Pendulum Spreaders
PFS4000, PFS5060 & PFS8010

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

Cover photo may show optional equipment not supplied with standard unit.
For an Operator’s Manual and Decal Kit in French Language, please see your Land Pride dealer.
Machine Identification

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

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

<table>
<thead>
<tr>
<th>Model Number</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial Number</td>
<td></td>
</tr>
<tr>
<td>Machine Height</td>
<td></td>
</tr>
<tr>
<td>Machine Length</td>
<td></td>
</tr>
<tr>
<td>Machine Width</td>
<td></td>
</tr>
<tr>
<td>Machine Weight</td>
<td></td>
</tr>
<tr>
<td>Delivery Date</td>
<td></td>
</tr>
<tr>
<td>First Operation</td>
<td></td>
</tr>
<tr>
<td>Accessories</td>
<td></td>
</tr>
</tbody>
</table>

Dealer Contact Information

Name: _____________________________
Street: ___________________________
City/State: _______________________
Telephone: ________________________
Email: ____________________________

California Proposition 65

⚠️ WARNING: Cancer and reproductive harm - www.P65Warnings.ca.gov
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Important Safety Information</td>
<td>1</td>
</tr>
<tr>
<td>Safety at All Times</td>
<td>1</td>
</tr>
<tr>
<td>Look for the Safety Alert Symbol</td>
<td>1</td>
</tr>
<tr>
<td>Safety Labels</td>
<td>4</td>
</tr>
<tr>
<td><strong>Introduction</strong></td>
<td>8</td>
</tr>
<tr>
<td>Application</td>
<td>8</td>
</tr>
<tr>
<td>Using This Manual</td>
<td>8</td>
</tr>
<tr>
<td>Owner Assistance</td>
<td>8</td>
</tr>
<tr>
<td><strong>Section 1: Drive Unit Assembly</strong></td>
<td>10</td>
</tr>
<tr>
<td>Tractor Requirements</td>
<td>10</td>
</tr>
<tr>
<td>Assembly &amp; Set-Up</td>
<td>10</td>
</tr>
<tr>
<td>Torque Requirements</td>
<td>10</td>
</tr>
<tr>
<td>Pendulum Flange Assembly</td>
<td>10</td>
</tr>
<tr>
<td>Pendulum Spout Assembly</td>
<td>10</td>
</tr>
<tr>
<td>Shaft Shield Assembly</td>
<td>11</td>
</tr>
<tr>
<td>MIN, MID, &amp; MAX Decal Placement</td>
<td>11</td>
</tr>
<tr>
<td><strong>Section 2: PFS4000 Assembly &amp; Set-Up</strong></td>
<td>12</td>
</tr>
<tr>
<td>Drive Unit Assembly to Main Frame</td>
<td>12</td>
</tr>
<tr>
<td>Hopper Assembly</td>
<td>12</td>
</tr>
<tr>
<td>Gate Lever Assembly</td>
<td>13</td>
</tr>
<tr>
<td><strong>Section 3: PFS5060 Assembly &amp; Set-Up</strong></td>
<td>14</td>
</tr>
<tr>
<td>Drive Unit Assembly to Main Frame</td>
<td>14</td>
</tr>
<tr>
<td>Hopper Support Frame Assembly</td>
<td>15</td>
</tr>
<tr>
<td>Hopper Assembly</td>
<td>16</td>
</tr>
<tr>
<td>Gate Lever Assembly</td>
<td>16</td>
</tr>
<tr>
<td><strong>Section 4: PFS8010 Assembly &amp; Set-Up</strong></td>
<td>17</td>
</tr>
<tr>
<td>Connecting Hooks &amp; Hook-Up Bar</td>
<td>17</td>
</tr>
<tr>
<td>Drive Unit Assembly to Main Frame</td>
<td>17</td>
</tr>
<tr>
<td>Hopper Support Ring Assembly</td>
<td>18</td>
</tr>
<tr>
<td>Hopper Assembly</td>
<td>19</td>
</tr>
<tr>
<td>Gate Lever Assembly</td>
<td>19</td>
</tr>
<tr>
<td><strong>Section 5: Driveline Assembly &amp; Set-Up</strong></td>
<td>20</td>
</tr>
<tr>
<td>Tractor 3-Point Hook-Up</td>
<td>20</td>
</tr>
<tr>
<td>PFS4000 &amp; PFS5060 3-Point Hook-Up</td>
<td>20</td>
</tr>
<tr>
<td>PFS8010 3-Point Hook-Up</td>
<td>20</td>
</tr>
<tr>
<td>Driveline Installation</td>
<td>21</td>
</tr>
<tr>
<td>Check Driveline Collapsible Length</td>
<td>22</td>
</tr>
<tr>
<td>Shorten Driveline Length</td>
<td>22</td>
</tr>
<tr>
<td>Check Driveline Maximum Length</td>
<td>23</td>
</tr>
<tr>
<td>Check Driveline Interference</td>
<td>23</td>
</tr>
<tr>
<td><strong>Section 6: Options &amp; Accessories</strong></td>
<td>24</td>
</tr>
<tr>
<td>PFS5060 Hydraulic Gate Kit</td>
<td>24</td>
</tr>
<tr>
<td>PFS8010 Hydraulic Gate Kit</td>
<td>24</td>
</tr>
<tr>
<td>PFS5060 &amp; PFS8010 Agitator Extension Kit</td>
<td>25</td>
</tr>
<tr>
<td>Small Seed Kit</td>
<td>26</td>
</tr>
<tr>
<td>Hopper Top Extension Kit</td>
<td>26</td>
</tr>
<tr>
<td>Spout Accessories</td>
<td>27</td>
</tr>
<tr>
<td><strong>Section 7: Operating Procedures</strong></td>
<td>28</td>
</tr>
<tr>
<td>Operating Checklist</td>
<td>28</td>
</tr>
<tr>
<td>Safety Information</td>
<td>28</td>
</tr>
<tr>
<td>Transporting</td>
<td>29</td>
</tr>
<tr>
<td>Leveling &amp; Setting Spreader Height</td>
<td>30</td>
</tr>
<tr>
<td>Initial Adjustments and Checks</td>
<td>30</td>
</tr>
<tr>
<td>Set Hopper Discharge Rate</td>
<td>31</td>
</tr>
<tr>
<td>Load Hopper with Product</td>
<td>31</td>
</tr>
<tr>
<td>Effective Spread Width</td>
<td>32</td>
</tr>
<tr>
<td>Field Application</td>
<td>32</td>
</tr>
<tr>
<td>Unhook the Pendulum Spreader</td>
<td>33</td>
</tr>
<tr>
<td>General Operating Instructions</td>
<td>33</td>
</tr>
<tr>
<td><strong>Section 8: Adjustments</strong></td>
<td>34</td>
</tr>
<tr>
<td>English System of Measurements</td>
<td>34</td>
</tr>
<tr>
<td>Spout Swing Angle (English System)</td>
<td>34</td>
</tr>
<tr>
<td>Regulation Bar (English System)</td>
<td>34</td>
</tr>
<tr>
<td>Stationary Calibration (English System)</td>
<td>35</td>
</tr>
<tr>
<td>Field Calibration (English System)</td>
<td>35</td>
</tr>
<tr>
<td>Slide Ruler Calibration (English System)</td>
<td>36</td>
</tr>
<tr>
<td>Metric System of Measurements</td>
<td>38</td>
</tr>
<tr>
<td>Spout Swing Angle (Metric System)</td>
<td>38</td>
</tr>
<tr>
<td>Regulation Bar (Metric System)</td>
<td>38</td>
</tr>
<tr>
<td>Stationary Calibration (Metric System)</td>
<td>39</td>
</tr>
<tr>
<td>Field Calibration (Metric System)</td>
<td>39</td>
</tr>
<tr>
<td>Slide Ruler Calibration (Metric System)</td>
<td>40</td>
</tr>
<tr>
<td><strong>Section 9: Maintenance &amp; Lubrication</strong></td>
<td>42</td>
</tr>
<tr>
<td>General Maintenance</td>
<td>42</td>
</tr>
<tr>
<td>Long-Term Storage</td>
<td>42</td>
</tr>
<tr>
<td>Lubrication</td>
<td>43</td>
</tr>
<tr>
<td>Spout Pivot</td>
<td>43</td>
</tr>
<tr>
<td>Drive Unit Input Shaft</td>
<td>43</td>
</tr>
<tr>
<td>Spout Angle</td>
<td>43</td>
</tr>
<tr>
<td>Driveline Yokes</td>
<td>44</td>
</tr>
<tr>
<td>Inner Tube Bearings</td>
<td>44</td>
</tr>
<tr>
<td>Driveline Profiles</td>
<td>44</td>
</tr>
<tr>
<td><strong>Section 10: Specifications &amp; Capacities</strong></td>
<td>45</td>
</tr>
<tr>
<td><strong>Section 11: Features &amp; Benefits</strong></td>
<td>46</td>
</tr>
<tr>
<td><strong>Section 12: Troubleshooting</strong></td>
<td>47</td>
</tr>
<tr>
<td><strong>Section 13: Torque Values Chart</strong></td>
<td>48</td>
</tr>
<tr>
<td><strong>Section 14: Warranty</strong></td>
<td>49</td>
</tr>
</tbody>
</table>

© Copyright 2018 All rights Reserved

Land Pride provides this publication “as is” without warranty of any kind, either expressed or implied. While every precaution has been taken in the preparation of this manual, Land Pride assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein. Land Pride reserves the right to revise and improve its products as it sees fit. This publication describes the state of this product at the time of its publication, and may not reflect the product in the future.

Land Pride is a registered trademark.

All other brands and product names are trademarks or registered trademarks of their respective holders.

Printed in the United States of America.
Important Safety Information

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

**Safety at All Times**

Careful operation is your best assurance against an accident.

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

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

**Look for the Safety Alert Symbol**

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety 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 a hazardous situation that, if not avoided, will result in death or serious injury.
- **WARNING** Indicates a hazardous situation that, if not avoided, could result in death or serious injury.
- **CAUTION** Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.

**Safety Precautions for Children**

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

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

**Tractor Shutdown & Storage**

- If engaged, disengage power take-off.
- Park on solid, level ground and lower implement to ground or onto support blocks.
- Put tractor in park or set park brake, turn off engine, and remove switch key to prevent unauthorized starting.
- Relieve all hydraulic pressure to auxiliary hydraulic lines.
- Wait for all components to stop before leaving operator’s seat.
- Use steps, grab-handles and anti-slip surfaces when stepping on and off the tractor.
- Detach and store implement in an area where children normally do not play. Secure implement using blocks and supports.
Listed below are common practices that may or may not be applicable to the products described in this manual.

**Tire Safety**
- Tire changing can be dangerous and must be performed by trained personnel using the correct tools and equipment.
- Always maintain correct tire pressure. Do not inflate tires above recommended pressures shown in the Operator’s Manual.
- When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.
- Securely support the implement when changing a wheel.
- When removing and installing wheels, use wheel handling equipment adequate for the weight involved.
- Make sure wheel bolts have been tightened to the specified torque.

**Transport Safely**
- Comply with federal, state, and local laws.
- Use towing vehicle and trailer of adequate size and capacity. Secure equipment towed on a trailer with tie downs and chains.
- Sudden braking can cause a towed trailer to swerve and upset. Reduce speed if towed trailer is not equipped with brakes.
- Avoid contact with any overhead utility lines or electrically charged conductors.
- Always drive with load on end of loader arms low to the ground.
- Always drive straight up and down steep inclines with heavy end of a tractor with loader attachment on the “uphill” side.
- Engage park brake when stopped on an incline.
- Maximum transport speed for an attached equipment 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 attached equipment:
  - 20 mph when weight of attached equipment is less than or equal to the weight of machine towing the equipment.
  - 10 mph when weight of attached equipment exceeds weight of machine towing equipment but not more than double the weight.
- IMPORTANT: Do not tow a load that is more than double the weight of the vehicle 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 implement.
- Attach the chain to the tractor drawbar support or other specified anchor location. Allow only enough slack in the chain to permit turning.
- Always hitch the implement to the machine towing it. Do not use the safety chain to tow the implement.

**Practice Safe Maintenance**
- Understand procedure before doing work. Refer to the Operator’s Manual for additional information.
- Work on a level surface in a clean dry area that is well-lit.
- Lower implement to the ground and follow all shutdown procedures before leaving the operator’s seat to perform maintenance.
- Do not work under any hydraulic supported equipment. It can settle, suddenly leak down, or be lowered accidentally. If it is necessary to work under the equipment, securely support it with stands or suitable blocking beforehand.
- Use properly grounded electrical outlets and tools.
- Use correct tools and equipment for the job that are in good condition.
- Allow equipment to cool before working on it.
- Disconnect battery ground cable (−) before servicing or adjusting electrical systems or before welding on equipment.
- Inspect all parts. Make certain parts are in good condition & installed properly.
- Replace parts on this implement with genuine Land Pride parts only. Do not alter this implement in a way which will adversely affect its performance.
- Do not grease or oil implement while it is in operation.
- Remove buildup of grease, oil, or debris.
- Always make sure any material and waste products from the repair and maintenance of the implement are properly collected and disposed.
- Remove all tools and unused parts before operation.
Listed below 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.

### Use Safety Lights and Devices
- Slow moving tractors and self-propelled machines can create a hazard when driven on public roads. They are difficult to see, especially at night. Use the Slow Moving Vehicle (SMV) sign when on public roads.
- Flashing warning lights and turn signals are recommended whenever driving on public roads.

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

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

### Avoid High Pressure Fluids Hazard
- Escaping fluid under pressure can penetrate the skin causing serious injury.
- Relieve all residual pressure before disconnecting hydraulic lines or performing work on the hydraulic system.
- Make sure all hydraulic fluid connections are 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.

