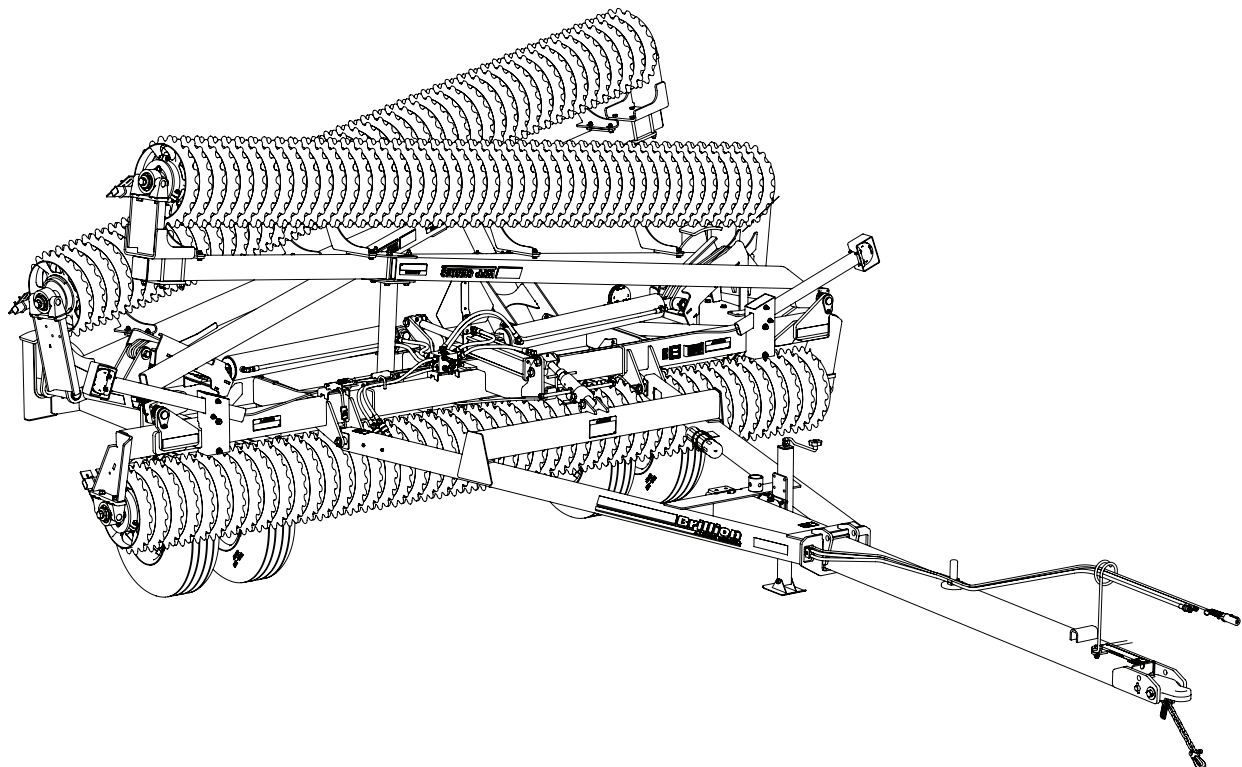




# Wing Float Pulverizer Models WFP38-52 Operator's Manual



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## Manuals for Wing Float Pulverizer, WFP38-52

| Manual Number | Manual Type       |
|---------------|-------------------|
| F-661         | Operator's Manual |
| F-662         | Parts Manual      |

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# Safety Information

## 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 Brillion Wing Float Pulverizer is designed with a telescoping drawbar making it versatile to use directly behind a tractor or a companion tool in both pre-plant and post-plant situations. By its patented design, the wings and the center section operate independently during field operation. The wings are capable of floating in two planes vertically and horizontally without altering the position of the center section. The Wing Float Pulverizer uses a single hydraulic circuit that lifts and folds the machine. Trunnions Bearings mount the 8" Rollers Axles with a choice of 20" Notched Ductile, 20" Optimizer and 20" Crowfoot Wheels.

