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 illustration may show optional equipment not supplied with standard unit.
General Information

Important Notice

Great Plains Manufacturing, Inc. 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, Great Plains Manufacturing, Inc. assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein. Great Plains Manufacturing, Inc. 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 at all times in the future.

Printed in the United States of America.

For your convenience, record your Serial Number, Model Number and the Date Purchased in the spaces provided below. Have this information before you when calling a Great Plains Authorized Dealer.

This Operator’s Manual applies to:

The 15’ All Seeds Hitch
The 20’ All Seeds Hitch

Owner’s Information

Name: ________________________________________
Address ____________________________________
City_____________ State _____ Zip _________
Phone_______________________

Serial Number ______________________________
Model Number ______________________________
Date Purchased ____________________________

Name of Dealership __________________________
Dealer’s Name ______________________________
Address ____________________________________
City_____________ State _____ Zip _________
Phone_______________________
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<td>33</td>
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</tbody>
</table>
Using this Manual

For your safety and to help in developing a better understanding of your equipment we highly recommend that you read the operator sections of this manual. Reading these sections not only provides valuable training but also familiarizes you with helpful information and its location. The parts sections are for reference only and don’t require cover to cover reading. After reviewing your manual store it in a dry, easily accessible location for future reference.

Introduction

This manual has been prepared to instruct you in the safe and efficient operation of your All Seeds Hitch. Read and follow all instructions and safety precautions carefully.

The parts on your All Seeds Hitch have been specially designed and should only be replaced with genuine Great Plains parts. Therefore, should your All Seeds Hitch require replacement parts go to your Great Plains Dealer.

The right hand and left hand as used throughout this manual is determined by facing in the direction the machine will travel when in use unless otherwise stated.

Serial Number
The serial number plate is located on the front of the Coulter Tool Bar support tube next to the 8” x 8” hitch tube. It is suggested that the serial number and purchase date also be recorded for your convenience in the space provided on the checklist page at the beginning of this manual.

The serial number provides important information about your All Seeds Hitch and may be required to obtain the correct replacement part. Always use the serial number and model number when sending correspondence or when ordering parts from your Great Plains Dealer.

The SAFETY ALERT SYMBOL indicates that there is a potential hazard to personal safety involved and extra safety precautions 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.

Watch for the following safety notations throughout your Operators Manual:

⚠️ DANGER!
Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations.

⚠️ WARNING!
Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

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

NOTE: Indicates a special point of information which requires your attention.
Most accidents are the result of negligence and carelessness, usually caused by failure of the operator to follow simple but necessary safety precautions. The following safety precautions are suggested to help prevent such accidents. The safe operation of any machinery is a big concern to consumers and manufacturers. Your All Seeds Hitch has been designed with many built-in safety features. However, no one should operate this product before carefully reading this Operators Manual.

General Operation & Repair

1. Never permit anyone to ride on or walk beside the drill, planter, or tillage equipment when moving.
2. Never permit anyone to ride on tractor, drill, planter or hitch when they are being moved.
3. Never allow anyone to be near the drill or planter when performing operating functions with the drill, planter, hitch, or tractor.
4. Never load the drill or planter without being hooked up to a tractor.
5. Always make sure the drill and planter are securely locked in the quick hitch before raising.
6. Always put the transport lock lever into the transport “Road” position and make sure transport lock blocks have snapped into their locked position immediately after raising the unit for transporting and before making adjustments.
7. Never transport the All Seeds Hitch without the pivot lock tubes (correctly adjusted), and in the horizontal (locked) position. The pivot lock tubes are located above and outside of the leaf springs. The lock tubes will lock automatically when the unit is raised, unless they are manually pinned in the vertical position.
8. Extra care should be taken when transporting with seed in the box or hoppers.
9. Reduce speed of the tractor when transporting over uneven or rough terrain, hills or steep slopes. Avoid all chuck holes and washboard areas in roads.
10. Do not pull the All Seeds Hitch faster than 20 miles per hour.
11. Never turn a shorter radius than the All Seeds Hitch pivot stops will allow.
12. When in transport, use accessory lights and devices for adequate warning to operators of other vehicles and use safety hitch chain. Comply with all federal, state and local laws when traveling on public roads.
13. Use “slow moving vehicle” emblem for warning vehicles approaching from the rear.
14. When transporting, remember the All Seeds Hitch is wider than your tractor and extreme care must be taken to allow for safe clearance.
15. Never back up with the drill openers, planter openers or coulters in the ground.
16. Always set the drill or planter in the field position before lubrication, making adjustments, or servicing. Periodically check bolts for tightness and lubricate all fittings.
17. Do not lubricate or adjust the drill or planter while it is in operation.
18. Do not permit smoking, sparks, or an open flame where combustible lubricants or liquids are being used.
19. When using treated seed, avoid direct contact with the seed. Do not breath or ingest chemicals.
20. When using compressed air to clean the drill boxes or planter hoppers wear safety glasses.
21. Never unhook hitch from tractor when attached to a raised drill or planter.
22. Escaping fluid under pressure can have sufficient force to penetrate the skin. Check all hydraulic lines and hoses before applying pressure. Fluid escaping from a very small hole can be almost invisible. Use paper or cardboard, not body parts, to check for suspected leaks. If injured, seek medical assistance from a doctor that is familiar with this type of injury. Foreign fluids in the tissue must be surgically removed within a few hours or gangrene will result.
23. Do not allow anyone to operate the machine who has not been properly trained in its safe operation.
24. Consult your drill operator’s manual for safe drill operation.
25. Consult your planter operator’s manual for safe planter operation.
26. Do not operate equipment while under the influence of drugs or alcohol.
27. Keep hands, feet, hair, and clothing away from all moving parts.
28. Clear the area of bystanders, especially small children and animals before moving or operating equipment.
29. Support implement with blocks or safety stands when changing tires or working on equipment.
30. Review the Safety instructions annually.

Safety Decals

1. Your All Seeds Hitch comes equipped with all safety decals in place. They were designed to help you safely operate your All Seeds Hitch. Read and follow their directions.
2. Keep safety decals clean and legible.
3. Replace all damaged or missing safety decals. To order new safety decals go to your Great Plains Dealer and order part no. 148-179A. Refer to the parts section for All decals package part numbers.
4. Replace these decals whenever they become worn or unreadable. To instal new safety decals:
   a. Clean the area the decal is to be placed
   b. Peel backing from the decal. Press firmly on to surface being careful not to cause air bubbles under the decal.
Section 1 Safety Rules

WARNING
20 MPH MAX. TRANSPORT SPEED
EXCEEDING 20 MPH MAY RESULT IN LOSS OF VEHICLE CONTROL AND/OR IMPLEMENT DAMAGE
818-188C

Transport Speed Warning

WARNING!

CAUTION

AVOID INJURY
DO NOT STAND ON TRANSPORT TIRES OR USE TIRES AS A STEP
THE TIRES MAY NOT BE IN CONTACT WITH THE GROUND AND WILL ROTATE EASILY
818-398C

Caution - Tires Not A Step

WARNING

CAUTION!

AVOID INJURY
DO NOT STAND ON TRANSPORT TIRES OR USE TIRES AS A STEP
THE TIRES MAY NOT BE IN CONTACT WITH THE GROUND AND WILL ROTATE EASILY
818-398C

Caution - Tires Not A Step

WARNING

HIGH-PRESSURE FLUID HAZARD
To prevent serious injury or death:
- Always wear eye protection when working near high-pressure systems.
- Never work on a machine while it is operating.
- Never stand on the high-pressure lines when they are under pressure.
818-437C

Warning - High Pressure
12423
Section 1 Safety Rules

**WARNING - Negative Tongue Weight**

Negative tongue weight may cause immediate elevation of tongue resulting in damage or personal injury.

