



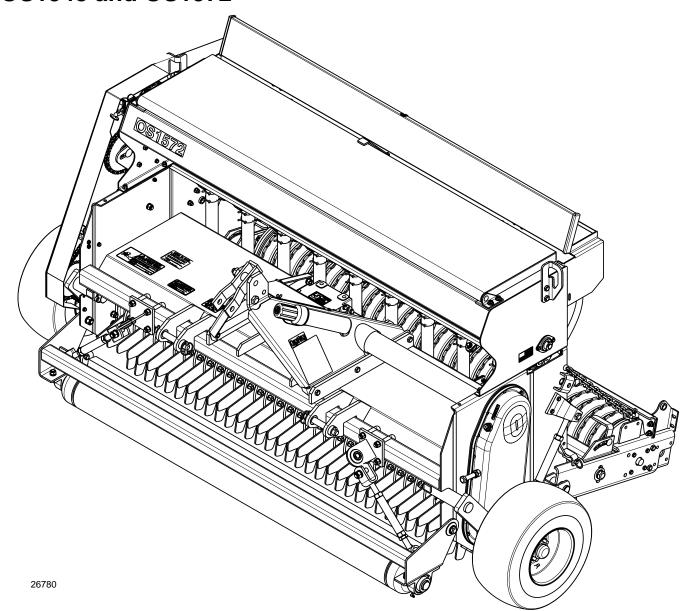
Sales Rentals

Sales Service

Parts & Service

# Overseeder (S/N 166724+)

## OS1548 and OS1572



# 308-303M 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.

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4/03/14



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

## Safety at All Times

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

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

- ▲ The operator must not use drugs or alcohol as they can change the alertness or coordination of that person while operating equipment. The operator should, if taking over-the-counter drugs, seek medical advice on whether he/she can safely operate the equipment.
- ▲ Operator should be familiar with all functions of the unit.
- ▲ Operate controls from the driver's seat only. Never operate controls from the ground.
- Make sure all guards and shields are in place and secured before operating implement.
- ▲ Keep all bystanders away from equipment and work area.
- ▲ Do not leave tractor or implement unattended with engine running.
- ▲ Dismounting from a moving tractor can cause serious injury or death.
- Do not allow anyone to stand between tractor and implement while backing up to implement.
- ▲ Keep hands, feet, and clothing away from power-driven parts.
- ▲ Watch out for fences, trees, rocks, wires, etc., while operating and transporting implement.
- ▲ Turning tractor too tight may cause hitched machinery to ride up on wheels. This could result in injury or equipment damage.

## Look For The Safety Alert Symbol



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

#### Be Aware of Signal Words

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

#### A DANGER

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

#### **A** WARNING

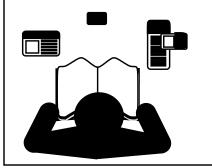
Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

#### **A** CAUTION

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

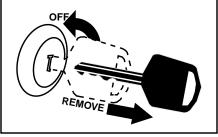
#### For Your Protection

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



#### **Shutdown and Storage**

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





#### Parts Manual QR Locator

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



## Dealer QR Locator

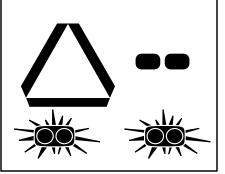
The QR code on the left will link you to available dealers for Land Pride products. Refer to Parts Manual QR Locator on this page for detailed instructions.



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

#### Use Safety Lights and Devices

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



### Transport Machinery Safely

- ▲ Comply with state and local laws.
- ▲ Use towing vehicle and trailer of adequate size and capacity.
- ▲ Secure equipment towed on a trailer with tie downs and chains.
- ▲ Sudden braking can cause a trailer to swerve and upset. Reduce speed if trailer is not equipped with brakes.
- Avoid contact with any over head utility lines or electrically charged conductors.
- ▲ Engage parking brake when stopped on an incline.

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









## **Use A Safety Chain**

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



#### **Practice Safe Maintenance**

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

- ▲ Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on implement.
- ▲ Do not grease or oil implement while it is in operation.
- Inspect all parts. Make certain parts are in good condition & installed properly.
- ▲ Remove buildup of grease, oil, or debris.
- ▲ Remove all tools and unused parts from implement before operation.







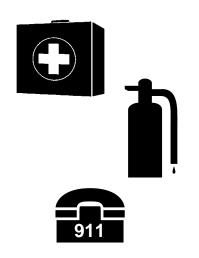




These are common practices that may or may not be applicable to the products described in this manual.

#### **Prepare for Emergencies**

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



# Wear Protective Equipment

- ▲ Wear protective clothing and equipment appropriate for the job. Clothing should be snug fitting 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 equipment safely requires the operator's full attention. Avoid wearing radio headphones while operating machinery.



#### Avoid High Pressure Fluids Hazard

- Escaping fluid under pressure can penetrate the skin causing serious injury.
- ▲ Avoid the hazard by relieving pressure before disconnecting hydraulic lines or performing work on the system.
- Make sure all hydraulic fluid connections are tight 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, see a doctor familiar with this type of injury immediately. Any fluid injected into the skin or eyes must be treated within a few hours or gangrene may result.

## Tire Safety

- ▲ Tire changing can be dangerous and should be preformed by trained personnel using the correct tools and equipment.
- 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.
- ▲ When removing and installing wheels, use wheel handling equipment adequate for the weight involved.



# **Keep Riders Off Machinery**

- Never carry riders or use machinery as a personlift.
- ▲ Riders obstruct operator's view.
- Riders could be struck by foreign objects or thrown from the machine.
- ▲ Never allow children to operate equipment.



## Handle Chemicals Properly

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

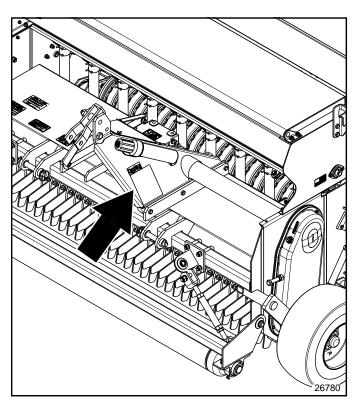




## Safety Labels

Your Overseeder 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 the area the label is to be placed.
  - b. Spray soapy water on the surface where the label is to be placed.
  - c. Peel backing from label. Press firmly onto the surface.
  - d. Squeeze out air bubbles with the edge of a credit card or with a similar type straight edge.



To prevent serious injury or death:

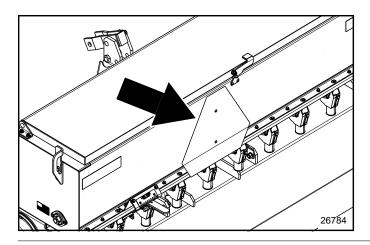
- Read and understand Operator's Manual before using. Review annually.
- \* Do not permit riders on the tractor or implement. Never carry children on tractor seat.
- \* Do not allow children to operate implement.
- \* Operate only with guards installed and in good condition.
- \* Keep away from moving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

Si no lee ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad.

818-858C REV.B

#### 818-858C

Caution! General Safety Information

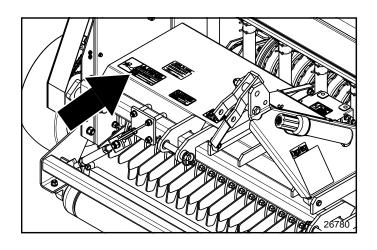




818-055C

Slow Moving Sign

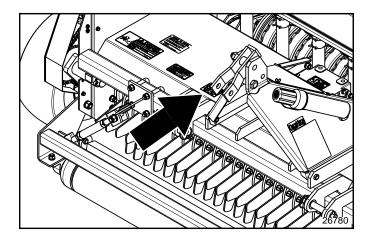






818-129C

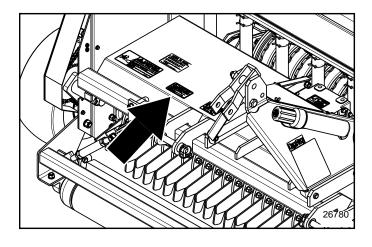
Danger! Rotating Knife Hazard

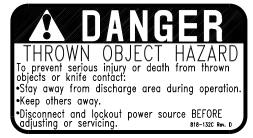




#### 818-130C

Caution! Use 540 rpm PTO only

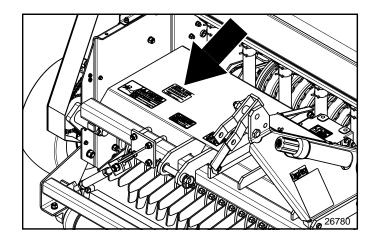




#### 818-132C

Danger! Thrown Object Hazard





## NOTICE TO OWNER

An OPERATOR'S MANUAL was attached to this implement during final inspection at the factory.

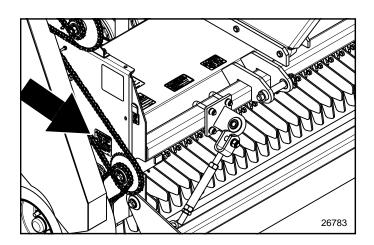
If it was not attached at the time of purchase, please contact your selling dealer at once.

- 1. Read and understand Manual BEFORE operating the implement.
- 2. Pay attention to the safety messages.

818-5600

#### 818-560C

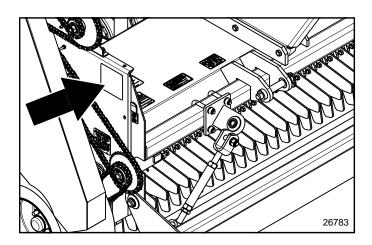
Notice! Read & Understand Manual

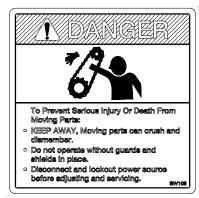




#### 818-543C

Danger! Guard Missing (Beneath Chain Guard)

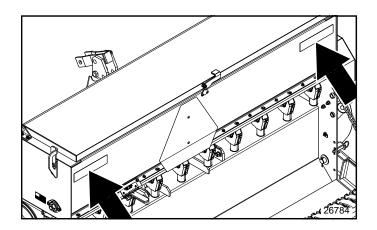




#### 838-111C

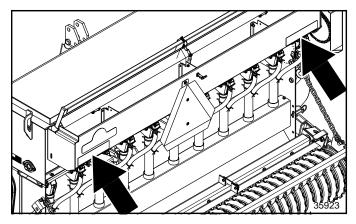
Danger! Moving Parts (Above Chain Guard)





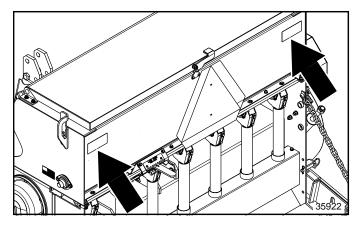
## 838-614C (OS1572 Only)

2" x 9" Red Reflector (2 places on back of main seeds box)



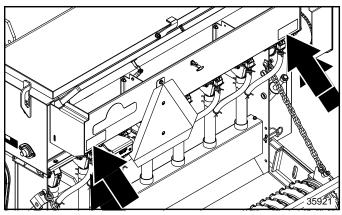
## 838-614C (OS1572 Only)

2" x 9" Red Reflector (2 places on back of small seeds box)



# 858-095C (OS1548 Only)

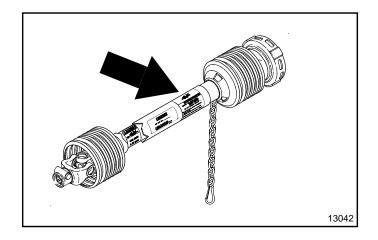
2" x 4 1/2" Red Reflector (2 places on back of main seeds box)



# 858-095C (OS1548 Only)

2" x 4 1/2" Red Reflector (2 places on back of small seeds box)

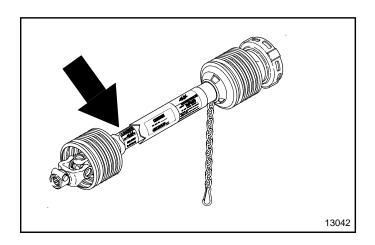






818-552C

Danger! Entanglement





818-540C

Danger! Guard Missing - DO NOT Operate



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

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

## **Application**

The Land Pride OS1548 and OS1572 Overseeders are a highly versatile and well engineered seed planting systems designed to open up the soil or turf surface, precisely meter out seed, and then press the seed into full soil contact. They may be used for either over-seeding or primary seeding applications. Their versatility and precision seeding capabilities make them an excellent choice for applications in wild game food plots, hunting clubs, resorts, golf courses, sports turf, ranches, turf farms, game preserves, landscaping, professional turf maintenance, and municipalities.

The opening or slitting action is achieved by employing PTO powered to a four or six foot wide rotary vertically driven knives on either 2 inch or 3 inch centers. Depth control of the slitter knives is achieved by either:

- 1. End-mounted adjustable gauge wheels
- 2. Front mounted anti-scalping roller attachment
- Positive height control of the tractors 3-point hitch draft-links.

Seed distribution and placement is accomplished by utilization of high capacity water-tight seed boxes with agitators and seed cups with powdered metal flutes. The agitators deliver seed to the seed cups which in turn dispense seed into clear vinyl transfer tubes attached to an evenly spaced seed distribution manifold. The distribution manifold uniformly and evenly spreads the seed across the working profile of the seeder. Actual rate and metering control is accomplished by either an end mounted gauge wheels drive or by a rear roller seed box drive mechanism. Units equipped with the rear roller drive will be able to achieve a higher germination rate since this drive also serves as a roller-compactor to help achieve maximum seed to soil contact.

An optional spring-tine harrow is available to enhance seed to soil contact. Also, a precision Slit-seeding attachment is available to deliver seed directly into the slits created by the rotary knives. This slit seeder attachment is not compatible with the spring-tine harrow attachment.

For additional information and performance enhancing options, see "Specifications & Capacities" on page 50 and "Features & Benefits" on page 52.

## **Using This Manual**

 This Operator's Manual is designed to help familiarize you with safety, assembly, operation, adjustments, troubleshooting, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.

- The information contained within this manual was current at the time of printing. Some parts may change slightly to assure you of the best performance.
- To order a new Operator's or Parts Manual, contact your authorized dealer. Manuals can also be downloaded, free-of-charge, from our website at www.landpride.com

### Terminology

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

#### **Definitions**

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

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

#### Owner Assistance

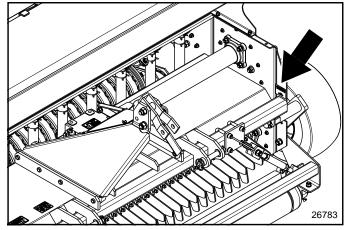
The Online Warranty Registration should be completed by the dealer at the time of purchase. This information is necessary to provide you with quality customer service.

The parts on your Overseeder 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**

Model No. \_\_\_\_\_Serial No. \_\_\_\_

For quick reference and prompt service, record model number and serial number in the spaces provided above and again on warranty page 55. Always provide model number and serial number when ordering parts and in all correspondences with your Land Pride dealer. Refer to Figure 1 for location of your serial number plate.



Serial Number Plate Location Figure 1



#### **Further Assistance**

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

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

Land Pride Service Department 1525 East North Street

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

E-mail address lpservicedept@landpride.com



# Tractor Requirements Weight & Horsepower

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

Horsepower Rating
3-Point Hitch Type
Rear PTO Speed
Tractor Weight See Important Note Below

**IMPORTANT:** Ballast may need to be added to your tractor to maintain steering control. Refer to your tractor's operator manual to determine if additional ballast is needed.

#### **Shipping information**

Your Overseeder is shipped partly assembled via flat bed truck. It is the responsibility of the dealer to unload and assemble the Overseeder.

Unload all equipment before beginning assembly. Do not attempt any assembly work while Overseeder is on the truck.

Read and understand the previous section, "Important Safety Information" page 1, before starting assembly.

## **Pre-Assembly Checklist**

The information in the Pre-Assembly Checklist is general in nature and was written to aid the operator in preparing of the tractor and Overseeder for use, and to provide general operating procedures. The operator's experience, familiarity with the machine, and the following information combined should provide efficient Overseeder operation and good working habits.

Having all the parts and equipment readily at hand will speed your assembly task and make the job as safe as possible. Please review Pre-Assembly Checklist now.

## Sling Brackets

#### Refer to Figure 1-1:

After the unit is uncrated, check to see if the sling brackets (#1) are installed, if not, install one on each end of unit now with 1/2" x 1" long bolts (#2), 1/2" lock washer (#3), and 1/2" hex nut (#4). The sling brackets allow points at each end to hook the chain for lifting of the unit.

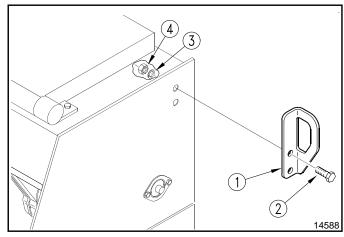
**NOTE:** When hooking hoist chain to sling brackets, be certain to either use a spreader bar on the chain or use a long chain to prevent bending sling brackets.

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

Check	Reference
Make sure miscellaneous assembly tools are on hape measure, hacksaw, assortment of wrenches 3/8" drill, drill bits, and spirit level.	
Have a forklift or hoist with properly sized chains stands on hand capable of lifting 2000 lbs.	and safety
Have a minimum of two people available during a See Specifications on page 50 for unit weights.	ssembly.
Check to see if auxiliary tractor weights are need	ed.
Make sure all major components and loose parts are shipped with the machine.	Operator's Manual
Double check to make sure all fasteners & pins are installed in the correct location. Refer to the Parts Manual if unsure.  NOTE: All assembled hardware from the factory has been installed in the correct location. Remember location of a part or fastener if removed during assembly. Keep parts separated.	Operator's & Parts Manual
Make sure working parts move freely, bolts are tight & cotter pins are spread.	Operator's Manual
Make sure all grease fittings are in place and lubricated.	Section 4 Page 37
Make sure gearbox is filled with gear lube as indicated in "Lubrication Points".	Section 4 Page 44
Make sure all drive chains are properly tension and aligned.	Operator's Manual
Make sure all safety labels are correctly located and legible. Replace if damaged.	Safety Labels Page 4
Make sure all tires are inflated to the specified psi air pressure.	Section 9 Page 54
Make sure all wheel bolts and axle nuts are tightened to the specified torque.	Section 9 Page 54

## **Torque Requirements**

Refer to "**Torque Values Chart**" on page 54 to determine correct torque values when tightening hardware.



Sling Bracket Installation Figure 1-1



## **Quick Change Rotor**

Use an overhead hoist for rotor installation. Attach chain, cable, or lifting strap to the two Overseeder sling brackets and raise Overseeder with the overhead hoist.

#### Refer to Figure 1-2:

Complete steps 1 to 4 if the Overseeder is equipped with gauge wheel drive. Skip to step 5 if gauge wheels are not included.

- 1. Remove chain cover (#1) on the right-hand side by removing 1/4" x 1/2" long bolts (#2).
- Disconnect right-hand spring loaded gauge wheel link (#3) from right-hand gauge wheel arm (#4) by removing 5/8" x 2 1/2" bolt (#5) and 5/8" nut (#6).
- Remove drive wheel chain.
- Remove cotter pin (#7) that retains the right-hand gauge wheel arm and remove gauge wheel arm assembly. Be careful not to loose any components.

#### Refer to Figure 1-3:

- Remove right-hand bearing mount plate (#1) from Overseeder main frame.
- 6. Separate right-hand bearing cover (#2) from right-hand bearing mount plate (#1).
- Between parts (#1 & #2) are two bearing mount gaskets (#4).
   Place one of these bearing mount gaskets between bearing mount (#3) and bearing mount plate (#1).
- 8. Then place the other bearing mount gasket between bearing mount plate (#1) and bearing cover (#2).
- Retain these parts with 1/2" x 1 3/4" long bolts (#5), 1/2" lock washers (#6), and 1/2" hex nuts (#7). Hand tighten nuts at this time. Final torquing of these bolts will be later in the assembly process.
- Check to make sure set screws in the hub inside the bearing mount (#3) are loose so it is free to rotate on the rotor shaft.

#### Refer to Figure 1-4:

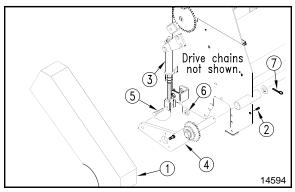
- Lift Overseeder high enough to roll rotor into position under the Overseeder frame.
- 12. With rotor properly positioned, slowly lower Overseeder making sure the right-hand bearing mount plate (#1) is to the <u>outside</u> of the right-hand frame end panel.

#### Refer to Figure 1-5:

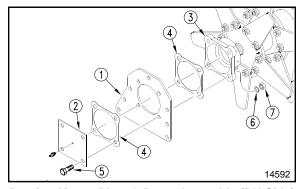
13. Connect rotor to rotor drive hub (#1) on the left-hand side using 7/16" x 1" long bolts (#3) and 7/16" lock washer (#2). Leave bolts loose.

#### Refer to Figure 1-4:

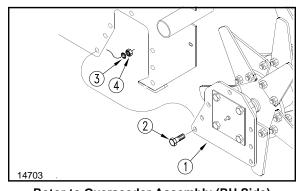
- 14. Connect right-hand bearing mount plate to the Overseeder main frame using 1/2" x 1 1/4" bolt (#2), 1/2" lock washer (#3), and 1/2" hex nut (#4). Draw nuts up snug, do not tighten.
- 15. Torque all bolts to the proper specifications, see "Torque Values Chart" on page 54. Tighten bolts in the following order:
  - a. Rotor to rotor drive hub.
  - b. Bearing mount plate to Overseeder main frame.
  - c. Bearing cover thru bearing mount plate to bearing mount.



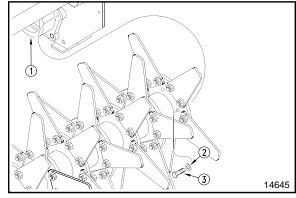
Gauge Wheel Drive Disassembly Figure 1-2



Bearing Mount Plate & Rotor Assembly (RH Side) Figure 1-3



Rotor to Overseeder Assembly (RH Side) Figure 1-4



Rotor to Overseeder Installation-Left-hand Side Figure 1-5



- 16. Position hub inside bearing mount against bearing seal and tighten set screws.
- 17. Add grease to right-hand bearing by using grease zerk located on the right-hand bearing cover.
- 18. Reassemble gauge wheel & drive chains. Reattach chain guard.

## **Rear Roller Assembly**

#### Refer to Figure 1-6:

- 1. Attach packer wheel assembly (#1) to Overseeder frame using 1" x 3 11/16" long clevis pins (#2), flat washers (#3), and 3/16" x 1 3/4" cotter pins (#4).
- If Overseeder has a rear roller drive, skip to "Rear Roller Drive" below.
- 3. Attach support chains (#5) to Overseeder frame and to packer wheel arms using 5/16" utility clevises (#6).

## **Gauge Wheel Drive**

#### Refer to Figure 1-7:

- 1. Remove lock nut (#11) and bolt (#12). Rotate gauge wheel arm (#2) down.
- 2. Bolt drive spindle & hub (#1) to gauge wheel arm (#2) with 5/16" x 1 1/2" bolts (#3) and 5/16" lock nuts (#4).
- 3. Rotate gauge wheel arm (#2) up and bolt to turnbuckle (#13) with removed bolt (#12) and lock nut (#11). Draw lock nut up snug, do not tighten.
- 4. Attach wheel (#5) to hub (#1) with 1/2" x 1 3/8" lug bolts (#6) and lug nuts (#7). Repeat steps 1 to 3 for the left-hand side, except use non-drive spindle and hub (#8) with bolts (#6).

**IMPORTANT:** Roller chains must be installed on the seeder at the correct gear ratio. Refer to "**Speed Change Sprocket**" starting on page 20 to determine correct chain installation.