### 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.

### Keep Riders Off Machinery
- Never carry riders on tractor or implement.
- Riders obstruct operator’s view and interfere with the control of the power machine.
- Riders can be struck by objects or thrown from the equipment.
- Never use tractor or implement to lift or transport riders.
Safety Labels

Your Pendulum Spreader comes equipped with all safety labels in place. They were designed to help you safely operate your implement. Read and follow their directions.

1. Keep all safety labels clean and legible.
2. Refer to this section for proper label placement. Replace all damaged or missing labels. Order new labels from your nearest Land Pride dealer. To find your nearest dealer, visit our dealer locator at www.landpride.com.
3. Some new equipment installed during repair requires safety labels to be affixed to the replaced component as specified by Land Pride. When ordering new components make sure the correct safety labels are included in the request.
4. Refer to this section for proper label placement.
   To install new labels:
   a. Clean surface area where label is to be placed.
   b. Spray soapy water onto the cleaned area.
   c. Peel backing from label and press label firmly onto the surface.
   d. Squeeze out air bubbles with edge of a credit card or with a similar type of straight edge.

![Danger: Toxic Chemical Hazard](image)

818-541C

Danger: Toxic Chemical Hazard
## Table of Contents

### Important Safety Information

#### WARNING

1. Check the length of the driveline to ensure there is a minimum gap of 2 inches (50 mm) in the shortest position. **NEVER ALLOW THE DRIVELINE TO BUMP THE TUGGERS**.

### ATTENTION

1. Do not leave the spreader unattended when it is in operation. Always use the spreader in a safe and controlled manner. Do not allow the spreader to contact any working equipment. Always ensure that the spreader is positioned in a safe and secure area.

### 818-541C

**Warning: Driveline Hazard**

![Image of spreader with warning label]

---

**Note:** The images and text are placeholders and do not represent the actual content of the document. The document appears to be a safety manual for Land Pride PFS4000, PFS5060 & PFS8010 Pendulum Spreaders with a focus on safety information and warnings. The specific warnings and instructions are covered in the text, but the exact details are not provided here.
**DANGER**

**THROWN OBJECT / ROTATING PADDLES HAZARD**

To prevent serious injury or death:

- Keep away from discharge area and rotating paddles during operation.
- Keep others away.
- Disconnect and lockout power source BEFORE adjusting or servicing.
- DO NOT point discharge towards people, animals, or buildings when operating.
- Keep hands, feet, hair, and clothing away from moving parts.

---

**818-539C**

Danger: Thrown Object / Rotating Paddles Hazard
Important Safety Information

Table of Contents

308.004
Danger: Pinch Point Hazard

311.415
Danger: Guard Missing

311.416
Danger: Rotating Driveline
Land Pride welcomes you to the growing family of new product owners. This Pendulum Spreader 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 implement.

**Application**
The Land Pride's PFS4000, PFS5060 and PFS8010 are professional pendulum-type seeder/broadcast spreaders that provide maximum spreading accuracy, ease of operation and simple calibration. The PFS4000 is designed for Category I 3-point hitch mounting, PFS5060 is designed for Category I & II 3-point hitch mounting and PFS8010 is designed for Category II 3-point hitch mounting. They are capable of spreading seed, sand, salt, top dressings, prilled/granular fertilizer, lime, and most all other types of granular materials at delivery rates ranging from 4 to 890 lbs/acre with effective spread widths ranging from 20’ to 46’ (Depending on material). Optional spouts are available for narrow effective spread widths ranging from 6’ to 14’ and vineyard/orchards banding on rows only 3’ to 33’ overall width.

Each of these models offer specific hopper capacities with the PFS4000 at 925 lbs, PFS5060 at 1,150 lbs or 1,393 lbs with optional extension and PFS8010 at 2,040 lbs or 2,522 lbs with optional extension or 2,998 lbs with larger optional extension. (Capacity is based on average weight of granular fertilizer.)

The precision spread pattern and range of hopper capacities make the Land Pride's Fertilizer Spreaders well suited for applications on vineyards, orchards, farms, golf courses, park systems, athletic fields, and large campuses. They also work well for smaller municipal or commercial applications of salt and sand for snow and ice control.

See “Specifications & Capacities” on page 45 and “Features & Benefits” on page 46 for additional information and performance enhancing options.

### 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 forward in the direction the machine will operate while in use unless otherwise stated.

### Definitions

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

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

### Owner Assistance
The dealer should complete the Online Warranty Registration at the time of purchase. This information is necessary to provide you with quality customer service.

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

The parts on your Pendulum Spreader have been specially designed and should only be replaced with genuine Land Pride parts. Therefore, should your spreader require replacement parts go to your Land Pride dealer.
Serial Number

For quick reference and prompt service, record model and serial number on the inside cover page and again on the warranty page. Always provide model number and serial number when ordering parts and in all correspondences with your Land Pride dealer. For location of your serial number plate, see Figures 1 & 2.

Further Assistance

Your dealer wants you to be satisfied with your new Pendulum Spreader. 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 any problems you have with your implement with your dealership service personnel so they can address the problem.
2. If you are still not satisfied, seek out the owner or general manager of the dealership, explain the problem and request assistance.
3. For further assistance write to:

   Land Pride Service Department
   1525 East North Street
   P.O. Box 5060
   Salina, Ks. 67402-5060

   E-mail address
   lpservicedept@landpride.com
Tractor Requirements

WARNING
To avoid serious injury or death:
Lightweight tractors with rear attached implements may need weights added to the front to maintain steering control. Consult your tractor Operator’s Manual to determine proper weight requirements and maximum weight limitations.

Minimum Horsepower\(^1\) \(6\) hp
Minimum Tractor Weight \(\text{See Warning Above}\)

3-Point Hitch Type:
- PFS4000 \(\text{Cat. I}\)
- PFS5060 \(\text{Cat. I inside & Cat. II outside the frame}\)
- PFS8010 \(\text{Cat. II}\)

Rear Power Take-Off Speed \(540\) rpm
Power Take-Off Shaft Type \(1\ 3/8"-6\) Spline
Hydraulic Outlet\(^2\) \(\text{Single Outlet}\)

Notes:
\(^1\) Horsepower required to power the drive unit only.
\(^2\) Required for optional PFS5060 & PFS8010 Hydraulic Gate Kit only.

Assembly & Set-Up

This Pendulum Spreader will require some assembly before the unit can be attach to the customer’s tractor. Read and understand this Operator’s Manual before assembling the spreader. An understanding of how the unit works will aid in the assembly and setup.

Torque Requirements

Refer to “Torque Values Chart for Common Bolt Sizes” on page 48 to determine correct torque values when tightening hardware.

Pendulum Flange Assembly

Refer to Figure 1-1:

1. Apply blue loctite (not permanent loctite) to M12-10.9 x 65 (2 1/2") bolts (#4). Loctite to be supplied by the customer.
2. Attach flange (#2) to drive unit flange (#1) with M12-10.9 x 65 (2 1/2") bolts (#4), flat washers (#3) and special square nuts (#5). Screw bolts onto nuts only 3 or 4 complete 360\(^0\) turns. Do not tighten at this time.

Pendulum Spout Assembly

Refer to Figure 1-2:

1. Rotate pendulum spout (#1) 90 degrees counterclockwise and insert into flange opening (#2).
2. Rotate pendulum spout 90 degrees clockwise to upright position. Verify spout is properly seated and then tighten bolts (#3) to the correct torque.
Shaft Shield Assembly

Refer to Figure 1-3:

1. Position shaft shield (#1) with hole in shield up.
2. Center shaft shield over drive shaft and attach shield to drive unit with three #10 x 3/4" self tapping screws (#3) and fender washers (#4). Tighten self tapping screws.
3. Position regulation bar (#5) with numbers on bar in front of adjusting nut and facing to the left
4. Rotate front of regulation bar (#5) away from drive unit and hook end of bar to gate fork ‘A’
5. Push on regulation bar until end of adjusting nut is against drive unit housing.

MIN, MID, & MAX Decal Placement

Refer to Figure 1-4:

If the three (Max., Mid., & Min) decals are include, peel their backing paper and place them on the drive unit as noted below.

1. Place “Max.” decal above the angle adjustment cover on the smooth flat area provided.
2. Place “Min.” decal below the angle adjustment cover on the smooth flat area provided.
3. Place “Mid.” decal in-between the “Max.” and “Min.” decals as shown.

The drive unit is now ready to be assembled to the main frame. Continue as follows:

- Go to page 12 for PFS4000 Assembly & Set-Up.
- Go to page 14 for PFS5060 Assembly & Set-Up.
- Go to page 17 for PFS8010 Assembly & Set-Up.
The following instructions are for the PFS4000 model. See page 14 for PFS5060 and page 17 for PFS8010. See page 10 for drive unit assembly instructions.

**Drive Unit Assembly to Main Frame**

Refer to Figure 2-1:

1. Attach hitch pins (#7) to the main frame with 3/4" hex nuts (#8). Tighten nuts to the correct torque.

**IMPORTANT:** Drive Unit assembly is heavy and requires 2 people to safely install to the main frame. Do not tighten nuts (#4 & #6) until after hopper is installed. This will allow for proper alignment of hopper to drive unit assembly.

2. Insert M12 x 50 (2") bolts (#5) into front holes and M12 x 40 (1 1/2") bolts (#3) into the back holes of drive frame (#1).

**NOTE:** If rear bolts (#3) are difficult to install into slots “A” in mounting plate (#2), pivot rear of drive unit up and down to insert bolts through slots “A”.

3. Attach drive frame (#1) to inside slots “B” first and outside slots “A” last in mounting plate (#2) with hex nuts (#4 & #6). Do not tighten hex nuts at this time.

---

**Hopper Assembly**

Refer to Figure 2-2:

1. Rotate hopper until mounting holes in hopper are in alignment with main frame mounting holes (Land Pride Logo will be to the back).

2. Lower hopper (#2) onto main frame (#1) until centered and resting above drive unit flange (#9).

3. Attach hopper sides first to the main frame with M10 x 30 (1 3/16") round head screws (#6) and hex nuts (#7). Draw nuts up snug, do not tighten at this time.

4. Adjust drive unit forward or rearward until hole in the front of the hopper mates with hole in the 3-point clevis bracket (#8) and hopper bottom is centered over the drive unit flange (#9).

5. Attach hopper front to 3-point clevis bracket (#8) with M10 x 30 (1 3/16") round head screw (#3), flat washer (#4) and hex nut (#5) as shown.

6. Tighten hopper mounting nuts (#5 & #7) to the correct torque.

7. Refer to Figure 2-1: Make final adjust to the position of the drive unit and tighten hex nuts (#4 & #6) to the correct torque.
Gate Lever Assembly

Refer to Figure 2-3:

1. Attach gate lever mounting bracket (#2) to spreader main frame bracket (#5) with M10 x 25 (1") hex screws (#1), flat washers (#3) and hex nuts (#4). Draw nuts up snug, do not tighten.

2. Attach gate handle (#6) to gate lever (#7).

3. Attach gate lever (#7) to mounting bracket (#2) with M10 x 80 (3 1/8") screw (#12), nylon bushing (#11), 40 x 30 x 10 mm compression spring (#10), flat washer (#9) and self locking nut (#8). Draw nut up snug, do not tighten.

4. Spread fork on end of regulation bar (#15) and attach gate lever to regulation bar with M6 x 25 (1") hex head bolt (#14) and hex nylock nut (#13).

5. See Detail “A”: Draw hex nut (#14) up until bolt has approximately 3/32" movement. Make sure nylock nut has full thread engagement.

6. Adjust height of mounting bracket (#2) as needed to level regulation bar (#15).

7. Tighten hex nuts (#4) to the correct torque.

8. Tighten nylock nut (#8) until lever (76) has enough resistance to not move during field use. Some adjustment to nut (#8) may be required during field application. Make sure nylock nut has as a minimum full thread engagement.

9. Turn to page 20 for “Driveline Assembly and Set-Up” instructions.
The following instructions are for the PFS5060 model. See page 12 for PFS4000 and page 17 for PFS8010 models. See page 10 for drive unit assembly instructions.

**Drive Unit Assembly to Main Frame**
Refer to “Section 1: Drive Unit Assembly” on page 10 for instructions on how to assemble the drive unit.

Refer to Figure 3-1:

**IMPORTANT:** Drive Unit assembly is heavy and requires 2 people to safely install to the main frame. Do not tighten nuts (#4 & #6) until after hopper is installed. This will allow for proper alignment of hopper to drive unit assembly.

1. Insert M12 x 50 (2") bolts (#5) into front holes and M12 x 40 (1 1/2") bolts (#3) into the back holes of drive frame (#1).

   **NOTE:** If rear bolts (#3) are difficult to install into slots “A” in mounting plate (#2), pivot rear of drive unit up and down to insert bolts through slots “A”.

2. Attach drive frame (#1) to inside slots “B” first and outside slots “A” last in mounting plate (#2) with hex nuts (#4 & #6). Do not tighten hex nuts at this time.

![Drive Unit Assembly](image)
Hopper Support Frame Assembly

Refer to Figure 3-2:

1. Position support rods (#1) with bend ends up and attach to the main frame with M10 x 30 (1 3/16") carriage bolts (#2) and hex nuts (#3). Draw hex nuts up snug, do not tighten at this time.

2. Attach hopper support ring (#4) to support rods with M10 x 30 (1 3/16") carriage bolts (#5) and nuts (#3). Draw nuts up snug, do not tighten at this time.

3. Attach hopper support ring (#4) to the front of the main frame with M10 x 30 (1 3/16") carriage bolts (#6) and hex nuts (#7). Tighten hex nuts (#7) to the correct torque.