**CAUTION**

To avoid injury or machine damage:
- Sliced clear when relaying or lowering (drill/planting) and hitch
- Keep hands and clothing away from moving parts
- Never hit on (drill/planting) or pull hitch
- Before transporting, be sure hydraulic lift lock pins and pivot latches are in transport position
- Never turn hitch sharpener or pick-up roller bolts allow
- Attach unit to tractor when raising, lowering or filling drill or planter with seed
- Always lower or properly support (drill/planting) and hitch before performing
- Escaping hydraulic fluid can cause serious injury

---

4/14/05  Great Plains Mfg., Inc.  AS15 and AS20 Planting System  148-153M  5
## Section 2 Assembly Instructions & Set-Up

### Tire Inflation Chart

<table>
<thead>
<tr>
<th>Tire Size</th>
<th>Inflation PSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.50 x 20&quot; 4-Ply Drill Rib</td>
<td>28</td>
</tr>
<tr>
<td>9.0 x 22.5 10-Ply Highway Service 70</td>
<td>70</td>
</tr>
<tr>
<td>9.0 x 24&quot; 8-Ply Rib Implement</td>
<td>40</td>
</tr>
<tr>
<td>9.5 L x 15&quot; 6-Ply Rib Implement</td>
<td>32</td>
</tr>
<tr>
<td>9.5 L x 15&quot; 8-Ply Rib Implement</td>
<td>44</td>
</tr>
<tr>
<td>9.5 L x 15&quot; 12-Ply Rib Implement</td>
<td>60</td>
</tr>
<tr>
<td>5.00 x 15&quot; 4-Ply Traction Type Implement</td>
<td>36</td>
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</table>

### Torque Values Chart for Common Bolt Sizes

<table>
<thead>
<tr>
<th>Bolt Size (Inches)</th>
<th>N · m 1</th>
<th>ft-lb 2</th>
<th>N · m 3</th>
<th>ft-lb 4</th>
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</thead>
<tbody>
<tr>
<td>1/4&quot; - 20</td>
<td>7.4</td>
<td>5.6</td>
<td>11</td>
<td>8</td>
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<tr>
<td>1/4&quot; - 28</td>
<td>8.5</td>
<td>6</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>5/16&quot; - 18</td>
<td>15</td>
<td>11</td>
<td>24</td>
<td>17</td>
</tr>
<tr>
<td>5/16&quot; - 24</td>
<td>17</td>
<td>13</td>
<td>26</td>
<td>19</td>
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<td>3/8&quot; - 16</td>
<td>27</td>
<td>20</td>
<td>42</td>
<td>31</td>
</tr>
<tr>
<td>3/8&quot; - 24</td>
<td>32</td>
<td>22</td>
<td>47</td>
<td>35</td>
</tr>
<tr>
<td>7/16&quot; - 14</td>
<td>43</td>
<td>32</td>
<td>67</td>
<td>49</td>
</tr>
<tr>
<td>7/16&quot; - 20</td>
<td>49</td>
<td>36</td>
<td>75</td>
<td>55</td>
</tr>
<tr>
<td>1/2&quot; - 13</td>
<td>66</td>
<td>49</td>
<td>105</td>
<td>76</td>
</tr>
<tr>
<td>1/2&quot; - 20</td>
<td>75</td>
<td>55</td>
<td>115</td>
<td>85</td>
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<tr>
<td>9/16&quot; - 12</td>
<td>95</td>
<td>70</td>
<td>150</td>
<td>110</td>
</tr>
<tr>
<td>9/16&quot; - 18</td>
<td>105</td>
<td>79</td>
<td>165</td>
<td>120</td>
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<tr>
<td>5/8&quot; - 11</td>
<td>130</td>
<td>97</td>
<td>205</td>
<td>150</td>
</tr>
<tr>
<td>5/8&quot; - 18</td>
<td>150</td>
<td>110</td>
<td>230</td>
<td>170</td>
</tr>
<tr>
<td>3/4&quot; - 10</td>
<td>235</td>
<td>170</td>
<td>360</td>
<td>265</td>
</tr>
<tr>
<td>3/4&quot; - 16</td>
<td>260</td>
<td>190</td>
<td>405</td>
<td>295</td>
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<tr>
<td>7/8&quot; - 9</td>
<td>225</td>
<td>165</td>
<td>585</td>
<td>430</td>
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<tr>
<td>7/8&quot; - 14</td>
<td>250</td>
<td>185</td>
<td>640</td>
<td>475</td>
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<tr>
<td>1&quot; - 8</td>
<td>340</td>
<td>250</td>
<td>875</td>
<td>645</td>
</tr>
<tr>
<td>1&quot; - 12</td>
<td>370</td>
<td>275</td>
<td>955</td>
<td>705</td>
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<tr>
<td>1-1/8&quot; - 7</td>
<td>480</td>
<td>355</td>
<td>1080</td>
<td>795</td>
</tr>
<tr>
<td>1-1/8&quot; - 12</td>
<td>540</td>
<td>395</td>
<td>1210</td>
<td>890</td>
</tr>
<tr>
<td>1 1/4&quot; - 7</td>
<td>680</td>
<td>500</td>
<td>1520</td>
<td>1120</td>
</tr>
<tr>
<td>1 1/4&quot; - 12</td>
<td>750</td>
<td>555</td>
<td>1680</td>
<td>1240</td>
</tr>
<tr>
<td>1 3/8&quot; - 6</td>
<td>890</td>
<td>655</td>
<td>1990</td>
<td>1470</td>
</tr>
<tr>
<td>1 3/8&quot; - 12</td>
<td>1010</td>
<td>745</td>
<td>2270</td>
<td>1670</td>
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<tr>
<td>1 1/2&quot; - 6</td>
<td>1180</td>
<td>870</td>
<td>2640</td>
<td>1950</td>
</tr>
<tr>
<td>1 1/2&quot; - 12</td>
<td>1330</td>
<td>980</td>
<td>2970</td>
<td>2190</td>
</tr>
</tbody>
</table>

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

### Bolt Head Identification

<table>
<thead>
<tr>
<th>Bolt Size (Metric)</th>
<th>Class 5.8</th>
<th>Class 8.8</th>
<th>Class 10.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 5 x 0.8</td>
<td>4</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>M6 6 x 1</td>
<td>7</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>M8 8 x 1.25</td>
<td>17</td>
<td>12</td>
<td>26</td>
</tr>
<tr>
<td>M8 8 x 1</td>
<td>18</td>
<td>13</td>
<td>28</td>
</tr>
<tr>
<td>M10 10 x 1.5</td>
<td>33</td>
<td>24</td>
<td>52</td>
</tr>
<tr>
<td>M10 0.75</td>
<td>39</td>
<td>29</td>
<td>61</td>
</tr>
<tr>
<td>M12 12 x 1.75</td>
<td>58</td>
<td>42</td>
<td>91</td>
</tr>
<tr>
<td>M12 1.5</td>
<td>60</td>
<td>44</td>
<td>95</td>
</tr>
<tr>
<td>M12 1</td>
<td>90</td>
<td>66</td>
<td>105</td>
</tr>
<tr>
<td>M14 2</td>
<td>92</td>
<td>68</td>
<td>145</td>
</tr>
<tr>
<td>M14 1.5</td>
<td>99</td>
<td>73</td>
<td>155</td>
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<tr>
<td>M16 2</td>
<td>145</td>
<td>105</td>
<td>225</td>
</tr>
<tr>
<td>M16 1.5</td>
<td>155</td>
<td>115</td>
<td>240</td>
</tr>
<tr>
<td>M18 2.5</td>
<td>195</td>
<td>145</td>
<td>310</td>
</tr>
<tr>
<td>M18 1.5</td>
<td>220</td>
<td>165</td>
<td>350</td>
</tr>
<tr>
<td>M20 2.5</td>
<td>280</td>
<td>205</td>
<td>440</td>
</tr>
<tr>
<td>M20 1.5</td>
<td>310</td>
<td>230</td>
<td>450</td>
</tr>
<tr>
<td>M24 3</td>
<td>480</td>
<td>355</td>
<td>760</td>
</tr>
<tr>
<td>M24 2</td>
<td>525</td>
<td>390</td>
<td>830</td>
</tr>
<tr>
<td>M30 3.5</td>
<td>960</td>
<td>705</td>
<td>1510</td>
</tr>
<tr>
<td>M30 2</td>
<td>1060</td>
<td>785</td>
<td>1680</td>
</tr>
<tr>
<td>M36 3.5</td>
<td>1730</td>
<td>1270</td>
<td>2650</td>
</tr>
<tr>
<td>M36 2</td>
<td>1880</td>
<td>1380</td>
<td>2960</td>
</tr>
</tbody>
</table>

