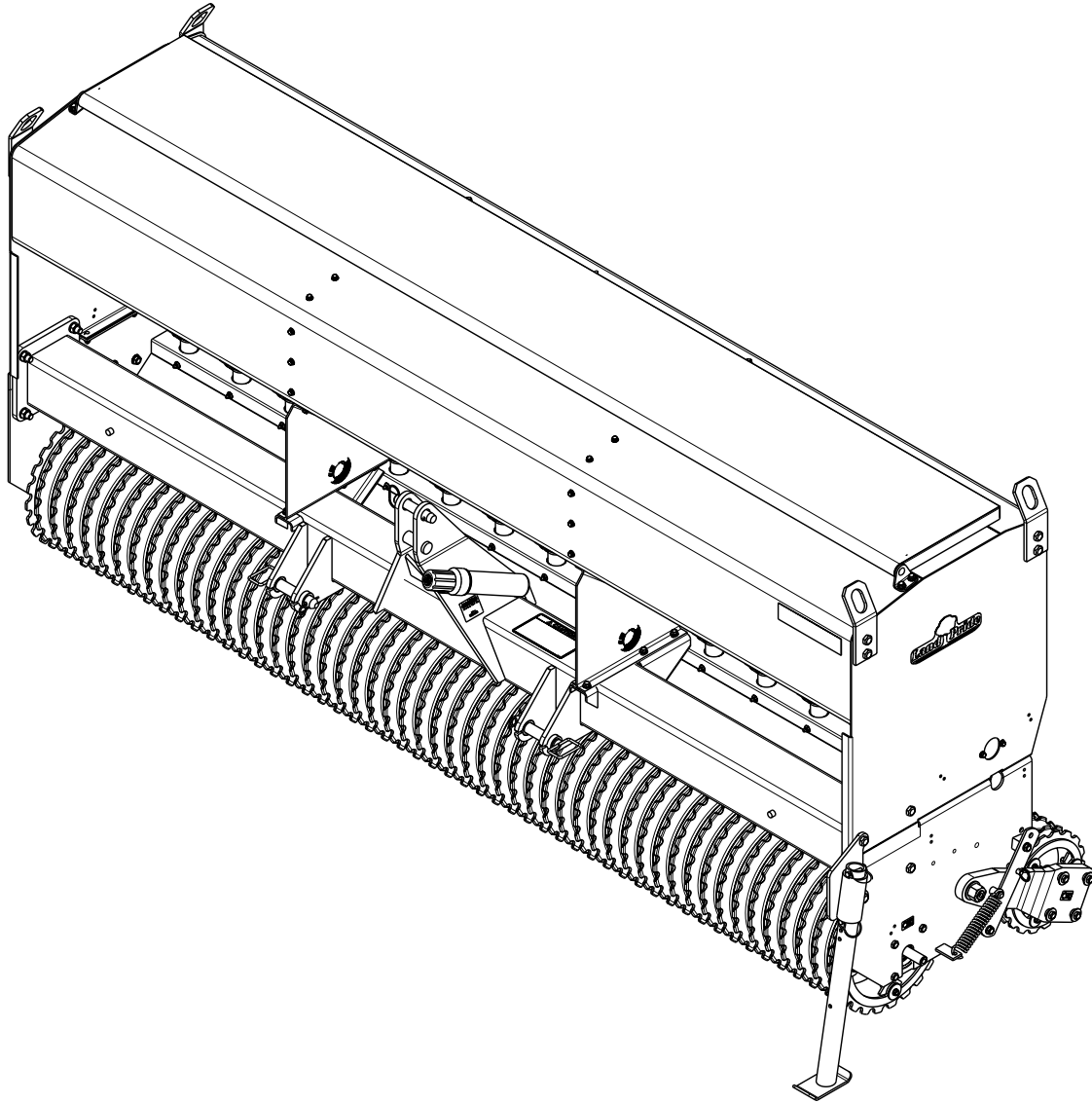


Primary Seeder

PS25120



30186

313-156M
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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Printed in the United States of America.

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:

⚠ DANGER

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

⚠ WARNING

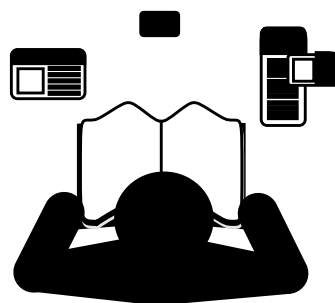
Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

⚠ CAUTION

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

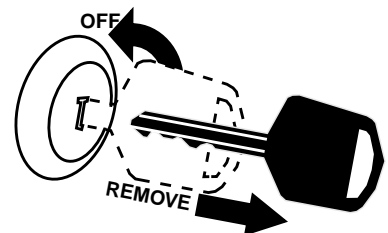
For Your Protection

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



Shutdown and Storage

- ▲ Lower 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.



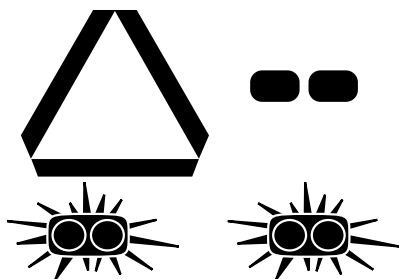
Dealer QR Locator

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.

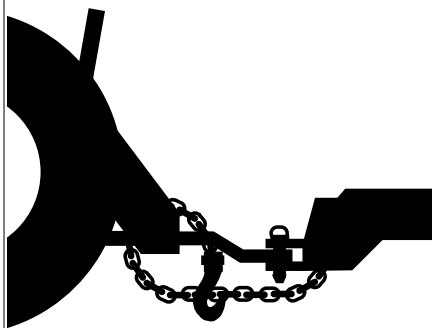
10 mph when weight of attached implement exceeds weight of machine towing implement but not more than double the weight.

- ▲ **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.

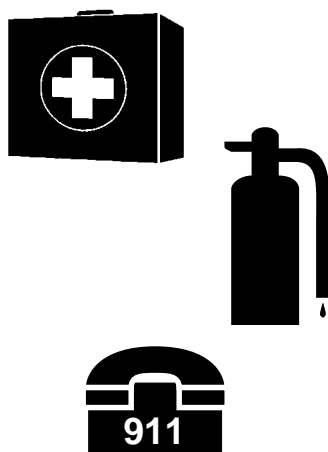
- ▲ Disconnect battery ground cable (-) before servicing or adjusting electrical systems or before welding on implement.
- ▲ Do not grease or oil implement while it is in operation.
- ▲ Inspect all parts. Make certain parts are in good condition & installed properly.
- ▲ Remove buildup of grease, oil,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



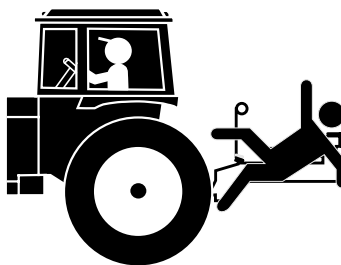
Tire Safety

- ▲ 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 Primary Seeder comes equipped with all safety labels in place. They were designed to help you safely operate your implement. Read and follow their directions.

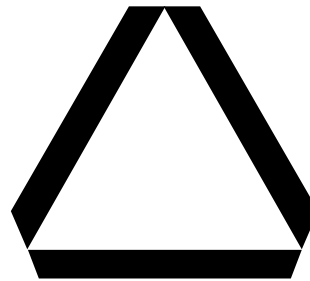
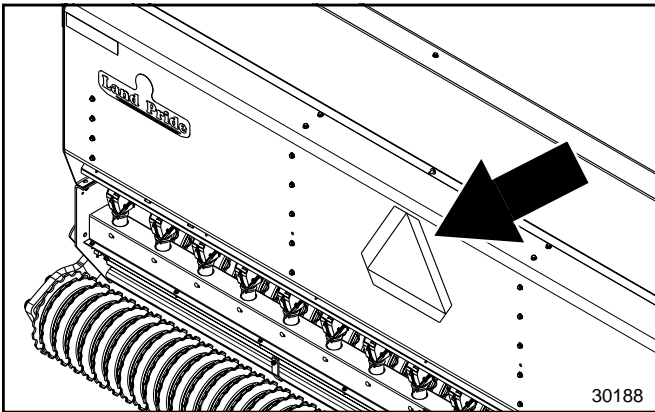
1. Keep all safety labels clean and legible.
2. Refer to this section for proper label placement. Replace all damaged or missing labels. Order new labels from your nearest Land Pride dealer. To find your nearest dealer, visit our dealer locator at www.landpride.com.
3. Some new equipment installed during 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.

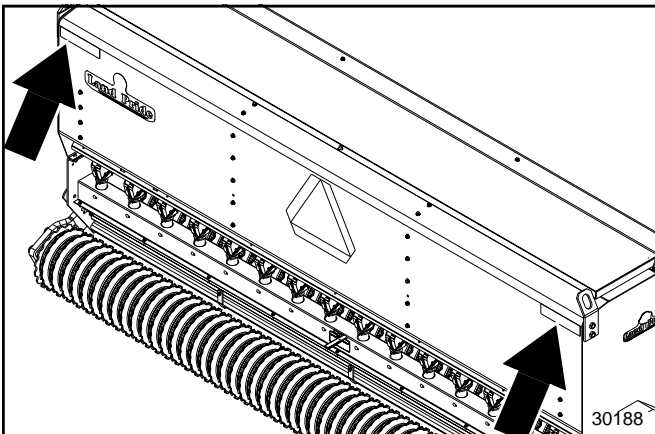
To install new labels:

- 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.



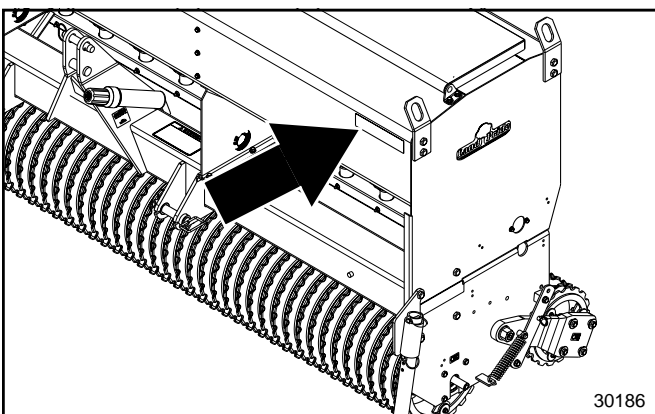
818-003C

Slow Moving Vehicle Label



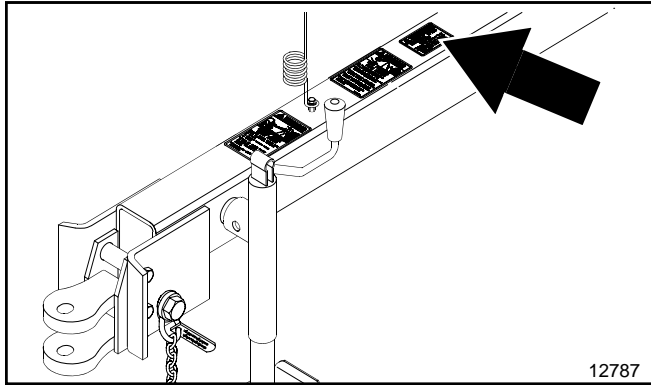
838-614C

2" x 9" Red Reflector (2 places)



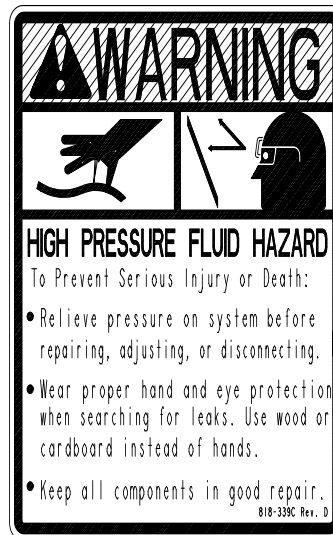
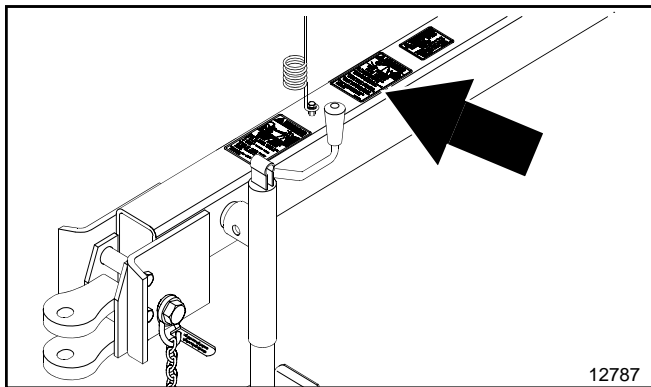
838-615C

2" x 9" Amber Reflector (1 place)



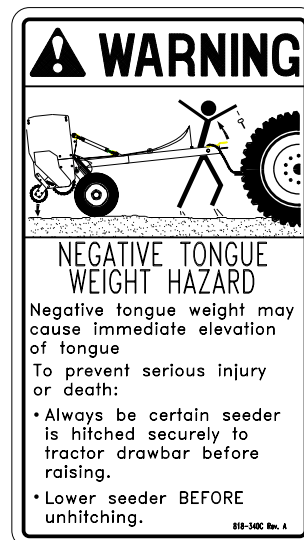
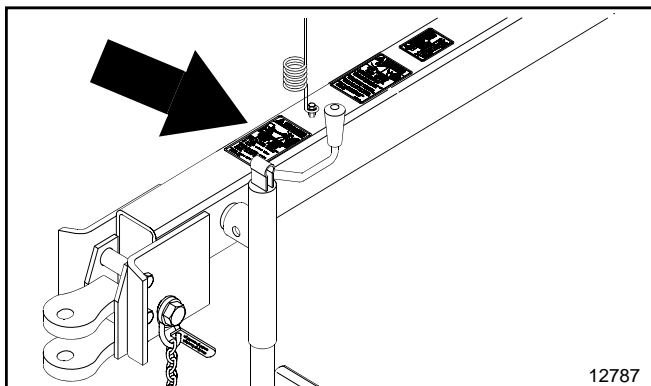
818-337C

Excessive Speed Hazard



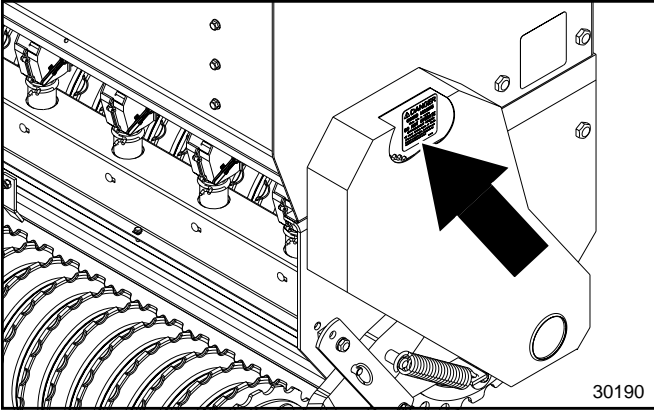
818-339C

High Pressure Fluid Hazard



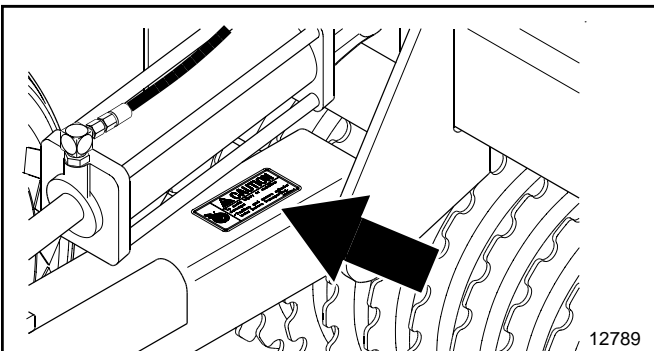
818-340C

Negative Tongue Weight Hazard



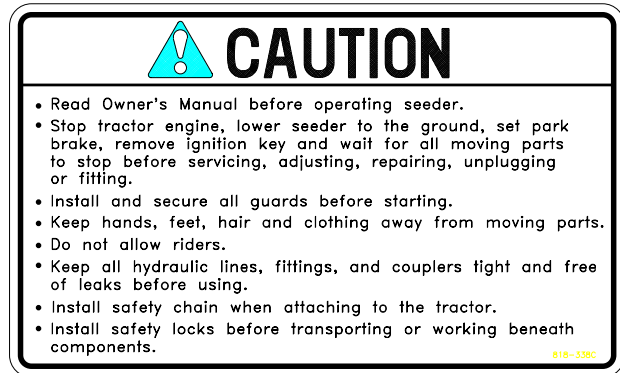
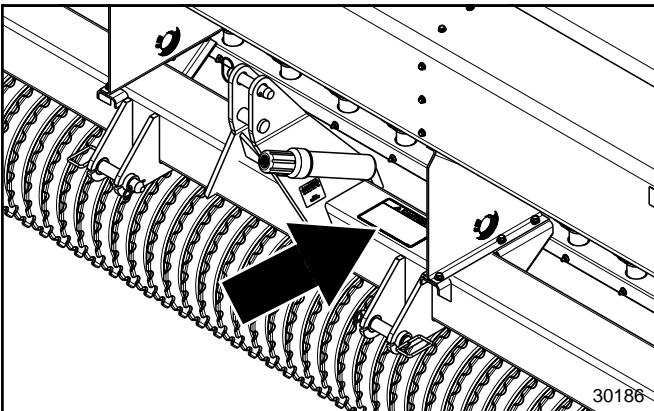
818-543C

Guard Missing
(Beneath Chain Guard)



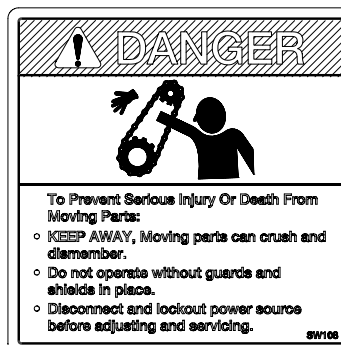
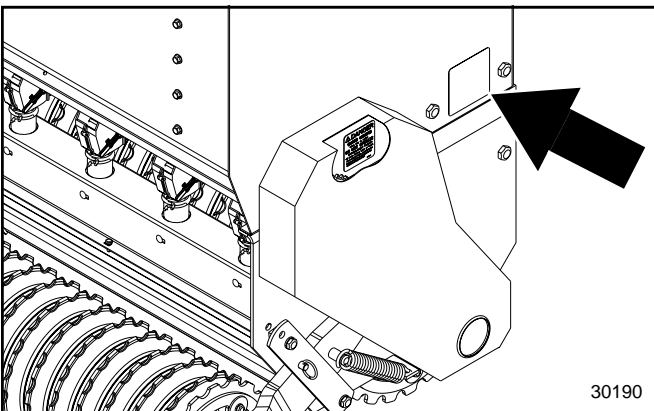
818-336C

Caution Cylinder lock



818-338C

Caution General Safety



838-111C

Moving Parts

Introduction

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

This Primary Seeder 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 PS25120 Primary Seeder is perfect for wide open landscape seeding, turf farms, highway re-seeding, and areas where moguls, undulations, or depressions do not exist. The 30 bushel capacity seedbox is equipped with our standard fluted seed cups to seed most turf type grasses and other seeds such as alfalfa.

