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Important Safety Information

Look for Safety 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

Signal words designate a degree or level of hazard seriousness.

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

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

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

Use Adequate Lifting Means

The frame sections and gangs of this machine are extremely heavy. If using multiple lifters, make sure each is rated for at least its share of the load.

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.
Important Safety Information

Table of Contents

Be Familiar with Safety Decals

▲ Read and understand the “Safety Decals” section of the Operators Manual.
▲ Read all instructions noted on the decals.
▲ Keep decals clean. Replace damaged, faded and illegible decals.

Wear Protective Equipment

▲ Wear protective clothing and equipment.
▲ Wear clothing and equipment appropriate for the job. Avoid loose-fitting clothing.
▲ Because prolonged exposure to loud noise can cause hearing impairment or hearing loss, wear suitable hearing protection such as earmuffs or earplugs.
▲ Because operating equipment safely requires your full attention, avoid wearing entertainment headphones while operating machinery.

Avoid High Pressure Fluids

Escaping fluid under pressure can penetrate the skin, causing serious injury.
▲ Avoid the hazard by relieving pressure before disconnecting hydraulic lines.
▲ 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.
▲ If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury.

Use Safety Lights and Devices

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

Use lights and devices provided with implement

Keep Riders Off Machinery

Riders obstruct the operator’s view. Riders could be struck by foreign objects or thrown from the machine.
▲ Never allow children to operate equipment.
▲ Keep all bystanders away from machine during operation.
Shutdown and Storage

▲ Lower implement, put tractor in park, turn off engine, and remove the key.
▲ Secure harrow using blocks and supports provided.
▲ Detach and store harrow in an area where children normally do not play.

Tire Safety

Tire changing can be dangerous and should be performed by trained personnel using correct tools and equipment.

▲ When inflating tires, use a clip-on chuck and extension hose long enough for you to stand to one side—not in front of or over tire assembly. Use a safety cage if available.
▲ When removing and installing wheels, use wheel-handling equipment adequate for weight involved.

Safety At All Times

Thoroughly read and understand the instructions in this manual before operation. Read all instructions noted on the safety decals.

▲ Be familiar with all machine functions.
▲ Operate machinery from the driver’s seat only.
▲ Do not leave machine unattended with tractor engine running.
▲ Do not stand between the tractor and machine during hitching.
▲ Keep hands, feet and clothing away from power-driven parts.
▲ Wear snug-fitting clothing to avoid entanglement with moving parts.
▲ Watch out for wires, trees, etc., when folding and raising machine. Make sure all persons are clear of working area.
Introduction

The harrow has been designed with care and built by skilled workers using quality materials. Proper setup, maintenance, and safe operating practices will help the customer get years of satisfactory use from the machine.

Description of Unit

The 7000 Series is a single section primary and secondary tillage tool. Working width ranges from 10 to 15 feet. The implement is designed to cut out and bury roots and crop residue, kill weeds and dry out the soil, level ridges and ruts and for seedbed preparation. Various finishing attachments are also available to further smooth, redistribute residue, kill weeds, and break clods.

Models Covered

DH7110 10-Foot 1-section
DH7112 12-Foot 1-section
DH7115 15-Foot 1-section

Document Family

566-433Q Pre-Delivery Manual (this document)
556-433M Operator Manual
556-433P Parts Manual

Tools Required

• Basic Hand Tools
• Torque Wrench
• Fork Truck, Overhead Hoist or Loader

Pre-assembly Checklist

1. Before assembling, read and understand “Important Safety Information” in front part of this manual.
2. Have at least two people on hand while assembling.
3. Make sure area is level and free of obstructions (preferably an open concrete area).
4. Have all major components
5. Have all fasteners and pins shipped with machine.
Using This Manual

This manual was written to help you assemble and prepare the new machine for the customer. The manual includes instructions for assembly and setup. Read this manual and follow the recommendations for safe, efficient and proper assembly and setup.

An operator's and parts manual is also provided with the new machine. Read and understand “Important Safety Information” and “Operating Instructions” in the operator’s manual before assembling the machine. Refer to the parts manual for proper part’s identification. As a reference, keep the operator's and part's manual on hand while assembling.

The information in this manual is current at printing. Some parts may change to assure top performance.

Definitions
The following terms are used throughout this manual.

**NOTICE**

A crucial point of information related to the preceding topic. Read and follow the directions to remain safe, avoid serious damage to equipment and ensure desired field results.

Note: Useful information related to the preceding topic.

Right-hand and left-hand as used in this manual are determined by facing the direction the machine will travel while in use unless otherwise stated. An orientation rose in some line art illustrations shows the directions of: Up, Back, Left, Down, Front, Right.