4. Push down on the hopper ring at the support rod and tighten hex nuts (#3) at the top and bottom of that support rod.

5. Repeat step 4 at each support rod while tightening the remaining hex nuts (#3).
Hopper Assembly

Refer to Figure 3-3:
1. Orient hopper (#1) with decals facing front as shown and lower hopper onto hopper support ring (#6). Make certain drive unit (#5) is centered under the hopper bottom. (Land Pride Logo is on the back.)

NOTE: Make certain hopper is fully seated against hopper support ring on all four sides before continuing with step 2 below.

2. Refer to Figure 3-1 on page 14: Make any final adjustment to the drive unit and then tighten hex nuts (#4 & #6) to the correct torque.
3. If included, install optional hopper extension at this time. See "Hopper Top Extension Kit" on page 26 for installation instructions.
4. Using holes in hopper support ring as a template, slowly drill 10 mm (13/32") holes up from the bottom of the support ring through the hopper flange.

5. Attach hopper to hopper support ring with M10 x 60 (2 3/8") round head screws (#2), flat washers (#3) and hex head nuts (#4). Do not tighten nuts until after all bolts and nuts have been installed.
6. Hand tighten nuts (#4) with a hand wrench. Do not use a power wrench.

Gate Lever Assembly

Refer to Figure 3-4:
1. Insert gate lever (#1) into mounting bracket (#2) as shown and secure with compression spring (#3), flat washer (#4) and M16 self locking hex nut (#5). Draw nut up snug, do not tighten.
2. Spread fork on end of regulation bar (#6) and attach gate lever (#1) to regulation bar with M6 x 25 (1") hex bolt (#7) and hex nut (#8).
3. See Detail “A”: Draw hex locknut (#8) up until bolt has approximately 3/32" movement.
4. Attach handle (#11) to gate lever extension (#10).
5. Attach gate lever extension (#10) to gate lever (#1) with PVC sleeve (#9).
6. Tighten nylock nut (#5) until lever (#1) has enough resistance to not move during field use. Some adjustment to nut (#5) may be required during field application. Make sure nylock nut has full thread engagement.
7. Turn to page 20 for “Driveline Assembly and Set-Up” instructions.
The following instructions are for the PFS8010 model. See page 12 for PFS4000 and page 14 for PFS5060 models. See page 10 for drive unit assembly instructions.

**Connecting Hooks & Hook-Up Bar**  
*Refer to Figure 4-1:*

1. Orient shaped hook-up bar (#4) with guide lug “A” on the right side as shown.
2. Insert shaped hook-up bar into slots “B” & “C” with circular guide plates outside the slots.
3. Hold hook-up bar against top of slots while attaching hooks (#1) to the main frame with M10 x 35 (1 3/8”) bolts (#2) and self locking hex nuts (#3).
4. Make certain right hand hook is positioned under guide lug “A” and then tighten self locking nuts (#3) to the correct torque.

**Drive Unit Assembly to Main Frame**  
*Refer to “Section 1: Drive Unit Assembly” on page 10 for instructions on how to assemble the drive unit.*

*Refer to Figure 4-2:*

**IMPORTANT:** Drive Unit assembly is heavy and requires 2 people to safely install to the main frame. Do not tighten nuts (#4 & #6) until after hopper is installed. This will allow for proper alignment of hopper to drive unit assembly.

1. Insert M12 x 50 (2”) bolts (#5) into front holes and M12 x 40 (1 1/2”) bolts (#3) into the back holes of drive frame (#1).

**NOTE:** If rear bolts (#3) are difficult to install into holes “A” in mounting plate (#2), pivot rear of drive unit up and down to insert bolts through holes “A”.

2. Attach drive frame (#1) to holes “B” and “A” in mounting plate (#2) with hex nuts (#4 & #6). Do not tighten hex nuts at this time.
3. Press end caps (#7) into the tube ends.
Hopper Support Ring Assembly
Refer to Figure 4-3:

1. Attach long support brackets (#2) with bent ends up to the main frame rear tabs with M10 x 30 (1 3/16") carriage bolts (#7), flat washers (#8) and hex nuts (#9). Draw nuts up snug, do not tighten.

2. Attach hopper support ring (#1) to main frame support saddle (#10) with M10 x 70 (2 3/4") carriage bolts (#4). Tap bolt heads into support rings with hammer. Secure bolts with flat washers (#5) and hex nuts (#6). Draw nuts (#6) up snug, do not tighten.

3. Attach long support brackets (#2) to hopper support ring (#1) with M10 x 30 (1 3/16") carriage bolts (#7), flat washers (#8) and nuts (#9). Draw nuts up snug, do not tighten.

4. Attach short support brackets (#3) with bent ends up to the main frame front tabs and to hopper support ring (#1) with M10 x 30 (1 3/16") carriage bolts (#7), flat washers (#8) and hex nuts (#9). Draw nuts up snug, do not tighten.

5. Tighten nuts (#6 & #9) to the correct torque in the following sequential order:
   a. Press down on the hopper support ring at the back to make certain the rear support brackets are in their lowest position in the mounting slots and tighten nuts (#9) in the bottom rear tabs.
   b. Continue pressing down on the support ring at the back and tighten nuts (#9) at the top of the rear support brackets.
   c. Tap on heads of bolts (#4) to seat them into the support ring (#1).
   d. Center bolts (#4) in the support saddle slots and tighten middle nut (#6).
   e. Tighten outside two nuts (#6).
   f. Tighten nuts (#9) at the top and bottom of the front support brackets (#3).
Section 4: PFS8010 Assembly & Set-Up

Table of Contents

Hopper Assembly
Refer to Figure 4-4:

1. Orient hopper (#1) with decals facing front as shown and lower hopper onto hopper support ring (#6). Make sure drive unit (#5) is centered under the hopper bottom. (Land Pride Logo is on the back.)

   NOTE: Make certain hopper is fully seated against hopper support ring on all four sides before continuing with step 2 below.

2. Refer to Figure 4-2 on page 17: Move drive unit forward and backward to make certain hopper is centered and fully seated on drive unit. Tighten hex nuts (#4 & #6) to the correct torque.

3. If included, install optional hopper extension at this time. See “Hopper Top Extension Kit” on page 26 for installation instructions.

4. Using holes in hopper support ring as a template, slowly drill 10 mm (13/32") diameter holes up from the bottom through the hopper flange.

5. Attach hopper to hopper support ring with M10 x 80 (3 1/8") round head screws (#2), flat washers (#3) and hex head nuts (#4). Do not tighten nuts until after all bolts and nuts have been installed.

6. Position flat face of bolt facing forward and tap heads in before tightening nuts. Hand tighten nuts (#4) with a hand wrench. (Do not use power wrench.)

Gate Lever Assembly
Refer to Figure 4-5:

1. Insert gate lever (#1) into mounting bracket (#2) as shown and secure with compression spring (#3), flat washer (#4) and self locking hex nut (#5). Draw nut up snug, do not tighten.

2. Spread fork on end of regulation bar (#6) and attach gate lever (#1) to regulation bar (#6) with M6 x 25 (1") hex bolt (#7) and hex nut (#8). See Detail “A”: Draw hex locknut (#8) up until bolt has approximately 3/32” movement.

3. Attach handle (#11) to gate lever extension (#10).

4. Attach gate lever extension (#10) to gate lever (#1) with PVC sleeve (#9).

5. Tighten nylock nut (#5) until lever (#1) has enough resistance to not move during field use. Some adjustment to nut (#5) may be required during field application. Make sure nylock nut has full thread engagement.

6. Turn to page 20 for “Driveline Assembly and Set-Up” instructions.
Tractor 3-Point Hook-Up

**WARNING**

To avoid serious injury or death:

- Always shut tractor down using “Tractor Shutdown Procedure” provided in this manual before dismounting tractor.
- Lightweight tractors with rear attached implements may need weights added to the front to maintain steering control. Consult your tractor Operator’s Manual to determine proper weight requirements and maximum weight limitations.

**IMPORTANT:** The lower 3-Point arms must be stabilized to prevent side-to-side movement over 2”. Most tractors have sway blocks or adjustable chains for this purpose.

**IMPORTANT:** Do not back into gate lever while hooking-up PFS4000 spreader. If needed, shorten gate lever by cutting off end of lever.

**NOTE:** See “Tractor Requirements” on page 10 to determine correct hitch category requirement. Use bushings when connecting a Cat. II 3-point hitch to Cat. I hitch pins. (Bushing supplied by customer.)

### PFS4000 & PFS5060 3-Point Hook-Up

Refer to Figure 5-1:

1. Be careful not to back into the gate lever while hooking-up tractor to Pendulum Spreader. If needed, shorten gate lever by cutting off end of lever and reinstalling handle to the cut-off end.
2. While backing-up to the spreader, use tractor’s 3-point hydraulic controls to align lower hitch holes with spreader hitch pins.
3. Engage tractor park brake or place tractor gearshift in park position, shut tractor engine off and remove key before dismounting from tractor.
4. Attach tractor’s lower 3-point lift arms to spreader hitch pins. Secure lower arms with heavy duty 7/16” linchpins. (Linchpins supplied by customer.)
5. Connect top center link hitch hole to the spreader’s upper pivot mounting holes (#4) with hitch pin. Secure hitch pin with a hairpin or linchpin. (Hitch pin and hairpin or linchpin supplied by customer.)
6. Make certain lower hitch arms are stabilized.
7. Return to tractor and slowly operate controls up and down to check for clearance. Make certain tractor tires and drawbar do not interfere with spreader gate lever, main frame and hopper. If needed, move or remove tractor drawbar and shorten gate lever by pushing down on lever handle.
8. Adjust 3-point arms and center link to level spreader. Final adjustments will be made later on page 30.

### PFS8010 3-Point Hook-Up

Refer to Figure 5-2 on page 21:

1. Slowly back tractor to the Pendulum Spreader while using tractor’s 3-point hydraulic controls to align lower hitch holes with spreader hook-up bar (#1).
2. Engage tractor park brake or place tractor gearshift in park position, shut tractor engine off and remove key before dismounting from tractor.
3. Attach tractor’s lower 3-point lift arms to spreader hook-up bar. Secure lower arms with heavy duty 7/16” linchpins. (Linchpins supplied by customer.)
4. Connect top center link hitch hole to the spreader’s upper pivot mounting holes (#4) with hitch pin. Secure hitch pin with a hairpin or linchpin. (Hitch pin and hairpin or linchpin supplied by customer.)
5. Make certain lower hitch arms are stabilized.
6. Return to tractor and slowly operate controls up and down to check for clearance. Make certain tractor tires and drawbar do not interfere with spreader gate lever, main frame and hopper. If needed, move or remove tractor drawbar and shorten gate lever by pushing down on lever handle.
7. Adjust 3-point arms and center link to level spreader. Final adjustments will be made later on page 30.
8. Verify bolts (#5) are tightened to the correct torque.
Driveline Installation

**DANGER**

*To avoid serious injury or death:*

- Do not engage power take-off while hooking-up or unhooking the driveline, or while someone is standing near the driveline. A person’s body and/or clothing can become entangled in the driveline.

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

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

**WARNING**

*To avoid serious injury or death:*

- Always shut tractor down using “Tractor Shutdown Procedure” provided in this manual before dismounting tractor.

- Do not operate a broken or bent driveline. Such a driveline will break apart while rotating at high speeds and can cause serious injury or death. Always remove the implement from use until the damaged driveline can be repaired or replaced.

**IMPORTANT:** The driveline is bolted to the spreader drive unit shaft and coupled to the tractor power take-off shaft with a push pin:

1. Park tractor with Pendulum Spreader on a level surface. Raise spreader to align drive unit input shaft level with tractor power take-off shaft. Securely block spreader at this height to keep unit from lowering while attaching the driveline.

2. Place gear selector in park, shut tractor engine off, set park brake and remove switch key.

3. Lubricate inner driveline profile as instructed on page 44 before hooking-up the driveline.

4. Remove plastic cover on input shaft of drive unit.

5. Align yoke on inner driveline with drive unit shaft and push yoke partway onto the drive unit shaft until bolt holes in driveline yoke and drive unit shaft align.

**NOTE:** Remove paint from inside of yoke bore with an emery cloth before attaching driveline to the spreader’s input shaft.
Section 5: Driveline Assembly & Set-Up

Refer to Figure 5-3 & Figure 5-4:

6. Secure driveline yoke to drive unit shaft with M10-8.8 x 70 (2 3/4") bolt (#2) and hex nut (#3). Tighten nut to the correct torque.

7. Align yoke spline on the outer driveline with tractor power take-off shaft splines.

8. Push in on push-pin and push yoke partway onto the drive unit shaft.

9. Release push-pin and continue to push driveline yoke forward until push-pin locks in place.

10. Move driveline yoke back and forth several times to make sure push-pin has locked in place and cannot slip off the power take-off shaft.

Check Driveline Collapsible Length

Refer to Figure 5-5:

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

1. Make sure driveline is installed properly before checking driveline collapsed length. Refer to "Driveline Installation" instructions on page 21.

2. Measure ("B" dimension) back from universal joint shield to end of outer driveline shield as shown in Figure 5-5. If measurement is less than 1", then shorten driveline using instructions provided below.

Shorten Driveline Length

Refer to Figure 5-5:

Be sure to first check driveline collapsed length as instructed above. If required, shorten driveline as follows:

1. Unhook driveline from tractor power take-off shaft and pull outer and inner drivelines apart.

2. Reattach outer driveline to tractor power take-off shaft. Pull on inner and outer drivelines to be sure universal joints are properly secured.

3. Hold inner and outer drivelines parallel to each other:
   a. Measure 2" ("B" dimension) back from outer driveline universal joint shield and make a mark at this location on the inner driveline shield.
   b. Measure 2" ("B" dimension) back from the inner driveline universal joint shield and make a mark at this location on the outer driveline shield.