See “**Specifications & Capacities**” on page 31 and “**Features & Benefits**” on page 33 for additional information.

Using This Manual

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

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

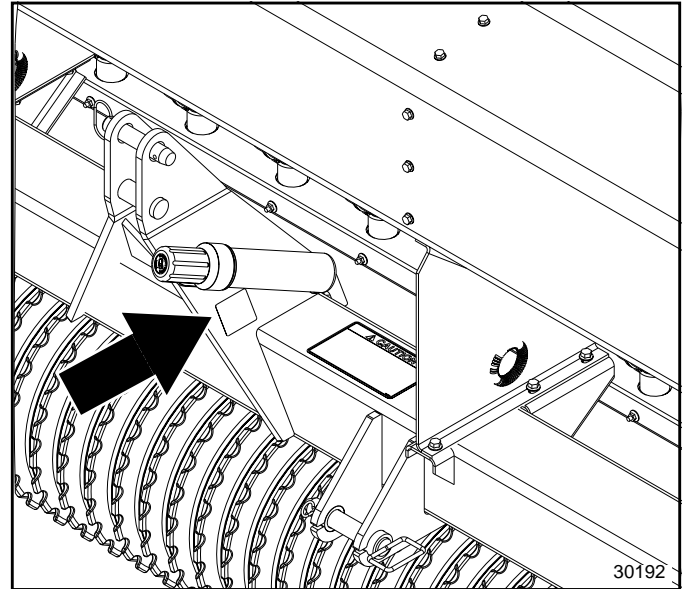
The Online Warranty Registration should be completed by the dealer at the time of purchase. This information is necessary to provide you with quality customer service.

The parts on your Primary Seeder 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 37. 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 Primary Seeder. If for any reason you do not understand any part of this manual or are not satisfied with the service received, the following actions are suggested:

1. Discuss the matter with your dealership service manager making sure 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
lp servicedept@landpride.com

Section 1: Assembly & Set-up

Dealer Preparations

Read and understand the Operator's Manual. An understanding of how this machine works will aid in the assembly and setup.

Go through the **"Pre-Assembly Checklist"** before assembling the Primary Seeder. Speed up the assembly task and make the job safer by having all needed parts and equipment readily at hand.

Pre-Assembly Checklist

Check	Reference
<input type="checkbox"/> Make sure assembly tools are on hand: Hammer, tape measure, assortment of wrenches & sockets, drill, drill bits, and spirit level.	
<input type="checkbox"/> Have a forklift or hoist with properly sized chains and safety stands on hand capable of lifting the equipment.	
<input type="checkbox"/> Have a minimum of two people available during assembly.	
<input type="checkbox"/> Check tractor manual to see if auxiliary tractor weights/ballast are needed for 3-Point hook-up. See Specifications for weight of Primary Seeder.	Specifications Page 31
<input type="checkbox"/> Have a tractor with remote hydraulics ready to attach to the tongue. The tongue must be anchored to a tractor large enough to overcome negative tongue weight. CAUTION! Be familiar with the term NEGATIVE TONGUE WEIGHT. Be aware of the special precautions you should take when working with an implement that can develop Negative Tongue Weight.	Section 2 Page 16
<input type="checkbox"/> Make sure all major components and loose parts are shipped with the machine.	Operator's Manual
<input type="checkbox"/> 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. Keep parts separated.	Operator's Manual 313-156M Parts Manual 313-156P
<input type="checkbox"/> Make sure working parts move freely, bolts are tight & cotter pins are spread.	Operator's Manual
<input type="checkbox"/> Make sure all grease fittings are in place and lubricated.	Section 5 Page 28
<input type="checkbox"/> Make sure all drive chains are properly tension and aligned.	Operator's Manual
<input type="checkbox"/> Make sure all safety labels are correctly located and legible. Replace if damaged.	Important Safety Information
<input type="checkbox"/> Make sure all red and amber reflectors are correctly located and visible when in transport position.	Important Safety Information
<input type="checkbox"/> Make sure "Slow Moving Vehicle" emblem is in place and visible when in transport position.	Important Safety Information
<input type="checkbox"/> Make sure all tires are properly inflated and wheel bolts are tightened to the specified torque.	Section 8 Page 35

Tractor Requirements

Your PS25120 is designed for tractors in the Category 2 class. Horsepower rating of the tractor should not be less than 40 HP for a pull-type unit and not less than 50 HP for 3-Point, front wheel, or end wheel units.

Check tractor's 3-Point lifting capacity. Make certain that the tractor's 3-Point lifting capacity and front end weight is adequate for lifting and controlling the seeder under all operating conditions. Refer to **"Specifications & Capacities"** on page 31 for seeder weight.

NOTE: In order to maintain steering control, ballast may need to be added to your tractor. Refer to your tractor's operator manual to determine if additional ballast is needed.

Torque Requirements

Refer to **"Torque Values Chart"** on page 35 to determine correct torque values when tightening hardware.

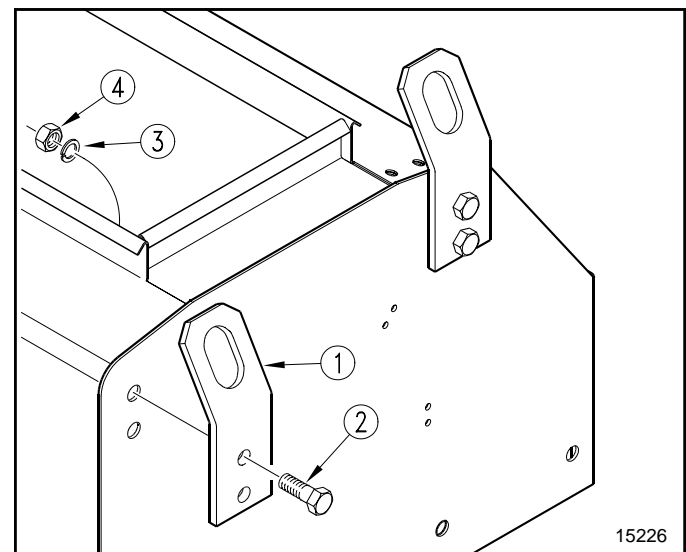
Sling Brackets

Refer to Figure 1-1:

The sling brackets (#1) allow points at each end of the seeder to hook a chain for lifting of the unit. When hooking a chain to the sling brackets, be certain to use a spreader bar on the chain or a long chain to prevent bending the sling brackets.

After uncrating the unit, check to see if there are two sling brackets (#1) installed on each end. If not, install them now.

1. Attach two sling brackets (#1) on each end of the seed box with 5/8"-11 x 1 1/4" GR5 cap screws (#2), flat washers (#3), and hex nuts (#4).
2. Tighten nuts to the correct torque.



Sling Bracket Installation
Figure 1-1

Three-Point Primary Seeder

Your 3-Point 25 Series Primary Seeder is shipped to you almost completely assembled. Carefully follow instructions below for final assembly.

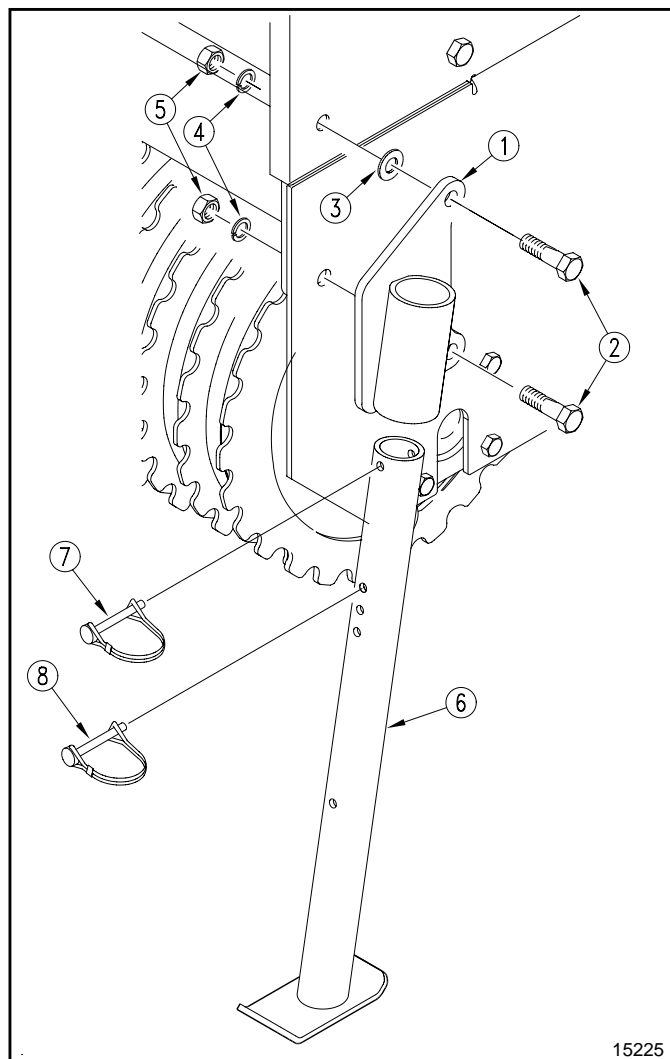
Check all nuts to make sure they are tight. See "**Torque Values Chart for Common Bolt Sizes**" on page 35 for torque specifications.

Parking Stand Assembly

1. Remove seeder from its crating.

Refer to Figure 1-2:

2. Install parking stand bracket (#1) on the left end of the seeder frame with two 5/8"-11 x 2 1/4" GR5 cap screws (#2), one flat washer (#3), two lock washers (#4), and two hex nuts (#5). Be sure to use flat washer (#2) in the location shown to ensure proper installation of bracket.
3. Tighten hex nuts to the correct torque.
4. Insert parking stand (#6) into bracket (#1) until the top hole is above the bracket tube. Install wire retaining pin (#7) in the top hole and secure in place with wire retainer.
5. Install wire retaining pin (#8) in one of the three holes below when using the stand for parking. Raise parking stand fully up and install wire retaining pin (#8) in the very bottom hole when storing the stand for transporting and field use.

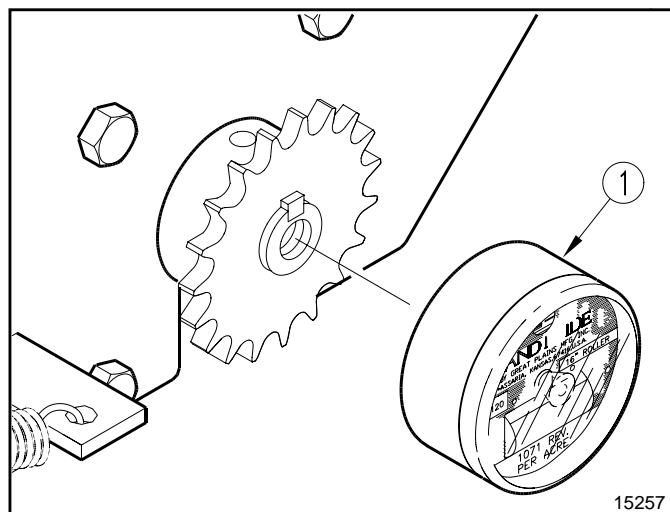


Parking Stand Installation
Figure 1-2

Acrometer Installation

Refer to Figure 1-3:

Screw acrometer (#1) fully onto the right-hand drive shaft. Hand tighten.



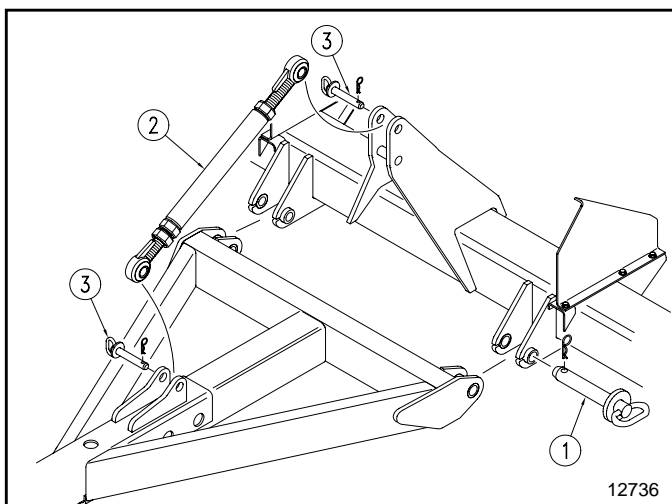
Acrometer Installation
Figure 1-3

End Wheel Pull-Type Option

Tongue Assembly

Refer to Figure 1-4:

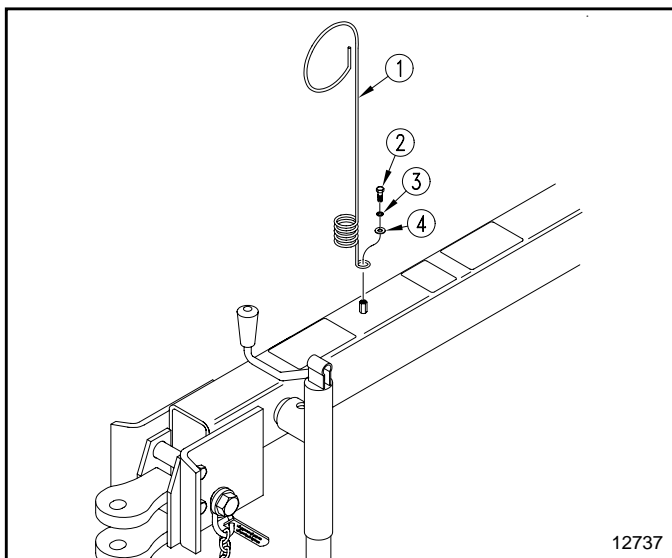
1. Remove seeder and components from their crating.
2. Install acrometer to the right-hand drive shaft. See “Acrometer Installation” instructions on page 9.
3. Attach tongue to seeder with hitch pins (#1). Secure hitch pins with hairpin cotter.
4. Attach turnbuckle (#2) to tongue and top hitch of seeder frame with hitch pins (#3). Secure hitch pins with hairpin cotter.



Tongue & Turnbuckle Assembly
Figure 1-4

Refer to Figure 1-5:

5. Attach spring hose loop (#1) to tongue with 5/16"-18 x 3/4" GR5 cap screw (#2), 5/16" lock washer (#3), and 5/16" USS flat washer (#4). Tighten cap screw to the correct torque.



Spring Hose Loop Assembly
Figure 1-5

End Wheel Assembly

Refer to Figure 1-6 on page 11:

1. Start with left-hand side of seeder. Remove existing four bolts (#2). These bolts will not be reused.
2. Attach end wheel mount (#1) to seeder frame with four new 5/8"-11 x 2 1/4" GR5 cap screws (#2), two flat washers (#3), four spring lock washers (#4), and four hex nuts (#5). Be sure to use flat washers (#3) between end wheel mounts and seed box for proper spacing. Tighten hex nuts to the proper torque.
3. Install wheel bracket (#6) using 3/4" u-bolts (#7), flat washers (#8), and nuts (#9).
4. Install split flex guard hose (#10) into opening in wheel bracket (#6). Make sure flex guard ends come together at the top to keep the hydraulic hoses from rubbing on the joint line.

NOTE: The wheel bracket (#8) should be facing the rear of the seeder. To determine correct the positioning for the wheel brackets, note tab (A) on the end of the wheel arm pivot pin (#12). This tab should be facing away from the seeder, as shown, so the wheel arm pivot can be easily removed.