**Shipping**

The harrow will be shipped partially pre-assembled.

*Refer to Figure 3*

- The machine will be shipped with center frame and wings stacked on stands and banded together.
- Finishing attachments (if equipped), will be shipped with mounted brackets assembled and all bolts will be in a box.
- Remove unit from shipping stands (if equipped), after machine is lowered to ground and carefully un-band all components.
- The shipping stand bolts are not used in the assembly of unit.
- The shipping stands do not need to be returned to Land Pride.

**Unloading**

Be sure the truck is on level ground, preferably concrete.

*Centering components:*

Be sure and center fork truck or chains (overhead hoist) on components so they won’t slide and cause injury.

**Unload Smaller Items First**

Unloading the harrow is a potentially dangerous operation.

Reduce risk and complications by first unloading

1. gangs and finishing attachments
2. misc. boxes
3. harrow (described in the next section)
4. Place these components well out of the maneuvering area needed for unloading the harrow.

**Unload harrow**

5. Double-check that all chains and tie-down straps have been released and stowed.
6. Set parking brake on trailer tractor.
7. Slowly lift the harrow off trailer bed using two fork lifts.
8. Stop lifting about 12” above the bed.
9. Have the truck driver slowly pull the trailer straight out from under the harrow.
10. Making sure to keep level from front to back and side to side, slowly lower the harrow.
11. Lower the harrow down until the machine is about 12” off ground.
12. Remove shipping stands.

**Unpacking Boxes**

Note: Position boxes in area that you can maneuver components up to machine to assembly.

13. Carefully remove banding from boxes.
14. Carefully remove banding from gangs and finishing reels.
15. Locate and identify all components before assembling.

**Further Assistance**

Land Pride Manufacturing, Inc. wants you to be satisfied with your new harrow. If for any reason you do not understand any part of this manual or are otherwise dissatisfied with the product please contact:

**Land Pride Service Department**

1525 E. North St.
PO Box 5060
Salina, KS 67402-5060

Or go to www.greatplainsag.com and follow the contact information at the bottom of your screen for our service department.
Assembly

Narrow Center Hub and Wheel Assembly
Refer to Figure 5

Note: All bolts will be pre-installed on the unit in their proper location. Bolts will need to be removed and then re-installed during assembly. See "Parts Manual" for complete break down of parts.

1. Set the two center frame section (11) on stands (12) that are tall enough to allow for installation of the wheel hubs and tires as shown.

2. Bolt the sections together using $\frac{3}{4}$" x 2-1/4" (13) hex bolts and secure with $\frac{3}{4}$" lock washers and $\frac{3}{4}$" nuts.

3. Use 1.25x7.575 hardened pins (23) to attach torque tube to frame, to secure in place use $\frac{1}{2}$ x 2-5/8 Gr 8 bolt and lock nut.

4. Bolt on SMV bracket (14) with a $\frac{3}{4}$ x 5-1/32 x 5-1/2" (15) u-bolts and secure with $\frac{3}{4}$" lock washers and $\frac{3}{4}$" nuts. Secure the SMV sign (24) to the bracket using $\frac{1}{4}$ x 3/4" pan head screws (17), $\frac{1}{4}$" lock washers and $\frac{1}{4}$" hex nuts.

5. To assemble the transport, bolt on spindles (18) use $\frac{3}{4}$ x 5" Gr. 8 (19), $\frac{3}{4}$ lock washer and nut, to secure to the torque tube (20).

6. Install tire/wheel (21) with $\frac{9}{16}$" lug nuts (22).

7. Bolts may be tightened to specs, See "Torque Values Chart" on page 14.

---

Figure 4
Frame, Hub and Wheel
Center Frame Gang Assembly

Refer to Figure 5

Note: The gang assemblies (1) will be marked as to the location on disk as “left, front”. This would refer to the left, front gang. You may also refer to the machine layout section for placement.

8. Secure the gang assemblies (1) to the frame (2) with the $6^{1/32}$ x $7^{3/4}$ u-bolts (3), $3/4$ lock washers and $3/4$ hex nuts. For gang placement see layouts in “Appendix - Reference Information”.

9. Bolts may be tightened to specs, See “Torque Values Chart” on page 16.

Figure 5
Gang to Frame Assembly
Scraper Adjustment

Refer to Figure 6

10. Assemble scraper bars by installing scraper assemblies (1) on to the tubes in approximate locations, leaving the \( \frac{1}{2} \times 2\frac{1}{32} \times 3\frac{1}{4} \) u-bolts (2) loose so that the scrapers can be moved after the bars are attached to the gang assemblies.