5. Bolt chain guard (#9) to the right-hand frame end plate using 1/4" x 1/2" long bolts (#10).

#### **Rear Roller Drive**

#### Refer to Figure 1-8:

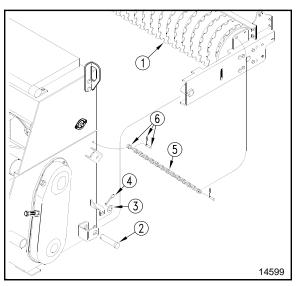
1. Attach solid links (#1) to back of frame with 5/8" x 2 3/4" long bolts (#2) on top and 5/8" x 1 3/4" bolts (#4) on the bottom.

**IMPORTANT:** Roller chains must be installed on the seeder at the correct gear ratio. Refer to "**Speed Change Sprocket**" starting on page 20 to determine correct chain installation.

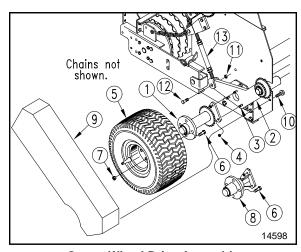
2. Bolt chain guard (#9) to end plate using 5/16" x 6" bolt (#10), 5/16" lock washer (#11), and 1/4" x 1/2" bolts (#12).

**NOTE:** See "Rear Arm Length Adjustment" on page 30 for definition of long arm and short arm.

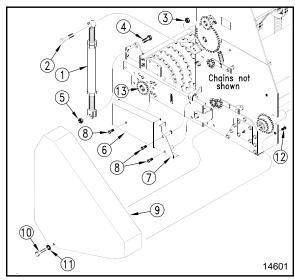
3. If rear roller (#13) is in the short arm position as shown, attach front chain guard (#7) and rear chain guard (#6) with 5/16" x 2 1/2" bolts (#8) in the locations shown.



Rear Roller Installation Figure 1-6



Gauge Wheel Drive Assembly Figure 1-7

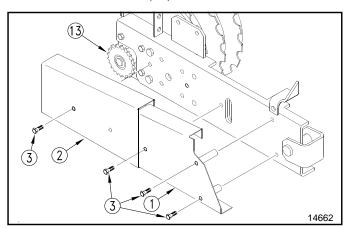


Rear Roller Drive Assembly with Short Arm Figure 1-8



#### Refer to Figure 1-9:

4. If rear roller (#13) is in the long arm position, attach front chain guard (#1) and rear chain guard (#2) with 5/16" x 2 1/2" bolts (#3) as shown below.



Long Arm Chain Guard Location Figure 1-9

#### **Driveline Installation**

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

Always engage PTO at low engine RPM to minimize driveline start-up torque. Drivelines with friction clutches must go through a "run-in" operation prior to initial use and after long periods of inactivity. See Section 4: Maintenance & Lubrication on page 37: for a detailed description of maintaining the driveline.

If the Overseeder is used on more than one tractor, an additional driveline may be required - especially if a Quick-Hitch is used.



## DANGER

**Do not** engage tractor PTO while hooking-up and unhooking driveline or stand near a rotating driveline. A person's body and/or clothing can become entangled in the driveline resulting in serious injury or death.



## **CAUTION**

Do not use a PTO adaptor. A PTO adapter will increase strain on the tractor's PTO shaft resulting in possible damage to the shaft and driveline.



## **CAUTION**

Tractor PTO shield, driveline shields, and all Overseeder guards must be in place at all times during operation!



## **CAUTION**

Always disengage PTO, engage parking brake, shut off tractor, and remove key before dismounting from tractor.

**IMPORTANT:** An additional PTO shaft may be required if the seeder is to be used on more than one tractor, especially if a Quick-Hitch is used.

**IMPORTANT:** The driveline must be lubricated before putting it into service. Refer to "**Lubrication Points**" on page 44.

**IMPORTANT:** Some tractors are equipped with multispeed PTO ranges. Be certain your tractor 's PTO is set for 540 rpm.

**IMPORTANT:** The tractor's PTO shaft and seeder gearbox shaft must be aligned and level with each other during installation of driveline.

#### **Hook-up Driveline**

- 1. Park tractor on a level surface. Slowly engage tractor 3-point lift lever to raise seeder until gearbox shaft is in line (level) with the tractor PTO shaft.
- 2. Support seeder at this height with support jacks or blocks to keep seeder from drifting down.
- 3. Place gear selector in park, set park brake, shut tractor off, and remove switch key.

**NOTE:** For easier access to gearbox input shaft, remove driveline guard above the gearbox.

- 4. Slide slip clutch or shear bolt yoke end of driveline over the splined input shaft of gearbox. Secure with driveline yoke locking device.
- 5. Slide other end of driveline over the tractor PTO shaft. Secure driveline with yoke locking device.
- 6. The driveline should now be moved back and forth to ensure both ends are secured to the tractor and cutter shafts. Reattach any end that is loose.

#### Check Driveline Collapsible Length

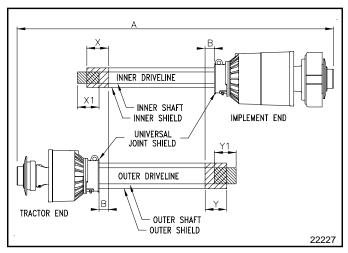
**IMPORTANT:** A driveline that is too long to fit between tractor and seeder will bottom out causing structural damage to tractor and seeder.

Always check driveline collapsible length during initial setup, when connecting to a different tractor, and when alternating between a Quick-Hitch and a standard 3-point hitch. More than one driveline may be required to fit all applications.

#### Refer to Figure 1-10 on page 15:

- 1. Make sure driveline is properly installed and level before checking driveline collapsible length. (Refer to "Hook-up Driveline" instructions above if needed.)
- 2. With driveline level, measure 1" ("**B**" dimension) back from universal joint shield to end of outer driveline shield as shown in Figure 1-6 on page 13.





PTO Driveline Shortening Figure 1-10

3. If measurement is acceptable (1" or more), skip to "Check Driveline Maximum Length" on this page. If measurement is less than 1", then shorten driveline using instructions provided below.

#### **Shorten Driveline**

#### Refer to Figure 1-10:

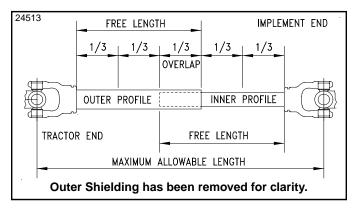
- Un-hook driveline from tractor PTO shaft and pull outer and inner drivelines apart.
- 2. Reattach outer driveline to tractor PTO shaft. Pull on inner and outer drivelines to be sure universal joints are properly secured.
- 3. Hold inner and outer drivelines parallel to each other:
  - a. Measure 1" ("B" dimension) back from outer driveline universal joint shield and make a mark at this location on the inner driveline shield.
  - Measure 1" ("B" dimension) back from the inner driveline universal joint shield and make a mark at this location on the outer driveline shield.
- 4. Remove driveline from tractor and gearbox shafts.
- Measure from end of inner shield to scribed mark ("X" dimension). Cut off inner shield at the mark. Cut same amount off the inner shaft ("X1" dimension).
- 6. Measure from end of outer shield to scribed mark ("Y" dimension). Cut off outer shield at the mark. Cut same amount off the outer shaft ("Y1" dimension).
- 7. Remove all burrs and cuttings.
- 8. Continue with "Check Driveline Maximum Length".

# Check Driveline Maximum Length Refer to Figure 1-11:

Make sure driveline collapsible length is acceptable. If needed, refer to "Check Driveline Collapsible Length" instructions on page 14.

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

- Driveline should be unhooked from tractor PTO shaft with the outer and inner drivelines pulled apart as shown in Figure 1-10.
- Apply multi-purpose grease to the inside of the outer profile tube and then reassemble the two driveline halves together with just 1/3 overlapping of the profile tubes as shown below. Once assembled, measure and record maximum allowable length for future reference.



# Driveline Maximum Extended Length Figure 1-11

- 3. Attach inner driveline yoke to the gearbox shaft.
  Attach outer driveline yoke to the tractor PTO shaft.
- 4. Move yoke ends of driveline back and forth to ensure they are secured. Reattach any end that is loose.
- Continue with "Hook-up Driveline Safety Chains" below.

#### **Hook-up Driveline Safety Chains**

**IMPORTANT:** Two small chains are supplied with the driveline. To keep driveline shields from rotating, these chains must be attached to the outer and inner driveline shields and to the seeder and tractor.

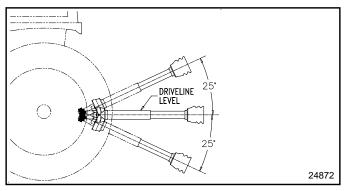
- Hook driveline safety chain on the tractor end of driveline to the tractor. Re-latch safety chain to the driveline shield.
- 7. Hook driveline safety chain on the Overseeder end of driveline to the seeder frame. Re-latch safety chain to the driveline shield.
- Continue with "Check Driveline Interference" on page 16.



#### **Check Driveline Interference**

#### Refer to Figure 1-12:

**IMPORTANT:** Avoid premature driveline breakdown. A driveline that is operating **must not exceed** an angle of 25 degrees up or down. See Figure 1-12 below. If needed, set tractor 3-point lift height to keep driveline from exceeding 25° up. Refer to your tractor's operator manual.



Maximum PTO Driveline Movement During Operation Figure 1-12

- Start tractor and raise seeder up just enough to remove support blocks. Remove support blocks.
- Slowly engage tractor hydraulic 3-point control lever to lower seeder while checking for sufficient drawbar clearance. Move drawbar ahead, aside, or remove if required.
- Raise and lower implement to find maximum extended driveline length. Check to make certain driveline does not exceed 25° up or down.
- 4. If needed, set tractor 3-point lift height to keep driveline from exceeding 25° up.



## **Operating Checklist**

Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training involved in the operation, transport, storage, and maintenance of the seeder. Therefore, it is absolutely essential that no one operates the Overseeder without first having read, fully understood, and become totally familiar with the Operator's Manual. Make sure the operator has paid particular attention to:

- Important Safety Information, pages 1 to 3
- Section 1: Assembly & Set-up, page 11
- Section 2: Operating Instructions, page 17
- Section 3: Adjustments, page 20
- Section 4: Maintenance & Lubrication, page 37

The following information should be known and inspections made before operating your seeder.

#### **Operating Checklist**

~	Check	Page No.
	Read and follow all safety rules & alerts carefully. Refer to "Important Safety Information".	Page 1
	Make sure all guards and shields are in place. Refer to "Important Safety Information".	Page 1
	Read and follow all operating procedures. Refer to "Section 2: Operating Instructions".	Page 17
	Read and make all required adjustments. Refer to "Section 3: Adjustments".	Page 20
	Read and follow all maintenance instructions. Refer to "Section 4: Maintenance & Lubrication".	Page 37
	Read and follow all lubrication instructions. Refer to "Lubrication Points".	Page 44
	Make sure all gearboxes are properly lubricated. Refer to Gearbox lubrication.	Page 46
	Check tire pressure. See to "Tire Inflation Chart"	Page 54
	Inspect seed cups and seed tubes for foreign matter.	Page 22
	Set speed change sprocket for drive type desired.	Page 20
	Set seed rate. See "Seed Rate Charts".	Page 24
	Check seeder initially and periodically for loose bolts and pins. Refer to "Torque Values Chart".	Page 54

## **Tractor Hook-Up**



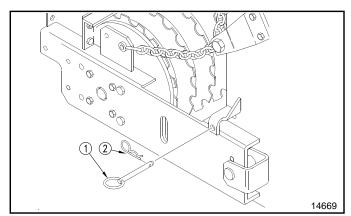
## **DANGER**

Tractor hook-up to equipment is dangerous and can result in serious injury or death. **Do not** allow anyone to stand between the seeder and tractor during hook-up operations. **Do not** operate hydraulic 3-point lift controls while someone is directly behind the tractor or near the seeder.

When using tractors with multispeed PTO, be certain PTO is set for 540 RPM.

- Slowly back tractor up to Overseeder while using the tractor's hydraulic control to align the tractor's lower hitch link holes with the seeder's clevis lug holes.
- 2. Engage tractor park brake, shut tractor engine off and remove key before dismounting from tractor.

- 3. Attach tractor's 3-point lower links to the seeder's lower hitch clevises using 7/8" diameter hitch pins. Secure hitch pins with linchpins.
- 4. Attach tractor's top center link to the seeder's top hitch using a 3/4" diameter hitch pin. Secure hitch pin with a linchpin.
- Ensure that the lower hitch arms are blocked to prevent excessive side movement.
- Return to tractor and slowly operate controls up and down to make sure seeder clears tractor tires, frame, and drawbar. Move or remove drawbar if it interferes.
- Manually adjust one of the tractor's lower lift arms up or down to level the seeder from left to right.
- With the seeder resting on level ground, manually adjust tractor's top link until seeder is level from front to rear.
- 9. **Refer to Figure 2-1:** Remove rear roller stop pin (#1) and hairpin cotter (#2) out of parking position.



Rear Roller Stop Pin in Parking Position Figure 2-1

## **Transporting**



## **CAUTION**

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

- This seeder can be transported with a full box of seed, however; it is best not to do this unless necessary because the increased weight does increase the chances for problems on the road.
- Select a safe ground travel speed when transporting from one area to another. Do not exceed 20 miles per hour travel speed. When traveling on roadways, transport in such a way that faster moving vehicles may pass you safely.
- 3. Reduce tractor ground speed when turning. Leave enough clearance so the seeder does not contact obstacles such as buildings, trees, or fences.
- Shift tractor to a lower gear when traveling over rough or hilly terrain.



## Filling the Seed Box



## **CAUTION**

Always lower the Overseeder to the ground to check seed level in the seed box and before filling the seed box. This will keep the rollers from turning while working around them.

- Always lower the Overseeder to the ground, engage tractor park brake, shut tractor engine off, and remove key before filling the seed box.
- 2. Release lid latch handle and open seed box lid until over center latch arms have locked in place. Doing this will keep the lid from falling while filling the box.
- 3. Fill seed box from the rear while standing on the ground. **Do not** step or climb on the rear roller to fill the seed box. **Make sure** the rear roller is on the ground so it cannot turn while filling the box.
- 4. The bag opener (sharp point on top of baffle plate located inside the seed box) can be used to tear open the seed bags.
- 5. Maker certain the seed box is filled uniformly to ensure one side dose not run out of product ahead of the other side.
- 6. Close lid by pulling on the handle of the over center latch arms with one hand while holding the lid up with the other hand. Lower lid gently while keeping hands and fingers clear.
- Lock lid down with lid latch handle to keep moisture out.

#### **How the Seeder Works**

The following is a brief description of how your Overseeder works.

The power to drive the seed cups comes from the gauge wheels or rear roller turning against the ground while traveling. Power is then transmitted through roller chains to the seed cups. Seed is metered out of the cups at a rate proportional to the distance driven. This ensures that the rate applied in pounds per 1000 square feet or pounds per acre remains constant as ground speed is varied.

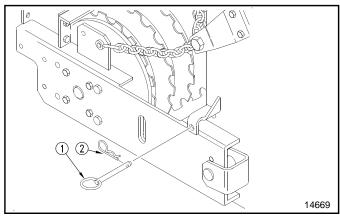
Cup metering speed can be adjusted to either a high or low range by changing the speed change sprocket. Also, the rate seed falls through the seed cups is adjustable using the seed rate adjustment lever located at the back of the seeder.

Metered seed is broadcast onto the ground surface and into the slits made by the rotor knives. Seeds drops in front of the rear roller to allow the roller to firm the soil around the seeds.

### **Parking**

The following steps should be done when preparing to store the Overseeder or unhitching it from the tractor. See also *Storage* under the "**Maintenance and Lubrication**" section on page 37 for additional information on long term storage of your Overseeder.

- Park the Overseeder on a level, solid area.
- 2. Shut off tractor engine and engage parking brake.
- 3. Refer to Figure 2-2. Place rear roller stop pin (#1) and hairpin cotter (#2) in parking position.
- Chock front and back of wheels to keep unit from moving.
- 5. Unhitch from tractor.



Rear Roller Stop Pin in Parking Position Figure 2-2



## **General Notes for Field Operations**

Before proceeding with the first time set-up or before making any adjustments mentioned in this section, make every effort to obtain and hitch a tractor to the Overseeder.

- This Overseeder can be transported with a full box of seeds. It is best not to do this unless necessary because the increased weight does increase the chances for problems on the road.
- 2. Do not exceed 20 miles per hour when transporting.
- Calibrate your seeder sprocket speed and seed cup rate adjustment lever based on type of seed you are using. Calibration information is located on the inside of your box lid or in the Seed Rate Charts starting on page 24.
- Refer to Figure 3-8 on page 23. Make sure the feed cup door adjustment handle on each cup is set the same across the Overseeder. Usually in the highest position.
- 5. Never allow anyone to ride on the Overseeder.
- Maximum seeding speed will vary according to soil conditions.
- 7. Check oil level in gearbox and chaincase.
- Check that all plugs and caps have been replaced properly.
- Be sure all Overseeder knives, bolts, and nuts are tight.
- Be certain all guards and shields are in place and secure.
- 11. Grease PTO shaft and all other grease fittings.
- 12. Clear the area to be over-seeded of rocks, branches, and other foreign objects.
- Tall grass and weeds should be moved before overseeding.
- 14. Operate with 540 rpm PTO tractor.
- 15. At first begin overseeding at a slow forward speed and shift up until the desired speed is achieved.
- 16. Overseeder knives will cut better at a faster rotor speed than at reduced throttle.
- 17. Do not engage PTO at full throttle.
- 18. Never back up with Overseeder in the ground.
- 19. Overseeding should not be done in wet conditions as soil will stick to the knives.
- 20. After overseeding the first 50 feet, stop and check to see that the Overseeder is adjusted properly.
- 21. Do not make sharp turns or attempt to back up while Overseeder is in the ground.
- 22. Do not engage PTO with machine in the fully raised or fully lowered position.

#### **General Operating Instructions**

Once you have read the operators manual, properly installed you Land Pride Overseeder to the tractors 3-point hitch, ran through the Operating Checklist, filled the hopper with seed, and calibrated the unit for proper seed rate delivery, it's time to do some serious seeding.

The power to run the horizontal rotor shaft, which is equipped with the vertically mounted slitter knives, is provide by the tractors 540 rpm PTO. You should have already set the desired slitter depth by adjusting the height of the side-mounted gauge wheels or the front mounted anti-scalping roller, whichever one your unit is so equipped with. The only other means of achieving slitter depth control, if your unit is equipped with the rear drive roller only, is by maintaining the depth stop control on the draft-links of your tractors three-point hitch.

The OS1548 and OS1572 have ground driven seed delivery systems. The power to drive the seed metering system comes from the forward momentum of the tractor. As the tractor moves forward the ground driven rear roller compactor or side mounted gauge wheels transfer power via chain driven sprockets to the seed metering system so the seed rate remains constant and in direct proportion to the distance traveled and is affected very little by actual ground speed. The most accurate and productive seed rate applications will usually be achieved between three and 5 miles per hour. Seeding should not be attempted in wet or muddy conditions.

Now that you understand how it works its time to begin seeding. You should already have removed any large stones or obstacles from the area you plan to seed. Line the tractor up for the first pass and choose a tractor gear selection that will deliver a ground speed of approximately 3-5mph. Lower the three-point hitch and seeder slowly to a point approximately six inches off of the ground. Raise the tractor RPM slightly and engage PTO. Raise PTO speed to 540 rpm and begin driving forward slowly at first until you get comfortable with what you are doing. As you approach the end of the lane you are seeding slow down and come to a stop. Raise the Overseeder off of the ground approximately six inches. With Overseeder raised, line up for your next pass and repeat the process. Look back often and avoid making very sharp turns with your Overseeder on the ground if you expect to develop a uniform seeding pattern. The more experienced you become the better you will get at developing beautiful seed plots and beautiful lawns.

Always clean the seeder out and perform all maintenance prescribed in the Operator's Manual at the end of each planting. Never leave seed stored in the hopper or seed cups for prolonged periods.



## **Speed Change Sprocket**

The Overseeder is designed with two drive speeds to accommodate different seed sizes and dispersal rates. They are high range (fast speed) and low range (slow speed). Use seed charts beginning on page 24 to determine which range is correct for the seed you are dispersing. Some seeds work with both ranges.

## High Range Set-up With Gauge Wheel Drive

Instructions below change seeder from low to high range.

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

- 1. Loosen flange lock nut (#1) and remove drive chain (#2) from speed change sprocket (#3).
- 2. Pull down on spring idler sprocket (#4) and remove driven chain (#5) from speed change sprocket (#3).
- 3. Being careful not to lose the washer behind the 19/35 tooth sprocket (#3), remove 5/8" bolt, lock washer, and flat washer (#6).

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

- 4. Make certain existing washer is still on the idler shaft. Install 19/35 tooth sprocket (#3) with 19 tooth sprocket in front of 35 tooth sprocket. Secure speed change sprocket with flat washer, lock washer, and 5/8" bolt (#6). Tighten bolt to correct torque.
- 5. Drive chain (#2) should be 66 pitches long and driven chain (#5) should be 140 pitches long. If drive chain has 74 pitches, remove 8 pitches from it and add those 8 pitches to the driven chain.
- 6. Replace 140 pitch driven chain (#5) first and then the 66 pitch drive chain (#2). Make sure the spring idler sprocket (#4) is pressing against driven chain (#5).
- 7. Retention drive chain (#2) by pressing down on its idler sprocket. When tensioned properly, tighten 1/2" flange lock nut (#1) to maintain that tension.

## Low Range Set-up With Gauge Wheel Drive

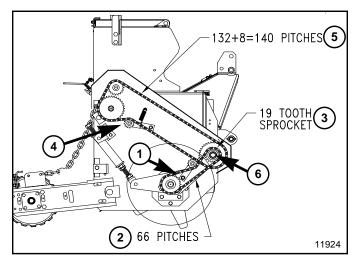
Instructions below change seeder from high to low range.

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

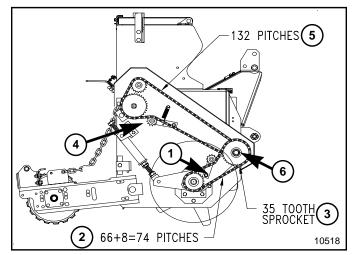
- 1. Loosen flange lock nut (#1) and remove drive chain (#2) from speed change sprocket (#3).
- 2. Pull down on spring idler sprocket (#4) and remove driven chain (#5) from speed change sprocket (#3).
- Being careful not to lose the washer behind the 19/35 tooth sprocket (#3), remove 5/8" bolt, lock washer, and flat washer (#6).

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

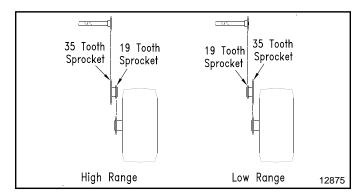
- 4. Make certain existing washer is still on the idler shaft. Install 19/35 tooth sprocket (#3) with 35 tooth sprocket in front of 19 tooth sprocket. Secure speed change sprocket with flat washer, lock washer, and 5/8" bolt (#6). Tighten bolt to correct torque.
- 5. Drive chain (#2) should be 74 pitches long and driven chain (#5) should be 132 pitches long. If driven chain has 140 pitches, remove 8 pitches from it and add those 8 pitches to the drive chain.



High Range Set-up with Gauge Wheel Drive Figure 3-1



Low Range Set-up with Gauge Wheel Drive Figure 3-2



Sprocket Alignment with Gauge Wheel Drive Figure 3-3

- 6. Replace 132 pitch driven chain (#5) first and then the 74 pitch drive chain (#2). Make sure the spring idler sprocket (#4) is pressing against driven chain (#5).
- 7. Retention drive chain (#2) by pressing down on its idler sprocket. When tensioned properly, tighten 1/2" flange lock nut (#1) to maintain that tension.