5. Remove wheel arm pivot pin (#12) from bracket (#6).
6. Position wheel arm (#11) so that the wheel axle points away from the seeder with cylinder mounting bracket up. Replace wheel arm pivot pin (#12) with existing 1/2"-13 x 1 1/2" GR5 cap screw (#13). Secure cap screw with existing spring lock washer (#14) and hex nut (#15).
7. Pin cylinder lock (#16) in storage position with bent pin (#17) and hairpin cotter (#18).
8. Repeat steps 1 to 7 for the right-hand side.

Hydraulic Lift Cylinders

Refer to Figure 1-7:

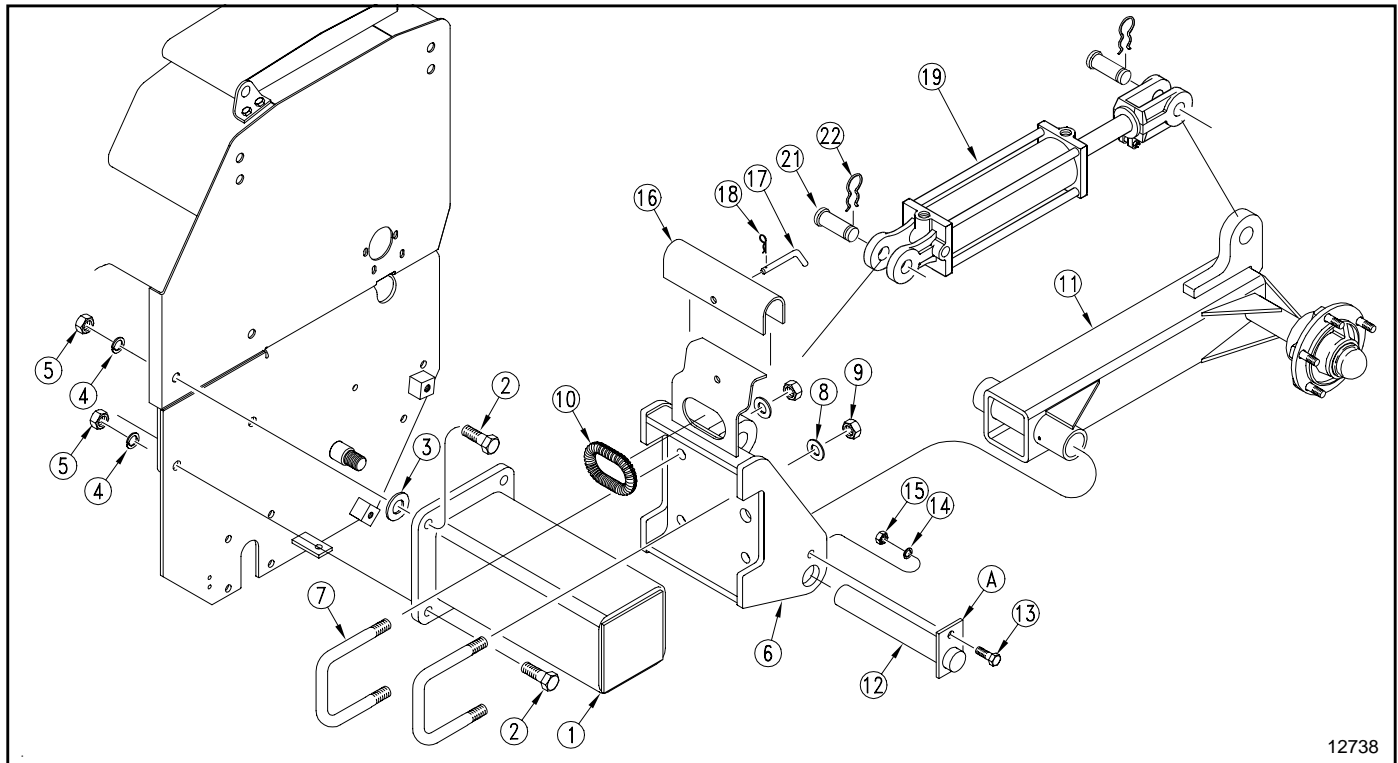


DANGER

Hydraulic fluid under high pressure can penetrate the skin. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Use a piece of cardboard or wood rather than hands when searching for hydraulic leaks. If hydraulic fluid is injected into the skin or eyes, it must be treated by a doctor familiar with this type of injury within a few hours or gangrene may result. DO NOT DELAY.

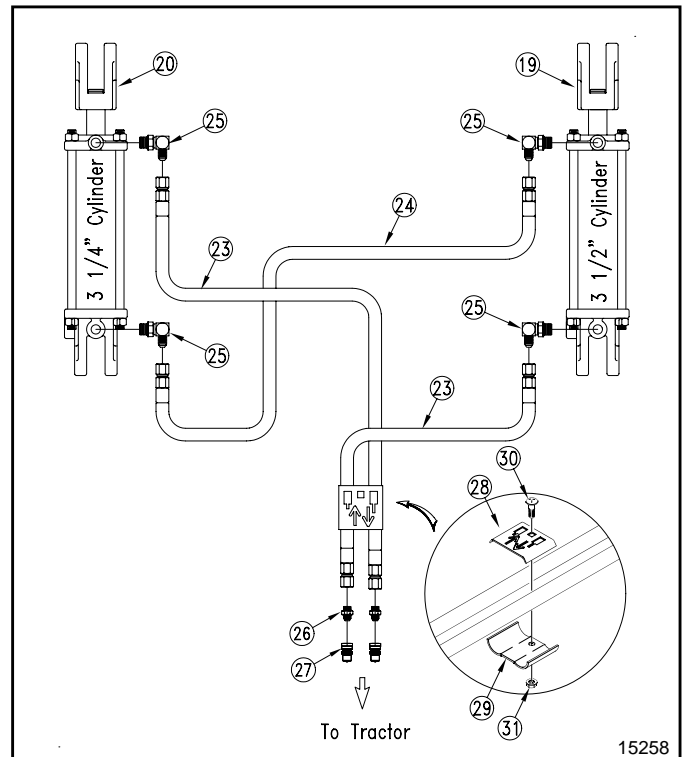
NOTE: Your End Wheel Primary Seeder is equipped with rephasing hydraulic lift cylinders. The plumbing must be assembled correctly in order for the rephasing cylinders to function properly.

1. Attach all four elbow fittings (#25) to hydraulic cylinders (#19 & #20). Do not tighten.
2. Attach straight fittings (#26) to 3/8" x 19'-10" long hydraulic hoses (#23) and tighten.
3. Tighten quick couplers (#27) to fittings (#26).

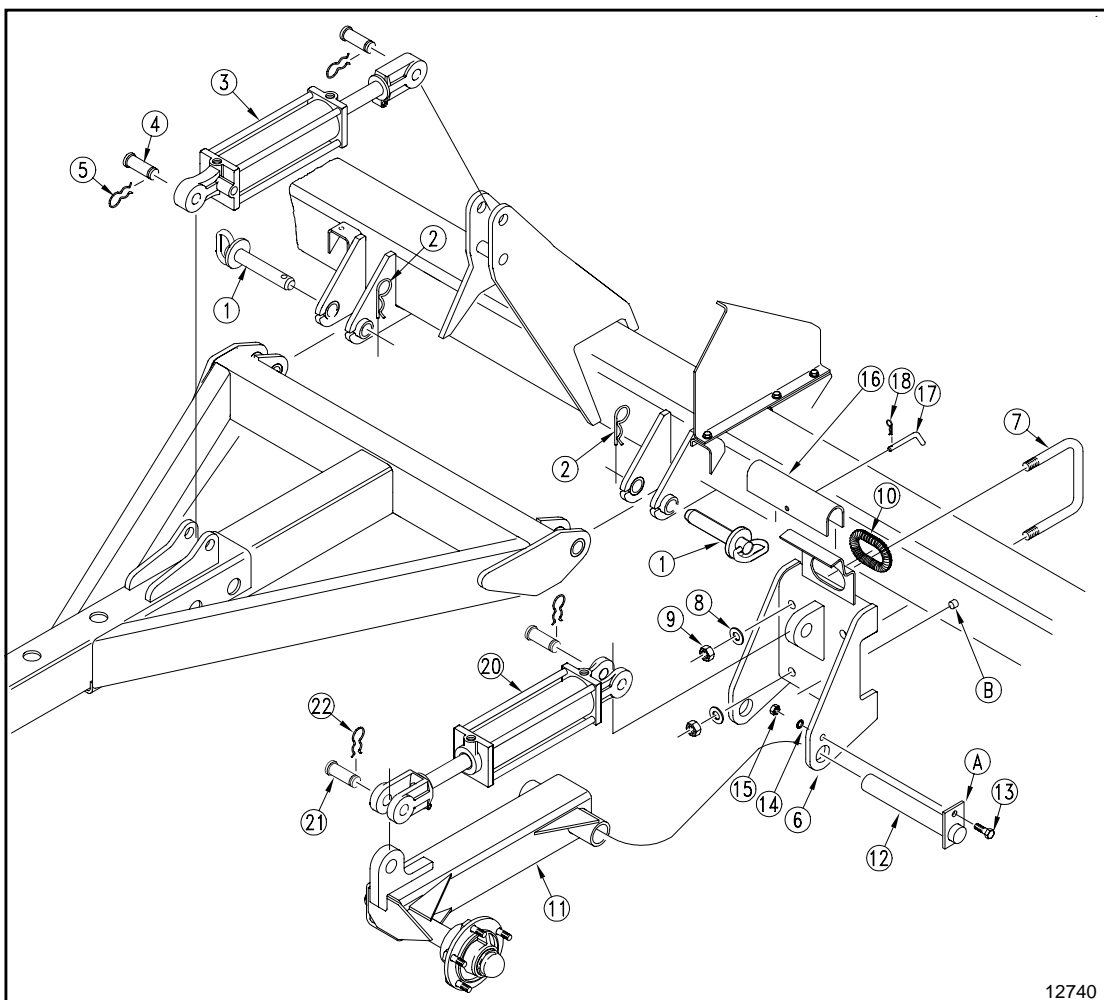


Wheel Bracket & Wheel Arm Assembly
Figure 1-6

4. Attach one of the hydraulic hoses (#23) to the base end of 3 1/2" hydraulic cylinder (#19). Attach the other hydraulic hose (#23) to the rod end of 3 1/4" hydraulic cylinder (#20). Tighten hoses to elbow fittings. Do not tighten elbow fittings to the cylinders.
5. Install 3 1/2" x 8" x 1 1/4" hydraulic cylinder (#19) to the left side of the seeder with clevis pins (#21) and secure with hairpins (#22) as shown in Figure 1-6.
6. Install 3 1/4" x 8" x 1 1/4" hydraulic cylinder (#20) to the right side of the seeder with clevis pins (#21) and secure with hairpins (#22).
7. Route hydraulic hose (#23) on the left side through split flex hose guard (#10), around frame end plates, through holes in box support, behind upper hitch, and along the tongue towards the hitch. Finish by going through the spring hose loop.
8. Repeat step 7 for the right side.
9. Route hydraulic hose (#24) through the holes in the box supports, around the frame end plates on both ends, and through the split flex hose guards (#10) to the cylinders. Any excess hose should be coiled at the upper hitch and tied with a plastic tie.
10. Attach hydraulic hose (#24) to rod end of hydraulic cylinder (#19) and to the base end of hydraulic cylinder (#20) as shown.
11. Adjust angle of elbows (#25) to suit and tighten.
12. Position hose clamps (#28 & #29) as shown and fasten together with 5/16" carriage bolt (#30) and hex flange nut (#31). Tighten nut to the correct torque.
13. Secure hoses to tongue using one of the plastic cable ties provided.
14. Verify all nuts have been tightened to the correct torque.



End Wheel Hydraulic Schematic
Figure 1-7



Cylinder, Wheel Bracket & Wheel Arm Assembly
Figure 1-8

Front Wheel Pull-Type Option Tongue Assembly

WARNING

Serious injury or death could result from escaping high pressure hydraulic fluid. Use paper or cardboard, NOT BODY PARTS, to check for suspected leaks.

1. Remove seeder and components from their crating.
2. Install acremeter to the right-hand drive shaft. See “**Acremeter Installation**” instructions on page 9.
3. Attach tongue to seeder with hitch pins (#1). Secure hitch pins with hairpin cotters (#2).
4. Attach leveling cylinder (#3) to tongue and top hitch of seeder frame with hitch pins (#4). Secure hitch pins with hairpin cotters (#5).

Refer to Figure 1-5 on page 10:

5. Attach spring hose loop (#1) to tongue with 5/16"-18 x 3/4" GR5 cap screw (#2), 5/16" lock washer (#3), and 5/16" USS flat washer (#4). Tighten cap screw to the correct torque.

Front Wheel Assembly

Refer to Figure 1-8:

1. Install wheel bracket (#6) using 3/4" u-bolts (#7), flat washers (#8), and nuts (#9).
2. Install split flex guard hose (#10) into opening in wheel bracket (#6). Make sure flex guard ends come together at the top to keep the hydraulic hoses from rubbing on the joint line.
3. Remove wheel arm pivot pin (#12) from wheel bracket (#6).
4. Position wheel arm (#11) so that the wheel axle points away from the center of the seeder with cylinder mounting bracket up. Replace wheel arm pivot pin (#12) with existing 1/2"-13 x 1 1/2" GR5 cap screw (#13). Secure cap screw with existing spring lock washer (#14) and hex nut (#15).
5. Pin cylinder lock (#16) in storage position with bent pin (#17) and hairpin cotter (#18).
6. Lift cylinders (#11) will be installed during installation of “**Hydraulic Lift Cylinders**” on page 14.
7. Repeat steps 1 to 7 for the right-hand side.

Hydraulic Leveling Cylinder & Accumulator



CAUTION

The Accumulator/Cylinder Package furnished with your front wheel option is provided for your protection. Lack of or improper installation may result in injury or in damage to your seeder because of the negative tongue weight involved with the front wheels.



DANGER

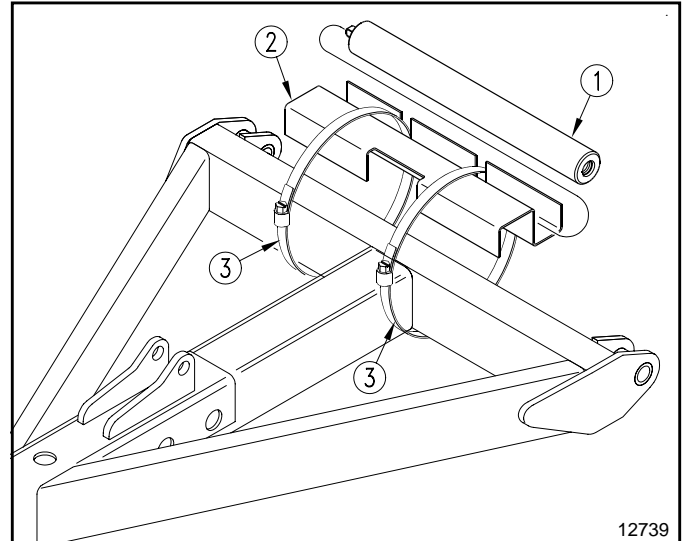
Hydraulic fluid under high pressure can penetrate the skin. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Use a piece of cardboard or wood rather than hands when searching for hydraulic leaks. If hydraulic fluid is injected into the skin or eyes, it must be treated by a doctor familiar with this type of injury within a few hours or gangrene may result. DO NOT DELAY.

Refer to Figure 1-9:

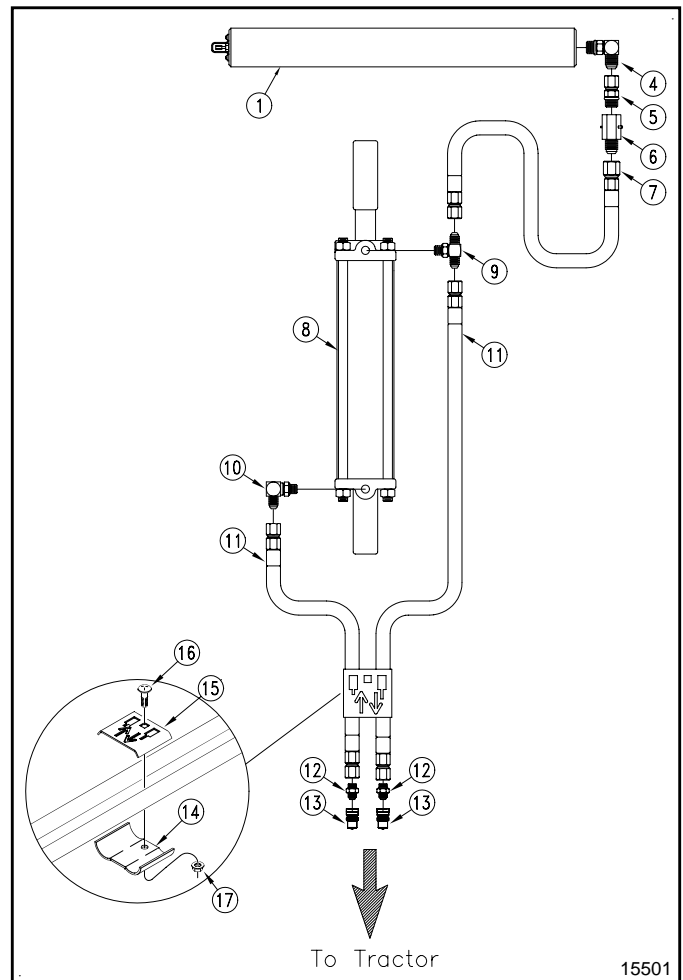
1. Position accumulator (#1) in accumulator mounting bracket (#2) and attach the two together to the rear of the tongue with hose clamps (#3) as shown.

