbs, and other protrusions that could damage and/or break them.
- Use mower to cut only turf grasses. Cutting other materials can damage drive components, cutting blades, and deck.
- Some tractors are equipped with two power take-off speeds. Be certain your tractor's power take-off shaft is set-up to operate at 540 rpm. Do not exceed 540 rpm power take-off speed. Excessive speed can damage drive/driven components and increase the risk of a thrown object hazard.

### **Tractor & Mower Inspection**

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

- 1. Complete "Operating Checklist" above.
- 2. Make sure hitch safety chain is securely attached to mower and tractor.
- 3. Grease driveline shaft and all other grease fittings.
- Check oil level in gearboxes. Refer to "4-Way Gearbox" and "Mower Deck Gearbox" on page 45.
- 5. Check all plugs and caps in gearboxes to make certain that they have been replaced and tightened properly.
- 6. Check mower blades for sharpness and damage. See "**Blade Inspection**" on page 36.
- 7. Be sure blades are installed properly on each deck with the cutting edge leading in rotation. See "**Blade Removal & Installation**" on page 37.
- Make sure all blade bolts are tight. Know which center blade bolts are left-hand threaded and which are right-hand threaded when checking for tightness. See "Blade Removal & Installation" on page 37.
- 9. Be sure all bolts and nuts are tight.
- 10. Be certain all guards and shields are in place and secure.
- 11. If the deck drivelines do not have slip clutches, then check U-joint timing. Refer to "U-Joint Timing" on page 29.
- 12. Slowly cycle all decks to transport position checking to make sure hydraulic hoses and wire harness are not pinched in the process.
- 13. Check LED lights to make sure they are hooked-up correctly and functioning:
  - a. Check all electrical connections on the wire harness. Refer to "Hook-up Transport Lights" on page 19.
  - b. Check wire harness to make sure the wires are not pinched, bare, or broken and connectors are not damaged. Replace wire harness if damaged.
  - c. Check lens modules for broken lens and/or burnt out LED lights. Replace module if needed. Modules are available in amber, red, and black.
  - d. Make necessary repairs and repeat step 13 above.
- 14. Clear area to be mowed of objects and debris that might be picked up and thrown by the mower blades
- 15. Operate with 540 rpm power take-off tractor.
- 16. Refer to your tractor's operator manual for engaging and disengaging the power take-off.
- 17. In case of emergency, learn to stop tractor and mower quickly.





U-Joint Timing Figure 3-1

## **U-Joint Timing**

Refer to Refer to Figure 3-1:

**IMPORTANT:** If deck drivelines (3 each) do not have slip clutches, then the driveline u-joints at the splitter box must be in time to avoid driveline damage when folding and unfolding the decks.

If the deck drivelines do not have slip clutches, then check

U-joint timing before folding the decks up. Disconnect the left-hand and/or right-hand U-joints that are out-of-time and reconnect them in-time with each other.

## Fold Mower Decks

#### Refer to Figure 3-2 or Figure 3-3:

- If the deck drivelines do not have slip clutches, then check U-joint timing before folding the decks up. Refer to "U-Joint Timing" on this page.
- 2. Using tractor's hydraulic control lever, raise all three mower decks to transport position by retracting all three hydraulic cylinders (#2) completely.
- 3. As the mower decks are raising, the three transport locks (#1) will automatically lock in place. Make sure they have locked in place before transporting.

#### Refer to Figure 3-4:

- 4. Deck float pins are provided with the **AFM4216 model only**. If a narrow transport width is required or if transporting long distances, the deck float pins on the AFM4216 should be inserted as follows:
  - Remove deck float pin (#2) from storage tube (#1) and insert through lock holes (#3) located to the outside of both mower wing decks.
  - b. Make sure deck float pin is fully inserted.

**IMPORTANT:** Make sure deck floating pins are removed before unfolding AFM4216 mower decks.



Manual Release Transport Locks Figure 3-2



Hydraulic Release Transport Locks Figure 3-3



Model AFM4216 Deck Float Pin Figure 3-4



## **Unfold Mower Decks**

The mower is furnished with either manual transport locks or optional hydraulic transport locks. Manual transport locks are released with a pull rope. Hydraulic transport locks are released with the same tractor hydraulic control lever that is used for raising and lower the mower decks.

**IMPORTANT:** Make sure deck floating pins are removed before unfolding AFM4216 mower decks.

**IMPORTANT:** Make sure transport locks are fully unlatched before unfolding the mower.

**IMPORTANT:** When unfolding mower, fully extend cylinders to utilize maximum flexibility. Damage to mower may occur if cylinders are not fully extended.

#### **Unfold Decks With Pull Rope Locks**

#### Refer to Figure 3-5:

1. **AFM4216 Model Only:** Remove wing deck floating pins (#2) and store in storage tube (#1).

#### Refer to Figure 3-6:

- 2. Fully retract hydraulic cylinders (#2) to remove weight from transport locks (#1).
- 3. Pull transport lock rope (#3) toward the tractor to disengage transport locks (#1).
- 4. Hold locks in this disengaged position until all three mower decks have unfolded enough to allow locking lugs (#4) to be out from under transport locks (#1).
- 5. Extend all three cylinders (#2) to their maximum stroke for maximum field float of mower decks.

#### **Unfold Decks With Hydraulic Locks**

#### Refer to Figure 3-5:

1. **AFM4216 Model Only:** Remove wing deck floating pins (#2) and store in storage tube (#1).

#### Refer to Figure 3-7:

- 2. Using the tractor's hydraulic control lever, fully retract all hydraulic cylinders (#2) to remove weight from transport locks (#1).
- 3. After hydraulic cylinders (#2) have fully retracted, extend hydraulic cylinders (#2). The transport lock hydraulic cylinder (#3) will extend first and will open all three transport locks (#1) before hydraulic cylinders (#2) start to extend.
- 4. Continue to extend all three cylinders (#2) to their maximum stroke to utilize maximum flexibility of the decks as they float over the terrain.



Model AFM4216 Deck Float Pin Figure 3-5



Manual Release Transport Locks Figure 3-6



Hydraulic Release Transport Locks Figure 3-7



# Transporting

To avoid serious injury or death:

- Select a safe ground speed that will allow adequate control of steering and stopping. Never exceed 20 mph (32 km/h) with attached equipment. Rough terrain requires a slower speed.
- When traveling on public roads, use hazard lights, slow moving vehicle sign, clean reflectors, and other adequate devices to warn operators in other vehicles of your presence. If implement blocks visibility of slow moving vehicle sign, relocate sign so it is visible from the back at all times. Always comply with all federal, state, and local laws.
- *Reduce ground speed when turning and leave enough clearance to avoid making contact with obstacles such as buildings, trees, fences, etc.*
- Slow down when traveling over rough or hilly terrain. If needed, shift to a lower gear to maintain engine rpm.
- Operate only power machines equipped with a certified Roll-Over Protective Structure (ROPS) and seat belt. Keep folding ROPS in the "locked up" position when appropriate. If ROPS is in the locked up position, fasten seat belt snugly and securely to help protect against serious injury or death from falling and machine overturn.
- When implement is wider than the tractor, take care to make sure it does not make contact with oncoming traffic and roadside obstructions.
- Always disengage tractor PTO before raising mower decks to transport position to avoid power train damage, injury from thrown objects, or blade contact.

#### Refer to Figure 3-8:

**IMPORTANT:** The slow moving vehicle sign should not be displayed when hauling equipment on a trailer that exceeds 25 mph (40 km/h). Cover or remove the sign on equipment being hauled.

**IMPORTANT:** Do not bend spring steel mounting bracket supporting the slow moving vehicle sign. This bracket is purposely angled back to cause the sign to be vertical when the rear deck is folded-up for transporting on public roads.

- Relocate slow moving vehicle Safety sign (#1) from back of your tractor to mounting bracket (#2) on the back of the mower. If needed, the slow moving vehicle sign can be purchased from your nearest Land Pride dealer. Refer to "Slow Moving Vehicle Sign" on page 34.
- 2. Select a safe ground speed when transporting from one area to another. Maximum transport speed for the All-Flex Mowers is 20 mph. DO NOT EXCEED.
- 3. Be sure to reduce tractor ground speed when turning and leave enough clearance so the mower does not contact obstacles such as buildings, trees, or fences.



Relocate Slow Moving Vehicle Sign to Back of Mower Figure 3-8

- 4. Always raise wings and set transport locks before traveling on public roadways.
- When traveling on roadways, transport in such a way that faster moving vehicles may pass you safely. Use LED lights on the mower to make yourself more visible on roadways.
- 6. Shift tractor to a lower gear when traveling over rough or hilly terrain.

#### **Constant Velocity Driveline Angle** *Refer to Figure 3-9:*

The main driveline is equipped with a constant velocity (CV) joint that allows the unit to run at angles up to 80 degrees with no vibration.