1. mm x pitch = nominal thread dia. in millimeters x thread pitch
NOTE: All tires are warranted by the original manufacturer of the tire. Tire warranty information can be found in the brochures included with your Operator’s and Parts Manuals or online at the manufacturer’s websites. For service assistance or information, contact your nearest Authorized Farm Tire Retailer.

**Manufacturer**
- Titan
- Goodyear
- Firestone

**Websites**
- www.titan-intl.com
- www.goodyearag.com
- www.firestoneag.com
Read and understand the owner's manual for your All Seeds Hitch. A basic understanding of how the hitch works will aid in the assembly and setup of your hitch. The following information is general in nature and was written to aid the operator in preparation of the tractor and hitch for use, and to provide general operating procedures. The operator's experience, familiarity with the machine and the following information should combine for efficient hitch operation and good working habits. Having all the parts and equipment readily at hand will speed up your assembly task.

**Pre-Assembly Checklist**

<table>
<thead>
<tr>
<th>Check</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>All major components</td>
<td>Operator's Manual</td>
</tr>
<tr>
<td>Fasteners that were shipped with the All Seeds Hitch. <strong>NOTE:</strong> Some of the hardware from the factory has been installed in the location where it will be used.</td>
<td>Section page 9</td>
</tr>
<tr>
<td>Have a minimum of 2 people at hand while assembling the All Seeds Hitch.</td>
<td>Section page 8</td>
</tr>
</tbody>
</table>

**Assembling The All Seeds Hitch**

For the following assembly instructions refer to Figure 2-2.

1. Remove the transport tire, hub, and spindle assemblies (#1) which are banded to the hitch and slide the spindles into the outer spindle tubes of the transport rockshaft. Secure the spindles in place with the 1/2” x 4 3/4” long bolts (#2) and the 1/2” lock nuts (#14). Cut the bands that hold the tongue and tongue cylinder to the hitch and swing it into position and pin the cylinder to the cylinder lug on the hitch. Swing the tongue links into position and bolt them to the ears on the front tongue.

2. Center the coulter tool bar assembly (#3) under the hitch (#4) and fasten to upper coulter tool bar support with the 5/8” x 6” long bolts (#5), 5/8” flat washers (#6), 5/8” lock washers (#7), and 5/8” nuts (#8). It is critical that the coulters are centered under the All Seeds Hitch to insure proper tracking with the drill. Use extra care when assembling the coulter tool bar assembly to the hitch. The coulter tool bar assemblies should have a coulter blade gap centered on the center line of the hitch.

**NOTE:** The center of the coulter blade is approximately 1/4” to the right of the coulter mount casting and coulter spring bar.

3. Assemble the spring hose loop (#9) on the hydraulic tongue (#10) with a 1/2” x 1” long bolt (#11), two 1/2” flat washers (#12), and a 1/2” lock washer (#13). The spring hose loop bolts to a coupler nut welded near the front of the hydraulic tongue.

4. Refer to Fertilizer Option Manual (GP 148-152M) for assembly of optional Liquid Fertilizer Attachments.

5. Refer to Coulter Command Option Manual (GP 148-263M) for assembly of optional Coulter Depth Control Attachments.

**Tractor Drawbar Hookup**

For the following assembly instructions refer to Figure 2-1.

1. Place hitch weldment (#1) over the ball swivel of the front hydraulic tongue and hold in place by inserting the inner spacer tube weldment (#2) through the large hole in the hitch clevis and ball swivel. Back tractor up to the machine and bolt hitch weldment assembly (#1) & (#2) to tractor drawbar large pin hole using the 1” x 10” long bolt (#3), large flat washer (#4), 1” lock washer (#5), and 1” nut (#6). Use 3/4” x 9” long bolt (#7) to bolt the hitch weldment through its slotted hole and into the secondary hole of the tractor drawbar. Install a 3/4” flat washer (#8) next to the top slotted hole and fasten with a 3/4” lock washer (#9) and 3/4” nut (#10). Tighten both bolts.
Dealer Assembly Illustration
Figure 2-2
Section 2 Assembly Instructions & Set-Up

Your All Seeds Hitch comes equipped with a hitch safety chain. The safety chain should be securely attached to the All Seeds Hitch and the tractor drawbar whenever towing or planting.

Remove the jack from the storage position on the front hydraulic tongue as shown in Figure 2-3 and place in the transport position on top of the coulter tool bar support tube as shown in Figure 2-4.

Tractor Hydraulic Hookup

The tractor should be equipped with 4 remote outlets (2 pair). The 1/2" hoses from the front tongue cylinder connect to one set of tractor remote outlets. The 1/2" hoses from the transport lift cylinders connect to another set of tractor remote outlets.

Bleeding The Hydraulic Systems

WARNING!

Escaping fluid under pressure can have sufficient force to penetrate the skin. Check all hydraulic lines and hoses before applying pressure. Fluid escaping from a very small hole can be almost invisible. Use paper or cardboard, not body parts, to check for suspected leaks. If injured, seek medical assistance from a doctor that is familiar with this kind of injury. Foreign fluids in the tissue must be surgically removed within a few hours or gangrene will result.

Front Hydraulic Tongue Cylinder

NOTE: Check the hydraulic fluid in the tractor reservoir and fill to the proper level. Add fluid to the system as needed. A low reservoir level may draw air back into the system, causing jerky or uneven cylinder movement. Front tongue cylinder capacity is 0.5 gallons.

1. Raise and safely support hitch, transport frame and front tongue in order to unpin the rod end of the tongue cylinder. Block, wire or otherwise safely support the cylinder so when the rod end is fully extended it does not contact anything.

2. Cycle the cylinder completely in and out a minimum of three times to purge the air from the cylinder and hoses.

3. Fully extend the cylinder to repin the rod end.

4. Recheck the tractor reservoir and fill to its proper level.

Hydraulic Lift System

NOTE: Check the hydraulic fluid in the tractor reservoir and fill to the proper level. Add fluid to the system as needed. A low reservoir level may draw air back into the system, causing jerky or uneven cylinder movements. Transport lift hydraulic capacity is approximately 2 gallons.

NOTE: The SAE O-ring and JIC 37° flare type hose connections DO NOT require sealant for reconnecting. They DO NOT require high torque for a good seal. When using sealant on pipe threads the friction between the threads is reduced; therefore, be certain not to over tighten causing damage to the cylinder port or fitting.
1. Make sure the transport lock handle is in the “Road” position, and that the transport lock blocks are down in their transport position. The all seeds hitch is normally shipped this way. If not, lift up and support the hitch transport frame so the cylinders can be unpinned.

