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.

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Dealer Contact Information

Name: ________________________________
Street: __________________________________________
City/State: __________________________________________
Telephone: __________________________________________
Email: __________________________________________

California Proposition 65

WARNING: Cancer and reproductive harm - www.P65Warnings.ca.gov
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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 the implement.
- Keep all bystanders away from equipment and work area.
- Start tractor from the driver’s seat with hydraulic controls in neutral.
- Operate tractor 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 hitches 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.

### 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.

### 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 over head 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.

### Tire Safety
- Tire changing can be dangerous and must be performed by trained personnel using the correct tools and equipment.
- Always properly match the wheel size to the properly sized tire.
- 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.

### 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 implement.
- 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 from equipment before operation.
- Do not weld or torch on galvanized metal as it will release toxic fumes.
Important Safety Information

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 the phone.

Use 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

▲ 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 properly tightened/torqued 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.

Use Safety Lights and Devices

▲ Slow moving tractors, and self-propelled equipment 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.

Keep Riders Off Machinery

▲ Never carry riders on the 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.
Listed below are common practices that may or may not be applicable to the products described in this manual.

**Avoid crystalline Silica (quartz) Dust**

Because crystalline silica is a basic component of sand and granite, many activities at construction sites produce dust containing crystalline silica. Trenching, sawing, and boring of material containing crystalline silica can produce dust containing crystalline silica particles. This dust can cause serious injury to the lungs (silicosis).

There are guidelines which should be followed if crystalline silica (quartz) is present in the dust.

- Be aware of and follow OSHA (or other local, State, or Federal) guidelines for exposure to airborne crystalline silica.
- Know the work operations where exposure to crystalline silica may occur.
- Participate in air monitoring or training programs offered by the employer.
- Be aware of and use optional equipment controls such as water sprays, local exhaust ventilation, and enclosed cabs with positive pressure air conditioning if the machine has such equipment. Otherwise respirators shall be worn.
- Where respirators are required, wear a respirator approved for protection against crystalline silica containing dust. Do not alter respirator in any way. Workers who use tight-fitting respirators can not have beards/mustaches which interfere with the respirator seal to the face.
- If possible, change into disposable or washable work clothes at the work site; shower and change into clean clothing before leaving the work site.
- Do not eat, drink, use tobacco products, or apply cosmetics in areas where there is dust containing crystalline silica.
- Store food, drink, and personal belongings away from the work area.
- Wash hands and face before eating, drinking, smoking, or applying cosmetics after leaving the exposure area.

---

**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 can be a serious health hazard.
- Store or dispose of unused chemicals as specified by the chemical manufacturer.

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**Dig Safe - Avoid Underground Utilities**

- USA: Call 811
  CAN: digsafecanada.ca

Always contact your local utility companies (electrical, telephone, gas, water, sewer, and others) before digging so that they may mark the location of any underground services in the area.

Be sure to ask how close you can work to the marks they positioned.
This page left blank intentionally.
Safety Labels

Your Pull Type Drag Scraper 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.

---

**WARNING**

To Avoid Injury or Machine Damage:
- Read Operator’s Manual BEFORE using machine.
- Contact dealer for manual.
- Keep others away during operation.
- DO NOT allow riders.
- Lower Box Scraper to the ground, stop tractor engine, set the park brake, and remove ignition key BEFORE servicing, adjusting, or repairing.
- DO NOT put feet under box scraper when removing or adjusting shanks.

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**818-267C**

Warning - Avoid Injury or Machine Damage

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**818-188C**

Warning - Excessive Speed Hazard

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**838-094C**

Warning - High Pressure Fluid Hazard
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<td>838-615C</td>
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<td>Amber Reflector (2 Places)</td>
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<td>838-603C</td>
</tr>
</tbody>
</table>
| BB4596 & BB4510 - None; Orange Reflectors are not required.  
BB4512 - Orange Reflector (3 Places) |
| 838-614C         |
| BB4596 & BB4510 - Red Reflector (2 places)  
BB4512 - Red Reflector (3 places) |
Introduction

Land Pride welcomes you to the growing family of new product owners. This Pull Type Drag Scraper 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 product.

Application

The Land Pride BB4596, BB4510 & BB4512 Pull Type Drag Scrapers with standard axle is designed for moving large quantities of material, leveling, and finish grading. Scrapers with tilt axle can do everything the standard axle does and also remove material on an angle for sloping, terracing, and ditching. Material can be transferred by dragging it to a nearby location and then raising the scraper to deposit the load. Surfaces can be graded and leveled by scraping material from high areas and allowing accumulated material to flow out from under the grader blade in low areas.

The Pull Type Drag Scrapers have applications in feedlots, outdoor arenas, building sites, farm maintenance, and private roadways.

See “Specifications and Capacities” on page 25 and “Features and Benefits” on page 27 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 the direction the machine will operate while in use unless otherwise stated.

Definitions

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

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

Owner Assistance

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

The parts on your Pull Type Drag Scraper have been specially designed by Land Pride and should only be replaced with genuine Land Pride parts. Contact a Land Pride dealer if customer service or repair parts are required. Your Land Pride dealer has trained personnel, repair parts, and equipment needed to service the implement.

Serial Number

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 Figure 1.

Further Assistance

Your dealer wants you to be satisfied with your new drag scraper. 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
   lp servicedept@landpride.com
Section 1: Assembly & Set-up

Tractor Requirements
Tractor horsepower should be 70-130 hp (52-97 kW). Tractors outside the horsepower range must not be used. Tractor must be capable of controlling the Pull Type Drag Scraper under all operating conditions.

IMPORTANT: Your tractor may require additional ballast to maintain steering control. Refer to your Tractor’s Operator’s Manual and machine weights on page 25 to make this determination.

The number of required hydraulic duplex outlets at the tractor is dependent upon how the Pull Type Drag Scraper is set-up.

- One hydraulic duplex outlet is required if the scraper is equipped with the standard axle.
- Two hydraulic duplex outlets are required if the scraper is equipped with the tilt axle.