Constant Velocity Driveline Angle Figure 3-9

**IMPORTANT:** Do not make turns that will subject the CV joint to angles greater than 80 degrees. Angles greater than 80 degrees will damage the driveline.

The constant velocity joint must be greased every 8 hours of operation. Refer to Page 41 "**Driveline Constant Velocity Shaft**".





Unhook Mower Figure 3-10

## **Unhook Mower**

#### Refer to Figure 3-10:

- 1. See "Long-Term Storage" on page 40 before parking mower for a long period.
- 2. Shutdown tractor properly before dismounting. Refer to "Tractor Shutdown Procedure" on page 17.
- 3. Move hydraulic control levers back and forth several times to relieve all hydraulic pressure in hydraulic hoses and at the couplers.
- 4. Attach park jack (#1) to jack mount (#12) and secure with detent pin (#2). Make sure detent pin is fully inserted.
- 5. Adjust height of park jack (#1) until hitch is supported by the park jack.
- 6. Unhook wire harness (#3) from the tractor electrical outlet. Coil wire harness up and store on the spring hose loop. Keep wire harness pin connector (#3) out of the dirt.
- 7. Unhook hydraulic hoses (#4) from tractor duplex outlet. Insert couplers through spring hose loop to keep couplers out of the dirt.
- 8. Pull back on driveline lock collar (#5) and pull driveline (#6) from tractor power take-off shaft.
- 9. Collapse driveline (#6) by pushing tractor end of driveline toward the splitter gearbox.
- 10. Store yoke end of driveline (#5) on driveline support rest (#13). Do not store yoke end in the dirt.
- 11. Unhook transport safety chain(#7) from the tractor and stow on the hitch.
- 12. Adjust park jack (#1) until hitch weight is removed from tractor drawbar.

- 13. Remove hairpin cotter (#8), flat washer (#10), and hitch pin (#9).
- 14. Start tractor and drive slowly forward several feet while watching to make sure no mower components are connected to or catching on the tractor.
- 15. Shut tractor down properly before dismounting.
- 16. Replace hitch pin (#9) with flat washer (#10) in mower hitch clevis (#11). Secure hitch pin with hairpin (#8).

#### Refer to Figure 3-8 on page 31:

- 17. Remove slow moving vehicle sign (#1) from mounting bracket (#2).
- 18. Reinsert slow moving vehicle sign in mounting bracket on the back of the tractor.

### **Special Operating Instructions**

- 1. After attaching the tractor to the mower, carefully check all hoses and wires to be sure they will not contact the power take-off driveline.
- 2. Check power take-off guards to make sure they are in good condition and in place.
- Inspect hydraulic hoses for wear, damage, and hydraulic leaks. See "Avoid High Pressure Fluids Hazard" on page 3 Replace damaged and worn hoses with genuine Land Pride parts.
- 4. Check the following after the power take-off has been disengaged and comes to a complete stop.
  - Check mower blades for sharpness.
  - Make sure bolts and nuts are tight.
  - Check tractor safety equipment. Be sure they are in good working condition.
- 5. Set tractor throttle at an idle. Engage the power takeoff to start blades rotating.
- 6. Begin mowing at a slow forward speed and shift up until desired speed is achieved - maintaining 540 power take-off rpm. Mower blades will cut better at 540 power take-off blade speed than at reduced throttle.
- 7. After mowing the first 50 feet, stop and check to see that mower is adjusted properly.
- 8. Grass is best cut when it is dry. Mowing wet grass can cause plugging resulting in grass clumps behind the mower.
- 9. Grass should be mowed frequently as shorter clippings deteriorate faster.
- 10. Mow areas with extremely tall grass twice. Raise mower high for the first cutting and then set mower at finished cutting height for the second cutting.


## **General Operating Instructions**

By now you should have familiarized yourself with the Operator's Manual, completed the Operator's Checklist, set-up the unit properly and attached your Land Pride All-Flex Mower to your tractor.

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

With the tractor's park brake engaged and the power take-off disengaged, start the tractor. Using the tractor's hydraulic control levers, retract the hydraulic deck-lift cylinders all the way in and pull the ropes leading to your transport locks to release them. With the same control levers, slowly lower your mowing decks from transport position to working position on the ground. Having lowered the decks, shut the tractor off, check to make sure the park brake is set, and remove the switch key. Dismount from the tractor and preset your mower to the desired cutting height.

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

Make sure before starting the tractor that the mower is properly attached to the draw bar with both wings down resting on the ground. Also make sure the driveline is securely coupled to the tractor's power take-off shaft, the hydraulic hoses are properly attached to the tractor's hydraulics, the tractor's park brake is engaged, and the tractor's power take-off drive is disengaged. Starting the tractor and set the engine throttle speed at a low idle. Engage the tractor's power take-off drive. If everything is running smoothly, slowly increase the engine rpm until the tractor's engine reaches full power take-off operating speed of 540 rpm. If everything is still running as it should, then return the engine to low idle and disengage power to the power take-off. Under no circumstances should you ever raise the cutting decks into transport position with the power take-off drive engaged. Personal injury and equipment damage could result.

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

You will need to maintain a ground speed between 2-6 mph and 540 rpm power take-off speed to produce a clean cut. Make a tractor gear and range selection that will enable you to maintain these speed combinations. Generally the quality of cut is better at lower ground speeds. Dense ground cover will create the need to slow down even more. In certain conditions tractor tires will roll grass down resulting in an uneven cut when the grass fails to rebound. Should this happen you may try reversing the direction of cut and/or double cut to achieve the desired finish.

Avoid very low cutting heights especially on extremely uneven terrain. Always cut downward on slopes and avoid crossing the face of steep slopes. Avoid sharp drops and cross diagonally through dips to prevent hanging up the tractor and mower. Slow down in turns and avoid sharp turns if at all possible. Remember to look back often.

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

- Reducing the tractor's engine rpm.
- Make sure the mower is on the ground in cutting position.
- Engage the power take-off.
- Raise the engine rpm to the appropriate power take-off speed.
- Begin mowing.

Make wide turns when possible. Operators of pull-type models must plan ahead and choose a cutting pattern that allows for wider turns. Try increasing or decreasing ground speed to determine the effect on quality of cut. With a little practice you will be pleased with what you and your Land Pride All-Flex Mower can do.

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

- Reduce the tractor's engine rpm.
- Disengage the power take-off.
- Stop on level ground.
- Set the park brake.
- Turn off the engine and remove ignition key.
- Stay on the tractor until the mower blades have come to a complete stop.



### **Ball Swivel Hitch**

#### Refer to Figure 4-1:

The ball swivel hitch clamps firmly to your tractor's drawbar. With this accessory the center deck can pivot about the drawbar in all directions reducing twisting torque and allowing the deck to mow a more even height. Hillsides and uneven terrain are ideal for its use. See your local Land Pride dealer for the ball swivel hitch.



Ball Swivel Hitch Figure 4-1



Slow Moving Vehicle Sign Figure 4-2

## **Slow Moving Vehicle Sign**

### Refer to Figure 4-2:

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

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

## **Cutting Blades**

There are four blade choices to select from based upon soil condition, density of grass, and tractor horsepower. The appearance of the finish cut may vary between low lift and high lift blades. See your Land Pride dealer for blade availability.

### Low Lift Blades (Standard)

Land Pride's low lift blades are designed for mowing over sandy soil terrain where high suction lift is not crucial. Sand drawn into the blades accelerates blade wear more than normal. Low lift blades are recommended because they produce a lower suction keeping sand uplift and blade wear to a minimum.

### Medium Lift Blades

Land Pride's medium lift blades are great when horsepower is a concern. They produce a medium suction for lifting grass requiring less horsepower than high lift blades.

### **High Lift Blades**

Land Pride's high lift blades develop the greatest suction for lifting grass before cutting for that fresh clean cut look. However, they may require more horsepower especially when cutting tall dense grass. They are not recommended for sandy soil conditions.

### **Mulching Blades**

Land Pride's mulching blades are designed to chop leaves and/or grass into smaller parts leaving your lawn looking fresher and cleaner than ever before.