2. Unpin the rod end clevis pins. The cylinder rod should be completely extended at this time. If not, manually extend the cylinder rods. With the cylinder rods completely extended, loosen the connection between the hose end and the tee at the rod end of the transport lift cylinder. Slowly work the remote lever to feed oil to the cylinder rod ends, stopping when oil is seen coming from around the fitting. Retighten the rod end hose fitting. (Do not attempt to retract the cylinder rods while bleeding the air from the cylinder rod ends to minimize the air space at rod ends of the cylinders.)

3. Once the rod end hose fitting has been retightened, completely retract the cylinder rods. After the rods are retracted, loosen the hose fitting to the hose running between the base end tee and the relief valve which is connected to the rod end of the same cylinder. Loosen the hose fitting on the end which connects to the base end tee. Slowly work the remote lever to feed oil to base ends of the cylinders, stopping when oil is seen coming from around the fitting. Once the air is expelled, retighten the base end hose fitting. (Do not attempt to extend the cylinder rods while bleeding the air from the cylinder base ends to minimize the air space at the base ends of the cylinders.)

4. Extend and retract the transport lift cylinders several times. The majority of the air should now be expelled from the lift system. The remaining air will gradually be pushed to the tractor during day-to-day operations.

5. Repin the transport lift cylinders and move the transport lock lever to the “Field” position. Raise and lower the hitch several times to check for proper operation. The hitch will first have to be completely raised for the transport locks to snap out of their locked position.

6. Recheck the tractor hydraulic reservoir level and add clean fluid as necessary.

**Drill and Planter Hookup**

The All Seed Hitch is a complete planting system designed to accommodate all your planting needs. It comes complete with all the hardware to turn your Great Plains drill and Great Plains planter into a no-till planting system capable of handling a range of planting conditions from tough no-till to conventional tillage planting. The All Seeds Hitch allows you to quickly change from no-till planting to no-till drilling. The following section explains the procedure for drill and planter hookup.

**Top Hitch Extension Assembly**

Place the top hitch extension (#1) between the top hitch plates of your drill or planter and bolt in place as shown in Figure 2-5, using two 1" X 5 1/2" long bolts (#2), lockwashers (#3), and hex nuts (#4). The All Seeds Hitch comes with two top hitch extensions and hardware for both a drill and a planter.

**Lower Hitch Links**

Great Plains 10 Series Drills with parallel linkage openers require the use of special lower hitch links to maintain a more level coulter and drill arrangement in the field as well as allow greater transport clearance on the road. The lower hitch links bolt to the lower hitch plates of the 3-Point 10 Series Drill with two 1 1/8" x 2 1/2" long bolts (#1), lockwashers (#2), and hex nuts (#3) as shown in Figure 2-6. Two 5/8" X 2" long bolts (#4), USS washers (#5), lockwashers (#6), and hex nuts (#7) are also required and fasten through the top slotted holes in the lower hitch plates.
Transport Locks
With the All Seeds Hitch properly secured to the tractor drawbar, position the transport lock handle to the “Field” position as shown in Figure 2-7. The transport lock handle is located on the left end panel of the transport frame. Raise the hitch all the way up to take the pressure off the transport lock blocks and allow them to slide free from their locked position.

Quick Hitch Links
Position the All seeds Hitch in front of the drill or planter so that the quick hitch links of the All seeds Hitch are in line with the lower hitch pins of the planting unit. Hydraulically retract the lift cylinders of the All Seeds Hitch to position the quick hitch links slightly lower than the planting unit hitch pins.

Position the handle of the quick hitch to the locking position as shown in Figure 2-8. This will allow the planting unit hitch pins to snap into the quick hitch links securing the unit to the quick hitch.

Back the All Seeds Hitch up to the unit until the hitch pins contact the quick hitch. Hydraulically raise the All Seeds Hitch until the hitch pins are attached securely inside the quick hitch links. DO NOT RAISE THE PLANTING UNIT ANY HIGHER AT THIS TIME.

Level Link Attachment
Once the hitch pins are securely attached inside the quick hitch links, attach the slotted level link bar of the All Seeds Hitch (#1) to the top hitch extension of the planting unit. Use the 1" X 3 3/4" long top hitch pin (#2), and bushing (#3) and secure with the clip pin provided (#4) as shown in Figure 2-9.

Now you are ready to proceed to “Transporting” in “Section 3 Basic Operation” starting on page 14.

CAUTION!
Always make sure the All Seeds Hitch is securely locked in the quick hitch before raising!

CAUTION!
This All Seeds Hitch should never be pulled faster than 20 miles per hour!
Top Hitch Pin and Bushing
Figure 2-9
Section 3  Basic Operation

Transporting

Transport Locks
The All Seeds Hitch has two transport lock blocks which are controlled by a spring loaded handle located on the left end panel of the transport frame. The handle can be moved from “Field” to “Road” position or “Road” to “Field” position regardless of the position of transport rock shaft or transport lock blocks. This allows the operator to rotate the transport lock handle to the desired position and then operate the hydraulics to allow the transport locks to “lock in” or “lock out” automatically.

To lock the All Seeds Hitch for transport, pull the transport lock handle outward and rotate the handle counterclockwise to the “Road” position and hook the handle back over the receiver tab, Figure 3-1. Then, lift the machine completely until the transport lock blocks snap into position against the rock shaft lugs. Once the transport lock blocks are in position, the hydraulics can be activated to set the machine down against the blocks and relieve the pressure on the cylinders.

Locking the machine for transport is essential to prevent damage to the hitch or operator should hydraulic failure occur during transport or when working around the machine in the raised position. To lower the All Seeds Hitch for planting or storage, reposition the transport lock handle clockwise to the “Field” position as shown in Figure 3-2. The machine must then be completely raised to allow the transport lock blocks to slide free before the machine can be lowered.

Pivot Lock Tubes
The adjustable pivot lock tubes, located on the front of the transport frame and next to the leaf spring rollers, restrict the pivot movement between the transport frame and the coulter hitch to allow for safer transport. They can be adjusted by loosening the jam nut and screwing the bolt in or out to the desired setting and retightening the jam nut. When the transport frame is 90 degrees to the tongue, each bolt head should be about 1/16” away from its stop pad on the pivot hitch.

The pivot lock tubes are controlled automatically by spring loaded links connected to the rock shaft. When the All Seeds Hitch is completely raised, the pivot lock tubes rotate down and contact the stop pads on the pivot hitch to restrict pivoting during transport and when turning at the end of the field. When the All Seeds Hitch is lowered, the pivot lock tubes rotate up and allow the hitch and frame to pivot freely in the field.

The pivot lock tubes can be manually locked down or locked up by swinging the lock tube (down/up) and inserting the 3/4” X 5 1/4” long hitch pin to hold it in place as shown in Figure 3-3. The 3/4” hitch pin is normally stored in the storage hole just behind the pivot lock tubes.
It may be necessary to lock the pivot locks down when planting on steep side slopes or when backing the All Seeds Hitch to hook up to a drill or planter. Since the automatic control links on the pivot locks are spring loaded, they do not have to be disconnected when manually locking the pivot locks up or down.

**Tongue Transport Channels**
A transport lock channel is available to lock up the front tongue cylinder. After the unit is raised for transporting, the transport lock channel should ALWAYS be placed on the cylinder rod to prevent damage should hydraulic failure occur.

It fits over the cylinder rod and is held in place with a keeper pin as shown in Figure 3-4. Before lowering the All Seeds Hitch for planting, place the transport lock channel in its storage position on the coulter bar support gusset as shown in Figure 3-5.

**Pre Drilling/Planting Instructions**
Before operating the All Seeds Hitch check the following items and operating rules.

**Transport Locks**
Rotate the transport lock handle to the field position as shown in Figure 3-1. The hitch will have to be raised completely to remove the pressure on the transport lock blocks and allow them to slide free before the unit can be lowered.