#### High Range Set-up With Rear Roller Drive

Instructions below change seeder from low to high range.

#### Refer to Figure 3-5 & Figure 3-6:

- 1. Pull down on spring idler sprocket (#1) and remove drive chain (#2) from speed change sprocket (#3).
- 2. Pull down on spring idler sprocket (#4) and remove driven chain (#5) from speed change sprocket (#3).
- 3. Being careful not to lose the washer behind the 19/35 tooth sprocket (#3), remove 5/8" bolt, lock washer, and flat washer (#6).

#### Refer to Figure 3-4 & Figure 3-6:

4. Make certain existing washer is still on the idler shaft. Install 19/35 tooth sprocket (#3) with 19 tooth sprocket in front of 35 tooth sprocket. Secure speed change sprocket with flat washer, lock washer, and 5/8" bolt (#6). Tighten bolt to correct torque.

**NOTE:** Refer to "Rear Arm Length Adjustment" on page 30 for definition of long arm and short arm.

- 5. Driven chain (#5) should be 140 pitches long. If it is short, remove 8 pitches from the drive chain (#2) and add those 8 pitches to the driven chain.
- 6. Replace 140 pitch driven chain (#5) first and then the 174 or 194 pitch drive chain (#2).
- 7. Make sure spring tensioned idler sprockets (#1 & #4) are pressing against the drive and driven chains.

#### Low Range Set-up With Rear Roller Drive

Instructions below change seeder from high to low range.

#### Refer to Figure 3-4 & Figure 3-6:

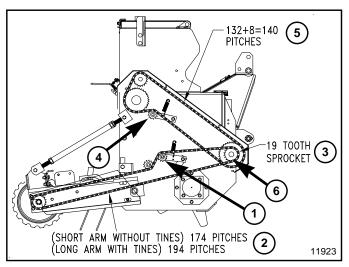
- 1. Pull down on spring idler sprocket (#1) and remove drive chain (#2) from speed change sprocket (#3).
- 2. Pull down on spring idler sprocket (#4) and remove driven chain (#5) from speed change sprocket (#3).
- 3. Being careful not to lose the washer behind the 19/35 tooth sprocket (#3), remove 5/8" bolt, lock washer, and flat washer (#6).

#### Refer to Figure 3-5 & Figure 3-6:

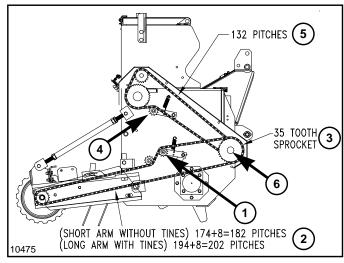
4. Make certain existing washer is still on the idler shaft. Install 19/35 tooth sprocket (#3) with 35 tooth sprocket in front of 19 tooth sprocket. Secure speed change sprocket with flat washer, lock washer, and 5/8" bolt (#6). Tighten bolt to correct torque.

**NOTE:** Refer to "Rear Arm Length Adjustment" on page 30 for definition of long arm and short arm.

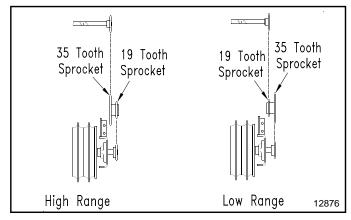
- 5. Driven chain (#5) should be 132 pitches long. If it is longer, remove 8 pitches from it and add those 8 pitches to the driven chain (#2).
- 6. Replace 132 pitch driven chain (#5) first and then the 182 or 202 pitch drive chain (#2).
- 7. Make sure spring tensioned idler sprockets (#1 & #4) are pressing against the drive and driven chains.



High Range Set-up with Rear Roller Drive Figure 3-4



Low Range Set-up with Rear Roller Drive Figure 3-5



Sprocket Alignment with Rear Roller Drive Figure 3-6



#### **Seed Cup Settings**

#### Refer to Figure 3-7:

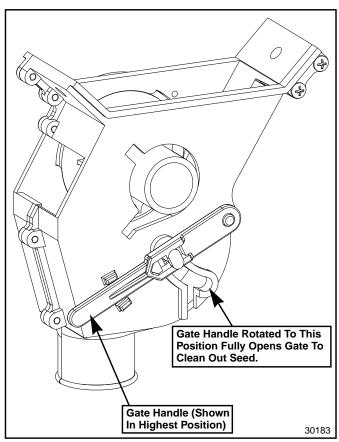
Each seed cup is equipped with a four-position gate. The highest gate handle position shown is for small seeds, the second and third positions are for larger seeds. The forth position (Handle rotated fully down below the bottom tab) sets the gate at wide open to allow complete clean-out of seed cup.

Seed rate charts are based on the gate handle being set in the highest position. Typically, most seeds will use the highest gate handle position. If using larger seed and it is not discharging properly, you can try using the other two gate handle positions.

**IMPORTANT:** Most applications for this seeder require the gate handle be placed in the highest position.

**MAKE SURE** all gate handles are in the same position before seeding.

**Do Not** set gate handles in the fourth position and seed rate adjustment lever to the widest open position (See Figure 3-8 on page 23) with seed in the box unless complete clean out is desired.



Seed Cup Settings Figure 3-7

## Calibrating & Adjusting Seeding Rate

**IMPORTANT:** Seed rates provided in the charts may be inconsistent with actual planting rates due to seed size, weight, treatment, moisture content, ratio of inert material to seed, different seed mixtures, humidity, tire size, tire pressure, and ground preparation. Minor adjustments to the cup setting may be needed to compensate.

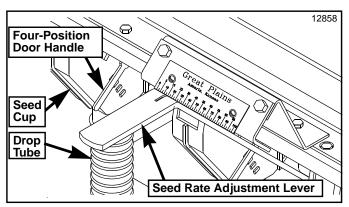
**NOTE:** To determine seed rates for seeds not listed in the charts, compare weight and size to those listed and use a similar setting. Follow steps 1 and 3 to calibrate seed rate.

- Use seed rate charts beginning on page 24 to determine correct seeding rate and adjustments:
  - a. On the right-hand side is the drive system. Decide if the drive needs to be set-up for low range or high range. If necessary, change speed change sprocket to accommodate correct speed range. See "Speed Change Sprocket" on page 20.
  - b. Refer to Figure 3-8 on page 23: Locate seed rate adjustment lever at the rear of the seeder and move it to the indicator number obtained from the charts. For best results, first move adjustment lever all the way to the left and then to the desired setting, moving from a lower to a higher number.
    - Increase setting if seed is lighter than average.
    - Decrease setting if seed is heavier than average.
- 2. Complete the following procedure to calibrate dispersal rate for your specific seed.
  - a. Place several pounds of seed over three of the seed cups at the outboard end of the seeder. Do not allow any of the seed to reach other cups.
  - b. Pull the seed tubes out of these three drops.
  - c. Support drive unit off the ground as follows:
    - Gauge wheel drive units: Raise and support drive tire (right tire) off the ground using a jack.
    - Rear roller drive units: Raise and support rear roller off the ground using a jack.

**NOTE:** Rotate tire/rear roller by grasping the tire/roller at the bottom and pulling away from the front of the seeder and pushing toward the front of the seeder at the top of the tire/rear roller.

- d. Rotate tire or rear roller to make sure drive system is working properly and that the feed cups are free from foreign matter.
- e. Place a container under the three seed tubes to gather seed as it is metered.
- f. Rotate gauge wheel or rear roller the number of rotations noted in the table to the right. Be sure to check the three feed cups to make sure each cup has plenty of seed coming into it.





Seed Rate Adjustment Handle Figure 3-8

- g. Weigh the seed which has been metered out.
  - If weight is in pounds, divide total weight of seed metered out by 3 to get the number of pounds metered by each seed cup.
  - If weight is in ounces, divide total weight of seed metered out by 48 to get number of pounds metered by each seed cup.
- h. Next, multiply number of pounds per cup by number of cups on your seeder to arrive at total pounds per 1000 sq. ft. or pounds per 1/10 acre.
- i. If calculations are based on 1/10 acre, multiply total pounds by 10 to arrive at pounds per acre.
- If this figure (total pounds per 1000 sq. ft. or acre) is different than desired, then readjust your seed cup adjustment lever accordingly.
- 3. You may want to repeat calibration procedure if results of your calibration vary greatly from suggested settings in the chart.

**IMPORTANT:** Remember, field and seed conditions will affect seeding rates. Check amount of seed being using by noting acres or square feet seeded, amount of seed added to the seeder, and level of seed in the seed box. It may be necessary to make minor adjustments to the seeding rate if the seeder has been accurately calibrated and is seeding more or less seed than desired.

**IMPORTANT:** Do Not operate seed rate adjustment lever at -0- setting. Seed cup damage may occur.

**Do Not** set door handles and seed rate adjustment lever to the widest open position with seed in the box unless complete clean out is desired.

#### Gauge Wheel & Rear Roller Rotations to Cover

	1000	Sq. Ft.	1/10 ACRE						
Model No	Wheel	Roller	Wheel	Roller					
OS1548	54	91	236	398					
OS1572	36	61	157	265					

\* Seed rates listed in charts for gauge wheel units are based on Overseeder having 18 x 8.50 x 8 turf tires with 20 psi.



## **Seed Rate Charts (English)**

ceu Mate			<u> </u>			<del>-</del>					_		_								
Cup Setting	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Alfalfa (Pound	ls per	Acre)	)																		
High Range	0	54	125	198	269	341	412	485	555	626	699	769	842	913	985	1056	1129	1199	1270	1343	1413
Low Range	0	17	40	63	85	108	131	154	176	198	221	244	267	289	312	335	358	380	402	425	448
Alfalfa (Pound	<del>- '</del>		<del></del>																		
High Range	0.0	1.2	2.9	4.5	6.2	7.8	9.2	11.1	12.8	14.4	16.1	17.7	19.4	21	22.6	24.3	25.9	27.6	29.2	30.9	32.5
Low Range	0.0	0.4	0.9	1.4	2	2.5	3	3.5	4	4.6	5.1	5.6	6.1	6.6	7.2	7.7	8.2	8.7	9.2	9.8	10.3
Bent Grass (F	Ound	c nor	A cro	١																	
High Range	T <sub>0</sub>	37	80	115	152	185	206	239	265	293	326	358	380	413	439	467	499	528	554	586	619
Low Range	0	17	29	42	54	66	77	89	99	110	122	131	140	149	159	168	175	184	191	198	205
Bent Grass (F							1	100	100	1110	1122	1101	1110	1140	1100	1100	1110	110-1	1101	1100	1200
High Range	0.0	0.8	1.8	2.6	3.5	4.2	4.7	5.5	6.1	6.7	7.5	8.2	8.7	9.5	10.1	11.5	12.1	12.7	12.7	13.5	14.2
Low Range	0.0	0.4	0.7	1	1.2	1.5	1.8	2	2.3	2.5	2.8	3	3.2	3.4	3.6	3.9	4	4.2	4.4	4.5	4.7
	1						1	-	1	1=:-	1=	1-	1	14	10.0	1			1	1	
Bermuda - Un	hulled	d (Pou	ınds	per A	cre)																
High Range	То	61	101	161	206	250	295	341	386	430	475	521	565	610	654	701	745	789	834	880	925
Low Range	0	19	32	51	65	79	93	108	122	136	150	165	179	193	207	222	236	250	264	279	293
Bermuda - Un	hulled	d (Pou	ınds	per 1	000 S	quar	e Fee	t)													
High Range	0.0	1.4	2.3	3.7	4.7	5.8	6.8	7.8	8.9	9.9	10.9	12	13	14	15	16.1	17.1	18.1	19.2	20.2	21.3
Low Range	0.0	0.4	0.7	1.2	1.5	1.8	2.1	2.5	2.8	3.1	3.8	3.8	4.1	4.4	4.8	5.1	5.4	5.7	6.1	6.4	6.7
<b>Buffalo Grass</b>	Shar	ps Im	prov	ed (P	ounds	per	Acre)														
High Range	0	0	0	22	52	76	106	130	159	185	213	241	259	293	321	352	371	395	417	430	434
Low Range	0	0	0	13	21	29	38	46	56	65	73	83	92	99	109	118	127	134	143	147	150
Buffalo Grass		<del>i                                      </del>	<del>.                                      </del>	<del>, `</del>		<del> </del>				<del>,                                    </del>											
High Range	0.0	0	0	0.5	1.2	1.7	2.4	3	3.6	4.2	4.9	5.5	6.2	6.7	7.4	8.1	8.5	9.1	9.6	9.9	10
Low Range	0.0	0	0	0.30	0.5	0.7	0.9	1.1	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.4	3.5
Clayer Bod /	Daura	do no	r / or	٥)																	
Clover - Red (	_				Toos	Too.	Toos	Lina	1400	T	Tota	1070	1=0.4	1700	Toso	Tota	To=4	1,000	1400	1440	14007
High Range Low Range	0	77 24	143 45	202 64	263 83	321 102	380 120	438 139	499 158	557 177	616 195	676 214	734 233	793 251	852 270	913 289	971 308	1030 326	190 346	1149 364	1207 383
Clover - Red (							1120	139	130	177	195	214	233	[231	1270	209	1300	320	340	304	303
High Range	10.0	1.8	3.3	4.6	6	7.4	8.7	1.1	11.5	12.8	14.2	15.5	16.9	18.2	19.6	21	22.3	23.7	25.1	26.4	27.8
Low Range	0.0	0.6	1	1.5	1.9	2.3	2.8	3.2	3.6	4.1	4.5	4.9	5.4	5.8	6.2	6.6	7.1	7.5	7.9	8.4	8.8
2011 Hange	10.0	0.0		1.0	1.0	2.0	2.0	0.2	0.0		1.0		0	0.0	0.2	0.0		1.0	7.10		0.0
Clover - White	(Pou	ınds r	er A	cre)																	
High Range	0	77	151	224	297	372	444	517	592	664	737	812	884	957	1032	1104	1177	1252	1324	1397	1472
Low Range	0	24	48	71	94	118	141	164	187	211	234	257	280	303	327	350	373	397	420	443	466
Clover - White	(Pou	ınds r	er 10	000 S	quare	Fee	t)	•			•	•	•	•		•		•		•	
High Range	0.0	1.8	3.5	5.2	6.8	8.5	10.2	11.9	13.6	15.3	16.9	18.7	20.3	22	23.7	25.4	27.1	28.8	30.4	32.1	33.8
Low Range	0.0	0.6	1.1	1.6	2.2	2.7	3.2	3.8	4.3	4.8	5.4	5.9	6.4	7	7.5	8	8.6	9.1	9.6	10.2	10.7
Fescue - Fine	Blad	e, Tu	rf Ty	oe (Po	ounds	per.	Acre)														
High Range	0	20	46	75	103	131	160	188	216	242	271	299	327	355	384	412	440	468	497	525	553
Low Range	0	6	15	24	33	42	51	60	69	77	86	95	104	113	122	131	140	148	157	166	175
Fescue - Fine	Blad	e, Tu	rf Ty	oe (Po	ounds	per	1000	Squa	re Fe	eet)											
High Range	0.0	0.5	1.1	1.7	2.4	3	3.7	4.3	5	5.6	6.2	6.9	7.5	8.2	8.8	9.5	10.1	10.8	11.4	12.1	12.7
Low Range	0.0	0.1	0.3	0.5	0.7	1	1.2	1.4	1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6	3.8	4
F 17.6.11				`																	
Fescue K-31(l				<del></del>		1				1.	1.	1.		1		1	T		T	1	1.
High Range	0	0	21	50	83	113	140	165	186	223	243	272	305	328	355	382	48	433	439	450	454
Low Range	(Doub	0	6	15	26	35	44	51	58	69	76	84	95	102	110	118	127	134	136	140	141
Fescue K-31 (	`	<del></del>					In -	In a	1,-	Te :	Te -	Te :	1-	1==	Ta -	To -	Ta :	14-	T	T <sub>4</sub> = ·	Ta- ·
High Range	0.0	0.0	0.5	1.1	1.9	2.6	3.2	3.8	4.3	5.1	5.6	6.3	7	7.5	8.2	8.8	9.4	10	10.1	10.3	10.4
Low Range	0.0	0.0	0.1	0.4	0.6	8.0	1	1.2	1.3	1.6	1.7	1.9	2.2	2.3	2.5	2.7	2.9	3.1	3.1	3.2	3.2
Kentucky Blu	o Gra	ee (D	Ound	e nor	Acro	١															
	e Gra	<del>, , , , , , , , , , , , , , , , , , , </del>	48	73 per			155	170	205	227	250	274	202	322	224	265	207	1400	1420	442	1455
High Range Low Range	0	23 8	16	24	103 34	125 41	155 51	178 58	205 67	74	250 82	274 90	293 96	106	334 109	365 119	387 127	406 133	426 140	145	455 149
Kentucky Blu									101	1,4	102	190	190	1100	1109	1119	121	1133	1170	1173	1+3
High Range	0.0	0.5	1.1	5 per	2.4	2.9	3.6	4.1	4.7	5.2	5.7	6.3	6.7	7.4	7.7	8.4	8.9	9.3	9.8	10.1	10.5
Low Range	0.0	0.5	0.4	0.5	0.8	0.9	1.2	1.3	1.5	1.7	1.9	2.1	2.2	2.4	2.5	2.7	2.9	3.1	3.2	3.3	3.4
207 Manyo	10.0	V.£	U. T	0.0	0.0	0.0	12	1.0	11.0	1	1.0	14.1	14.4	14.7	12.0		2.0	10.1	0.2	10.0	10.4

IMPORTANT: Do Not operate seed rate adjustment lever at -0- cup setting. Seed cup damage may occur.