11. Use \( \frac{1}{2} \times 2\frac{1}{32} \times 3\frac{1}{4} \) u-bolts (2) to attach the scraper bar to the scraper bracket (4).

12. To adjust the disk scrapers loosen the u-bolts (2) that hold the disk scraper assembly (1) to the scraper tube (3) and move the scraper until it is about \( \frac{1}{8} \)" from the disc blade.

Note: Scrapers are not installed on the front outer most blades.
Hitch and Level Link Assembly

Refer to Figure 7

13. Install hitch assembly (11) to front of center frame with the 1 1/4" x 8" Gr. 8 hex bolts (12) provided. Be sure and install 1 1/4" machine washers (13) as needed on both sides, to insure a tight fit (be sure and have same amount on both sides of hitch). Secure with the 1 1/4" top lock nuts. Bolts need to be tightened down securely on the ball joints but do not torque as hitch needs to pivot freely.

14. If there is an attachment with the unit, weights may need to be installed inside the hitch (11). Remove hitch end cap (22) from front of hitch and slide in the flat weight plates (23), reinstall front plate using 3/8 x 1 1/4" bolts and washers. Place plates into the tongue with the orientation shown in Figure 7, and slide them to one side, be sure not to let the bars fall over, hold the plates upright with a tool while installing the rest of the plates.

15. Remove the tongue jack (14) from its storage location at rear of hitch and install it on the jack stub at the front of the hitch frame to support the front side of hitch.

16. Connect the bottom of leveling turnbuckle (15) to rear of hitch with 1 1/4" x 6" Gr. 5 special thread bolt (16), and 1" nylon lock nut, (do not torque bolt), connect the top of the turnbuckle to the middle hole of leveler assembly (17) with the 1 1/4" x 11" hinge pin (18), secure pin with 1/2" x 2 5/8" Gr. 8 special thread hex bolt and 1/2" top lock nut. The turnbuckle will be adjusted when the machine is completely assembled and you are leveling the machine. This procedure is outlined in the operators manual.

17. The Level Bar Spring nuts should be tightened so that the dimension from the spring guide to the front of the level bar is 26 1/2" (see illustration inset.)

18. Attach spring hose loop (20) to front of hitch assembly with 1/2" x 1 1/2" hex bolts (21), 1/2" flat washers, 1/2" lock washers and 1/2" nuts.

Figure 7
Hitch to Frame Assembly
Hydraulic Assembly

Refer to Figure 8

21. Route the tractor end of the hydraulic hoses (1) thru the spring hose loop (2) and store. Approximately 3’ of hose should extend past the hitch point. Attach hose wraps on hoses to prevent hoses from dragging or getting pinched.

22. See “Attach Hose Clamps and Hose wraps” on page 12 for proper assembly.

Attach Hose Clamps and Hose wraps

Refer to Figure 9

23. Make sure all Stauff Clamps are tight and that hoses are routed correctly. If not install hose clamps on hoses as shown.

24. Install hose wraps on hoses as needed.

Note: Be sure and get hoses and light wiring harness fastened properly so they do not drag. Check to be sure there is enough slack in hinge area when folding machine the first time.
Hydraulic Hose Hookup
25. Land Pride hydraulic hoses are color coded to help you hookup hoses to your tractor outlets. Hoses that go to the same remote valve are marked with the same color.

<table>
<thead>
<tr>
<th>Color</th>
<th>Hydraulic Function</th>
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<tr>
<td>Black</td>
<td>Lift (2 hoses)</td>
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**WARNING**

*High Pressure Fluid Hazard:*
Relieve pressure before disconnecting hydraulic lines. Use paper or cardboard, NOT BODY PARTS, to check for leaks. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Escaping fluid under pressure can have sufficient pressure to penetrate the skin causing serious injury. If an accident occurs, seek immediate medical assistance from a physician familiar with this type of injury. Only trained personnel should work on system hydraulics.

Refer to Figure 10

Hose Handles
26. To distinguish hoses on the same hydraulic circuit, refer to hose handles. The hose under an extended-cylinder symbol feeds a cylinder base end. The hose under a retracted-cylinder symbol feeds a cylinder rod end.

27. Once all hoses are tightened, hook hoses to tractor

Purging Hydraulic System
28. Charge the lift system, once the hydraulic hoses are hooked into the cylinder, extend the cylinder (black handles) until the unit is fully raised. Raise and lower the unit several times to purge air from system. Watch for leaks and re-tighten fittings if necessary.
Light Brackets and SMV Assembly

Refer to Figure 11

29. Install the amber light bracket assemblies (1) to center bars with the u-bolts provided with brackets. Position the amber light brackets (1) in-line with the bolts on the center frame for the p-clamps.