### **Accessory Part Numbers**

Land Pride All-Flex Mower Accessories							
Part No.	Part Description						
Ball Swivel 315-370A	Hitch Ball Swivel Hitch						
<b>Low Lift Bla</b> 315-262A 315-259A							
	t <b>Blades</b> Kit for 1 unit (9 blades) AFM4214 (Kit) AFM4216 (Kit)						
<b>High Lift Bl</b> 315-264A 315-261A	<b>ades</b> Kit for 1 unit (9 blades) AFM4214 (Kit) AFM4216 (Kit)						
5	<b>lades</b> Kit for 1 unit (9 blades) AFM4214 (Kit) AFM4216 (Kit)						



### Maintenance

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

## 

To avoid serious injury or death:

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

## **A** WARNING

To avoid serious injury or death:

- Make sure controls are all in the neutral position or park before starting the power machine.
- Always follow "Tractor Shutdown Procedure" provided in this manual before dismounting the tractor.
- For safety reasons, each maintenance operation must be performed with tractor PTO disengaged, mower lowered completely to the ground or folded with transport locks engaged and tractor engine shut off with ignition key removed.
- Perform scheduled maintenance. Check for loose hardware, missing parts, broken parts, structural cracks, and excessive wear. Make repairs before putting the implement back into service.
- Do not alter implement or replace parts on the implement with other brands. Other brands may not fit properly or meet OEM (Original Equipment Manufacturer) specifications. They can weaken the integrity and impair the safety, function, performance, and life of the implement. Replace parts only with genuine OEM parts.
- Buildup of debris around moving components and gearboxes is a fire hazard. Keep rotating parts and gearboxes free from debris.
- Improper oil level can cause bearing failure and be a fire hazard. Maintain proper gearbox oil level.
- Frequently inspect mower for loose bolts and nuts. See "Blade Removal & Installation" on page 37 to identify left-hand threaded bolts. Tighten all hardware as indicated in the "Torque Values Chart" on page 54.
- 2. Check drive belt tension after several hours of mowing. Refer to "**Belt Tension**" on page 23.
- 3. Lubricate components as listed under "Lubrication **Points**" starting on page 35.
- 4. Always maintain proper air pressure in the tires. Refer to "**Tire Inflation Chart**" on page 54.

5. Replace worn, damaged, or illegible safety labels by obtaining new labels from your Land Pride dealer. See Information about "**Safety Labels**" starting on page 6.

# Hydraulic System

To avoid serious injury or death:

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

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

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

Check for signs of damaged or worn hydraulic hoses, fittings and cylinders before each use of the cutter. Replace damaged components as needed.

## Transport Tires



To avoid serious injury or death:

- Tire changing can be dangerous and should be performed by trained personnel using correct tools and equipment. When removing and installing wheels, use wheel handling equipment adequate for the weight involved.
- When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available. Do not over inflate tires.
- Do not weld on or heat a rim. High heat can weaken and/or warp the rim and damage the tire. Air pressure inside the tire can increase enough to cause an explosion.

**NOTE:** Under inflated tires can roll off of the rim. Maintaining air pressure within 5 psi (34 kPa) of maximum tire pressure reduces this risk. See "**Tire Inflation Chart**" on page 54 for recommended tire pressure. See tire sidewall for optimum pressure.

Heavy-duty tire sealant has been added in transport tires to reduce air loss from punctures due to nails/thorns etc.

- 1. Check tires for low air pressure, missing nuts, missing lug bolts, wear, separated rubber, and bent, broken, or cracked wheel rims.
- 2. Inflate air-filled tires to the proper pressure. Refer to "Tire Inflation Chart" on page 54.



## V-Belt Installation

## 

To avoid minor or moderate injury:

The belt drive system is under spring tension. Use care when servicing the system to avoid injury caused by forces built up in the spring.

### Refer to Figure 5-1 & Figure 5-2:

These illustrations are also on the labels located on the top of the mower decks.

- 1. Remove right-hand and left-hand belt covers.
- 2. Disengage belt tensioning latch by turning release nut with a 3/4" wrench.
- 3. Replace old belt with a new Land Pride belt making sure the new belt is positioned correctly in all the pulley grooves.
- 4. Engage belt tensioning latch by turning the release nut with a 3/4" wrench.
- 5. Check for correct belt tension. Refer to "**Belt Tension**" on page 23.
- 6. Reinstall all belt covers and secure with hardware.

## **Servicing Mower Blades**

## **A** DANGER

To avoid serious injury or death:

- Always disconnect driveline from the tractor and secure the implement in the up position with solid, non-concrete supports before servicing the underside. A person can become entangled in the drivetrain if the tractor is started and power take-off is engaged or crushed by an unsupported implement.
- Bent, deformed, or cracked blades should be removed from unit and discarded. Never weld a broken or cracked blade. DO NOT attempt to straighten or reuse such blades. ALWAYS replace with a new OEM blade to assure safety.

## 

To avoid serious injury or death:

Exercise caution when working under the deck as the mower cutting blades are extremely sharp. Wear a pair of gloves when checking blades. Avoid direct contact with cutting edge of blades.

### **Blade Inspection**

### Refer to Figure 5-3:

**Blade Wear:** Blade performance is reduced as blades wear and are sharpened for reuse. Excessively high wear can occur to your mower blades when mowing in sandy soil areas. Frequent inspection should be made and blades replaced if damaged.

Bent, Deformed or Split Blades should be removed from unit and discarded. DO NOT attempt to straighten a blade for reuse.



#### Top View of Left-Hand Deck Belt Drive Figure 5-1



#### Top View of Center and Right-Hand Deck Belt Drive Figure 5-2



Blade Placement Figure 5-3



### **Blade Removal & Installation**

## 

To avoid minor or moderate injury:

Depending on blade rotation, bolts attaching mower blades to their respective spindles may be either left-hand or right-hand thread. Prevent spindle and/or bolt damage by knowing which hand the threads are before removing and/or tightening any blade mounting bolts.

### Refer to Figure 5-1 & Figure 5-2 on page 36:

1. Verify blade rotation and bolt thread type (right-hand or left-hand) before loosening center blade bolts and removing blades to be sharpened or replaced.

**NOTE:** Blade bolt on the left-hand deck is righthand threads. Blade bolts on the right-hand and center decks are left-hand threads.

Refer to Figure 5-5, Model AFM4216 only: The two outside blade bar bolts (#6) are always right-hand threads.

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

- 2. Remove blades by grasping blade end (#1) with a rag or thick padded glove while loosening the blade mounting bolt (#4).
- 3. Remove blade bolt (#4) and Washer (#5) from blade being replaced.
- 4. (Model AFM4216 Only.) Remove two outside bolts (#6) from blade bar (#2).

**IMPORTANT:** Replace mower blades with genuine Land Pride blades only.

**IMPORTANT:** Always install blade with cutting edge facing direction of rotation and wing tips pointing up.

**IMPORTANT: (AFM4216 ONLY, See Figure 5-5)** Loctite is not required if blade bar (#2) is not removed. However, If blade bar (#2) is removed from spindle shaft (#3), apply "Loctite 243" to external spindle shaft threads and to center bolt threads (#4).

- 5. Reinstall blade (#1), blade washer (#5), and bolt (#4). Care should be taken when installing the blade bolt to not get it cross threaded and to know if the bolt is right-hand or left-hand. Torque bolt to 75 ft.-lbs.
- 6. (Model AFM4216 Only.) Reinstall the two outside bolts. Tighten to correct torque listed in The "Torque Values Chart" on page 54.







Model 4216 Blade and Blade Bar Removal Figure 5-5

### **Blade Sharpening**

## 

To avoid serious injury or death:

Wear eye protection and gloves while inspecting, removing, sharpening, and replacing a blade.

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

- 1. A cutting blade should be replaced or sharpened if it is dull or nicked.
- 2. Clean blade washer and blade mounting surface before installing a new blade. Also clean the old blade if you plan to sharpen it for reuse.

#### Refer to Figure 5-6:

3. Maintain sharpness by grinding only the top of the cutting edge at the same bevel as the original edge.





### Refer to Figure 5-7:

4. Check blade balance by positioning the blade horizontally on a nail or shaft through the blade's center hole. If either end of blade rotates downward, grind (remove) metal on that end until blade will balance horizontally on the nail. The blade is properly balanced when neither end drops. Balance of a blade is generally maintained by removing an equal amount of material from each end of the blade.



Blade Balancing Figure 5-7

## **Driveline Protection**



To avoid serious injury or death:

Always disconnect driveline from the tractor before servicing the drivetrain and components powered by the drivetrain. A person can become entangled in the drivetrain if the tractor is started and the power take-off is engaged.

## 

To avoid serious injury or death:

A slip clutch that has been in use or has slipped for as little as only two or three seconds during run-in may be too hot to touch. Allow a hot clutch to cool before working on it.

The drivetrain and mower is protected from shock loads with a friction slip clutch on the main driveline. Oxidation caused by moisture and condensation on the clutch friction surfaces can seize the inner frictions plates. To remove oxidation, run the clutches through a "run-in" cycle prior to initial operation, at the start of each season, and when the clutch has not be used for approximately 60 days.

## **Clutch Run-in**

#### Refer to Figure 5-8 on page 39:

- 1. With implement and driveline attached to the tractor, shut tractor down according to "**Tractor Shutdown Procedure**" on page 17.
- 2. Disconnect driveline from the tractor.
- 3. Loosen all nuts (#1), draw nuts up snug, and then tighten nuts one-half turn.
- 4. Reconnect driveline to the tractor. Refer to "Main Driveline Hook-up" on page 18.
- 5. Keep all bystanders away from the tractor and implement.
- 6. From the tractor seat, start the tractor, and set the engine speed at half throttle.
- Cycle the clutch on and off 5 or 6 times (15 seconds on and 15 seconds off) or until the clutch visibly smokes.
- 8. Shut tractor down according to "**Tractor Shutdown Procedure**" on page 17.
- 9. Disconnect the driveline from the tractor.
- 10. Tighten all nuts (#1) until spacers (#3) cannot be rotated by hand and then back-off the nuts until the spacers will rotate by hand.
- 11. Reconnect driveline to the tractor. Refer to "Main Driveline Hook-up" on page 18.