**Pivot Lock Tubes**
Make sure the pivot lock tubes are not manually locked down as shown in Figure 3-3 to allow them to automatically swing free from the pivot stop plates during field operation. This allows for proper tracking between coulters and openers as shown in Figure 3-6.

**Tongue Transport Channel**
Remove the tongue transport channel from the transport position Figure 3-4 and place it in the storage position Figure 3-5.

**Basic Operating Rules**
1. Never back up with openers and coulters in the ground.
2. Do not turn a shorter radius than the pivot stops will allow.
Section 3 Basic Operation

NOTE: 3-point planters and 3-point drills are not designed to be turned with the openers in the ground. Damage may occur to the openers and press wheels.

3. DO NOT unhitch from tractor with the All Seeds Hitch with the planter or drill in the raised position.

The negative tongue weight present may cause immediate elevation of the tongue resulting in damage or personal injury. Always have planting units lowered when unhitching from tractor.

4. Never allow anyone to ride on the All Seeds Hitch, planter, or drill.

5. Never exceed speeds of 20 MPH when transporting.
Proper Tracking Of Drill Openers To Coulters
Figure 3-6

Operating Checklist

<table>
<thead>
<tr>
<th>Check</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ “Safety Rules” in this Manual</td>
<td>Section 1 Page 3</td>
</tr>
<tr>
<td>☐ “HookUp” &amp; “Operating Instructions” in this Manual</td>
<td>Section 2 Page 8, 10, 11</td>
</tr>
<tr>
<td>☐ Tire pressure</td>
<td>Section 2 Page 6</td>
</tr>
<tr>
<td>☐ Lubricate the hitch as needed</td>
<td>Section 6 Page 25 - 28</td>
</tr>
<tr>
<td>☐ Drill &amp; Hitch; initially and periodically for loose bolts, pins, and chains.</td>
<td>Operator’s Manual</td>
</tr>
<tr>
<td>☐ Leaks in the hydraulic system</td>
<td>Operator’s Manual</td>
</tr>
<tr>
<td>☐ Adjustments</td>
<td>Operator’s Manual</td>
</tr>
</tbody>
</table>
Hitch Adjustments

Level Link Adjustment

1. The threaded adjustment at the front of the level link is to lengthen or shorten the link. Make this adjustment with the unit lowered to field position and with the cotters at the desired depth. With the lock plate flipped down as shown in Figure 4-1, loosen the jam nut and turn the adjuster nut to level the planting unit front to back. Tighten jam nut to hold this position.

2. The lock plate at the rear of the level link can be used for three different conditions:
   a. Normally the lock plate is held down in the locked position to keep the planting unit level Figure 4-1. This does not allow the trailing unit to tip forward or backward independently of the hitch.
   b. The lock plate can be held up in the unlocked position with the level link adjusted so the top hitch extension pin is in the back of the slot, Figure 4-2. This holds the planting unit from tipping backward, but allows it to tip forward independent of the hitch.
   c. With the lock plate held up in the unlocked position and the level link adjusted so the top hitch extension pin is in the center of the slot, Figure 4-3, the trailing unit is allowed to tip forward and backward independent of the hitch.
Leaf Spring Adjustment

The leaf spring located just ahead of the vertical pivot on the All Seeds Hitch is designed to provide just enough force to help keep the hitch square and stable for turning around at the ends of a field, and to add stability for operating in rough and irregular field conditions. Proper leaf spring adjustment is important for smooth operation between the hitch and the planter or drill. During assembly, the 3/8" u-bolt on the outer ends of the leaf spring must be tightened enough to pull the ends of the leaf spring forward so the force from the leaf spring doesn’t interfere with the installation of the center pivot pin. Once the pivot pins are assembled, the nuts on the 3/8" u-bolts must be backed off to set the proper leaf spring stabilizing force. For proper adjustment, square the hitch with the transport frame and adjust the 3/8" u-bolt lock nuts until the leaf spring rollers just make contact with the roller pads on the transport frame. Make sure both the right and left sides are adjusted properly when the hitch is square to the transport frame.

Drill & Coulter Adjustments

Down Floating Gauge Wheels

When using a 3-point mounted drill on a All Seeds No-Till Hitch, the drill should be equipped with downward floating gauge wheel links. Downward float on the gauge wheels is necessary to maintain a constant uninterrupted drive wheel rotation in no-till conditions.

Current Great Plains drills have down floating gauge wheels as standard equipment. Older Great Plains drills require two slotted gauge wheel links (Great Plains part no. 120-171A) or two spring loaded gauge wheel links (Great Plains part no. 120-106A) to achieve the necessary down float for no-till drilling.

Drill Adjustments

The following adjustments should be made with a half full seed box:

1. Lower the All Seeds Hitch and completely retract the transport lift cylinders. Set the front tongue cylinder so that your coulters are at the desired depth. Note the setting on the cylinder depth gauge so that you can return to the same depth after lifting the drill.

2. Make sure your 3-point drill is equipped with down floating gauge wheels. Set the drill gauge wheel to the desired setting to maintain the proper frame height for your style of drill.

   - For 00 Series drills with straight arm double disk openers, the bottom of the opener frame tube should run approximately 17 1/2 inches above the ground.
   - For 10 Series drills with parallel arm double disk openers, the drill is level when the opener mount is about 1" to 1 1/2" higher than the opener body as shown in Figure 4-5.
4. Set the individual opener down pressure springs to their lowest spring setting.
   a. For 00 Series drills with straight arm double disk openers, set the opener spring rod so the “W” clip is in the lowest hole as shown in Figure 4-6.
   b. For 10 Series drills with parallel arm double disk openers, set the down pressure spring to its lowest setting. The spring adjustment cam is positioned with the lock pin in the rear most slot for the lowest spring setting. See Figure 4-7.

5. Adjust the seeding depth of the individual openers by lifting up and sliding the press wheel adjustment knob until the desired depth is achieved Figure 4-8.

Refer to your 3-Point Drill Operator’s manual for additional setting information.

NOTE: When drilling in soft soil conditions where sinking of your drill gauge wheels may be a problem, cylinder stop bushings may be added to the lift cylinders of the All Seeds Hitch to allow your transport tires to run on the ground and assist in supporting the drill and hitch weight. Cylinder Stop Bushing Sets (G.P. #810-120C) are available through your Great Plains Dealer. Two Cylinder Bushing Sets are required for the All Seeds Hitch; (One for each lift cylinder). Make sure when adding cylinder stops that your downward floating gauge wheels are adjusted to the top of their motion range. This will allow your gauge wheel to follow the ground when drilling in rough terrain and keep constant seed metering. If the transport wheels carry too much of the weight, the drill gauge wheels may raise off the ground and cause skips to occur.

Coulter Adjustments
The coulters on the All Seeds Hitch are designed with the versatility to be used with either a drill or a planter for no-till seeding. They are adjustable both vertically and horizontally to track in line with drill openers or to provide some zone tillage for no till planter row units.

The coulters on the All Seeds Hitch are set at the factory to track in line with the openers on a 7 1/2” row spacing 3-point drill. Never move the coulters horizontally with-
out first marking their original position. It is important that the coulters are always returned to their original lateral position to provide a tilled path for drill openers to follow.

Coulter penetration is dependent on the soil condition, the weight available to force the coulters into the soil, and the coulter spring preload. In hard soil conditions, additional weight may have to be added to the All Seed Hitch and the coulter spring preload may have to be increased.

The following steps should be used to achieve the desired coulter penetration. All adjustments and settings should made with a half full seed box.