30. Attach red lights (2) on the center frame with the bolts, lock washers and the nuts provided in the locations shown.

31. Connect the wiring harness (3) leads marked right and left, red and amber to the appropriate side of the machine for turn signals to be correct. For the amber lights, thread the wires through the light bracket tubing before connecting to the lights. Connect wiring to red lights and secure with zip ties to the light brackets.

32. Tighten all bolts to specs, See “Torque Values Chart” on page 14.

Figure 11
Narrow Center Lights
C-Shank Alignment-Disc Gang Assembly
Refer to Figure 12

33. If gangs are removed from the gangbar for maintenance, care must be taken to re-align the parts correctly during re-assembly. See figure below for the proper C-shank alignment dimensions and pre-assembly procedures.

![Figure 12: C-Shank Alignment-Disc Gang](43464)

Assembly Procedure:
1) Position the gangs on the ground under the disk.
2) Install Peer bearing casting (1).
3) Lower gang bar (2) with C-shanks onto bearing casting.
4) Verify dimensions on all C-shanks for your blade size and spacing. Move U-bolts (3) as necessary.
5) Tighten bearing castings bolts and nuts (4) and gang U-bolts and nuts (5).

34. At this time the unit should be checked over for any loose bolts. Air pressure in the tires should be checked. See “Tire Inflation & Warranty” on page 17. Refer to the lubrication section of the “Operators Manual” for the lubrications for this machine. If there is any rear attachment, it should be installed at this time.

**NOTICE**

If machine is equipped with a rear attachment, be sure you install the rear jack stand, see “Parts Manual” Rear Jack Stand, so machine doesn’t tip backwards when unhooking machine from tractor.

Note: Double check that all bolts are tightened to specs, See “Torque Values Chart” on page 14. Consult the “Operator’s Manual”, for the first time field adjustments before going to the field.
## Torque Values Chart

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<td>M18 X 1.5</td>
<td>220</td>
<td>165</td>
<td>350</td>
<td>260</td>
</tr>
<tr>
<td>M20 X 2.5</td>
<td>280</td>
<td>205</td>
<td>440</td>
<td>325</td>
</tr>
<tr>
<td>M20 X 1.5</td>
<td>310</td>
<td>230</td>
<td>650</td>
<td>480</td>
</tr>
<tr>
<td>M24 X 3</td>
<td>480</td>
<td>355</td>
<td>760</td>
<td>560</td>
</tr>
<tr>
<td>M24 X 2</td>
<td>525</td>
<td>390</td>
<td>830</td>
<td>610</td>
</tr>
<tr>
<td>M30 X 3.5</td>
<td>960</td>
<td>705</td>
<td>1510</td>
<td>1120</td>
</tr>
<tr>
<td>M30 X 2</td>
<td>1060</td>
<td>785</td>
<td>1680</td>
<td>1240</td>
</tr>
<tr>
<td>M36 X 3.5</td>
<td>1730</td>
<td>1270</td>
<td>2650</td>
<td>1950</td>
</tr>
<tr>
<td>M36 X 2</td>
<td>1880</td>
<td>1380</td>
<td>2960</td>
<td>2190</td>
</tr>
</tbody>
</table>

a. in-tpi = nominal thread diameter in inches-threads per inch
b. N·m = newton-meters
c. mm x pitch = nominal thread diameter in mm x thread pitch
d. ft-lb = foot pounds

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

### Disk Gang Torque

<table>
<thead>
<tr>
<th>1/2-5</th>
<th>900-1100 ft-lbs (170 lbs on 6’ Cheater)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Wheel Bolt Torque Values</th>
<th>1/2-20 (75-85 ft-lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheel Bolt Torque Values</td>
<td>5/8-18 (85-100 ft-lbs)</td>
</tr>
</tbody>
</table>

25199
Tire Inflation & Warranty

Tire Inflation Chart

<table>
<thead>
<tr>
<th>Wheel</th>
<th>Tire Size</th>
<th>Inflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>11L X 15 Load F</td>
<td>90 psi (620 kPa)</td>
</tr>
</tbody>
</table>

Tire Warranty Information

All tires are warranted by the original manufacturer of the tire. Tire warranty information is found in the brochures included with your Operator's and Parts Manuals or online at the manufacturer's web sites listed below. For assistance or information, contact your nearest Authorized Farm Tire Retailer.