Assembly Checklist

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<tr>
<td>☑ Make sure miscellaneous assembly tools are on hand: Hammer, alignment punch, assortment of wrenches, and sockets.</td>
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<tr>
<td>☑ Have a forklift or hoist with properly sized chains and safety stands on hand capable of lifting 2,500 lbs.</td>
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<td>☑ Have a minimum of two people available during assembly.</td>
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<tr>
<td>☑ Make sure all major components and loose parts are shipped with the machine.</td>
<td>Operator’s Manual</td>
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<tr>
<td>☑ Double check to make sure all fasteners &amp; pins are installed in the correct location. Refer to the Parts Manual if unsure.</td>
<td>Parts Manual No. 306-096P</td>
</tr>
<tr>
<td>☑ Make sure working parts move freely, bolts are tight &amp; cotter pins are spread.</td>
<td>Operator’s Manual</td>
</tr>
<tr>
<td>☑ Make sure customer supplied quick disconnect adaptors match tractor’s duplex outlets. Quantity required depends on option selected: (2) If equipped with standard axle. (4) If equipped with tilt axle.</td>
<td></td>
</tr>
<tr>
<td>☑ Make sure all safety labels are correctly located and legible. Replace if damaged.</td>
<td>Safety Labels Page 6</td>
</tr>
<tr>
<td>☑ Make sure all red, yellow, and amber reflectors are correctly located and visible when machine is in transport position.</td>
<td>Safety Labels Page 7</td>
</tr>
<tr>
<td>☑ Make sure all tires are inflated to the specified psi air pressure.</td>
<td>Section 8 Page 28</td>
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<tr>
<td>☑ Make sure all wheel bolts are tightened to the correct torque.</td>
<td>Section 8 Page 28</td>
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Dealer Preparations
This Pull Type Drag Scraper has been partially assembled at the factory. Additional assembly will be required before the unit can be attach to the customer’s tractor. Make sure the intended tractor conforms to the “Tractor Requirements” above.

IMPORTANT: Be sure to retain all uncrating hardware for assembly and set-up.

Torque Requirements
Refer to “Torque Values Chart” on page 28 to determine correct torque values when tightening hardware.

Special Uncrating Instructions

WARNING
To avoid serious injury or death:
Always secure heavy components with a hoist or other lifting device before removing hardware and bands that secure the components. Heavy components can fall suddenly causing serious injury or death.

IMPORTANT: Be sure to retain all uncrating hardware for assembly and set-up.

Tongue and Axle Removal
Refer to Figure 1-4 on page 11:
1. Cut bands securing tongue (#1) and lift tongue from the crate floor with a lifting hoist.

Refer to Figure 1-1:
2. Attach hoist to axle frame (#2) to keep axle frame from rotating on its wheel(s) while removing attaching hardware.
3. If tilt cylinder is included, cut zip ties securing tilt cylinder hydraulic hoses to the scraper frame.
4. Remove bolt and nut (#1). Keep bolt and nut for reuse during assembly of axle to scraper.

Read and understand the Operator’s Manual. An understanding of how the unit works will aid in the assembly and setup.

Be sure to go through the Pre-Assembly Checklist before assembling the Pull Type Drag Scraper. Speed up your assembly task and make the job safer by having all needed parts and equipment readily at hand.

8/12/20
Refer to Figure 1-2:
5. Remove axle frame from the crate. If included, be careful not to bump tilt cylinder elbow (#1) against the scraper mainframe while lifting the axle frame.

Wheel Installation
(BB4596 & BB4510 Only)
Refer to Figure 1-3:
Models BB4596 and BB4510 are shipped with one of the wheels removed for crating purposes.
1. Attach removed wheel (#7) to hub (#8) with lug nuts (#9).
2. Tighten lug nuts to the correct torque.

Weight Box Removal (Optional)
Refer to Figure 1-3:
If included, weight box (#1) is shipped assembled to the underside of the axle frame (#2) and will need to be removed before attaching axle frame to the scraper.
1. Turn axle frame (#2) upside down as shown so that the weight box (#1) is on top. (Standard axle shown in illustration)

NOTE: If included, weight box (#1) is shipped assembled to the underside of the axle frame (#2) and will require removal before attaching axle frame to the scraper frame.
Section 1: Assembly & Set-up

2. Remove hex nuts (#4), lock washers (#5), flat washers (#6), and 1/2"-13 x 1 1/4" GR5 hex head cap screws (#3). Store hardware in a safe location for reattaching the weight box later.

3. Remove weight box (#1) and store in a safe place for assembling to the scraper frame later.

Drag Scraper Removal
Refer to Figure 1-4:

4. Attach lifting hoist to bolt (#2) inside the 4" square tubing and remove all hardware securing the axle frame to the crate.

5. Lift Drag Scraper off the crate and rotate 4" square tube down onto a support set at a height that will hold the scraper level.

Tongue Assembly
Refer to Figure 1-4:

1. Remove nylock nuts (#3), bolts (#2), and Z-brackets (#4 in Figure 1-1 on page 9) from scraper frame. Keep bolts (#2) and nylock nuts (#3) for reuse. Z-brackets can be discarded.

2. Insert tongue (#1) into scraper frame oriented as shown.

3. Attach tongue to scraper frame with existing 1"-8 x 6 1/2" lg. GR5 hex bolts (#2).

4. Secure bolts with hex nylock nuts (#3). Tighten nylock nuts to the correct torque.

NOTE: Park Jack mount should be located to the front and on the left side as shown.

NOTE: Support 4" tube here to hold Drag Scraper level during Assembly & Set-up.
**Hitch Options & Assembly**

There are three different hitch options available, Clevis Hitch, Swivel Clevis Hitch, and Swivel Ball Hitch.

**Clevis Hitch**

**306-122A  Clevis Hitch**

*Refer to Figure 1-5:*

The Clevis Hitch does not swivel and should be used only with the standard axle.

1. Insert Clevis Hitch (#1) into the tongue.
2. Insert 3/4"-10 x 5" lg. GR5 hex head cap screw (#3) through the back holes and secure with locknut (#5). Do not tighten locknut at this time.
3. Insert 3/4"-10 x 6" lg. GR5 hex head cap screw (#4) through the front holes, safety chain (#7), safety chain washer (#2), flat washer (#6) as shown, and secure with locknut (#5).
4. Tighten both locknuts (#5) to the correct torque.