## 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. Implement parts should only be replaced with Brillion parts. Have the Serial Number and complete Model Number available when ordering parts from your Brillion dealer. 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 Company, LLC 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. Refer to the Data Plate as shown. **See Figure 1-1.**

MODEL NUMBER

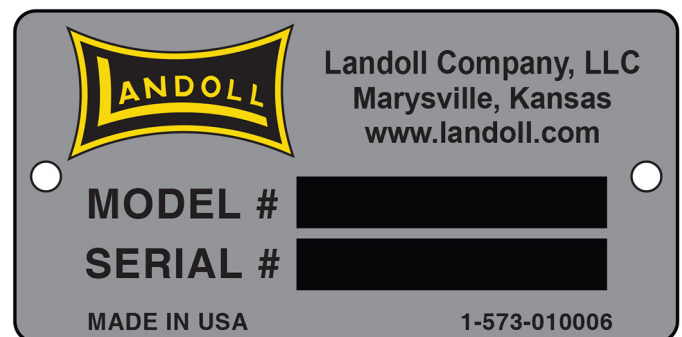
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SERIAL NUMBER

---

DATE OF PURCHASE

---



**Figure 1-1: Data Plate**

**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.

|  |
|--|
| <b>NOTICE</b>                                    |
| Special notice - read and thoroughly understand. |

|  |
|--|
| <b>CAUTION</b>   |
| Proceed with caution. Failure to heed caution <u>may</u> cause injury to person or damage product. |

|   |
|---|
| <b>WARNING</b>  |
| Proceed with caution. Failure to heed warning <u>will</u> cause injury to person or damage product. |

|  |
|--|
| <b>DANGER</b>  |
| 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 1-4.**
- 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.

|  |
|--|
| <b>DANGER</b>  |
| <ul style="list-style-type: none"> <li>• <b>Do not allow anyone to ride on the tractor or implement. Riders could be struck by foreign objects or thrown from the implement.</b></li> <li>• <b>Never allow children to operate equipment.</b></li> <li>• <b>Keep bystanders away from implement during operation.</b></li> </ul> |

## 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 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. **See Chapter 5.**

## Safety Instructions for Towing Vehicles

The maximum travel speed is the lesser of

- The limit of the road conditions;
- The maximum specified ground speed;
  - for towing operations as indicated in this manual or SIS;
  - of the towed vehicle as indicated in its operator's manual, SIS, or information sign;
- The maximum ground speed of the towed equipment combination shall be limited to the lowest specified ground speed of any of the towed machines. This speed is the ground speed limitation.

**EXAMPLE:** If the tractor is capable of 25 mph, the first implement has a SIS for 19 mph, and the last implement's operator's manual states its specified ground speed is 15 mph, the towed equipment combination ground speed limitation is 15 mph.

## Attaching, Detaching and Storage

- Do not stand between the tractor and implement when attaching or detaching implement unless both are not moving.
- Before applying pressure to the hydraulic system, be sure all connections are tight and that hydraulic hoses are not damaged.
- Completely raise the machine and install Transport Locks. If desired to store lowered and on unpaved surface, place hardwood blocks under roller to keep off ground.
- Block implement so it will not roll when unhitched from the tractor.
- Relieve pressure in hydraulic lines before uncoupling hydraulic hoses from tractor.
- Use the Safety Chain to help control drawn machinery should it separate from the tractor drawbar.

### NOTE

*To relieve hydraulic pressure: Depending on tractor hydraulic system, some can be relieved by actuating control lever after engine is stopped. If tractor has electric over hydraulic controls, it may be necessary to move the control lever to the float position. Refer to Tractor Operator's Manual.*

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

## Maintenance Safety

- Block the implement so it will not roll when working on or under it to prevent injury.
- Transport Locks installed.
- Do not make adjustments or lubricate the machine while it is in motion.
- Make sure all moving parts have stopped and all system pressure is relieved.
- 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.

