Table of Contents

1 Introduction and Safety Information

Introduction ................................................................. 1-1
Description of Unit ....................................................... 1-1
Owner Assistance .......................................................... 1-1
Warranty Registration ..................................................... 1-1

Safety ................................................................. 1-2
Understanding Safety Statements ....................................... 1-2
Transporting Safety ...................................................... 1-2
Attaching, Detaching and Storage ....................................... 1-2
Maintenance Safety ...................................................... 1-3
Protective Equipment .................................................... 1-3
Tire Safety ............................................................ 1-3
Chemical Safety .......................................................... 1-3
Prepare for Emergencies .................................................. 1-3
High Pressure Fluid Safety ............................................... 1-3
Safety Chain .............................................................. 1-4
Decals .............................................................. 1-5

2 Assembly

Frame Assembly .......................................................... 2-1
Drawbar Installation ....................................................... 2-6
Leveling Cylinder ........................................................ 2-7
Attaching Rockshaft ....................................................... 2-8
Leveler Bar .............................................................. 2-9
Tire Installation ........................................................... 2-10
Rockshaft Cylinder and Transport Lock Installation ................. 2-11
Wing Fold Hydraulic Cylinder Installation ............................. 2-12
Tooth Control Linkage Installation ..................................... 2-13
Shank Mounting Dimensions ............................................ 2-14
Tooth Control Brackets Mounting Dimensions ......................... 2-15
Single Point Depth Control Installation ................................ 2-17
Wing Rest, Center Frame Installation ................................... 2-18
Wing Rest Center Frame Mounting Dimensions ....................... 2-19
Center Frame Spike Leveler ............................................. 2-20
### Operation

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Operation</td>
<td>3-6</td>
</tr>
<tr>
<td>Attaching to the Tractor</td>
<td>3-2</td>
</tr>
<tr>
<td>Hydraulic Lift System</td>
<td>3-3</td>
</tr>
<tr>
<td>Hydraulic Fold System</td>
<td>3-3</td>
</tr>
<tr>
<td>Hydraulic Tooth Control</td>
<td>3-4</td>
</tr>
<tr>
<td>Road to Field</td>
<td>3-6</td>
</tr>
<tr>
<td>Field to Road</td>
<td>3-6</td>
</tr>
<tr>
<td>Drawbar Turnbuckle Adjustment</td>
<td>3-9</td>
</tr>
<tr>
<td>Scraper Adjustment</td>
<td>3-10</td>
</tr>
<tr>
<td>Rear Spike Leveler Adjustment</td>
<td>3-11</td>
</tr>
<tr>
<td>Transport</td>
<td>3-12</td>
</tr>
<tr>
<td>Purge Fold Circuit</td>
<td>2-38</td>
</tr>
<tr>
<td>Shank Installation</td>
<td>2-39</td>
</tr>
<tr>
<td>Wing to Frame Installation</td>
<td>2-40</td>
</tr>
<tr>
<td>Wing Bearing Hanger Installation</td>
<td>2-42</td>
</tr>
<tr>
<td>Wing Support Frame Installation</td>
<td>2-43</td>
</tr>
<tr>
<td>Wing Rest Installation, 36 foot Models Only</td>
<td>2-44</td>
</tr>
<tr>
<td>Wing Rest Installation Dimensions, 36 foot Models Only</td>
<td>2-45</td>
</tr>
<tr>
<td>Wing Tooth Control Linkage Installation</td>
<td>2-46</td>
</tr>
<tr>
<td>Wing Tooth Control Tube Stop Installation</td>
<td>2-47</td>
</tr>
<tr>
<td>Purging the Tooth Control Cylinders</td>
<td>2-47</td>
</tr>
<tr>
<td>Wing Shank Mounting Dimensions</td>
<td>2-48</td>
</tr>
<tr>
<td>Wing Tooth Control Mounting Dimensions</td>
<td>2-52</td>
</tr>
<tr>
<td>Wing Shank Installation</td>
<td>2-58</td>
</tr>
<tr>
<td>Left and Right Hand Wing Roller Installation</td>
<td>2-60</td>
</tr>
<tr>
<td>Wing Spike Leveler</td>
<td>2-62</td>
</tr>
<tr>
<td>Center Rear Scraper Installation</td>
<td>2-65</td>
</tr>
<tr>
<td>Wing Rear Scraper Installation</td>
<td>2-67</td>
</tr>
<tr>
<td>Wing Rear Scraper Mounting Dimensions</td>
<td>2-68</td>
</tr>
<tr>
<td>Optional Center Front Scraper Installation</td>
<td>2-70</td>
</tr>
<tr>
<td>Optional Wing Front Scraper Installation</td>
<td>2-72</td>
</tr>
<tr>
<td>Optional Wing Front Scraper Dimensions</td>
<td>2-73</td>
</tr>
<tr>
<td>Optional Coil Tine Harrow Kits</td>
<td>2-75</td>
</tr>
<tr>
<td>Optional Land Leveler Installation</td>
<td>2-81</td>
</tr>
<tr>
<td>Optional Land Leveler Center Frame Mounting Dimensions</td>
<td>2-82</td>
</tr>
<tr>
<td>Optional Land Leveler Wing Mounting Dimensions</td>
<td>2-83</td>
</tr>
<tr>
<td>Optional V-Leveler Installation</td>
<td>2-85</td>
</tr>
<tr>
<td>Optional Wing Limit Shim Kit</td>
<td>2-87</td>
</tr>
<tr>
<td>Optional Rear Hitch Installation</td>
<td>2-89</td>
</tr>
<tr>
<td>LED Installation Instructions</td>
<td>2-34</td>
</tr>
<tr>
<td>Purge the Lift Cylinders</td>
<td>2-38</td>
</tr>
<tr>
<td>Purge Fold Circuit</td>
<td>2-38</td>
</tr>
<tr>
<td>Shank Installation</td>
<td>2-39</td>
</tr>
<tr>
<td>Wing to Frame Installation</td>
<td>2-40</td>
</tr>
<tr>
<td>Wing Bearing Hanger Installation</td>
<td>2-42</td>
</tr>
<tr>
<td>Wing Support Frame Installation</td>
<td>2-43</td>
</tr>
<tr>
<td>Wing Rest Installation, 36 foot Models Only</td>
<td>2-44</td>
</tr>
<tr>
<td>Wing Rest Installation Dimensions, 36 foot Models Only</td>
<td>2-45</td>
</tr>
<tr>
<td>Wing Tooth Control Linkage Installation</td>
<td>2-46</td>
</tr>
<tr>
<td>Wing Tooth Control Tube Stop Installation</td>
<td>2-47</td>
</tr>
<tr>
<td>Purging the Tooth Control Cylinders</td>
<td>2-47</td>
</tr>
<tr>
<td>Wing Shank Mounting Dimensions</td>
<td>2-48</td>
</tr>
<tr>
<td>Wing Tooth Control Mounting Dimensions</td>
<td>2-52</td>
</tr>
<tr>
<td>Wing Shank Installation</td>
<td>2-58</td>
</tr>
<tr>
<td>Drawbar Turnbuckle Adjustment</td>
<td>3-9</td>
</tr>
<tr>
<td>Scraper Adjustment</td>
<td>3-10</td>
</tr>
<tr>
<td>Rear Spike Leveler Adjustment</td>
<td>3-11</td>
</tr>
<tr>
<td>Transport</td>
<td>3-12</td>
</tr>
</tbody>
</table>
4  Maintenance

- General Torque Specifications .......................................................... 4-1
- Hydraulic Fitting Torque Specifications ........................................... 4-2
- Fasteners ......................................................................................... 4-2
- Tires ................................................................................................. 4-3
- Wheel Bearing Maintenance ................................................................. 4-3
- Lubrication Maintenance ..................................................................... 4-3
- Hydraulic Maintenance ........................................................................ 4-3
- Roller Axle Assembly .......................................................................... 4-5
- Clamp Tightening ................................................................................ 4-5
- Clamp End Spacers - Optional ............................................................ 4-6
- LED Warning Lights Tips ..................................................................... 4-8
- Storage ............................................................................................... 4-9

5  General Reference and Specifications
Introduction

The implement described in this manual has been designed with care and built by skilled workers using quality materials and processes. Proper assembly and maintenance will provide you with satisfactory use for seasons to come.

**DANGER**

Read this entire manual before attempting to assemble, adjust or operate this implement. Failure to comply with this warning can result in personal injury or death, damage to the implement or its components and inferior operation.

Description of Unit

The 3630 Series of Pulvi-Mulchers features taller and stronger two-piece S-Tine shanks with additional clearance for improved residue flow through the machine. 8" roller axles with heavy-duty bearings improves reliability and reduces down time. The 30’ model is 80% heavier than the popular WL360 for more clod crushing power. Choice of notched, crowfoot or optimizer ductile iron wheels allow these machines to be set-up to match your soil conditions.

Using this Manual

This manual will familiarize you with safety, assembly, operation, adjustment, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.

- The information in this manual is current at time of printing. Some parts may have changed to assure top performance.
- Location reference: Right and Left designations in this manual are determined by facing the direction the implement will travel during field operation, unless otherwise stated.

Owner Assistance

If customer service or repairs are needed, contact your Brillion dealer. They have trained personnel, parts and service equipment specially designed for Brillion products. Your implement’s parts should only be replaced with Brillion parts. If items covered in this manual are not understood, contact your local Brillion Dealer.

Warranty Registration

Brillion Farm Equipment, by Landoll, shall have no warranty obligation unless each product is registered within 10 days of retail purchase, using the Landoll Corporation Ag Products on-line registration process. Please refer to the Ag Products Policy and Procedures Manual, accessible at [www.landoll.com](http://www.landoll.com) for step by step instructions regarding product registration.

Enter your product information below for quick reference.

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERIAL NUMBER</td>
</tr>
<tr>
<td>DATE OF PURCHASE</td>
</tr>
</tbody>
</table>

Refer to the ID plate as shown. See Figure 1-1.

![Figure 1-1: ID Plate](image-url)
INTRODUCTION AND SAFETY INFORMATION

Safety

NOTE
Investigation has shown that nearly 1/3 of all farm accidents are caused by careless use of machinery. Insist that all people working with you or for you abide by all safety instructions.

Understanding Safety Statements
You will find various types of safety information on the following pages and on the implement decals (signs) attached to the implement. This section explains their meaning.

NOTICE
Special notice - read and thoroughly understand.

CAUTION
Proceed with caution. Failure to heed caution may cause injury to person or damage product.

WARNING
Proceed with caution. Failure to heed warning will cause injury to person or damage product.

DANGER
Proceed with extreme caution. Failure to heed notice will cause injury or death to person and/or damage product.

NOTE
You should read and understand the information contained in this manual and on the implement decals before you attempt to operate or maintain this equipment. Examine safety decals and be sure you have the correct safety decals for the implement. See Figure 1-3. Order replacement decals through your Brillion dealer. Keep these signs clean so they can be observed readily. It is important to keep these decals cleaned more frequently than the implement. Wash with soap and water or a cleaning solution as required. Replace decals that become damaged or lost. Also, be sure that any new implement components installed during repair include decals which are assigned to them by the manufacturer.

When applying decals to the implement, be sure to clean the surface to remove any dirt or residue. Where possible, sign placement should protect the sign from abrasion, damage, or obstruction from mud, dirt, oil etc.

DANGER
• Do not allow anyone to ride on the tractor or implement. Riders could be struck by foreign objects or thrown from the implement.
• Never allow children to operate equipment.
• Keep bystanders away from implement during operation.

Transporting Safety

IMPORTANT
It is the responsibility of the owner/operator to comply with all state and local laws.

When transporting the implement on a road or highway, use adequate warning symbols, reflectors, lights and slow moving vehicle sign as required. Slow moving tractors and towed implements can create a hazard when driven on public roads. They are difficult to see, especially at night.

Do not tow an implement that, when fully loaded, weighs more than 1.5 times the weight of the towing vehicle. Carry reflectors or flags to mark the tractor and implement in case of breakdown on the road.

Do not transport at speeds over 20 MPH under good conditions. Never travel at a speed which does not allow adequate control of steering and stopping. Reduce speed if towed load is not equipped with brakes. Avoid sudden stops or turns because the weight of the implement may cause the operator to lose control of the tractor. Use a tractor heavier than the implement.