Manufacturer Web site
- Firestone        www.firestoneag.com
- Gleason              www.gleasonwheel.com
- Titan           www.titan-intl.com
- Galaxy     www.atgtire.com
- BKT          www.bkt-tire.com

Hydraulic Connectors and Torque

Refer to Figure 13 (a hypothetical fitting)

Leave any protective caps in place until immediately prior to making a connection.

1. **NPT** - National Pipe Thread
   - Note tapered threads, no cone/flare, and no O-ring.
   - Apply liquid pipe sealant for hydraulic applications. Do not use tape sealant, which can clog a filter and/or plug an orifice.

2. **JIC** - Joint Industry Conference (SAE J514)
   - Note straight threads (4) and the 37° cone (5) on "M" fittings (or 37° flare on "F" fittings).
   - Use no sealants (tape or liquid) on JIC fittings.

3. **ORB** - O-Ring Boss (SAE J514)
   - Note straight threads (5) and elastomer O-Ring (7).
   - Prior to installation, to prevent abrasion during tightening, lubricate O-Ring with clean hydraulic fluid.
   - Use no sealants (tape or liquid) on ORB fittings.
   - ORB fittings that need orientation, such as the ell depicted, also have a washer (8) and jam nut (9) ("adjustable thread port stud"). Back jam nut away from washer. Thread fitting into receptacle until O-Ring contacts seat. Unscrew fitting to desired orientation. Tighten jam nut to torque specification.

<table>
<thead>
<tr>
<th>Fitting</th>
<th>N-m</th>
<th>Ft-Lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4-18 NPT</td>
<td>1.5-3.0 turns past finger tight</td>
<td></td>
</tr>
<tr>
<td>1/2-20 JIC</td>
<td>19-20</td>
<td>14-15</td>
</tr>
<tr>
<td>1/2-20 ORB w/jam nut</td>
<td>12-16</td>
<td>9-12</td>
</tr>
<tr>
<td>1/2-20 ORB straight</td>
<td>19-26</td>
<td>14-19</td>
</tr>
<tr>
<td>9/16-18 JIC</td>
<td>24-27</td>
<td>18-20</td>
</tr>
<tr>
<td>9/16-18 ORB w/jam nut</td>
<td>16-22</td>
<td>12-16</td>
</tr>
<tr>
<td>9/16-18 ORB straight</td>
<td>24-33</td>
<td>18-24</td>
</tr>
</tbody>
</table>
Hydraulic Lift Layout

See Parts Manual for full parts breakdown of fitting and hoses.
24” Blades on 7.5” Spacing Shown

DH7110 Layout

8 Blade RH Gang 9”
9 Blade RH Gang 7 1/2”

8 Blade LH Gang 9”
9 Blade LH Gang 7 1/2”

Gang Location

2” Smaller Dia.
Heavy 4GA Blade
Full Size Dia. Blade

4 1/4
Gang Location

2” Smaller Dia.
Heavy 4GA Blade
Full Size Dia. Blade

Full Size Dia. Blade
2” Dia. Smaller Blade
4” Dia. Smaller 3-Sided Blade

Gang Location

9 Blade LH Gang 9”
10 Blade LH Gang 7 1/2”

9 Blade RH Gang 9”
10 Blade RH Gang 7 1/2”
DH7112 Layout

24” Blades on 7.5” Spacing Shown

8 Blade LH Gang 9”
11 Blade LH Gang 7 1/2”

9 Blade RH Gang 9”
11 Blade RH Gang 7 1/2”

1/4 Gang Location

2" Smaller Dia, Heavy 40A Blade
Full Size Dia. Blade

1/2 Gang Location

10 Blade LH Gang 9”
12 Blade LH Gang 7 1/2”

2" Dia. Smaller Blade
4" Dia. Smaller 5-Sided Blade

Full Size Dia. Blade

10 Blade RH Gang 9”
12 Blade RH Gang 7 1/2”

Full Size Dia. Blade

2" Dia. Smaller Blade
4" Dia. Smaller 5-Sided Blade
DH7115 Layout

24" Blades on 7.5" Spacing Shown
DH7110 3 Bar Coiltine Harrow Layout
DH7110 3 Bar Spike HR Harrow Layout
DH7110 Finishing Reel Layout
DH7112 3 Bar Coiltine Harrow Layout
DH7112 3 Bar Spike HR Harrow Layout
DH7112 Finishing Reel Layout
DH7115 3 Bar Coiltine Harrow Layout
DH7115 3 Bar Spike HR Harrow Layout
DH7115 Finishing Reel Layout

[Diagram of DH7115 Finishing Reel Layout]