**Swivel Clevis Hitch**

**306-113A  Swivel Clevis Hitch**

*Refer to Figure 1-6:*

The Swivel Clevis Hitch rotates on a pivot pin secured with a castle nut and cotter pin. This hitch is designed to be used with the tilt axle and tractors equipped with a standard drawbar.

1. Install Swivel Clevis Hitch (#1) over the sides of the tongue as shown.
2. Insert 3/4"-10 x 6 1/2" lg. GR5 hex head cap screw (#3) through the back holes and secure with locknut (#5). Do not tighten locknut at this time.
3. Insert 3/4"-10 x 7 1/2" lg. GR5 hex head cap screw (#4) through the front holes, safety chain (#7), safety chain washer (#2), flat washer (#6) as shown, and secure with locknut (#5).
4. Tighten both locknuts (#5) to the correct torque.

**Swivel Ball Hitch**

**306-121A  Swivel Ball Hitch**

*Refer to Figure 1-7:*

The Swivel Ball Hitch rotates about a ball and socket pin connection. It should be used with a hammer strap above the drawbar. The swivel ball is positioned between the drawbar and hammer strap when hooking-up.

1. Insert Swivel Ball Hitch (#1) into the tongue.
2. Insert 3/4"-10 x 5" lg. GR5 hex head cap screw (#3) through the back holes and secure with locknut (#5). Do not tighten locknut at this time.
3. Insert 3/4"-10 x 6" lg. GR5 hex head cap screw (#4) through the front holes, safety chain (#7), safety chain washer (#2), flat washer (#6) as shown, and secure with locknut (#5).
4. Tighten both locknuts (#5) to the correct torque.
Standard Axle & Park Jack

Refer to Figure 1-8:

1. Attach standard axle (#1) to moldboard clevises with three 1"-8 x 4 1/2" GR5 hex head cap screws (#2) and hex flange locknuts (#3). Draw locknuts up snug, do not tighten.

2. Attach both ends of hydraulic lift cylinder (#6) to upper and lower lifting lugs with 1" clevis pins (#4). Make sure base end of cylinder is located above rod end as shown.

3. Secure clevis pins with 3/16" x 1 3/4" cotter pins (#5). Bend one or both cotter pin legs to retain cotter pins.

4. Route hydraulic hoses (#9 & #10) through spring hose loop “B” and bracket “A.”

5. Attach customer supplied quick couplings (#8) to hydraulic hoses (#9 & #10) and tighten.

6. If required, loosen 90° elbow fittings (#7) on hydraulic cylinder (#6). Rotate elbows to suit and retighten.

7. Attach park jack (#11) to stub on tongue with detent hitch pin (#12). Make certain detent pin is fully inserted into park jack.
Tilt Axle & Park Jack
Refer to Figure 1-9:

1. Orient axle (#1) with hydraulic cylinder (#7) on top. Attach tilt axle (#1) to moldboard clevises with three 1"-8 x 4 1/2" GR5 hex head cap screws (#2) and hex flange locknuts (#3). Draw locknuts up snug, do not tighten.

2. Attach both ends of hydraulic lift cylinder (#6) to upper and lower lifting lugs with 1" clevis pins (#4). Make sure base end of cylinder is located above rod end as shown.

3. Secure clevis pins with 3/16" x 1 3/4" cotter pins (#5). Bend one or both cotter pin legs to retain cotter pins.

4. Route hydraulic hoses (#10 & #11) through spring hose loop “B” and hose bracket “A”.

5. Route hydraulic hoses (#12 & #13) through bracket “C”, spring hose loop “B”, and bracket “A”.

6. Attach customer supplied quick couplings (#9) to all hydraulic hoses and tighten.

7. If required, loosen 90° elbow fittings (#8) on hydraulic cylinders (#6 & #7). Rotate elbows to suit and tighten.

8. Attach park jack (#14) to stub on tongue with detent hitch pin (#15). Make certain detent pin is fully inserted into park jack.

NOTE: The hydraulic hoses for Hydraulic tilt cylinder (#7) should be longer than the hydraulic hoses for hydraulic lift cylinder (#6). If they are shorter, change the two cylinders around.
Weight Box Assembly (Optional)
Refer to Figure 1-10:

IMPORTANT: The weight box can be filled level full of concrete. Make sure in assembly that the heads of cap screws (#2) are inside the box and that the nuts are outside the box for easy removal when full of concrete.

1. Attach weight box (#1) to the standard axle or tilt axle by inserting 1/2"-13 x 1 1/4" GR5 hex head cap screws (#2) in from the top of the weight box.

2. Secure cap screws with flat washers (#5), lock washers (#4), and hex nuts (#3). Tighten hex nuts to the correct torque.
LED Light Kit Option

Refer to Figure 1-11:

LED Light Kit is optional with BB4596 & BB4510 and standard with the BB4512 model. The lead wiring harness (#4) is equipped with a 7-way round pin connector. Make sure your tractor is equipped with the 7-pin electrical outlet shown in Detail B.

1. Lower scraper until unit is resting on the ground.

NOTE: Amber lights “A” are located outside facing front and back. Red lights “B” are located inside facing back only.

3. If unassembled, attach magnets (#7) with boots (#8) and self drill screws (#9) to the base of the right-hand light (#6).
4. Mount right-hand light (#6) on top of the right-hand side of the rear blade panel as shown with red light facing back and to the inside.
5. Repeat steps 3 & 4 for the left-hand light (#5).

NOTE: Right-hand wire harness (#1) has a red wire showing at both ends. Left-hand wire harness (#2) has a yellow wire showing at both ends.

NOTE: See Detail A: Connector pins are labeled A, B, C, & D. Match yellow and red wires with same pin letters when attaching wire harness (#1 & #2) to light assemblies (#5 & #6) and module (#3).