Use caution when towing behind articulated steering tractors; fast or sharp turns may cause the implement to shift sideways.

Keep clear of overhead power lines and other obstructions when transporting. Know the transport height and width of your implement.

Attaching, Detaching and Storage

• Do not stand between the tractor and implement when attaching or detaching implement unless both are blocked from moving.
• Block implement so it will not roll when unhitched from the tractor.
Maintenance Safety
- Block the implement so it will not roll when working on or under it to prevent injury.
- Do not make adjustments or lubricate the machine while it is in motion.
- Make sure all moving parts have stopped.
- Understand the procedure before doing the work. Use proper tools and equipment.

Protective Equipment
- Wear protective clothing & 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.

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 to allow you to stand to one side, not in front of or over the tire assembly. Use a safety cage if available.

When removing and installing wheels use wheel-handling equipment adequate for the weight involved.

Chemical Safety
Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil & property.

Read chemical manufactures instructions and store or dispose of unused chemicals as specified. Handle chemicals with care & avoid inhaling smoke from any type of chemical fire.

Store or dispose of unused chemicals as specified by the chemical manufacturer.

Prepare for Emergencies
- Keep a First Aid Kit and Fire Extinguisher handy
- Keep emergency numbers for doctor, ambulance, hospital and fire department near phone.

High Pressure Fluid Safety
Escaping fluid under pressure can be nearly invisible and have enough force to penetrate the skin causing serious injury. Use a piece of cardboard, rather than hands, to search for suspected leaks.

Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

Avoid the hazard by relieving pressure before disconnecting hydraulic lines.

NOTE
Relieve hydraulic pressure by shifting the control valve lever to float.

Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
Safety Chain

Use a safety chain to help control drawn machinery should it separate from the tractor drawbar.

Use a chain with a strength rating equal to or greater than the gross weight of towed machinery, in accordance with ASAE S338.2 specifications. If two or more machines are pulled in tandem, a larger chain may be required. Chain capacity must be greater than the total weight of all towed implements.

A second chain should be used between each implement.

Attach the chain to the tractor drawbar support or specified anchor location. Never attach the chain to an intermediate support. Allow only enough slack in the chain to permit turning. The distance from hitch pin to attachment point or intermediate support point should not exceed 9 inches. If the distance from the drawbar pin to either the front or rear chain attachment point exceeds 9 inches, intermediate chain support is required.

Replace chain if any links or end fittings are broken, stretched or damaged.

Do not use a safety chain for towing.

Figure 1-2: Safety Chain
INTRODUCTION AND SAFETY INFORMATION

Decals

1. DO NOT ALLOW ANYONE TO RIDE ON THIS IMPLEMENT.
2. DO NOT TRANSPORT AT SPEEDS OVER 20 MPH.
3. DO NOT STAND BETWEEN TRACTOR AND IMPLEMENT WHILE TRACTOR IS MOVING.
4. WHEN SERVICING IN RAISED POSITION, PLACE BLOCKING UNDER ROLLERS.
5. WITH WINGS FOLDED AND WEIGHT ON CENTER ROLLER, THE IMPLEMENT IS DRAWBAR LIGHT.

Figure 1-3: Decals
Figure 1-4: Decal Locations Center Frame (1 of 5)
Figure 1-5: Decal Locations Center Frame, Side Views (2 of 5)
Figure 1-6: Decal Locations Drawbar (3 of 5)
Figure 1-7: Decal Locations Right Hand Wing (4 of 5)
Figure 1-8: Decal Locations Left Hand Wing (5 of 5)
Frame Assembly

Prior to starting assembly refer to Figure 2-5 for proper frame placement dimensions. After laying out the dimensions use a chalk or other marker to help place the components.

Position the Rockshaft on a level surface under the designated frame assembly area. This will aid in ease of assembly. See Figure 2-2.

Using blocks or other supports, block up the Right Hand Center Frame approximately 36”. Be sure that it is secure and cannot topple. The Rockshaft should be positioned approximately halfway between the supports.

Refer to the repair parts manual F-751 for identification of parts and for the approximate relationship of the parts in assembly.

To ensure alignment of assemblies, leave the nuts loose until completion of final assembly. Use lock washers or flat washers as specified. Spread all cotter pins.

After completion of final assembly, tighten all nuts evenly to prevent misalignment, distortion or binding. Tighten all screws and nuts to the recommended torques.

Attach the Front Roller Frame Assembly to the Right Hand Center Frame Assembly. The Right Hand Center Frame Assembly consists of an outside and inside tube. Attach the outside frame tube using two 3/4-10 U-bolts, and Locknuts. Attach the inside frame tube using four 3/4-10 x 2-1/2 Bolts and Locknuts.

Attach the Rear Roller Frame Assembly to the Right Hand Center Frame Assembly in the manner as the front. See Figure 2-2. Be sure to support roller frames.

On the inside frame, position the Front Roller Support Plate under the Front Roller Frame Tube and secure with eight 3/4-10 x 2-1/2 Bolts and Locknuts. See Figure 2-4 for a detailed view of the Front Roller Support Plate.

The process for the Left Hand Center Frame is the same as the Right Hand. See Figure 2-3.

Double check mounting dimensions at this time.

Crowfoot Wheel Rotation Arrow must follow the direction of travel. See Figure 2-1.
**IMPORTANT**

The mounting dimensions are not the same for Left and Right Hand Center Frames. Front and Rear rollers are offset 2". See Figure 2-5.

**IMPORTANT**

- If pre-assembled parts or fasteners are temporarily removed, remember where they go. It is best to keep parts separated.

- Check that all working parts move freely, bolts are tight and cotter pins spread.
- Refer to the Torque Table for proper torque values. Note the different torque requirements for bolts with lock nuts. See Page 4-1.

“Left” and “Right” refer to directions seen as if standing behind the machine and facing in the direction of forward travel.

---

**Figure 2-2: Right Hand Center Frame**
Figure 2-3: Left Hand Center Frame
Figure 2-4: Front Roller Support

- Locknut, 3/4-10
- Bolt, 3/4-10 x 2-1/2
- Front Roller Support
- Front Roller Frame Asm
- Locknut, 3/4-10
Figure 2-5: Frame Placement Dimensions
Drawbar Installation

- Mount the Drawbar to the lugs on the front of the frame, slide the 1-7/16 x 10-1/4 Pins into the frame bushings. Place a Washer 1-1/2 x 2-1/4 x 10ga on each end of Pin and secure with 3/8 x 2-1/4 Roll Pins.
- Attach the bottom of the Hitch Leveler Mast to the Drawbar by removing the Roll Pin, Washer and Pin. Slide the Hitch Leveler Mast between the center lugs and reinstall the Pin, Washer and Roll Pins.
- Install the Turnbuckle to the Leveler with 1-1/4 x 11 Pin. Place a 1-1/4 x 1-7/8 x 14ga Washer on each end of pin and secure with 5/16 x 2 Roll Pins.
- Attach the two Adjustment Wrenches to the side of the Hitch Leveler Mast and secure with 1/4 x 1-1/4 Klik Pin.
- Attach the Jack to the drawbar using four 3/4-10 x 2-1/2 Bolts and Locknuts.
- Attach the Hose Holder Bracket to the Drawbar using 3/4-10 x 7 Bolt, with flange up thread one 3/4-10 Serrated Nut onto the bolt, place the Hose Bracket over the bolt and against the flange of the installed nut. Thread the second 3/4-10 Serrated Nut with flange down tight. Attach the Connector Holder using two 1/4-20 x 1 bolts and Locknuts. Nut serrations should be against Bracket. Bracket should swivel when installed.
**Leveling Cylinder**

Attach the Leveling Cylinder Lug to the front frame tube using two 3/4-10 U-Bolts and Locknuts. Insert the base end of the 3 x 6 Hydraulic Cylinder into the Leveling Cylinder Lug, then slide the 1 x 5-1/2 Pin through the lugs and cylinder base. Place a 1 x 1-1/2 x 14ga Washer over the pin ends and secure with 5/16 x 2 Roll Pins.  

*Note:* Cylinder Ports should be facing the Right Hand side of the Machine.

Place the rod end of the Hydraulic Cylinder between the lugs on the Hitch Leveler Mast. Position 1 x 2 x 1/2 Washers on the outside of the cylinder rod clevis, slide the 1 x 7 Pin through the Hitch Leveler Mast Lug and Cylinder Rod Clevis. Place one 1 x 1-1/2 x 14ga Washer on each side and secure with 5/16 x 2 Roll Pins.  
Place the Transport lock over the Hydraulic Cylinder rod and secure with Bent Pin and Hair Pin.  
Adjust turnbuckle as necessary.

![Figure 2-7: Leveler Cylinder](image-url)
Attaching Rockshaft

**WARNING**

Do not attempt to lift heavy parts (such as the frame, rock shaft, and pull hitch) manually. Use a hoist or a fork lift to move these parts into position.

Spread open the six UHMV Bearings and place onto the Rockshaft. Make sure the mounting surface is free of rust or dirt.

Position the Rockshaft into the Frame Mounts. Place the Lift Cap Bearing and secure with 3/4-10 x 2 Bolts and Locknuts. Ensure the UHMW Bearings are seated into Caps and Frame Mounts. Repeat for the remaining Lift Cap bearings. **See Page 4-1.**

![Figure 2-8: Rockshaft Installation](image-url)
Leveler Bar

Attach one end of the Leveler Bar to the Rockshaft by placing two 1 x 2 x 1/4 Washers on each side of the Rockshaft lug. Slide the 1 x 4 Pin through the Leveler Bar hole, then place 1 x 1-1/2 x 14 ga Washers on each side. Secure with the two 5/16 x 2 Roll Pins.

Repeat the same steps to attach the other end of the Leveler Bar to the Hitch Leveler Mast lug.

**NOTE**

At this time tighten up all frame hardware. See Page 4-1.

Figure 2-9: Leveler Bar
Tire Installation

WARNING

Use a torque wrench to assure proper torque. Insufficient torque can cause stud breakage and damage the wheel pilots. Over torque can stress the studs and strip the threads.

NOTE

All tire/wheel assemblies are mounted with the valve stem facing outward from Hub and Spindle.

Remove the eight Wheel Nuts from the Hub. Install the tire and wheel assembly onto the hub. The 3630 Pulvi-Mulcher uses 380/55R x 16.5 tires and should be inflated to 70 PSI.

Re-Install the Wheel Nuts and tighten to 50 foot-pounds using the sequence in Figure 2-10. Then tighten to full torque of 85-100 ft-lbs.

NOTE

Torque will drop after the first 10 hours of operation. Check the nuts for proper torque after this interval and retighten them.

Figure 2-10: Stud Tightening Sequence

Figure 2-11: Tire Installation
Rockshaft Cylinder and Transport Lock Installation

Attach 4-1/2 x 14 cylinder rod end to Rockshaft arm with provided pin. Align base end of cylinder between the frame lug. Attach the Transport Lock to the base end of the cylinder, by sliding the 3 Hole Pin through the top hole of the Transport Lock and through the Frame Lugs and Rockshaft Cylinder Base End. Place 1-1/4 x 1-7/8 x 14 ga Washer on each side. Secure with 3/8 x 2-1/4 Roll Pins. Ensure a roll pin goes through a frame bushing hole. Next, attach the Transport Lock Link to the Transport Lock by placing the Link on the outside of the Transport Lock and sliding 1 x 2-1/2 Clevis Pin through both pieces. Place 1 x 1-1/2 x 14 ga Washer on the outside by the clevis pin hole. Secure with 3/16 x 2 Cotter Pin. Check to ensure there is no binding.

Attach the Transport Lock Bracket to the top of the Rear Frame tube, aligning with the 4-1/2 x 14 Hydraulic Cylinder, place the Clamp under the tube and insert two 5/8-11 x 4-1/2 Bolts through the top of the Transport Lock Bracket and through the Clamp secure with Locknuts.

Attach the Transport Lock Lever to the Transport Lock Bracket by placing it into the top of the bracket, then sliding the 5/8-11 x 4-1/2 Bolt, Flat Washer, and 1-1/8 long Bushing through the holes and through the Bushing and Flat Washer on the other side. Secure with Locknut.