4. Remove driveline and safety chains from tractor and drive unit.

5. Measure from end of inner shield to scribed mark ("X" dimension). Cut off inner shield at the mark. Cut same amount off the inner shaft ("X1" dimension).

6. Measure from end of outer shield to scribed mark ("Y" dimension). Cut off outer shield at the mark. Cut same amount off the outer shaft ("Y1" dimension).

7. Remove all burrs and cuttings.

8. Continue with "Check Driveline Maximum Length".
Check Driveline Maximum Length

Refer to Figure 5-6:
The driveline maximum allowable length must, when fully extended, have a minimum overlap of the profile tubes by not less than 4” with both inner and outer profile tubes free length being equal.

1. Apply multi-purpose grease to the inside of the outer shaft and reassemble the driveline.
2. Assemble the two driveline profiles together with just 4" overlapping of the profile tubes as shown below. Once assembled, measure and record the maximum allowable length for future reference. Record maximum allowable length here: ________
3. Reattach driveline to tractor power take-off and drive unit shaft following steps 5 to 10 on page 21.

Check Driveline Interference

1. Start tractor and raise Pendulum Spreader just enough to remove support blocks from under the spreader.
2. Slowly engage tractor hydraulic 3-point control lever to lower spreader while checking for all of the following at the same time:
   • Sufficient clearance between drawbar and spreader driveline. Move drawbar ahead, aside or remove if required.
   • PFS8010 only: Sufficient clearance between driveline and shaped hook-up bar.

3. With power take-off disengaged and stopped, raise implement fully up to make the following driveline checks below. If driveline exceeds any of the limits listed, set tractor 3-point lift limiter at a height that will keep the driveline within its lift limits or disengage power take-off and wait for driveline to stop rotating before exceeding the lift limits.
   • Driveline does not exceed 30° up. (See Figure 5-7)
   • Driveline yoke angle at either end does not exceed 35° off center line of driveline. (See Figure 5-8)
   • Driveline does not exceed maximum allowable length recorded in step 2 under “Check Driveline Maximum Length” on page 23.

IMPORTANT: Avoid premature driveline breakdown. A driveline that is operating must not exceed an angle of 30 degrees up or down and yoke angle must not exceed 35° off center line of driveline while operating 3-point lift.
PFS5060 Hydraulic Gate Kit
309-126A HYDRAULIC OPENING SYSTEM
Refer to Figure 6-1:

1. Remove nut (#3) from drive unit stud (#2).
2. Attach mounting bracket (#1) to stud (#2) with existing nut (#3). Tighten nut to the correct torque.

3. Insert bushing (#7) into mounting hole in base of hydraulic cylinder (#4).
4. Attach hydraulic cylinder (#4) to cylinder mounting bracket (#1) with M8 x 30 (1 3/16") bolt (#5), flat washers (#6), and self locking nut (#8). Tighten self locking nut to the correct torque.
5. Insert M12 x 60 (2 3/8") hex head bolt (#10) through end hole in hydraulic cylinder rod (#4) and screw jamb nut (#11) part way onto bolt (#10).
6. Insert bolt (#10) into bottom hole in lever arm (#9) and screw self locking nut (#12) onto bolt (#10) until nut has full thread engagement. Tighten jam nut (#11) against lever arm.
7. Attach hydraulic hose (#14) to double acting hydraulic cylinder (#4). Rotate elbow end of hose up 45° and tighten elbow to hydraulic cylinder port.
8. Wrap hydraulic hose around main frame as needed to keep hose out of driveline and cylinder pinch points. Attach coupling end of hydraulic hose to tractor duplex outlet.

PFS8010 Hydraulic Gate Kit
309-130A HYDRAULIC OPENING SYSTEM
Refer to Figure 6-2:

1. Bolt adjusting bracket (#13) to cylinder mounting bracket (#14) with M8 x 20 (7/8") hex socket flat head screws (#1A & #1B), flat washers (#6), and self locking nuts (#16). Draw nuts up snug, do not tighten.
2. Remove nut (#3) from drive unit stud (#2).
3. Attach mounting bracket (#14) to stud (#2) with existing nut (#3). Tighten nut the correct torque.
4. Insert bushing (#7) into mounting hole in base of hydraulic cylinder (#4).
5. Attach hydraulic cylinder rod (#4) to bracket (#13) with M8 x 30 (1 3/16") bolt (#5), flat washers (#6), and self locking nut (#8) as shown. Tighten self locking nut to the correct torque.
6. Loosen compression spring nut (#18) until lever (#9) moves freely.
7. Insert M12 x 60 (2 3/8") hex head bolt (#10) through end hole in hydraulic cylinder rod (#4) and screw jamb nut (#11) part way onto bolt (#10).
8. Insert bolt (#10) into bottom hole in lever arm (#9) and screw self locking nut (#12) onto bolt (#10) until nut has full thread engagement. Tighten jamb nut (#11) against lever arm.
9. Attach hydraulic hose (#17) to double acting hydraulic cylinder (#4). Rotate elbow end of hose up 35° and tighten elbow to hydraulic cylinder port.
10. Wrap hydraulic hose around main frame as needed to keep hose out of driveline and cylinder pinch points. Attach coupling end of hydraulic hose to tractor duplex outlet.
11. Refer to Figure 6-4: Set regulation bar adjusting nut (#19) on “0” as shown.
12. With tractor hydraulic control lever, fully extend hydraulic cylinder (#4).
13. Push regulation bar adjusting nut against drive unit housing.
14. Refer to Figure 6-5: Check gate openings (#20) in hopper bottom. The openings should be fully closed and not open as shown in the illustration.
15. Refer to Figure 6-4: If gate openings are not fully closed, adjust regulation bar adjusting nut (#19) until gates are fully closed.
16. Refer to Figure 6-2 on page 24: Secure adjusting bracket (#13) to mounting bracket (#14) by tightening hex socket flat head screw (#1A) first and then (#1B).
17. If screw (#1B) will not tighten, remove self locking nut (#12) and hex nut (#3). Remove cylinder (#4), adjusting bracket (#13) with mounting bracket (#14) from stud (#2). Tighten hex socket flat head screw (#1B) to the correct torque.
18. Reattach mounting bracket to stud (#2) with nut (#3) and cylinder (#4) to arm (#9) with locking nut (#12). Tighten nuts to the correct torque.

**PFS5060 & PFS8010 Agitator Extension Kit**

**Refer to Figure 6-3:**

**IMPORTANT:** Do not use Agitator Extension Kit when spreading granular or prilled fertilizer. The agitator extension is only intended for material that does not easily flow through gate openings such as damp fertilizer, lime, etc.

**NOTE:** Assembly of spring retainer (#2) is easier if agitator (#3) is removed from hopper and drive unit.

**CAUTION**

To avoid minor or moderate injury:
Keep body and body extremities clear of recoiling forces while attaching spring retainer (#2) to agitator (#3).

1. For easier installation, loosen nuts (#4) and remove agitator (#3) from drive unit.

**NOTE:** Some grinding on the sides of ear (A1) may be required to fit slot (A2) over ear (A1) properly.

2. One of the three ears (A1, B1 & C1) is slightly thicker and one of the three slots (A2, B2 & C2) is slightly wider. For instructional purposes, mate the thicker ear (A1) with the wider slot (A2). See Note above.

3. Install slots (A2, B2 & C2) over ears (A1, B1 & C1) respectively as shown.

4. Secure extension agitator (#1) to agitator (#3) with spring retainer (#2) as follows:
   a. Pivot extension Agitator (#1) at ear A1 by raising the far side from ear A1 up.
   b. Catch center of retainer (#2) under ear (A1).
   c. Snap spring retainer end (B3) under ear (B1).
   d. With a large pair of pliers, snap spring retainer end (C3) under ear (C1).

5. Install agitator (#3) to drive unit output shaft (#5) and tighten hex nuts (#4) to the correct torque.
Small Seed Kit
309-136A SMALL SEED LIMITER KIT

Refer to Figure 6-7:
The Small Seed Kit closes the front two gate openings "B" to allow fine metering of small seed through the back center gate opening. Examples of small seed: Clovers, Granular Pesticides, Alfalfa, Bermuda Seed, etc.

1. Loosen both nuts (#1) and remove agitator (#2) from agitator shaft (#6). Save for reuse.
2. Remove agitator cap (#3).
3. Install seed limiter plate (#4) over agitator shaft (#6). Make sure limiter plate ears "A" are inserted into holes "B".
4. Replace agitator cap (#3) and secure cap with hose clamp (#5).

Hopper Top Extension Kit
309-127A PFS5060 TOP EXTENSION 240 LB
309-128A PFS8010 TOP EXTENSION 480 LB
309-129A PFS8010 TOP EXTENSION 960 LB

Refer to Figure 6-8:

NOTE: It may be necessary to clamp hopper extension against hopper and hopper support ring to start washers and nuts.

NOTE: Install hopper extension with tall side facing forward. All four sides are equal length on hopper extension part number 309-129A.

NOTE: Use foam tape with adhesive backing or silicone caulk between hopper and hopper extension if concerned product will seep at joint line.

1. Remove bolts, washers and nuts (#1, #2 & #3).
2. Center hopper extension (#4) on hopper with tall side facing forward.
3. Drill 10 mm (13/32") diameter holes up from the bottom through the hopper extension.
4. Attach hopper extension with existing M10 bolts (#1), flat washer (#2) and hex nuts (#3).
5. PS8010 only: Position flat face of bolts facing forward and tap bolt heads in before tightening.
6. Hand tighten nuts (#3) with a hand wrench. Do not use a power wrench.
Spout Accessories
Refer to Figures 6-9 to 6-12:

**IMPORTANT:** Use only genuine Land Pride spouts, special screws and nuts when replacing or changing spouts.

**IMPORTANT:** Keep spout flange hardware tightened to proper torque or damage will result to spout.

The Pendulum Spreader is supplied with pendulum spout number 309-138A (See Figure 6-9). It is capable of spreading granular fertilizer 20’ to 46’ effective spread widths (Depending on material). See explanation of “Effective Spread Width” on page 32.

Three other accessory spouts may be purchased with different spread patterns for specific applications.

- Land Pride Spout No. 309-131A is for placing product on a row or rows with a banding width 2’-4” to 14’-8” and +/- 9” row widths.
- Land Pride Spout No. 309-132A is for spreading product in a narrow 6’-6” to 13’-1” effective spread width.
- Land Pride Spout No. 309-133A is for placing product on a row or rows with a banding width 6’-6” to 32’-9”. and +/- 18” row widths.

**NOTE:** Banding width can be changed to directly place material on the vineyard rows by raising or lowering the 3-point arms, changing power take-off speed and changing accessory spouts.
Operating Checklist

Hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training involved in the operation, transportation, maintenance and storage of the spreader. Therefore, it is absolutely essential that no one operates the spreader unless they are age 16 or older and have read, fully understood, and are totally familiar with the Operator’s Manual. Make sure the operator has paid particular attention to:

- Important Safety Information, page 1
- Sections 1 - 5: Assembly & Set-Up, page 8
- Section 6: Options & Accessories, page 24
- Section 7: Operating Procedures, page 28
- Section 8: Adjustments, page 34
- Section 9: Maintenance & Lubrication, page 42

Perform the following inspections before using your spreader.

### Operating Checklist

<table>
<thead>
<tr>
<th>Check</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make certain spreader is hooked to the tractor properly. Refer to “Tractor 3-Point Hook-Up”.</td>
<td>20</td>
</tr>
<tr>
<td>Make certain spreader is level and 3-point control lever is set at the correct discharge height. Refer to “Leveling &amp; Setting Spreader Height”.</td>
<td>30</td>
</tr>
<tr>
<td>Make certain hopper is adjusted to discharge product at the correct rate. See <em>Set Hopper Discharge Rate</em>.</td>
<td>31</td>
</tr>
<tr>
<td>Check pendulum to make certain it is not plugged, worn, cracked or broken. See “General Maintenance”.</td>
<td>42</td>
</tr>
<tr>
<td>Make certain spreader is properly lubricated. Refer to “Lubrication” instructions.</td>
<td>43</td>
</tr>
<tr>
<td>Check spreader initially and periodically for loose bolts and pins Refer to Torque Values Chart.</td>
<td>48</td>
</tr>
</tbody>
</table>

### Safety Information

#### DANGER

To avoid serious injury or death:

- Do not allow anyone near the tractor or implement while operating. Stop operation if bystanders are too close. They can be hit by flying projectiles, become entangled in the equipment, or ran over.
- Do not engage power take-off while hooking-up or unhooking the driveline, or while someone is standing near the driveline. A person’s body and/or clothing can become entangled in the driveline.
- Do not allow anyone to climb inside the hopper for any reason. Serious injury or death can result from someone becoming entangled in the hopper.
- Keep away form the pendulum while machine is operating. Body extremities can become pinched or sheared causing serious bodily injury or death.
- Be careful not to hit solid objects with equipment in tow. Hitting solid objects can cause front of tractor to raise up suddenly, throw operator from his/her seat and/or cause loss of steering control.

#### WARNING

To avoid serious injury or death:

- Do not allow any person or animal inside the danger zone while pendulum is slinging product (within a radius of 35 yards from the spreader). Stop application immediately should anyone come inside the danger zone. Product thrown from the spreader can cause bodily injury or death.
- Do not operate and/or travel across inclines where tractor and/or implement can roll over. Consult your tractor’s manual for acceptable inclines the tractor is capable of traveling across.
- Lightweight tractors with rear attached implements may need weights added to the front to maintain steering control. Consult your tractor Operator’s Manual to determine proper weight requirements and maximum weight limitations.
Section 7: Operating Procedures

Keep Pendulum Spreader clean of rocks, tools and other debris that can damage the operation of the machine or be thrown causing bodily injury or death.