6. Red wires in connectors (#1A & #1B) are attached to pin “D” shown in Detail A. Plug connectors (#1A & #1B) together.
7. Amber wires in connectors (#2A & #2B) are attached to pin “B” shown in Detail A. Plug connectors (#2A & #2B) together.
8. Route wire harnesses (#1 & #2) along the top of the rear blade panel to enhance module (#3). Plug connectors at the module together as follows:
   a. Red wires in connectors (#1C & #1D) are attached to pin “B” shown in Detail A. Plug connectors (#1C & #1D) together.
   b. Amber wires in connectors (#2C & #2D) are attached to pin “C” shown in Detail A. Plug connectors (#2C & #2D) together.
9. Attach connector (#3A) to connector (#3B) on lead wire harness (#4).
10. Route lead wire harness (#4) through spring hose loop (#12) and tongue hose loop (#13).
11. Connect wire harness (#4) to the tractor’s 7-way round pin receiver.
12. Start tractor and operate lights to verify hook-up is operating properly:
   a. Turn on head lights to verify red lights illuminate.
   b. Turn on flasher lights to verify amber light are blinking on and off.
13. If the lights did not operate properly, recheck hook-up of wire harnesses (#1 & #2). Make necessary changes to the harnesses and repeat step 12 above.
14. Recheck wire harness routing to make sure wires will not pinch as scraper is raised and lowered.
15. With the two longer cable ties (#10), tie enhance module (#3) to hydraulic hoses between spring hose loop (#12) and lift cylinder.
16. Add cable ties (#11) to wire harnesses (#1, #2, & #4) as needed along the back of rear blade panel and along the hydraulic hoses.
17. Draw all cable ties up tight to secure wire harness (#1 & #2) and enhance module (#3).
Section 2: Operating Procedures

Startup Checklist
Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training involved in the operation, transport, storage, and maintenance of the Pull Type Drag Scraper. Therefore, it is absolutely essential that no one operates the scraper 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:

Perform the following inspections before using your Drag Scraper.

Operating Checklist

<table>
<thead>
<tr>
<th>Check</th>
<th>Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read and follow all safety rules carefully. Refer to “Important Safety Information”:</td>
<td>Page 1</td>
</tr>
<tr>
<td>Read &amp; follow all assembly instructions. Refer to &quot;Section 1: Assembly &amp; Set-up&quot;:</td>
<td>Page 9</td>
</tr>
<tr>
<td>Read and follow all operating procedures. Refer to &quot;Section 2: Operating Procedures&quot;:</td>
<td>Page 18</td>
</tr>
<tr>
<td>Read and follow all maintenance instructions. See &quot;Section 4: Maintenance &amp; Lubrication&quot;:</td>
<td>Page 23</td>
</tr>
<tr>
<td>Make sure there are no hydraulic leaks. Refer to &quot;Avoid High Pressure Fluids Hazard&quot;:</td>
<td>Page 3</td>
</tr>
<tr>
<td>Check initially and periodically for loose bolts and pins. Refer to “Torque Values Chart”:</td>
<td>Page 28</td>
</tr>
</tbody>
</table>

**DANGER**
To avoid serious injury or death:

- Always secure equipment with solid, non-concrete supports before working under it. Never go under equipment supported by concrete blocks or hydraulics. Concrete can break, hydraulic lines can burst, and/or hydraulic controls can be actuated even when power to hydraulics is off.

- 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.

**WARNING**
To avoid serious injury or death:

- Hydraulic fluid under high pressure can penetrate the skin and/or eyes causing a serious injury. Wear protective gloves and safety glasses or goggles when working with hydraulic systems. Use a piece of cardboard or wood rather than hands when searching for leaks. A doctor familiar with this type of injury must treat the injury within a few hours or gangrene may result. DO NOT DELAY.

- Do not operate and/or travel across inclines where tractor and/or implement can rollover. Consult your tractor’s manual for acceptable inclines the tractor is capable of traveling across.

- 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.

- Allow only persons to operate this implement who have fully read and comprehended this manual, who have been properly trained in the safe operation of this implement, and who are age 16 or older. Serious injury or death can result from the inability to read, understand, and follow instructions provided in this manual.

- Never carry riders on the implement or tractor. Riders can obstruct the operator’s view, interfere with controls, be pinched by moving components, become entangled in rotating components, struck by objects, thrown about, fall off and be run over, etc.

- Do not use implement as a man lift or work platform. It is not properly designed or guarded for this use.

- Do not use implement to lift objects; to pull objects such as fence posts, stumps, etc; or to push objects. The unit is not designed or guarded for these uses.

- Do not use implement to tow other equipment unless it is designed with a tow hitch. Doing so can result in loss of control and damage the equipment.

- Do not turn tractor tires into the tongue or frame. Doing this can result in loss of control and/or damage the implement. Slow down and watch tractor tires carefully when forced to make sharp turns.

- Do not exceed the weight tray weight limit. Exceeding the limit can damage the tires and scraper frame.

- Never make contact with underground utilities such as electrical power lines, gas lines, phone lines, etc. They can cause serious injury or death from electrocution, explosion, or fire. If in doubt, call 811 (USA) before digging so that they can mark the location of underground services in the area. For contact information, see Dig Safe in the “Important Safety Information” starting on page 1.

Tractor Shutdown Procedure
The following are basic tractor shutdown procedures. Follow these procedures and any additional shutdown procedures provided in your tractor Operator’s Manual before leaving the operator’s seat.

1. Reduce engine speed and disengage power take-off if engaged.
2. Park tractor and implement on level, solid ground.
3. Lower implement to ground or onto non-concrete support blocks.
4. Put tractor in park or set park brake, turn off engine, and remove switch key to prevent unauthorized starting.
5. Relieve all hydraulic pressure to auxiliary hydraulic lines.
6. Wait for all components to come to a complete stop before leaving the operator’s seat.
7. Use steps, grab-handles and anti-slip surfaces when stepping on and off the tractor.
Tractor Hook-up

**DANGER**

To avoid serious injury or death:

A crushing hazard exists while hooking-up and unhooking the implement. Keep people and animals away while backing-up to the implement or pulling away from the implement. Do not operate hydraulic controls while a person or animal is directly behind the power machine or near the implement.

**WARNING**

To avoid serious injury or death:

- Make sure the hitch pin is secured to the tractor drawbar with a keeper clip and implement safety chain is attached to the tractor to help protect against the implement becoming unhooked and out of control while traveling.
- Always shut tractor down using “Tractor Shutdown Procedure” provided in this manual before allowing anyone including the operator to hook-up and unhook implement.

**IMPORTANT:** Only use park jack (#9) if storing the Drag Scraper in transport position (cutting edge off the ground). Instructions below are for hooking-up the Drag Scraper with cutting edge on the ground.