Attach the Transport Lock Link to the Transport Lock Lever by sliding the 3/4-10 x 2 Bolt, Flat Washer, 11/16 long Bushing through both pieces and securing with Flat Washer and Locknut.

Position Transport Lock Lever to field position, transport lock in Unlocked Position. See Figure 3-6.

Figure 2-12: Rockshaft Cylinder and Transport Lock Installation
Wing Fold Hydraulic Cylinder Installation

Attach the four 5 x 24 Hydraulic Cylinders to the Left and Right Center Frames, by removing the Roll Pins and the Pins from the base end of the cylinders and placing them over the cylinder lugs on the frames. Secure by reinstalling the Pins and Roll Pins.

Figure 2-13: Wing Fold Hydraulic Cylinder Installation
Tooth Control Linkage Installation

NOTE
Know the approximate depth that you want to run before continuing.

The Pulvi-Mulcher is designed to have 3 maximum shank depths. Each Tooth Tube Bearing can be installed in one of three settings.
Top = 2” deep
Middle = 3-1/2” deep
Bottom = 5” deep
If making adjustment, all Tooth Tube Bearings should be assembled in the same position.

Tooth Tube Installation
After marking the tubes for the shank locations, See Figure 2-15, slide the Tooth Tubes into the Tooth Tube Bearings. The 165 inch tube mounts in the front bearing position. The 175 inch tubes mount into the middle and rear Tooth Tube Bearings.
Position Tooth Tubes in proper lateral position to the frame before continuing. Dimensions shown in Figure 2-16.

Tooth Control Linkage
Install the Center Frame 4-1/2 x 8 Rephasing Hydraulic Cylinders by attaching the base end of the cylinder to the Cylinder Anchor Rod on frame. Adjust the Anchor Adjustment Nuts so the distance from the Center Frame Tube to the cylinder pin is approx. 7-1/4”. See Figure 2-14.

See Figure 2-16 for clamp placement dimensions.
Attach the Clamp w/cutout to front Tooth Tube using 4 hole Plate, two 5/8-11 x 2 Bolts, two 5/8-11 x 5 Bolts and Locknuts. Do not tighten at this time. Align the Clamp w/cutout with cylinder Rod Clevis, temporarily insert 1 x 9 pin with the long spacing in first in the left clamp and 1 x 6-1/2 Pin in the right clamp. See Figure 2-17.

Position Tooth Control Tube over the top of the cylinder Rod Clevis and between the Clamp w/cutout Lugs. Remove the 1 x 9 Pin on the left, 1 x 6-1/2 Pin on the right and align all holes while re-inserting the Pins. Keep in mind the 1 x 9 Pin end with the longer holes spacing should be inserted first. Place a Flat washer on each side of the Clamps and secure with 5/16 x 2 Roll Pin.

Position the middle and rear Clamps so Clamp Lugs straddle the Tooth Control Tube. Align the clamp and Tooth Control Tube holes and rest the Clamp on the Tooth Tube. Insert 1 x 6-1/2 Pin. Place Flat Washers over the Pin ends and secure with 5/16 x 2 Roll Pins. Clamps should all be aligned with each other. Secure Clamps on Tooth Tube by sliding the Clamp Plate into the Clamp slot so the Clamp Plate is under the Tooth Tube. Secure with 5/8-11 x 5 Bolt and Locknuts. See Figure 2-17.

Ensure that linkage doesn’t bind and clamps are positioned correctly. Ensure tooth tubes are positioned correctly. See Figure 2-16. Tighten bolts and nuts at this time.
Repeat for the opposite side.
See “General Torque Specifications” on page 4-1.
Shank Mounting Dimensions

Mark the tubes for Shank locations prior to installing the tubes. Do Not mount the Shanks to the tubes at this time.

Figure 2-15: Shank Mounting Dimensions

Top View
Center Frame Shank locations
Tooth Control Brackets Mounting Dimensions

Figure 2-16: Tooth Control Mounting Dimensions
Figure 2-17: Tooth Control Linkage
Single Point Depth Control Installation

1. Place Depth Control Bracket on the Front Roller Frame Asm by the left Tooth Control Cylinder Anchor. Secure with 3/4-10 U-Bolt and Locknut. See Figure 2-18.


3. Place Flat Washer, Sleeve and Flat Washer on 1 x 9 pin. Slide Depth Stop Tube Asm through the brackets. Attach the Depth Stop Tube Asm to the 3 Hole Pin, Sleeve, Washers. Add Flat Washer, secure with 5/16 x 2 Roll Pin.

4. Ensure the Depth Stop Tube Asm is parallel to the Tooth Control Tube.

Figure 2-18: Single Point Depth Control Installation
Wing Rest, Center Frame Installation

Mark the wing rest locations. **See Figure 2-20.** Place the Wing Rest Tubes in their marked locations. Insert the Tube Clamps into the Wing Rest Tube ends. Place the Straps under Frame Tube and run 1/2-13 x 10 Bolts up through the Strap and Tube Clamp. Secure with Locknuts.

**NOTE**
The 30ft model Wing Rest Tubes will have two Wing Rest Pads.

For 36 ft Models Only

Position the Wing Rests at the marked locations. **See Figure 2-20.** On the inner frame, run two 1/2-13 x 12 Bolts through 3/8 thick Washers. Both bolts go through the Wing Rest and the 2 Hole Plate x 10-1/4” long. Secure with Locknuts.

On the outer frame run two 1/2-13 x 9-1/2 Bolts through the 2 Hole Plate x 8” long across the outer frame tube and into the Wing Rest. Secure with Locknuts.

![Figure 2-19: Wing Rest Installation](image-url)
Wing Rest Center Frame Mounting Dimensions

Figure 2-20: Wing Rest Center Frame Mounting Dimensions
Center Frame Spike Leveler

1. Attach the Leveler Mount Bracket to the weldment ears located on the rear frame cross tube using five 1/2-13 x 1-3/4 Bolts and Locknuts.

2. Position the Spike Leveler Assembly under the brackets. Wrap the Bearing Insert around the Arm Leveler Tube, place both Bearing Half’s around the inserts, slide two 5/8-11 x 7-1/2 Bolts through the Bearing Half’s and attach to the Leveler Mount Bracket. Secure with Locknuts.

3. Attach the Chain to the Leveler Arm by placing the end link into the slot, then inserting a 1/2-13 x 5 Bolt through the arm and link, secure with a Locknut.

4. Attach the other end of the Chain to the Leveler Mount Bracket, by placing chain link into the slotted hole, place 2 Hole Strap on each side of the Bracket and align with the hole below the slotted hole, insert 1/2-13 x 2 Bolt and secure with Locknut.

5. Align the other end of 2 Hole Straps above slotted hole and insert Clevis Pin, secure with Hair Pin Cotter.

Adjustment of the chain length can be made later.

6. Attach the base end of two 2 x 6 Hydraulic Cylinders onto the center frame with supplied hardware.

7. Attach Chain Lift Straps between cylinder clevis using supplied hardware.

8. Place end of 5 link chain between the two Chain Lift Straps, push 1/2-13 x 2-1/4 Bolt through straps and chain. Secure with locknut. Center frame and wings similar.

9. Place Drag Chain Bracket P/N 193199 on the back side of the spike drag tube. Place Drag Chain Brackets P/N 193198 on the front side of the spike drag tube on either side of the single bracket. Connect the three brackets using 1/2-13 x 2-1/4 Bolts and Locknuts.

Figure 2-21: Center Frame Spike Leveler
Table provided for general use.

<table>
<thead>
<tr>
<th>NOTES:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Hydraulics
The hydraulic system consists of 4 separate circuits. Plumb the circuits in the following order:
Fold Circuit - Yellow - See Figures 2-22 and 2-23.
The Fold Circuit requires approximately 9 gallons of oil.
Tooth Control - Black - See Figures 2-24, 2-25 and Figure 2-26.
The Tooth Control Circuit requires approximately 2 gallons of oil.
The Lift Circuit requires approximately 2 1/2 gallons of oil.
Harrow Circuit - Red - See Figures 2-29 and 2-30.
The Harrow Circuit requires approximately 1 1/2 gallons of oil.

Remove Fitting Caps prior to installing Fittings.

Manifold Installation
1. Attach the 24 Port Manifold to the front of the front manifold bracket located on top of the right side inner frame tube with 1/2-13 x 4 Bolts, Flat Washers and Nuts.
2. Attach a 16 Port Manifold to the front of the rear manifold bracket located on top of the right side inner frame tube with 1/2-13 x 3-1/2 Bolts, Flat Washers and Nuts.

Hose Installation
1. Install the Fold hoses. See Figures 2-22 and 2-23. Wrap Fold System hoses near the Tractor Tips with yellow hose wrap. NOTE: Restrictor Location and Size.
2. Install the Tooth Control hoses. See Figures 2-24 and 2-25. Wrap the Tooth Control System hoses near the Tractor Tips with black hose wrap.
4. Install the Harrow Circuit hoses. See Figures 2-29 and 2-30. Wrap the Lift Circuit System hoses near the Tractor Tips with red hose wrap.
5. Route the Hoses to the right side of the Drawbar and clamp each set of system’s hoses with hose clamps. Secure with Flat Washer under the head of 3/8-16 x 4-1/2 Bolt and Locknut.
6. Continue routing the hoses to the front of the Drawbar up the Hose Holder Bracket. Install 3/8-16 x 4-1/2 Bolt and secure with Nut. Place the Hose Clamp over the bolt and hoses. Secure with Wing Nut.
7. Secure all hoses with Cable ties and Tywraps.

Tightening Procedure For JIC 37° Swivel Female Nuts
1. Check flare and seat for defects.
2. Lubricate the connection.
3. Install hoses without twists.
4. Hand tighten until connection bottoms.
5. Using 2 wrenches to prevent twisting, rotate the swivel nut 2 wrench flats (1/3 turn).
6. For reassembly, follow the same procedure but tighten only 1 wrench flat (1/6 turn).

Tightening Procedure For Swivel O-Ring Fittings
1. Lubricate o-ring and install the fitting until the metal washer which backs up the o-ring contacts the face of the boss.
2. Orient the fitting by turning counterclockwise up to 1 turn.
3. Tighten the Lock Nut using 50-60 foot pounds torque.

(See “Hydraulic Fitting Torque Specifications” on page 4-2.)
Figure 2-22: Hydraulic Fold Layout
Figure 2-24: Hydraulic Tooth Layout
Figure 2-25: Hydraulic Tooth Control Schematic
Figure 2-26: Simplified Hydraulic Tooth Control Schematic
Table provided for general use.

<table>
<thead>
<tr>
<th>NOTES:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Figure 2-27: Hydraulic Lift Layout
Figure 2-28: Hydraulic Lift Schematic
Figure 2-29: Drag Layout

- 2-32 F-752R1
- All Thread Screw, 3/8-16 x 4-1/2
- All Thread Screw, 3/8-16 x 5
- Nut, 3/8-16
- Flat Washer, 3/8
- Locknut, 3/8-16
- Wrap Drag Lift and Tooth Control (4) Hoses together near Hinge Pin with Hose Wrap
- Wing Nut
- Hose Holder Clamp
- Red Hose Wrap
- Hyd Cyl, 2 x 6
- 16 Port Manifold
- 24 Port Manifold
- Nut, 1/2-13
- Flat Washer, 1/2
- Nut, 1/2-13
- Flat Washer, 1/2
- Hyd Cyl, 2 x 6
- Nut, 1/2-13
- 16 Port Manifold
- Flat Washer, 1/2
- Bolt, 1/2-13 x 4
- Bolt, 1/2-13 x 4
Figure 2-30: Drag Schematic
NOTE
Both models similar.

1. Attach the four LED's to the Light Brackets. Place the Reflector Assembly over the two front holes. Route the LED wire connector through the opening of the Reflector Assembly. Insert four 1/4-20 x 1-1/2 Bolts secure all four bolts using 1/4-20 Locknuts. Note: Red LED faces rear. See Figures 2-31 and 2-32.

2. Attach the four Light Brackets to the frame using 5/8-11 U-Bolts, and Flanged Locknuts. See Figure 2-31.

3. Attach the Flasher Module to the center frame weldment using two 1/4-20 x 1-1/2 Bolts and Locknuts. See Figure 2-33.

4. Layout the Lamp Harness, noting that the connectors marked with Green Tape is Right Side and Yellow Tape is Left Side.