Company   Comp	Cup Cotting	Īο	I <sub>E</sub>	T40	14.5	Iao	25	20	25	140	1 <sub>AE</sub>	Ιεο	I <sub>E</sub> E	60	G.E.	170	75	lon	lo <sub>E</sub>	Ioo	O.F.	1400
	Cup Setting	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Lower Regime   0			`			- <del>-</del>																
Love   Company   Love   Love   Company   Love   Company   Company   Love											_		+									
High Range   0.0   2   32							1		125	141	157	173	189	206	222	238	254	1270	286	302	319	335
Compagney   Comp			`			<del></del>		<del>,                                    </del>														
Lovegrass - Weeping (Pounds per Acre)									+			_									_	
High Range   0   106   178   226   287   343   368   448   501   503   006   568   111   763   816   368   217   773   1072   1073   10	Low Range	0.0	0.6	1	1.4	1.8	2.1	2.5	2.9	3.2	3.6	4	4.4	4.7	5.1	5.5	5.8	6.2	6.6	6.9	7.3	7.7
High Range   0   106   178   226   287   343   368   448   501   503   006   568   111   763   816   368   217   773   1072   1073   10	Lovograce	Vooni	na /D	ound	o nor	Aoro	١															
Compagn   0   8   86   72   81   109   126   126   130   130   130   200   202   202   200   205   20   20			<del>,                                    </del>		<del></del>		_	Tono	1440	T=0.4	T==0	Tooo	Topo	1-44	T=00	1040	1000	Tool	1070	1,000	14070	1,,,,,
Love Grass - Weeping (Pounds per 1000 Square Feet)	• •										_		+					_				
High Range    0,0   28   4   52   66   79   11   10.3   11.5   127   13.9   51   63.3   17.5   18.7   20   21.2   22.4   23.6   24.8   25.2										1139	1173	1192	203	1223	242	1239	12/3	1292	300	323	342	1333
Compage   Quart   Qu			<del>,                                    </del>		<del></del>	_	<del></del>		<del>,                                    </del>	11 5	12.7	12.0	15.1	16.2	17.5	10.7	20	21.2	22.4	22.6	24.0	Tae
Orchard Grass (Pounds per Acre)								_	+		_	_										
High Range   0   4   5   10   15   20   27   34   41   49   88   68   75   85   34   103   112   121   130   138   138   140   130   139   140   130   139   140   130   139   140   130   139   140   130   139   140   130   139   140   130   139   140   130   139   140   130   130   130   140   130   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   140   130   140   130   140	2011 Harrigo	0.0	0.0	1.0	10	12	2.0	2.0	0.0	0.0				0.2	0.0	0.0	0.0	0		10	11.0	0.2
High Range   0   4   5   10   15   20   27   34   41   49   88   68   75   85   34   103   112   121   130   138   138   140   130   139   140   130   139   140   130   139   140   130   139   140   130   139   140   130   139   140   130   139   140   130   139   140   130   130   130   140   130   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   130   140   130   140   130   140   130   140	Orchard Gras	s (Po	unds	per A	cre)																	
Low Range   0		<del>_``</del>		<del>•</del>	<del>,                                    </del>	T <sub>15</sub>	20	27	34	41	49	58	66	75	85	94	103	112	121	130	138	146
High Range 0.0 0.1 0.1 0.1 0.2 0.3 0.5 0.6 0.8 0.9 1.1 1.3 1.5 1.7 1.9 2.2 2.4 2.6 2.8 0.0 1.2 3.3 3.5 0.0 Range 0.0 0.0 0.0 0.1 0.1 0.1 0.2 0.2 0.3 0.3 0.4 0.5 0.6 0.7 0.7 0.7 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.3 1.3 3.4 3.4 3.4 0.5 0.6 0.7 0.7 0.7 0.7 0.8 0.9 1.0 1.0 1.1 1.2 1.3 1.3 1.3 3.4 3.4 3.4 0.5 0.6 0.7 0.7 0.7 0.8 0.9 1.0 1.0 1.1 1.2 1.3 1.3 1.3 3.4 3.4 0.5 0.6 0.7 0.7 0.7 0.8 0.9 1.0 1.0 1.1 1.2 1.3 1.3 1.3 3.4 3.4 0.5 0.5 0.5 0.7 0.7 0.7 0.7 0.8 0.9 1.0 1.0 1.1 1.2 1.3 1.3 1.3 1.3 3.4 3.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	Low Range	0	1	2	3	5	7	9			18	22	25			36	40				_	58
High Range 0.0 0.1 0.1 0.1 0.2 0.3 0.5 0.6 0.8 0.9 1.1 1.3 1.5 1.7 1.9 2.2 2.4 2.6 2.8 0.0 1.2 3.3 3.5 0.0 Range 0.0 0.0 0.0 0.1 0.1 0.1 0.2 0.2 0.3 0.3 0.4 0.5 0.6 0.7 0.7 0.7 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.3 1.3 3.4 3.4 3.4 0.5 0.6 0.7 0.7 0.7 0.7 0.8 0.9 1.0 1.0 1.1 1.2 1.3 1.3 1.3 3.4 3.4 3.4 0.5 0.6 0.7 0.7 0.7 0.8 0.9 1.0 1.0 1.1 1.2 1.3 1.3 1.3 3.4 3.4 0.5 0.6 0.7 0.7 0.7 0.8 0.9 1.0 1.0 1.1 1.2 1.3 1.3 1.3 3.4 3.4 0.5 0.5 0.5 0.7 0.7 0.7 0.7 0.8 0.9 1.0 1.0 1.1 1.2 1.3 1.3 1.3 1.3 3.4 3.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	<b>Orchard Gras</b>	s (Po	unds	per 1	000 5	3quar	e Fee	et)														
Rye Grass - Annual (Pounds per Acre)  High Range   0   21   59   55   131   168   204   242   279   315   388   426   462   499   535   573   610   646   682   719    Low Range   0   7   19   30   42   53   65   77   88   100   111   123   135   147   158   170   182   193   205   216   228    Rye Grass - Annual (Pounds per 1000 Square Feet)  High Range   0   0   0   5   1.3   2.2   3   3   3   4.7   56   64   7.2   81   8.3   8.5   10.6   11.5   12.3   13.2   14   14.9   15.7   15.5    Low Range   0   0   0   0   0   0   0   0   0	High Range			-				T .	0.8	0.9	1.1	1.3	1.5	1.7	1.9	2.2	2.4	2.6	2.8	3.0	3.2	3.3
High Range	Low Range	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.3
High Range																						
Converging   0	Rye Grass - A	nnua	I (Po	unds	per A	cre)																
Rye Grass - Annual (Pounds per 1000 Square Feet)	High Range																_	_				
High Range   0.0   0.5   1.3   2.2   3   3.9   4.7   5.6   6.4   7.2   8.1   8.9   9.8   10.6   11.5   12.3   13.2   14   14.9   16.7   16.5   12.0   18.5   18.5   2   2.3   2.6   2.8   3.1   3.4   3.6   3.9   4.2   4.4   4.7   5   5.2    Rye Grass - Perennial (Pounds per Acre)  High Range   0   12   24   37   49   62   74   87   10.0   112   125   138   150   16.3   175   188   200   213   226   238   251    Rye Grass - Perennial (Pounds per Acre)  High Range   0   0.8   1.8   2.8   3.6   4.5   5.4   6.2   7.2   8.1   9   10   10.9   11.8   12.7   13.6   14.5   15.5   16.4   17.3   18.2    Low Range   0   0.8   1.8   2.8   3.6   4.5   5.4   6.2   7.2   8.1   9   10   10.9   11.8   12.7   13.6   14.5   15.5   16.4   17.3   18.2    Low Range   0   0.8   1.8   2.8   13.1   1.4   1.7   2   2.3   2.6   2.9   3.2   3.5   3.7   4   4.3   4.6   4.9   5.2   5.5   5.8    Sudan Grass (Pounds per Acre)  High Range   0   18   28   41   55   71   89   107   127   147   168   189   210   231   225   271   290   308   325   399   325    Sudan Grass (Pounds per Acre)  High Range   0.0   0.8   1.8   2.4   3.2   41   5.1   5.0   6.0   7.0   8.1   9.1   10.2   11.4   12.5   13.7   14.9   6.1   17.3   18.5   19.8   21.0    Low Range   0.0   0.8   1.8   2.8   1.8   2.0   2.5   2.9   3.4   3.9   4.8   5.3   5.8   6.2   6.7   7.1   7.5   7.8   8.1    Vetch (Pounds per Acre)  High Range   0.0   0.8   1.8   2.4   3.2   41   5.1   5.0   6.9   5.3   5.8   6.5   6.2   6.7   7.1   7.5   7.8   8.1    Vetch (Pounds per Acre)  High Range   0.0   0.8   1.8   2.4   3.2   41   5.1   5.0   5.0   5.2   5.9   5.3   5.8   5.3   5.8   5.3   5.8   5.2   5.8   5.8   5.3   5.8   5.2   5.8   5.8   5.3   5.8   5.2   5.8   5.8   5.3   5.8   5.2   5.8	Low Range		1							88	100	111	123	135	147	158	170	182	193	205	216	228
Registable   Columbia   Columbi	_				•	_			<del></del>													
Rye Grass - Perennial (Pounds per Acre)   Rye Grass - Rye Grass	• •					_			_									_			_	
High Range   0   38   77   115   166   196   224   275   215   333   334   444   475   513   553   594   682   672   713   751   791	Low Range	0.0	0.2	0.4	0.7	1	1.2	1.5	1.8	2	2.3	2.6	2.8	3.1	3.4	3.6	3.9	4.2	4.4	4.7	5	5.2
High Range   0   38   77   115   166   196   224   275   215   333   334   444   475   513   553   594   682   672   713   751   791	Pyo Cross P	loroni	oial /	Doub	do no	r A orc	<i>、</i> )															
Lew Range   0   12   24   37   49   62   74   67   100   112   125   138   150   163   175   188   200   213   226   238   251			<del>, `</del>		<del></del>	_	<del>1</del>	Too.4	T075	1045	Toro	T004	1404	1475	T540	1550	1504	Tooo	1070	T-40	754	T=04
Rye Grass - Perennial (Pounds per 1000 Square Feet)									+		_											_
High Range 0.0 0.8 1.8 2.6 3.6 4.5 5.4 6.2 7.2 8.1 9 10 10.9 11.8 12.7 13.6 14.5 15.5 16.4 17.3 18.2 Low Range 0.0 0.3 0.6 0.8 1.1 1.4 17.7 2 2.3 2.6 2.9 3.2 3.5 3.7 4 4 4.3 4.6 4.9 5.2 5.5 5.8   **Sudan Grass** (Pounds per Acre**)  **High Range 0 35 68 103 141 179 220 262 306 352 398 446 495 545 596 648 701 754 808 862 916 Low Range 0 18 28 41 55 71 89 107 127 147 168 18.9 210 231 252 271 290 308 325 339 352   **Sudan Grass** (Pounds per 1000 Square Feet)**  **High Range 0.0 0.8 1.6 2.4 3.2 4.1 5.1 6.0 7.0 8.1 9.1 10.2 11.4 12.5 13.7 14.9 16.1 17.3 18.5 19.8 21.0 Low Range 0 0 7.8 13.5 191 24.5 30.2 358 41.5 471 52.5 582 638 695 7.49 80.5 86.2 8.7 7.1 7.5 7.8 8.1 14.9 16.0 17.3 18.5 19.8 11.0 12.0 Low Range 0 0 7.8 13.5 191 24.5 30.2 358 41.5 14.2 15.9 17.7 194 21.1 22.8 246 263 280 298 315 333 350   **Vetch** (Pounds per 4 Acre)**  **High Range 0.0 7.8 13.5 191 24.5 30.2 358 41.5 14.7 15.5 582 638 695 74.9 80.5 86.2 91.8 97.3 10.2 10.8 11.4 12.5 10.0 Range 0 0 7.8 13.8 1.5 19.8 21.0 Low Range 0 0 21 38 56 73 80 10.8 12.5 14.2 15.9 17.7 194 21.1 22.8 246 263 280 298 315 333 350   **Vetch** (Pounds per 1000 Square Feet)**  **Wheatgrass - Crested** (Pounds per Acre)**  **High Range 0.0 2.2 36 51 67 81 9.5 11.1 12.5 13.9 15.3 17.0 18.4 19.5 12.1 22.4 25.8 27.7 27.6 8.8 12.0 Low Range 0 0 7.7 12.1 16.5 19.8 2.1 0.5 19.8 12.1 12.2 12.5 19.8 12.0 Low Range 0 0 0.5 0.9 1.3 1.7 2.1 2.5 2.9 3.3 3.7 4.1 4.5 4.9 54. 58. 63 88 12.1 7.7 82 86 91 95 40.0 40.0 40.0 40.0 40.0 40.0 40.0 40.										1100	1112	1120	1100	1100	1100	1175	1100	1200	1210	1220	1230	1201
Sudan Grass (Pounds per Acre)   Sudan Grass (Pounds per More)   Sudan Grass (Pounds Per More	-									72	Ω 1	To	110	110.0	11 0	12.7	12.6	1115	15.5	16.4	17.2	10.2
Sudan Grass (Pounds per Acre)																		_			_	
High Range   0   35   68   103   141   179   220   262   306   352   398   446   495   545   596   648   701   754   808   862   916   1008   808   1009   1		1 - 1 -	1	1	10.0	1		1		1	1	1=	1	10.0	1		1	1		1	10.0	1 4.4
High Range   0   35   68   103   141   179   220   262   306   352   398   446   495   545   596   648   701   754   808   862   916   1008   808   1009   1	Sudan Grass	(Pour	nds pe	er Acı	re)																	
Sudan Grass (Pounds per 1000 Square Feet)  High Range	High Range	<del>`</del>	<del></del>			141	179	220	262	306	352	398	446	495	545	596	648	701	754	808	862	916
High Range   0.0   0.8   1.6   2.4   3.2   4.1   5.1   6.0   7.0   8.1   9.1   10.2   11.4   12.5   13.7   14.9   16.1   17.3   18.5   19.8   21.0    Vetch (Pounds per Acre)  High Range   0   78   135   191   245   302   358   415   471   525   582   638   695   749   805   862   918   973   1029   1089   1142    Low Range   0   78   135   191   245   302   358   415   471   525   582   638   695   749   805   862   918   973   1029   1089   1142    Low Range   0   21   38   56   73   90   108   125   142   159   177   194   211   228   246   263   280   298   315   333   350    Vetch (Pounds per 1000 Square Feet)  High Range   0.0   1.8   3.1   4.4   5.6   6.9   8.2   9.5   10.8   12.1   13.4   14.7   16   17.2   18.5   19.8   21.1   22.4   23.7   25.1   26.2    Low Range   0.0   0.5   0.9   1.3   1.7   2.1   2.5   2.9   3.3   3.7   4.1   4.5   4.9   5.2   5.6   6   6.4   6.9   7.2   7.6   8    Wheatgrass - Crested (Pounds per Acre)  High Range   0   0   22   36   51   67   81   95   111   125   139   153   170   184   198   214   228   242   258   273   287   301    Low Range   0   0   0   2   36   51   67   81   95   111   125   139   153   170   184   198   214   228   242   258   273   287   301    Wheatgrass - Crested (Pounds per 1000 Square Feet)  High Range   0   0   0.5   0.8   1.2   1.5   1.9   2.2   2.6   2.9   3.2   3.5   3.9   4.2   4.5   4.9   5.2   5.6   5.9   6.3   6.6   6.9    Low Range   0   0   0.5   0.8   1.2   1.5   1.9   2.2   2.6   2.9   3.2   3.5   3.9   4.2   4.5   4.9   5.2   5.6   5.9   6.3   6.8   91   95    Wheatgrass - Western (Pounds per Acre)  High Range   0   0   2   8   13   19   24   29   35   44   46   51   57   62   67   73   78   84   89   95   100   106    Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range   0   0   0   0   0   0   0   0   0	Low Range	0	18	28	41	55	71	89	107	127	147	168	189	210	231	252	271	290	308	325	339	352
Vetch (Pounds per Acre)   Vetch (Pounds per I 000 Square Feet)   Vetch (Pounds Pe	<b>Sudan Grass</b>	(Pour	nds pe	er 100	ე0 Sa	uare	Feet)															
Vetch (Pounds per Acre)           High Range         0         78         135         191         245         302         358         415         471         525         582         638         695         749         805         862         918         973         1029         1089         1142           Low Range         0         21         38         56         73         90         108         125         142         159         177         194         211         228         246         263         280         298         315         333         350           Vetch (Pounds per 1000 Square Feet)           High Range         0.0         1.8         3.1         4.4         5.6         6.9         8.2         9.5         10.8         12.1         13.4         14.7         16         17.2         18.5         19.8         21.1         22.4         23.7         25.1         26.2           Wheatgrass - Crested (Pounds per Acre)           High Range         0         22         36         51         67         81         95         111         125         139         153         170         184         198 <t< td=""><td>High Range</td><td>0.0</td><td>0.8</td><td>1.6</td><td>2.4</td><td>3.2</td><td>4.1</td><td>5.1</td><td>6.0</td><td>7.0</td><td>8.1</td><td>9.1</td><td>10.2</td><td>11.4</td><td>12.5</td><td>13.7</td><td>14.9</td><td>16.1</td><td>17.3</td><td>18.5</td><td>19.8</td><td>21.0</td></t<>	High Range	0.0	0.8	1.6	2.4	3.2	4.1	5.1	6.0	7.0	8.1	9.1	10.2	11.4	12.5	13.7	14.9	16.1	17.3	18.5	19.8	21.0
High Range 0 78 135 191 245 302 358 415 471 525 582 638 695 749 805 862 918 973 1029 1089 1142   Low Range 0 21 38 56 73 90 108 125 142 159 177 194 211 228 246 263 280 298 315 333 350   Vetch (Pounds per 1000 Square Feet)  High Range 0.0 1.8 3.1 4.4 5.6 6.9 8.2 9.5 10.8 12.1 13.4 14.7 16 17.2 18.5 19.8 21.1 22.4 23.7 25.1 26.2   Low Range 0.0 0.5 0.9 1.3 1.7 2.1 2.5 2.9 3.3 3.7 4.1 4.5 4.9 5.2 5.6 6 6.4 6.9 7.2 7.6 8    Wheatgrass - Crested (Pounds per Acre)  High Range 0.0 7 12 16 21 26 30 35 40 44 49 54 58 63 68 72 77 82 86 91 95   Wheatgrass - Crested (Pounds per 1000 Square Feet)  High Range 0.0 0.5 0.8 1.2 1.5 1.9 2.2 2.6 2.9 3.2 3.5 3.9 4.2 4.5 4.9 5.2 5.6 5.9 6.3 6.6 6.9   Wheatgrass - Western (Pounds per Acre)  Wheatgrass - Western (Pounds per Acre)  High Range 0.0 7 24 41 58 76 93 110 127 144 161 179 196 213 230 247 265 282 299 316 333   Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range 0.0 7 24 41 58 76 93 110 127 144 161 179 196 213 230 247 265 282 299 316 333   Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range 0.0 7 24 41 58 76 93 110 127 144 161 179 196 213 230 247 265 282 299 316 333   Low Range 0.0 2 8 13 19 24 29 35 4 46 51 57 62 67 73 78 84 89 95 100 106   Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range 0.0 2 8 13 19 24 29 35 4 46 51 57 62 67 73 78 84 89 95 100 106   Wheatgrass - Western (Pounds per 1000 Square Feet)	Low Range	0.0	0.4	0.6	0.9	1.3	1.6	2.0	2.5	2.9	3.4	3.9	4.3	4.8	5.3	5.8	6.2	6.7	7.1	7.5	7.8	8.1
High Range 0 78 135 191 245 302 358 415 471 525 582 638 695 749 805 862 918 973 1029 1089 1142   Low Range 0 21 38 56 73 90 108 125 142 159 177 194 211 228 246 263 280 298 315 333 350   Vetch (Pounds per 1000 Square Feet)  High Range 0.0 1.8 3.1 4.4 5.6 6.9 8.2 9.5 10.8 12.1 13.4 14.7 16 17.2 18.5 19.8 21.1 22.4 23.7 25.1 26.2   Low Range 0.0 0.5 0.9 1.3 1.7 2.1 2.5 2.9 3.3 3.7 4.1 4.5 4.9 5.2 5.6 6 6.4 6.9 7.2 7.6 8    Wheatgrass - Crested (Pounds per Acre)  High Range 0.0 7 12 16 21 26 30 35 40 44 49 54 58 63 68 72 77 82 86 91 95   Wheatgrass - Crested (Pounds per 1000 Square Feet)  High Range 0.0 0.5 0.8 1.2 1.5 1.9 2.2 2.6 2.9 3.2 3.5 3.9 4.2 4.5 4.9 5.2 5.6 5.9 6.3 6.6 6.9   Wheatgrass - Western (Pounds per Acre)  Wheatgrass - Western (Pounds per Acre)  High Range 0.0 7 24 41 58 76 93 110 127 144 161 179 196 213 230 247 265 282 299 316 333   Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range 0.0 7 24 41 58 76 93 110 127 144 161 179 196 213 230 247 265 282 299 316 333   Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range 0.0 7 24 41 58 76 93 110 127 144 161 179 196 213 230 247 265 282 299 316 333   Low Range 0.0 2 8 13 19 24 29 35 4 46 51 57 62 67 73 78 84 89 95 100 106   Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range 0.0 2 8 13 19 24 29 35 4 46 51 57 62 67 73 78 84 89 95 100 106   Wheatgrass - Western (Pounds per 1000 Square Feet)																						
Low Range 0 21 38 56 73 90 108 125 142 159 177 194 211 228 246 263 280 298 315 333 350  Vetch (Pounds per 1000 Square Feet)  High Range 0.0 1.8 3.1 4.4 5.6 6.9 8.2 9.5 10.8 12.1 13.4 14.7 16 17.2 18.5 19.8 21.1 22.4 23.7 25.1 26.2 14.0 20.0 0.5 0.9 1.3 1.7 2.1 2.5 2.9 3.3 3.7 4.1 4.5 4.9 5.2 5.6 6 6 6.4 6.9 7.2 7.6 8  Wheatgrass - Crested (Pounds per Acre)  High Range 0 22 36 51 67 81 95 111 125 139 153 170 184 198 214 228 242 258 273 287 301 200 200 200 200 200 200 200 200 200 2	,		<del>,</del>			-		1.	1.	1.				1.				1.		1	1	
Vetch (Pounds per 1000 Square Feet)           High Range         0.0         1.8         3.1         4.4         5.6         6.9         8.2         9.5         10.8         12.1         13.4         14.7         16         17.2         18.5         19.8         21.1         22.4         23.7         25.1         26.2           Low Range         0.0         0.5         0.9         1.3         1.7         2.1         2.5         2.9         3.3         3.7         4.1         4.5         4.9         5.2         5.6         6         6.4         6.9         7.2         7.6         8           Wheatgrass - Crested (Pounds per Acre)           High Range         0         22         36         51         67         81         95         111         125         139         153         170         184         198         214         228         242         258         273         287         301           Low Range         0         7         12         16         21         26         30         35         40         44         49         54         58         63         68         72         77         82         86 <td>High Range</td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td>_</td> <td>1142</td>	High Range		_					_										_			_	1142
High Range   0.0   1.8   3.1   4.4   5.6   6.9   8.2   9.5   10.8   12.1   13.4   14.7   16   17.2   18.5   19.8   21.1   22.4   23.7   25.1   26.2    Low Range   0.0   0.5   0.9   1.3   1.7   2.1   2.5   2.9   3.3   3.7   4.1   4.5   4.9   5.2   5.6   6   6.4   6.9   7.2   7.6   8  Wheatgrass - Crested (Pounds per Acre)  High Range   0   22   36   51   67   81   95   111   125   139   153   170   184   198   214   228   242   258   273   287   301    Low Range   0   7   12   16   21   26   30   35   40   44   49   54   58   63   68   72   77   82   86   91   95  Wheatgrass - Crested (Pounds per 1000 Square Feet)  High Range   0.0   0.5   0.8   1.2   1.5   1.9   2.2   2.6   2.9   3.2   3.5   3.9   4.2   4.5   4.9   5.2   5.6   5.9   6.3   6.6   6.9    Low Range   0.0   0.2   0.3   0.4   0.5   0.6   0.7   0.8   0.9   1   1.1   1.2   1.3   1.4   1.6   1.7   1.8   1.9   2   2.1   2.2    Wheatgrass - Western (Pounds per Acre)  High Range   0   7   24   41   58   76   93   110   127   144   161   179   196   213   230   247   265   282   299   316   333    Low Range   0   2   8   13   19   24   29   35   4   46   51   57   62   67   73   78   84   89   95   100   106  Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range   0.0   0.2   0.5   0.9   1.3   1.7   2.1   2.5   2.9   3.3   3.7   4.1   4.5   4.9   5.3   5.7   6.1   6.5   6.9   7.3   7.7							190	108	125	142	159	177	194	[211	228	246	263	280	298	315	333	350
Wheatgrass - Crested (Pounds per Acre)  High Range   0   22   36   51   67   81   95   111   125   139   153   170   184   198   214   228   242   258   273   287   301    Low Range   0   7   12   16   21   26   30   35   40   44   49   54   58   63   68   72   77   82   86   91   95    Wheatgrass - Crested (Pounds per 1000 Square Feet)  High Range   0.0   0.5   0.8   1.2   1.5   1.9   2.2   2.6   2.9   3.2   3.5   3.9   4.2   4.5   4.9   5.2   5.6   5.9   6.3   6.6   6.9    Low Range   0.0   0.2   0.3   0.4   0.5   0.6   0.7   0.8   0.9   1   1.1   1.2   1.3   1.4   1.6   1.7   1.8   1.9   2   2.1   2.2    Wheatgrass - Western (Pounds per Acre)  High Range   0   7   24   41   58   76   93   110   127   144   161   179   196   213   230   247   265   282   299   316   333    Low Range   0   2   8   13   19   24   29   35   4   46   51   57   62   67   73   78   84   89   95   100   106    Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range   0.0   0.2   0.5   0.9   1.3   1.7   2.1   2.5   2.9   3.3   3.7   4.1   4.5   4.9   5.3   5.7   6.1   6.5   6.9   7.3   7.7    Wheatgrass - Western (Pounds per 1000 Square Feet)						<del>,                                    </del>	lo c	lo c	lo-	1400	146.4	140 /	44-	Lac	147.0	46.5	40.0	lo	loc t	loc -	los :	Too o
Wheatgrass - Crested (Pounds per Acre)           High Range         0         22         36         51         67         81         95         111         125         139         153         170         184         198         214         228         242         258         273         287         301           Low Range         0         7         12         16         21         26         30         35         40         44         49         54         58         63         68         72         77         82         86         91         95           Wheatgrass - Crested (Pounds per 1000 Square Feet)           High Range         0.0         0.5         0.8         1.2         1.5         1.9         2.2         2.6         2.9         3.2         3.5         3.9         4.2         4.5         4.9         5.2         5.6         5.9         6.3         6.6         6.9           Low Range         0.0         0.2         0.3         0.4         0.5         0.6         0.7         0.8         0.9         1         1.1         1.2         1.3         1.4         1.6         1.7         1.8         1.9         2	• •						_	_			_	_						_			_	
High Range 0 22 36 51 67 81 95 111 125 139 153 170 184 198 214 228 242 258 273 287 301   Low Range 0 7 12 16 21 26 30 35 40 44 49 54 58 63 68 72 77 82 86 91 95    Wheatgrass - Crested (Pounds per 1000 Square Feet)  High Range 0.0 0.5 0.8 1.2 1.5 1.9 2.2 2.6 2.9 3.2 3.5 3.9 4.2 4.5 4.9 5.2 5.6 5.9 6.3 6.6 6.9   Low Range 0.0 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.1 1.2 1.3 1.4 1.6 1.7 1.8 1.9 2 2.1 2.2    Wheatgrass - Western (Pounds per Acre)  High Range 0 7 24 41 58 76 93 110 127 144 161 179 196 213 230 247 265 282 299 316 333   Low Range 0 2 8 13 19 24 29 35 4 46 51 57 62 67 73 78 84 89 95 100 106    Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range 0 0 0 2 8 13 19 24 29 35 4 46 51 57 62 67 73 78 84 89 95 100 106    Wheatgrass - Western (Pounds per 1000 Square Feet)	Low Range	μυ.υ	10.5	10.9	11.3	1.7	[4.1	JZ.5	12.9	3.3	3.7	4.1	14.5	4.9	J J.Z	0.0	Ιυ	υ.4	0.9	1.2	0.1	10
High Range 0 22 36 51 67 81 95 111 125 139 153 170 184 198 214 228 242 258 273 287 301   Low Range 0 7 12 16 21 26 30 35 40 44 49 54 58 63 68 72 77 82 86 91 95    Wheatgrass - Crested (Pounds per 1000 Square Feet)  High Range 0.0 0.5 0.8 1.2 1.5 1.9 2.2 2.6 2.9 3.2 3.5 3.9 4.2 4.5 4.9 5.2 5.6 5.9 6.3 6.6 6.9   Low Range 0.0 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.1 1.2 1.3 1.4 1.6 1.7 1.8 1.9 2 2.1 2.2    Wheatgrass - Western (Pounds per Acre)  High Range 0 7 24 41 58 76 93 110 127 144 161 179 196 213 230 247 265 282 299 316 333   Low Range 0 2 8 13 19 24 29 35 4 46 51 57 62 67 73 78 84 89 95 100 106    Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range 0 0 0 2 8 13 19 24 29 35 4 46 51 57 62 67 73 78 84 89 95 100 106    Wheatgrass - Western (Pounds per 1000 Square Feet)	Wheatarass -	Cres	ted (	Ounc	ds ne	r Acre	7)															
Low Range 0 7 12 16 21 26 30 35 40 44 49 54 58 63 68 72 77 82 86 91 95  Wheatgrass - Crested (Pounds per 1000 Square Feet)  High Range 0.0 0.5 0.8 1.2 1.5 1.9 2.2 2.6 2.9 3.2 3.5 3.9 4.2 4.5 4.9 5.2 5.6 5.9 6.3 6.6 6.9  Low Range 0.0 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.1 1.2 1.3 1.4 1.6 1.7 1.8 1.9 2 2.1 2.2  Wheatgrass - Western (Pounds per Acre)  High Range 0 7 24 41 58 76 93 110 127 144 161 179 196 213 230 247 265 282 299 316 333  Low Range 0 2 8 13 19 24 29 35 4 46 51 57 62 67 73 78 84 89 95 100 106  Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range 0.0 0.2 0.5 0.9 1.3 1.7 2.1 2.5 2.9 3.3 3.7 4.1 4.5 4.9 5.3 5.7 6.1 6.5 6.9 7.3 7.7			, ,		<del></del>	_	<del>/                                      </del>	95	111	125	130	153	170	184	108	21/	228	242	258	273	287	301
Wheatgrass - Crested (Pounds per 1000 Square Feet)           High Range         0.0         0.5         0.8         1.2         1.5         1.9         2.2         2.6         2.9         3.2         3.5         3.9         4.2         4.5         4.9         5.2         5.6         5.9         6.3         6.6         6.9           Low Range         0.0         0.2         0.3         0.4         0.5         0.6         0.7         0.8         0.9         1         1.1         1.2         1.3         1.4         1.6         1.7         1.8         1.9         2         2.1         2.2           Wheatgrass - Western (Pounds per Acre)           High Range         0         7         24         41         58         76         93         110         127         144         161         179         196         213         230         247         265         282         299         316         333           Low Range         0         2         8         13         19         24         29         35         4         46         51         57         62         67         73         78         84         89         95<	0		_						+		_	_						_			_	_
High Range 0.0 0.5 0.8 1.2 1.5 1.9 2.2 2.6 2.9 3.2 3.5 3.9 4.2 4.5 4.9 5.2 5.6 5.9 6.3 6.6 6.9 Low Range 0.0 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.6 1.7 1.8 1.9 2 2.1 2.2  Wheatgrass - Western (Pounds per Acre)  High Range 0 7 24 41 58 76 93 110 127 144 161 179 196 213 230 247 265 282 299 316 333 Low Range 0 2 8 13 19 24 29 35 4 46 51 57 62 67 73 78 84 89 95 100 106  Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range 0.0 0.2 0.5 0.9 1.3 1.7 2.1 2.5 2.9 3.3 3.7 4.1 4.5 4.9 5.3 5.7 6.1 6.5 6.9 7.3 7.7			<u> </u>														-			<u> </u>	-	
Wheatgrass - Western (Pounds per Acre)  High Range 0 7 24 41 58 76 93 110 127 144 161 179 196 213 230 247 265 282 299 316 333   Low Range 0 2 8 13 19 24 29 35 4 46 51 57 62 67 73 78 84 89 95 100 106   Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range 0 0 0 2 0.5 0.9 1.3 1.7 2.1 2.5 2.9 3.3 3.7 4.1 4.5 4.9 5.3 5.7 6.1 6.5 6.9 7.3 7.7			<del>, ,</del>				<del></del>		<del>,                                    </del>	2.9	3.2	3.5	3.9	4.2	4.5	4.9	5.2	5.6	5.9	6.3	6.6	6.9
Wheatgrass - Western (Pounds per Acre)           High Range         0         7         24         41         58         76         93         110         127         144         161         179         196         213         230         247         265         282         299         316         333           Low Range         0         2         8         13         19         24         29         35         4         46         51         57         62         67         73         78         84         89         95         100         106           Wheatgrass - Western (Pounds per 1000 Square Feet)           High Range         0.0         0.2         0.5         0.9         1.3         1.7         2.1         2.5         2.9         3.3         3.7         4.1         4.5         4.9         5.3         5.7         6.1         6.5         6.9         7.3         7.7	Low Range						_		+		_	_										
High Range 0 7 24 41 58 76 93 110 127 144 161 179 196 213 230 247 265 282 299 316 333 Low Range 0 2 8 13 19 24 29 35 4 46 51 57 62 67 73 78 84 89 95 100 106 Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range 0.0 0.2 0.5 0.9 1.3 1.7 2.1 2.5 2.9 3.3 3.7 4.1 4.5 4.9 5.3 5.7 6.1 6.5 6.9 7.3 7.7																						
High Range 0 7 24 41 58 76 93 110 127 144 161 179 196 213 230 247 265 282 299 316 333 Low Range 0 2 8 13 19 24 29 35 4 46 51 57 62 67 73 78 84 89 95 100 106 Wheatgrass - Western (Pounds per 1000 Square Feet)  High Range 0.0 0.2 0.5 0.9 1.3 1.7 2.1 2.5 2.9 3.3 3.7 4.1 4.5 4.9 5.3 5.7 6.1 6.5 6.9 7.3 7.7	Wheatgrass -	West	ern (	Poun	ds pe	r Acre	e)															
Wheatgrass - Western (Pounds per 1000 Square Feet)           High Range         0.0         0.2         0.5         0.9         1.3         1.7         2.1         2.5         2.9         3.3         3.7         4.1         4.5         4.9         5.3         5.7         6.1         6.5         6.9         7.3         7.7	High Range		7		<del></del>	_	<del></del>	93	110	127	144	161	179	196	213	230	247	265	282	299	316	333
High Range 0.0 0.2 0.5 0.9 1.3 1.7 2.1 2.5 2.9 3.3 3.7 4.1 4.5 4.9 5.3 5.7 6.1 6.5 6.9 7.3 7.7	Low Range	0	2	8	13	19	24	29	35	4	46	51	57	62	67	73	78	84	89	95	100	106
	Wheatgrass -	West	ern (	Poun	ds pe	r 100	0 Squ	uare I	eet)													
Low Range 0.0 0 0.2 0.3 0.4 0.5 0.7 0.8 0.9 1 1.2 1.3 1.4 1.5 1.7 1.8 1.9 2.1 2.2 2.3 2.4	High Range		0.2			1.3		2.1	2.5	2.9	3.3											
	Low Range	0.0	0	0.2	0.3	0.4	0.5	0.7	0.8	0.9	1	1.2	1.3	1.4	1.5	1.7	1.8	1.9	2.1	2.2	2.3	2.4