Refer to Figure 1-10:

2. Attach adapters (#12) to hydraulic hoses (#11) and quick couplings (#13) to adapters (#12). Tighten adapters and couplings to the hydraulic hoses.
3. Attach 9/16" elbow (#10) to base end of hydraulic cylinder (#8) with O-ring facing cylinder port. Do not tighten.
4. Attach 174" long hydraulic hose (#11) to elbow (#10) and tighten.
5. Attach 9/16" tee (#9) to hydraulic cylinder (#8) with O-ring facing cylinder port. Do not tighten.
6. Attach 3/4" elbow fitting (#4) to accumulator (#1) with O-ring facing accumulator. Do not tighten.
7. Attach 3/4" adapter (#5) to 3/4" elbow (#4) and tighten.
8. Attach line check valve (#6) to 3/4" adapter and tighten.
9. Attach 41" long hydraulic hose (#7) to check valve (#6) and tighten.
10. Attach hydraulic hose (#7) to tee (#9) as shown and tighten.
11. Attach 174" long hydraulic hose (#11) to tee (#9) and tighten.
12. Route hydraulic hoses (#11) along the tongue towards the hitch and through the spring hose loop.
13. Adjust angle of elbow (#10) and tee (#9) to suit and tighten to hydraulic cylinder ports.
14. Adjust elbow (#4) to suit and tighten to the accumulator port.
15. Position hose clamps (#15 & #14) as shown and fasten together with 5/16" carriage bolt (#16) and hex flange nut (#17). Tighten nut to the correct torque.



Accumulator Assembly
Figure 1-9



Accumulator Hydraulic Schematic
Figure 1-10

Section 1: Assembly & Set-up

Hydraulic Lift Cylinders

Refer to Figure 1-11:

NOTE: Your Front Wheel Primary Seeder is equipped with rephasing hydraulic lift cylinders. The plumbing must be assembled correctly in order for the rephasing cylinders to function properly.

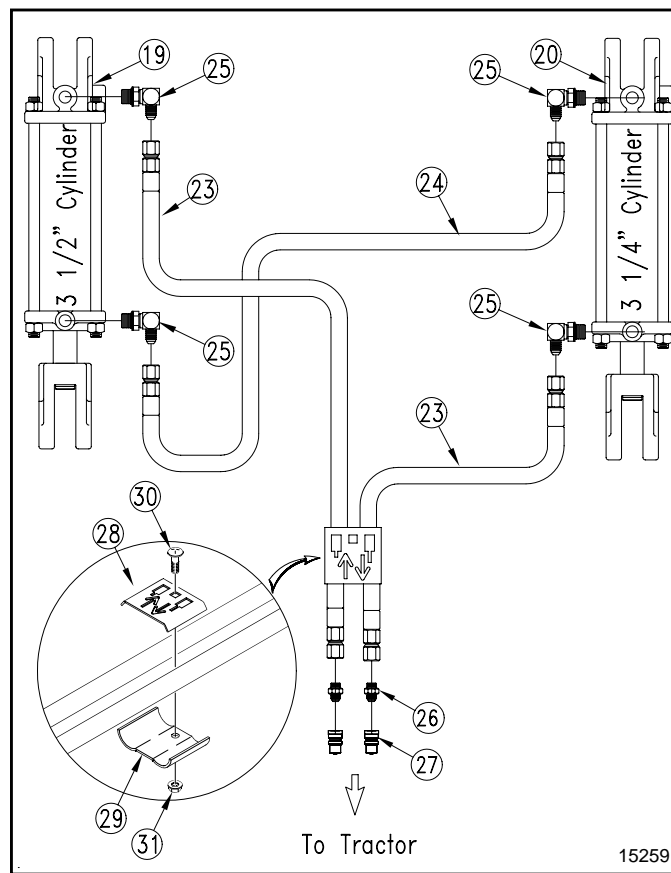
1. Attach straight fittings (#26) to 3/8" x 17'-8" long hydraulic hoses (#23) and tighten.
2. Attach quick couplers (#27) to fittings (#26) and tighten.
3. Attach all four elbow fittings (#25) to hydraulic cylinders (#19 & #20) with O-rings facing cylinder ports.
4. Attach one of the hydraulic hoses (#23) to the base end of 3 1/2" hydraulic cylinder (#19). Attach the other hydraulic hose (#23) to the rod end of 3 1/4" hydraulic cylinder (#20). Tighten hoses to elbow fittings. Do not tighten elbow fittings to the cylinders.

Refer to Figure 1-8 on page 12:

5. Install 3 1/4" x 8" x 1 1/4" hydraulic cylinder (#20) to the left side of the seeder with clevis pins (#21) and secure with hairpins (#22) as shown in Figure 1-8.
6. Install 3 1/2" x 8" x 1 1/4" hydraulic cylinder (#19) to the right side of the seeder with clevis pins (#21) and secure with hairpins (#22). (Not shown.)

Refer to Figure 1-11:

7. Route hydraulic hose (#23) on the left side through the split flex hose guard (#10) (See Figure 1-8 on page 12), around the frame end plates, through the holes in the box support, behind the upper hitch, and along the tongue towards the hitch. Finish by going through the spring hose loop.
8. Repeat step 7 for the right side.
9. Route hydraulic hose (#24) through the holes in the box supports, around the frame end plates on both ends and through the split flex hose guard (#10) (See Figure 1-8 on page 12) to the cylinders. Any excess hose should be coiled at the upper hitch and tied with a plastic tie.
10. Attach hoses (#24) to the base end of 3 1/4" hydraulic cylinder (#20) and to the rod end of 3 1/2" hydraulic cylinder (#20). Tighten hose to elbow fittings. Do not tighten elbow fittings to the cylinders.
11. Adjust angle of all elbows (#25) to suit and tighten.
12. Position hose clamps (#28 & #29) as shown and fasten together with 5/16" carriage bolt (#30) and hex flange nut (#31). Tighten nut to the correct torque.
13. Secure cylinder hoses and accumulator hoses to the tongue using one of the plastic cable ties.
14. Verify all nuts have been tighten to the correct torque.



Front Wheel Hydraulic Schematic
Figure 1-11

15259

General Description

The following information is a brief description of how this implement works. It is included to help you understand the operation of this seeder.

The power to drive the seeding function of this seeder comes from the ground speed of the tractor. The seed metering is powered by the front roller at a rate proportional to the distance driven. This ensures that the rate applied in pounds per acre or pounds per 1000 square feet remains constant as ground speed is varied. The power is transmitted via drive chains to the seed cups. This drive can be adjusted to a high or low range to broadcast more or less seed. The seed rate is adjustable using the seed rate lever located at the rear of the seeder. The seed is dropped between cast iron rollers. The front roller crushes clods, presses down small stones, and forms a firm seedbed. The rear roller firms the soil around the seeds.

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 Primary Seeder. Therefore, it is absolutely essential that no one operates this seeder without first having read, fully understood, and become totally familiar with the Operator's Manual. Make sure the operator has completed the Operating Checklist below.

Operating Checklist

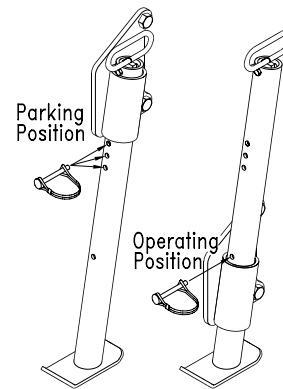
✓	Check	Page No.
	Read and follow all safety information and alerts carefully. Refer to "Important Safety Information".	Page 1
	Make sure all guards and shields are in place. Refer to "Important Safety Information".	Page 1
	Make sure there are no hydraulic leaks on the unit. Refer to "Avoid High Pressure Fluids Hazard".	Page 3
	Read and follow hook-up & preparation instructions. Refer to "Section 1: Assembly & Set-up".	Page 8
	Read and follow all operating procedures. Refer to "Section 2: Operating Instructions".	Page 15
	Read and make all required adjustments. Refer to "Section 3: Adjustments".	Page 21
	Read and follow all maintenance instructions. Refer to "Section 4: Maintenance & Lubrication".	Page 28
	Read and follow all lubrication instructions. Refer to "Lubrication".	Page 29
	Check seeder initially and periodically for loose bolts and pins. Refer to "Torque Values Chart for Common Bolt Sizes".	Page 35
	Check tire pressure	Page 35
	Inspect the feed cups and seed tubes for foreign matter.	Page 21
	Set speed change sprocket for drive type desired.	Page 21
	Set seed rate.	Page 22

Tractor 3-Point Hook-Up

1. Back tractor up to seeder until 3-Point links are aligned with hitch clevises on seeder.
2. Secure the tractor's 3-Point lower links to the lower hitch clevises using 1 1/8" diameter hitch pins.
3. Secure the tractor's top center link to the seeder top hitch using a 1" diameter hitch pin.
4. With the seeder resting on level ground, adjust the tractor's top link until the seeder is level from front to back.

Refer to Figure 2-1:

5. Move parking stand to operating position.

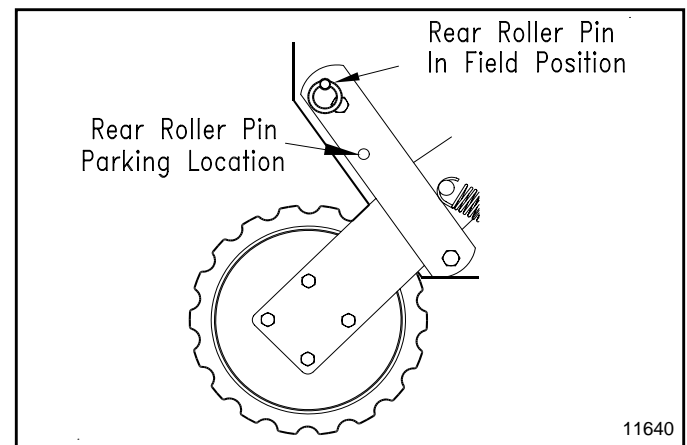


15256

Parking Stand Positions
Figure 2-1

Refer to Figure 2-2:

6. Remove rear roller lock pin from parking position and place in field position.



11640

Rear Roller in Storage Position
Figure 2-2

Section 2: Operating Instructions

Tractor Drawbar Hook-Up

Refer to Figure 2-3:



WARNING

Front wheel Pull-Type Seeders have negative tongue weight when in transport position. Negative tongue weight may cause immediate elevation of tongue. Always be certain seeder is hitched securely to tractor drawbar and safety chain attached before raising. Lower seeder before unhitching.

IMPORTANT: Be sure to follow “Tractor Drawbar Hook-Up” instructions when hooking-up to a “Front Wheel Pull-Type Seeder.”

Negative tongue forces imposed with front wheels in the raised position when seeder box is:

- Empty: 30 bushel box can be as high as 1000 lbs.
- Loaded: 30 bushel box can be as high as 1500 lbs.

Pull-type units are equipped with a clevis style hitch. For proper field operation, the seeder box should be level in field position.

1. The mounting holes in the clevis hitch have been offset so the hitch can be turned over and bolted at two different hitch heights.
2. Back the tractor draw bar up to the seeder hitch to determine the proper hitch position.
3. Connect hitch to the tractor using a pin of adequate strength (minimum 1" diameter). Secure hitch pin with a retaining clip.

IMPORTANT: For the Front Wheel Pull-type option you must install a retaining clip on the hitch pin to prevent it from working up as the seeder changes from positive to negative tongue weight.

4. Your Pull-Type Seeder is equipped with a hitch safety chain. The safety chain should be securely attached to the seeder hitch and tractor draw bar support.
5. Retract tongue jack until the weight of tongue is resting on tractor draw bar.

Refer to Figure 2-4:

6. Unpin tongue jack and pin in storage position as shown.

Leveling Seeder Box

All pull-type, end wheel, and front wheel units should be properly transported with seed box level front to back.

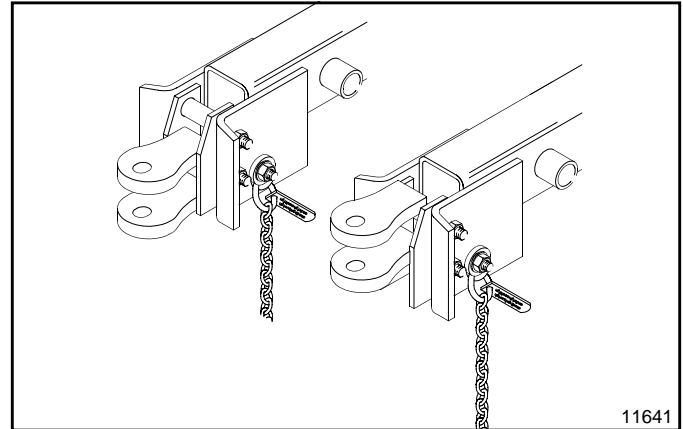
Pull-Type with End Wheel Units

Refer to Figure 2-5:

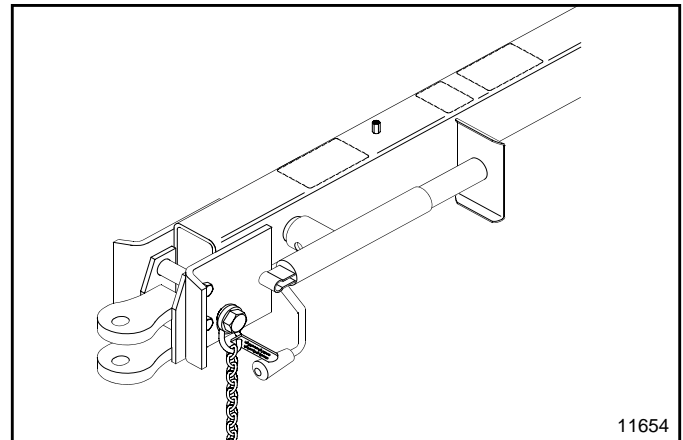
Adjust turnbuckle to level seeder by loosening jam nuts and turning the center section. Retighten jam nuts when level.

Pull-Type with Front Wheel Units

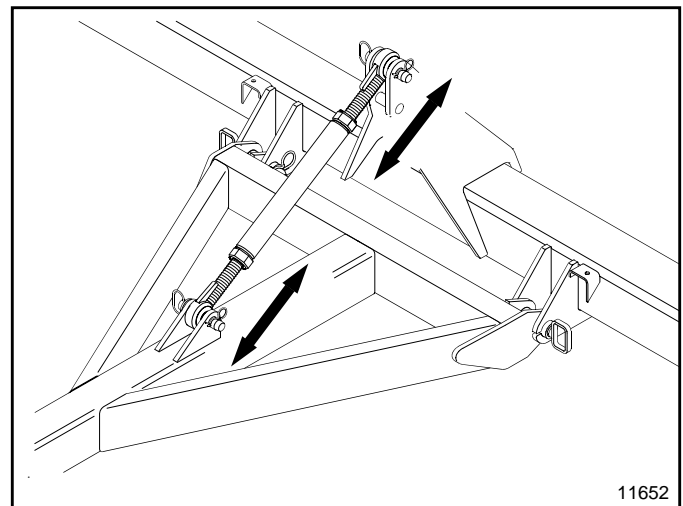
Use tongue hydraulic cylinder to level the seed box.



Clevis Style Hitch Height Adjustments
Figure 2-3



Jack in Storage Position
Figure 2-4



Turnbuckle Adjustment (End Wheel Unit)
Figure 2-5

Tractor Hydraulic Hook-Up

DANGER

Hydraulic fluid under high pressure can penetrate the skin. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Use a piece of cardboard or wood rather than hands when searching for hydraulic leaks. If hydraulic fluid is injected into the skin or eyes, it must be treated by a doctor familiar with this type of injury within a few hours or gangrene may result. **DO NOT DELAY.**

For Pull-Type Seeders equipped with front or end wheels, route all hydraulic hoses along the tongue and through the hose loop on the front of the tongue as described in the assembly instructions. Connect hoses to the tractor remote outlets.

Purging Rephasing Lift Cylinders

CAUTION

Do not crack hose fittings in order to bleed air from this system.

NOTE: There is a chance of drawing air into the system causing jerky or uneven cylinder movements if tractor reservoir is low on hydraulic fluid. Check hydraulic fluid in the tractor reservoir and fill to the proper level before purging lift cylinders.

Tractors with pressure detents do not allow hydraulic systems to “automatically” rephase at the top of the lift cycle. This must be done manually or the rephasing cylinders will not function properly. Therefore, after every couple of trips back and forth across the field and after the machine has been fully raised, the control lever should be pulled back and held for 1-2 seconds. This will purge air that has been ingested into the system.

NOTE: It is the nature of rephasing cylinders to settle slightly after the seeder has been raised.

Operating Hydraulic Lift System

The lift cylinders may, over time get out of time or phase. The effects of this can be seen when one wheel of the seeder is higher than the other because one lift cylinder is over retracted compared to the other lift cylinder.

To rephase the cylinders, raise the seeder completely up and hold the tractor hydraulic lever on for a few seconds to give the cylinders time to rephase. This should be done each time the seeder is raised. Momentarily reversing the hydraulic lever immediately after rephasing to allow the cylinders to retract about 1/2" will help in maintaining a level seeder during transport.