Refer to Figure 2-1:

1. Start tractor and raise lower 3-point arms fully up. Carefully back tractor within close proximity of hitch clevis (#5).
3. Attach the pair of hydraulic hoses (#3) coming from the lift cylinder to the tractor’s duplex outlet controlled by the hydraulic lever located closest to the operator.
4. If optional tilt axle cylinder is included, attach the pair of hydraulic hoses (#4) connected to the tilt cylinder to a second duplex outlet.
5. Return to the tractor seat, start tractor, and operate control lever to raise rear wheels up until scraper hitch (#5) aligns with tractor drawbar.
6. Back tractor up to the hitch until holes in the scraper hitch align with tractor drawbar hitch hole.
8. Attach scraper hitch (#5) to the tractor with hitch pin (#6). Secure hitch pin with hitch pin keeper (#7).
9. Attach safety chain (#8) to the tractor frame. Make sure safety chain is secured.

Hook-up LED Lights

Refer to Figure 2-2:

Optional with BB4596 & BB4510. Standard with BB4512.

The lead wiring harness (#13) is equipped with a 7-way round pin connector for connecting to the tractor’s 7-pin electrical outlet shown in Figure 2-2.

1. Route lead wire harness (#13) through spring hose loop (#11) and tongue hose support loop (#12).
2. Connect lead wire harness (#13) to the tractor’s 7-way round pin receiver.
3. It is best to have a second person verify the lights are operating. Start tractor and operate lights as follows:
   a. Turn on head lights to verify red lights illuminate.
   b. Turn on flasher lights to verify amber light are blinking on and off.
4. If lights did not operate properly, check all electrical connections on the wire harness. Yellow and red wires with same pin letters should match at the connections. Make necessary changes and repeat step 3 above.

5. Check wire harness routing to make sure wires will not be pinched as the unit is raised and lowered.

---

### Field Set-up

**WARNING**

To avoid serious injury or death:

- When traveling on public roadways, travel in such a way that faster moving vehicles may pass safely. Use accessory 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.

- Make sure implement does not block tractor’s Slow Moving Vehicle (SMV) sign when transporting on a public road. If operators in vehicles approaching from the back cannot easily see the sign, then install one on the implement that is visible to warn of your presence.

- When transporting, secure the scraper in the up position with the cylinder transport lock. Hydraulics can seep or burst dropping the scraper resulting in loss of control.

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### General Operating Instructions

Once you have familiarized yourself with the Operator’s Manual, completed the operations checklist, and properly attached your Land Pride Pull Type Drag Scraper to your tractor, you are now almost ready to begin work. Make sure you have checked out your work site for any buried utility cables, pipelines, or other obstacles that you wouldn’t want to damage or encounter.

Pull Type Drag Scrapers are ideal for moving large quantities of material, leveling, finish grading, and removal of material on an angle. They have applications on feedlots, outdoor arenas, building sites, maintenance operations on farms, private roadways, sloping ground, building terraces, and making ditches.

The scraper’s primary purpose is grading and leveling. If tilt axle is used, it can also do angle work. These functions are best done at an approximate ground speed of 2 to 4 mph. Simply lower the scraper to the ground and proceed forward. The grader blade should immediately begin shaving the soil surface or aggregate material and accumulating it in the box. You can transfer this material by dragging it to a nearby location and then raising the scraper to deposit your load. You can also
Section 2: Operating Procedures

achieve uniform distribution and leveling of scraped material by setting the scraper to shave off high spots and allowing accumulated material to flow out under the grader blade in low spots. If the ground or surface material is very hard, you may want to add weights in the weight box in order for the cutting edge to be effective. Achieving the desired effect will require a little experimentation and experience. Pull Type Drag Scrapers generally perform better in dry to slightly damp soil conditions.

Your Land Pride Pull Type Drag Scraper can also be used for making slopes, terracing, and ditching if the tilt axle is used. Just simply extend the tilt cylinder to lower the right side of the grader blade. Fully retract the tilt cylinder to return the grader blade to level.

With a little practice you should become a very good operator and consistently achieve the desired results you expect with your Land Pride Pull Type Drag Scraper. See Specifications and Capacities" page 25 and Features and Benefits" on page 27 for additional information and performance enhancing options.

Unhook Tractor

DANGER
To avoid serious injury or death:
A crushing hazard exists while hooking-up and unhooking the implement. Keep people and animals away while backing-up to the implement or pulling away from the implement. Do not operate hydraulic controls while a person or animal is directly behind the power machine or near the implement.

Refer to Figure 2-4:
1. Park Pull Type Drag Scraper on a level solid hard surface.
2. If optional tilt axle cylinder is included, fully retract tilt cylinder to level the scraper’s cutting edge.
3. If transport lock (#1) is attached to lift cylinder (#3) as shown in Figure 2-3 on page 20, then relocate it to the drawbar as follows:
   a. Fully extend lift cylinder to raise scraper up.
   b. Without lowering the scraper, shut tractor down. See “Tractor Shutdown Procedure” on page 18.
   c. Refer to Figure 2-3 on page 20: Remove wire retaining pin (#2) and transport lock (#1) from cylinder rod (#3).
   d. Store transport lock (#1) on the gusset plate with wire retaining pin (#2) as shown in Figure 2-4.
4. Start tractor and lower scraper until its cutting edge is resting on the ground and hitch weight is off the tractor drawbar.
6. Pull hitch pin keeper (#7) and hitch pin (#6).
7. Start tractor and slowly move tractor forward until tractor drawbar is clear of scraper hitch (#5). Do not travel so far forward as to cause wire harness (#13) or hydraulic hoses (#3 or #4) to disconnect.
8. Use lift control lever to lower scraper until cutting edge and side plates are resting on the ground.
9. Unhook wire harness (#13) from the tractor. Store coupler end of wire harness in hose support loop (#11).
10. Unhook hydraulic hoses (#3 & #4) from tractor. Store hydraulic hose ends in spring hose loop (#11).
11. Store hitch pin (#6) and keeper (#7) with scraper. If hitch pin is used with other equipment, store hitch pin and keeper with the tractor.
12. Unhook safety chain (#8). Store safety chain wrapped around the scraper tongue.
13. Drive tractor carefully away from scraper.
Standard or Tilt Axle
The Pull Type Drag Scraper can be purchased with either a standard or tilt axle. The standard axle is for doing level work only. The tilt axle can do both level work and angle work.