IMPORTANT: Do Not operate seed rate adjustment lever at -0- cup setting. Seed cup damage may occur.

## Refer to Page 34 For Small Seeds Attachment Seed Rate Chart



## **Seed Rate Charts (Metric)**

Cup Setting	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
					120	125	130	133	140	140	130	155	100	100	1/0	1/3	100	100	190	190	1100
Alfalfa (Kilogra	ams p		1	<del>`                                      </del>	T004	Long	1404	T <sub>5.40</sub>	Too4	T-00	700	Toco	1040	14004	14400	1404	14000	14044	1404	14500	14504
High Range Low Range	0	60 19	140 45	70	301 95	382 121	461 147	543 172	621 197	700	782 247	860 273	942 299	1021 323	1102 349	1181 375	1263 41	1341 425	1421 450	1503 475	1581 501
Alfalfa (Kilogra							1147	172	197	222	241	1213	1233	323	349	13/3	141	1423	1430	1473	1301
High Range		6	14	22	30	38	45	54	62	70	79	86	95	103	110	119	126	135	143	151	159
Low Range	0	2	4	7	10	12	15	17	20	22	25	27	30	32	35	38	40	42	45	48	50
	1-	.=				l .=	1.4	1	1=-		1		1	1	1	1	1		1	1	1
Bent Grass (K	(ilogra	ıms p	er He	ctare	)																
High Range	10	41	90	129	170	207	230	267	296	328	365	401	425	462	491	522	558	591	620	656	693
Low Range	0	19	32	47	60	74	86	100	111	123	136	147	157	167	178	188	196	206	214	222	229
Bent Grass (K	(ilogra	ms p	er 10	00 Sc	uare	Mete	rs)														
High Range	0	4	9	13	17	21	23	27	30	33	37	40	42	46	49	56	59	62	62	66	69
Low Range	0	2	3	5	6	7	9	10	11	12	14	15	16	17	18	19	20	21	21	22	23
Bermuda Unh		<del>`                                      </del>	_	per l		re)															
High Range	0	68	113	180	230	280	330	382	432	481	531	583	632	682	732	784	834	883	933	985	1035
Low Range	0	21	36	57	73	88	104	121	136	152	168	185	200	216	232	248	264	280	295	312	328
Bermuda Unh		(Kilog	_	<del></del>		<del> </del>	_	<del>,                                    </del>		1			1.				1				
High Range	0	7	11	18	23	28	33	38	43	48	53	59	63	68	73	79	83	88	94	99	104
Low Range	0	2	3	6	7	9	10	12	14	15	19	19	20	21	23	25	26	28	30	31	33
Buffalo Grass	(Kilo	aroma	c nor	Hoot	2ro)																
High Range		grams To	o per	25	58	85	119	145	178	207	238	270	290	328	359	394	415	442	467	481	486
Low Range	0	0	0	15	23	32	43	51	63	73	82	93	103	111	122	132	142	150	160	164	168
Buffalo Grass								-	100	1,0	102	100	1100	1	1122	1102	1172	1100	1100	110+	1100
High Range	To	To	T <sub>0</sub>	12	1 <sub>6</sub>	8	12	15	18	21	24	27	30	33	36	40	42	44	47	48	49
Low Range	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	17
		-	-		!	-			-	-				-	-						
Clover - Red (	Kilogi	rams	per H	lectar	e)																
High Range	0	86	160	226	294	359	425	490	558	623	689	756	821	887	953	1021	1086	1152	1219	1286	1350
Low Range	0	27	50	72	93	114	134	156	177	198	218	239	261	281	302	323	345	365	387	407	429
Clover - Red (	Kilogi	rams	per 1	000 S	Squar	e Met	ers)														
High Range	0	9	16	22	29	36	42	49	56	62	69	76	83	89	96	103	109	116	123	129	136
Low Range	0	3	5	7	9	11	14	16	18	20	22	24	26	28	30	32	35	37	39	41	43
Clover - White	(Kilo	gram	s per	Hect	are)								_								
High Range	0	86	169	251	332	416	497	578	662	743	825	908	989	1071	1155	1235	1317	1401	1481	1563	1647
Low Range	0	27	54	79	105	132	158	183	209	236	262	288	313	339	366	392	417	444	470	496	521
Clover - White	_ `	<del>-</del>					_	<del>′                                      </del>													
High Range	0	9	17	25	33	42	50	58	66	75	83	91	99	107	116	124	132	141	148	157	165
Low Range	0	3	5	8	11	13	16	19	21	23	26	29	31	34	37	39	42	44	47	50	52
Fescue - Fine	Rlad	ο Tu	rf Tyr	o (Ki	lograi	me ne	or Ho	ctara	\												
High Range	0	22	51	84	115	147	179	210	242	271	303	335	366	397	430	461	492	524	556	587	619
Low Range	0	7	17	27	37	47	57	67	77	86	96	106	116	126	136	147	157	166	176	186	196
Fescue - Fine		e Tui			_							1	1	1	1	1	1	1.00	1	1100	1
High Range	0	2	5	8	12	15	18	21	24	27	30	34	37	40	43	46	49	53	56	59	62
Low Range	0	0	1	2	3	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
						<u> </u>															
Fescue K-31(	Kilogr	ams r	er H	ectare	<del>)</del>																
High Range	0	0	23	56	93	126	157	185	208	249	272	304	341	367	397	427	456	484	491	503	508
Low Range	0	0	7	17	29	39	49	57	65	77	85	94	106	114	123	132	142	150	152	157	158
Fescue K-31 (	Kilog	rams	per 1	000 S	Squar	e Met	ers)														
High Range	0	0	2	5	9	13	16	19	21	25	27	31	34	37	40	43	46	49	49	50	51
Low Range	0	0	0	5	3	4	5	6	6	8	8	9	11	11	12	13	14	15	15	16	16
							,														
Kentucky Blu		<del>- `</del>		<del></del>			í														
High Range	0	26	54	82	115	140	173	199	229	254	280	307	328	360	374	408	433	454	477	495	509
Low Range	0	9	18	27	38	46	57	65	75	83	92	101	107	119	122	133	142	149	157	162	167
Kentucky Blu		<del>- `</del>		<del></del>			•		<del>,                                    </del>												
High Range	0	2	5	8	12	14	18	20	23	25	28	31	33	36	38	41	43	45	48	49	51
Low Range	0	1	2	2	4	4	6	6	7	8	9	10	11	12	12	13	14	15	16	16	17

IMPORTANT: Do Not operate seed rate adjustment lever at -0- cup setting. Seed cup damage may occur.



Cup Setting	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Lovegrass - S	and (	Kilog	rams	per F	lectar	re)															
High Range	0	100	157	214	271	328	384	441	498	555	612	669	726	783	840	897	953	1035	1093	151	1209
Low Range	0	31	49	68	86	104	122	140	158	176	194	211	230	248	266	284	302	320	338	357	375
Lovegrass - S	and (	Kilog	rams	per 1	000 5	Squar	е Ме	ters)													
High Range	0	10	16	21	27	33	39	44	50	56	62	67	73	79	84	90	96	104	110	116	122
Low Range	0	3	5	7	9	10	12	14	16	18	20	21	23	25	27	28	30	32	34	36	38
		/1.4	···				`														
Lovegrass - W	<del></del> -	<del>,</del>	<del>_</del>	<del></del>			<del>1</del>														
High Range	0	122	197	253	321	384	443	501	561	619	678	736	795	854	913	971	1030	1089	1148	1206	1268
Low Range	0	39	63	81	102	122	140	159	178	196	215	234	252	271	290	308	327	345	364	383	402
Lovegrass - W		<del>,                                    </del>					<del>•</del>			T	T	T .	1	T	T	1	T	1	1.	T	1
High Range Low Range	0	12	20 6	25 8	32 10	39 12	14	50 16	56 18	62 20	68 21	74 23	80 25	85 27	91 29	98 31	104 33	109 35	15 37	121 38	127 40
Low Range	Į0	4	10	10	110	12	14	110	110	20	21	23	25	21	29	31	33	35	31	30	140
Orchard Grass	s (Kild	ogram	ns pe	r Hec	tare)																
High Range	10	4	7	11	17	23	30	38	46	55	65	74	84	95	105	115	126	136	145	155	164
Low Range	0	1	2	4	5	8	10	14	17	20	24	28	32	37	41	45	49	53	57	61	65
Orchard Grass	s (Kilo	ogran	ns pe	r 100	) Squ	are N	/leters	s)													
High Range	0	0	1	1	2	2	3	4	5	6	6	7	8	9	11	12	13	14	15	15	16
Low Range	0	0	0	0	1	1	1	1	2	2	2	3	3	4	4	5	5	5	6	6	6
Rye Grass - A				<del></del>		- <i>-</i>								_							
High Range	0	23	66	106	147	188	228	271	312	352	393	434	477	517	558	599	641	682	723	763	804
Low Range	0	8	21	34	47	59	73	86	98	112	124	138	151	164	177	190	204	216	229	242	255
Rye Grass - A									<del>-i</del>		_		_								
High Range	0	2	6	11 3	15 5	19 6	23 7	27 9	31 10	35 11	13	43 14	48 15	52 17	56 18	60 19	64 21	68 21	73 23	77 24	81 25
Low Range	Į U	<u> </u>	12	3	15	ю	1	19	110	111	13	14	15	117	10	119	21	21	23	24	25
Rye Grass - P	erenr	nial (k	Kiloar	ams ı	oer H	ectar	9)														
High Range	0	40	86	129	175	219	262	308	352	395	441	486	531	574	619	665	707	752	798	840	885
Low Range	0	13	27	41	55	69	83	97	112	125	140	154	168	182	196	210	224	238	253	266	281
Rye Grass - P	erenr	nial (k	Kilogr	ams	oer 10	000 S	quare	e Met	ers)												
High Range	0	4	9	13	18	22	26	30	35	40	44	49	53	58	62	66	71	76	80	84	89
Low Range	0	1	3	4	5	7	8	10	11	13	14	16	17	18	20	21	22	24	25	27	28
0 1 0	/1/1				`																
Sudan Grass			· -																		
High Range	0	39 20	77 32	116 46	157 62	201 80	247 99	294	343 142	394	446	500	555 236	611	668 282	726 304	785	845	905	966	1027
Low Range Sudan Grass	-						1	120	142	165	188	212	236	259	282	304	325	345	364	380	395
	<del>`                                      </del>		<del></del>		<del></del>		<del>,                                    </del>	Too	104	Too	145	Teo	150	T <sub>04</sub>	107	170	170	Tot	To4	To-7	1400
High Range Low Range	0	2	3	12 5	16 6	20 8	25 10	29 12	34 14	39 16	45 19	50 21	56 24	61 26	67 28	73 30	79 33	84 35	91 36	97 38	103 39
20% Rungo	1,	1	1	1,	1~	1,	1.0	1'-	1 7	1.0	1.9	1-1	1-7	120	120	100	100	100	100	100	100
Vetch (Kilograi	ms pe	r Hed	ctare)	)																	
High Range	0	87	151	214	274	338	401	464	527	587	651	714	778	838	901	964	1027	1089	1151	1218	1278
Low Range	0	23	43	63	82	101	121	140	159	178	198	217	236	255	275	294	313	333	352	373	392
Vetch (Kilograi	ms pe	r 100	)0 Sq	uare	Meter	s)															
High Range	0	9	15	21	27	34	40	46	53	59	65	72	78	84	90	97	103	109	116	123	128
Low Range	0	2	4	6	8	10	12	14	16	18	20	22	24	25	27	29	31	34	35	37	39
Wheatgrass -	Crest	ted (ł	Cilogr	ams p	er H	ectare	e)														
High Range	0	25	40	57	75	91	106	124	140	156	171	190	206	222	239	255	271	289	305	321	337
Low Range	0	8	13	18	23	29	34	39	45	49	55	60	65	70	76	81	86	92	96	102	106
Wheatgrass -	Crest	ted (k	Kilogr	ams p	oer 10	000 S	quare	e Met	ers)												
High Range	0	2	4	6	7	9	11	13	14	16	17	19	21	22	24	25	27	29	31	32	34
Low Range	0	1	1	2	2	3	3	4	4	5	5	6	6	7	8	8	9	9	10	10	11
1871	14/		17:1				,														
Wheatgrass -					_																
High Range	0	8	27	46	65	85	104	123	142	161	180	200	219	238	257	276	296	316	335	354	373
Low Range	0	2	9 Kilogu	15	21	27	32	39	45	51	57	64	69	75	82	87	94	100	106	112	119
. windatorace	VVACT	ern (	VIIOU,	iams	per 1	UUU S	oquar	e ivie	iers)												
Wheatgrass -					_		T	T	T .	1.	1	T .	Τ.	Τ.	Τ.	T	T	T	T	T	
High Range Low Range	0	1	2	4	6 2	8	10	12	14	16 5	18 6	20 6	22 7	24 7	26 8	28 9	30 9	32 10	34 11	36 11	38 12

IMPORTANT: Do Not operate seed rate adjustment lever at -0- cup setting. Seed cup damage may occur.

## Refer to Page 34 For Small Seeds Attachment Seed Rate Chart



## **Rotary Cutting Depth Adjustment**

There are three options for setting your cutting depth. They are gauge wheel drive, rear roller drive, and rear roller drive with front roller. The option you use is determined by your Overseeder drive type.

#### **Gauge Wheel Drive**



## **WARNING**

Before making adjustments on the Overseeder, shut off tractor, disengage PTO, wait for all moving parts to stop, and lock brakes before dismounting tractor. Be sure Overseeder is securely supported on safe supporting stands.

**NOTE:** The cutting depth of the knives is set by adjusting the height of the gauge wheels.

#### Refer to Figure 3-9:

- 1. Start by adjusting the left-hand gauge wheel first. Loosen the jam nut (#1) and back it off.
- 2. Rotate turnbuckle (#2) to shorten or lengthen it to achieve proper depth, dimension (A).
- 3. Retighten jam nut (#1) to lock turnbuckle in place.

#### Refer to Figure 3-10:

- Adjust right-hand gauge wheel next. Lower
  Overseeder to the ground and support the right
  gauge wheel tire with a block beneath it, thus
  causing the spring loaded gauge wheel link to
  bottom out.
- 5. Loosen jam nut (#3) and back it off.
- 6. Turn adjuster nut (#4) to shorten or lengthen spring loaded link (#5).
- 7. Dimension (B) should be the same on both right and left-hand gauge wheels to achieve the same cutting depth (A) at both ends of the Overseeder.
- 8. Adjust 3-point top center link at the tractor to re-level the Overseeder.

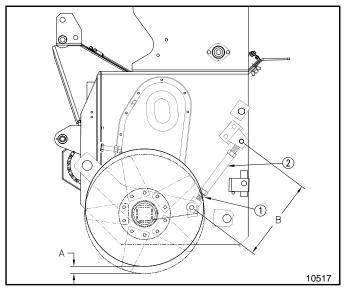
**NOTE:** Dimension (B) on the right-hand gauge wheel can only be checked when the stop washer (#6) is bottomed on the spring tube (#7) as shown.

#### **Rear Roller Drive**

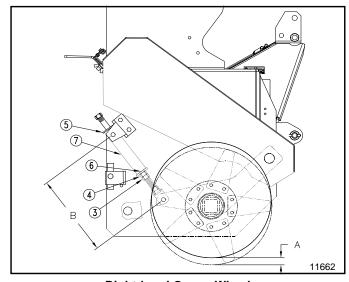
#### Refer to Figure 3-11:

**NOTE:** The cutting depth of the knives is set by raising or lowering the tractor's lower 3-point arms.

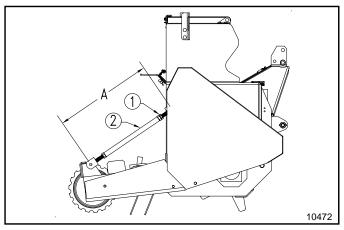
- 1. Raise or lower the lower arms on the tractor 3-point hitch until the desired cutting depth is obtained.
- 2. Adjust rigid links as necessary by loosening jam nuts (#1) and turning the turnbuckles (#2) to get a firm pressing action on the packer wheels.
- 3. Retighten jam nuts making sure that dimension (A) is equal in both sides.



Left-hand Gauge Wheel Figure 3-9



Right-hand Gauge Wheel Figure 3-10



Rear Roller Drive Without Front Roller Figure 3-11



# Rear Roller Drive With Front Roller Cutting Depth Adjustment

Refer to Figure 3-12:

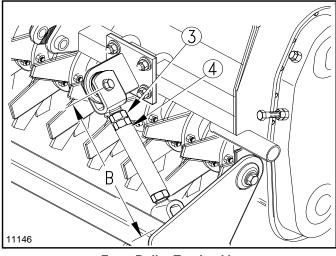
**IMPORTANT:** The lower arms on the tractor's 3-point hitch should be in float position.

**NOTE:** With this option, the cutting depth of the knives is set by the front roller. One method to adjust the front roller would be to place a spacer equal to the thickness of the desired knife cutting depth under the center of the front roller and then adjust turnbuckles an equal length until knives just touching the ground.

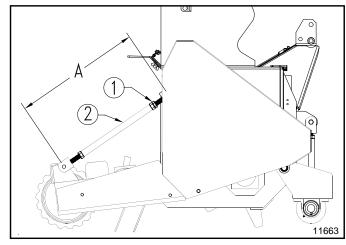
- 1. Adjust turnbuckles on the front roller as necessary by loosening jam nuts (#3) and turning turnbuckles (#4) to get proper cutting depth.
- 2. Retighten jam nuts making sure dimension (B) is equal at both turnbuckles.