NOTE: Understand that having the cylinders become gradually out of time is different than having air trapped in the system from improper bleeding. Each condition is corrected differently.

Transporting

3-Point & Pull-Type Seeders

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.

1. It is best to transport on the road with an empty box unless necessary as the increased seed weight will increase the chances for road problems.
2. Select a safe ground travel speed when transporting from one area to another.
3. When traveling on roadways, transport in such a way that faster moving vehicles may pass you safely.
4. Reduce tractor ground speed when turning. Leave enough clearance so the seeder does not contact obstacles such as buildings, trees, or fences.
5. Shift to a lower gear when traveling over rough or hilly terrain.

Pull-Type Seeders

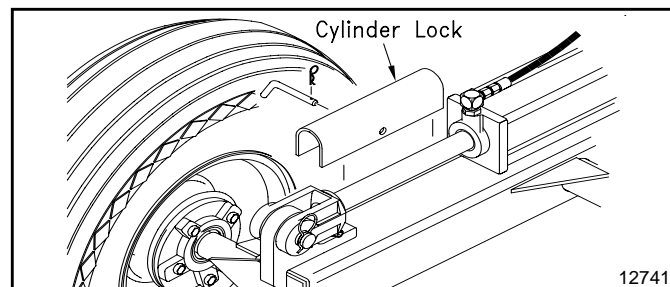
CAUTION

Pull-Type Seeders should never be pulled faster than 20 miles per hour!

1. Make sure the Pull-Type Seeder is securely attached to the tractor draw bar and hitch safety chain has been securely attached.
2. Check to see that the transport tires have proper inflation. See "Tire Inflation Chart" on page 35.

Refer to Figure 2-6:

3. Front Wheel and End Wheel Pull-Type Seeders are equipped with a transport cylinder lock. Be sure to set the transport lock over the cylinder rods to safeguard against mechanical or hydraulic failure while traveling.
 - a. Raise seeder up.
 - b. Remove bent pin and cylinder lock from storage position on wheel bracket.
 - c. Place lock over cylinder rod and pin to secure cylinder lock in place.



Cylinder Lock
Figure 2-6

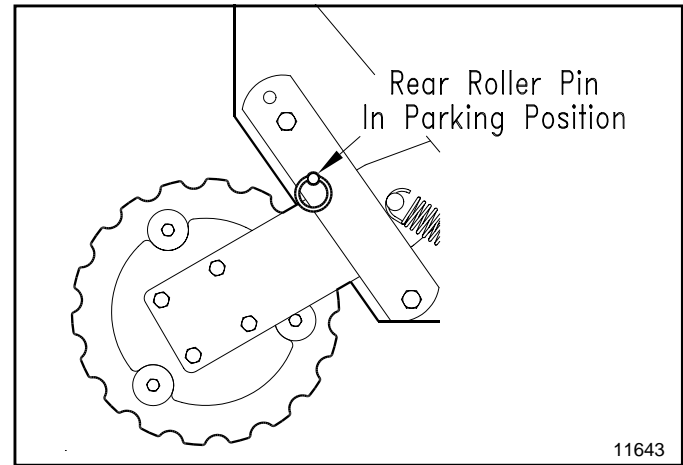
Section 2: Operating Instructions

Parking

The following steps should be done when preparing to store the seeder or unhitch it from the tractor. See **"Storage"** on page 28 for additional information on long term storage of your seeder.

3-Point Seeders

1. Park seeder on a level, solid area.
2. **Refer to Figure 2-7:** To prevent seeder from tipping backward, remove rear roller lock pin from storage position and place in parking position.
3. Chock front & back rollers to keep unit from moving.
4. **Refer to Figure 2-1 on page 15:** Lower parking stand and pin in park position.
5. Unhitch from tractor.



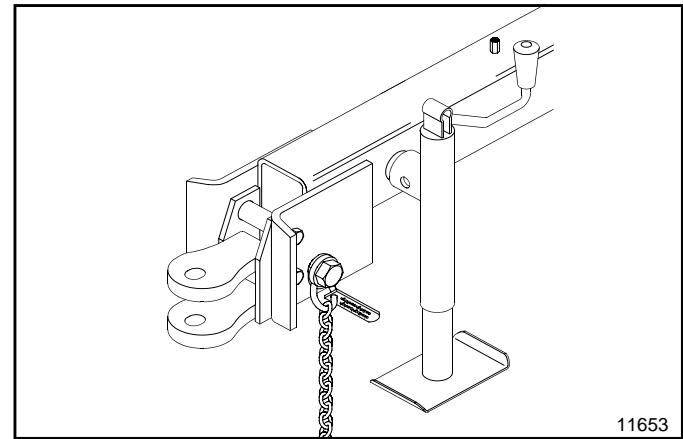
Rear Roller Lock Pin in Parking Position
Figure 2-7

Pull-Type Seeders

1. Park seeder on a level, solid area.
2. Lower seeder to the ground if equipped with front or end wheels. Shut off tractor engine, engage parking brake, and remove all hydraulic pressure from seeder lift cylinders.
3. Chock front & back of wheels to keep unit from moving.

Refer to Figure 2-8:

4. Remove jack from its storage position and place it in the parking position located on the left side of the tongue.
5. If ground is soft, place a board or plate under the jack to increase ground contact area.
6. Extend jack until tongue weight is on the jack and has been removed from the tractor drawbar.
7. Unplug hydraulic lines from tractor duplex outlets.
8. Remove hitch pin and safety chain from tractor drawbar.
9. Carefully drive tractor away from the Pull-Type Seeder.

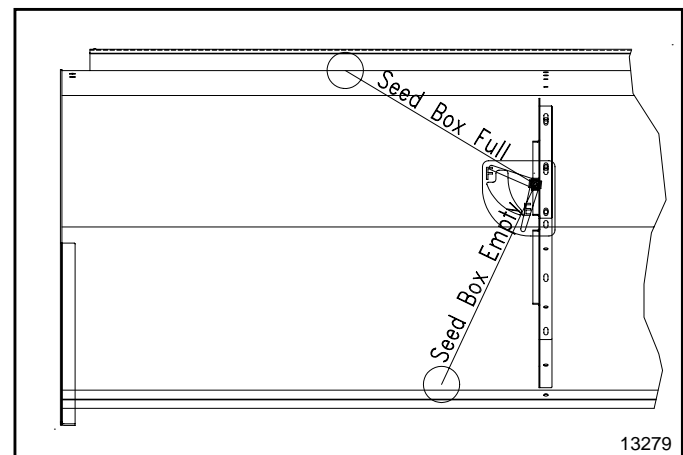


Jack in Parking Position
Figure 2-8

Seed Level Indicator

Refer to Figure 2-9:

Be sure Seed Level Indicator is adjusted so that the foam float will be above the seeder box rim with box lid open to allow for filling the box, and the gauge will show empty (E) with the box lid closed.



Seed Level Indicator
Figure 2-9

Filling the Seed Box



CAUTION

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

1. Always lower the Primary Seeder to the ground, engage tractor park brake, shut tractor engine off and remove key before filling the seed box.
2. Release lid latch 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. Make certain the seed box is filled uniformly to ensure one side does 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.
7. Lock lid down with lid latch to keep moisture out.
8. At first begin seeding at a slow forward speed and shift up until the desired speed is achieved.

How the Seeder Works

The following information is a brief description of how this Primary Seeder works. It is included to help you understand the operation of this seeder.

The power to drive the seeding function of this seeder comes from the ground speed of the tractor. The seed metering is powered by the front roller at a rate proportional to the distance driven. This ensures that the rate applied in pounds per acre or pounds per 1000 square feet remains constant as ground speed is varied. The power is transmitted via drive chains to the seed cups. This drive can be adjusted to a high or low range to broadcast more or less seed. The seed rate is adjustable using the seed rate lever located at the rear of the seeder. The seed is dropped between cast iron rollers. The front roller crushes clods, presses down small stones, and forms a firm seedbed. The rear roller firms the soil around the seeds.

Operating the Seeder



WARNING

Do not use the seeder for pulling fence posts, stumps, etc., lifting objects, carry objects, or towing other equipment. Any of the above can result in equipment damage, serious bodily injury or death.



DANGER

Never carry a person on the seeder. A person can become entangled in the seeder or fall and be ran over causing serious injury or death.



CAUTION

Never back up with the seeder down. This will loosen the drive chain and possibly damage the seeder.

IMPORTANT: Before proceeding with the first time set-up, or before making any adjustments mentioned in this section, make every effort to attach the seeder to a tractor.

1. Contact your local utility services so that they may mark location of any underground utility services in the area. Thoroughly inspect the work area yourself for buried pipelines, sprinkler heads, and any unforeseen objects. Mark any potential hazards.
2. This seeder 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. Do not exceed 20 miles per hour.
3. 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 on page 24.
4. Make sure the seed cup door adjustment handle on each cup is set the same across the seeder.
5. Be sure all bolts and nuts are tight.
6. Be certain all guards are in place and secure.
7. Clear the area to be seeded of rocks, branches, and other foreign objects.
8. Never allow anyone to ride on the seeder.
9. Check that all plugs and caps have been replaced properly.
10. At first begin seeding at a slow forward speed and shift up until the desired speed is achieved. Maximum speed to plant seed will vary according to soil conditions. Seeding should not be done in wet conditions as soil will stick to the rollers.
11. After seeding the first 50 feet, stop and check to see that the seeder is adjusted properly.

Section 2: Operating Instructions

General Operating Instructions

Once you have read the operators manual, properly attached the seeder to the tractors, 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 PS25120 has a ground driven seed delivery system. The power to drive the seeder comes from the forward momentum of the tractor. As the tractor moves forward the ground driven front roller compactor transfers 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.

As the front roller passes over areas to be seeded it crushes larger clods, presses down smaller stones, and firms the seedbed. Seed is then delivered at the precise predetermined uniform rate over the wind guarded seed drop to the area located between the front and rear rollers. The rear roller then presses the seed into firm contact with the soil to promote a superbly high germination rate. Seeding should not be attempted in wet or muddy conditions.

Now that you understand how it works its time to begin seeding. Make sure you have removed the rear roller lock pin from the field or parking position.

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 3-5 mph. Lower the seeder slowly to the ground. At first begin driving forward slowly 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 while simultaneously raising the seeder off of the ground. With the seeder raised, turn around and line up for your next pass to repeat the seeding process. Look back often and make only gradual turns with your seeder on the ground to develop a uniform seeding pattern. The more experienced you become the better you will get at developing beautiful seed plots and beautiful lawns.

When you are done seeding, always clean the seeder out and perform all maintenance prescribed in the operator's manual. Never leave seed stored in the hopper for prolonged periods.

Drive System

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

1. Check the 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.

Packing Rollers

Refer to Figure 2-2 on page 15:

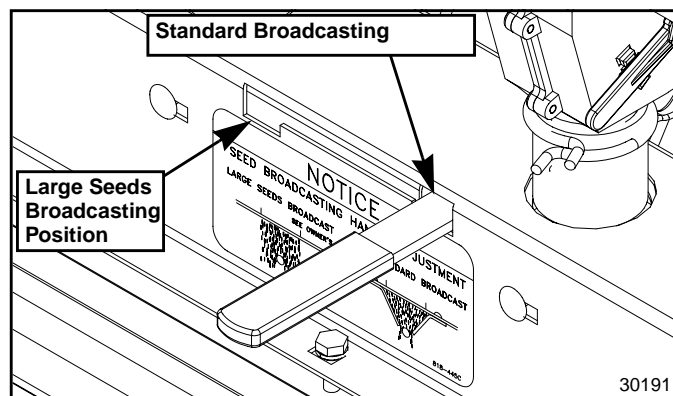
The front and rear packing rollers should turn freely. In field position, the rear roller assembly should be free to float up and down to follow the terrain of your field.

Seed Broadcasting System

Refer to Figure 3-1:

The seed broadcasting system gives you an even distribution of seeds. At the rear of your seeder, beneath the feed cups, is the seed broadcasting handle. For most seeds, this handle should be set to the STANDARD BROADCASTING position shown.

Do not use the standard setting for broadcasting large, fluffy seeds. Doing this will have a tendency to bridge and cause the seeds to plug. Therefore; it is necessary to adjust the seed broadcasting handle to LARGE SEEDS BROADCAST position. This gives the seeds a larger area to fall through to help eliminate plugging.



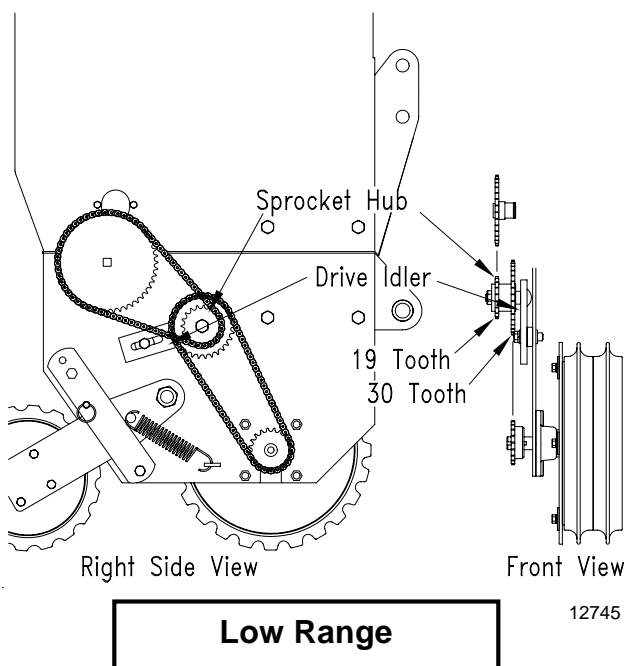
Seed Broadcasting Handle Adjustments
Figure 3-1

Seed Rate Speed Change

Refer to Figure 3-2:

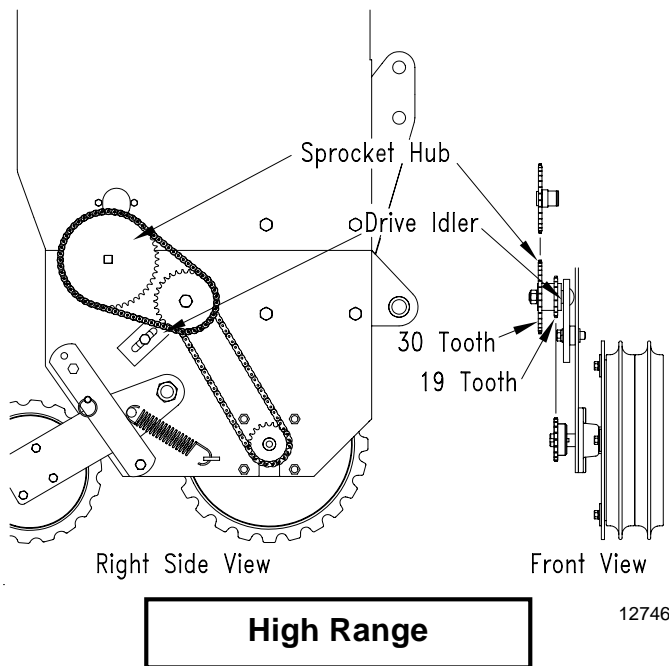
The seed rate speed change is designed to give you two speeds for different types of seeds and rates. The two drive types are high range (fast speed) and low range (slow speed). To change drive type:

1. Remove chain guard.
2. Loosen idler arm and remove roller chains.
3. Remove nut in the center of sprocket hub, turn sprocket hub over and reassemble. Tighten nut to the correct torque.
4. Reinstall drive chains and adjust drive idler to snug up the chains. Tighten idler arm nut.
5. Replace chain guard.



Low Range

12745



High Range

12746

Speed Change
Figure 3-2

Section 3: Adjustments

Seed Cup Settings

Refer to Figure 3-3:

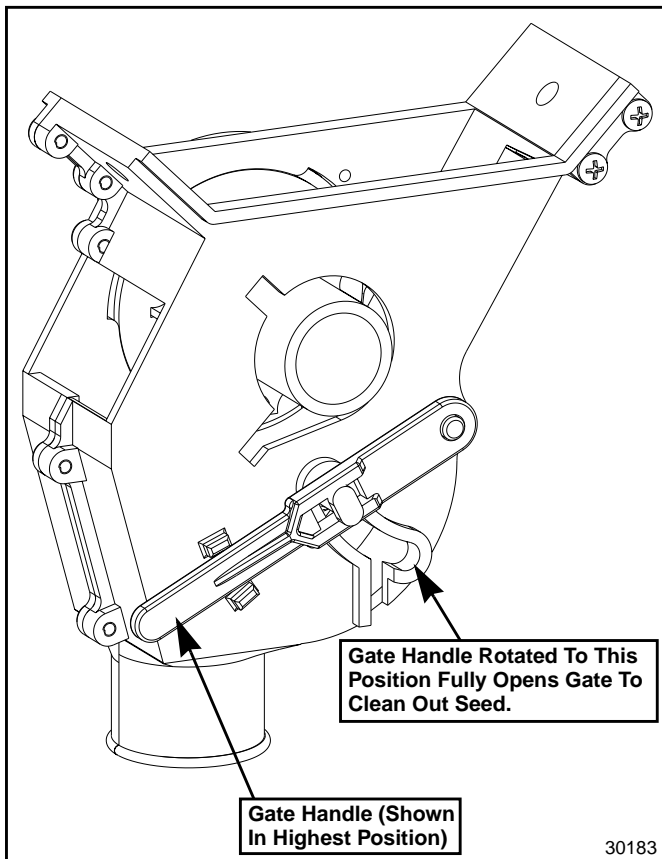
Each seed cup is equipped with a four-position gate. The highest gate handle position shown is for small seeds, the second and third positions are for larger seeds. The fourth position (Handle rotated fully down below the bottom tab) sets the gate at wide open to allow complete clean-out of seed cup.