1. The depth of the All Seeds Coulter is controlled by the Front hydraulic tongue cylinder. In most conditions, the coulters will penetrate to a desirable depth by running with the coulter hitch main 8" X 8" beam level with the ground. To achieve the desired coulter penetration, retract the front tongue cylinder to transfer tractor weight to coulter tool bar. When the desired coulter depth is achieved on level ground, take note of the stroke pointer location on the front tongue cylinder, Figure 4-9. This amount of cylinder extension can be used when drilling in level fields.

2. In hard soil conditions where coulter penetration is limited or where maintaining coulter penetration tends to lift the drill box, suitcase weights can be added to the weight brackets located on the All Seeds transport frame. No more than 2000 pounds should ever be added to the transport frame weight brackets, (1000 pounds per weight bracket). Adding weight on the transport frame provides the best weight distribution for the no-till drilling system. Be sure to place an equal amount of weight on each weight bracket. If your All Seeds Hitch is equipped with the liquid fertilizer option, liquid fertilizer tanks replace the weight brackets. If the tanks are not being used for fertilizer, water can be added to the liquid tanks to provide the needed weight for coulter penetration. Generally each tank should not have to be more than half full to provide sufficient weight for coulter penetration. Be sure to add an equal amount of water to each liquid tank.

3. The coulter spring length is preset at the factory to 10" which gives the coulters an initial operating force of 400 pounds. This setting is adequate for many difficult no-till planting conditions. For lighter no-till conditions where rocks or other obstructions are a problem, it may be desirable to reduce the initial coulter preload to give the coulters better impact protection. Refer to the chart below for adjusting the initial coulter force setting.

### Coulter Down Pressure Chart

<table>
<thead>
<tr>
<th>Spring Length</th>
<th>Initial Vertical Coulter Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 1/2&quot;</td>
<td>175 lbs.</td>
</tr>
<tr>
<td>10 1/4&quot;</td>
<td>300 lbs.</td>
</tr>
<tr>
<td>10&quot;</td>
<td>400 lbs.</td>
</tr>
<tr>
<td>9 3/4&quot;</td>
<td>525 lbs.</td>
</tr>
</tbody>
</table>

**CAUTION!**

Any attempt to reset the coulter spring length shorter than 9 3/4" may contribute to premature failure of parts and warranty shall be voided.
4. For extremely hard soil conditions, where 2000 pounds on the transport frame weight brackets does not achieve the required coulter penetration, a tool bar weight bracket kit (see the "Options" Section on page 30 for ordering these kits) is available. Each weight bracket kit contains two weight brackets which will bolt above the ends of the coulter tool bar. An equal amount of weight should be added on each end of the coulter tool bar. With the transport frame weight brackets weighted to the maximum recommendations, or with the use of liquid fertilizer, a maximum total of 2400 pounds can be added to the tool bar weight brackets. (1200 pounds per weight bracket).

\[\text{NOTE: Torque 5/8" set screws 85-100 ft-lbs to obtain adequate holding force.}\]

5. In some extremely hard soil conditions, 20’ coulter tool bars may tend to have some upward flex, which would affect the coulter penetration out on the ends of the coulter tool bars. For these conditions, a coulter tool bar brace kit (GP part no. 149-188A) is available. This kit contains braces which support the ends of 20’ coulter tool bars to keep the coulter tool bars rigid. A coulter tool bar brace kit is not needed and will not fit if tool bar weight brackets are used on the ends of the coulter tool bars.

6. The individual coulters on the All Seeds Hitch are designed for quick, easy vertical adjustment. Coulters which track in tire tracks or which see more use as zone tillage coulters for planter row units may require downward adjustment to compensate for additional wear. Each coulter has a depth indicator cam which pivots on the coulter spring bar and rests against the top of the coulter clamp. The cams are lettered A through D or A through G with each letter indicating an additional 1/2” of coulter depth.

To adjust an individual coulter:

1. Loosen the 5/8” jam nuts on the 5/8” square head set screws, and then loosen the set screws.
2. Raise the coulter slightly and rotate the depth cam to desired setting and allow the cam to rest against the top of the coulter clamp.
3. Tighten the set screw on the side of the coulter clamp first. This squares the coulter bar in the clamp.
4. Tighten the set screw on the front of the coulter clamp and then tighten both 5/8” jam nuts on each set screw.

\[\text{Planter & Coulter Adjustments}\]

**Down Floating Gauge Wheels**

When using a 3-point mounted planter on an All Seeds No-Till Hitch, the planter should be equipped with downward floating gauge wheels. Downward Float on the gauge wheels is necessary to maintain a constant uninterrupted drive wheel rotation in no-till conditions. Current Great Plains Planters have spring loaded down floating gauge wheels as standard equipment.

**Planter Adjustments**

1. Lower the All Seeds Hitch and completely retract the transport lift cylinders. Set the front tongue cylinder so the zone till and fertilizer coulters are at the desired depth. Note the setting on the cylinder depth gauge so that you can return to the same depth after lifting the planter.
2. Set the planter gauge wheels to maintain a frame height of 21” from the bottom of the main frame to the ground. Maintaining the proper frame height sets the planter row units into the best position for following uneven terrain while maintaining proper seed placement.
3. Level the planter frame with the level link adjustment trunnion or top link adjustment trunnion. A level planter is essential for proper depth control and seed placement.
4. Set the depth of each individual row unit by adjusting the position of the side depth gauge wheels with the sliding tee handle. With the depth set, adjust the pressure on the furrow closing wheels to match your soil conditions. It is also important to maintain the proper depth on the row mounted coulter to provide a tilled path for the planter row unit to follow. Set the row mounted coulter at or 1/4" above the level of the double disk openers. Refer to your planter operators manual for additional and more specific planter adjustments.

**Coulter Adjustments**

The coulters on the All Seeds Hitch are designed with the versatility to be used with either a drill or a planter for no-till seeding. They are adjustable both vertically and horizontally to band liquid fertilizer and to provide zone tillage for no till planter row units.

The coulters on the All Seeds Hitch are set at the factory to track 3 3/4” on either side of a planter row unit. This provides a tilled zone in front of each no-till planter row unit and allows you to band liquid fertilizer 3 3/4” off the planter row with no lateral adjustment of the coulters.
Other tilled paths and banding distances can be achieved by moving the coulters horizontally, but the operator must keep in mind that these coulters will need to be moved back if used with a drill. Never move coulters horizontally without first marking their original position so they can be returned to those positions.

The individual coulters on the All Seeds Hitch are designed for quick, easy vertical adjustment. All of the coulters can be raised up 5 1/2” to make them inactive and 1/4 of the coulters can be lowered up to 3” for banding liquid fertilizer. Each coulter has a depth indicator cam which pivots on the coulter spring bar and rests against the top of the coulter clamp. The cams are lettered A through D except for the banding coulters which have cams lettered A through G. Each successive letter indicates an additional 1/2” of coulter depth with “A” being the baseline.

To adjust an individual coulter:

1. Loosen the 5/8” jam nuts on the 5/8” square head set screws, and then loosen the set screws.
2. Raise the coulter slightly and rotate the depth cam to desired setting and allow the cam to rest against the top of the coulter clamp.
3. Tighten the set screw on the side of the coulter clamp first. This squares the coulter bar in the clamp.
4. Tighten the set screw on the front of the coulter clamp and then tighten both 5/8” jam nuts on each set screw.

When completely lifting a coulter, only the front set screw needs tightening to hold the coulter up, but both 5/8” jam nuts should be snugged to keep the set screws in place.

For general zone-till planting, the coulter to the right of each planter row unit is not moved and is used for zone tillage. The coulter to the left of each planter row unit is lowered to the desired fertilizer banding depth. All other coulters are raised up to get them out of the ground. Always raise a coulter when it is not in use to eliminate undue wear on that coulter.