#### Refer to Figure 3-13:

- 3. Level Overseeder from front to rear by loosening jam nuts (#1) and adjusting rear roller turnbuckles (#2).
- 4. Retighten jam nuts making sure dimension (A) is equal on both sides.
- Recheck knife depth to make sure no additional adjustments are needed to the front roller and rear roller turnbuckles.



Front Roller Turnbuckle Figure 3-12



Rear Roller Drive w/Front Roller Figure 3-13

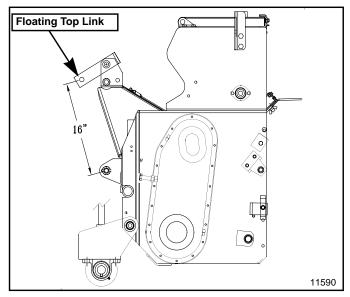
## **Floating Top Link Adjustment**

#### Refer to Figure 3-13:

Floating top link is used only when the seeder set-up is rear roller drive with front roller support.

#### Refer to Figure 3-14:

Set floating top link 16" from center line of top center link hitch hole to center line of lower lift arm hitch holes by adjusting length of tractor's top center link.



Floating Top Link Figure 3-14



## **Rear Arm Length Adjustment**

The rear roller is normally mounted to the short arm holes to keep tractor ballast weight to a minimum. Use long arm hole setting only if optional rear tine attachment is included. See "Tine Attachment (Optional)" on this page.

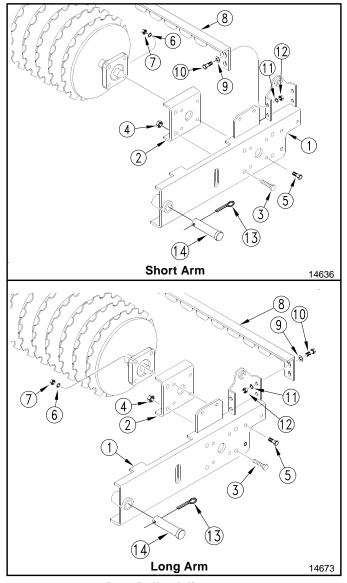
1. Support Overseeder with an overhead hoist to adjust rear roller for short arm or long arm use.

#### Refer to Figure 1-8 on page 13:

 If Overseeder is equipped with rear roller drive, remove rear chain guard (#6), front chain guard (#7), right and left solid links (#1), rear roller drive chain, and drive sprocket (#13).

#### Refer to Figure 3-15:

 Remove roller scraper (#8) by removing 3/8" x 1" bolts (#10), flat washers (#9), lock washers (#11), and nuts (#12) from both arms (#1).



Rear Roller Adjustment Figure 3-15

- Remove both rear roller arms (#1) from Overseeder frame by removing cotter pin (#13) and 1" clevis pin (#14).
- 5. Remove rear roller adjustment bracket (#2) from both rear roller arms by removing 1/2" x 1 1/4" long bolts (#3) and 1/2" flange nuts (#4).
- 6. Remove from each roller arm 3/8" x 1 1/2" bolts (#5), lock washer (#6), and hex nut (#7). Do not remove bearings from rear roller shaft.
- 7. The rear roller should be free to move now. Reposition rear roller adjustment bracket (#2) to the long or short arm location on roller arms (#1) and reassemble in reverse order.

**NOTE:** For long arm assembly, you may need to add 3 or more flat washers between the bottom rear bolt (#5) and rear roller adjustment bracket (#2).

#### Tine Attachment (Optional)

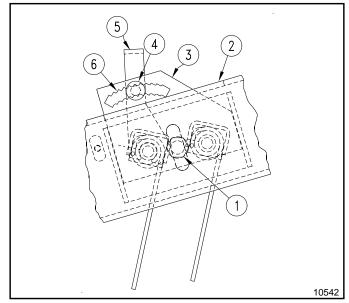
#### Refer to Figure 3-16:

#### To adjust height of tines:

- 1. Loosen 3/4" bolt (#1) on outside of right-hand and left-hand roller packer support channels (#2).
- 2. Raise or lower tine assembly (#3) and retighten 3/4" bolt (#1).

#### To adjust angle of tines:

- 3. Loosen 1/2" nut on carriage bolts (#4) and push head of carriage bolt from its notch (#6) on each side of the tine assembly.
- 4. Move handle (#5) forward or backward to the desired tine angle.
- 5. Make sure carriage bolts (#4) are nested in the same notch (#6) on both sides and retighten carriage bolt nuts.



Torsion Tine Height & Angle Adjustment Figure 3-16

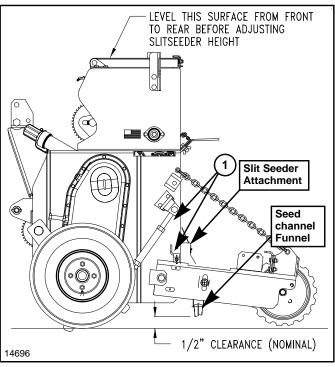


## Slit Seeder Attachment (Optional)

#### Refer to Figure 3-17:

The initial mid-range location of the slit seeder should be adequate for most overseeding operations. Most important is to ensure proper adjustment and leveling of the Overseeder.

- Loosen four 3/8" hex head cap screws (#1)
   (2 per side) and adjust slit seeder up or down to achieve 1/2" clearance between seed funnel and ground as shown.
- 2. Retighten 3/8"-16 x 2 1/2 GR5 hex head cap screws to the proper torque.
- Operator can adjust slit seeder attachment up and down to suit.



Slit Seeder Adjustment Figure 3-17

## Feed Cup Drive System Adjustment

Your Overseeder uses standard no. 40 roller chain throughout its feed cup drive system. The drive system is simple and designed for low maintenance.

- Check drive idler to ensure that it is taking up any excess chain slack.
- 2. Check each chain to ensure that it is not over-tight.
- 3. Annually clean and lubricate chain with chain oil.

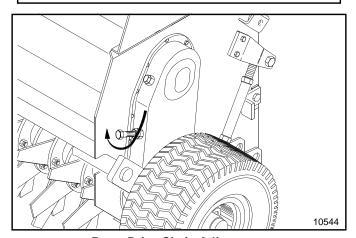
## **Rotor Drive Chain Adjustment**

#### Refer to Figure 3-18:

Drive chain tension can be easily adjusted by using the special chain tightener shown in Figure 3-18. Should backlash occur:

- 1. Loosen lock nut and turn bolt clockwise as indicated by the arrow until idler arm is firm against chain.
- Then back bolt off counterclockwise 1/4 turn.
- 3. Re-tighten lock nut while holding head of bolt in place.

**NOTE:** Excessive sprocket and chain wear will result if chain is overtightened.



Rotor Drive Chain Adjustment Figure 3-18



## **Small Seeds Attachment (Optional)**

**NOTE:** Seeding rates will vary greatly with variations in sizes of the seeds. Although the seeding rates listed in this manual are based on an average seed size, we recommend that you test and adjust your Overseeder using the procedures listed below to help ensure an accurate seeding rate.

**NOTE:** There is no "range" associated with Small Grass Seeds drive. If the drive is set-up correctly, the Small Grass Seeds box will turn the same speed regardless of whether the main seed box is set for high or low range.

 Use seed rate charts on page 34 to determine seeding rate for the seed you will be planting.

#### Refer to Figure 3-20 & Figure 3-21 on page 33:

 Determine which range and drive type the main seed box is in and then check to make sure the Small Grass Seeds box drive train is set-up correctly.

#### Refer to Figure 3-19:

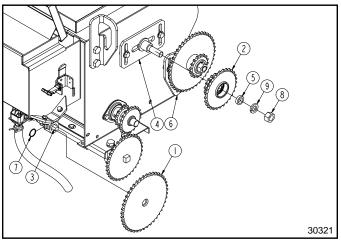
 If Small grass Seeds drive train is incorrect, change sprockets (#1 & #2) as follows. Skip to step 4 if drive train is correct.

**NOTE:** Do not change cup drive sprocket (#1) if Overseeder serial number is below 124,696.

- a. Remove chain guard.
- b. Loosen idler plates (#4 & #6) and remove roller chains.
- c. Remove snap ring (#7). Remove cup drive sprocket (#1) from cup shaft (#3). Flip cup drive sprocket to desired drive type and reassemble.
- d. Remove 5/8" nut (#8), 5/8" lock washer (#9), and 1" OD x 1/4" long spacer (#5).
- e. Flip double sprocket (#2) to desired drive type and reassemble.
- f. Install chains and adjust idler plates (#4 & #6) for chain tightness.
- g. Reinstall chain guard.

**IMPORTANT:** Use seed rate charts as a guide. There are many factors which will affect seeding rates: seed treatment, weight of seed, surface condition of seed, tire pressure, tire configuration, and tire or rear roller slippage. Minor adjustments may be needed to compensate for these factors.

- 4. See Important Note above. Locate seed rate adjustment lever at rear of seeder and move it to indicator number obtained from the seed rate charts. For best results, first move adjustment lever all the way to the left. Then move lever to desired setting, moving from a lower to a higher number.
  - Increase seed rate if seed is lighter than average.
  - Decrease seed rate if seed is heavier than average.



Small Seeds Drive Adjustment Figure 3-19

- Complete the following procedure to calibrate dispersal rate for your specific seed.
  - a. Place several pounds of seed over three of the seed cups at the outboard end of the Overseeder.
     Do not allow any of the seed to reach other cups.
  - b. Pull the seed tubes out of these three drops.
  - c. Support drive unit off the ground as follows:
    - Gauge wheel drive units: Raise and support drive tire (right tire) off the ground using a jack.
    - Rear roller drive units: Raise and support rear roller off the ground using a jack.
  - d. Rotate tire or rear roller to make sure drive system is working properly and that the feed cups are free from foreign matter.
  - e. Place a container under the three seed tubes to gather seed as it is metered.
  - f. Rotate gauge wheel or rear roller the number of rotations noted in the table below. Be sure to check the three feed cups to make sure each cup has plenty of seed coming into it.

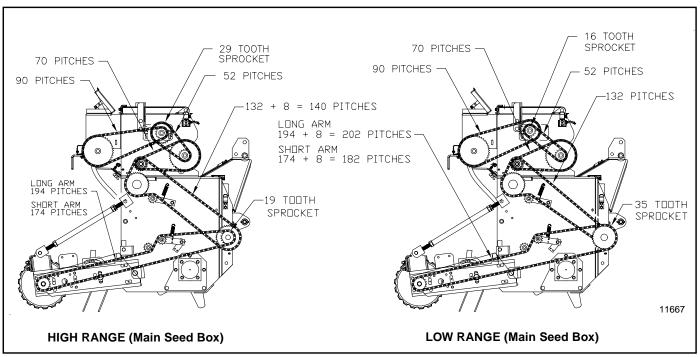
Gauge Wheel & Rear Roller Rotations to Cover

	1000 \$	Sq. Ft.	1/10 ACRE						
Model No	Wheel	Roller	Wheel	Roller					
OS1548	54	91	236	398					
OS1572	36	61	157	265					

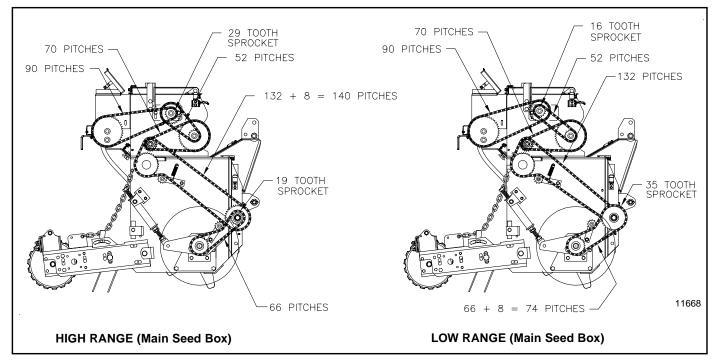
- \* Seed rates listed in charts for gauge wheel units are based on Overseeder having 18 x 8.50 x 8 turf tires with 20 psi.
  - g. Weigh the seed which has been metered out.
    - If weight is in pounds, divide total weight of seed metered out by 3 to get the number of pounds metered by each seed cup.
    - If weight is in ounces, divide total weight of seed metered out by 48 to get number of pounds metered by each seed cup.
  - h. Next, multiply number of pounds per cup by number of cups on your seeder to arrive at total pounds per 1000 sq. ft. or pounds per 1/10 acre.



- i. If calculations are based on 1/10 acre, multiply total pounds by 10 to arrive at pounds per acre.
- If this figure (total pounds per 1000 sq. ft. or acre) is different than desired, then readjust your seed cup adjustment lever accordingly.
- 6. You may want to repeat calibration procedure if results of your calibration vary greatly from suggested settings in the chart.



Rear Roller Drive (Small Seeds Sprocket Arrangement)
Figure 3-20



Gauge Wheel Drive (Small Seeds Sprocket Arrangement)
Figure 3-21



# **Small Seeds Seed Rate Chart (English)**

(Pounds per 1000 square foot and Pounds per acre)

<u> </u>			1 40			25 1	·	25	40 1	45 1	F0	<i>FF</i> 1	<u> </u>	CE I	70	75	00	05	00	05	1400
Cup Setting	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Alfalfa (Pounds p	er Ac 0.0		24	20	F 2	C 7	0.01	0.71	40.0	40.0	42.0	45.0	40.7	40.0	40.4	24.4	22.4	22.7	25.2	20.0	1 20 0
Alfalfa (Pounds p					5.3	6.7	8.2	9.7	10.9	12.3	13.9	15.3	16.7	18.2	19.4	21.1	22.4	23.7	25.3	26.6	28.0
Alialia (i ourius p	0.0	0.0		0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6
Alsike Clover (Po				<u> </u>	<u> </u>	0.2	<u> </u>	0.2	0.2	0.0	0.0	<u> </u>	<u> </u>	0	<u> </u>	0.0	0.0	0.0	0.0	0.0	0.0
,	0.0	0.0	0.0	0.0	0.0	0.0	0.9	3.5	5.7	8.7	12.2	14.4	16.5	18.3	21.3	23.9	28.3	30.0	32.2	35.2	39.1
Alsike Clover (Po				<del>, '</del> -																	
<u> </u>	0.0	0.0		0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.9
Bent Grass (Pour	nas po 0.0	er Acr 0.0		1.3	2.4	3.2	4.0	5.1	6.1	6.8	7.8	8.2	8.8	9.3	9.8	10.3	10.7	11.1	11.6	11.7	11.9
Bent Grass (Pour						3.2	4.0	5.1	0.1	0.0	7.0	0.2	0.0	9.3	9.0	10.3	10.7	11.1	11.0	11.7	11.9
Bent Grass (1 oal	0.0	0.0			0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
Bermuda (Pound	s per																				
·	0.0	0.0			2.0	2.5	3.0	3.7	4.3	4.7	5.3	5.5	5.9	6.2	6.7	7.2	7.9	8.7	9.8	10.4	11.3
Bermuda (Pound			<del></del>																		
D D .	0.0	0.0			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3
Biologic Brassic	<b>a</b> (Po	unas į 0.0			4.3	6.1	8.7	9.1	11.3	11.7	14.4	17.4	18.7	20.4	23.1	24.8	26.1	27.4	30.4	33.1	35.7
Biologic Brassic							0.7	9.1	11.5	11.7	14.4	17.4	10.7	20.4	23.1	24.0	20.1	21.4	30.4	33.1	33.7
Diologio Diacolo	0.0	0.0		0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.8	0.8
Biologic Chicory	(Pou	nds p	er Acr	e)						·											
	0.0	2.2			6.1	8.7	10.0	12.2	14.8	15.2	18.3	19.1	21.3	23.9	26.1	27.0	29.6	30.9	33.1	34.4	36.1
Biologic Chicory	_																				
Dielegie New 7e	0.0	0.0		0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.8
Biologic New Ze	3.0	3.0		6.5		10.9		14.8	17.8	20.4	23.1	26.1	27.0	30.0	33.1	35.7	37.4	40.5	43.1	46.1	47.8
Biologic New Zea										20.4	20.1	20.1	27.0	30.0	33.1	33.7	57.4	40.0	70.1	70.1	47.0
	0.1	0.1		0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.1	1.1
Biologic New Ze	aland	Full	Draw	(Pound	ds per	Acre)								<u>'</u>							
	0.0	0.0		0.0	0.0	0.4	3.5	7.0		12.6	15.2	16.5	20.0	22.2	24.8	25.2	27.4	29.1	35.2	41.3	41.8
Biologic New Ze				· <u>·</u>			<del></del>			0.01	0.01	0.41	0.51	0.51	0.01	0.01	0.0	0.7	0.0	0.0	1 4 0
Biologic New Zea	0.0 backs	0.0		(Pour	0.0	0.0	0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.8	0.9	1.0
Biologic New Zee	2.6	2.9		5.2	7.8	9.6	11.7	14.4	14.8	17.8	20.4	23.1	25.2	27.0	29.6	32.2	33.5	36.5	37.4	41.3	43.5
Biologic New Zea																					
	0.1	0.1	-	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	1.0
Birdsfoot Trefoil																					
Divides at Trafail	0.0	0.0				8.5	10.9	13.1	15.5	17.7	20.1	22.5	24.9	27.4	29.8	32.4	34.9	37.3	39.5	41.9	44.3
Birdsfoot Trefoil	0.0	0.0			are Fe 0.1	et) 0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.0
Brown Top Millet					0.1	0.2	0.2	0.5	0.4	0.4	0.5	0.5	0.01	0.01	0.7	0.7	0.0	0.5	0.3	1.0	1.0
	0.0	0.0			3.0	3.0	6.1	6.1	8.7	9.6	12.6	13.5	16.1	18.3	20.4	21.3	24.4	25.2	27.0	30.0	30.9
<b>Brown Top Millet</b>	: (Pou	nds p	er 100	0 Squ	are Fe	eet)		'	'					'							
	0.0	0.0		0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7
Canary Grass (P				0.0	4.0	0.51	0.01	0.01	44.0	40.0	45.01	40.01	40.01	20.01	00.0	04.4	20.4	20.0	20.0	20.0	200
Canary Grass (P				3.3			8.2	9.9	11.6	13.3	15.0	16.9	18.9	20.6	22.8	24.4	26.4	28.2	30.3	32.0	33.9
Canary Grass (P	0.0	0.0				0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8
Coated Centiped							1								0	3.3	3.3	3.3	J.,		
•	0.0	3.0	3.9	6.1	8.3		12.2	13.9	16.1	18.3	21.7	24.4	26.5	30.0	32.2	35.7	38.3	41.3	43.1	50.9	51.8
Coated Centiped																					
Frankis d Warra (	0.0				0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7	8.0	0.9	0.9	1.0	1.2	1.2
Evolved Harvest	<b>Prov</b> 0.0					0.61	12.2	14.8	17.8	20.0	23.9	27.0	30.0	33.1	36.5	40.0	43.1	/7 O	52.2	53.0	58.3
Evolved Harvest								14.0	17.0	20.0	20.8	21.0	30.0	33.1	30.5	40.0	43.1	47.0	52.2	55.9	100.3
_ TOTTCG TIGITYEST			0.1		0.1	0.2		0.3	0.4	0.5	0.5	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.2	1.3
																					<u> </u>
<b>Evolved Harvest</b>									45.71	10.7	22.2	24.0	27.4	00.4	25.2	20.2	40.0	40 E	47 O	50.0	54.8
	0.0	.4				9.1			15.7	10.7	22.2	24.8	27.4	30.4	35.2	38.3	40.9	43.5	47.0	00.0	00
Evolved Harvest Evolved Harvest	0.0		e Alfa	lfa Fo					0.4	0.4	0.5	0.6	0.6	0.7	0.8	0.9	.9	1.0	1.1	1.1	

IMPORTANT: Do Not operate seed rate adjustment lever at -0- cup setting. Seed cup damage may occur.

**NOTE:** Overseeders with gauge wheels are based on having 18 x 8.50 x 8 turf tires with 20 psi.



Cup Setting	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
<b>Evolved Harves</b>	Shot	Plot	(Poun	ds per	Acre)								•								
	0.0	0.0	.4	1.3	3.5	6.5	7.8		11.7	13.0	15.2	17.4	19.6	21.7	24.4	25.7	27.8	30.4	32.2	34.4	37.4
Evolved Harvest									0.01	0.01	0.01	0.41	0.41	0.51	0.0	0.0	0.0	0.7	0.7	0.0	
Evolved Harvest	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.9
Evolved Halves	0.0	0.0		0.0	.4	2.2	2.6	3.5	6.1	9.1	11.3	12.6	14.4	14.4	16.5	18.3	19.6	22.2	22.6	23.5	25.2
Evolved Harvest									<u> </u>							10.0	10.0			20.0	
	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.6
Fescue (Pounds																					
- (D	0.0	0.0	0.0	1.1	1.7	2.4	3.1	4.0	5.1	6.1	6.9	7.7	8.4	9.0	9.5	10.1	10.5	10.9	11.2	11.7	12.1
Fescue (Pounds	per 10 0.0	0.0	quare 0.0	Feet)	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Imperial Alfa-Ra						0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
imperial Alla Na	0.0	0.0		3.5	6.1	9.1	10.0	12.2	15.2	18.3	19.6	23.5	25.2	27.8	30.9	33.5	36.5	39.6	41.8	49.6	47.8
Imperial Alfa-Ra	ck Plu	ıs (Po	unds	per 10	00 Sq	uare l	eet)						I								
	0.0	0.0		0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.1
Imperial NO-Plo																					
Imperial NO Dis	0.0	0.0		2.2	3.5		7.0	9.1	12.6	12.6	15.2	17.4	18.3	20.9	23.1	24.8	26.5	29.1	30.0	32.6	35.2
Imperial NO-Plo	<b>w</b> (Pol					eet) 0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.8
Imperial Whiteta					-		٥.٢	0.2	0.0	0.0	0.0	٠.٦	٠.٦	0.0	0.0	0.0	0.0	0.7	0.1	5.1	0.0
	0.0	0.4		3.5	6.1	8.7	10.0	12.6	15.2	18.3	20.9	23.9	27.0	29.6	31.3	33.9	37.0	40.0	42.2	45.2	48.3
Imperial Whiteta	il Chi		Plus (	Pound						<u> </u>		<u> </u>									
	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.8	0.9	1.0	1.0	1.1
Imperial Whiteta						0.0	44 7	440	40.4	40 7	04.0	00.01	07.01	00.01	00.0	05.7	07.0	40.0	45.0	45.0	40.0
Imperial Whiteta	0.0	0.0		3.9	6.5	9.6		14.8	16.1	18.7	21.3	23.9	27.0	29.6	32.6	35.7	37.0	40.0	45.2	45.2	48.3
imperial willteta	0.0	0.0		0.1	0.1	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.8	0.9	1.0	1.0	1.1
Imperial Whiteta							0.0	0.0			0.0	0.01	0.01	1	0	0.0	0.0	0.0			
•	0.0	0.0	3.0	3.9	6.5		11.3	13.0	16.1	18.3	21.3	23.9	26.1	29.6	32.6	34.8	37.0	40.5	42.6	45.7	48.3
Imperial Whiteta	il Dou	ıble C		`			<u> </u>		<del></del>												
I	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.8	0.9	1.0	1.0	1.1
Imperial Whiteta	0.0	0.0	<u> </u>		O.0		0.9	2.6	3.0	5.7	6.1	6.1	7.8	8.7	9.1	10.0	10.4	11.3	13.5	14.4	17.0
Imperial Whiteta									3.0	5.7	0.1	0.1	7.0	0.7	9.1	10.0	10.4	11.5	13.3	14.4	17.0
	0.0	0.0	`	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4
Imperial Whiteta	il Win	ter G	reens	(Pour	ids pe	r Acre	)		'				'								
	0.0	2.6	2.6	3.5	6.5		10.9			17.4	19.6	22.2	24.4	26.5	29.1	31.8	28.7	34.4	35.2	38.7	42.2
Imperial Whiteta										0.41	0.41	0.51	0.01	0.01	0.7	0.7	0.7	0.0	0.0	0.0	4.0
Kentucky Blue (	0.0	0.1 (Pour		0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.9	1.0
Rentucky Blue C	0.0	0.0	0.3	1.4	2.0	3.4	3.9	4.8	5.5	6.2	6.9	7.6	8.1	8.8	9.4	9.9	10.0	11.1	11.6	12.1	12.6
Kentucky Blue C						re Fe															
•	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Ladino Clover (F																					
Ladina Claves /				3.6			8.7	10.8	12.8	14.5	16.2	18.2	20.1	21.5	23.2	24.9	26.5	28.3	30.3	32.4	33.9
Ladino Clover (F	0.0				0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.8
Lettuce (Pounds			0.0	0.1	0.1	0.2	0.2	0.2	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.0	0.0	0.7	0.7	0.7	0.0
	0.0		0.0	0.0	0.0	2.6	3.0	3.0	6.1	6.1	6.5	8.3	9.1	9.6	12.2	12.2	13.9	15.2	15.7	17.8	19.1
Lettuce (Pounds	per 10	000 S	quare	Feet									•								
	0.0	0.0			0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Lovegrass Weep					7.0	0.7	10.4	40.0	42.0	42.0	40.41	47.4	40.7	20.4	24.7	00.4	040	27.0	07.4	20.4	20.4
Lovegrass Weep	0.0	-			7.0			10.9	13.0	13.9	16.1	17.4	18.7	20.4	21.7	23.1	24.8	27.0	27.4	29.1	30.4
Lovegrass week	0.0				0.2	0.2		0.2	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7
Orchard Grass (					J.=	J	J.=	J.=							3.3			3.5	3.5	J	J
,	0.0	0.0	0.0		0.7	1.0	1.5	1.7	2.2	2.7	3.1	3.6	3.9	4.4	4.8	5.3	5.6	6.1	6.3	6.8	7.0
Orchard Grass (																					
Ded Class (D		0.0		0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
Red Clover (Pou	nds pe			11	6.1	8.0	9.9	12.1	14.0	16.0	17.9	10.0	24 0	22 7	25.0	27.0	29.8	24.7	33.6	2F. C	37.8
Red Clover (Pou						6.0	9.9	12.1	14.0	10.0	17.9	19.9	Z1.8	23.1	25.9	21.8	∠9.8	31.7	JJ.0	აა.ხ	31.8
ited Glover (1º00	0.0			0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9
	0													•						0	

IMPORTANT: Do Not operate seed rate adjustment lever at -0- cup setting. Seed cup damage may occur.