5. Plug the Lamp Harness into the Flasher Module, route both cord plugs with Green Tape along the top of rear frame. Route the plugs and plug the 3 prong cord into the Red LED. Plug the 2 prong cord into the Amber LED.

6. Repeat for the Left Side (Yellow Tape).

7. Plug the 7 Pin Harness into the Flasher Module, then route the harness along the Drawbar with hoses and secure with Tie Straps.

8. Attach the SMV Mount to the center frame using 5/8-11 U-bolt and Flanged Locknuts. Attach SMV to mount using two 5/16-18 x 1 Bolts, Flat Washers and Locknuts. See Figure 2-34.


NOTE
All wires must be firmly attached to machine frame members so they do not sag or become torn loose by field debris.
Figure 2-31: Electrical Installation Dimensions
Figure 2-32: Electrical Layout
Figure 2-33: Light Module Detailed Installation View

Figure 2-34: SMV Sign Installation
WARNING

Escaping hydraulic fluid can cause serious personnel injury. Relieve system pressure before repairing, adjusting, or disconnecting. Wear proper hand and eye protection when searching for leaks. Use cardboard instead of hands. Keep all components (cylinders, hoses, fittings, etc.) in good repair.

The hydraulic system is not filled with oil and should be purged of air before transporting and field operations. Carefully hitch the 3630 to the tractor and connect the hydraulic lift hoses. Check to make sure the tractor hydraulic reservoir is full of the manufacturer’s recommended oil.

Purge the Lift Cylinders

Slowly raise machine and continue to hold hydraulic lever until lift and leveling cylinders are completely extended. Lower and raise unit completely extend and retract cylinders 5-6 times to purge air from the lift circuit. Do not loosen hoses/fittings. Recheck tractor reservoir oil level. Lift circuit requires approximately 2-1/2 gallons of oil.

Purge Fold Circuit

With fold cylinders blocked up to allow for rod movement, connect fold circuit hoses to tractor. Ensure tractor reservoir is full of manufacturer’s recommended oil. Extend fold cylinders. Recheck tractor oil reservoir. Extend and retract fold cylinders 5-6 times or more if movement is not smooth or until air is purged from the circuit. Fold Circuit requires approximately 9 gallons of oil.

36 Ft Models Only: Installing Cylinder Stop

After the Fold Cylinders have been bled, extend the cylinders fully and remove the Clevis End from the Right Side cylinders, by removing the Clevis Bolt. Then slide the Cylinder Stop over the cylinder rod, re-attach the Clevis End and re-tighten the Clevis Bolt to 55 ft·lbs. Be sure to check Pin to Pin distance completely extended at 60-1/4 inches. Slide the Cylinder Stop up to the Clevis End and tighten the Set Screw. See Figure 2-35.

Figure 2-35: Cylinder Stop Installation (36ft Models Right Side Only)
**Shank Installation**

Engage Transport Locks

**NOTE**

See Figure 2-15 for Center Shank Mounting Dimensions.

*It is easier to bolt the points to the shank before mounting them on the machine.*

Assembly Points to Shanks as shown in **Figure 2-36**.

Mount the Shanks to the Tooth Control Tube using two 1/2-13 x 5 Bolts and Locknut.

See “General Torque Specifications” on page 4-1.

---

**Figure 2-36: Shank**
Wing to Frame Installation

1. Insert the Flange Bearing into the upper hole of each Wing Frame Hinge Lug. Remove existing Pin and Hardware from Center Frame Hinge Lug. Position the Wing Frame Hinge Lug between the Center Frame Hinge Lug and align the holes. Once positioned place one 1-3/4 x 3 x 10ga Washer between each Wing Frame Hinge Lug and Center Frame Hinge Lug. Washer should be against the Flange Bearing. Re-install Pin and Hardware. Secure.

2. Insert one 1/2 x 2-1/4 Groove Pin into one end of each 1-1/2 x 8-5/8 Pins. Set aside. Attach the Wing Fold Links to the Wing Frame Hinge Lug by placing the Links between the two Frame Hinge Lugs. Place the 1-1/2 x 2 Bushing between the Links. With Wing Frame Hinge Lugs, Wing Fold Link and Bushing holes aligned, insert a 1-1/2 x 8-5/8 Pin, that was set aside, into the Wing frame Hinge Lug side with the Keeper Plate so the Groove Pin fits into the slot. See Figure 2-37. Place 1-1/2 Flat Washer on the end of the Pin and secure with 1/2 x 2-1/2 Roll Pin.

3. Attach the hydraulic cylinders to the Wing Fold Links by placing one Link on each side of the Hydraulic Cylinder Rod End Clevis. Insert 1-1/4 x 8-1/4 Pin into the Wing Fold Links and the Hydraulic Cylinder. Place a Wing Link Roller on each side. Place 1-1/4 x 1-7/8 x 14ga Washer on each end of the Pin and secure with 5/16 x 2 Roll Pin.

---

**CAUTION**

Escaping hydraulic fluid can cause serious personal injury. Relieve system pressure before repairing, adjusting, or disconnecting. Wear proper hand and eye protection when searching for leaks. Use cardboard instead of hands (See Figure 2-38.) Keep all components (cylinders, hoses, fittings, etc.) in good repair.

Fold - Unfold Wings

After Assembly of the Wing to Frame Linkage fold and unfold the wings checking for leaks and binding. (Be sure air has been purged).
Figure 2-39: Wing to Frame Linkage
Wing Bearing Hanger Installation

On the 7 foot Wing (30 ft Models) attach the Bearing Hanger to the Wing Frame using six 3/4-10 x 2-1/2 Bolts and Locknuts.

On the 10 foot Wing (36 ft Models) attach the Wing Extension (which has the bearing hanger welded on) to the Wing Frame using six 3/4-10 x 2-1/2 Bolts and Locknuts.

---

Figure 2-40: Wing Bearing Hanger
Wing Support Frame Installation

The Wing Support Frame is shipped with the Wing. For the 7 foot Wing (30 ft Models) verify its position and relocate if necessary. Tighten hardware.

For the 10 foot Wing (36 ft Models), re-position Wing Support Frame on the Wing Extension and Tighten Hardware.

Left Hand similar.

Figure 2-41: Wing Support Frame Mounting Dimensions
Wing Rest Installation, 36 foot Models Only

Mark the location of the Wing Rest, See Figure 2-43. Place the Tube with the long part pointing out, secure with two 5/8-11 U-Bolts and Locknuts.

Right Hand only.

Figure 2-42: Wing Rest Installation
Wing Rest Installation Dimensions, 36 foot Models Only

Right Hand only.

Figure 2-43: 36 Ft Model Wing Rest Installation Dimension
Wing Tooth Control Linkage Installation

Know the depth that you want to run before continuing. See Figure 2-44.
The Pulvi-Mulcher is designed to have 3 maximum shank depths. Each Tooth Tube Bearing can be installed in one of three settings.
Top = 2” deep
Middle = 3-1/2” deep
Bottom = 5” deep
If making adjustment, all Tooth Tube Bearings should be assembled in the same position.

Tooth Tubes

After marking the tubes for the shank locations, See Figures 2-48 through 2-51. Slide the Tooth Tubes into the Tooth Tube Bearings.

NOTE

Tooth Tube locations are different between Right and Left. See Figures 2-52 through 2-55. Position Tooth Tubes in proper lateral position to the wing frame before continuing. Dimensions shown in Figure 2-52 through 2-55.

Figure 2-44: Tooth Tube

Wing Tooth Control Linkage

Install the Wing Frame 4 x 8 Rephasing Hydraulic Cylinders by attaching the base end of the cylinder to the Cylinder Anchor Rod on frame. Adjust the Anchor Adjustment Nuts so the distance from the wing frame tube to the cylinder pin is approximately 6-1/8”. See Figure 2-45.

Figure 2-45: Wing Frame Distance

See Figures 2-52 through 2-55 for clamp placement dimensions.

Left Hand Wing Tooth Control Installation

On the Left Wing, attach the clamp to front Tooth Tube using the 4 Hole Plate, two 5/8-11 x 2 Bolts, two 5/8-11 x 5 Bolts and Locknuts. Do not tighten at this time. Align the clamp w/cutout with Cylinder Rod Clevis, temporarily insert 1 x 6-1/2 Pin.
Position Tooth Control Tube over the top of the Cylinder Rod Clevis and between the Clamp w/cutout Lugs. Remove the 1 x 6-1/2 Pin and align all holes. Re-insert the 1 x 6-1/2 Pin. Place Flat Washers on over the Pin ends and secure with 5/16 x 2 Roll Pins.
Position the middle and rear Clamps so Clamp Lugs straddle the Tooth Control Tube. Align the clamp and Tooth Control Tube holes and rest the Clamp on the Tooth Tube. Insert 1 x 6-1/2 Pin. Place Flat Washers on over the Pin ends and secure with 5/16 x 2 Roll Pins. Clamps should all be aligned with each other. Secure Clamps on Tooth Tube by sliding the Clamp Plate into the Clamp slot so the Clamp Plate is under the Tooth Tube. Secure with 5/8-11 x 5 Bolt and Locknuts. See Figure 2-56.

Right Hand Wing Tooth Control Installation

On the Right Wing, attach a clamp without cutout to the Front Tooth Tube by sliding the Clamp Plate into the Clamp Slot so the Clamp Plate is under the Tooth Tube. Insert 5/8-11 x 5 Bolts and Locknuts. Do not tighten at this time. Align the clamp with cylinder Rod Clevis temporarily insert 1 x 6-1/2 Pin. See Figure 2-57. Position Tooth Control Tube over the top of the Cylinder Rod Clevis and between the Clamp Lugs. Remove the 1 x 6-1/2 Pin and align all holes. Re-insert the 1 x 6-1/2 Pin. Place Flat Washer over the Pin ends and Secure with 5/16 x 2 Roll Pins.
Attach the Clamp w/cutout to rear Tooth Tube using the 4 Hole Plate, two 5/8-11 x 2 Bolts, two 5/8-11 x 5 Bolts and Locknuts. Do not tighten at this time.

Position the middle Clamp without the cutout so Clamp Lugs straddle the Tooth Control Tube. Align the Clamp and Tooth Control Tube holes and rest the Clamp on the Tooth Tube. Insert 1 x 6-1/2 Pin into Clamp. Place Flat Washers over the Pin ends and secure with 5/16 x 2 Roll Pins.

Align rear Clamp w/cutout Lugs with Tooth Control Tube Holes. Insert 1 x 6-1/2 Pin. Place Flat Washers over the Pin ends and secure with 5/16 x 2 Roll Pins. Clamps should all be in line with each other.

Secure middle clamp on middle Tooth Tube by sliding the Clamp Plate into the Clamp Slot so the Clamp Plate is under the Tooth Tube. Insert with 5/8-11 x 5 Bolts and Locknuts. Do not tighten at this time.

Ensure that linkage doesn’t bind and clamps are positioned correctly. See Figures 2-52 through 2-55. Tighten bolts and nuts on both wings at this time. (See “General Torque Specifications” on page 4-1.)

**Wing Tooth Control Tube Stop Installation**

See Figures 2-48 through 2-51 for stop placement. Place stops on Tooth Control Tube against Tooth Tube Bearing to prevent Tooth Control Tube from sliding right or left. Secure with 1/2-13 x 4-1/2 Bolts and Locknuts. See Figure 2-46.

---

### Purging the Tooth Control Cylinders

**WARNING**

Escaping hydraulic fluid can cause serious personnel injury. Relieve system pressure before repairing, adjusting, or disconnecting. Wear proper hand and eye protection when searching for leaks. Use cardboard instead of hands. See Figure 2-47. Keep all components (cylinders, hoses, fittings, etc.) in good repair.

3630 Tooth Control Cylinders are series cylinders that rephase on retract.

The hydraulic system is not filled with oil and should be purged of air before transporting and field operations. Check to make sure the tractor hydraulic reservoir is full of the manufacturer’s recommended oil. Slowly raise the machine, and continue to hold the hydraulic lever until all lift cylinders are fully extended. Lower and raise the teeth to verify that all cylinders are working simultaneously throughout the stroke. If the cylinders are not working evenly or together, fully retract the tooth control cylinders and continue to hold the lever to purge any remaining air. Do not loosen any hoses or fittings. Recheck tractor reservoir to make sure it is within operating limits.