Slip Clutch Components Figure 5-8

## **Inspect Friction Disc**

### Refer to Figure 5-8:

Do not touch the clutch while it is hot. Inspect friction disc (#6) for wear and damage daily. Replace the disc when they are worn down to nothing or damaged. Refer to "**Replace Friction Disc**" below.

## **Replace Friction Disc**

### **Remove Driveline**

- 1. Shut tractor down according to "**Tractor Shutdown Procedure**" on page 17.
- 2. Pull back on the driveline lock collar and pull driveline yoke from the tractor's power take-off shaft.
- 3. Collapse the driveline by pushing the tractor end of the driveline toward the opposite end of the driveline.
- 4. Remove bolt(s) clamping the slip clutch to the implement.
- 5. The drive shaft with clutch is heavy. Grasp clutch firmly with both hands and slide the clutch off the implement.

### **Disassemble Clutch**

### Refer to Figure 5-8:

- 1. Place the clutch and universal joint assembly on a bench with the clutch end accessible.
- 2. Remove nuts (#1) and bolts (#10). These bolts and nuts hold the clutch together.
- 3. Remove compression plate (#2), spacers (#3), disc spring (#4), pressure plate (#5), friction disc (#6), hub flange (#7), friction disc (#6), and spacer (#8).
- 4. Discard friction disc (#6).

### **Inspect Clutch**

- 1. Inspect steel and iron parts for wear, warpage, and/or cracking and replace if necessary.
- 2. Clean any rust or dust from plate surfaces with a wire brush or steel wool.

### Assemble Clutch

### Refer to Figure 5-8:

- 1. Place spacer (#8) against yoke flange (#9).
- 2. Place one new friction disc (#6) against yoke flange (#9) and hub flange (#7) against the friction disc as shown.
- 3. Place the second new friction disc (#6) against hub flange (#7) and the flat surface of pressure plate (#5) against the disc.

**IMPORTANT:** IMPORTANT: Assemble small diameter (I.D.) of spring (#4) against fins on pressure plate (#5).

- 4. Place the inside diameter of disc spring (#4) against pressure plate (#5). Make sure the inside diameter of the spring contacts the fins of the pressure plate and the spring is centered on the pressure plate.
- 5. Insert bolts (#10) through yoke flange (#9) and pressure plate (#5).
- 6. Assemble spacers (#3) on bolts (#10).
- 7. Assemble compression plate (#2) on bolts (#10) and install nuts (#1).
- Tighten all nuts (#1) until spacers (#3) cannot be rotated by hand, then back-off the nuts until the spacers will rotate by hand.

### **Reattach Driveline to Implement**

- 1. Attach clutch hub (#7) to the implement with the existing bolts that were removed earlier. Make sure the grooves on the input shaft align with the grooves in the clutch.
- 2. Reinstall any shielding that was moved or removed.
- 3. The clutch must be run-in before it is used. Refer to "Clutch Run-in" on page 38.

### **Clutch Adjustment**

#### Refer to Figure 5-8:

The clutch will need adjusting from time to time due to wear on the friction discs. Adjust the clutch by tightening nuts (#1) until spacers (#3) cannot be rotated and then back-off nuts until the spacers will rotate by hand.

Adjust clutch at the start of each season and whenever the clutch begins to slip easily and/or often.



## Long-Term Storage

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

## 

To avoid serious injury or death:

Always disconnect driveline from the tractor and secure the implement in the up position with solid, non-concrete supports before servicing the underside. A person can become entangled in the drivetrain if the tractor is started and power take-off is engaged or crushed by an unsupported implement.

- Clean off any dirt and grease that may have accumulated on the mower and moving parts. Scrape off compacted dirt from the bottom of the deck and then wash surface thoroughly with a garden hose. A coating of oil may also be applied to the lower deck area to minimize oxidation.
- 2. Check blades for wear and replace or sharpen as needed. Refer to "**Blade Sharpening**" on page 38.
- 3. Inspect mower for loose, damaged, or worn parts and adjust or replace as needed.
- 4. Lubricate as noted in "Lubrication Points" starting on page 41.
- 5. A light coat of oil or grease may be applied to the deck and to any exposed hydraulic cylinder rods to minimize oxidation.
- 6. Release spring tension from drive belt. Refer to **"Blade Removal & Installation**" on page 37.
- Repaint parts where paint is worn or scratched to prevent rust. Ask your dealer for Land Pride aerosol touch-up paint. They are also available in touch-up bottles with brush, quarts, and gallon sizes by adding TU, QT, or GL to the end of the aerosol part number.

### Land Pride Touch-up Paint

#### Part No. Part Description

821-011C	PAINT LP BEIGE SPRAY CAN
821-066C	PAINT ORANGE SPRAY CAN
821-070C	PAINT GP GLOSS BLACK SPRAY CAN

- 8. Replace all damaged or missing decals.
- 9. Store mower on a level surface in a clean, dry place. Inside storage will reduce maintenance and make for a longer mower life.
- 10. Store driveline end off the ground.

## **Ordering Replacement Parts**

Land Pride offers equipment in factory standard Beige with black highlights. This implement is also available in Orange.

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

#### 82..... Orange 85..... Black

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



### **Lubrication Points**







### **Driveline Constant Velocity Shaft**

Type of Lubrication: Multi-purpose Grease

Quantity = See drawing

**IMPORTANT:** Extensive lubrication must be performed every 8 hours of operation to extend the life of the constant velocity joint.

- Grease constant velocity joint in a straight position to force grease through its passages and into the cavity. Grease should be visible around ball joints.
- Grease fittings in the outer telescoping member, u-joints, and driveline shields every 8 hours of operation to prevent premature break down.







### **Driveline Shafts**

Type of Lubrication: Multi-purpose Grease Quantity = See drawing



### Inner Tube of Driveline

Type of Lubrication: Wheel Bearing Grease

Clean and coat all inner tubes of the Drivelines with a light film of grease and then reassemble.

### Section 5: Maintenance & Lubrication







### Wheel Support Bushings

Type of Lubrication: Multi-purpose Grease Quantity = As required





### Wheel Bearings (15" Gauge Wheels)

Type of Lubrication: Multi-purpose Grease

Quantity = Repack wheel bearings annually

**NOTE:** A grease zerk is provided in wheel hubs, but care should be used as grease gun pressure can force dust cap to come off. Land Pride recommends repacking wheel bearings annually.



### Wheel Bearings (18" Gauge Wheels)

Type of Lubrication: Multi-purpose Grease

Quantity = Repack wheel bearings annually

**NOTE:** A grease zerk is provided in wheel hubs, but care should be used as grease gun pressure can force dust cap to come off. Land Pride recommends repacking wheel bearings annually.



### Wheel Bushings (Transport Hubs)

Type of Lubrication: Wheel Bearing Grease Quantity = As required





### Section 5: Maintenance & Lubrication







### **Blade Spindle Bearings**

Type of Lubrication: Multi-purpose Grease Quantity = As required





## Tool Bar to Deck Pivot Pin

Type of Lubrication: Multi-purpose Grease Quantity = As required





### **Transport Locks**

Type of Lubrication: Multi-purpose Grease Quantity = As required

### Section 5: Maintenance & Lubrication







### Wing Deck Pivot Bushings

Type of Lubrication: Multi-purpose Grease Quantity = As required







### **Rear Deck Pivot Half Clamps**

Type of Lubrication: Multi-purpose Grease Quantity = As required



### Wing Flex Pivot Lugs

Type of Lubrication: Multi-purpose Grease Quantity = As required

### Section 5: Maintenance & Lubrication





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



### 4-Way Gearbox

**IMPORTANT: Do not overfill with oil!** Unit should be level when checking oil. Oil expands when hot, therefore, always check oil level when cold. Take your gearbox to a Land Pride dealer if it requires service.

Unscrew and remove dipstick (#1). Wipe oil from dipstick and screw dipstick back in without tightening. Unscrew dipstick and check oil level on dipstick. If oil is near the bottom of the dipstick or below the dipstick, add recommended gear lube through the top plug hole until oil reaches top mark on dipstick. Reinstall top plug with dipstick and tighten.

Type of Lubrication: Gear Lube EP 80-90W

Quantity = Fill until oil reaches full mark on dipstick.



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



### **Mower Deck Gearbox**

**IMPORTANT: Do not overfill with oil!** Unit should be level when checking oil. Oil expands when hot, therefore, always check oil level when cold. Take your gearbox to a Land Pride dealer if it requires service.