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 3-4 on page 22) with seed in the box unless complete clean out is desired.



Seed Cup Settings
Figure 3-3

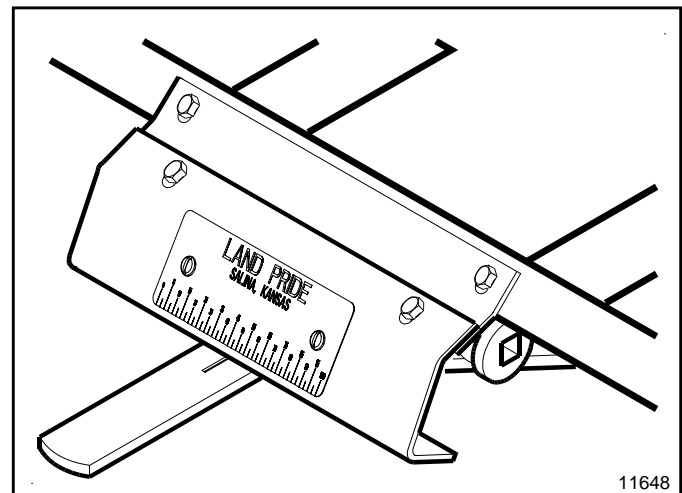
Calibrating & Adjusting Seeding Rate

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, & ground preparation. Minor adjustments to the cup setting may be needed to compensate.

NOTE: To determine seed rates for seeds not listed on the charts, compare weight and size to those listed and use a similar setting. Follow steps 1 to 4 to calibrate seed rate.

1. Use seed rate charts beginning on page 24 to determine correct seeding rate. Make adjustments as follows:
 - a. On the right-hand side of your seeder 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 Seed Rate Speed Change on page 21 for instructions.
 - b. See Figure 3-4. 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.

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



Seed Rate Adjustment
Figure 3-4

Section 3: Adjustments

2. Secure seed broadcasting handle at the rear of the seeder to the proper setting, Figure 3-1 on page 21.
3. 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. Lower seeder frame onto support blocks that will support the drive roller just above ground level.
 - c. Rotate drive roller by grasping the roller at the top and pulling away from the seeder. Rotate roller to make sure drive system is working properly and seed cups are free from foreign matter.
 - d. Place a container under the three feed cups to gather all seed as it is metered out.
 - e. Be sure to check the three seed cups to make sure each cup has plenty of seed falling into it and no other cups are receiving seed.
 - f. Rotate front roller by pulling the top away from the seeder as many rotations as noted in table below.

Model No	Front Roller Rotations to Cover	
	1000 Sq. Ft.	1/10 ACRE
PS25120	25 rotations	107 rotations

- 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 total pounds per acre.
- j. If this figure (total pounds per 1000 sq. ft. or acre) is different than desired, then readjust your seed cup adjustment lever accordingly.
4. 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 seeding rate adjustments to compensate if seeder has been accurately calibrated and is seeding more or less seed than desired.

Seed Clean-Out



WARNING

Never use your hands, fingers or material to push seed out the seed box discharge openings or out the seed cups. Bodily injury can result from such practices.

It is important to clean-out the seeder box and cups after completing a job and when storing it for long periods. Clean seed out of the seeder as follows:

1. Park tractor and seeder on a level smooth surface.
2. Lower seeder frame onto support blocks that will support the drive roller just above ground level.
3. Place tractor selector in park, set park brakes, turn tractor engine off, and remove switch key.
4. Place a tarp on the ground under the seed cups to collect seed as it falls from the cups.
5. **Refer to Figure 3-3 on page 22:** Set all gate handles on the seed cups to the full open position.
6. **Refer to Figure 3-4 on page 22:** Set Seed rate adjustment lever to the widest open position (highest number on the indicator).
7. Seed should free fall through the cups until seed box is empty.
8. If required, use a broom to finish cleaning seed out of the seed box. Never use your hands, fingers, or material to finish cleaning out the seed box.
9. Remove any remaining seed from the seed cups by rotating the top of the drive roller away from the seeder until all seed has discharged from the seed cups. (Approximately one to two revolutions.)

Section 3: Adjustments

Seed Rate Charts

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 per Acre)																					
High Range	0	37	66	102	146	196	251	311	376	443	514	585	658	731	804	875	944	1010	1072	1130	1183
Low Range	0	8	17	41	65	91	116	143	169	197	225	253	282	311	341	372	403	434	467	499	532
Alfalfa (Pounds per 1000 Square Feet)																					
High Range	0	0.8	1.5	2.3	3.3	4.5	5.8	7.1	8.6	10.2	11.8	13.4	15.1	16.8	18.4	20.1	21.7	23.2	24.6	25.9	27.2
Low Range	0.0	0.2	0.4	0.9	1.5	2.1	2.7	3.3	3.9	4.5	5.2	5.8	6.5	7.1	7.8	8.5	9.2	10.0	10.7	11.5	12.2
Bent Grass (Pounds per Acre)																					
High Range	0	26	47	72	99	128	160	194	228	264	300	335	371	405	438	470	499	525	549	569	585
Low Range	0	13	20	28	38	49	61	75	88	102	117	131	146	159	173	185	197	207	216	223	229
Bent Grass (Pounds per 1000 Square Feet)																					
High Range	0.0	0.6	1.1	1.6	2.3	2.9	3.7	4.4	5.2	6.1	6.9	7.7	8.5	9.3	10.1	10.8	11.4	12.1	12.6	13.1	13.4
Low Range	0.0	0.3	0.5	0.6	0.9	1.1	1.4	1.7	2.0	2.4	2.7	3.0	3.3	3.7	4.0	4.3	4.5	4.8	5.0	5.1	5.3
Bermuda (Pounds per Acre)																					
High Range	0	60	75	95	118	145	175	207	242	278	316	354	393	432	471	508	545	580	612	642	670
Low Range	0	14	25	36	48	60	72	85	98	111	124	138	151	165	179	193	208	222	237	252	267
Bermuda (Pounds per 1000 Square Feet)																					
High Range	0.0	1.4	1.7	2.2	2.7	3.3	4.0	4.8	5.6	6.4	7.2	8.1	9.0	9.9	10.8	11.7	12.5	13.3	14.1	14.7	15.4
Low Range	0.0	0.3	0.6	0.8	1.1	1.4	1.7	1.9	2.2	2.5	2.8	3.2	3.5	3.8	4.1	4.4	4.8	5.1	5.4	5.8	6.1
Buffalo Grass (Pounds per Acre)																					
High Range	0	28	33	43	57	74	95	118	143	168	195	221	246	271	293	313	329	342	350	354	363
Low Range	0	10	13	18	25	32	40	50	59	69	80	90	100	109	118	126	133	139	143	146	147
Buffalo Grass (Pounds per 1000 Square Feet)																					
High Range	0.0	0.6	0.7	1.0	1.3	1.7	2.2	2.7	3.3	3.9	4.5	5.1	5.7	6.2	6.7	7.2	7.6	7.8	8.0	8.1	8.3
Low Range	0.0	0.2	0.3	0.4	0.6	0.7	0.9	1.1	1.4	1.6	1.8	2.1	2.3	2.5	2.7	2.9	3.1	3.2	3.3	3.3	3.4
Clover - Ladino (Pounds per Acre)																					
High Range	0	48	71	102	141	186	237	293	352	415	480	546	613	680	745	808	869	925	977	1024	1064
Low Range	0	20	27	39	54	73	95	120	147	176	206	238	270	302	334	366	397	427	455	480	504
Clover - Ladino (Pounds per 1000 Square Feet)																					
High Range	0.0	1.1	1.6	2.4	3.2	4.3	5.4	6.7	8.1	9.5	11.0	12.5	14.1	15.6	17.1	18.6	19.9	21.2	22.4	23.5	24.4
Low Range	0.0	0.5	0.6	0.9	1.2	1.7	2.2	2.8	3.4	4.0	4.7	5.5	6.2	6.9	7.7	8.4	9.1	9.8	10.4	11.0	11.6
Clover - White (Pounds per Acre)																					
High Range	0	62	92	129	173	223	277	336	399	464	531	599	667	735	801	866	927	985	1039	1087	1129
Low Range	0	35	40	50	65	84	106	131	159	188	219	250	281	312	341	369	394	417	436	452	462
Clover - White (Pounds per 1000 Square Feet)																					
High Range	0.0	1.4	2.1	3.0	4.0	5.1	6.4	7.7	9.1	10.6	12.2	13.7	15.3	16.9	18.4	19.9	21.3	22.6	23.8	25.0	25.9
Low Range	0.0	0.8	0.9	1.1	1.5	1.9	2.4	3.0	3.6	4.3	5.0	5.7	6.4	7.2	7.8	8.5	9.1	9.6	10.0	10.4	10.6
Fescue - Fine Blade, Turf Type (Pounds per Acre)																					
High Range	0	35	41	52	70	91	117	146	177	210	244	279	313	345	376	404	429	449	465	475	478
Low Range	0	10	14	21	29	38	49	61	74	87	101	115	128	141	154	165	175	184	191	196	199
Fescue - Fine Blade, Turf Type (Pounds per 1000 Square Feet)																					
High Range	0.0	0.8	0.9	1.2	1.6	2.1	2.7	3.3	4.1	4.8	5.6	6.4	7.2	7.9	8.6	9.3	9.8	10.3	10.7	10.9	11.0
Low Range	0.0	0.2	0.3	0.5	0.7	0.9	1.1	1.4	1.7	2.0	2.3	2.6	2.9	3.2	3.5	3.8	4.0	4.2	4.4	4.5	4.6
Fescue K-31 (Pounds per Acre)																					
High Range	0	36	40	50	64	82	104	129	156	185	215	245	276	306	334	361	386	407	425	439	448
Low Range	0	5	9	14	20	27	35	44	53	63	74	85	96	107	118	129	140	151	161	171	179
Fescue K-31 (Pounds per 1000 Square Feet)																					
High Range	0.0	0.8	0.9	1.1	1.5	1.9	2.4	3.0	3.6	4.2	4.9	5.6	6.3	7.0	7.7	8.3	8.9	9.4	9.8	10.1	10.3
Low Range	0.0	0.1	0.2	0.3	0.5	0.6	0.8	1.0	1.2	1.5	1.7	1.9	2.2	2.5	2.7	3.0	3.2	3.5	3.7	3.9	4.1
Kentucky Blue Grass (Pounds per Acre)																					
High Range	0	15	21	30	43	60	79	101	125	151	179	207	237	267	297	326	355	383	410	435	457
Low Range	0	9	11	15	20	27	34	42	51	61	72	83	94	106	118	131	143	155	167	178	190
Kentucky Blue Grass (Pounds per 1000 Square Feet)																					
High Range	0.0	0.3	0.5	0.7	1.0	1.4	1.8	2.3	2.9	3.5	4.1	4.8	5.4	6.1	6.8	7.5	8.2	8.8	9.4	10.0	10.5
Low Range	0.0	0.2	0.3	0.3	0.5	0.6	0.8	1.0	1.2	1.4	1.6	1.9	2.2	2.4	2.7	3.0	3.3	3.6	3.8	4.1	4.4

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

Seed Rate Charts (Continued)

Cup Setting	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Lovegrass - Sand (Pounds per Acre)																					
High Range	0	88	92	105	125	154	189	230	276	326	380	436	495	554	614	674	733	789	843	893	939
Low Range	0	12	27	42	57	71	85	99	113	127	142	157	173	190	208	228	249	271	295	321	349
Lovegrass - Sand (Pounds per 1000 Square Feet)																					
High Range	0.0	2.0	2.1	2.4	2.9	3.5	4.3	5.3	6.3	7.5	8.7	10.0	11.4	12.7	14.1	15.5	16.8	18.1	19.4	20.5	21.6
Low Range	0.0	0.3	0.6	1.0	1.3	1.6	1.9	2.3	2.6	2.9	3.3	3.6	4.0	4.4	4.8	5.2	5.7	6.2	6.8	7.4	8.0
Lovegrass - Weeping (Pounds per Acre)																					
High Range	0	64	95	135	183	238	299	364	433	504	576	648	719	788	854	915	970	1018	1059	1090	1111
Low Range	0	11	26	45	66	90	116	144	173	203	234	265	296	326	355	383	409	433	454	471	486
Lovegrass - Weeping (Pounds per 1000 Square Feet)																					
High Range	0.0	1.5	2.2	3.1	4.2	5.5	6.9	8.4	9.9	11.6	13.2	14.9	16.5	18.1	19.6	21.0	22.3	23.4	24.3	25.0	25.5
Low Range	0.0	0.3	0.6	1.0	1.5	2.1	2.7	3.3	4.0	4.7	5.4	6.1	6.8	7.5	8.2	8.8	9.4	9.9	10.4	10.8	11.2
Orchard Grass (Pounds per Acre)																					
High Range	0	16	18	20	25	34	45	59	75	92	111	130	150	171	191	210	229	246	261	275	286
Low Range	0	5	6	9	13	17	22	27	33	40	47	54	61	69	77	85	92	100	108	115	122
Orchard Grass (Pounds per 1000 Square Feet)																					
High Range	0.0	0.4	0.4	0.5	0.6	0.8	1.0	1.3	1.7	2.1	2.5	3.0	3.5	3.9	4.4	4.8	5.3	5.6	6.0	6.3	6.6
Low Range	0.0	0.1	0.1	0.2	0.3	0.4	0.5	0.6	0.8	0.9	1.1	1.2	1.4	1.6	1.8	1.9	2.1	2.3	2.5	2.6	2.8
Rye Grass - Annual (Pounds per Acre)																					
High Range	0	48	57	71	89	110	135	162	191	221	253	285	318	350	381	411	439	465	488	508	524
Low Range	0	20	23	28	35	43	54	65	78	91	106	120	135	150	165	179	193	205	217	227	235
Rye Grass - Annual (Pounds per 1000 Square Feet)																					
High Range	0.0	1.1	1.3	1.6	2.0	2.5	3.1	3.7	4.4	5.1	5.8	6.5	7.3	8.0	8.7	9.4	10.1	10.7	11.2	11.7	12.0
Low Range	0.0	0.5	0.5	0.6	0.8	1.0	1.2	1.5	1.8	2.1	2.4	2.8	3.1	3.4	3.8	4.1	4.4	4.7	5.0	5.2	5.4
Rye Grass - Perennial (Pounds per Acre)																					
High Range	0	24	46	73	105	141	179	220	263	307	352	396	439	480	519	555	588	615	638	655	666
Low Range	0	22	25	31	41	53	68	84	102	121	141	160	179	198	215	231	245	256	264	269	271
Rye Grass - Perennial (Pounds per 1000 Square Feet)																					
High Range	0.0	0.5	1.1	1.7	2.4	3.2	4.1	5.1	6.0	7.1	8.1	9.1	10.1	11.0	11.9	12.7	13.5	14.1	14.7	15.0	15.3
Low Range	0.0	0.5	0.6	0.7	0.9	1.2	1.6	1.9	2.3	2.8	3.2	3.7	4.1	4.5	4.9	5.3	5.6	5.9	6.1	6.2	6.2
Sudan Grass (Pounds per Acre)																					
High Range	0	34	67	105	150	199	253	311	372	435	500	566	633	699	764	828	889	948	1002	1053	1098
Low Range	0	26	31	42	57	76	99	125	153	183	214	245	277	308	337	365	391	414	433	448	458
Sudan Grass (Pounds per 1000 Square Feet)																					
High Range	0.0	0.8	1.5	2.4	3.4	4.6	5.8	7.1	8.5	10.0	11.5	13.0	14.5	16.0	17.5	19.0	20.4	21.8	23.0	24.2	25.2
Low Range	0.0	0.6	0.7	1.0	1.3	1.7	2.3	2.9	3.5	4.2	4.9	5.6	6.4	7.1	7.7	8.4	9.0	9.5	9.9	10.3	10.5
Vetch (Pounds per Acre)																					
High Range	0	50	90	133	178	226	276	328	381	435	490	546	601	656	711	765	818	870	920	968	1013
Low Range	0	12	26	42	59	77	96	117	138	160	183	206	229	253	276	299	322	344	366	387	407
Vetch (Pounds per 1000 Square Feet)																					
High Range	0.0	1.1	2.1	3.0	4.1	5.2	6.3	7.5	8.7	10.0	11.3	12.5	13.8	15.1	16.3	17.6	18.8	20.0	21.1	22.2	23.3
Low Range	0.0	0.3	0.6	1.0	1.3	1.8	2.2	2.7	3.2	3.7	4.2	4.7	5.3	5.8	6.3	6.9	7.4	7.9	8.4	8.9	9.3
Wheatgrass - Crested (Pounds per Acre)																					
High Range	0	34	34	39	48	60	76	93	113	135	157	180	204	227	249	270	289	307	321	333	341
Low Range	0	6	10	15	21	27	34	41	49	57	65	74	83	92	101	110	118	127	136	144	152
Wheatgrass - Crested (Pounds per 1000 Square Feet)																					
High Range	0.0	0.8	0.8	0.9	1.1	1.4	1.7	2.1	2.6	3.1	3.6	4.1	4.7	5.2	5.7	6.2	6.6	7.0	7.4	7.6	7.8
Low Range	0.0	0.1	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5
Wheatgrass - Western (Pounds per Acre)																					
High Range	0	9	16	25	36	49	64	80	97	115	133	152	171	189	206	223	239	253	266	276	285
Low Range	0	7	9	12	16	22	28	36	44	53	62	71	80	89	98	107	115	122	128	133	137
Wheatgrass - Western (Pounds per 1000 Square Feet)																					
High Range	0.0	0.2	0.4	0.6	0.8	1.1	1.5	1.8	2.2	2.6	3.1	3.5	3.9	4.3	4.7	5.1	5.5	5.8	6.1	6.3	6.5
Low Range	0.0	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.3	2.4	2.6	2.8	2.9	3.1	3.1