---

**Figure 2-46: Tube Stop**

**Figure 2-47: Hydraulic Leak Detection**
Wing Shank Mounting Dimensions

Mark the tubes for Shank locations prior to installing the tubes. **Do Not mount the Shanks to the tubes at this time.**

Figure 2-48: 7 Ft Left Hand Wing Shank Mounting Dimensions
Figure 2-49: 7 Ft Right Hand Wing Shank Mounting Dimensions
Figure 2-50: 10 Ft Left Hand Wing Shank Mounting Dimensions
Figure 2-51: 10 Ft Right Hand Wing Shank Mounting Dimensions
Wing Tooth Control Mounting Dimensions

Top View of LH 7 Ft Wing Frame
All dimensions are for reference only

Figure 2-52: 7 Ft Left Hand Wing Frame
Figure 2-53: 10 Ft Left Hand Wing Frame

All dimensions are for reference only
Figure 2-54: 7 Ft Right Hand Wing Frame

Top View of RH 7 Ft Wing Frame
All dimensions are for reference only
Figure 2-55: 10 Ft Right Hand Wing Frame

Top View of RH 10 Ft Wing Frame

All dimensions are for reference only
Figure 2-56: Left Hand Wing Tooth Control Installation
Figure 2-57: Right Hand Wing Tooth Control Installation
Wing Shank Installation

Engage Transport Locks

**NOTE**

See Figures 2-48 through 2-51 for Wing Shank Mounting Dimensions.

*It is easier to bolt the points to the shank before mounting them on the machine.*

Assembly Points to Shanks as shown in Figure 2-58.

Mount the Shanks to the Tooth Control Tubes using two 1/2-13 x 5 Bolts and Locknut.

See “General Torque Specifications” on page 4-1.

![Figure 2-58: Shank](image-url)
Table provided for general use.

<table>
<thead>
<tr>
<th>NOTES:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Left and Right Hand Wing Roller Installation

Place Shim Washer(s) and Dirt Shield on Roller Stub Shaft. Place the Flange Bearing over the Roller Stub Shaft. Lift and support the Roller Assembly up to the Bearing Hanger. Attach the Flange Bearing to the Bearing Hanger with four 5/8-11 x 1-3/4 Bolts and Locknuts. Install remaining Washers and Bolts as shown. Tighten.

**NOTE**
Roller Axle Assembly clamped end must be on the outer extremity of the Wing.

**NOTE**
Crowfoot Wheel Rotation Arrow must follow the direction of travel. See Figure 2-59.

Look at each Flange Bearing to make sure that it is sitting perpendicular to the Bearing Hanger. If not adjust the Shim Washers accordingly, for each side there are two 11ga and one 14ga Shim Washers. Shim Washers can be all three on the inside between the Stub Shaft shoulder and the Dirt Shield. All three can be on the outside between the Flange Bearing and Flat Top Washer, or a combination on either side, but all three must be used to minimize the gap. See Figure 2-60. Tighten all hardware. See Page 4-1.
Figure 2-60: Wing Roller Installation
Wing Spike Leveler

See Figures 2-61 and 2-62.

1. Attach the Leveler Bearing Mount to the inner and outer LH Wing Frame tubes using eight 1/2-13 x 1-3/4 Bolts and Locknuts.

2. Attach the Leveler Bearing Mount to the inner RH Wing Frame tube and the Leveler Bearing RH Mount to the outer RH Wing Frame tube using eight 1/2-13 x 1-3/4 Bolts and Locknuts.

3. Position the Spike Leveler Assembly under the brackets.

4. Wrap the Bearing Insert around the Arm Leveler Tube, place both Bearing Half's around the inserts, slide two 5/8-11 x 7-1/2 Bolts through the Bearing Half's and attach to the Leveler Mount Bracket. Secure with Locknuts.

5. Attach the Chain to the Leveler Arm by placing the end link into the slot, then inserting a 1/2-13 x 5 Bolt through the arm and link, secure with a Locknut.

6. Attach the other end of the Chain to the Leveler Mount Bracket, by placing chain link into the slotted hole, place 2 Hole Strap on each side of the Bracket and align with the hole below the slotted hole, insert 1/2-13 x 2 Bolt and secure with Locknut. Align the other end of 2 Hole Straps above slotted hole and insert Clevis Pin, secure with Hair Pin Cotter.

Adjustment of the chain length can be made later. Leveler Stop edge is mounted approximately 12 inches from the front of the rear frame tube.

7. Attach the Leveler Stop to the inner wing tube by placing the 4 Hole Plate on top of tube, insert four 1/2-13 x 6 Bolts through the Plate and stop secure with Locknuts. Attach the longer Leveler Stop to the inner wing tube. Attach the shorter Leveler Stop to the outer wing tube, using U-Bolts and Locknuts.

8. Attach the base end of two 2 x 6 Hydraulic Cylinders onto the center frame with supplied hardware.

9. Attach a Chain Lift Strap between cylinder clevis using supplied hardware.

10. Place end of 5 link chain between the two Chain Lift Straps, push 1/2-13 x 2-1/4 Bolt through straps and chain. Secure with Locknut. Center frame and wings similar.

11. Place Drag Chain Bracket P/N 193199 on the back side of the spike drag tube. Place Drag Chain Brackets P/N 193198 on the front side of the spike drag tube on either side of the single bracket. Connect the three brackets using 1/2-13 x 2-1/4 Bolts and Locknuts.

12. Position 5 link chain between the drag chain brackets. Slide 1/2-13 x 2-1/4 bolt through the brackets and chain. Secure with Locknut.

---

Plumb Hydraulic Spike Drags Wing Cylinders

See Figures 2-29 and 2-30 for hose routing.

Purge Hydraulic Drag Lift

Completely extend and retract cylinders 5-6 times to purge air from the Hydraulic Drag Lift Circuit. Do not loosen hoses/fittings. Recheck tractor reservoir oil level. The circuit requires approximately 1-1/2 gallons of oil.
Figure 2-61: Wing Spike Leveler Right Hand
Figure 2-62: Wing Spike Leveler Left-Hand
Center Rear Scraper Installation

Refer to the Mounting Dimensions, See Figure 2-64. With the Rollers on level ground, place the 5/8-11 U-Bolts over the frame tube and through the Wing Scraper Mounts, secure with Flanged Locknut.

Attach the Scrapers to the Scraper Tube (spaced approximately 4 inches apart) and secure with 3/8-16 U-Bolt and Flanged Locknut. Attach the Scraper Tube to the Wing Scraper Mount and secure with 3/8-16 U-Bolt and Flanged Locknut. Install the Scrapers with 1/4” clearance from the Notched Wheels. Components have been removed for clarity.

Figure 2-63: Center Rear Scraper Installation
Figure 2-64: Center Rear Scraper Mounting Dimensions
Wing Rear Scraper Installation

Right Hand shown Left Hand similar. Refer to the Mounting Dimensions, See Figures 2-66 and 2-67. With the Rollers on level ground, place the 5/8-11 U-Bolts over the frame tube and through the Wing Scraper Mounts, secure with Flanged Locknut. Attach the Scrapers to the Scraper Tube (spaced approximately 4 inches apart) and secure with 3/8-16 U-Bolt and Flanged Locknut. Attach the Scraper Tube to the Wing Scraper Mount and secure with 3/8-16 U-Bolt and Flanged Locknut. Install the Scrapers with 1/4” clearance from the Notched Wheels.

Figure 2-65: Wing Rear Scraper Installation
Wing Rear Scraper Mounting Dimensions

Figure 2-66: Wing Rear Scraper Mounting Dimensions, Right Hand
Figure 2-67: Wing Rear Scraper Mounting Dimensions, Left Hand
Optional Center Front Scraper Installation

Installation similar to Rear Scraper, See Page 2-65.

Refer to the Mounting Dimension, See Figure 2-69.

Figure 2-68: Optional Center Front Scraper Installation

U-Bolt, 5/8-11
Flanged Locknut, 5/8-11
Wing Scraper Mount
U-Bolt, 3/8-16
Tube
Scraper
Flanged Locknut, 3/8-16
Figure 2-69: Optional Center Front Scraper Mounting Dimensions
Optional Wing Front Scraper Installation

Installation similar to Rear Wing Scraper, See Page 2-67.

Refer to the Mounting Dimensions, See Figures 2-71 and 2-72.

Figure 2-70: Optional Wing Front Scraper Installation
Optional Wing Front Scraper Dimensions

7Ft RH Wing Optional Front Scraper
view from the inside of the machine looking forward

10Ft RH Wing Optional Front Scraper
view from the inside of the machine looking forward

Figure 2-71: Optional Wing Front Scraper Mounting Dimensions, Right Hand
Figure 2-72: Optional Wing Front Scraper Mounting Dimensions, Left Hand
Optional Coil Tine Harrow Kits
Kit 198626 is for the 3630-36 Model.
Kit 198627 is for the 3630-30 Model.

CAUTION
Do not work on or under this machine unless securely blocked and supported by a hoist or tractor or by other sufficient means.

Unfold, lower the unit to the ground.

Rotate Harrow 3 x 3 Tube
The 3 x 3 Tube inside the Harrow Assembly is shipped with the tube horizontal. Remove the Carriage Bolts that bolts the brackets to the Harrow plates and rotate the 3 x 3 Tube as shown below. Re-insert Carriage Bolts and secure. See Figure 2-73.

Figure 2-73: Harrow 3 x 3 Tube
Harrow Arm Installation

1. See Figures 2-76, 2-77 and 2-78 for Harrow Arm positioning. **Note:** Wing Harrow Arms are different than Center Frame Harrow Arms.

2. Position the Arm Assembly onto the rear of the tube. Place four hole plate on opposite side and slide four bolts through plate holes into Arm Assembly. Secure with Flange Nuts. **See Figure 2-74.**

**NOTE**

There are 2 different Harrow Arms. Part Number 198561 is used with the Center Frame. Part Number 198562 is used with the Wing Frames.
3. Attach the Harrow Assembly to the Harrow Arm Assembly by placing the 3 x 3 tube into the Arm Notch. Position U-bolt onto 3 x 3 tube and through the Harrow Arm Assembly. Secure with Thick Washer and Flange Nut. See Figure 2-75.

Figure 2-75: Harrow Assembly to Harrow Arm
Figure 2-76: Center Frame Harrow Mounting Dimensions
Figure 2-77: 30 Ft Wing Harrow Mounting Dimensions
Figure 2-78: 36 Ft Wing Harrow Mounting Dimensions
Optional Land Leveler Installation

Refer to the Mounting Dimensions, See Figures 2-79 and 2-80.

Attach the Leveler Mounts to the front center frame using two 3/4-10 U-Bolts for 6 inch Tube, Flat Washers and Locknuts. Slide the Center Leveler up into the mount slot and insert 1/2-13 x 3 Bolt.

On the other side place the 1 x 1-1/2 Bushing over the bolt and into the opening secure with Flat Washer and Locknut. Insert 3/8 x 2-1/2 Cotter Pin into the upper hole and spread.

Land Leveler Wing Installation

Refer to the Mounting Dimensions, See Figures 2-81 and 2-82.

Attach the Leveler Mounts to the Wing Frame using two 3/4-10 U-Bolts for 5 inch tube, Flat Washers and Locknuts.

Slide the Wing Leveler Bar up into the mount slot and insert 1/2-13 x 3 Bolt.

On the opposite side place the 1 x 1-1/2 Bushing over the bolt and into the opening, secure with Flat Washer and Locknut. Insert 3/8 x 2-1/2 Cotter Pin into the upper hole and spread.

Figure 2-79: Optional Land Leveler Installation
Optional Land Leveler Center Frame Mounting Dimensions

Figure 2-80: Optional Land Leveler Center Frame Mounting Dimensions
Optional Land Leveler Wing Mounting Dimensions

Figure 2-81: Optional Land Leveler Wing Mounting Dimensions, Right Hand
Figure 2-82: Optional Land Leveler Wing Mounting Dimensions, Left Hand
Optional V-Leveler Installation

V-Leveler Wing and Land Leveler Wing Installation is the same. Refer to Wing Mounting Dimensions, See Figures 2-81 and 2-82.