**Method 1:** Unscrew top plug to remove dipstick (#1). Wipe oil from dipstick and screw dipstick back in without tightening. Unscrew dipstick and check dipstick. If oil level is at or below the bottom level mark, add recommended gear lube through top plug hole until oil reaches top mark on dipstick. Reinstall top plug with dipstick and tighten.

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

Type of Lubrication: 80-90W EP Gear Lube

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

### Section 6: Specifications & Capacities



AFM4214 Model								
Description	Specifications & Capacities	Description	Specifications & Capacities					
Discharge type	Rear	Blade spindle speed	3362 rpm					
Cutting width	14'-0" (4.52 m)	Blade tips speed	18396 fpm (5607 mpm)					
Overall width	14'-3" (4.34 m)	Blade drive belt	1 B-section					
Transport height	7'-7 1/2" (2.32m)	Drive belt tension	1 1/4" (3.2 cm)					
Transport width	7' - 11" (2.41m)	Blade bearing	Sealed Ball Bearings					
Overall length	14'-10" (4.52 m) Mowing position 12'-11" (3.94 m) Transport position	Blade overlap	Spring loaded idler with over-center release					
Weight	W/15" tires = 3,000 lbs. W/18" tires = 3,150 lbs.	Blades 3 each per deck	Low lift (5/16" x 2 1/2" x 20 29/32") Optional blades: Medium lift, high Lift and mulching					
Tractor horsepower	Minimum 40 hp (30 kW) Maximum 70 hp (52 kW)	Cutting height	3/4" to 5 1/4" (In 1/4" increments) 2 cm to 13 cm (in 6 mm increments)					
Hitch	Pull type with adjustable clevis and safety tow chain	Deck tires	10 Each, air tires with sealant 18 x 9.5 or 15 x 6.6					
Tongue support	2,200 lb (1000 kg) capacity screw jack	Deck wheel spindles	1 1/4" (3.2 cm) With nylon bushings					
Gearbox support	3/8" Steel channel	Transport tires	2 each, 23 x 10.5 with sealant					
Gearboxes	540 rpm (1)-splitter and (3)-wing	Transport locks Automatic with pull rope release						
Gearbox lubrication	Gear lube 80-90W EP	Turning radius	Zero turning radius					
Gearbox oil capacity	3 - Wings: 3.5 pints (1.7 L) SD splitter: 2.125 pints (1.0 L) or OMNI splitter: 2.5 pints (1.2 L)	Mowing capacity @mph= Acres/hour @km/hr= Hectares/hr	<ul> <li>@ 2 mph = 3.4</li> <li>@ 3 km/h = 1.3</li> <li>@ 4 mph = 6.8</li> <li>@ 6 km/h = 2.5</li> <li>@ 6 mph = 10.2</li> <li>@ 10 km/h = 4.3</li> </ul>					
Anti-scalp roller	Front center and outside deck corners	Wing deck flex	23 Degrees left to right 22 Degrees front to back					
Main driveline (1)	Cat. IV constant velocity with slip clutch	Center deck flex	10 Degrees left to right 22 Degrees front to back					
Deck drivelines (3)	Cat. II	Hydraulic outlets	1 Set required					
Deck size & quantity	3 each / 60" (1.52 m)	Deck cylinders	Dual acting					
Deck overlap	6" (15 cm)	Gauge wheel arms	1/4" (6 mm) Wall square tubing					
Deck thickness	3/16" (5 mm)	Signal lights 7 Pin connector	LED (light-emitting diode) SAE J560 pin configuration					



Model 4214 Specification Drawing





Model 4214 Specification Drawing

AFM4216 Model

### Section 6: Specifications & Capacities



Description	Specifications & Capacities	Description	Specifications & Capacities				
Discharge type	Rear	Blade spindle speed	2802 rpm				
Cutting width	16'- 8" (5.08 m)	Blade tips speed	18340 fpm (5590 mpm)				
Overall width	16'-10" (5.13 m)	Blade drive belt	1 B-section				
Transport height	8'-10" (2.69 m)	Drive belt tension	Spring loaded idler with over-center release				
Transport width	8'-5" (2.57 m) with lock pins Installed	Blade bearing	Sealed Ball Bearings				
Overall length	15'-0" (4.57 m) Mowing position 13'-4" (4.06 m) Transport position	Blade overlap	1 1/4"				
Weight	With 15" tires = 3,315 lbs (1504 kg) With 18" tires = 3,465 lbs (1572 kg)	Blades 3 each per deck	Low lift (5/16" x 2 1/2" x 25") Optional blades: Medium lift, high Lift and mulching				
Tractor horsepower	Minimum 40 hp (30 kW) Maximum 70 hp (52 kW)	Cutting height	3/4" to 5 1/4" (In 1/4" increments) 2 cm to 13 cm (in 6 mm increments)				
Hitch	Pull type with adjustable clevis and safety tow chain	Deck tires	10 Each, air tires with sealant 18 x 9.5 or 15 x 6.6				
Tongue support	2,200 lb. (998 kg) Capacity screw jack	Deck wheel spindles	1 1/4" (3.2 cm) With nylon bushings				
Gearbox support	3/8" (10 cm) Steel channel	Transport tires	2 each, 23 x 10.5 with sealant				
Gearboxes	540 rpm (1)-splitter and (3)-wing	Transport locks	Automatic with pull rope release				
Gearbox lubrication	Gear lube 80-90W EP	Turning radius	Zero turning radius				
Gearbox oil capacity	3 - Wings: 3.5 pints (1.7 L) SD splitter: 2.125 pints (1.0 L) or OMNI splitter: 2.5 pints (1.2 L)	Mowing capacity @mph= Acres/hour @km/hr= Hectares/hr	<ul> <li>@ 2 mph = 4.0</li> <li>@ 3 km/hr = 1.5</li> <li>@ 4 mph = 8.1</li> <li>@ 6 km/hr = 3.0</li> <li>@ 6 mph = 12.1</li> <li>@ 10 km/hr = 5.1</li> </ul>				
Anti-scalp roller	Front center and outside deck corners	Wing deck flex	23 Degrees left to right 22 Degrees front to back				
Main driveline (1)	Cat. IV constant velocity with slip clutch	Center deck flex	10 Degrees left to right 22 Degrees front to back				
Deck drivelines (3)	Cat. II	Hydraulic outlets	1 Set required				
Deck size & quantity	3 each / 72" (1.83 m)	Deck cylinders	Dual acting				
Deck overlap	8" (20.3 cm)	Gauge wheel arms	1/4" (6 mm) Wall square tubing				
Deck thickness	3/16" (21 mm)	Signal lights 7 Pin connector	LED (light-emitting diode) SAE J560 pin configuration				