**NOTE:** Overseeders with gauge wheels are based on having 18 x 8.50 x 8 turf tires with 20 psi.



Cup Setting	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Red Top Grass	Pound	ls per	Acre)			•							•								
	0.0	0.0	0.7	1.5	2.2	3.4	4.4	5.3	6.1	7.0	8.0	8.7	9.2	9.9	10.4	11.1	11.9	12.8	13.6	14.5	15.3
Red Top Grass	Pound	ls per	1000	Squar	e Feet	:)				•	•	•		•							
	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4
Rye (Pounds per	Acre)																				
	0.0	0.0	0.4	2.0	3.8	5.9	7.8	9.4	11.2	13.0	14.8	16.3	18.1	19.6	21.6	23.5	24.9	26.7	28.4	32.3	37.4
Rye (Pounds per	1000	Squar	e Fee	t)						·	·										
	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.9
Sweet Clover (P	ounds	per A	cre)																		
	0.0	0		3.8	5.8	7.9	9.9	12.6	14.6	16.9	18.9	21.1	23.0	24.9	27.1	29.3	31.4	33.4	35.6	37.5	39.5
Sweet Clover (P		<u> </u>		quare																	
	0.0	0.0	-	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9
Sudan Grass (P																					
	0.0	0.0	0.0	2.4	3.6	6.8	9.0	11.9	14.0	16.9	19.4	21.8	24.2	26.6	29.1	31.5	33.9	36.6	38.7	41.2	43.6
Sudan Grass (P		<u> </u>																			
	0.0	0.0		0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	1.0
Timothy Grass																					
	0.0	0.0		2.7	4.1	5.8	7.5	9.4	11.4	13.3	15.3	17.2	19.1	21.1	23.0	25.2	26.9	29.1	31.0	32.7	34.6
Timothy Grass						,															
<u> </u>	0.0			0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.8
Turnips - Purple					4.01				40.0	10.01								00.1			
<u> </u>	0.0	0.0		3.4	4.6	6.2	8.0	9.2	10.9	12.6	14.3	15.9	17.7	19.4	21.1	23.0	24.7	26.1	28.1	30.0	32.1
Turnips - Purple							<u>,                                      </u>	0.01	0.01	0.01	0.01	0.41	0.41	0.41	0.51	0.5	0.0	0.0	0.0	0.71	0.7
140' ( 15 '	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7
Winfred Brassic						0.41	0.01	44 7	40.0	40.4	4-7-4	40.0	00.4	00.01	00.5	00.7	00.0	04.0	00.0	00.0	00.4
140. 6 1.5	0.0			2.2	3.5	6.1	9.6	11.7	13.9	16.1	17.4	19.6	23.1	23.9	26.5	28.7	29.6	31.3	32.6	33.9	36.1
Winfred Brassic								0.01	0.01	0.41	0.41	0.41	0.51	0.51	0.01	0.7	0.7	0.7	0.7	0.01	0.0
Zamish Zava's O	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.7	0.7	8.0	0.8
Zenith Zoysia G						2.5	F 1	7.01	7.01	0.41	44 71	40.01	440	45.01	47.01	40.4	24.7	22.4	04.0	05 7	20.4
Zamish Zavaia O	0.0	0.0	0.0	0.4	3.0	3.5	5.7	7.0	7.8	9.1	11.7	12.2	14.8	15.2	17.8	19.1	21.7	23.1	24.8	25.7	29.1
Zenith Zoysia G				<u> </u>		-		<u> </u>	0.01	0.01	0.01	0.01	0.01	0.01	0.41	0.4	0.5	0.5	0.01	0.01	0.7
	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7

IMPORTANT: Do Not operate seed rate adjustment lever at -0- cup setting. Seed cup damage may occur.

**NOTE:** Overseeders with gauge wheels are based on having 18 x 8.50 x 8 turf tires with 20 psi.



#### **Maintenance**

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

- After using your Overseeder for several hours, check all bolts to be sure they are tight.
- 2. Lubricate areas noted in the "Lubrication" section.
- Adjust idlers to remove excess slack from chains. Clean and use chain lube on all roller chains as needed.
- 4. Feed cup drive sprocket should be oiled in its square bore. Move feed cup adjustment lever away from sprocket as far as possible in order to get oil back into square.
- 5. Always maintain proper air pressure in turf tires.
- Replace any worn, damaged, or illegible safety labels by obtaining new labels from your Land Pride dealer.

## **Storage**

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

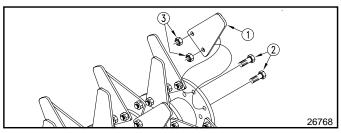
- Completely clean the seed box of seed and other debri before storing.
- 2. Lubricate and adjust all roller chains and fittings.
- Feed cup drive sprocket hub should be oiled in its square bore. Squirt oil on to the square feed cup shaft and move feed cup adjustment lever back and forth in order to get the oil back into the square bore. This is most important before putting the Overseeder in storage.
- 4. Store the Overseeder and its attachments inside if possible to extend the Overseeder's life.
- When in storage, lower the Overseeder with rollers on a board or hard surface and adjust the parking stand to properly support the seeder.
- Repaint parts where paint is worn or scratched to prevent rust.
- 7. Replace all damaged or missing decals.
- 8. Check knives for wear and replace if necessary.
- Inspect Overseeder for loose, damaged, or worn parts and adjust or replace as needed.
- Drain gear case and chaincase oil. Drain oil in gear case by removing plug from the bottom side of the rotor housing. Drain oil in chaincase by removing oil level plug and fill plug.

## **Individual Knife Replacement**

The following instructions are for replacing only a few bent and/or broken knives on the rotor without removing the rotor from the Overseeder frame. It is best to remove the rotor from the frame if replacing all knives. See "Rotor Maintenance" on this page to replace all knives.

#### Refer to Figure 4-1:

- Remove two cap screws (#2) and locknuts (#3) from knife (#1) to be replaced.
- 2. Remove damaged knife and install new knife (#1) on same side of attaching flange as the damaged knife was using new 7/16" lock nuts (#3), Land Pride Part No. 803-108C. Torque nuts to 68 ft-lbs.



Individual Knife Replacement Figure 4-1

## **Rotor Maintenance**

It is best to remove the rotor knife assembly when replacing the complete set of knives, right-hand bearing, and/or bearing seal. Knives are worn out when they can not be set to penetrate the soil to your desired depth.



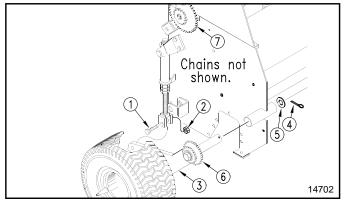
## **WARNING**

Before making adjustments on the Overseeder, shut off the tractor, disengage PTO, wait for all moving parts to stop and lock brakes before dismounting tractor. Securely block Overseeder on safe supporting stands and disconnect tractor.

- 1. Attach chain, cable, or lifting strap to the two Overseeder sling brackets. Use an overhead hoist for rotor removal and installation.
- Remove chain guard from right-hand side of your Overseeder.
- Remove drive chain as follows:

# Overseeders With Gauge Wheel Drive Refer to Figure 4-2:

- a. Remove chain from gauge wheel sprocket (#6) to seed cup sprocket (#7).
- b. Remove 5/8" x 2 1/2" long bolt (#1) and nut (#2).

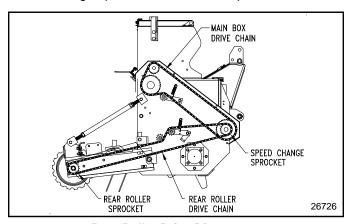


Gauge Wheel Disconnect Figure 4-2



# Overseeders With Rear Roller Drive Refer to Figure 4-3:

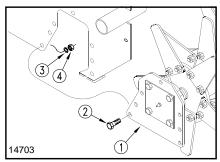
a. Remove rear roller drive chain from speed change sprocket to rear roller sprocket.



Rear Roller Drive Disconnect Figure 4-3

#### Refer to Figure 4-4:

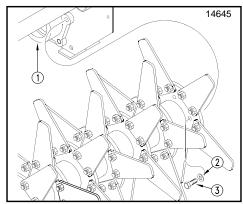
4. Remove right-hand side or rotor from Overseeder by removing 1/2" x 1 1/4" bolts (#2), lock washer (#3), hex nut (#4), and then right-hand bearing mount plate (#1) from Overseeder main frame.



Right-hand Rotor Disassembly Figure 4-4

#### Refer to Figure 4-5:

 Disconnect left-hand side of rotor from rotor drive hub (#1) by removing 7/16" x 1" long bolts (#3) and 7/16" lock washers (#2).



Left-hand Rotor Disassembly Figure 4-5

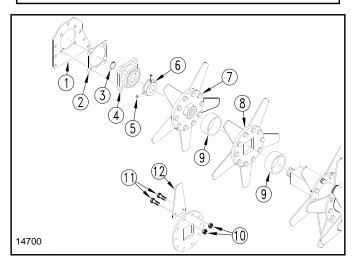
#### Refer to Figure 4-6:

- 6. Remove bearing mount plate (#1) from bearing housing assembly (#4). Take care not to damage the gaskets (#2) on either side of the right-hand bearing mount plate.
- 7. Remove snap ring (#3) and bearing (#4) from the rotor shaft.
- Loosen two set screws (#5) in seal guard hub (#6) and slide hub off the rotor shaft.
- Clamp rotor shaft on one of the knife mounting flanges and, using a spanner wrench, unscrew (left-hand threads) non-drive rotor flange (#7).

**NOTE:** The threads on the non-drive rotor flange are left-handed threads.

- Slide knife mounting flanges (#8) and spacers (#9) off rotor shaft.
- Replace knives (#12) as needed using new 7/16" lock nuts, Land Pride part no. 803-108C. Torque nuts to 68 ft-lbs.

**NOTE:** The spiral arrangement of the knives needs to be reassembled in the same manner.



Rotor Bearing and Knife Removal Figure 4-6

- Inspect bearing and seal for wear and replace if necessary.
- 13. Reassemble spacers and knife mounting flanges in the same spiral pattern as they were before disassembly.

**NOTE:** The knives should all be on the right side of the mounting flanges as viewed from the rear of the Overseeder.

- Reassemble non-drive rotor flange (#7). Using a spanner wrench, torque to 985 ft-lbs. Remember: These are left-handed threads.
- 15. Slide seal guard hub onto the rotor shaft and leave set screws loose.



- 16. Apply a coat of grease to the seal and press bearing housing assembly onto the rotor shaft, taking care not to damage the seal. Reinstall snap ring.
- 17. Install rotor to the Overseeder by reversing steps 2 through 4.

## **Rear Roller Maintenance**

#### Refer to Figure 4-7:

Rear roller wheels (#14) should rotate freely over wheel mounting tube (#15) and have a small amount of lateral movement between the two end plates (#12). This loose fit allows for the rollers to turn independently from each other which keeps debri from locking them up and allows the seeder to turn corners without pushing dirt in front of the rollers.

#### **Rear Roller Inspection**

Inspect roller wheels daily to make sure they are turning and not pushing dirt. Your should be able to hold one roller still while rotating the roller next to it with your hand. If this cannot be done, then the rollers should be cleaned of debri that has impacted between them.

Over time, the roller wheels will wear against each other and become loose moving back and forth laterally on the mounting tube. Spacers, 1/4" in width, should be added on the left end to take up excessive slack and to extend the life of the roller wheels and mounting tube. Also, the roller wheels should be inspected for breakage. Broken rollers should be replaced as soon as possible.

Inspect roller wheels for wear by sliding all rear roller wheels (#14) and end spacers (#13) to the right and then measure the gap on the left end. If gap between last end spacer (#13) and end cap (#12) is 3/8" or greater, then an additional 1/4" spacer or spacers should be added to the mounting tube. Never add too many spacers. Too many spacers will force the roller wheels tight against one another and won't allow them to turn independently.

#### **Rear Roller Disassembly**

Disassemble rear roller mounting tube from Overseeder as follows:

**NOTE:** During disassembly, set aside all loose components and hardware in an orderly fashion and in a safe location for relocating and reassembling.

- 1. Lower Overseeder and rear roller to ground, shut tractor off, set park brakes, and remove switch key.
- 2. Disconnect packer chain (#6) or turnbuckle (#7) from the left-hand rear roller arm (#16).
- 3. Remove 3/8" bolts (#4) and scraper bar (#5) from left and right rear roller arms (#16).
- 4. Remove 3/16" cotter pin (#8) and clevis pin (#9). Lower front of left rear roller arm (#16) to the ground.
- Loosen set screw in eccentric locking collar of bearing (#10) and then rotate eccentric locking collar counterclockwise. This should free the shaft from the bearing.

- 6. Remove rear roller arm (#16) with attached bearing (#10) from rear roller mounting tube (#15).
- 7. Remove flat washer (#11) and end cap (#12).

#### **Rear Roller Assembly**

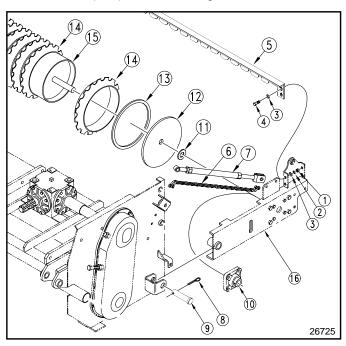
 Replace roller wheels (#14) and/or add 1/4" spacer rings (#13) as needed on the left side of the seeder:

#### **Roller Wheels**

- a. Remove roller wheels (#14) from mounting tube (#15) until you reach the broken roller.
- Replace broken roller with new roller and reinstall removed roller wheels.

#### **Spacer Rings**

- Add spacer rings on the end of the mounting tube until gap measured in paragraph of "Rear Roller Inspection" is almost but not quite filled.
- Replace end cap (#12) and flat washer (#11) on shaft of mounting tube (#15).
- Insert shaft of mounting tube (#15) fully into bearing (#10). Turn bearing eccentric locking collar clockwise and then tighten set screw in locking collar.
- 4. Reattach rear roller arm (#16) to seeder panel with 1" clevis pin (#9) and 3/16" cotter pin (#8). Be sure to bend one leg of cotter pin to secure it in place.
- 5. Insert stop pin (#7) in seeder bracket and secure with hairpin cotter (#6).
- 6. Reattach scrapper bar (#5) to left and right rear roller arms (#16) with 3/8"-16 x 1 1/4 GR5 hex head cap screws (#4), flat washers (#3), lock washers (#2), and hex nuts (#1).
- 7. Reattach packer chain (#6) or turnbuckle (#7) to rear roller arm (#16) with remaining hardware.



Rear Roller & Spacer Assembly (Left Side)
Figure 4-7



## **Driveline Slip Clutches**



## **CAUTION**

Engage parking brake, disengage PTO, shut off tractor, and remove key before working on or around the driveline and/or slip clutch.



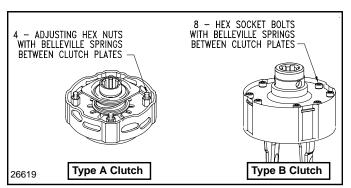
## **CAUTION**

Slip clutches that have been in use or have been slipped for only two or three seconds during run-in may be too hot to touch. Allow a hot clutch to cool before working on it.

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

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

Refer to Figure 4-8 to determine which friction clutch your seeder has. Follow "run-in" instructions on the following pages for your specific clutch type.

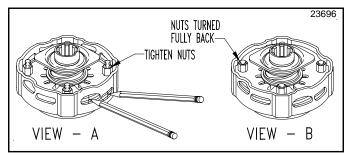


Clutch Types Figure 4-8

## Type A Clutches Clutch Run-In

#### Refer to Figure 4-9 (View - A):

- Using a pencil or other marker, scribe a line across the exposed edges of the clutch plates and friction disks.
- Tighten all 4 nuts uniformly until spring load is low enough that the clutch slips freely with PTO engaged.



Type A Clutch Run-In Figure 4-9

- Make sure the area is clear of all bystanders and machine is safe to operate.
- 4. Start tractor and engage PTO for 2-3 seconds to permit slippage of clutch surfaces. Disengage PTO, then re-engage a second time for 2-3 seconds. Disengage PTO, shut off tractor, and remove key. Wait for all components to stop before dismounting from tractor.
- 5. Inspect clutch and ensure that the scribed markings made on the clutch plates have changed position. Slippage has not occurred if any two marks on the friction disk and plate are still aligned. A clutch that has not slipped must be disassembled to separate the friction disk plates. See "Clutch Disassembly, Inspection & Assembly" below.

#### Refer to Figure 4-9 (View - B):

- 6. If no two marks on the friction disk and plate are still aligned, Turn all 4 nuts fully back.
- 7. Allow clutch to cool to ambient temperature before operating again. Clutch is now ready for use.
- The clutch should be checked during the first hour of cutting and periodically each week. An additional set of scribe marks can be added to check for slippage.

## Clutch Disassembly, Inspection & Assembly

If clutch run-in procedure above indicates that one or more of the friction disks did not slip, then the clutch must be disassembled into separate friction disks.

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





## **OS1548 2-Plate Disassembly**

## ■ Step 1

Remove snap ring.



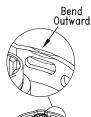
#### ◀ Step 2

Remove backup ring, lock collar, compression spring, bottom backup ring, and balls.



## **⋖** Step 3

Tighten the four hex nuts uniformly until the clutch pack and hub are loose.



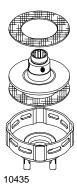
## ◆ Step 4

Bend all four retaining lugs out on edge of clutch housing.



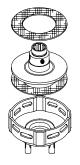
## ◀ Step 5

Remove thrust plate with Belleville Springs and lug rings to access friction discs and hub for inspection or service.



#### ■ Step 6

Inspect friction discs and hub.



## OS1548 2-Plate Assembly

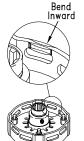
#### Step 1

Place hub and friction discs into the housing.



#### ◀ Step 2

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



#### ◀ Step 3

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



#### Step 4

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



## **◀** Step 5

Insert greased balls.



#### ◀ Step 6

Install bottom backup ring, compression spring, lock collar, and top backup ring.



#### ■ Step 7

Install snap ring.



## OS1572 4-Plate Disassembly



## ¶ Step 1

Remove snap ring.



## ◀ Step 2

Remove backup ring, lock collar, compression spring, bottom backup ring, and balls.



## ◀ Step 3

Tighten the four hex nuts uniformly until the clutch pack and hub are loose.



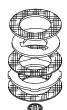
#### ■ Step 4

Bend all four retaining lugs out on the edge of the clutch housing.



## ◀ Step 5

Remove the thrust plate with the Belleville Springs and lug rings to access friction disks and hub for inspection or service.



#### ◀ Step 6

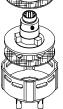
Inspect friction disks and hub.





## **OS1572 4-Plate Assembly**

## ■ Step 1



Place the hub and friction disks into the housing.



## ◀ Step 2



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



## ◀ Step 3



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



#### ¶ Step 4

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



## ◀ Step 5

Insert greased balls.



#### ■ Step 6

Install bottom backup ring, compression spring, lock collar, and top backup ring.



#### ■ Step 7

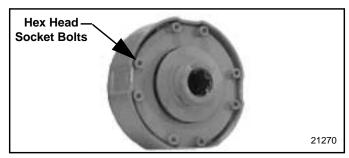
Install snap ring.



# Type B Clutch Clutch Run-In

#### Refer to Figure 4-10:

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



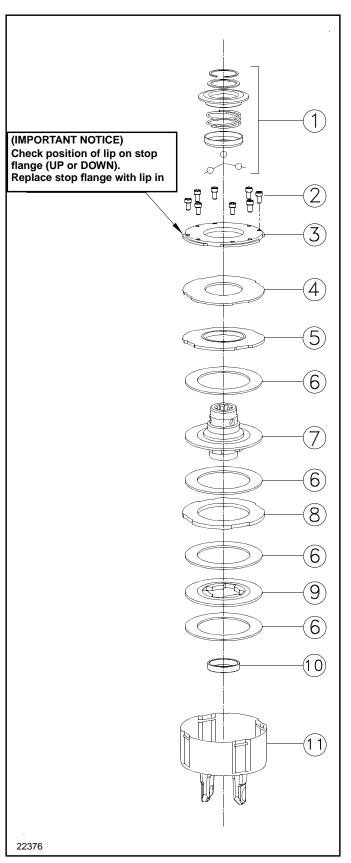
Type B Clutch Run-In Figure 4-10

## **Disassembly and Assembly**

#### Refer to Figure 4-11:

If the clutch run-in procedure indicated that one or more of the friction disks did not slip, then the clutch must be disassembled to separate the friction disks.

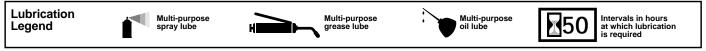
- 1. Rotate 8 hex head socket bolts (#2) all the way out to free stop flange (#3).
- 2. Rotate stop flange (#3) and remove from housing (#11)
- 3. Remove the following inner components:
  - a. Spring kit (#4)
  - b. Pressure flange (#5)
  - c. 1st Friction Disc (#6)
  - d. Hub with flange and pull collar (#7 & #1)
  - e. 2nd Friction disc (#6)
  - f. Intermediate flange (#8)
  - g. 3rd Friction disc (#6)
  - h. Hub disc (#9)
  - i. 4th Friction disc (#6)
  - j. Bearing (#10)
- 4. Inspect all components and replace to their original position. Make certain stop flange (#3) is replaced with its flanges down as shown.
- 5. Fully tighten all 8 hex head socket bolts (#2).