Wing V-Leveler Installation

Attach the Leveler Mounts to the Wing Frame using two 3/4-10 U-Bolts for 5 inch tube, Flat Washers and Locknuts.

Slide the Wing Leveler Bar up into the mount slot and insert 1/2-13 x 3 Bolt.

On the opposite side place the 1 x 1-1/2 Bushing over the bolt and into the opening secure with Flat Washer and Locknut. Insert 3/8 x 2-1/2 Cotter Pin into the upper hole and spread.

Center V-Leveler Installation

Place rear of the V-Leveler Mount up to the Drawbar Mounting Plate located on the rear cross member of the Drawbar. Secure with 5/8-11 x 2 Bolts and Locknuts. Attach the V-Leveler Mount to the front cross member of the Drawbar by placing 5/8-11 U-Bolt over the cross member and through the two holes in the V-Leveler Mount. Secure with Flat Washers and Locknuts. See Figure 2-83.

Slide the V-Leveler Bar up into the Long Leveler Mount slot and insert Clevis Pin using top hole. Place Flat Washer on the end of the Clevis pin and Secure with Hair Pin. Insert 3/8 x 2-1/2 Cotter Pin into the upper hole and spread.

Attach the Long Leveler Mounts to the Center frame front tube approximately 33-3/4 on the right side and 31-3/4 on the left side from the Bearing Hanger face to the Leveler Mount 4 Hole Plate edge, using two 3/4-10 U-Bolts for 6 inch tube, Flat Washers and Locknuts. Do not tighten at this time.

On the V-Leveler Bar place the Leveler Struts inside the V-Leveler Bar Lugs. Install 1 x 6-1/2 Pin. Place a Flat Washer on both ends of the Pin and secure with 5/16 x 2 Roll Pin.

Lift V-Leveler Bar up until Leveler Strut holes mates with the V-Leveler Mount strut holes. Install 1 x 6 Pin. Place a Flat Washer on both ends of the Pin and secure one end with 5/16 x 2 Roll Pin and the other end with Klik Pin.

Adjust long Leveler Mounts and Tighten U-Bolts.
Figure 2-83: V-Leveler Installation
Optional Wing Limit Shim Kit

Limits down float of wings when raising machine to turn around at end of field. This kit is recommended for flood irrigated applications.

Any time a shim is used all shims must be inserted into the same position on each wing hinge. Shims are located between the wing fold links and wing hinge tube. The shim is wedge shaped, with the wings unfolded, the farther down it is installed, the less the down float. The higher the shim, the more the down float. As a starting point a distance of 7” shim to wing tube See Figures 2-84 and 2-85 on level hard ground the wing end will slightly drag.

Consider soft field conditions as tires will sink in with machine raised. Install all shims in same position.

Drill hole in position as needed and secure shim with kit hardware. See Figure 2-86.

<table>
<thead>
<tr>
<th>Distance from Bottom of Shim to Top of Wing Frame Tube</th>
<th>Approximate amount of downward float for 36ft machines</th>
<th>Approximate angle of downward float</th>
</tr>
</thead>
<tbody>
<tr>
<td>7”</td>
<td>5-1/4”</td>
<td>2-1/2 deg</td>
</tr>
<tr>
<td>6-1/2”</td>
<td>4-1/4”</td>
<td>2 deg</td>
</tr>
<tr>
<td>6”</td>
<td>3-1/4”</td>
<td>1-1/2 deg</td>
</tr>
<tr>
<td>5-1/2”</td>
<td>2-1/4”</td>
<td>1 deg</td>
</tr>
<tr>
<td>5”</td>
<td>1-1/4”</td>
<td>1/2 deg</td>
</tr>
</tbody>
</table>

Figure 2-84: Wing Limit

![Figure 2-85: Wing Limit Shim Kit Installation 1 of 2](Image)
Figure 2-86: Wing Limit Shim Kit Installation 2 of 2
Optional Rear Hitch Installation

Position the Rear Hitch to the rear frame hitch plates, insert twelve 3/4-10 x 3 Bolts secure with Locknuts. Slide the two Bulkhead Adapters into the bulkhead plate and tighten. Attach the two female Couplers to the Bulkhead Adapters. Attach the two 3/8 Hoses and tighten. **(See "Hydraulic Fitting Torque Specifications" on page 4-2.)** Route the Hose Assembly along the inner frame tube with the other Hydraulic Hoses to the front of the drawbar. Secure with Tywraps.

Insert the Tandem Harness Adapter into the bulkhead plate and secure with two 1/4-20 x 1 Bolts and Locknuts. Hook up Tandem Haul Adapter to tractor side of Enhanced Lighting Module.

**NOTE**

All wires/hoses must be firmly attached to machine frame members so they do not sag or become torn loose by field debris.

![Figure 2-87: Optional - Rear Hitch Installation](image-url)
Table provided for general use.

<table>
<thead>
<tr>
<th>NOTES:</th>
</tr>
</thead>
</table>
Chapter 3
Operation

**DANGER**
Never allow anyone to ride on the seeder at any time. Allowing a person to ride on the machine can inflict serious personal injury or death to that person.

**DANGER**
Always lock the tractor drawbar in the center position when transporting the unit. Failure to do so can result in serious injury or death and cause damage to the equipment.

**WARNING**
All hydraulically elevated equipment must have cylinder lockouts installed or be lowered to the ground, when servicing or when equipment is idle. Failure to take preventive measures against accidental lowering can result in serious personal injury.

**DANGER**
When transporting the unit, place cylinder lockouts in the transport lock position after fully extending the cylinders. Insert the lockout pins to secure the cylinder lockouts. Failure to lockout the cylinders can cause the unit to settle during transport, which can result in serious injury or death and cause damage to the equipment.

**CAUTION**
When transporting farm implements on public roads, it is the responsibility of the operator to abide by state and local laws concerning wide loads, speed, safety emblems and safety lighting equipment. Drive at safe speeds, particularly when rounding corners, crossing rough ground or driving on hillsides, to prevent tipping the tractor.
Tractor Preparation

The Brillion 3630 Pulvi-Mulcher is designed to be pulled by tractor equipped with a double lip or clevis type hitch. If your tractor is not equipped as such, you need to purchase the hitch from your local tractor dealer. If your implement is equipped with the clevis option, this should be removed. The clevis option is only for transport use.

Before attaching the implement, prepare the tractor as follows:

1. Inflated the tractor tires and add ballast according to the tractor operator’s manual.
2. Lock the tractor drawbar in the center position.

Pulvi-Mulcher Preparation

1. Prior to operating the 3630 Pulvi-Mulcher, inspect it thoroughly for good operating condition.
2. Replace worn or missing parts.
3. When the machine is new, check the bolt tightness after a few hours of operation. Tighten any loose nuts or bolts. Check the lift wheel lug bolts daily.
4. Check the lift wheel tire inflation. Inflate all tires equally to avoid side draft. Follow the tire manufacturer’s recommended pressures listed on the sidewall of the tires.

Attaching to the Tractor

1. Align the tractor drawbar with the machine. Raise or lower the hitch, as needed, using the jack. Attach the unit with proper size hitch pin. See Table 3-1.
2. If applicable, always move the jack to the interior mount before setting the machine in motion. The 3630 jack has a drop leg. Be sure leg is completely raised and crank adjustment is completely raised. Move handle to storage clip.
3. Clean all hydraulic couplings and attach to the tractor.
4. Fully extend the hydraulic lift wheel cylinders, and place the cylinder lockouts in the transport lock position over the cylinder rods. Secure the lockouts with the lockout pins.
5. Attach safety chain to tractor allowing plenty of movement for turning both directions. The safety chain should latch securely to prevent it coming loose. See Figure 3-1.
6. Plug in the 7 pin connector for the lights.
   - Make sure the tractor has a good clean receptacle, free of dirt and corrosion.
   - Make sure the 7-pin connector is inserted ALL the way in. With tighter fitting pins, operator may think the connector is all the way in, but really isn’t.
Hydraulic Lift System

The Pulvi-Mulcher is equipped with a hydraulic lift system to raise and lower the unit in the field.

**WARNING**

Escaping hydraulic fluid can cause serious personnel injury. Relieve system pressure before repairing, adjusting, or disconnecting. Wear proper hand and eye protection when searching for leaks. Use cardboard instead of hands (See Figure 3-2.) Keep all components (cylinders, hoses, fittings, etc.) in good repair.

**Figure 3-2: Hydraulic Leak Detection**

The hydraulic system is not filled with oil and should be purged of air before transporting and field operations. Carefully hitch the Pulvi-Mulcher to the tractor and connect the hydraulic lift hoses. Remove the Drawbar Leveler Transport Lock and the Lift Transport Lock. Check to make sure the tractor hydraulic reservoir is full of the manufacturer’s recommended oil. Slowly raise the machine until all lift cylinders are fully extended. Lower and raise the unit to verify that all cylinders are working simultaneously throughout the stroke. Fully extend the lift cylinders and continue to hold the lever until all cylinder rod movement stops. Raise/Lower machine 5 times to purge air from the system. Do not loosen any hoses or fittings. Recheck tractor reservoir to make sure it is within operating limits. The Lift Circuit requires approximately 2 1/2 gallons of oil. Re-install Transport Locks. See Figures 3-6 and 3-7.

Hydraulic Fold System

1. The Pulvi-Mulcher is equipped with a hydraulic fold system to raise and lower the wing frames for narrow transport.

2. Be sure the system is fully charged with hydraulic oil before attempting to fold/unfold the unit. Air in the system can allow uncontrolled dropping of the wing frames causing serious personal injury or machine damage. The system needs to be charged with oil initially and any time the system has been opened for repair such as cylinder, hose, or fitting replacement/repair.

3. To charge the system, carefully hitch the Pulvi-Mulcher to a tractor. The unit must be unfolded to charge the system. See Step 5. Unpin the end(s) of the fold cylinders, and position them so the rod end can extend and retract without contacting any frames or other parts. Check the tractor hydraulic fluid level to make sure it is full of the manufacturer’s recommended hydraulic fluid. Connect the cylinder hoses to the tractor and fully extend and retract the cylinders several times. The cylinder rod travel should be smooth and positive when all air has been purged from the system. Due to large amounts of hydraulic oil required, recheck the tractor fluid level to make sure it is within proper operating limits.

4. The hydraulic fold system is equipped with restrictors in the cylinders to prevent uncontrolled falling of wing frames when unfolding. Removal or improper assembly of these restrictors can cause the machine to fold improperly and result in serious machine damage.

**WARNING**

Escaping hydraulic fluid can cause serious personnel injury. Relieve system pressure before repairing, adjusting, or disconnecting. Wear proper hand and eye protection when searching for leaks. Use cardboard instead of hands (See Figure 3-2.) Keep all components (cylinders, hoses, fittings, etc.) in good repair.

5. To fold/unfold the Pulvi-Mulcher, find a level area large enough to accommodate the unit when it is fully unfolded. The tractor should be stopped and not moving with the unit fully raised.

6. Slowly engage the tractor lever and fold/unfold the wing frames. When the wings are unfolded, continue holding the tractor lever to fully extend all fold cylinders. This will allow the wings to fully flex in the field.

The Fold Circuit requires approximately 9 gallons of oil.
Hydraulic Tooth Control

The Pulvi-Mulcher is designed with Hydraulic Tooth Control. The cylinders in conjunction with the Single Point Depth Control are used to control position of the shanks. Each tooth control cylinder has an adjustable anchor bolt. To set the anchor bolt unfold Pulvi-Mulcher, machine raised, with all tooth control cylinders fully extended. Reversible points should be set with tooth tubes level. See Figure 3-5.

If Tooth Tubes are not level check measurement from the center frame tube or wing frame tube to the cylinder pin. See Figures 3-3 and 3-4. Note the dimensions shown are a starting point. Adjust the Cylinder Anchor Adjustment Nuts until the tooth tube is level.

The Tooth Control Circuit requires approximately 2 gallons of oil.

Single Point Depth Control

The Pulvi-Mulcher is designed to have 3 maximum shank depths. Each Tooth Tube Bearing can be installed in one of three settings.