#### Model 4216 Specification Drawing





Model 4216 Specification Drawing

13665



### AFM4214 & AFM4216 Models

Features	Benefits				
	LED lights are bright, long lasting, and resistant to vibration, unlike incandescent				
LED Signal lights	counterparts.				
Counter rotation on left-hand deck	Spreads grass clippings more evenly. Wing decks throw grass away from the rear deck. Rear deck doesn't get covered up nor does it get bogged down by cut grass.				
Narrow transport width	Not much wider then most tractors, making for opfor transport Maste most situ/				
AFM4214 = 7'-11" (2.41 m)	Not much wider than most tractors, making for safer transport. Meets most city/ county codes for transport width				
AFM4216 = 8'-5" (2.57 m)					
6" Deck overlap (AFM4214)	Eliminates blade skips when turning. Tighter turns can be made.				
8" Deck overlap (AFM4216)	Allows for maximum amount of wing deck flex.				
Sleek frame design, including single	Design allows operator to make tighter turns without leaving windrows and skips.				
beam hitch and compact deck overlap	The AFM virtually becomes a zero turn mower.				
Automatic transport wing locks	When wings are raised in the full transport position, the wings lock in place, no need to get off the tractor to lock. Pull rope from tractor seat to unlock.				
23" Transport tires	23" Transport tires offer smooth roading and less grass compaction. Allows grass to				
with tapered bearings	stand up. Tapered roller bearings offer longevity.				
Removable transportation tire spindles Back wheels on side decks even with	Allows a spindle to be replaced by simply removing two bolts.				
transportation tires	Allows tighter turns without skips.				
Rigid rear side deck tires	Rigid wheel yokes holds hills and slopes better. Safer unit than the competition.				
Large deck flotation tires with sealant	Optional 15" tires for great flotation or 18" tires for even greater flotation. The larger the tire the less compaction in pounds per square inch allowing grass to stand up. Sealant in the tires minimizes flats.				
1/4" (6 mm) Gauge wheel arms	Gives the mower gauge wheel arms a great deal of "hidden" strength.				
Low pivot points on deck	The lower the pivot points are to the ground, the more side to side swing, allowing for excellent flotation from each deck.				
Deflectors built into mower decks	Safety features meet ANSI standards. Many competitors use chains for protection. Once chains are removed the unit may not meet ANSI specifications.				
Rear discharge	Even dispersal, discharged items are always aimed downward. No rear chains are needed, which tend to clump damp grass.				
Cat. 4 CV main driveline	Constant velocity main driveline allows for tighter turns without harming U-joints in driveline, includes slip clutch.				
Slip clutch protection	Guards against premature gearbox failure. Protects mower deck spindles.				
Cat. 2 wing drivelines	Reduces start-up torque that is put on the driveline, gearbox, and gearbox support.				
Heavy gearbox mounts on center and side mower decks	Handles start up torque.				
Gearbox horsepower rating	40-70 hp (30-52 kW)				
Gearbox warranty	5 years on parts and labor. Demonstrates our confidence in the gearbox's quality and lasting performance.				
Easy to grease blade spindles	No guards to remove for routine greasing of blade spindles.				
Middle spindle sits towards	Uses less horsepower and allows material to escape the mower deck easier. The				
the back of the mower deck.	discharge of material is more even. Design eliminates windrowing.				
Spring loaded idlers	Applies constant tension to belt to run efficiently.				
Easy belt tension release	Easily release belt tension for changing belt or for winter storage.				
High blade tip speed AFM4214 = 18340 fpm (5590 mpm)	Lifts grass up for a clean cut and efficient discharge of material. Tip rates as high or higher than the competition.				
AFM4216 = 18396 fpm (5607 mpm)					
Choice of blade (Low lift standard)	Low Lift - Highly recommended in sandy soils where grass lift isn't crucial. Disturbs the soil very little, allowing blades to wear longer. Medium Lift - Medium suction for lifting grass before cutting. Requires less horsepower than high lift.				
Others available through parts dept.	<b>High Lift</b> - Greatest suction for lifting grass before cutting. Can take higher horsepower in tall dense grass. Not recommended in sandy soils.				
Optional hydraulic operated transport locks	Mulching - Perfect for leaf mulching.Transports locks can be released easily from the tractor seat while operating the same tractor control lever that raises and lowers the mower decks. Eliminates				
	pulling a rope to release transport locks.				



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## **Troubleshooting Chart**

Problem	Cause	Solution				
	Gearbox overfilled	Drain to level fill hole				
Oil seal leaking	Seals damaged	Replace seals				
5	Grass or wire wrapped on shaft in seal area	Clean off wrapped material and check seal areas daily				
	Scalping the ground	Raise cutting height.				
	Clutch is not properly adjusted	Adjust clutch. See "Driveline Protection" on page 38.				
Slip clutches slip even with a light load	Clutch plates are worn out	Replace clutch plates. See "Driveline Protection" on page 38.				
	Foreign object caught between clutch plates	Remove foreign object.				
	Shock load	Avoid hitting solid objects				
	Bottoming out	Shorten driveline profiles				
Driveline yoke or cross failing	Front constant velocity driveline mounted wrong	Be sure constant velocity joint is to tractor power take-off output shaft				
	Folding mower with drive engaged	Never fold mower decks with power take-off engaged				
	Needs lubrication	Lubricate every 25 hours				
Bent driveline (NOTE: driveline should be	Contacting drawbar	Reposition drawbar				
repaired or replaced if bent)	Bottoming out	Shorten driveline profiles				
Driveline telescoping profile failing	Shock load	Avoid hitting solid objects				
Driveline telescoping profile wearing	Needs lubrication	Lubricate every 50 hours				
Unable to turn sharply with mower engaged	Front constant velocity driveline mounted wrong	Be sure constant velocity joint is attached to tractor power take-off output shaft				
Blades wearing	Cutting on sandy ground	Raise cutting height. Change to low lift blades				
excessively	Contacting ground frequently	Raise cutting height				
Blades breaking	Hitting solid objects	Avoid solid objects				
	Driveline bent	Replace bent drivelines				
	Blade broken or bent	Replace blade				
	Cross not centered with yoke	Disassemble and inspect for incorrectly located needles or damaged bearing cap				
Excessive vibration	Debris in sheaves or on mower deck	Remove belt guard shield and clean debris from belt area and sheaves				
	Sheaves damaged or out of alignment	Replace sheaves or align				
	Drive belt damaged	Replace drive belt - check for belt contacting deck component.				
	Inadequate clearance between belt guard shields and belt	Remove belt guard shields and clean debris from belt area and sheaves				



## **Troubleshooting Chart**

Problem	Cause	Solution				
	Plugged grooming mower	Unplug and clean mower deck				
Bolt clipping	Debris in sheave	Remove belt guard shields and clean sheaves				
Belt slipping	Low belt spring tension	Retighten spring take-up bolt				
	Worn belt	Replace belt				
	rpm of tractor too low	Mow at full throttle (540 power take-off rpm). Check power take-off speed and tractor engine.				
Patches of uncut grass	Ground speed too fast	Shift transmission to a lower gear				
	Blade damaged or dull	Sharpen and balance or replace blade				
	Blade rotation wrong	Install correct rotation blade				
Gearbox noisy	Low lubricant level	Check lubricant level				
	Cutting too low	Raise cutting height by adjusting wheels				
Blades scalping grass	Ridges in terrain	Change mowing pattern				
	Fast turning speed	Reduce speed on turns				
	Ground speed too fast	Shift to a lower gear				
Uneven cut	Mower not level	Level mower				
	Dull blades	Sharpen blades and balance or replace				
	Tractor rpm too low	Mow at tractor's rated power take-off rpm (540 power take-off rpm)				
	Ground speed too fast	Shift to a lower gear				
	Grass too wet	Wait until grass dries.				
Tractor loaded down	Grass too tall	Raise cutting height of mower and cut grass twice.				
by the mower	Debris wrapped around mower spindles or blades	Clean mower				
	Tractor power take-off horse power rating too low	Raise cutting height of the mower and cut the grass twice. Shift to a lower gear. Use a tractor with more horsepower				
	Blades lift too high	Change to lower lift blades if they will cut the grass satisfactorily				
Optional hydraulic transport locks won't release properly	Wire ropes are too long.	Shorten wire ropes. See <b>"Hydraulic Transport</b> Locks, Optional" on page 26				
Optional hydraulic transport locks won't seat in locking lugs	Wire ropes are too short	Lengthen wire ropes. see "Hydraulic Transport Locks, Optional" on page 26				