**SAFETY INFORMATION**

**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**

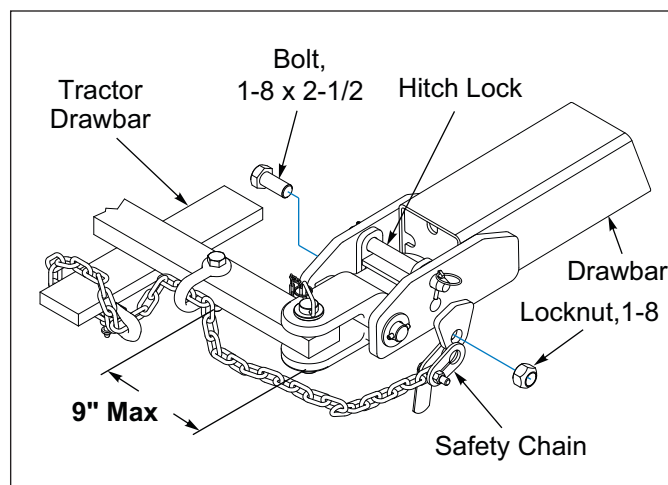
*To relieve hydraulic pressure: Depending on tractor hydraulic system, some can be relieved by actuating control lever after engine is stopped. If tractor has electric over hydraulic controls, it may be necessary to move the control lever to the float position. Refer to Tractor Operator's Manual.*

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

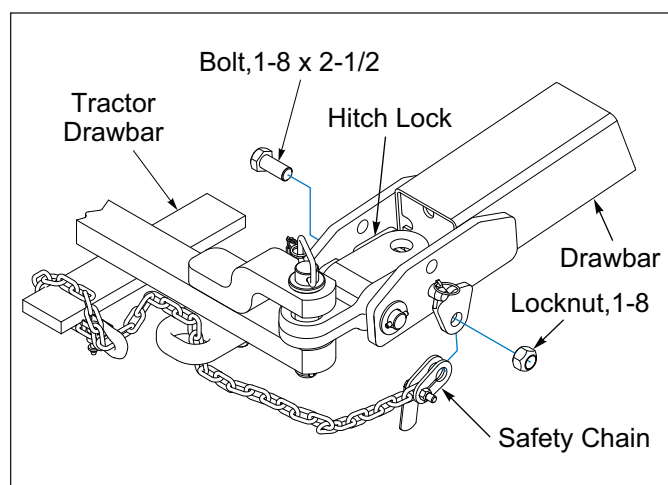
**Safety Chain**

1. Use the Safety Chain to help control drawn machinery should it separate from the tractor drawbar.
2. Use a chain with a strength rating equal to or greater than the gross weight of towed machinery, which is 21,000 pounds minimum in accordance with ASAE S338.2 specifications. If two or more implements 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.
3. Attach the chain to the Tractor Drawbar Support or specified anchor location. Never attach the chain to 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. **See Figures 1-2 and 1-3. See Tractor Operator's Manual.**
4. Replace chain if any links or end fittings are broken, stretched or damaged.
5. Do not use a Safety Chain for towing.

**See Page 3-2 for Hitch Lock functionality.**



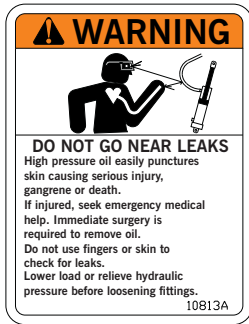
**Figure 1-2: Drawbar without Hammer Strap**



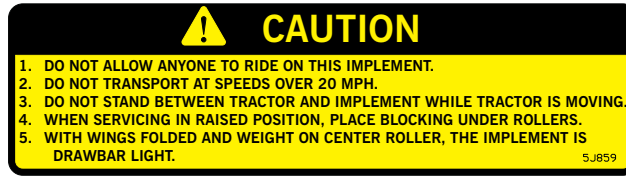
**Figure 1-3: Drawbar with Hammer Strap**