Do not pull equipment that is too heavy for hitch load rating. See Tow hitch capacity in Specifications on page 45. Equipment that is too heavy can damage spreader unit and raise front of tractor up causing loss of steering control.

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

Do not allow tractor and spreader to run unattended and never dismount from tractor with spreader operating. Always engage parking brake, shut off tractor and remove switch key before dismounting from tractor.

Always wear non-slip shoes, gloves, protective clothing, safety glasses and a breathing mask capable of filtering powders when cleaning, servicing, lubricating and filling your Pendulum Spreader to prevent injury to the body and/or injury from inhalation of product. Refer to chemical manufacturers’ labels for specific protective requirements.

Use a cab tractor with filters on the ventilation system or wear a breathing mask capable of filtering powders to prevent inhalation of product.

Always park Pendulum Spreader on a hard level surface and always empty hopper of product before disconnecting spreader from tractor.

Never carry riders on the implement or tractor. Riders can obstruct the operator’s view, interfere with control of the equipment, be pinched by moving components, become entangled in rotating components, be struck by objects, be thrown or fall from the equipment, etc.

Clear area of debris and other unforeseen removal objects before spreading product. Mark any potential hazards that cannot be removed such as tree stumps, post, rocks, holes and drop-offs with a visible flag.

Do not use implement as a man lift, work platform or as a wagon to carry objects. It is not properly designed or guarded for this use.

Transporting

WARNING
To avoid serious injury or death:

- When traveling on roadways, travel in such a way that other vehicles may pass you safely. Use LED lights, clean reflectors, and a slow moving vehicle sign that is visible from the back to warn operators in other vehicles of your presence. Always comply with all federal, state, and local laws.

- Select a safe ground speed when transporting. Never travel at a speed which does not allow adequate control of steering and stopping, and never exceed 20 mph (32.2 km/h) with attached equipment. Rough terrain requires a slower speed.

CAUTION
To avoid minor or moderate injury:
Empty hopper before transporting from site to site especially when transporting on public roads.

1. Make sure power take-off is disengaged before transporting from one location to another.
2. Be sure to reduce tractor ground speed when turning; and leave enough clearance so that the spreader does not contact obstacles such as buildings, trees or fences.
3. Select a safe ground speed when transporting from one area to another. When traveling on roadways, transport in such a way that faster moving vehicles may pass you safely.
4. When traveling over rough or hilly terrain, shift tractor to a lower gear.
5. The PFS4000 & PFS5060 Pendulum Spreaders are equipped with a towing hitch. Maximum towing capacity is 800 pounds with maximum tongue weight of 50 pounds.

IMPORTANT: Do not travel long distances with product in hopper or carry bags stacked on top of product in hopper. Doing so will cause product to compress resulting in improper discharge.
Leveling & Setting Spreader Height
1. Locate tractor and spreader on a flat level surface.
2. Lower spreader down to approximately 6" (15 cm) off the ground.
3. Engage tractor park brake or place tractor gearshift in park position, shut tractor engine off and remove key before dismounting from tractor.
Refer to Figure 5-1 on page 20:
4. Manually adjust either one of both of the tractor’s lower 3-point arms up or down until they are both an equal distance off the ground at the hitch pins.
5. Manually adjust tractor’s top center link until spreader is parallel to the ground from front to back as follows:
   • PFS4000:
     Measure from top of hopper cone at the front and back to ground. Adjust tractor’s top center link until these two measurements are equal.
   • PFS5060 & 8010: Refer to Figure 7-1 on page 30:
     Measure from bottom of hopper support ring at the front and back to ground. Adjust tractor’s top center link until these two measurements are equal. See Important Note below.
6. Raise spreader off the ground until bottom of spout end is 29 1/2" (75 cm) off the ground. Set tractor lift stop at this height.
7. Verify spreader is parallel to the ground with bottom of spout end 29 1/2" (75 cm) off the ground. If not, repeat steps 5-7.

IMPORTANT: DO NOT take parallel measurements from top of hopper extensions to the ground as they are not always equal in height front to back.

NOTE: DEPENDING ON THE TRACTOR, your spreader may not be able to level out and obtain the 29 1/2" (75 cm) spout height. Land Pride recommends keeping unit level with spreader at its highest possible position. Heights lower than 29 1/2" (75 cm) will effect spread width slightly. Adjust application pattern to keep half the spread width of material being spread.

Initial Adjustments and Checks

WARNING
To avoid serious injury or death:
- The spreader must be properly hitched to a tractor capable of handling a fully loaded hopper before loading hopper with product.
- Always wear non slip shoes, gloves, protective clothing, safety glasses and a breathing mask capable of filtering powders when cleaning, servicing, lubricating and filling your Pendulum Spreader to prevent injury to the body and/or injury from inhalation of product. Refer to chemical manufacturers’ labels for specific protective requirements.
- Always read and comply with all instructions and precautions on the label of the product being used.

NOTE: To spread product more uniformly and correctly, operate spreader only on calm (non windy) days with dry product (not humid) that does not have lumps.
1. Operate spreader empty to make sure pendulum is oscillating properly.
2. Stop spreader on a hard level surface, engage park brake, shut engine off and remove ignition key before dismounting from tractor.
3. Make certain hopper is parallel to the ground.
4. Check pendulum for cleanliness and wear. Clean pendulum if needed. Replace worn pendulum with genuine Land Pride parts only.
5. Make sure discharge gates open and close properly.
6. Close discharge gates.

**Set Hopper Discharge Rate**
1. Transport to the site to spread product.
2. Stop tractor and Pendulum Spreader on a hard level surface.
3. Make sure power take-off is disengaged and then lower spreader until it is resting on support blocks or on the ground.
4. Engage park brake, shut engine off and remove ignition key before dismounting from tractor.
5. Check driveline to make sure it has not come apart in the middle or loose from the power take-off shafts.
6. Determine material spread width in feet or meters and spout swing angle (Max., Mid, or Min) using Spread Width and Spout Angle in the Spreader Charts. Refer to:
   - “English Spreader Chart” on page 37.
   - “Metric Spreader Chart” on page 41.
7. Adjust spout swing angle to distribute product at the desired spread width. Refer to:
   - “Spout Swing Angle (English System)” on page 34.
   - “Spout Swing Angle (Metric System)” on page 38.

**WARNING**
To avoid serious injury or death:
- Always read and comply with all instructions and precautions on the label of the product being used.
- Always wear non slip shoes, gloves, protective clothing, safety glasses and a breathing mask capable of filtering powders when filling hopper to prevent injury to the body and/or injury from inhalation of product. Refer to chemical manufacturers’ labels for specific protective requirements.
- Lightweight tractors with rear attached implements may need weights added to the front to maintain steering control. Consult your tractor Operator’s Manual to determine proper weight requirements and maximum weight limitations.

**CAUTION**
To avoid minor or moderate injury:
Fill hopper with product only after the spreader has been properly hitched to a tractor capable of handling a fully loaded hopper and only after arriving at the application site.

**IMPORTANT:** Product must be dry (not humid) without lumps to spread uniformly and correctly.

**NOTE:** Calibration Information provided in the Spreader Charts on pages 37 and 41 must only be used as a starting guide. Actual distribution rates may vary due to travel speed, spread width, material quality, feed speed, weight, density, specific gravity, humidity, treatment, wind, roughness of terrain, and material brand or variety.

**IMPORTANT:** Maximum safe travel speed will be determined by ground conditions and tractor size.

8. Use “English Spreader Chart” on page 37 or “Metric Spreader Chart” on page 41 to determine travel speed (mph or km/h), quantity of material dispersed (lbs/acre or kg/hectare), and regulation bar setting. For instructions on how to set the regulation bar, see “Regulation Bar (English System)” on page 34 or “Regulation Bar (Metric System)” on page 38.
9. Check discharge gate to make sure it opens and closes properly. End check by fully closing the gate.
10. Follow instructions under **Load Hopper with Product** on this page. Fill hopper with precise amount of product needed to cover one acre or one hectare.
11. Make a test run traveling at the speed you intend to apply product while dispersing it over a pre-marked acre/hectare to verify if any additional adjustments need to be made.
12. Make a measurement of the spread pattern to be used later when applying product on the field.

1. Transport tractor with empty spreader to the site to spread product before filling hopper to prevent compression and settling of product in hopper.
2. Stop tractor with Pendulum Spreader on a hard level surface before filling hopper.
3. Make sure power take-off is disengaged and stopped. Lower spreader completely down until it is resting on the ground.
4. Engage park brake, shut engine off and remove ignition key before dismounting from tractor.
5. Make certain driveline has not come apart in the middle or loose from the tractor and drive unit shafts.
6. Make certain the gate is fully closed.

**NOTE:** Land Pride recommends filling hopper with a mechanical device rather than filling hopper manually.

7. Fill hopper with product.
Effective Spread Width

Refer to Figure 7-2:
The spread pattern of the Pendulum Spreader takes the shape of a pyramid. That is to say, the distribution is heaviest directly behind the spreader and steadily decreases the farther away the product is thrown. This decreasing pattern is approximately equal on the left and right side. To achieve an even amount of spreading over the surface of the ground, the tractor and spreader should travel parallel to the previous path at a distance equal to 1/2 the overall spread width away from the first path. This distance is known as the “Effective Spread Width.” It is recommended that a GPS or markers be used to control the path the tractor will travel.

Refer to Figure 7-2:
W = Overall Spread Width
W/2 = Effective Spread Width
(1/2 Of Overall Spread Width)

Field Application

Refer to Figure 7-3:

IMPORTANT: Always disengage power take-off before fully closing the discharge gate. Running power take-off with gate closed can crush product, break drive unit components and break or bend the regulation bar.

IMPORTANT: When manually opening discharge gate, hold gate lever in the open position until power take-off is running. Release grip of lever slowly.

NOTE: Do not travel long distances with product in the hopper or carry fertilizer bags stacked on top of product in the hopper. Both situations will cause fertilizer to compress and settle in the hopper resulting in improper discharge rate.

1. Be sure hopper discharge rate is set and spreader is at the application site before filling the hopper.
2. Start tractor #1 in a field corner at a distance equal to (W/2) away from the field edge.
3. Maintain this half distance from the field edge as you travel around the complete perimeter of the field.
4. When approaching starting point, turn tractor #2 when at distance (W/2) away from the first run and travel parallel to the first run until the tractor #3 is at distance (W/2) away from perimeter run.
5. Turn tractor and drive forward until at distance (W/2) away from the last run and then turn the tractor #4 again to head back across the field.
6. Continue back parallel to the previous run until tractor #5 is again at distance (W/2) away from perimeter run.
7. Continue this back and forth pattern (2 to 3, 4 to 5, 6 to 7 etc.) until field plot has been covered.
Unhook the Pendulum Spreader

Unhook Pendulum Spreader from the tractor as follows:

1. Empty hopper of product and thoroughly clean spreader before unhooking spreader from tractor.
2. Park spreader on a level solid hard surface.
3. Lower spreader to level ground or onto blocks supporting the spreader just above ground level.
4. Engage tractor park brake, shut tractor engine off and remove key before dismounting from tractor.
5. Disconnect driveline from tractor power take-off shaft.
6. Unhook 3-point hitch from tractor. Reinstall hitch pins, linchpins and hairpin cotters in the spreader hitch.
7. Support driveline off the ground to keep dirt out of the u-joints.

General Operating Instructions

By now you should have properly hitched your Land Pride Pendulum Spreader to your tractor. Based on the type of material and pounds per acre or kilograms per hectare you intend to broadcast, you should have referred to the “English Spreader Chart” on page 37 or “Metric Spreader Chart” on page 41 to determine the proper tractor ground speed, distribution gate opening, and spread pattern setting for your spreader. This process of taking prescribed fertilizer or seed label rates and making the necessary spreader adjustments is called “initial calibration”.

When setting your spreader up for initial calibration, following the chemical or seed supplier’s label directions and using the manufacturer’s application rate setting charts is highly encouraged. Once you have achieved your initial calibration, it is time to make “final calibration” adjustments.

Travel to the area with tractor and hopper where chemicals or seed are to be applied. Measure off a test area. An acre is preferred. Measure out exactly enough product to cover an acre at the manufacturer’s prescribed rate and put it in the hopper. You should have already determined the appropriate ground speed that will allow you to meet the application rate. Start tractor and open distribution gate just as you move onto the plot traveling at proper ground and engine speed. Look back often to observe your distribution width and pattern density. Typically the pattern won’t be as dense on the outer edges. As you make your turn for an adjacent pass, adjust your travel path to achieve uniform overlap and pattern density. (See “Effective Spread Width” on page 32.) You may need to close and open the distribution gate at the beginning and ending of each pass. Your hopper should empty out just as you complete coverage of your one-acre plot. If not, make the necessary adjustments until you are absolutely confident that you have achieved the proper final calibration.

Once you have achieved final calibration, load the spreader hopper with the appropriate amount of material to be spread. Do not overload hopper with more weight than is specified for your individual model. If the tractor front end becomes too light for proper steering, add tractor weights to the front end. Proceed with spreading operations looking back often to ensure a uniform distribution pattern and to make sure there are no interruptions to hopper flow.

Once you are done spreading, park the tractor, set the brake, shut off the tractor, and remove the keys. When finished, always clean out the spreader to prevent rust and corrosion.
English System of Measurements
The following discussions use the English system of measurements. For Metrics, refer to “Metric System of Measurements” on page 38.