Standard Axle
Refer to Figure 3-1:
The Standard axle has one lift cylinder for raising and lowering the unit. Included with the axle and tires are three pivot bolts for attaching the unit to the moldboard, one hydraulic lift cylinder and two hydraulic hoses. Customer to supply two quick connect couplings for attaching hoses to the tractor.

Tilt Axle
Refer to Figure 3-2:
The Tilt axle has two cylinders. The lift cylinder raises and lowers the unit. The tilt cylinder raises the left side up giving the grader blade an angle for sloping, terracing, and ditching work. The right side point can extend below grade by as much as 7" with BB4596, 7 5/8" with BB4510, and 8 1/4" with BB4512. Included with the axle and tires are three pivot bolts for attaching the unit to the moldboard, one hydraulic lift cylinder, one hydraulic tilt cylinder, and four hydraulic hoses. Customer to supply four quick connect couplings for attaching the hoses to the tractor.

Weight Box
Refer to Figure 3-3:
A weight box can be added to the standard axle or tilt axle to help force the blade into hard material. It adds approximately 760 lbs. to the scraper when filled with concrete. Hardware for attaching the weight box to the axle is included.
General Maintenance Information
Proper servicing and adjustment is the key to the long life of any implement. With careful inspection and routine maintenance, you can avoid costly downtime and repair.

Check all bolts after using the unit for several hours to be sure they are tight. Replace any worn, damaged, or illegible safety labels by obtaining new labels from your Land Pride dealer.

The parts on your Pull Type Drag Scraper have been specially designed and should only be replaced with genuine Land Pride parts. Do not alter the scraper in a way which will adversely affect its performance.

DANGER
To avoid serious injury or death:
Always secure equipment with solid, non-concrete supports before working under it. Never go under equipment supported by concrete blocks or hydraulics. Concrete can break, hydraulic lines can burst, and/or hydraulic controls can be actuated even when power to hydraulics is off.

WARNING
To avoid serious injury or death:
• Perform scheduled maintenance. Check for loose hardware, missing parts, broken parts, structural cracks, and excessive wear. Make repairs before putting the implement back into service.
• 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.

Tractor Maintenance
One of the most important things you can do to prevent hydraulic system problems is ensure that your tractor’s reservoir remains free of dirt and contamination. Use a clean cloth to wipe hose ends before attaching them to your tractor. Replace your tractor’s hydraulic filter element at the prescribed intervals. These simple maintenances will go a long way to prevent occurrence of control valve and hydraulic cylinder problems.

Cutting Blade
Refer to Figure 4-1:
Always inspect cutting blade (#3) before each use. Make certain it is properly installed and in good working condition.

1. Unbolt cutting blade (#3) and turn it over when the bottom cutting edge is worn out. Replace blade when the top and bottom edges are worn out.
2. Inspect 5/8" -11 x 1 1/2" GR5 plow bolts (#1) and hex flange locknuts (#2) for wear. Replace if worn out.
3. Reattach blade (#3) with plow bolts (#1) and hex flange locknuts (#2). Tighten nuts to the correct torque.

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.

DANGER
To avoid serious injury or death:
Always secure scraper in the up position with solid supports before working under the scraper.

1. Scrape off compacted dirt and then wash scraper surfaces thoroughly with a garden hose.
2. Check grader blade and grader blade mounting bolts for wear. Reverse or replace grader blade if needed. Replace hardware if worn excessively.
3. Inspect scraper for loose, damaged, or worn parts. Adjust and tighten loose parts or replace as needed.
4. Repaint parts where paint is worn or scratched to prevent rust. Ask your dealer for Land Pride Aerosol touch-up paint. Paint is also available in touch-up bottles with brush, quarts, and gallon sizes by adding TU, QT, or GL to the end of the Aerosol part number.

5. Replace all damaged or missing decals.
6. Apply a light coat of oil or grease to the lower moldboard, side panels, grader blade, and exposed hydraulic cylinder rods to minimize oxidation.
7. Store scraper on a level surface in a clean, dry place. Inside storage will reduce maintenance and make for a longer scraper life.
8. Follow all unhooking instructions on page 21 when unhooking from the tractor.

Land Pride Touch-up Paint

<table>
<thead>
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<th>Part No.</th>
<th>Part Description</th>
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<tbody>
<tr>
<td>821-011C</td>
<td>PAINT LP BEIGE SPRAY CAN</td>
</tr>
<tr>
<td>821-066C</td>
<td>PAINT ORANGE SPRAY CAN</td>
</tr>
<tr>
<td>821-070C</td>
<td>PAINT GP GLOSS BLACK SPRAY CAN</td>
</tr>
</tbody>
</table>

Cutting Blade Removal & Replacement

Figure 4-1
Ordering Replacement Parts

Land Pride offers equipment in factory standard Beige with black highlights. This implement is also available in Orange.

When ordering an optional color, the suffix number corresponding to the color must be added at the end of the part number. Parts ordered without the suffix number will be supplied in factory standard colors.

82 . . . . . Orange  85 . . . . . Black

For example, if you are ordering a replacement part with part number 555-555C and the existing part is orange, then add the suffix 82 to the end of the number to make the part number read 555-555C82.

Lubrication Points

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<th>Lubrication Legend</th>
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<tr>
<td>Multi-purpose spray lube</td>
<td>10</td>
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<tr>
<td>Multi-purpose grease lube</td>
<td>50</td>
</tr>
<tr>
<td>Multi-purpose oil lube</td>
<td>50</td>
</tr>
</tbody>
</table>

Axle Hub Bearings

1-zerk per wheel (Zerk can be on either side as shown)
Grease wheel bearings every 50 hours.
1-zerk per wheel (zerk can be on either side as shown)
Quantity = 2 pumps
Repack wheel bearings annually

Tilt Axle Pivot Point

1-zerk
Type of Lubrication: Multi-Purpose Grease
Quantity = 2 pumps or until grease emerges
### BB45 Series