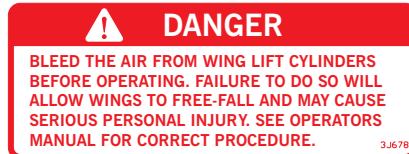
Decals



ITEM 1  
3K706



ITEM 2 - 5J859



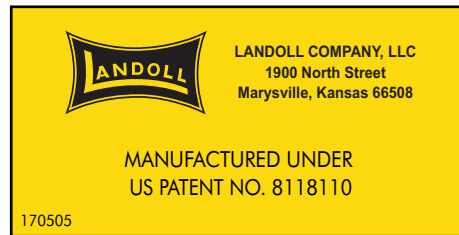
ITEM 3 - 3J678



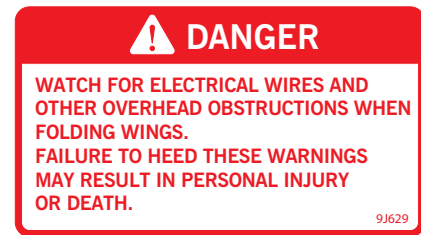
ITEM 4 - 3J675



ITEM 5  
2-573-010198



ITEM 6 - 170505



ITEM 7 - 9J629



ITEM 8  
528933



ITEM 9  
528934



ITEM 10  
528938



ITEM 11 - 170510



ITEM 12  
2P151



ITEM 13  
144193



ITEM 14 - 232188



ITEM 15 - 170509



ITEM 16 - 2P808



ITEM 17 - 1-573-010006

Figure 1-4: Safety Decals

# Decal Locations

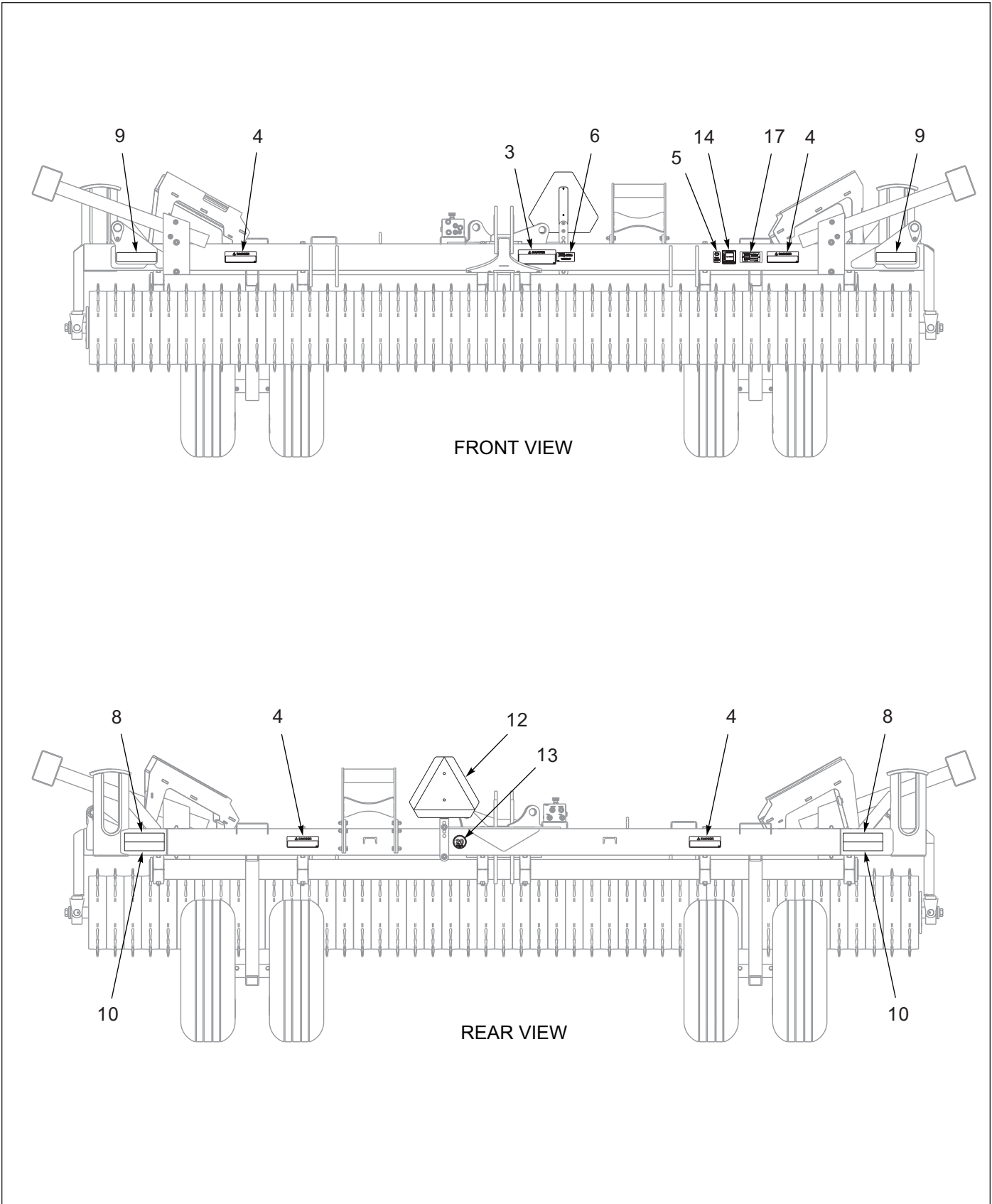


Figure 1-5: Center Frame Decals (1 of 5)