1. After initial Tooth Depth Setup above, a more precise adjustment can be made using the Single Point Depth Control.
2. Turn the Depth Stop Adjuster handle until the letter displayed in the Depth Stop Adjuster Indicator window matches the desired shank depth. See Table 3-2.

<table>
<thead>
<tr>
<th>Letter</th>
<th>Top</th>
<th>Middle</th>
<th>Bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>2&quot;</td>
<td>3-1/2&quot;</td>
<td>5&quot;</td>
</tr>
<tr>
<td>E</td>
<td>1-1/2&quot;</td>
<td>3&quot;</td>
<td>4-1/2&quot;</td>
</tr>
<tr>
<td>D</td>
<td>1/2&quot;</td>
<td>2&quot;</td>
<td>3-1/2&quot;</td>
</tr>
<tr>
<td>C</td>
<td>N/A</td>
<td>1&quot;</td>
<td>2-1/2&quot;</td>
</tr>
<tr>
<td>B</td>
<td>N/A</td>
<td>N/A</td>
<td>1&quot;</td>
</tr>
<tr>
<td>A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

If making adjustment all Tooth Tube Bearing should be assembled in the same position. See Figure 3-5.
Ensure Tooth Tubes are level prior to making any adjustments. See Figure 3-5.
**General Operation**

1. The minimum horsepower requirements are typically 7-9 horsepower per foot of cut. This will vary widely due to speed, depth, moisture, residue and types of soils. Local dealers can help in making recommendations for your areas.

2. Operating speed is typically 5-8 mph. Excessive speed can cause rapid sweep/point wear. Reduce speed in rocky conditions to prevent wheel breakage.

3. Lift wheels must always be in raised position. Pulverizer wheels are used to gauge the depth of each frame section.

4. Do not turn with the teeth in the ground, this can put excessive side load on the shanks. Raise the shanks slightly using hydraulic tooth control when making turns to prevent bent or broken shanks.

---

**Field to Road**

Raise machine fully.

1. Remove Clevis Pins and Hair Pins from Lever Brackets at the rear of the machine.

2. Actuate the Levers by sliding the Lever in the Lever Bracket to the Transport Lock Position. The Transport Lock should be over the Rockshaft Cylinder Rod. See Figure 3-6.

3. Install the Clevis Pins and Hair Pins in the U-Channels on the Rockshaft Cylinders to prevent any unexpected unlocking.

4. Remove Hitch Leveler Transport Lock, Bent Pin and Hair Pin from Hitch Leveler Mast Tab and place Transport Lock over the Hitch Leveler Cylinder Rod. Install Bent Pin and Hairpin. See Figure 3-7.

---

**Operation of Rockshaft Transport Lock**

Be sure both Rockshaft Transport Locks are either locked or unlocked.

---

**Road to Field**

Raise machine fully.

1. Remove Clevis Pins and Hair Pins from Rockshaft Transport Lock U-channel.

2. Actuate the Levers at the rear of the machine to raise the Transport Locks to Field Positions. See Figure 3-6.

3. Slide the Levers Into the Field Position Slot in the Lever Brackets.

4. Install the clevis pins and Hair Pins into the Lever Brackets to lock the Levers in Field Position.

5. Remove Hitch Leveler Transport Lock, Bent Pin and Hair Pin from Hitch Leveler Cylinder and store it on Hitch Leveler Mast Tab. Install Bent Pin and Hairpin. See Figure 3-7.

---

**CAUTION**

Failure to remove both Locks will cause damage to the Rockshaft.
Figure 3-6: Rockshaft Transport Lock Positions
Figure 3-7: Hitch Leveler Lock Positions

Hitch Leveler Transport Lock in Unlocked Position

Hitch Leveler Transport Lock in Locked Position

Bent Pin and Hair Pin
Hitch Leveler Cylinder
Transport Lock Stored

Bent Pin and Hair Pin
Hitch Leveler Cylinder
Transport Lock Installed
Drawbar Turnbuckle Adjustment

The Pulvi-Mulcher drawbar is designed to float in Field Position and lock into a set position in transport. Depending on tractor hitch height, the Turnbuckle may need to be adjusted to level machine front to rear in transport. Use the open end wrenches located on the Hitch Leveler Machine may need to be lowered to make adjustment. Remove all transport locks before lowering and ensure teeth are raised. See Figure 3-8.

![Figure 3-8: Drawbar Turnbuckle Adjustment](image)
Scraper Adjustment

The Pulvi-Mulcher, if equipped with notched rear wheels will have scrapers. To adjust scrapers; lower machine on level surface. Adjust scrapers to 1/4" gap between scraper and wheel.

NOTE
Scrapers are optional on notched front rollers. Adjustment procedure is the same for the front.

Figure 3-9: Scraper Adjustment
Rear Spike Leveler Adjustment

The Pulvi-Mulcher is equipped with a hydraulic actuated spike tooth leveler to knock down the ridges from the shanks before the rear roller.

The hydraulic cylinder should only be used to assist in lifting the drag bar, not as an adjustment.

The spike levelers tooth angle is adjustable. For maximum leveling, teeth should be at steeper setting. See Figure 3-10.

When required, set teeth to be less aggressive. See Figure 3-11.

In heavy trash environments, it may be necessary to raise levelers and not use them. This can be done with hydraulic circuit. See Figure 3-12.

With spike leveler raised, chain adjustments can be made to limit depth of spike levelers.

See Figure 3-10.

See Figure 3-11.

See Figure 3-12.
Transport

1. Check and follow all federal, state, and local requirements before transporting the Pulvi-Mulcher.

2. The Pulvi-Mulcher should be transported only by tractor required for field operation. The implement weight should not exceed more than 1.5 times the tractor weight. Maximum transport speed for the Pulvi-Mulcher is 20 mph for the implement and is designated on the speed identification symbol located on the front of the implement. See Figure 3-13.

![Figure 3-13: Speed Identification Symbol](image1)

---

**CAUTION**

Excessive speed may result in loss of control of the tractor and implement, reduced braking ability, or failure of the implement tire or structure. Do not exceed the implement maximum specified ground speed regardless of the capability of the maximum tractor speed.

3. When towing equipment in combination, the maximum equipment ground speed shall be limited to the lowest specified ground speed of any of the towed implements.

4. Maximum transport speed shall be the lesser of travel speed specified in the operator’s manual, speed identification symbol, information sign of towed equipment, or limit of road conditions.

5. Slow down when driving on rough roads. Reduce speed when turning, or on curves and slopes to avoid tipping. Equipment altered other than the place of manufacture may reduce the maximum transport speed. Additional weight, added tanks, harrowing attachments, etc. may reduce implement load carrying capabilities.

6. A safety chain is provided with the implement to insure safe transport.
   - The safety chain should have a tensile strength equal to or greater than the gross weight of the implement. The chain is attached to the lower hitch clevis hole with two flat washers between the clamp plates to assure a tight connection. Always use a 1” diameter Grade 8 bolt for this connection.
   - Attach the safety chain to the tractor drawbar. See Figure 3-14. Provide only enough slack in the chain for turning. Do not use an intermediate chain support as the attaching point for the chain on the tractor. Do not pull the implement by the safety chain.

Regularly inspect the safety chain for worn, stretched, or broken links and ends. Replace the safety chain if it is damaged or deformed in any way.
7. Check that tires are of proper size, load rating, and inflated to manufacture specifications before transporting. Check wheel lug bolts to ensure tightness.

8. Know the transport heights and widths of the unit before transporting. Use caution when transporting near bridges and power lines.

9. **WARNING**
   
   Electrocution can occur without direct contact.

9. Raise the machine to full transport height.

10. Install transport locks on lift systems. Do not depend solely on implement hydraulics for transport. **See Figures 3-6 and 3-7.**

10. **WARNING**
   
   Failure to use transport lock pins during transport may result in permanent equipment damage, serious injury or death.

11. Transport during daylight hours when ever possible. Always use flashing warning lights, except where such use is prohibited by law. Make sure lights, reflectors and SMV emblem are clearly visible and operating. Remove any obstructions such as dirt, mud, stalks or residue that restricts view before transporting.
Table provided for general use.

NOTES:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Chapter 4

Maintenance

General Torque Specifications

This chart provides tightening torques for general purpose applications when special torques are not specified on process or
drawing. Assembly torques apply to plated nuts and capscrews assembled without supplemental lubrication (as received condition).
They do not apply if special graphite moly-disulfide or other extreme pressure lubricants are used. When fasteners are dry (solvent
cleaned) add 33% to as received condition torque. Bolt head identification marks indicate grade and may vary from manufacturer to
manufacturer. Thick nuts must be used on grade 8 capscrews. Use value in [  ] if using prevailing torque nuts.

**TORQUE SPECIFIED IN FOOT POUNDS**

<table>
<thead>
<tr>
<th>UNC SIZE</th>
<th>SAE Grade 2</th>
<th>SAE Grade 5</th>
<th>SAE Grade 8</th>
<th>UNF SIZE</th>
<th>SAE Grade 2</th>
<th>SAE Grade 5</th>
<th>SAE Grade 8</th>
</tr>
</thead>
</table>

**METRIC:**

Coarse thread metric class 10.9 fasteners and class 10.0 nuts and through hardened flat washers, phosphate coated, Rockwell “C”
38-45. Use value in [  ] if using prevailing torque nuts.

<table>
<thead>
<tr>
<th>Nominal thread diameter (mm)</th>
<th>Newton Meters (Standard Torque)</th>
<th>Foot Pounds (Standard Torque)</th>
<th>Nominal Thread Diameter (mm)</th>
<th>Newton Meters (Standard Torque)</th>
<th>Foot Pounds (Standard Torque)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>46 [60]</td>
<td>34 [47]</td>
<td>30</td>
<td>1330 [1470]</td>
<td>990 [1090]</td>
</tr>
<tr>
<td>12</td>
<td>80 [125]</td>
<td>60 [75]</td>
<td>33</td>
<td>1790 [1950]</td>
<td>1340 [1450]</td>
</tr>
<tr>
<td>18</td>
<td>275 [330]</td>
<td>205 [245]</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hydraulic Fitting Torque Specifications

37 degree JIC, ORS, & ORB (REV. 10/97)
This chart provides tightening torques for general purpose applications when special torques are not specified on process or drawing. Assembly torques apply to plated nuts and capscrews assembled without supplemental lubrication (as received condition). They do not apply if special graphite moly-disulfide or other extreme pressure lubricants are used. When fasteners are dry (solvent cleaned) add 33% to as received condition torque. Bolt head identification marks indicate grade and may vary from manufacturer to manufacturer. Thick nuts must be used on grade 8 capscrews. Use value in [ ] if using prevailing torque nuts.