## Section 9: Torque & Tire Inflation Charts



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" - 24       17       13       26       19       37       27         3/8" - 24       11       24       17       33       25         3/8" - 24       16       27       20       42       31       59       44         M10 X 1.5       33       24       52       38       72       53         3/8" - 24       31       22       47       35       67       49       M10 X 1.5       33       24       55       39       76       55         7/16" - 14       43       32       67       49       95       70       M10 X 1.5       35       26       53       39       76       55         7/16" - 14       43       32       67       15       81       165       105       70       150       110       210       155         1/2" - 13       66       49       97       155       115	Torque Values Chart for Common Bolt Sizes													
Boit Size (inches)         Grade 2         Grade 5         Grade 8         Boit Size (Metric)         Class 5.8         Class 6.8         Class 1.9           1/4" - 20         7.4         5.6         11         8         16         12           1/4" - 28         8.5         6         13         10         18         14           5/16" - 24         17         13         26         19         36         27           5/16" - 18         15         11         24         17         33         26         17         12         26         19         36         27           5/16" - 24         17         13         26         19         37         27         M8 X 1.1         18         13         28         21         39         22           3/8" - 16         27         20         42         31         59         44         M10 X 1.5         33         24         52         38         72         53           3/8" - 24         31         22         47         35         145         105         71         145         105         20         150         116         125         165         115         150         116 <td></td> <td colspan="7">Bolt Head Identification</td> <td colspan="4">Bolt Head Identification</td> <td></td>		Bolt Head Identification							Bolt Head Identification					
In-tpi         N         m         ft-lb         N         m         ft-lb <th>Bolt Size</th> <th></th> <th></th> <th>E</th> <th><math>\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{</math></th> <th>£</th> <th><math>\mathbf{Y}</math></th> <th>Bolt Size</th> <th>5.</th> <th>.8</th> <th colspan="2">8.8</th> <th colspan="2">10.9</th>	Bolt Size			E	$\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{$	£	$\mathbf{Y}$	Bolt Size	5.	.8	8.8		10.9	
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 5 X 0.8       4       3       6       5       9       7         1/4" - 28       8.5       6       13       10       18       14       M 5 X 0.8       4       3       6       5       9       7         5/16" - 24       17       13       26       19       37       27       M 8 X 1       7       5       11       8       15       11         3/8" - 16       27       20       42       31       59       44       M 8 X 1.5       33       24       52       38       72       53         3/8" - 24       31       22       47       35       67       49       95       70       M10 X 1.5       33       24       52       38       72       73       74       105       70       130       97       145       105       115       105       115       105       105       105       105       115       215       115				Gra	de 5	Gra	de 8	(Metric)	Clas	s 5.8	Class 8.8		Class 10.9	
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       18       13       26       19       36       27         5/16" - 24       17       13       26       19       37       27       M 8 X 1       18       13       28       21       39       25         3/8" - 24       31       22       47       35       67       49       M10 X 1.5       33       24       52       38       72       53         7/16" - 14       43       32       67       49       95       70       M10 X 1.5       35       26       53       39       76       56         7/16" - 14       43       32       67       49       95       70       130       97       145       105       20       130       97         1/2" - 30       66       49       105       76       145       105       210       155       115       240       100       35       245       142       105       225 <td>in-tpi <sup>1</sup></td> <td><math>N \cdot m^2</math></td> <td>ft-lb<sup>3</sup></td> <td>N·m</td> <td>ft-lb</td> <td>N · m</td> <td>ft-lb</td> <td>mm x pitch <sup>4</sup></td> <td>N·m</td> <td>ft-lb</td> <td>N·m</td> <td>ft-lb</td> <td>N·m</td> <td>ft-lb</td>	in-tpi <sup>1</sup>	$N \cdot m^2$	ft-lb <sup>3</sup>	N·m	ft-lb	N · m	ft-lb	mm x pitch <sup>4</sup>	N·m	ft-lb	N·m	ft-lb	N·m	ft-lb
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 1.25       17       12       26       19       36       27         3/8" - 24       31       22       42       31       59       44       M10 X 1.5       33       24       52       38       72       53         3/8" - 24       31       22       47       35       67       49       95       70       M10 X 1.5       53       26       53       39       76       55         7/16" - 14       43       32       67       49       95       70       M10 X 1.5       58       42       91       67       145       105         7/16" - 20       49       36       75       55       105       78       M12 X 1.75       60       44       95       70       130       97         1/2" - 13       66       49       105       76       145       105       115       215       116       240       185       115       215	1/4" - 20	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
5/16" - 24       17       13       26       19       37       27         M8 X 1       18       13       28       21       39       28         3/8" - 16       27       20       42       31       59       44         M10 X 1.5       33       24       52       38       72       53         3/8" - 24       31       22       47       35       67       49       95       70         M10 X 1.5       33       24       52       38       72       53         3/8" - 14       43       32       67       49       95       70       M10 X 1.25       35       26       53       39       76       55         716" - 20       49       36       75       55       115       85       165       120       M12 X 1       90       66       105       77       145       105         9/16" - 12       95       70       150       110       210       155       115       240       M14 X 1.5       99       73       155       115       240       180       335       245         9/16" - 18       105       70       165       150 <td>1/4" - 28</td> <td>8.5</td> <td>6</td> <td>13</td> <td>10</td> <td>18</td> <td>14</td> <td>M 6 X 1</td> <td>7</td> <td>5</td> <td>11</td> <td>8</td> <td>15</td> <td>11</td>	1/4" - 28	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
3/8" - 16       27       20       4/2       31       59       4/4       M10 X 1.5       33       2/4       52       38       72       53         3/8" - 24       31       22       47       35       67       49       M10 X 1.5       33       2/4       52       38       72       53         3/8" - 14       43       32       67       49       95       70       M10 X 1.25       35       26       53       39       76       56         7/16" - 14       43       32       67       49       95       70       M10 X 1.25       35       26       53       39       76       56         7/16" - 14       43       32       67       49       95       70       M10 X 1.5       33       24       91       67       125       93         7/12" - 13       66       49       105       76       145       105       71       150       110       210       155       M12 X 1.5       90       66       105       77       145       105       200       115       215       115       215       115       215       115       215       115       216       105 </td <td>5/16" - 18</td> <td>15</td> <td>11</td> <td>24</td> <td>17</td> <td>33</td> <td>25</td> <td>M 8 X 1.25</td> <td>17</td> <td>12</td> <td>26</td> <td>19</td> <td>36</td> <td>27</td>	5/16" - 18	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
3/8" - 24       31       22       47       35       67       49       M10 X 1.25       35       26       53       39       76       56         7/16" - 14       43       32       67       49       95       70       M10 X 1.25       35       26       53       39       76       56         7/16" - 14       43       32       67       49       95       70       M12 X 1.75       58       422       91       67       125       93         7/16" - 13       66       49       105       76       145       105       78       M12 X 1.5       60       44       95       70       130       97         9/16" - 12       95       70       150       110       210       155       M14 X 2       92       68       145       105       200       150         9/16" - 18       105       79       165       120       235       170       325       240       M16 X 1.5       155       115       215       115       215       115       215       115       215       115       216       300       335       245         9/16" - 18       130       170       32	5/16" - 24	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
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       88       165       120         9/16" - 12       95       70       150       110       210       155         9/16" - 12       95       70       150       110       210       155         9/16" - 18       105       79       165       120       235       170         3/8" - 11       130       97       205       150       285       210         3/4" - 10       235       170       360       265       510       375         3/4" - 10       235       170       360       265       510       375         3/4" - 10       235       170       360       265       510       375         3/4" - 10       235       170       360       265       510       375         3/4" - 12       370       275       955       570       420       115 <t< td=""><td>3/8" - 16</td><td>27</td><td>20</td><td>42</td><td>31</td><td>59</td><td>44</td><td>M10 X 1.5</td><td>33</td><td>24</td><td>52</td><td>38</td><td>72</td><td>53</td></t<>	3/8" - 16	27	20	42	31	59	44	M10 X 1.5	33	24	52	38	72	53
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" - 12       95       70       150       110       210       155         9/16" - 18       105       79       165       120       235       170       M14 X 1.5       99       73       155       115       210       155         5/8" - 18       150       110       230       170       325       240       M18 X 1.5       155       115       240       180       335       245         3/4" - 10       235       170       360       265       510       375       375       310       230       440       325       616       450       335       240       336       245         3/4" - 16       260       190       405       295       570       420       M18 X 1.5       250       165       445       355       310       230	3/8" - 24	31	22	47	35	67	49	M10 X 1.25	35	26	53	39	76	56
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" - 12       95       70       150       110       210       155         9/16" - 12       95       70       150       110       210       155         9/16" - 13       105       79       165       120       235       170         6/8" - 11       130       97       205       150       285       210         M14 X 1.5       99       73       155       115       215       166         5/8" - 11       130       97       205       150       285       210       M16 X 1.5       155       115       240       180       335       245         3/4" - 10       235       170       360       265       510       375       M18 X 1.5       220       165       350       240         3/4" - 16       260       190       455       705       150       170       202       165       350       26	7/16" - 14	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
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" - 11       130       97       205       150       285       210         3/4" - 10       233       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'/4" - 7       680       500       1520       1170       3230       380       610       1150       120       2100       1550         1'/4" - 7       680	7/16" - 20	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
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" - 12       370       275       955       705       1350       990       730       150       110       120       240       480       355       760       560       1050       780         1" - 12       370       275       955       705       1350       995       1750       1290       130       230       250       150       1150       1120       2100       150       120       1450       120	1/2" - 13	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
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'' - 12       370       275       955       705       1350       995         1'' - 12       540       395       1210       890       1960       1440         1'' - 12       750       555       1680       1240       2730       2010         1'' - 12       130       980       1960       1440       1880	1/2" - 20	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