Coulter penetration is dependent on the soil condition, the weight available to force the coulters into the soil, Note: Torque 5/8” set screws 85-100 ft-lbs to obtain adequate holding force.
Section 4 Hitch, Drill, & Planter Adjustments For No-Till Planting Conditions

NOTE: The cylinder stroke gauge on the front tongue cylinder is to be used only as a reference to the amount of front cylinder extension. It does not designate inches of coulter depth.

and the coulter spring preload. In hard soil conditions, additional weight may have to be added to the All Seed Hitch and the coulter spring preload may have to be increased.

Once the individual coulters are arranged for your specific planting situation, the following steps should be used to achieve the desired coulter penetration:

1. The depth of the All Seeds Coulters is controlled by the front hydraulic tongue cylinder. In most conditions, the coulters will penetrate to a desirable depth by running with the coulter hitch main 8" X 8" beam level with the ground. To achieve the desired coulter penetration, retract the front tongue cylinder to transfer tractor weight to coulter tool bar. When the desired coulter depth is achieved on level ground, take note of the stroke pointer location on the front tongue cylinder Figure 4-11. This amount of cylinder extension can be used when planting in level fields.

2. In hard soil conditions where coulter penetration is limited or where maintaining coulter penetration tends to lift the planter tool bar, suitcase weights can be added to the weight brackets located on the All Seeds transport frame. No more than 2000 pounds should ever be added to the transport frame weight brackets, (1000 pounds per weight bracket). Adding weight on the transport frame provides the best weight distribution for the no-till planting system. Be sure to place an equal amount of weight on each weight bracket. If your All Seeds Hitch is equipped with the liquid fertilizer option, liquid fertilizer tanks replace the weight brackets. If the tanks are not being used for fertilizer, water can be added to the liquid tanks to provide the needed weight for coulter penetration. Generally each tank should not have to be more than half full to provide sufficient weight for coulter penetration. Be sure to add an equal amount of water to each liquid tank.

3. The coulter spring length is preset at the factory to 10" which gives the coulters an initial operating force of 400 pounds. This setting is adequate for many difficult no-till planting conditions. For lighter no-till conditions where rocks or other obstructions are a problem, it may be desirable to reduce the initial coulter preload to give the coulters better impact protection. Refer to the chart below for adjusting the initial coulter force setting. Fertilizer banding coulters may require higher spring preload to allow for the additional depth needed for fertilizer placement. Refer to the chart below for adjusting the initial coulter force setting.

   **CAUTION!**
   Any attempt to reset the coulter spring length shorter than 9 3/4" may contribute to premature failure of parts and warranty shall be voided.

4. For extremely hard soil conditions, where 2000 pounds on the transport frame weight brackets does not achieve the required coulter penetration, a tool bar weight bracket kit (see the "Options" Section on page 30 for ordering these kits) is available. Each weight bracket kit contains two weight brackets which will bolt above the ends of the coulter tool bar. An equal amount of weight should be added on each end of the coulter tool bar. The addition of tool bar weight brackets make it difficult to move the outside coulters laterally. With the transport frame weight brackets weighted to the maximum recommendations, or with the use of liquid fertilizer, a maximum total of 2400 pounds can be added to the tool bar.
Section 5 Maintenance & Lubrication

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

- After using your All Seeds Hitch for several hours, check all bolts to be sure they are tight.
- Always maintain the proper air pressure in the transport tires.
- Before the hitch is transported and regularly during normal operation, check the hitch safety chain. Make sure the chain is properly attached to both the hitch and the tractor draw bar. Inspect the chain and hardware for wear or other damage. Replace immediately if needed.

Storage
- Clean the drill and planter as necessary. Be sure that the seed boxes and hoppers are completely cleaned before storing.
- Lubricate and adjust all roller chains.
- The square bore of the feed cup drive sprocket hub should be oiled to prevent seizing. Squirt oil on to the square feed cup shaft and move feed cup adjustment lever back and forth in order to get the oil back into the square. This is most important before putting the hitch in storage.
- Lubricate all fittings as indicated in “Lubrication” below.
- When in storage, lower the hitch with openers on a board or hard surface. Apply a light coat of oil to exposed cylinder rods.
- Store the hitch inside if possible. Inside storage will reduce maintenance, and make for a longer hitch life.

Lubrication
- Listed below are the items you need to lubricate every 8-10 hours of operation:
  a. Top and bottom vertical pivot shaft bushing. The grease fittings are located on the back side of the vertical pivot tube on the transport frame.
  b. Front tongue pivot.
  c. Level link pivot lever tube located behind the front hydraulic tongue cylinder
  d. Center rockshaft bearings located below the quick hitch hooks.
  e. Center rockshaft 3-bolt bearing castings located on the ends of the transport rockshaft.
  f. Cylinder rod end bushings located on the rockshaft cylinder lugs.

- Listed below is the item you need to lubricate every 20-24 hours of operation:
  a. Top of coulter casting.

- Listed below is the item you need to lubricate once every season:
  a. Coulter hub bearings (zerk provided).
  b. Dual transport wheel timken bearings (repack and check seals).

Lubricate drill as noted in your 3-Point Drill manual. Lubricate planter as noted in your planter manual.

Lubrication Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Symbol" /></td>
<td>Lubrication is required every 50 hours of operation.</td>
</tr>
<tr>
<td><img src="image2.png" alt="Symbol" /></td>
<td>Lubrication is required every 10 hours of operation.</td>
</tr>
<tr>
<td><img src="image3.png" alt="Symbol" /></td>
<td>Use a multipurpose spray lube. Use as required. Do not over lubricate.</td>
</tr>
<tr>
<td><img src="image4.png" alt="Symbol" /></td>
<td>Lubrication is required.</td>
</tr>
</tbody>
</table>

Lubrication is required once every season.
Section 5 Maintenance & Lubrication

**Front Tongue To Main Frame Pivot**
Located at rear of tongue (1 Only)

*Type of grease* = Multi-purpose lithium base grease
*Quantity* = Until grease begins to emerge

**Top And Bottom Vertical Pivot Bushings**
Located on the back side of the vertical pivot tube on the transport frame (2 Total)

*Type of grease* = Multi-purpose lithium base grease
*Quantity* = Until grease begins to emerge

**Level Link Pivot Tube**
Located on top of main frame under level link (1 only)

*Type of grease* = Multi-purpose lithium base grease
*Quantity* = Until grease begins to emerge

**Center Rockshaft Bearings**
Located on bottom of Rockshaft Bearing Assembly (3 places)

*Type of grease* = Multi-purpose lithium base grease
*Quantity* = Until grease begins to emerge
**Coulter Hub Bearings**

Located at each coulter hub (1 per coulter)

- **Type of grease**: Multi-purpose high temperature lithium grease
- **Quantity**: Force grease into tapered roller bearings but do not pressurize cavity enough to blow out seal or hub cap

**Transport Hub Wheel Bearings**

Located in each transport wheel (2 total)

- **Type of grease**: Multi-purpose high pressure wheel bearing grease
- **Quantity**: Repack bearings & check seals

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**Center Rockshaft 3-Bolt Bearing Castings**

Located at rear of tongue (1 Only)

- **Type of grease**: Multi-purpose lithium base grease
- **Quantity**: Until grease begins to emerge

**Coulter Swing Arm Pivot**

Located on the top of coulter castings (one per coulter).