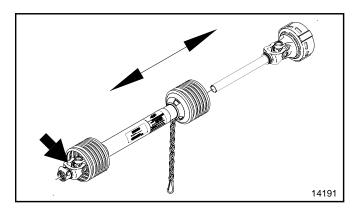


Type B Clutch Assembly Figure 4-11



## **Lubrication Points**

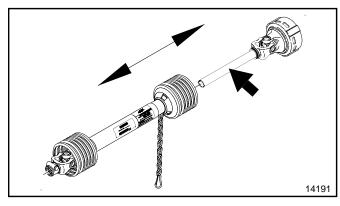






**PTO - U-Joint** 

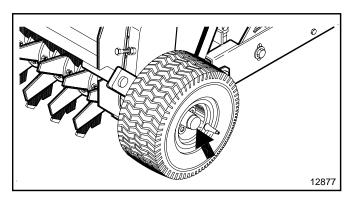
Type of Lubricant: Multi-purpose Grease





**PTO - Profiles** 

Type of Lubricant: Multi-purpose Grease

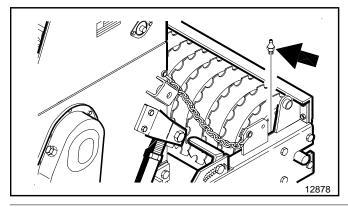




## **Wheel Bearings**

Repack wheel bearings

Type of Lubricant: Wheel Bearing Grease

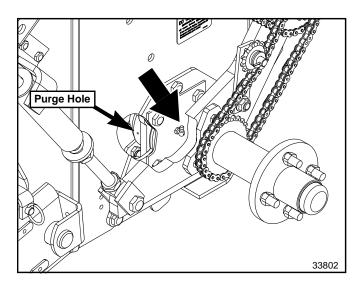




#### **Rear Roller Bearings**

Type of Lubricant: Multi-purpose Grease



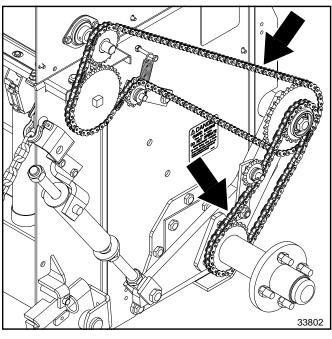




## **Right-hand Rotor Bearing**

(Maine Seed Box)

**Type of Lubricant:** Multi-purpose Grease Add grease until grease purges from purge hole



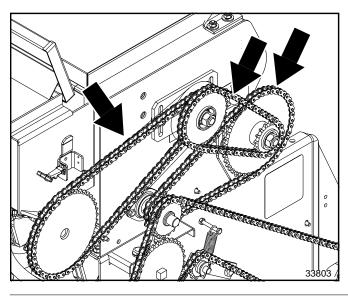


## Feed Cup & Agitator Drive Chains

(Maine Seed Box - 2 chains)

Type of Lubricant: Chain Lubricant

Do not overlubricate





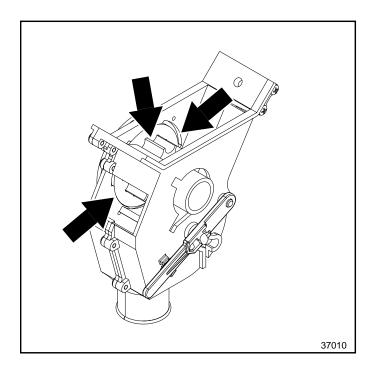
## **Small Seeds Drive Chains**

(Small Seeds Attachment - 3 chains)

Type of Lubricant: Chain Lubricant

Do not overlubricate





**Graphite** Powder



As Needed

**50** 

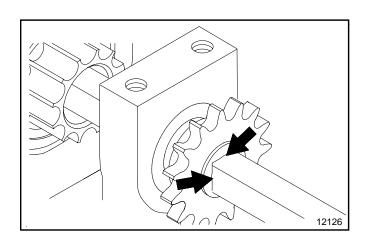
## **Seed Cup Sprockets & Nylon Washers**

**IMPORTANT: DO NOT** use petroleum lubricant on plastic seed cups. Petroleum will absorb into the plastic and swell plastic components.

NOTE: Cleaning seed cups seasonally is often all that is required to keep seed cups working properly. Remove seed from seed box and seed cups. Rinse each seed cup thoroughly with water spray from a garden hose. Allow seed cups to air dry completely before putting seeder back into service.

Type of Lubrication: Graphite Powder Land Pride # 821-042C (1 lb. Container)

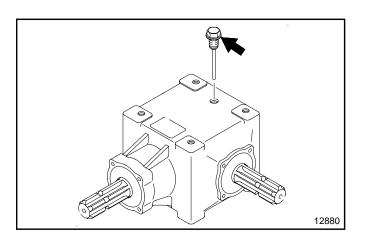
Quantity = Mix as needed, 1 teaspoon of powdered graphite for every bushel of seed in the seed box.





## **Feed Cup Drive Sprocket**

Type of Lubricant: Oil

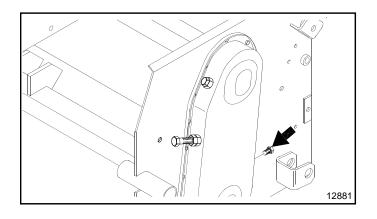




#### Gearbox

Type of Lubricant: Gear Lube 80-90 EP Fill to full mark on dip stick





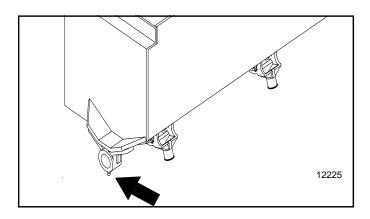


#### **Driveline Chaincase**

Oil should reach the hole of the cap. Overseeder should be level when checking.

#### **Type of Lubricant:**

Shell Gadus S2 V220 00 flowable grease Land Pride Part #821-045C (32 oz. bottle)

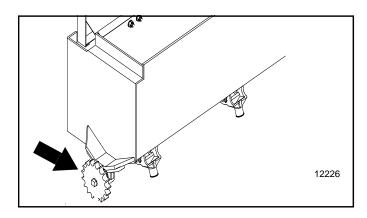




## **Drive Sprocket Hanger Bearing**

(Small Seeds Attachment)

Type of Lubricant: Multi-purpose Grease





## **Feed Cup Drive Sprocket**

(Small Seeds Attachment)

Type of Lubricant: Oil



#### Slit Seeder Attachment

#### Refer to Figure 5-1:

The slit seeder attachment provides for improved seed burial by diverting seed directly to the slits cut by the Overseeder knives.

The Slit Seeder option may be ordered with your Overseeder, or installed at a later time by you or your dealer. Use the following list to obtain the correct Slit Seeder Attachment for your Overseeder.

308-152A	OS1572 - 2" Slit Seeder Spacing
308-155A	OS1572 - 3" Slit Seeder Spacing
308-160A	OS1548 - 2" Slit Seeder Spacing
308-163A	OS1548 - 3" Slit Seeder Spacing

#### For additional information refer to:

"Slit Seeder Attachment (Optional)" on page 31.

#### **Rear Tine Attachment**

#### Refer to Figure 5-2:

The rear tine attachment bolts to the rear arms with only two bolts. It is a full width two-row spring tooth harrow designed to help move seed into the soil. The tine attachment can be set at different angles and depths.

The Rear Tine option may be ordered with your Overseeder or installed at a later time by you or your dealer.

308-316A 48" Overseeder 308-317A 72" Overseeder

#### For additional information refer to:

• "Tine Attachment (Optional)" on page 30.

# Agitation Extension Kit (Accessory) Refer to Figure 5-3:

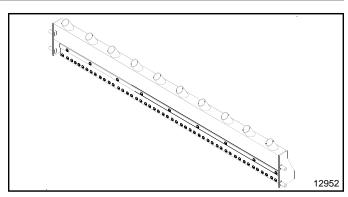
Extended agitator paddles can be added to your existing paddles in the main seedbox to help break-up bridging of light fluffy seed across the seedbox discharge opening. See your nearest Land Pride dealer to order the correct kit for your seeder.

313-503A Agitator Extension Kit, 48" Box Width 313-505A Agitator Extension Kit, 72" Box Width

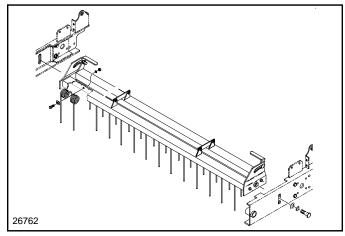
#### Refer to Figure 5-4:

Install extended agitator paddles to existing paddles in the main seedbox as follows:

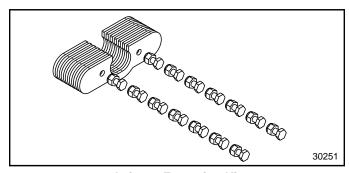
- 1. Attach extension paddles (#2) to existing paddles as shown with 1/4"-20 x 5/8" GR5 cap screws (#3) and hex nylock nuts (#4).
- 2. Tighten all nylock nuts to the correct torque.



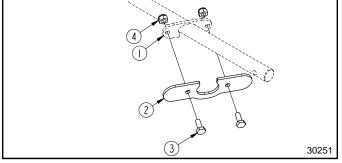
Slit Seeder Attachment Figure 5-1



Rear Tine Attachment Figure 5-2

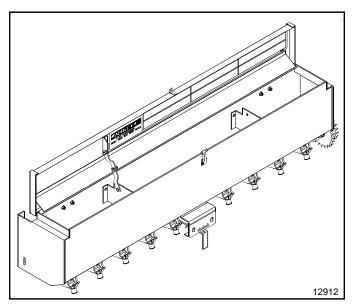


Agitator Extension Kit Figure 5-3



Assembly of Agitator Extension Paddles Figure 5-4





Small Seeds Attachment Figure 5-5

## **Small Seeds Attachment**

#### Refer to Figure 5-5:

The Land Pride Small Seeds Attachment is an option made available to fit any Land Pride 48" or 72" Overseeder.

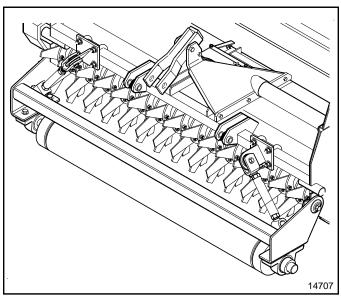
The small seeds attachment is designed to meter various small seeds. It features a 0.23 bushel/foot profile which gives the OS1548 Small Seeds Attachment a 0.95 bushel capacity and the OS1572 Small Seeds Attachment a 1.36 bushel capacity.

The Small Seeds option may be ordered with your Overseeder, or installed at a later time by you or your dealer. Use the following list to obtain the correct Small Seeds Attachment for your Overseeder.

Land Pride Part No.	Overseeder Size	Overseeder Drive System
308-233A	48"	Gauge Wheel Drive
308-234A	48"	Rear Roller Drive
308-235A	72"	Gauge Wheel Drive
308-236A	72"	Rear Roller Drive

#### For additional information refer to:

- "Section 3 Adjustments", on page 20.
- "Section 4 Lubrication", on page 44.
- "Section 8 Troubleshooting", on page 53.



Front Roller Attachment Figure 5-6

## **Front Roller Attachment**

#### Refer to Figure 5-6:

The front roller attachment is a full width anti-scalping roller with a floating top link giving your Overseeder better ground following capability. The front roller can set the cutting depth of the knives when used in conjunction with a rear roller drive seeder.

The Front Roller option may be ordered with your Overseeder, or installed later by you or your dealer.

308-258A 48" Overseeder 308-259A 72" Overseeder

#### For additional information refer to:

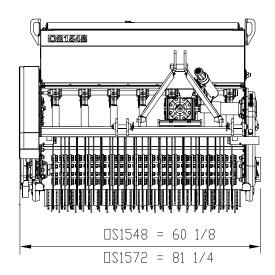
"Rear Roller Drive With Front Roller" on page 29.

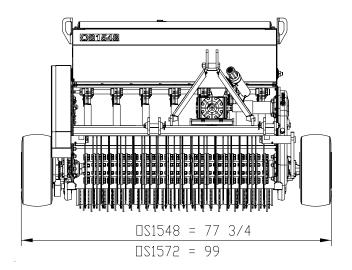


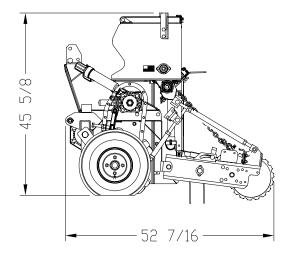
#### OS1548 & OS1572 Series

List	Specifications	& Capacities						
Model Numbers	OS1548	OS1572						
Overall Width	Gauge wheel drive: 77 3/4" Rear roller drive: 60 1/8"	Gauge wheel drive: 99" Rear roller drive: 81 1/4"						
Seeding Width	51"	72"						
Box Length	48"	72"						
Empty Weight	2" Spacing, Wheel Drive: 1290 lbs. 2" Spacing, Roller Drive: 1250 lbs. 3" Spacing, Roller Drive: 1220 lbs.	2" Spacing, Wheel Drive: 1645 lbs. 2" Spacing, Roller Drive: 1605 lbs. 3" Spacing, Roller Drive: 1565 lbs.						
Maximum Horsepower	6	0						
Driveline	540 rpm; Heavy duty construction with	slip clutch protection and fully shielded						
Gearbox	540 rpm input; Constructed of o							
Gearbox Oil	Gear Lube	80-90 EP						
Roller Chain, (Knife Drive)	#80 Roller Chain; adjustable	#100 Roller Chain; adjustable						
Chaincase, (Knife Drive)	Fully enclosed oil bath style chain							
Chaincase Oil	Shell Gadus S2 V220 Land Pride Part #821	-045C (32 oz. bottle)						
Rotor Diameter	18							
Rotor Speed	400							
Knife Tip Speed	2000							
Knife Depth	0"-1 1/2"							
Knife Spacing	2" 0							
Number of Knives - 5 per flange	115 knives on 2" spacing 80 knives on 3" spacing	170 knives on 2" spacing 115 knives on 3" spacing						
Knife Construction	Straight knives: 3/16" thick hi Curved knives: 5/32" thick hi							
Seed Box Construction	Water tight box with wind guarded seed splash lid.							
Seed Box Capacity	4 bushels with paddle agitator	6 Bushels with paddle agitator						
Productive (3 1/2 mph)	1.5 acres/hr. (broadcast)	2 acres/hr. (broadcast)						
Number of Seed Cups	7	10						
Seed Cup Metering Construction	Powder metal flutes with in							
Seed Cup Drive	Gauge Wheel Drive: Right-hand driven with Rear Roller Drive: Rear roller driven to elin							
Seed Cup Agitation	Chain driven paddle type a	•						
Seed Settings	Wide range of calibration settin	gs per acre and per 1000 sq. ft.						
Gauge Wheel Tires	18 x 8.50 x 8 tu	rf tires at 20 psi						
Number of Packer Wheels	22	31						
Packer Wheel Construction	Notched 12" dia. cast iron ro	llers with corrugated scraper.						
Hitch	Category I: with 10" offset	Category I: Centered						
	Fits Land Prid	e Quick-Hitch.						
	Optional Add-on Equipment							
Small Seeds Box	Bushel capacity (.95 bu.) with:  Gauge Wheel drive Seed Cups Rear Roller Drive Seed Cups	Bushel capacity (1.36 bu) with:  Gauge Wheel drive Seed Cups Rear Roller Drive Seed Cups						
Slit Seeder Attachment	2" or 3" Spacing; Directs seed	•						
Tines		adjustable; Individual replacement.						
Front Roller		n control, with floating top link.						
	,	,						











## **OS15 Series**

Features	Benefits
2" or 3" Spacing	Knife spacing for different geographic soil types, conditions and moisture.
Seed to soil contact	Knives create a slit, the seed is precisely placed in the slit and the roller incorporates seed to soil contact (for better seed germination).
Easy seed cup and seed box emptying	Flute is designed to allow easy clean out of material in seed box and seed flutes.
Seed box agitator	Eliminates seed bridging.
Seed cups with powder metal flutes	Superior metering accuracy by each flute. Powder metal dissipates heat to keep cups running cool.
Gauge wheel or rear roller seed cup drive	Gauge wheels keeps knives in ground more consistently in undulating terrain. Rear roller drive allows for closer seeding to obstructions.
Water tight seed box	Keeps water out and seeds in.
Wind guarded seed drop	Seed rate is consistent across width of the machine and is not hampered by windy conditions.
Straight Knives	More aggressive, picks up thatch.
Curved Knives	Less aggressive and less disturbance of thatch layer.
Small seeds box	Simultaneously seeds second type of seed.
Slit seeder attachment	Guides seed directly into slit. Good for overseeding expensive grasses to ensure good seed to soil contact.
Front roller (Option)	Used to set seeding depth with units equipped with rear roller drive. Precise depth control.
Working widths	48", 72"
HP rating	25-60 HP
Offset hitch – 48" unit	Offset by 10" to cover right tire track.
Fits Land Pride Quick-Hitch	Aids in one person hook-up.
Machine weights	48" - 1260 lbs; 72" - 1605 lbs.
0"-1 1/2" Depth adjustment	Adjust depth for different seed types, soil conditions, and moisture.
High carbon heat-treated knives	Last longer in sandy soils.
High tensile roller chain	Provides a smooth and quiet drive.
1 Bushel per foot seedbox	Fill less often with a large box.
Seed splash guard	Seedbox lid has a guard to prevent seed from being spilled between lid and box.
Heavy-duty lid	Lid won't buckle or slam shut in high winds.
Lift hooks	Allow for easy loading & unloading from trailers
Packer wheel scraper	Prevents soil buildup on packer wheels in moist conditions.
Covered drive chains	Drive chains are covered for safety, as well as keeping tree branches away to eliminate chain jumping.
Warranty	5 Years on gearbox. One year parts & labor.



# **Troubleshooting Chart**

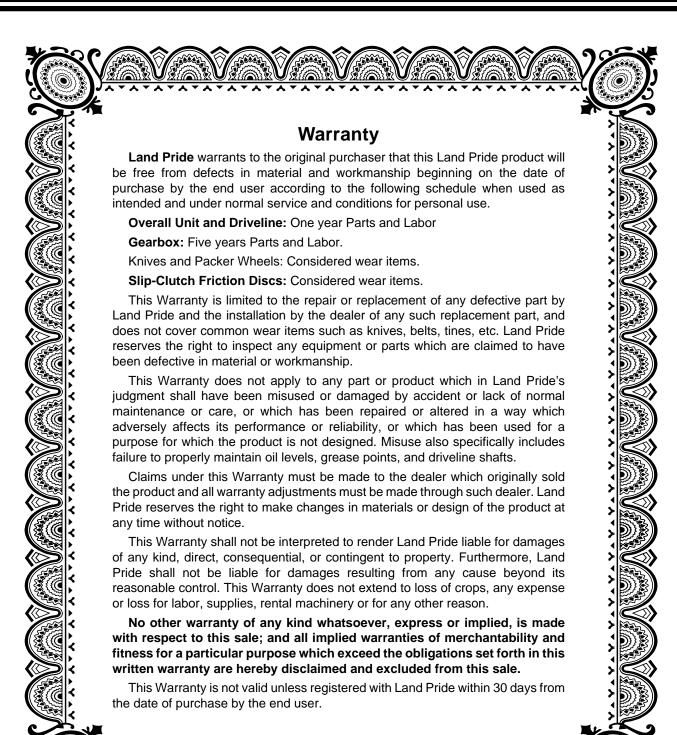
Problem	Solution							
Machine makes intermittent clicking	Tighten Knives							
noise	Replace damaged gear in gearbox							
	Replace damaged chain link							
PTO vibrates	Replace worn universal joint							
	Remove trash from rotor							
	Lower machine and readjust tractor lift stop							
Gearbox noise is noticeable and	Allow time for break-in							
constant	Add oil							
	Replace worn gears							
Oil leaking from gearbox	Replace damaged seals or gaskets							
	If overfilled, drain to proper level							
Rotor will not turn	Engage PTO							
	Repair broken drive chain							
	Reduce load to Overseeder							
Cutting depth insufficient	Lower tractor 3-point arms							
	Increase tractor rpm							
	Adjust gauge wheels							
	Replace worn or bent knives							
	Clear obstacles entangled in knives and/or rotor							
Machine skips	Replace worn knives							
	Reduce load							
	Reduce ground speed							
Knives balling up with soil	Replace worn or bent knives							
	Decrease tractor speed							
Overseeder bumping on the ground	Clear obstacles entangled in knives and/or rotor							
Uneven seed spacing or uneven stand	Check tire pressure. Proper inflation is listed in the "Tire Inflation Chart", Section 9, page 54							
	Check for plugging in feed cups							
	Check to see if seed tubes are plugged							
	Reduce ground speed							
	Check all drive chains, sprockets, keys, and pins							
Actual seeding rate is different than desired	Seed treatment will affect seeding rate if the chemicals build up in seed cup. Unless cleaned regularly, this build-up can cause breakage of the seed cup shaft.							
	See "Adjustments", Section 3, starting on page 20, for instructions on calculating seed rate.							



	Torque Values Chart for Common Bolt Sizes												
		Bolt	Head Id	dentific	ation				Bolt	Head I	dentific	ation	
		$\neg$		7	$\overline{\mathcal{L}}$	マー		<i> </i>	7	<b></b>		$\int_{1}$	$\overline{}$
Bolt Size		/	7	$\checkmark$	abla	<b>フ</b>	Bolt Size	\\5	.8	\\ <sup>8</sup>	8.8	10	0.9
(inches)	Gra	de 2	Gra	de 5	Gra	de 8	(Metric)	Clas	s 5.8	Class 8.8		Class 10.9	
in-tpi <sup>1</sup>	N·m²		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
1/4" - 20	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
1/4" - 28	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
5/16" - 18	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
5/16" - 24	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
3/8" - 16	27	20	42	31	59	44	M10 X 1.5	33	24	52	39	72	53
3/8" - 24	31	22	47	35	67	49	M10 X 0.75	39	29	61	45	85	62
7/16" - 14	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
7/16" - 20	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
1/2" - 13	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
1/2" - 20	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
9/16" - 12	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	1215	160
9/16" - 18	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
5/8" - 11	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
5/8" - 18	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
3/4" - 10	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
3/4" - 16	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
7/8" - 9	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
7/8" - 14	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1" - 8	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1" - 12	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1-1/8" - 7	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
1-1/8" - 12	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
1-1/4" - 7	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
1-1/4" - 12	750	555	1680	1240	2730	2010	$\int_{0}^{1} in-tpi = nomin$			eter in in	ches-thr	eads pe	r inch
1-3/8" - 6	890	655	1990	1470	3230	2380	$^{2}$ N· m = newto		S				
1-3/8" - 12	1010	745	2270	1670	3680	2710	<sup>3</sup> ft-lb= foot po						
1-1/2" - 6	1180	870		1950	4290	3160	4 mm x pitch =	nomina	thread	diamete	r in milli	meters >	k thread
1-1/2" - 12	1330	980	2970	2190	4820	3560	pitch						
Torque toleran	ce + 0%	, -15% c	of torquir	-			ise specified use		values	listed ab	ove.		
							orque Value						
Non Driven Ro					985 ft-II	bs. (Use	a spanner wrend	ch to loo	sen)				
7/16" Knife Mo	7/16" Knife Mounting Bolts & Lock Nuts 68 ft-lbs												

Tire Inflation Chart								
Tire Size	Inflation PSI							
8 1/2" x 18"	20 psi							





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

Model Number	Serial Number



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