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" - 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" - 7       480       500       1520       1120       2400       1820         1'' 1/8" - 6       890       655       1990       1470       3230       230         1'' 1/8" - 6       1180       870       2640       1820 <t< td=""><td>9/16" - 12</td><td>95</td><td>70</td><td>150</td><td>110</td><td>210</td><td>155</td><td>M14 X 1.5</td><td>99</td><td>73</td><td>155</td><td>115</td><td>215</td><td>160</td></t<>	9/16" - 12	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	215	160
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" - 9       225       165       585       430       820       670         1" - 8       340       250       875       645       1230       910       M18 X 2.5       195       145       310       230       650       480       900       6655         7/8" - 14       250       185       640       475       905       670       M20 X 1.5       310       230       640       1150       845         1" - 12       370       275       955       705       1350       995       M30 X 3.5       960       705       1510       1120       2400       1550         1'1/8" - 7       480       355       1080       795       1750       1290       M30 X 2       1060       785       1680       1240       2320       1710         1'1/8" - 1	9/16" - 18	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
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" - 9       225       165       585       430       820       605         7/8" - 14       250       185       640       475       905       670         1" - 12       370       275       955       705       1350       995         1'' - 12       370       275       955       705       1350       995         1'' //8" - 7       480       355       1080       795       1750       1290         1-1/8" - 7       480       355       1080       795       1750       1290         1-1/8" - 7       680       500       1520       1120       2460       1820         1-1/8" - 7       680       500       1520       1120       2460       1820         1-1/8" - 12       750       555       1680       1240       2730       2010         1-1/8" - 12       1010       745       2270       1670	5/8" - 11	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
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" - 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" - 7       480       355       1080       795       1750       1290         1-1/8" - 7       480       355       1080       795       1750       1290         1-1/8" - 7       680       500       1520       1120       2460       1820         1-1/4" - 7       680       500       1520       1120       2460       1820       1380       2960       2190       4100       3220         1-3/8" - 6       890       655       1990       1470       3230       2380       2100       <	5/8" - 18	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
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" - 7       480       355       1080       795       1750       1290         1.1/8" - 7       480       355       1080       795       1750       1290         1.1/8" - 7       680       500       1520       1120       2460       1820         1.1/4" - 7       680       500       1520       1120       2460       1820         1.3/8" - 6       890       655       1990       1470       3230       2380       1380       2960       2190       4100       3220         1.3/8" - 12       1010       745       2270       1670       3680       2710       1       1       1       1       1       1       2       N <m =="" newton-meters<="" th="">       3</m>	3/4" - 10	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
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" - 7       480       355       1080       795       1750       1290         1-1/8" - 7       680       500       1520       1120       2460       1820         1-1/4" - 7       680       500       1520       1120       2460       1820         1-3/8" - 6       890       655       1990       1470       3230       2380         1-3/8" - 6       890       655       1990       1470       3230       2380         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.       All locknuts or lubricated fasteners: Use 75% of torque value. (i.e.       1/2"-13 GR5 = 76 ft-lb;	3/4" - 16	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
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 3.5       960       705       1510       1120       2100       1550         1-1/8" - 7       480       355       1080       795       1750       1290       M30 X 3.5       960       705       1510       1120       2100       1550         1-1/8" - 7       680       500       1520       1120       2460       1820       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         1-3/8" - 6       890       655       1990       1470       3230       2380       2100       1670       3680	7/8" - 9	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
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 3.5       960       705       1510       1120       2100       1550         1-1/8" - 7       480       355       1080       795       1750       1290       M30 X 2       1060       785       1680       1240       2320       1710         1-1/8" - 12       540       395       1210       890       1960       1440       M36 X 3.5       1730       1270       2650       1950       3660       2700         1-1/4" - 7       680       500       1520       1120       2460       1820       M36 X 2       1880       1380       2960       2190       4100       3220         1-1/4" - 12       750       555       1680       1240       2730       2010       1       in-tpi = nominal thread diameter in inches-threads per inch         1-3/8" - 6       890       655       1990       1470       3230       2380       2710       4800       3160       4700       3160	7/8" - 14	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1-1/8" - 7       480       355       1080       795       1750       1290       M30 X 2       1060       785       1680       1240       2320       1710         1-1/8" - 12       540       395       1210       890       1960       1440       M36 X 3.5       1730       1270       2650       1950       3660       2700         1-1/4" - 7       680       500       1520       1120       2460       1820       M36 X 2       1880       1380       2960       2190       4100       3220         1-1/4" - 12       750       555       1680       1240       2730       2010       1       in-tpi = nominal thread diameter in inches-threads per inch       3660       2700         1-3/8" - 6       890       655       1990       1470       3230       2380       3160       1785       1680       1240       3230       2380         1-3/8" - 6       890       655       1990       1470       3230       2380       3160       4290       3160       4290       3160       4000       4000       4000       4000       4000       4000       4000       4000       4000       4000       4000       4000       4000       4000	1" - 8	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1-1/8" - 12       540       395       1210       890       1960       1440         1-1/4" - 7       680       500       1520       1120       2460       1820         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" - 6       890       655       1990       1470       3230       2380         1-3/8" - 6       1180       870       2640       1950       4290       3160         1-1/2" - 6       1180       870       2640       1950       4290       3160         1-1/2" - 12       1330       980       2970       2190       4820       3560       1700       17	1" - 12	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1-1/4" - 7       680       500       1520       1120       2460       1820       M36 X 2       1880       1380       2960       2190       4100       3220         1-1/4" - 12       750       555       1680       1240       2730       2010       1       in-tpi = nominal thread diameter in inches-threads per inch         1-3/8" - 6       890       655       1990       1470       3230       2380       1       in-tpi = nominal thread diameter in inches-threads per inch         1-3/8" - 12       1010       745       2270       1670       3680       2710       1       N·m = newton-meters       3       ft-lb= foot pounds       4       mm x pitch = nominal thread diameter in millimeters x thread       1       mm x pitch = nominal thread diameter in millimeters x thread       1       1       1       1       1       1       1       1       1       2       N·m = newton-meters       3       1       <	1-1/8" - 7	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
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       4mm x pitch = nominal thread diameter in millimeters x thread pitch         Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.       All locknuts or lubricated fasteners: Use 75% of torque value. (i.e.       1/2"-13 GR5 = 76 ft-lb; 75% of 76 or .75 x 76 = 57 ft-lb)	1-1/8" - 12	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
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       4mm x pitch = nominal thread diameter in millimeters x thread pitch         1-1/2" - 12       1330       980       2970       2190       4820       3560       4mm x pitch = nominal thread diameter in millimeters x thread pitch         Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.       All locknuts or lubricated fasteners: Use 75% of torque value. (i.e. 1/2"-13 GR5 = 76 ft-lb; 75% of 76 or .75 x 76 = 57 ft-lb)         Additional Torque Values	1-1/4" - 7	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
1-3/8" - 12       1010       745       2270       1670       3680       2710         1-1/2" - 6       1180       870       2640       1950       4290       3160       4mm x pitch = nominal thread diameter in millimeters x thread pitch         1-1/2" - 12       1330       980       2970       2190       4820       3560       4mm x pitch = nominal thread diameter in millimeters x thread pitch         Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.       All locknuts or lubricated fasteners: Use 75% of torque value. (i.e. 1/2"-13 GR5 = 76 ft-lb; 75% of 76 or .75 x 76 = 57 ft-lb)         Additional Torque Values	1-1/4" - 12	750	555	1680	1240	2730	2010	<sup>1</sup> in-tpi = nomin	al threa	d diame	ter in ind	ches-thr	eads per	r inch
1-3/8" - 12       1010       745       2270       1670       3680       2710         1-1/2" - 6       1180       870       2640       1950       4290       3160       4mm x pitch = nominal thread diameter in millimeters x thread pitch         1-1/2" - 12       1330       980       2970       2190       4820       3560       4mm x pitch = nominal thread diameter in millimeters x thread pitch         Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.       All locknuts or lubricated fasteners: Use 75% of torque value. (i.e. 1/2"-13 GR5 = 76 ft-lb; 75% of 76 or .75 x 76 = 57 ft-lb)         Additional Torque Values	1-3/8" - 6	890	655	1990	1470	3230	2380	<sup>2</sup> N· m = newtor	n-meters	;			-	
1-1/2" - 6       1180       870       2640       1950       4290       3160       4 mm x pitch = nominal thread diameter in millimeters x thread pitch         1-1/2" - 12       1330       980       2970       2190       4820       3560       4 mm x pitch = nominal thread diameter in millimeters x thread pitch         Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.       All locknuts or lubricated fasteners: Use 75% of torque value. (i.e. 1/2"-13 GR5 = 76 ft-lb; 75% of 76 or .75 x 76 = 57 ft-lb)         Additional Torque Values	1-3/8" - 12			2270	1670		2710							
1-1/2" - 12       1330       980       2970       2190       4820       3560       pitch         Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.       all locknuts or lubricated fasteners: Use 75% of torque value. (i.e. 1/2"-13 GR5 = 76 ft-lb; 75% of 76 or .75 x 76 = 57 ft-lb)         Additional Torque Values										thread of	diameter	r in millir	neters x	thread
Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above. All locknuts or lubricated fasteners: Use 75% of torque value. (i.e. 1/2"-13 GR5 = 76 ft-lb; 75% of 76 or .75 x 76 = 57 ft-lb) Additional Torque Values			980											
					e 75% of	f torque	value. (i	e. 1/2"-13 GR5 =	= 76 ft-lb				= 57 ft-ll	o)
Plade Polt 1/2" 20 LINE Cr 9	Additional lorque Values													
	Blade Bolt 1/2	Blade Bolt 1/2"-20 UNF Gr 8 Torque bolt to 75 ft-lbs.												

Tire Inflation Chart						
TireSize Inflation PSI						
23 x 10.50 - 12 x 4-Ply	20					
15 x 6.00 - 6 x 4-Ply	28					
18 x 9.50 - 8 x 4-Ply	24					

## Warranty

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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 on Parts and Labor.

Hydraulic Cylinders: One year Parts and Labor.

Belts, Blades and Friction Discs in Slip-Clutches: Considered wear items.

Tires: Considered wear items.

This Warranty is limited to the repair or replacement of any defective part by Land Pride and the installation by the dealer of any such replacement part, and does not cover common wear items 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 an authorized Land Pride dealer. Land Pride reserves the right to make changes in materials or design of the product at any time without notice.

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

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

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

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

Model Number \_\_\_\_\_

Serial Number \_\_\_\_\_



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