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

Section 3: Adjustments

Metric Seed Rate Charts

Cup Setting	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Alfalfa (Kilograms per Hectare)																					
High Range	0	41	73	114	163	219	281	349	421	497	576	656	738	819	901	980	1057	1132	1201	1266	1326
Low Range	0	9	19	46	73	102	130	160	190	220	252	284	316	349	383	417	451	487	523	559	597
Alfalfa (Kilograms per 1000 Square Meters)																					
High Range	0.0	4.1	7.3	11.4	16.3	21.9	28.1	34.9	42.1	49.7	57.5	65.6	73.8	81.9	90.1	98.0	105.7	113.1	120.1	126.6	132.6
Low Range	0.0	0.9	1.8	4.6	7.3	10.1	13.0	16.0	19.0	22.0	25.2	28.3	31.6	34.9	38.2	41.7	45.1	48.7	52.3	55.9	59.7
Bent Grass (Kilograms per Hectare)																					
High Range	0	29	53	80	111	144	180	217	256	296	336	376	415	454	491	526	559	589	615	637	655
Low Range	0	14	22	32	43	55	69	84	99	115	131	147	163	179	194	208	220	232	242	250	256
Bent Grass (Kilograms per 1000 Square Meters)																					
High Range	0.0	2.9	5.3	8.0	11.1	14.4	17.9	21.7	25.6	29.6	33.6	37.6	41.5	45.4	49.1	52.6	55.9	58.9	61.5	63.7	65.5
Low Range	0.0	1.4	2.2	3.1	4.3	5.5	6.9	8.3	9.9	11.5	13.1	14.7	16.3	17.9	19.3	20.8	22.0	23.2	24.2	25.0	25.6
Bermuda (Kilograms per Hectare)																					
High Range	0	67	84	106	133	163	196	232	271	312	354	397	441	484	527	570	610	649	686	720	751
Low Range	0	16	28	41	54	67	81	95	110	124	139	154	169	185	201	217	233	249	266	282	299
Bermuda (Kilograms per 1000 Square Meters)																					
High Range	0.0	6.7	8.4	10.6	13.3	16.3	19.6	23.2	27.1	31.2	35.4	39.7	44.0	48.4	52.7	57.0	61.0	64.9	68.6	72.0	75.1
Low Range	0.0	1.6	2.8	4.1	5.4	6.7	8.1	9.5	10.9	12.4	13.9	15.4	16.9	18.5	20.1	21.7	23.3	24.9	26.6	28.2	29.9
Buffalo Grass (Kilograms per Hectare)																					
High Range	0	31	37	48	63	83	106	132	160	189	218	247	276	303	328	350	369	383	393	396	407
Low Range	0	11	15	20	28	36	45	56	66	78	89	101	112	122	132	141	149	155	160	163	164
Buffalo Grass (Kilograms per 1000 Square Meters)																					
High Range	0.0	3.1	3.7	4.8	6.3	8.3	10.6	13.2	16.0	18.9	21.8	24.7	27.6	30.3	32.8	35.0	36.9	38.3	39.2	39.6	40.7
Low Range	0.0	1.0	1.5	2.0	2.8	3.6	4.5	5.6	6.6	7.8	8.9	10.1	11.2	12.2	13.2	14.1	14.9	15.5	16.0	16.3	16.4
Clover - Ladino (Kilograms per Hectare)																					
High Range	0	54	80	115	158	209	266	328	395	465	538	612	687	762	835	906	974	1037	1095	1147	1193
Low Range	0	23	31	44	61	82	107	134	165	197	231	266	302	339	375	410	445	478	509	538	564
Clover - Ladino (Kilograms per 1000 Square Meters)																					
High Range	0.0	5.4	8.0	11.5	15.8	20.9	26.5	32.8	39.5	46.5	53.8	61.2	68.7	76.2	83.5	90.6	97.3	103.7	109.5	114.7	119.3
Low Range	0.0	2.3	3.1	4.4	6.1	8.2	10.7	13.4	16.4	19.7	23.1	26.6	30.2	33.9	37.5	41.0	44.5	47.8	50.9	53.8	56.4
Clover - White (Kilograms per Hectare)																					
High Range	0	70	103	145	194	249	311	377	447	520	595	671	748	824	898	970	1039	1104	1164	1218	1265
Low Range	0	39	45	56	73	94	119	147	178	211	245	280	315	349	382	413	442	468	489	506	518
Clover - White (Kilograms per 1000 Square Meters)																					
High Range	0.0	7.0	10.3	14.5	19.4	24.9	31.1	37.7	44.7	52.0	59.5	67.1	74.8	82.4	89.8	97.0	103.9	110.4	116.4	121.8	126.5
Low Range	0.0	3.9	4.4	5.6	7.2	9.4	11.9	14.7	17.8	21.1	24.5	28.0	31.5	34.9	38.2	41.3	44.2	46.7	48.9	50.6	51.8
Fescue - Fine Blade, Turf Type (Kilograms per Hectare)																					
High Range	0	40	46	59	78	102	131	163	199	236	274	312	350	387	421	453	481	503	521	532	536
Low Range	0	11	16	23	32	43	55	68	83	98	113	128	144	158	172	185	196	206	214	220	223
Fescue - Fine Blade, Turf Type (Kilograms per 1000 Square Meters)																					
High Range	0.0	4.0	4.6	5.9	7.8	10.2	13.1	16.3	19.9	23.6	27.4	31.2	35.0	38.7	42.1	45.3	48.0	50.3	52.1	53.2	53.6
Low Range	0.0	1.1	1.6	2.3	3.2	4.3	5.5	6.8	8.3	9.8	11.3	12.8	14.3	15.8	17.2	18.5	19.6	20.6	21.4	22.0	22.3
Fescue K-31 (Kilograms per Hectare)																					
High Range	0	40	45	56	71	92	116	144	174	207	240	275	309	342	375	405	432	457	477	492	502
Low Range	0	6	10	16	22	30	39	49	60	71	83	95	107	120	133	145	157	169	180	191	201
Fescue K-31 (Kilograms per 1000 Square Meters)																					
High Range	0.0	4.0	4.5	5.5	7.1	9.2	11.6	14.4	17.4	20.7	24.0	27.5	30.9	34.2	37.5	40.5	43.2	45.6	47.7	49.2	50.2
Low Range	0.0	0.6	1.0	1.6	2.2	3.0	3.9	4.9	6.0	7.1	8.3	9.5	10.7	12.0	13.3	14.5	15.7	16.9	18.0	19.1	20.1
Kentucky Blue Grass (Kilograms per Hectare)																					
High Range	0	17	23	34	48	67	89	113	140	169	200	233	266	299	333	366	398	430	459	487	513
Low Range	0	10	12	17	23	30	38	47	58	69	81	93	106	119	133	146	160	174	187	200	213
Kentucky Blue Grass (Kilograms per 1000 Square Meters)																					
High Range	0.0	1.7	2.3	3.4	4.8	6.7	8.8	11.3	14.0	16.9	20.0	23.2	26.5	29.9	33.3	36.6	39.8	43.0	45.9	48.7	51.2

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

Metric Seed Rate Charts (Continued)

Cup Setting	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Low Range	0.0	1.0	1.2	1.7	2.3	3.0	3.8	4.7	5.8	6.9	8.1	9.3	10.6	11.9	13.3	14.6	16.0	17.4	18.7	20.0	21.3
Lovegrass - Sand (Kilograms per Hectare)																					
High Range	0	99	103	117	141	172	211	257	309	365	425	489	554	621	689	755	821	884	945	1001	1053
Low Range	0	13	31	48	64	80	95	111	126	142	159	176	194	213	233	255	279	304	331	360	392
Lovegrass - Sand (Kilograms per 1000 Square Meters)																					
High Range	0.0	9.9	10.3	11.7	14.0	17.2	21.1	25.7	30.9	36.5	42.5	48.9	55.4	62.1	68.9	75.5	82.1	88.4	94.5	100.1	105.3
Low Range	0.0	1.3	3.1	4.8	6.4	7.9	9.5	11.1	12.6	14.2	15.9	17.6	19.4	21.3	23.3	25.5	27.8	30.4	33.1	36.0	39.1
Lovegrass - Weeping (Kilograms per Hectare)																					
High Range	0	72	106	151	205	266	335	408	485	564	645	726	806	883	957	1025	1087	1141	1186	1221	1245
Low Range	0	13	29	50	74	101	130	161	194	228	262	297	332	365	398	429	458	485	508	528	545
Lovegrass - Weeping (Kilograms per 1000 Square Meters)																					
High Range	0.0	7.2	10.6	15.1	20.5	26.6	33.4	40.8	48.5	56.4	64.5	72.6	80.6	88.3	95.7	102.5	108.7	114.1	118.6	122.1	124.5
Low Range	0.0	1.3	2.9	5.0	7.4	10.1	13.0	16.1	19.4	22.8	26.2	29.7	33.2	36.5	39.8	42.9	45.8	48.5	50.8	52.8	54.5
Orchard Grass (Kilograms per Hectare)																					
High Range	0	18	20	22	28	38	51	66	84	103	124	146	169	191	214	236	256	276	293	308	320
Low Range	0	5	7	10	14	19	24	31	37	45	52	60	69	77	86	95	104	112	121	129	137
Orchard Grass (Kilograms per 1000 Square Meters)																					
High Range	0.0	1.8	2.0	2.2	2.8	3.8	5.0	6.6	8.4	10.3	12.4	14.6	16.9	19.1	21.4	23.6	25.6	27.6	29.3	30.8	32.0
Low Range	0.0	0.5	0.7	1.0	1.4	1.9	2.4	3.1	3.7	4.5	5.2	6.0	6.9	7.7	8.6	9.5	10.4	11.2	12.1	12.9	13.7
Rye Grass - Annual (Kilograms per Hectare)																					
High Range	0	54	64	80	100	124	152	181	214	248	284	320	356	392	427	461	492	521	547	570	588
Low Range	0	23	26	31	39	49	60	73	87	103	119	135	152	168	185	201	216	230	243	254	264
Rye Grass - Annual (Kilograms per 1000 Square Meters)																					
High Range	0.0	5.4	6.4	8.0	10.0	12.4	15.1	18.1	21.4	24.8	28.3	32.0	35.6	39.2	42.7	46.1	49.2	52.1	54.7	57.0	58.8
Low Range	0.0	2.3	2.6	3.1	3.9	4.8	6.0	7.3	8.7	10.2	11.8	13.5	15.2	16.8	18.5	20.1	21.6	23.0	24.3	25.4	26.4
Rye Grass - Perennial (Kilograms per Hectare)																					
High Range	0	27	51	82	118	158	201	247	295	344	394	443	492	538	582	622	658	690	715	735	747
Low Range	0	24	28	35	46	60	76	95	115	136	157	179	201	222	241	259	274	287	296	302	303
Rye Grass - Perennial (Kilograms per 1000 Square Meters)																					
High Range	0.0	2.7	5.1	8.2	11.8	15.8	20.1	24.7	29.5	34.4	39.4	44.3	49.2	53.8	58.2	62.2	65.8	69.0	71.5	73.5	74.7
Low Range	0.0	2.4	2.8	3.5	4.6	6.0	7.6	9.4	11.5	13.6	15.7	17.9	20.1	22.2	24.1	25.9	27.4	28.7	29.6	30.2	30.3
Sudan Grass (Kilograms per Hectare)																					
High Range	0	38	75	118	168	223	284	349	417	488	561	635	709	783	857	928	997	1062	1123	1180	1231
Low Range	0	29	35	47	64	85	111	140	171	205	239	275	310	345	378	409	438	463	485	502	513
Sudan Grass (Kilograms per 1000 Square Meters)																					
High Range	0.0	3.8	7.5	11.8	16.8	22.3	28.4	34.9	41.7	48.8	56.1	63.5	70.9	78.3	85.7	92.8	99.7	106.2	112.3	118.0	123.1
Low Range	0.0	2.9	3.5	4.7	6.4	8.5	11.1	14.0	17.1	20.5	23.9	27.5	31.0	34.5	37.8	40.9	43.8	46.3	48.5	50.2	51.3
Vetch (Kilograms per Hectare)																					
High Range	0	56	100	149	200	254	310	368	427	488	549	611	674	736	797	858	917	975	1031	1085	1136
Low Range	0	14	29	47	66	86	108	131	155	180	205	231	257	283	309	335	361	386	410	433	456
Vetch (Kilograms per 1000 Square Meters)																					
High Range	0	6	10	15	20	25	31	37	43	49	55	61	67	74	80	86	92	98	103	108	114
Low Range	0	1	3	5	7	9	11	13	15	18	20	23	26	28	31	34	36	39	41	43	46
Wheatgrass - Crested (Kilograms per Hectare)																					
High Range	0	38	39	44	54	68	85	105	127	151	176	202	228	254	279	303	324	344	360	373	382
Low Range	0	7	11	17	23	30	38	46	54	64	73	83	93	103	113	123	133	143	152	162	170
Wheatgrass - Crested (Kilograms per 1000 Square Meters)																					
High Range	0.0	3.8	3.9	4.4	5.4	6.8	8.5	10.5	12.7	15.1	17.6	20.2	22.8	25.4	27.9	30.2	32.4	34.3	36.0	37.3	38.2
Low Range	0.0	0.7	1.1	1.7	2.3	3.0	3.8	4.6	5.4	6.3	7.3	8.3	9.3	10.3	11.3	12.3	13.3	14.3	15.2	16.1	17.0
Wheatgrass - Western (Kilograms per Hectare)																					
High Range	0	10	18	28	41	55	72	90	109	129	150	170	191	212	231	250	268	284	298	310	319
Low Range	0	8	10	13	18	24	32	40	49	59	69	79	90	100	110	120	128	136	143	149	153
Wheatgrass - Western (Kilograms per 1000 Square Meters)																					
High Range	0.0	1.0	1.8	2.8	4.1	5.5	7.2	9.0	10.9	12.9	15.0	17.0	19.1	21.1	23.1	25.0	26.8	28.4	29.8	31.0	31.9
Low Range	0.0	0.8	1.0	1.3	1.8	2.4	3.2	4.0	4.9	5.9	6.9	7.9	9.0	10.0	11.0	11.9	12.8	13.6	14.3	14.9	15.3

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

Section 4: Maintenance & Lubrication

General 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.

The parts on your Primary Seeder have been specially designed and should only be replaced with genuine Land Pride parts. Do not alter the seeder in a way which will adversely affect its performance.

1. After using your seeder for several hours, check all bolts to be sure they are tight.
2. Lubricate areas noted in the “**Lubrication**” section.
3. 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 tires.
6. Replace any worn, damaged, or illegible safety labels by obtaining new labels from your Land Pride Dealer.
7. Inspect safety chain and hardware for wear or other damage.

Tractor Maintenance

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

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

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.





1. Remove any dirt or grease that may have accumulated on the seeder and any of the moving parts.
2. Be sure that the seed box is completely cleaned before storing. See “**Seed Clean-Out**” on page 23.
3. The square bore of the feed cup drive sprocket hub should be oiled to prevent seizing. 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.
4. Inspect for loose, damaged or worn parts and adjust or replace as needed.
5. Repaint parts where paint is worn or scratched to prevent rust. Ask your Land Pride dealer for aerosol touch-up paint. Paint is also available in touch-up bottles with brush, quarts, and gallon sizes by adding TU, QT, or GL to the end of the aerosol part number.

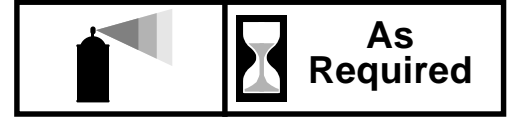
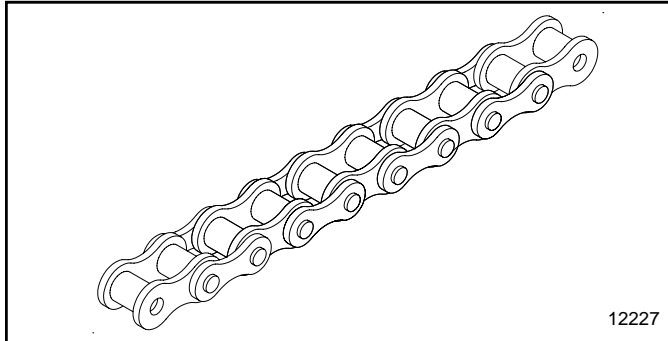
Land Pride Aerosol Touch-up Paint

Part No.	Part Description
821-011C	PAINT LP BEIGE AEROSOL SPRAY CAN
821-002C	PAINT LP BLACK AEROSOL SPRAY CAN

6. Replace all damaged or missing decals.
7. Lubricate all fittings as indicated in the following illustrations.
8. For seeders with front or end wheels, apply a light coat of oil to exposed cylinder rods.
9. When in storage, lower the seeder with rollers on a board or hard surface and adjust parking stand or tongue jack.
10. Store seeder inside if possible. Inside storage will reduce maintenance and make for a longer seeder life.