<table>
<thead>
<tr>
<th>Dash Size</th>
<th>37 Deg. JIC</th>
<th>O-ring (ORS)</th>
<th>O-ring boss</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4</td>
<td>11-13</td>
<td>15-17</td>
<td>13-15</td>
</tr>
<tr>
<td>-5</td>
<td>14-16</td>
<td>21-23</td>
<td></td>
</tr>
<tr>
<td>-6</td>
<td>20-22</td>
<td>34-36</td>
<td>25-29</td>
</tr>
<tr>
<td>-8</td>
<td>43-47</td>
<td>58-62</td>
<td>40-44</td>
</tr>
<tr>
<td>-10</td>
<td>55-65</td>
<td>100-110</td>
<td>58-62</td>
</tr>
<tr>
<td>-12</td>
<td>80-90</td>
<td>134-146</td>
<td>75-85</td>
</tr>
<tr>
<td>-16</td>
<td>115-125</td>
<td>202-218</td>
<td>109-121</td>
</tr>
<tr>
<td>-20</td>
<td>160-180</td>
<td>248-272</td>
<td>213-237</td>
</tr>
<tr>
<td>-24</td>
<td>185-215</td>
<td>303-327</td>
<td>238-262</td>
</tr>
<tr>
<td>-32</td>
<td>250-290</td>
<td>------------</td>
<td>310-340</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dash Size</th>
<th>37 Deg. JIC</th>
<th>O-ring (ORS)</th>
<th>O-ring boss</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4</td>
<td>10-11</td>
<td>10-12</td>
<td>14-16</td>
</tr>
<tr>
<td>-5</td>
<td>13-15</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>-6</td>
<td>17-19</td>
<td>18-20</td>
<td>24-26</td>
</tr>
<tr>
<td>-8</td>
<td>34-38</td>
<td>32-40</td>
<td>37-44</td>
</tr>
<tr>
<td>-10</td>
<td>50-56</td>
<td>46-56</td>
<td>50-60</td>
</tr>
<tr>
<td>-12</td>
<td>70-78</td>
<td>65-80</td>
<td>75-83</td>
</tr>
<tr>
<td>-14</td>
<td>------------</td>
<td>65-80</td>
<td></td>
</tr>
<tr>
<td>-16</td>
<td>94-104</td>
<td>92-105</td>
<td>111-125</td>
</tr>
<tr>
<td>-20</td>
<td>124-138</td>
<td>125-140</td>
<td>133-152</td>
</tr>
<tr>
<td>-24</td>
<td>156-173</td>
<td>150-180</td>
<td>156-184</td>
</tr>
<tr>
<td>-32</td>
<td>219-243</td>
<td>------------</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dash Size</th>
<th>37 Deg. JIC</th>
<th>O-ring (ORS)</th>
<th>O-ring boss</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4</td>
<td>11-12</td>
<td>10-12</td>
<td>14-16</td>
</tr>
<tr>
<td>-5</td>
<td>15-16</td>
<td>16-20</td>
<td></td>
</tr>
<tr>
<td>-6</td>
<td>18-20</td>
<td>18-20</td>
<td>24-26</td>
</tr>
<tr>
<td>-8</td>
<td>38-42</td>
<td>32-35</td>
<td>50-60</td>
</tr>
<tr>
<td>-10</td>
<td>57-62</td>
<td>46-50</td>
<td>75-80</td>
</tr>
<tr>
<td>-12</td>
<td>79-87</td>
<td>65-70</td>
<td>125-135</td>
</tr>
<tr>
<td>-14</td>
<td>------------</td>
<td>------------</td>
<td>160-180</td>
</tr>
<tr>
<td>-16</td>
<td>108-113</td>
<td>92-100</td>
<td>200-220</td>
</tr>
<tr>
<td>-20</td>
<td>127-133</td>
<td>125-140</td>
<td>210-280</td>
</tr>
<tr>
<td>-24</td>
<td>158-167</td>
<td>150-165</td>
<td>270-360</td>
</tr>
</tbody>
</table>

Fasteners
Before operating your Brillion machine, check all hardware for tightness. Use the Tightening Torque Table as a guide.
After a few hours of use, check entire machine and tighten any loose nuts or bolts. Daily or periodic checks should be made thereafter.
When replacing bolts, be sure to use fasteners of equal grade.
**Tires**

Recommended tire sizes are 380/55RX 16.5 and should be inflated to 70 PSI.

When Re-Installing the Wheel Nuts tighten to 50 foot-pounds using the sequence in Figure 4-1. Then tighten to full torque of 85-100 ft-lbs.

![Figure 4-1: Stud Tightening Sequence](image)

**Wheel Bearing Maintenance**

Wheel bearing maintenance should be performed at the beginning of every season of use. Check the wheel bearings periodically for excessive end play.

Grease Wheel Hubs every 50 hours. See Figure 4-2.

**NOTE**

The triple-lip seals should point away from the hub to keep contaminants out and allow grease to pass.

**Lubrication Maintenance**

The Pulvi-Mulcher is equipped with maintenance free bearings in the lifts, leveler, and wings hinges. These areas require no lubrication.

Pulverizer axle roller assembly bearings are sealed with a triple lip seal and are non-lubricable.

Grease turnbuckle every 50 hours to prevent seizure. See Figure 4-2.

**Hydraulic Maintenance**

**IMPORTANT**

Unfold, lower the unit to the ground, and relieve hydraulic pressure before attempting to service any hydraulic component.

1. Check the tractor hydraulic fluid level per tractor owners manual and after any leakage. Check fluid level with the cylinders in the retracted position.

2. If a cylinder or valve leaks, disassemble the parts to determine the cause of the leak. Any time a cylinder is opened up, or whenever any seal replacement is necessary, it is advisable to clean all parts and replace all seals. Seal kits are available from your Brillion dealer.

3. Check all hydraulic hoses weekly. Look for binding or cracking. Replace all worn or defective parts immediately.

4. Transport locks are provided to hold the implement in a raised position. Do not attempt to perform any service work under the implement without first installing the transport locks. Before servicing any hydraulic component, lower the implement to the ground and relieve all system pressure. If a hydraulic component is disconnected, repaired, or replaced, it will be necessary to purge the system of air before operation. See “Hydraulic Lift System” on page 3-3, “Hydraulic Fold System” on page 3-3 or “Hydraulic Tooth Control” on page 3-4 on how to purge the hydraulic systems.
Figure 4-2: Lubrication Points and Intervals

- Repack Annually
- 50 Hrs
- 50 Hrs
- 50 Hrs
Roller Axle Assembly
After an initial run of 5-10 hours, check the Roller Axle Assemblies to insure that the wheels are tight to one another. If not slide the wheels tight together and adjust the Axle Clamps. See Figure 4-3.

Clamp Tightening
Tighten the Clamp bolts evenly to achieve equal spacing between clamp section. Torque to 75 ft/lbs. Thereafter check assemblies every 50-100 hours. See Figure 4-4.
Clamp End Spacers - Optional
The Clamp End Spacer Kits are used to eliminate space between the Axle Clamp and the Wheel Stop.

**IMPORTANT**
Unfold and lower machine prior to performing any steps.

Kit Part Number 201442 - 3/4" Axle Spacer
Kit Part Number 201443 - 1/2" Axle Spacer

Installation is the same for either kit.

1. Place the two Axle Spacers between the Axle Clamp and the Wheel Stop.
2. Insert two 3/8-16 x 1-3/4 Bolts through the Axle Spacers and secure with 3/8-16 Locknuts.

Refer to the Torque Table for proper bolt torque values. Note the different torque requirement for Bolts with Locknut. See Page 4-1.
Kit Part Number 204831 - 1” Axle Spacer
Kit Part Number 204832 - 1-1/4” Axle Spacer
Kit Part Number 204833 - 1-1/2” Axle Spacer

1. Place the two Axle Spacers between the Axle Clamp and the Wheel Stop.

2. Insert two 3/8-16 x 1 Bolts through the Axle Spacers and secure with 3/8-16 Locknuts.

Refer to the Torque Table for proper bolt torque values. Note the different torque requirement for Bolts with Locknuts. See Page 4-1.

Figure 4-6: Clamp End Spacer Kit 2 of 2 - Optional
LED Warning Lights Tips

When plugging in the LED 7-pin connector:
1) Make sure the tractor has a good clean receptacle, free of dirt and corrosion.
2) Make sure the 7-pin connector is inserted ALL the way in. With tighter fitting pins, operator may think the connector is all the way in, but really isn’t.
3) Make sure the tractor receptacle cover latches over the keyway on the 7-pin connector to hold the connector in place.

If an operator plugs in the 7-pin connector, but the lights do not seem to work right, check the above items to make sure there is a good connection with the 7-pin connector.
**Storage**

1. The service life of the Pulvi-Mulcher will be extended by proper off-season storage practices. Prior to storing the unit, complete the following procedures:
   a. Completely clean the unit.
   b. Inspect the machine for worn or defective parts. Replace as needed.
   c. Repaint all areas where the original paint is worn off.
   d. Grease all exposed metal surfaces of shanks and points.
   e. Apply a light coating of oil or grease to exposed cylinder rods to prevent them from rusting.
   f. Lubricate each point of the machine as stated in “Lubrication Points and Intervals” on page 4-4.

2. Store the unit in a shed or under a tarpaulin to protect it from the weather. The ground tools and tires should rest on boards, or some other object, to keep them out of the soil.

3. If the unit is stored in the folded position, make sure the transport lock pins are installed to prevent settling.

4. Relieve Hydraulic Pressure in hoses after locks are installed.

5. Block wheels before unhitching from tractor.

---

**Maintenance Chart**

*(Subject to change without notice)*

<table>
<thead>
<tr>
<th></th>
<th>Initial Run-In</th>
<th>20 Hours</th>
<th>50 Hours</th>
<th>100 Hours/Annually</th>
<th>Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasteners, Wheel Hub Bolts</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Grease: Turnbuckle</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjust Scraper if equipped</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grease Wheel Hub</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repack Wheel Hub Bearings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Tighten Roller Axle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheels and Clamps</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Clean machine</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Grease after cleaning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Touch-up paint</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Avoid spraying high pressure washer directly at bearing seals and electrical connections.**
Table provided for general use.

<table>
<thead>
<tr>
<th>NOTES:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
# Chapter 5

## General Reference and Specifications

### Pulvi-Mulcher

#### 3630 Models

#### 30’ & 36’6”

<table>
<thead>
<tr>
<th>Standard Machine Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport Height - 12’10”</td>
</tr>
<tr>
<td>Nominal Shank Spacing-6”</td>
</tr>
<tr>
<td>Independent Hydraulic Tooth Control</td>
</tr>
<tr>
<td>Transport Width - 19’</td>
</tr>
<tr>
<td>Maximum Shank Operating Depth-5”</td>
</tr>
<tr>
<td>Dual Transport Wheels</td>
</tr>
<tr>
<td>Center Section Width - 17’6”</td>
</tr>
<tr>
<td>3 Rows of Shanks-18” between Shanks</td>
</tr>
<tr>
<td>(4) 380/55RX16.5 Tires</td>
</tr>
<tr>
<td>Overall Machine Length - 26’</td>
</tr>
<tr>
<td>Min of 24” between Rows of Shanks</td>
</tr>
<tr>
<td>Rear Scrapers-Stansard on Notched Rollers</td>
</tr>
<tr>
<td>20’ Notched Ductile Iron Wheels</td>
</tr>
<tr>
<td>Heavy-Duty Two-Piece S-Tine Shank</td>
</tr>
<tr>
<td>Leveling Bar in Front of Rear Roller</td>
</tr>
<tr>
<td>20’ Crowfoot Ductile Iron Wheels</td>
</tr>
<tr>
<td>2” Reversible Points</td>
</tr>
<tr>
<td>Cat. III, IV or V Hitch</td>
</tr>
<tr>
<td>20’ Optimizer Ductile Iron Wheels</td>
</tr>
<tr>
<td>25’ Under Frame Clearance</td>
</tr>
<tr>
<td>LED Warning Lights &amp; SMV Emblem</td>
</tr>
<tr>
<td>8” Roller Axles</td>
</tr>
<tr>
<td>Hitch Floats 10 Deg Up, 20 Deg Down</td>
</tr>
<tr>
<td>Safety Chain Kit</td>
</tr>
<tr>
<td>61mm Heavy-Duty Bearings</td>
</tr>
<tr>
<td>Wing Floats 10 Deg Down</td>
</tr>
<tr>
<td>Powder Coat Paint</td>
</tr>
</tbody>
</table>

Horsepower Requirements: 7 to 9 HP per Foot

<table>
<thead>
<tr>
<th>Accessories &amp; Optional Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>185120</td>
</tr>
<tr>
<td>184486</td>
</tr>
<tr>
<td>184487</td>
</tr>
<tr>
<td>185115</td>
</tr>
<tr>
<td>185116</td>
</tr>
<tr>
<td>185117</td>
</tr>
<tr>
<td>185118</td>
</tr>
<tr>
<td>184488</td>
</tr>
<tr>
<td>198626</td>
</tr>
<tr>
<td>198627</td>
</tr>
</tbody>
</table>

**Hydraulic Fluid Capacities:**

- Fold Circuit - 9 Gallons
- Lift Circuit - 2-1/2 Gallons
- Tooth Control Circuit - 2 Gallons
- Harrow Circuit - 1-1/2 Gallons
Table provided for general use.

NOTES:
## Document Control Revision Log:

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision</th>
<th>Improvement(s) Description and Comments</th>
<th>Team Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/2014</td>
<td>R0</td>
<td>Initial Release</td>
<td>WML</td>
</tr>
<tr>
<td>01/2016</td>
<td>R1</td>
<td>Added SPDC and Hydraulic Harrow</td>
<td>WML</td>
</tr>
</tbody>
</table>
Pulvi-Mulcher
3630 Models
30’ & 36’ 6”
Operator’s Manual

Re-Order Part Number F-752R1