- **Type of grease**: Multi-purpose lithium base grease
- **Quantity**: Until grease begins to emerge
### Pivot Locks
Located below each stabilizer cylinder (2 Total)

Type of grease = Oil

<table>
<thead>
<tr>
<th>Item to be serviced</th>
<th>When to perform</th>
<th>Reference</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pivot Locks</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Maintenance & Lubrication Record**
## Section 6 Troubleshooting

### All Seeds Hitch Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coulters not going deep enough</td>
<td>Tongue cylinder is extended to much</td>
<td>Retract front tongue cylinder.</td>
</tr>
<tr>
<td></td>
<td>To much weight is being use by openers</td>
<td>Set drill openers to lightest spring setting.</td>
</tr>
<tr>
<td></td>
<td>Not enough weight</td>
<td>Add suitcase weights to transport frame weight brackets (DO NOT add more than 2000#)</td>
</tr>
<tr>
<td></td>
<td>Coulters are not set to a high enough initial compression</td>
<td>Increase initial compression on individual coulter springs.</td>
</tr>
<tr>
<td></td>
<td>Not enough weight</td>
<td>Add coulter tool bar weight brackets &amp; suitcase weights to ends of coulter tool bars. (DO NOT add more than 2400#) on coulter tool bars.</td>
</tr>
<tr>
<td></td>
<td>To high of setting on coulters</td>
<td>Lower individual coulter spring bars on tool bar.</td>
</tr>
<tr>
<td>Drill not tracking behind coulters.</td>
<td>Coulters out of alignment with openers</td>
<td>Check that coulters and drill openers are same distance from center.</td>
</tr>
<tr>
<td></td>
<td>Pivot locks are not in drilling position</td>
<td>Check that pivot locks are in the up position while drilling. Make sure they were not manually locked down.</td>
</tr>
<tr>
<td></td>
<td>Leaf spring is out of alignment</td>
<td>Check for proper adjustment of leaf spring.</td>
</tr>
<tr>
<td>Uneven seed spacing or uneven stand.</td>
<td>Drive gauge wheel are not making enough contact with ground</td>
<td>Make sure drill and planter are equipped with down floating drive gauge wheels</td>
</tr>
<tr>
<td></td>
<td>Binding in gauge wheel link</td>
<td>Check that gauge wheel link is free to float in slotted hole</td>
</tr>
<tr>
<td>Openers plugging in no-till conditions.</td>
<td>Drilling parallel to standing residue</td>
<td>Plant at a slight angle to the rows.</td>
</tr>
<tr>
<td>Drill is planting too deep.</td>
<td>Level link is letting drill tip back to much</td>
<td>Adjust top level link so that drill will not tip back in planting position</td>
</tr>
<tr>
<td></td>
<td>To deep of setting on press wheels</td>
<td>Move press wheel adjustment on openers to shallower depth.</td>
</tr>
<tr>
<td></td>
<td>To much drill weight for conditions</td>
<td>Add cylinder stops to lift cylinders so that transport tires are on the ground.</td>
</tr>
<tr>
<td>Planter planting too deep</td>
<td>Level link is pushing planter back too far.</td>
<td>Adjust top level link so planter frame is level.</td>
</tr>
<tr>
<td></td>
<td>Too deep of side depth gauge wheel setting.</td>
<td>Move side depth wheel adjustment too shallower setting.</td>
</tr>
<tr>
<td></td>
<td>Too much weight for conditions.</td>
<td>Add cylinder stops to lift cylinders so that transport tires are on the ground.</td>
</tr>
<tr>
<td>Transport lift cylinders loosing lift height</td>
<td>Rod end of clevis pin and bushing wear</td>
<td>Inspect and replace rod end cylinder clevis pin and bushings.</td>
</tr>
</tbody>
</table>
Markers
Dual Sequencing Markers are available which bolt to the All Seeds Hitch. These markers can be used with both drills and planters.

- 113-469A  15’ All Seeds Dual Markers
- 113-470A  20’ All Seeds Dual Markers

Fertilizer
- Fertilizer Tanks with a 6 or 8-Row Squeeze Pumps are available to band fertilizer beside the planter rows.
- Fertilizer Tanks with Piston Pumps are available to place liquid fertilizer on all rows behind the coulters.

- 148-241A  6-Row Fertilizer Update Kit
- 148-242A  8-Row Fertilizer Update Kit

Coulter Command
Automatic coulter depth control is available to electronically maintain coulter depth on uneven ground.

- 148-243A  Coulter Command Field Update Kit
Great Plains Mfg., Inc.

**Section 7 Options**

**Coulter Tool Bar Weight Bracket Assemblies**

The Tool Bar Weight Bracket Option is used when added weight is needed to get proper penetration on the coulters. (Weights not included)

- 149-192A 15’ All Seeds Tool Bar Weight Brackets
- 149-186A 20’ All Seeds Tool Bar Weight Brackets
- 149-032A John Deere Weight Mounting Bracket - 2 required
- 149-034A I.H. Case Weight Mounting Bracket - 2 required

**Coulter Tool Bar Brace Assembly**

The Coulter Tool Bar Brace Is Use When 20’ coulter bars are flexing upward on the ends because of extremely dry or hard ground.

Great Plains part # 149-189A
### Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>15'</th>
<th>20'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport Tires</td>
<td>11L - 5 18 ply</td>
<td>11L - 15 18 ply</td>
</tr>
<tr>
<td>Transport Width</td>
<td>15' 4&quot;</td>
<td>20'</td>
</tr>
<tr>
<td>Hitch Height</td>
<td>7' - 6&quot;</td>
<td>7' - 6&quot;</td>
</tr>
<tr>
<td>Hitch Length</td>
<td>19'</td>
<td>19'</td>
</tr>
<tr>
<td>Transport Cylinders</td>
<td>4 1/4&quot; x 10&quot;</td>
<td>4 3/4&quot; x 10&quot;</td>
</tr>
<tr>
<td>Tongue Cylinder</td>
<td>3&quot; x 8&quot;</td>
<td>3&quot; x 8&quot;</td>
</tr>
</tbody>
</table>

### Number of Rows Per Drill

<table>
<thead>
<tr>
<th>Row Spacing</th>
<th>15'</th>
<th>20'</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5&quot;</td>
<td>24</td>
<td>32</td>
</tr>
</tbody>
</table>

### Approx. Weights of All Seeds Hitch

<table>
<thead>
<tr>
<th></th>
<th>15'</th>
<th>20'</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Seeds Hitch less Coulter Tool Bar &amp; Options</td>
<td>3800</td>
<td>3825</td>
</tr>
<tr>
<td>Coulter Tool Bars</td>
<td>2340</td>
<td>3120</td>
</tr>
<tr>
<td>Fertilizer Option</td>
<td>760</td>
<td>800</td>
</tr>
<tr>
<td>Markers</td>
<td>540</td>
<td>570</td>
</tr>
</tbody>
</table>
Warranty

Great Plains Manufacturing, Incorporated warrants to the original purchaser that this seeding equipment will be free from defects in material and workmanship for a period of one year from the date of original purchase when used as intended and under normal service and conditions for personal use; 90 days for commercial or rental purposes. This Warranty is limited to the replacement of any defective part by Great Plains Manufacturing, Incorporated and the installation by the dealer of any such replacement part. Great Plains reserves the right to inspect any equipment or part which are claimed to have been defective in material or workmanship.

This Warranty does not apply to any part or product which in Great Plains’ judgement 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. This Warranty shall not apply if the product is towed at a speed in excess of 20 miles per hour.

Claims under this Warranty must be made to the dealer which originally sold the product and all warranty adjustments must be made through such dealer. Great Plains 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 Great Plains liable for damages of any kind, direct, consequential, or contingent, to property. Furthermore, Great Plains shall not be liable for damages resulting from any cause beyond its reasonable control. This Warranty does not extend to loss of crops, losses caused by harvest delays or any expense or loss for labor, supplies, rental machinery or for any other reason.

No other warranty of any kind whatsoever, expressed 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 Great Plains Manufacturing, Incorporated within 10 days from the date of original purchase.