Lubrication

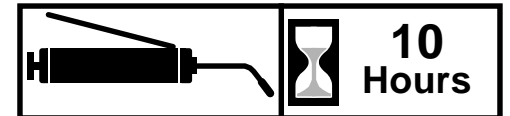
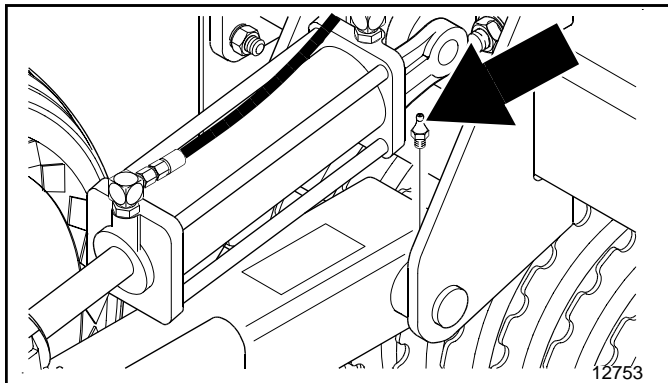
Lubrication Legend	 Multi-purpose spray lube	 Multi-purpose grease lube	 Multi-purpose oil lube	 50 Intervals in hours at which lubrication is required
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Roller Chains

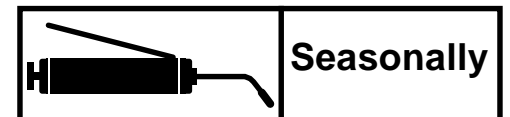
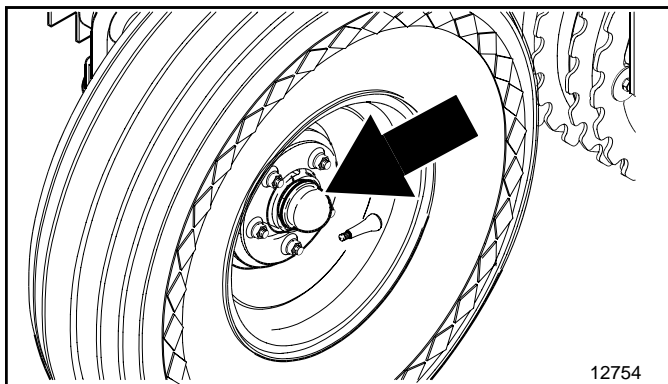
Type of Lubrication: Chain Lube

Quantity = As required. Do not overlubricate.



Wheel Arm Pivot Shafts

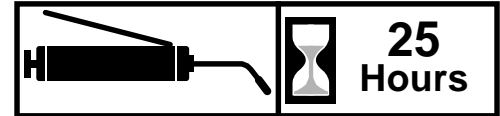
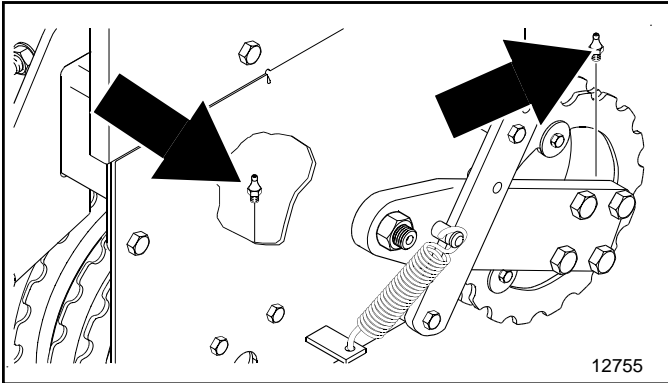
Type of Lubrication: Multi-Purpose



Wheel Bearings

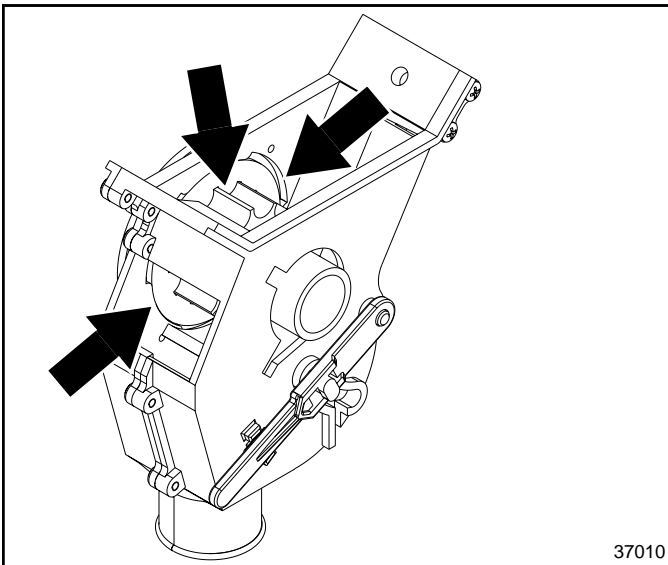
Type of Lubrication: Wheel Bearing Grease

Quantity = Repack



Front and Rear Roller Bearings

Type of Lubrication: Multi-Purpose



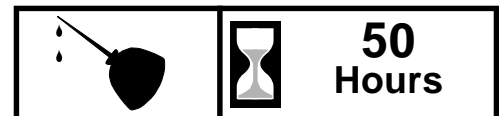
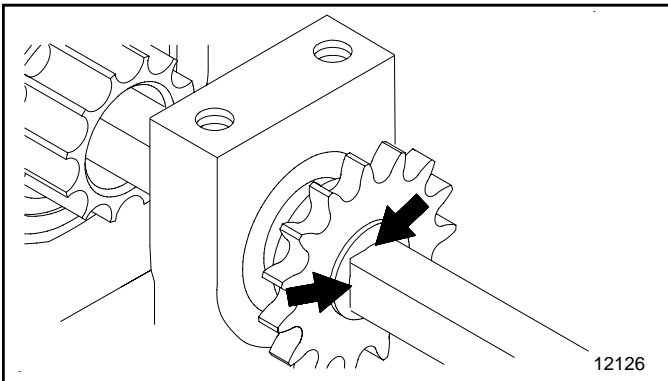
Seed Cup Sprockets & Nylon Washers

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.



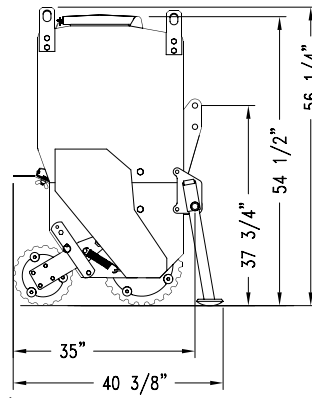
Feeder Cup Drive Sprocket

Type of Lubrication: Oil

Quantity: Squirt a generous amount of oil on to the square feed cup shaft and move seed rate adjustment lever back and forth in order to get oil back into the square bore.

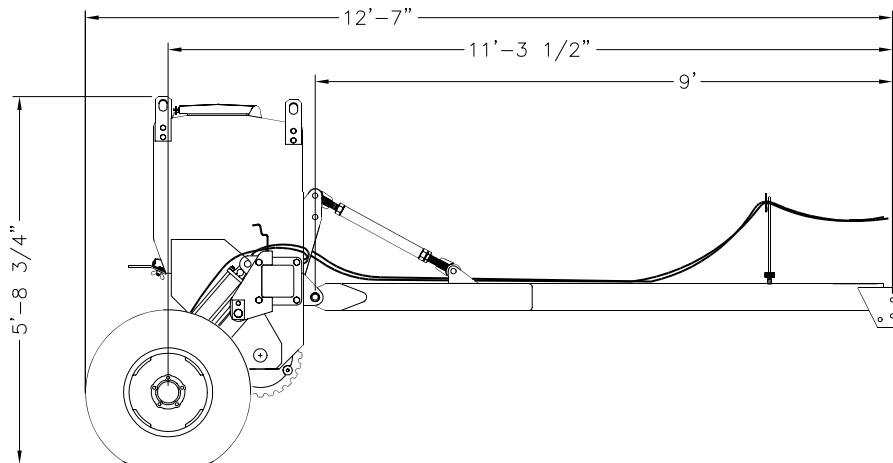
PS25 Series Primary Seeder

List	Specifications & Capacities
Seeding Width (Broadcast)	10' - 0"
Box Width	10' - 0"
Transport Width without End Wheels with End Wheels	10' - 6" 13' - 6"
Overall Height	56 1/4"
Overall Length3-Point Pull Type with Front Wheels Pull-Type with End Wheels	3' - 0" 11' - 11 1/2" 12' - 7"
Weight (approximate) 3-Point	30 Bushel Seeder = 2,940 lbs.
Weight (approximate) Tongue	200 lbs.
Weight (approximate) Wheels	190 lbs. each
Seed Box Capacity	3 bushel per foot (30 bushels)
3-Point Tractor Hitch	Category 2, Quick Hitch Adaptable
Tire Size	9.5L x 15 8-Ply
Main Seedbox Construction	Continuous welded for water tight construction
Lid construction	Heavy duty precision fit with seed splash guard
Seed Cup Drive	Chain driven from right side of front roller with #40 Roller chain
Seed Cups	16 Fluted cups for Accurate Metering
Seed Settings	Wide range of calibration
Front Packer Rollers	51 ea. 15 5/8" notched, cast iron, each free floating
Front Packer Roller Bearings	1 1/2" Sealed, greaseable
Front Roller Mounting Tube	12 3/4" OD x 1/4" wall
Rear Packer Rollers	52 ea. 11 3/8" notched, cast iron, each free floating
Rear Packer Roller Bearings	1 1/4" sealed, greaseable



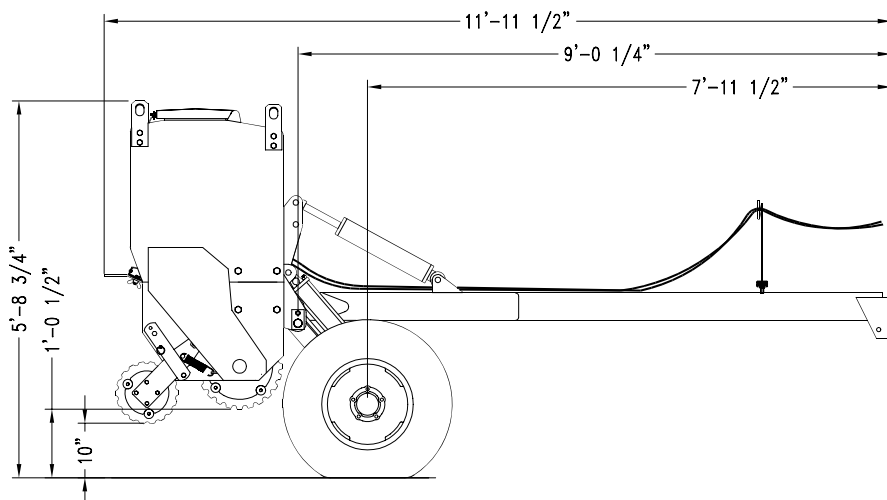
12743

3-Point & Pull-Type With Seeder Lowered To Ground



12966

Pull-Type with End Wheels



12967







Pull-Type with Front Wheels

PS25 Series Primary Seeder

Features	Benefits
Cat. II 3-Point Quick hitch adaptable	Fits on larger tractors to handle the weight, or Pull-type for smaller tractors. Quick hitch allows for easy connecting and disconnecting.
Approximate machine weight	2,940 lbs. Heavy weight helps seed to soil contact.
Pull-Type Front mounted wheels End mounted wheels Transport locks Removable tongue	Allows for easier hook-up to tractor and is adaptable to smaller tractors. Front mounted wheels narrow the unit up for transport or going through gates. End mounted wheels gives a smoother transport, and lowers the negative tongue weight. Keeps wheels in transport position if cylinders were to fail during transport. Tongue is easy to remove. Convenient for storage or when loaded on a trailer.
Lift hooks	For easy loading on to trailers
All welded weatherproof seedbox	Keeps rain and rodents out, and gives rigidity to seedbox.
Heavy-duty lock-up lid	Lids are precision fit to keep seeds dry and rodents out, and they won't buckle or slam shut in high winds.
Seed splash guard	Seedbox lid has a guard to prevent seed from being spilled between lid and box.
Easy seed box clean out	Seed flute is designed for easy clean out. Simply move the flute lever into the clean out position and all seeds will be removed.
30 Bushel seed capacity	30 Bushel is ideal for the sod farmer and grain growers.
Seed level indicator	Check seedbox level from the tractor seat.
Fluted sprocket seed cups	The right amount of seed is picked up by the fluted sprockets every time.
Powder metal in the fluted sprocket	Powder metal in the seed cup sprockets helps dissipate heat caused by the friction between the sprocket and housing.
Seed rate adjustment	Easy adjustment of seed rates. Lever position is located on seed rate chart.
Adjustable seed opening	Seed opening can be 'enlarged' by sliding a lever. Larger opening for fluffy seed allows for easier flow.
Seed rate decal	Positioned on lid. Easy access to seed rate information.
High/Low seed settings	Easy adjustment on sprocket arrangement on seed cup drive. This allows for a very broad range of seed settings.
Ground driven metering	Front packer rollers are in constant contact with the ground to ensure consistent metering of seed. Seed metering stops automatically when front packer is raised off the ground.
Cast iron packer rollers	15 5/8" diameter front rings and 11 3/8" diameter rear rings are used to crush the clods and pack the seed in to promote seed to soil contact.
Spring mounted rear packers	Rear packer rollers are spring loaded for additional down pressure, and to stay in contact with the ground.
#40 Roller chain	All drives utilize #40 roller chain for smooth running.
Vacuum sealed acremeter	Vacuum sealed to keep dirt out. Acremeter to plan seed requirements.

PS25120 Troubleshooting Chart

Problem	Solution
Uneven seed spacing or uneven stand	Check for plugging in feed cup
	Check to see if seed tubes are plugged
	Check for plugging in seed broadcasting channel
	Reduce ground speed
	Check for trash or mud build up on rollers
Actual seeding rate is different than desired	Seed treatment will affect seeding rate if the chemicals build up in feed cup. Unless cleaned regularly, this build up can cause breakage of the feeder cup shaft.
	Check speed change sprocket
	See manual for instructions on calculating seed rate
Acrometer doesn't measure accurately	Check planting operation for excessive overlap or gaps between passes
	Loose soil conditions and slippage of front roller will cause variations in acres registered
Raising and lowering seeder is rough or uneven on front or end wheel seeders	Lubricate wheel arm pivot shaft
	Check hydraulic fittings for leaks. Refer to " Tractor Hydraulic Hook-Up " on page 17.
	Rephasing cylinders not properly bled. Refer to " Tractor Hydraulic Hook-Up " on page 17.
	When raising seeder, the cylinders should be fully extended to ensure that they are always rephased.
Feed cup sprocket locked up or twisted seed cup drive shaft	Check for foreign matter lodged in feed cup sprocket
Rollers not turning freely	Check for trash or mud build up on roller ends

Torque Values Chart for Common Bolt Sizes													
Bolt Size (inches)	Bolt Head Identification						Bolt Size (Metric)	Bolt Head Identification					
													
	Grade 2	Grade 5		Grade 8		Class 5.8	Class 8.8		Class 10.9				
in-tpi ¹	N · m ²	ft-lb ³	N · m	ft-lb	N · m	ft-lb	mm x pitch ⁴	N · m	ft-lb	N · m	ft-lb	N · m	ft-lb
1/4" - 20	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
1/4" - 28	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
5/16" - 18	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
5/16" - 24	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
3/8" - 16	27	20	42	31	59	44	M10 X 1.5	33	24	52	39	72	53
3/8" - 24	31	22	47	35	67	49	M10 X 0.75	39	29	61	45	85	62
7/16" - 14	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
7/16" - 20	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
1/2" - 13	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
1/2" - 20	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
9/16" - 12	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	215	160
9/16" - 18	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
5/8" - 11	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
5/8" - 18	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
3/4" - 10	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
3/4" - 16	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
7/8" - 9	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
7/8" - 14	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1" - 8	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1" - 12	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1-1/8" - 7	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
1-1/8" - 12	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
1-1/4" - 7	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
1-1/4" - 12	750	555	1680	1240	2730	2010	¹ in-tpi = nominal thread diameter in inches-threads per inch ² N · m = newton-meters ³ ft-lb= foot pounds ⁴ mm x pitch = nominal thread diameter in millimeters x thread pitch						
1-3/8" - 6	890	655	1990	1470	3230	2380							
1-3/8" - 12	1010	745	2270	1670	3680	2710							
1-1/2" - 6	1180	870	2640	1950	4290	3160							
1-1/2" - 12	1330	980	2970	2190	4820	3560							
Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.													

Tire Inflation Chart	
Tire Size	PSI
9.5L x 15" 8-Ply Rib Implement	44



Warranty

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

Overall Unit: One year Parts and Labor

Packer Rollers: Considered wear items

Optional Pull Tongue: One year Parts and Labor

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

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

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

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

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

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

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

Model Number _____

Serial Number _____



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