Spout Swing Angle (English System)
Refer to Figure 8-1:
The drive unit can be set to spread products at three different spread widths by adjusting spout swing angle to 48° (Min), 52° (Mid), or 56° (Max). When adjusted, the standard spout will spread product an effective width of 20 & 39 feet (Min), 30 & 43 feet (Mid), and 39 & 46 feet (Max). Reduce tractor power take-off speed to decrease effective spread width or change the standard spout to an optional spout. Adjust spout swing as follows:
1. Remove angle adjustment cover (#1) from drive unit.
2. Rotate flywheel (#3) at the input shaft until wing nut cover (#2) is in alignment with opening.
3. Unscrew wing nut cover (#2) and remove.
4. Align tabs on angle adjustment key (#6) with notches in notched retaining ring (#4).
5. Press angle adjustment key (#6) in and turn angle adjustment ring with square insert (#4) to the desired pendulum swinging width (Max., Mid., or Min.).
6. Align key tabs with notches in retaining ring and remove angle adjustment key(#6). Make certain angle adjustment ring (#4) is against notched retaining ring (#5).
7. Replace wing nut cover (#2). Hand tighten only.
8. Snap angle adjustment cover (#1) in drive housing.

Regulation Bar (English System)
The following must be met to adjust regulation bar.
• Tractor power take-off speed is at 540 rpm.
• The standard pendulum spout is attached.
• The spout is parallel to ground surface.
• The spout discharge end is 29 1/2" above ground.
Adjust regulation bar as follows:
1. In the “English Spreader Chart” on page 37, locate material to be spread and lbs/acre at a given travel speed. If “English Spreader Chart” is not applicable, see “Slide Ruler Calibration (English System)” instructions on page 36.
2. In the “English Spreader Chart” on page 37, find regulation bar setting at required lbs/acre and set adjusting nut at this setting. Regulation bar is illustrated in Figure 8-2 on page 35.
3. Verify angle adjustment ring on the drive unit has been set to the preferred Min, Mid, or Max setting.
   • See “English Spreader Chart” on page 37 to determine spout swing angle (Min, Mid, or Max)
   • See “Spout Swing Angle (English System)” on this page to adjust spout swing angle.
4. Park tractor with product in the spreader and pendulum spout attached on a level surface with end of pendulum spout 29 1/2" off the ground.
5. Place gearshift in park position, open discharge gate and commence to operate spreader at 540 rpm for one to two seconds.
6. Disengage power take-off, shut tractor engine off, remove switch key and wait for power take-off to stop rotating before dismounting from tractor.
7. Measure distance (overall spread width) product was thrown from left to right. Divide overall spread width by 2 to get the effective spread width. Record effective spread width in feet for reuse.
8. If effective spread width in step 7 is different than that provided in the “English Spreader Chart” on page 37, then reset adjusting nut as follows:
a. Use “Slide Ruler Calibration (English System)” instructions on page 36 to calculate new discharge rate in lbs/min.
Section 8: Adjustments

PFS4000, PFS5060 & PFS8010 Pendulum Spreaders 309-124M
11/29/18

b. Find lbs/min in the “English Spreader Chart” on page 37 under material being distributed that is equal to or closest to the calculated lbs/min.

c. Refer to Figure 8-2: Adjust regulation adjusting nut to this new setting.

9. There are several different Calibration methods to verify the regulation bar is set correctly. They are Stationary Calibration, Field Calibration, and Slide Ruler Calibration. The Slide Ruler Calibration is a tool to assist Stationary and Field Calibrations. See instructions for Stationary Calibration or Field Calibration on this page.

Stationary Calibration (English System)
The pendulum spreader can be accurately calibrated without making a field test. With this method, knowledge of the effective spread width, 5 gallon bucket, weigh scales and clock are need to calibrate the spreader.

1. Complete “Regulation Bar (English System)” adjustment instructions on page 34 before continuing with step 2.

2. Remove spout by removing the 2 bolts and nuts connecting the spout to the spreader.

3. Position a bucket under the spreader to catch discharged material.

4. Restart tractor, set power take-off speed at 540 rpm and open discharge gate for only 1 minute and then close gate.

5. Disengage power take-off, shut tractor engine off, remove switch key and wait for power take-off to stop rotating before dismounting from tractor.

6. Weigh material discharged into the bucket.

7. Compare pounds of material in the bucket to lbs/min in the “English Spreader Chart” on page 37 or to the “Slide Ruler Calibration (English System)” on page 36. Pounds of material in the bucket and lbs/min should be the same.

8. Refer to Figure 8-2: If weight of material in the bucket does not equal lbs/min readjust regulation adjusting nut to increase or decrease discharge rate and repeat steps 3 to 7 until required discharged rate in lbs/min is obtained.

- Adjust regulation adjusting nut to a higher number will increase discharge rate.
- Adjust regulation adjusting nut to a lower number will decrease discharge rate.

Field Calibration (English System)
The spreader can be calibrated in the field in one acre plots with the assistance of the “English Spreader Chart” on page 37.

1. Complete “Regulation Bar (English System)” instructions on page 34 before continuing with step 2 below.

2. Mark out one acre the tractor will travel over. Remember to use effective spread width when calculating the acre.

Example:

a. Say overall spread width is 80 feet. Divide 80 by 2 for an effective spread width of 40.

b. One acre equals 43,560 sq ft. 43,560 divided by 40 = 1,089 ft of travel distance

c. The tractor will need to travel 1,089 ft to cover one acre.

3. Fill hopper with precise amount of material in pounds to cover one acre.

4. Make a test run dispersing product while traveling over the pre-marked acre at the required ground speed with engine rpm speed set at 540 power take-off speed.

5. Refer to Figure 8-2: If hopper emptied too soon or if hopper still has material in it after covering one acre, readjust regulation adjusting nut to increase or decrease discharge rate and repeat steps 2 to 4 until required discharged rate is obtained.

- Adjust regulation adjusting nut to a higher number will increase discharge rate.
- Adjust regulation adjusting nut to a lower number will decrease discharge rate.
Slide Ruler Calibration (English System)

Refer to Figure 8-3:
The quantity of product being spread is controlled by the regulation bar, effective spread width and ground speed. It is necessary to use the Slide Ruler when effective spread width or lbs/acre is different than what is found in the “English Spreader Chart” on page 37. The Slide Ruler is developed to calibrate discharge rates under the following conditions:

• Tractor power take-off speed is 540 rpm.
• The standard pendulum spout is attached.
• The spout is parallel to ground surface.
• The distance between the spout discharge end and ground is 29 1/2”.

IMPORTANT: Before using the Slide Ruler, make sure the inner slide is oriented correctly. When the Slide Ruler is held with English System facing up and the inner slide is pulled part-way out to the right, you should be able to read ft in the upper right corner of the inner slide. If not, pull inner slide out and reinsert with ft marking in the upper right corner.

1. Make sure “ft” marking is in the upper right corner of the inner slide is showing when Slide Ruler is oriented as shown with English System facing up.

2. Locate on the Slide Ruler effective spread width in feet.

Example:
Say 40 feet is the effective spread width in the test run. Locate 40 on the Slide Ruler.

3. Determine amount of product (lbs/acre) to be distributed and adjust Slide Ruler until that amount is aligned with the effective spread width.

Example:
Say 110 lbs/acre is the distribution rate. Adjust inner slide until 110 lbs/acre is aligned with 40 feet.

4. Locate on the Slide Ruler tractor travel speed in mph (miles per hour). Read and record discharge rate given below travel speed in lbs/min.

Example:
Say the tractor will travel 4 mph. Locate 4 mph on the Slide Ruler and read the given 35 lbs/min under the travel speed.

Refer to English Spreader Chart on page 37:

5. Locate lbs/min for the particular product to be spread in the “English Spreader Chart” on page 37.

Example:
Say product is Prills at 35 lbs/min Find for Prills that 35 lbs/min requires the regulation bar be set a 18.

Refer to Figure 8-2 on page 35:

6. Set adjusting nut to 18.

Example:
Adjust regulation adjusting nut until front edge of nut is even with the number 18 on the regulation bar.
## English Spreader Chart

<table>
<thead>
<tr>
<th>Regulation Bar Results</th>
<th>Effective Spread Width</th>
<th>Pounds / Acre At Travel Speed</th>
<th>Regulation Bar Results</th>
<th>Effective Spread Width</th>
<th>Pounds / Acre At Travel Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>setting lbs/min ft</td>
<td>3 4 5 6 7</td>
<td>W/2</td>
<td>setting lbs/min ft</td>
<td>3 4 5 6 7</td>
<td>W/2</td>
</tr>
<tr>
<td>33</td>
<td>55 40</td>
<td>235 176 142 119 102</td>
<td>12</td>
<td>75 32</td>
<td>40 30 24 20 17</td>
</tr>
<tr>
<td>36</td>
<td>64 40</td>
<td>273 205 165 138 119</td>
<td>18</td>
<td>15 32</td>
<td>77 57 46 38 34</td>
</tr>
<tr>
<td>42</td>
<td>85 40</td>
<td>367 275 222 185 160</td>
<td>24</td>
<td>22 32</td>
<td>114 85 58 57 50</td>
</tr>
<tr>
<td>54</td>
<td>134 40</td>
<td>574 431 346 290 250</td>
<td>27</td>
<td>32 32</td>
<td>164 123 99 83 71</td>
</tr>
</tbody>
</table>

**GRANULAR FERTILIZER FINE**

**GRANULAR FERTILIZER COARSE**

**PRILLS**

**UREA 46% N**

**LIME (AGITATOR EXTENSION*)**

**FERTRELL (WINDSHIELD & AGITATOR EXTENSION*)**

**MOCAP (SMALL SEEDS KIT)**

<table>
<thead>
<tr>
<th>Travel Speed (mph)</th>
<th>Travel Speed (mph)</th>
</tr>
</thead>
<tbody>
<tr>
<td>setting lbs/min ft</td>
<td>setting lbs/min ft</td>
</tr>
<tr>
<td>33</td>
<td>12</td>
</tr>
<tr>
<td>36</td>
<td>18</td>
</tr>
<tr>
<td>42</td>
<td>24</td>
</tr>
<tr>
<td>54</td>
<td>27</td>
</tr>
</tbody>
</table>

**REGULATION**

**Bar Results**

**Effective Spread Width**

**Pounds / Acre At Travel Speed**

**Spout Angle**

<table>
<thead>
<tr>
<th>Travel Speed (mph)</th>
<th>Travel Speed (mph)</th>
</tr>
</thead>
<tbody>
<tr>
<td>setting lbs/min ft</td>
<td>setting lbs/min ft</td>
</tr>
<tr>
<td>33</td>
<td>12</td>
</tr>
<tr>
<td>36</td>
<td>18</td>
</tr>
<tr>
<td>42</td>
<td>24</td>
</tr>
<tr>
<td>54</td>
<td>27</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Travel Speed (mph)</th>
<th>Travel Speed (mph)</th>
</tr>
</thead>
<tbody>
<tr>
<td>setting lbs/min ft</td>
<td>setting lbs/min ft</td>
</tr>
<tr>
<td>33</td>
<td>12</td>
</tr>
<tr>
<td>36</td>
<td>18</td>
</tr>
<tr>
<td>42</td>
<td>24</td>
</tr>
<tr>
<td>54</td>
<td>27</td>
</tr>
</tbody>
</table>

*PFS5060 & PFS8010 only. Agitator extension does not fit PFS4000.

**NOTE:** Values provided in spreader chart may be inconsistent with actual values due to varying conditions of the product, terrain, and speed. Adjustment to the regulation bar may be required to compensate.

**Formulas:**

\[
\text{lbs/acre} = \frac{\text{lbs/min} \times 495}{\text{spread width} \times \text{mph}}
\]

\[
\text{lbs/min} = \frac{\text{spread width} \times \text{mph} \times \text{lbs/acre}}{495}
\]
Section 8: Adjustments

Metric System of Measurements
The following discussions use the Metric system of measurements. For English, see “English System of Measurements” on page 34.

Spout Swing Angle (Metric System)
Refer to Figure 8-4:
The drive unit can be set to spread products at three different spread widths by adjusting spout swing angle to 48° (Min), 52° (Mid), or 56° (Max). When adjusted, the standard spout will spread product an effective width of 6 & 12 meters (Min), 9 & 13 meters (Mid), and 12 & 14 meters (Max). Reduce tractor power take-off speed to decrease effective spread width or change the standard spout to an optional spout. Adjust spout swing as follows:

1. Remove angle adjustment cover (#1) from drive unit.
2. Rotate flywheel (#3) at the input shaft until wing nut cover (#2) is in alignment with opening.
3. Unscrew wing nut cover (#2) and remove.
4. Align tabs on angle adjustment key (#6) with notches in notched retaining ring (#4).
5. Press angle adjustment key (#6) in and turn angle adjustment ring with square insert (#4) to the desired pendulum swinging width (Max., Mid., or Min.).
6. Align key tabs with notches in retaining ring and remove angle adjustment key(#6). Make certain angle adjustment ring (#4) is against notched retaining ring (#5).
7. Replace wing nut cover (#2). Hand tighten only.
8. Snap angle adjustment cover (#1) in drive housing.

IMPORTANT: Make certain angle adjustment ring (#4) is against notched retaining ring (#5) before installing covers (#1 & #2). The drive unit housing and adjustment ring assembly will break if angle adjustment ring (#4) did not returned after removing angle adjustment key (#6) and will void the warranty.