#### Specifications & Capacities

<table>
<thead>
<tr>
<th>Model numbers</th>
<th>Units</th>
<th>Model BB4596</th>
<th>Model BB4510</th>
<th>Model BB4512</th>
</tr>
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<tbody>
<tr>
<td>tractor horsepower rating</td>
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<td>Transport width</td>
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<td>10' - 0 3/4&quot; (3.07)</td>
<td>12' - 0 3/4&quot; (3.68)</td>
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<td>Working width</td>
<td>ft-in (m)</td>
<td>7' - 11 1/8&quot; (2.42)</td>
<td>10' - 0&quot; (3.05)</td>
<td>12' - 0&quot; (3.66)</td>
</tr>
<tr>
<td>Capacity</td>
<td>cu yds (m³)</td>
<td>1 3/4 (1.34)</td>
<td>2 1/4 (1.72)</td>
<td>2 3/4 (2.1)</td>
</tr>
<tr>
<td>Weight with weight box</td>
<td>Standard axle:</td>
<td>Weights are without material in weight box</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tilt axle:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>lbs (kg)</td>
<td>lbs (kg)</td>
<td>lbs (kg)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,405 (637)</td>
<td>1,525 (692)</td>
<td>1,580 (717)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,525 (692)</td>
<td>1,645 (746)</td>
<td>1,700 (771)</td>
</tr>
<tr>
<td>Weight of material in weight box</td>
<td>lbs (kg)</td>
<td>760 (345) Level full with concrete</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tongue Weight</td>
<td>lbs (kg)</td>
<td>506 (230)</td>
<td>437 (198)</td>
<td>467 (212)</td>
</tr>
<tr>
<td>Depth of bucket</td>
<td>in (cm)</td>
<td>36 (91) From front of side panel to cutting edge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum cutting depth</td>
<td>in (cm)</td>
<td>5 (13) Below grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dump clearance</td>
<td>in (cm)</td>
<td>21 (53)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum tilt depth to the right</td>
<td>in (cm)</td>
<td>7 (18) Drop on blade point</td>
<td>7 5/8 (19) Drop on blade point</td>
<td>8 1/4 (21) Drop on blade point</td>
</tr>
<tr>
<td>Maximum tilt angle</td>
<td></td>
<td>3 1/2 Degrees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tongue construction</td>
<td>in (cm)</td>
<td>4 x 4 (10 x 10) Square tubing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross beam construction</td>
<td>in (cm)</td>
<td>4 x 4 (10 x 10) Square tubing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side panel construction</td>
<td>in (cm)</td>
<td>3/8 x 24 high x 40 deep (1 x 61 high x 102 deep) with heavy angle reinforcement on the diagonal extending from lower front corner to upper back corner and corner gussets extending from cross beam to side panel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moldboard construction</td>
<td>in (cm)</td>
<td>Break formed 1/4 x 24 (0.6 x 61) high</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutting blades</td>
<td>in (cm)</td>
<td>Reversible/replaceable 1/2 x 6 (1.3 x 6) high carbon heat treated blade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bucket reinforcement</td>
<td></td>
<td>3 Brace bars</td>
<td>3 Brace bars</td>
<td>5 Brace bars</td>
</tr>
<tr>
<td>Cutting blade reinforcement</td>
<td>in (cm)</td>
<td>3 x 3 x 3/8 (7.6 x 7.6 x 1) Angle iron welded to the moldboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tires</td>
<td>in (cm)</td>
<td>15 (38) Ribbed implement tires on new wheels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum transport speed</td>
<td>mph (km/h)</td>
<td>20 mph (32 km/h)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lift cylinder</td>
<td>in (cm)</td>
<td>3 bore x 8 stroke (7.6 bore x 20 stroke)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tilt cylinder</td>
<td>in (cm)</td>
<td>3 bore x 8 stroke (7.6 bore x 20 stroke)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Options

- Hitch types: Clevis hitch, swivel clevis hitch, or swivel ball hitch
- Axle types: Standard axle or tilt axle
- Weight box: Available for standard axle and tilt axle
BB4596 = 8' - 0" (2.44 m)
BB4510 = 10' - 3/4" (3.07 m)
BB4512 = 12' - 3/4" (3.68 m)

13' - 3"
(4.04 m)

36 3/4"
(.92 m)
## Section 6: Features & Benefits

### BB4596, BB4510 & BB4512

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-130 Hp (52-97 kW) range</td>
<td>Fits a wide variety of tractors.</td>
</tr>
<tr>
<td>4&quot; x 4&quot; (10 cm x 10 cm) Square tube cross beam</td>
<td>Square tubing is structurally strong. Helps keep the Drag Scraper square.</td>
</tr>
<tr>
<td>3/8&quot; (10 mm) Heavy side panels with angle reinforcement on the diagonal</td>
<td>Built heavy to handle tough jobs and to keep the side panels straight under side loads.</td>
</tr>
<tr>
<td>1/4&quot; (6 mm) Formed moldboard with internal brace bars and 3&quot; x 3&quot; x 3/8&quot; (7.6 cm x 7.6 cm x 10 mm) angle reinforcement at the cutting edge</td>
<td>Formed moldboard helps keep materials flowing, decreases drag, lowers horsepower requirements, and speeds up work. Brace bars extending from crossbeams to lower moldboard keep the moldboard straight under heavy loads. Angle reinforcement at the cutting edge helps keep the cutting edge straight.</td>
</tr>
<tr>
<td>Side Panels have vertical gussets at the front</td>
<td>Vertical gussets help keep the panels straight vertically under side loads.</td>
</tr>
<tr>
<td>1/2&quot; x 6&quot; (13 mm x 15 cm) Heat-treated, reversible and replaceable cutting blade</td>
<td>High carbon steel heat-treated for hardness gives the cutting blade long life. Reversible so both edges can be used before replacing the cutting blade.</td>
</tr>
<tr>
<td>24&quot; (61 cm) High moldboard and side panels</td>
<td>Has a high material capacity for doing a lot of work in a short time. See Specifications for actual capacities.</td>
</tr>
<tr>
<td>5&quot; (13 cm) Maximum cutting depth</td>
<td>Can load the bucket quickly.</td>
</tr>
<tr>
<td>21&quot; (53 cm) Dump clearance</td>
<td>Capable of dumping a lot of material quickly.</td>
</tr>
<tr>
<td>Optional tilt allows blade point to drop on the right side</td>
<td>Capable of making deep angle cuts in one pass. See Specifications for actual depth of blade drop.</td>
</tr>
<tr>
<td>Optional weight tray</td>
<td>Weight tray can be filled with 760 lbs. of concrete to help force the cutting blade into the material.</td>
</tr>
</tbody>
</table>
## Torque Values Chart for Common Bolt Size