Regulation Bar (Metric System)
The following must be met to adjust regulation bar.
• Tractor power take-off speed is at 540 rpm.
• The standard pendulum spout is attached.
• The spout is parallel to ground surface.
• The spout discharge end is 75 cm above ground.
Adjust regulation bar as follows:
1. In the “Metric Spreader Chart” on page 41, locate material to be spread and Kilograms / hectare at a given travel speed. If “Metric Spreader Chart” is not applicable, see “Slide Ruler Calibration (Metric System)” instructions on page 40.
2. In the “Metric Spreader Chart” on page 41, find regulation bar setting at required kg/ha and set adjusting nut at this setting. Regulation bar is illustrated in Figure 8-5 on page 39.
3. Verify angle adjustment ring on the drive unit has been set to the preferred Min, Mid, or Max setting.
   • See “Metric Spreader Chart” on page 41 to determine spout swing angle (Min, Mid, or Max)
   • See “Spout Swing Angle (Metric System)” on this page to adjust spout swing angle.
4. Park tractor with product in the spreader and pendulum spout attached on a level surface with end of pendulum spout 75 cm off the ground.
5. Place gearshift in park position, open discharge gate and commence to operate spreader at 540 rpm for one to two seconds.
6. Disengage power take-off, shut tractor engine off, remove switch key and wait for power take-off to stop rotating before dismounting from tractor.
7. Measure distance (overall spread width) product was thrown from left to right. Divide overall spread width by 2 to get the effective spread width. Record effective spread width in feet for reuse.
8. If effective spread width in step 7 is different than that provided in the “Metric Spreader Chart” on page 41, then reset adjusting nut as follows:
   a. Use “Slide Ruler Calibration (English System)” instructions on page 36 to calculate new discharge rate in kg/min.
b. Find kg/min. in the “Metric Spreader Chart” under material being distributed equal to or closest to the calculated kg/min.

c. **Refer to Figure 8-5:** Adjust regulation adjusting nut to this new setting.

9. There are several different Calibration methods to verify the regulation bar is set correctly. They are Stationary Calibration, Field Calibration, and Slide Ruler Calibration. The Slide Ruler Calibration is a tool to assist Stationary and Field Calibrations. See instructions for Stationary Calibration or Field Calibration on this page.

**Stationary Calibration (Metric System)**

The pendulum spreader can be accurately calibrated without making a field test. With this method, knowledge of the effective spread width, 18 liter bucket, weigh scales and clock are need to calibrate the spreader.

1. Complete “Regulation Bar (Metric System)” instructions on page 34 before continuing with step 2.
2. Remove spout by removing the 2 bolts and nuts connecting the spout to the spreading unit.
3. Position a bucket under the spreader to catch discharged material.
4. Restart tractor, set power take-off speed at 540 rpm and open discharge gate for only 1 minute and then close gate.
5. Disengage power take-off, shut tractor engine off, remove switch key and wait for power take-off to stop rotating before dismounting from tractor.
6. Weigh material discharged into the bucket.
7. Compare kilograms of material in the bucket to kg/min in the “Metric Spreader Chart” on page 41 or to the “Slide Ruler Calibration (Metric System)” on page 40. Kilograms of material in the bucket and kg/min should be the same.
8. **Refer to Figure 8-5:** If weight of material in the bucket does not equal kg/min, readjust regulation adjusting nut to increase or decrease discharge rate and repeat steps 3-7 until required discharged rate in kg/min is obtained.
   - Adjust regulation adjusting nut to a higher number will increase discharge rate.
   - Adjust regulation adjusting nut to a lower number will decrease discharge rate.

**Field Calibration (Metric System)**

The spreader can be calibrated in the field in one acre plots with the assistance of the “Metric Spreader Chart” on page 41.

1. Complete “Regulation Bar (Metric System)” on page 38 before continuing with step 2 below.
2. Mark out one hectare the tractor will travel over. Remember to use effective spread width when calculating the hectare.

**Example:**

a. Say overall spread width is 24 meters. Divide 24 by 2 for an effective spread width of 12.

b. One hectare equals 10,000 square meters. 10,000 divided by 12 = 833.3 meters of travel distance

c. The tractor will need to travel 833.3 meters to cover one hectare.

3. Fill hopper with precise amount of material in pounds to cover one hectare.
4. Make a test run dispersing product while traveling over the pre-marked hectare at the required ground speed with engine rpm speed set at 540 power take-off speed.
5. **Refer to Figure 8-5:** If hopper emptied too soon or if hopper still has material in it after covering one acre, readjust regulation adjusting nut to increase or decrease discharge rate and repeat steps 2-4 until required discharged rate is obtained.
   - Adjust regulation adjusting nut to a higher number will increase discharge rate.
   - Adjust regulation adjusting nut to a lower number will decrease discharge rate.

---

**Adjust regulation adjusting nut on the regulation bar to the correct setting value.**

**Set this end of adjusting nut flush with regulation bar set value.**

---

**Regulation Bar and Adjusting Nut**

Figure 8-5
Slide Ruler Calibration (Metric System)

Refer to Figure 8-6:

The quantity of product being spread is controlled by the regulation bar, effective spread width and ground speed. It is necessary to use the Slide Ruler when effective spread width or kgs/hectare is different than what is found in the "Metric Spreader Chart". The Slide Ruler is developed to calibrate discharge rates under the following conditions:

- Tractor power take-off speed is 540 rpm.
- The standard pendulum spout is attached.
- The spout is parallel to ground surface.
- The distance between the spout discharge end and ground is 75 cm.

IMPORTANT: Before using the Slide Ruler, make sure the inner slide is oriented correctly. When the Slide Ruler is held with Metric System facing up and the inner slide is pulled part-way out to the right, you should be able to read m in the upper right corner of the inner slide. If not, pull inner slide out and reinsert with m marking in the upper right corner.

1. Make sure "m" marking is in the upper right corner of the inner slide is showing when Slide Ruler is oriented as shown with Metric System facing up.
2. Locate on the Slide Ruler effective spread width in meters.
   Example: Say 12 meters is the effective spread width in the test run. Locate 12 on the Slide Ruler.
3. Determine amount of product (kg/hectare) to be distributed and adjust Slide Ruler until that amount is aligned with the effective spread width.
   Example:
   Say 128 kg/ha is the distribution rate. Adjust inner slide until 128 lbs/acre is aligned with 12 meters.
4. Locate on the Slide Ruler tractor travel speed in km/h (kilometers per hour). Read and record discharge rate given below travel speed in kg/min.
   Example:
   Say the tractor will travel 10 km/h. Locate 10 km/h on the Slide Ruler and read the given 25 kg/min. under the travel speed.

Refer to Metric Spreader Chart on page 41:
5. Locate 25 kg/min for the particular product to be spread in the "Metric Spreader Chart".
   Example:
   Say product is Granular Fertilizer Fine at 25 kg/min. Find for Granular Fertilizer Fine that 25 kg/min requires that the regulation bar be set at 33.

Refer to Figure 8-5 on page 39:
6. Set adjusting nut to 33.
   Example:
   Adjust regulation adjusting nut until front edge of nut is even with the number 33 on the bar.
### Metric Spreader Chart

<table>
<thead>
<tr>
<th>Regulation Bar</th>
<th>Effective Spread Width</th>
<th>Kilograms / Hectare (kg/ha) At Travel Speed</th>
<th>Regulation Bar</th>
<th>Effective Spread Width</th>
<th>Kilograms / Hectare (kg/ha) At Travel Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>setting kg/min meters</td>
<td>5 6.5 8 10 11</td>
<td></td>
<td>setting kg/min meters</td>
<td>5 6.5 8 10 11</td>
</tr>
<tr>
<td>GRANULAR FERTILIZER FINE</td>
<td>travelled kg/min meters 5 6.5 8 10 11</td>
<td>12 3.4 9.75 43 33 27 21 20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Formulas:**

\[
\text{Kg/Hectare} = \frac{\text{kg/min} \times 615.7}{\text{spread width} \times \text{km/h}}
\]

\[
\text{kg/min} = \frac{\text{Spread width} \times \text{km/h} \times \text{kg/hectare}}{615.7}
\]

*PFS5060 & PFS8010 only. Agitator extension does not fit PFS4000.*

**NOTE:** Values provided in spreader chart may be inconsistent with actual values due to varying conditions of the product, terrain, and speed. Adjustment to the regulation bar may be required to compensate.
General Maintenance
Proper servicing and adjustments are key to the long life of any implement. With careful inspection and routine maintenance, you can avoid costly downtime and repair.

⚠️ DANGER ⚠️
To avoid serious injury or death:
Remove all traces of fertilizer before performing any electrical or gas welding operations. Fertilizers containing nitrates are very dangerous and can explode when brought in contact with fire causing injury or death.

⚠️ WARNING ⚠️
To avoid serious injury or death:
- Maintenance, adjustments and cleaning of the Pendulum Spreader must always be done with unit resting on the ground or on stable supports and with tractor park brakes applied, engine turned off and ignition key removed.
- Always wear non slip shoes, gloves, protective clothing, safety glasses and a breathing mask capable of filtering powders when cleaning, servicing, lubricating and filling your Pendulum Spreader to prevent injury to the body and/or injury from inhalation of product. Refer to chemical manufacturers' labels for specific protective requirements.

⚠️ CAUTION ⚠️
To avoid minor or moderate injury:
Do not alter implement or replace parts on the implement with other brands. Other brands may not fit properly or meet OEM (Original Equipment Manufacturer) specifications. They can weaken the integrity and impair the safety, function, performance, and life of the implement. Replace parts only with genuine OEM parts.

IMPORTANT: Refer to Figure 9-1 on page 43:
Check pendulum spout attachment bolts and special nuts before each filling of the hopper to make certain they are tight. A loose bolt can quickly damage the spout, spreader frame and drive unit.

IMPORTANT: In the event of irregular or unusual vibrations, stop the machine immediately and assess the problem. Make necessary repairs before continuing.

IMPORTANT: Clean all residual from the grease zerks before injecting lubrication into them.

1. Refer to Figure 9-1 on page 43: Check spout attachment bolts and nuts before each filling of the hopper to make certain they are tight.
2. Check all bolts daily to be certain they are tight.
3. Make certain driveline is secured on both ends.
4. Check pendulum for wear, cracks and breaks. Replace pendulum if needed. Use only genuine Land Pride spouts, screws and nuts when replacing or changing spouts.
5. Engage power take-off to make sure the pendulum swings back and forth properly.
6. Check gate opening for wear and mechanical operation.
7. Lubricate bearings as noted under Lubrication on page 43.
8. Repaint parts where paint is worn or scratched to prevent rust.
9. Replace any worn, damaged or illegible safety labels by obtaining new labels from your Land Pride Dealer.

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

⚠️ WARNING ⚠️
To avoid serious injury or death:
- Always wear safety glasses and safety masks when cleaning the Pendulum Spreader with pressurized air or water.
- Keep animals and other persons away from the spreader while cleaning the unit.

IMPORTANT: Particles of fertilizer are corrosive and should be thoroughly cleaned from the machine before parking it for a long period of time.

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

1. Empty hopper of product before unhooking unit from tractor.
2. Clean off all particles of fertilizer, dirt and grease that may have accumulated on the frame, hopper and moving parts.
3. Wash Pendulum Spreader thoroughly inside and outside with a garden hose. Make sure all particles of fertilizer have been removed. Allow to completely dry before closing gates.
4. Inspect for loose, damaged or worn parts. Make needed adjustments, tighten loose parts and replace damaged and worn parts.
5. Lubricate as noted in the Lubrication portion of this section starting on page 43.
6. Repaint parts where paint is worn or scratched to prevent rust. Ask your dealer for Aerosol Land Pride touch-up paint.
7. Replace any worn, damaged or illegible safety labels by obtaining new labels from your Land Pride Dealer.
8. Store spreader in a clean, dry place away from atmospheric conditions to protect unit from further deterioration.
9. Make sure spreader is stable. Use auxiliary supports if necessary to prevent unit from tipping over.
Section 9: Maintenance & Lubrication

Table of Contents

Lubrication

<table>
<thead>
<tr>
<th>Lubrication Legend</th>
<th>Multi-purpose spray lube</th>
<th>Multi-purpose grease lube</th>
<th>Multi-purpose oil lube</th>
<th>50 Hrs</th>
</tr>
</thead>
</table>

Check spout attachment bolts & nuts before each filling of the hopper.