<table>
<thead>
<tr>
<th>Bolt Size (inches)</th>
<th>Grade 2</th>
<th>Grade 5</th>
<th>Grade 8</th>
<th>Bolt Size (Metric)</th>
<th>Grade 5.8</th>
<th>Grade 8.8</th>
<th>Grade 10.9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N · m</td>
<td>ft-lb</td>
<td>N · m</td>
<td>ft-lb</td>
<td>N · m</td>
<td>ft-lb</td>
<td>N · m</td>
</tr>
<tr>
<td>1/4&quot; - 20</td>
<td>7.4</td>
<td>5.6</td>
<td>11</td>
<td>8</td>
<td>16</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>1/4&quot; - 28</td>
<td>8.5</td>
<td>7</td>
<td>13</td>
<td>10</td>
<td>18</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>5/16&quot; - 18</td>
<td>15</td>
<td>14</td>
<td>24</td>
<td>17</td>
<td>33</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>5/16&quot; - 24</td>
<td>17</td>
<td>13</td>
<td>26</td>
<td>19</td>
<td>37</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>3/8&quot; - 16</td>
<td>21</td>
<td>18</td>
<td>33</td>
<td>27</td>
<td>51</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>3/8&quot; - 24</td>
<td>31</td>
<td>22</td>
<td>47</td>
<td>35</td>
<td>67</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>7/16&quot; - 14</td>
<td>43</td>
<td>32</td>
<td>67</td>
<td>49</td>
<td>95</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>7/16&quot; - 20</td>
<td>49</td>
<td>36</td>
<td>75</td>
<td>55</td>
<td>105</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>1/2&quot; - 13</td>
<td>66</td>
<td>49</td>
<td>105</td>
<td>76</td>
<td>145</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>1/2&quot; - 20</td>
<td>75</td>
<td>55</td>
<td>115</td>
<td>85</td>
<td>165</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>9/16&quot; - 12</td>
<td>95</td>
<td>70</td>
<td>150</td>
<td>110</td>
<td>210</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>9/16&quot; - 18</td>
<td>105</td>
<td>79</td>
<td>165</td>
<td>120</td>
<td>235</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td>5/8&quot; - 11</td>
<td>130</td>
<td>97</td>
<td>205</td>
<td>150</td>
<td>285</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>5/8&quot; - 18</td>
<td>150</td>
<td>110</td>
<td>230</td>
<td>170</td>
<td>325</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td>3/4&quot; - 10</td>
<td>235</td>
<td>170</td>
<td>360</td>
<td>265</td>
<td>510</td>
<td>375</td>
<td></td>
</tr>
<tr>
<td>3/4&quot; - 16</td>
<td>260</td>
<td>190</td>
<td>405</td>
<td>295</td>
<td>570</td>
<td>420</td>
<td></td>
</tr>
<tr>
<td>7/8&quot; - 9</td>
<td>225</td>
<td>165</td>
<td>585</td>
<td>430</td>
<td>820</td>
<td>605</td>
<td></td>
</tr>
<tr>
<td>7/8&quot; - 14</td>
<td>250</td>
<td>185</td>
<td>640</td>
<td>475</td>
<td>905</td>
<td>670</td>
<td></td>
</tr>
<tr>
<td>1&quot; - 8</td>
<td>340</td>
<td>250</td>
<td>875</td>
<td>645</td>
<td>1230</td>
<td>910</td>
<td></td>
</tr>
<tr>
<td>1&quot; - 12</td>
<td>370</td>
<td>275</td>
<td>955</td>
<td>705</td>
<td>1350</td>
<td>995</td>
<td></td>
</tr>
<tr>
<td>1-1/8&quot; - 7</td>
<td>480</td>
<td>355</td>
<td>1080</td>
<td>795</td>
<td>1750</td>
<td>1290</td>
<td></td>
</tr>
<tr>
<td>1-1/8&quot; - 12</td>
<td>540</td>
<td>395</td>
<td>1210</td>
<td>890</td>
<td>1960</td>
<td>1440</td>
<td></td>
</tr>
<tr>
<td>1-1/4&quot; - 7</td>
<td>680</td>
<td>500</td>
<td>1520</td>
<td>1120</td>
<td>2460</td>
<td>1820</td>
<td></td>
</tr>
<tr>
<td>1-1/4&quot; - 12</td>
<td>750</td>
<td>555</td>
<td>1680</td>
<td>1240</td>
<td>2730</td>
<td>2010</td>
<td></td>
</tr>
<tr>
<td>1-3/8&quot; - 6</td>
<td>890</td>
<td>655</td>
<td>1990</td>
<td>1470</td>
<td>3230</td>
<td>2380</td>
<td></td>
</tr>
<tr>
<td>1-3/8&quot; - 12</td>
<td>1010</td>
<td>745</td>
<td>2270</td>
<td>1670</td>
<td>3680</td>
<td>2710</td>
<td></td>
</tr>
<tr>
<td>1-1/2&quot; - 6</td>
<td>1180</td>
<td>870</td>
<td>2640</td>
<td>1950</td>
<td>4290</td>
<td>3160</td>
<td></td>
</tr>
<tr>
<td>1-1/2&quot; - 12</td>
<td>1330</td>
<td>980</td>
<td>2970</td>
<td>2190</td>
<td>4820</td>
<td>3560</td>
<td></td>
</tr>
</tbody>
</table>

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

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

### Additional Torque Values

<p>| | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheel Hub Stud 1/2&quot;-20 GR5</td>
<td>85 ft-lbs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blade Mounting Plow Bolts 5/8&quot;-11 GR5</td>
<td>150 ft-lbs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Tire Inflation Chart

<table>
<thead>
<tr>
<th>Tire Size</th>
<th>Inflation PSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>15&quot; Implement tire</td>
<td>32</td>
</tr>
</tbody>
</table>
Section 8: Warranty

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
Hydraulic Cylinder: One year Parts and Labor.
Hoses and seals: Considered wear items.
Grader Blade: Considered wear item.

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

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

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

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

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

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

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 ____________________