Figure 9-1

Spout Pivot

3 - Zerks (Clean zerks before injecting lubrication)
Type of Lubrication: Multi-purpose Grease
Quantity: 1 to 2 pumps

Figure 9-1

Drive Unit Input Shaft

1 - Zerk (Clean zerk before injecting lubrication)
Refer to Figure 8-1 on page 34: Remove angle adjustment cover (#1) and rotate flywheel (#3) until input shaft zerk is expose below.
Type of Lubrication: Multi-purpose Grease
Quantity: 1-2 pumps

Figure 9-2

Spout Angle

1 - Zerk (Clean zerk before injecting lubrication)
Refer to Figure 8-1 on page 34: Remove angle adjustment cover (#1) and rotate flywheel (#3) until wing nut cover (#2) is in alignment with opening. Unscrew wing nut cover (#2) to expose zerk.
Type of Lubrication: Multi-purpose Grease
Quantity: 1-2 pumps

Figure 9-3
Table of Contents

Section 9: Maintenance & Lubrication

Driveline Yokes

2 - Zerks (Clean zerks before injecting lubrication)
Type of Lubrication: Multi-purpose Grease
Quantity: 1 to 2 pumps

Seasonally

Inner Tube Bearings

2 - Zerks (Clean zerks before injecting lubrication)
Type of Lubrication: Multi-purpose Grease
Quantity: As required

Seasonally

Driveline Profiles

Clean and coat inner profile tube of driveline with a light coat of Multi-purpose Grease and then reassemble.
# PFS4000, PFS5060 & PFS8010 Pendulum Spreaders

<table>
<thead>
<tr>
<th>Description</th>
<th>Specifications &amp; Capacities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model Numbers</strong></td>
<td><strong>PFS4000</strong></td>
</tr>
<tr>
<td>Horsepower @ 540 rpm required to power drive unit only.</td>
<td>6 hp</td>
</tr>
<tr>
<td>Hitch type</td>
<td>3-Point Cat. I</td>
</tr>
<tr>
<td>Capacity * Without hopper top extension</td>
<td>13.6 cu ft / 925 lbs</td>
</tr>
<tr>
<td>With optional hopper top extension</td>
<td>20.5 cu ft / 1,392 lbs</td>
</tr>
<tr>
<td>With larger optional hopper top extension</td>
<td>29 cu ft / 2,245 lbs</td>
</tr>
<tr>
<td>Weights ** Without hopper top extension</td>
<td>196 lbs</td>
</tr>
<tr>
<td>With optional hopper top extension</td>
<td>302 lbs</td>
</tr>
<tr>
<td>With larger optional hopper top extension</td>
<td>384 lbs</td>
</tr>
<tr>
<td>Overall width</td>
<td>46&quot;</td>
</tr>
<tr>
<td>Overall length</td>
<td>46&quot;</td>
</tr>
<tr>
<td>Overall height / Loading height</td>
<td>47&quot;</td>
</tr>
<tr>
<td>Without hopper top extension</td>
<td>40&quot;</td>
</tr>
<tr>
<td>With optional hopper top extension</td>
<td>47&quot;</td>
</tr>
<tr>
<td>Drive unit</td>
<td>1 3/8&quot; shaft with 1:1 ratio</td>
</tr>
<tr>
<td>Effective spread width (min.-max.)</td>
<td>Depending on spout, material and power take-off speed at 540 rpm.</td>
</tr>
<tr>
<td>Power take-off speed</td>
<td>540 rpm</td>
</tr>
<tr>
<td>Hopper material</td>
<td>Polyethylene Cone</td>
</tr>
<tr>
<td>Frame construction and finish</td>
<td>Steel welded tubular frame with baked on epoxy finish</td>
</tr>
<tr>
<td>Adjustment levers</td>
<td>Plated</td>
</tr>
<tr>
<td>Agitator Extension Kit</td>
<td>Not Available</td>
</tr>
<tr>
<td>Hydraulic Gate Kit</td>
<td>Not Available</td>
</tr>
<tr>
<td>Hopper Extension Kit</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ground coverage per hour</th>
<th><strong>20 ft Effective spread width</strong></th>
<th><strong>26 ft Effective spread width</strong></th>
<th><strong>32 ft Effective spread width</strong></th>
<th><strong>40 ft Effective spread width</strong></th>
<th><strong>45 ft Effective spread width</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7.3 to 17 acres/hr. traveling at 3 to 7 mph.</td>
<td>9.5 to 22 acres/hr. traveling at 3 to 7 mph.</td>
<td>11.6 to 27 acres/hr. traveling at 3 to 7 mph.</td>
<td>14.5 to 34 acres/hr. traveling at 3 to 7 mph.</td>
<td>16.7 to 39 acres/hr. traveling at 3 to 7 mph.</td>
</tr>
</tbody>
</table>

*Weights are based on average weight of granular fertilizer.

**Weights include driveline and PFS8010 shaped hook-up bar. Weights do not include Hydraulic Gate Kit, Agitator Extension Kit & Small Seed Kit.
<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>High hopper capacities</td>
<td>Able to cover large areas between hopper refills.</td>
</tr>
<tr>
<td>Low profile hoppers</td>
<td>Low filling height. Easy to fill.</td>
</tr>
<tr>
<td>Drive unit is without gears or hydraulic motors</td>
<td>Provides simple maintenance.</td>
</tr>
<tr>
<td>One piece hopper molded of fiberglass or polyethylene</td>
<td>Plastic construction to eliminate corrosion. Seamless for accurate and consistent emptying.</td>
</tr>
<tr>
<td>Parts in direct contact with product are constructed of non corrosive materials</td>
<td>Helps eliminate corrosion of parts.</td>
</tr>
<tr>
<td>Spreader capacity</td>
<td>Highly productive at 44 to 890 lbs per acre.</td>
</tr>
<tr>
<td>Pendulum type broadcast</td>
<td>Provides even spreading and controlled coverage up to 50 ft effective spread width. Pendulum system insures that the material is always spread the same on left and right side.</td>
</tr>
<tr>
<td>Two position pendulum angle</td>
<td>Allows to increase or decrease spread width.</td>
</tr>
<tr>
<td>Heavy-duty tubular frame</td>
<td>Supports hopper weight with optional extensions when full.</td>
</tr>
<tr>
<td>Tow hitch</td>
<td>Good for pulling a trailer loaded with product to fill the spreader or pulling a drag harrow. (Not available with PFS8010 model.)</td>
</tr>
<tr>
<td>540 rpm shielded power take-off</td>
<td>For added safety.</td>
</tr>
<tr>
<td>Standard Plastic pendulum spout</td>
<td>Protects from corrosive material to enhance longevity. Optional spouts are constructed of stainless steel to enhance longevity.</td>
</tr>
<tr>
<td>Variable adjustable gate</td>
<td>Provides for precision control of discharge rate.</td>
</tr>
<tr>
<td>Stainless steel gate</td>
<td>Protects from corrosive material enabling gate to operate smoothly.</td>
</tr>
<tr>
<td>Plated adjustment levers</td>
<td>Protects from corrosive material to enhance longevity.</td>
</tr>
<tr>
<td>PFS4000 with Cat. I 3-point hitch</td>
<td>For attachment to a wide range of tractors.</td>
</tr>
<tr>
<td>PFS5060 with Cat. I &amp; II 3-point hitch</td>
<td></td>
</tr>
<tr>
<td>PFS8010 with Cat. II 3-point hitch</td>
<td></td>
</tr>
<tr>
<td>Optional Agitator Kit</td>
<td>Helps keep light fluffy material from bridging. (Not available on the PFS4000 model.)</td>
</tr>
<tr>
<td>Optional Hydraulic Gate Kit</td>
<td>Allows the operator to open and close the discharge gate hydraulically on the go. (Not available on the PFS4000 model.)</td>
</tr>
<tr>
<td>Optional Hopper Extensions Kit</td>
<td>Increases hopper capacity. (Not available on the PFS4000 model.)</td>
</tr>
</tbody>
</table>
### Troubleshooting Chart

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Field Skips</strong></td>
<td>Not traveling parallel to the preceding pass at half the spread width away from the pass.</td>
<td>Travel parallel to the preceding pass at half the spread width away from the pass with slight overlapping of each pass.</td>
</tr>
<tr>
<td></td>
<td>Wind is blowing the product around.</td>
<td>Set spreader to disperse product at half the rate and go over the field plot twice using a 2nd pattern that crosses the first pattern.</td>
</tr>
<tr>
<td><strong>Spread width not suitable</strong></td>
<td>Pendulum swing not adjusted correctly.</td>
<td>Readjust Pendulum swing.</td>
</tr>
<tr>
<td></td>
<td>Wind is blowing product around.</td>
<td>Spread product on a calm non-windy day.</td>
</tr>
<tr>
<td></td>
<td>Incorrect working height.</td>
<td>Adjust 3-point so that end of pendulum is 29 1/2&quot; above the ground.</td>
</tr>
<tr>
<td></td>
<td>Hopper &amp; pendulum is not parallel to the ground.</td>
<td>Adjust 3-point lower arms and center link to level hopper parallel with ground.</td>
</tr>
<tr>
<td><strong>Effective spread pattern not correct</strong></td>
<td>Incorrect pendulum attached to spreader.</td>
<td>Change pendulums.</td>
</tr>
<tr>
<td></td>
<td>Travel speed is incorrect.</td>
<td>Set tractor power take-off speed to 540. Power take-off speed can be slowed a little to disperse product at a smaller width.</td>
</tr>
<tr>
<td></td>
<td>Pendulum is worn, cracked or broken.</td>
<td>Replace pendulum.</td>
</tr>
<tr>
<td><strong>Uneven distribution of product</strong></td>
<td>Roughness of terrain.</td>
<td>Slow down and decrease gate openings.</td>
</tr>
<tr>
<td></td>
<td>Wind is blowing product around.</td>
<td>Spread product on a calm non-windy day.</td>
</tr>
<tr>
<td><strong>Product won’t discharge out of end of pendulum properly</strong></td>
<td>Product is too wet or humid.</td>
<td>Use dry product only.</td>
</tr>
<tr>
<td></td>
<td>Excessive fertilizer lumps, product particulates are larger than normal or foreign body in product.</td>
<td>Clean product or replace product.</td>
</tr>
<tr>
<td></td>
<td>Hopper exits are clogged.</td>
<td>Clean hopper exits.</td>
</tr>
<tr>
<td></td>
<td>Pendulum is plugged.</td>
<td>Clean pendulum.</td>
</tr>
<tr>
<td></td>
<td>Discharge gate won’t open.</td>
<td>Check gate operation for obstructions. Clean obstructions from gate operation.</td>
</tr>
<tr>
<td></td>
<td>Pendulum spout is worn, cracked or broken.</td>
<td>Replace pendulum spout.</td>
</tr>
<tr>
<td></td>
<td>Deflector on end of pendulum spout is worn, cracked or broken.</td>
<td>Replace pendulum spout.</td>
</tr>
<tr>
<td><strong>Spreader Chart is inconsistent with actual discharge rate</strong></td>
<td>Varying product size, specific gravity, treatment, moisture content, inert material in product, lumps, different mixtures and roughness of terrain can cause the chart to be inconsistent.</td>
<td>Make adjustments to adjust nut on the regulation bar and to tractor gear speed to achieve desired discharge rate. Refer to “Set Hopper Discharge Rate” on page 31.</td>
</tr>
</tbody>
</table>
## Torque Values Chart for Common Bolt Sizes

<table>
<thead>
<tr>
<th>Bolt Size (inches)</th>
<th>Bolt Head Identification</th>
<th>Bolt Size (Metric)</th>
<th>Bolt Head Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grade 2</td>
<td>Grade 5</td>
<td>Grade 8</td>
</tr>
<tr>
<td>in-tpi 1</td>
<td>ft-lb 2</td>
<td>ft-lb 3</td>
<td>N·m 4</td>
</tr>
<tr>
<td>1/4&quot; - 20</td>
<td>7.4</td>
<td>5.6</td>
<td>11</td>
</tr>
<tr>
<td>1/4&quot; - 28</td>
<td>8.5</td>
<td>6.0</td>
<td>13</td>
</tr>
<tr>
<td>5/16&quot; - 18</td>
<td>15</td>
<td>11</td>
<td>24</td>
</tr>
<tr>
<td>5/16&quot; - 24</td>
<td>17</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>3/8&quot; - 16</td>
<td>27</td>
<td>20</td>
<td>42</td>
</tr>
<tr>
<td>3/8&quot; - 24</td>
<td>31</td>
<td>22</td>
<td>47</td>
</tr>
<tr>
<td>7/16&quot; - 14</td>
<td>43</td>
<td>32</td>
<td>67</td>
</tr>
<tr>
<td>7/16&quot; - 20</td>
<td>49</td>
<td>36</td>
<td>75</td>
</tr>
<tr>
<td>1/2&quot; - 13</td>
<td>66</td>
<td>49</td>
<td>105</td>
</tr>
<tr>
<td>1/2&quot; - 20</td>
<td>75</td>
<td>55</td>
<td>115</td>
</tr>
<tr>
<td>9/16&quot; - 12</td>
<td>95</td>
<td>70</td>
<td>150</td>
</tr>
<tr>
<td>9/16&quot; - 20</td>
<td>105</td>
<td>79</td>
<td>165</td>
</tr>
<tr>
<td>5/8&quot; - 11</td>
<td>130</td>
<td>97</td>
<td>205</td>
</tr>
<tr>
<td>5/8&quot; - 18</td>
<td>150</td>
<td>110</td>
<td>230</td>
</tr>
<tr>
<td>3/4&quot; - 10</td>
<td>235</td>
<td>170</td>
<td>360</td>
</tr>
<tr>
<td>3/4&quot; - 16</td>
<td>260</td>
<td>190</td>
<td>405</td>
</tr>
<tr>
<td>7/8&quot; - 9</td>
<td>225</td>
<td>165</td>
<td>585</td>
</tr>
<tr>
<td>7/8&quot; - 14</td>
<td>250</td>
<td>185</td>
<td>640</td>
</tr>
<tr>
<td>1&quot; - 8</td>
<td>340</td>
<td>250</td>
<td>875</td>
</tr>
<tr>
<td>1&quot; - 12</td>
<td>370</td>
<td>275</td>
<td>955</td>
</tr>
<tr>
<td>1-1/8&quot; - 7</td>
<td>480</td>
<td>355</td>
<td>1080</td>
</tr>
<tr>
<td>1-1/8&quot; - 12</td>
<td>540</td>
<td>395</td>
<td>1210</td>
</tr>
<tr>
<td>1-1/4&quot; - 7</td>
<td>680</td>
<td>500</td>
<td>1520</td>
</tr>
<tr>
<td>1-1/4&quot; - 12</td>
<td>750</td>
<td>555</td>
<td>1680</td>
</tr>
<tr>
<td>1-3/8&quot; - 6</td>
<td>890</td>
<td>655</td>
<td>1990</td>
</tr>
<tr>
<td>1-3/8&quot; - 12</td>
<td>1010</td>
<td>745</td>
<td>2270</td>
</tr>
<tr>
<td>1-1/2&quot; - 6</td>
<td>1180</td>
<td>870</td>
<td>2640</td>
</tr>
<tr>
<td>1-1/2&quot; - 12</td>
<td>1330</td>
<td>980</td>
<td>2970</td>
</tr>
</tbody>
</table>

1-tpi = nominal thread diameter in inches
2 ft-lb = foot pounds
3 N·m = newton-meters
4 mm x pitch = nominal thread diameter in millimeters x thread pitch

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

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 original purchase. Registration is done by your dealer.

**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 ____________________