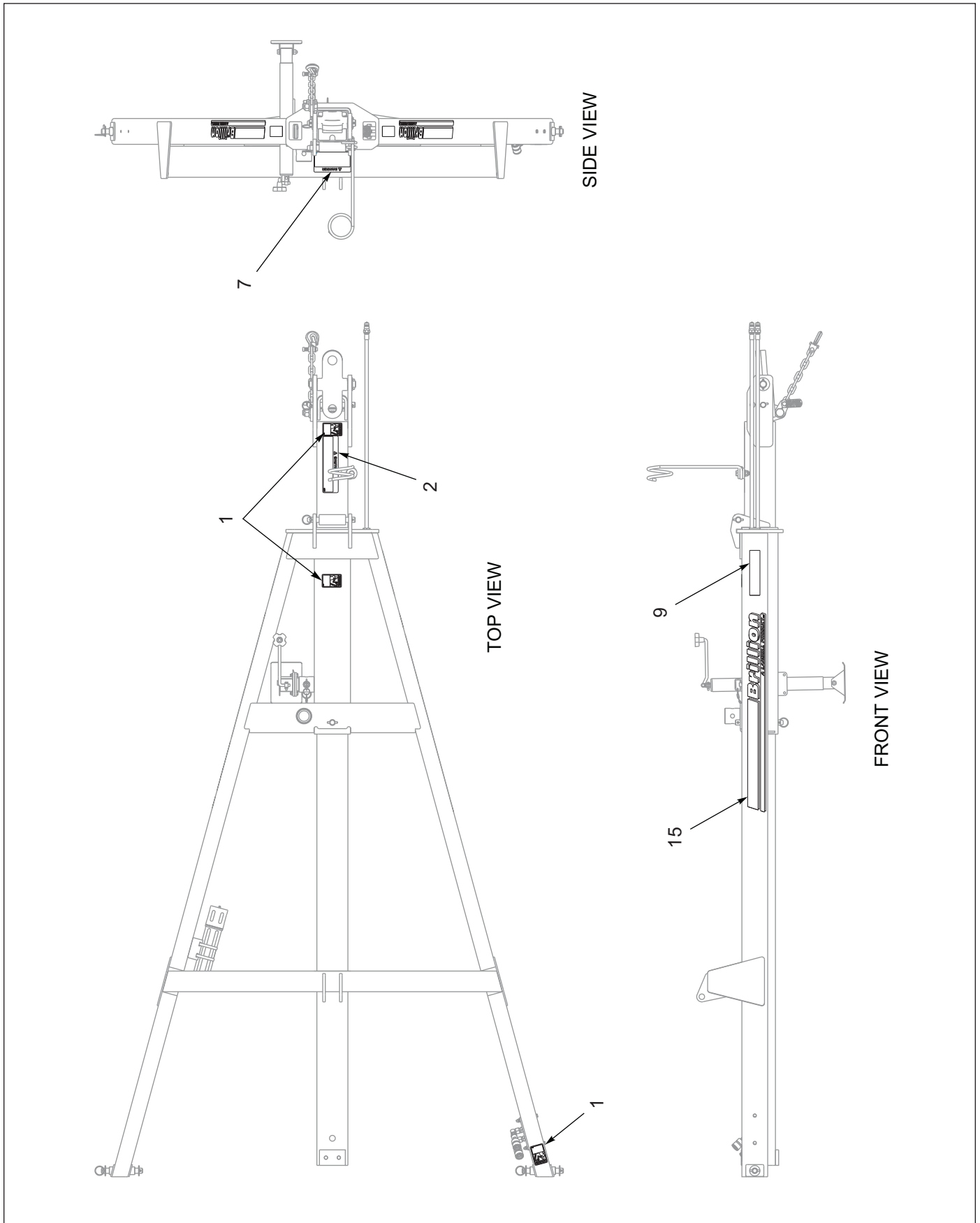


Figure 1-6: Drawbar Decals (2 of 5)

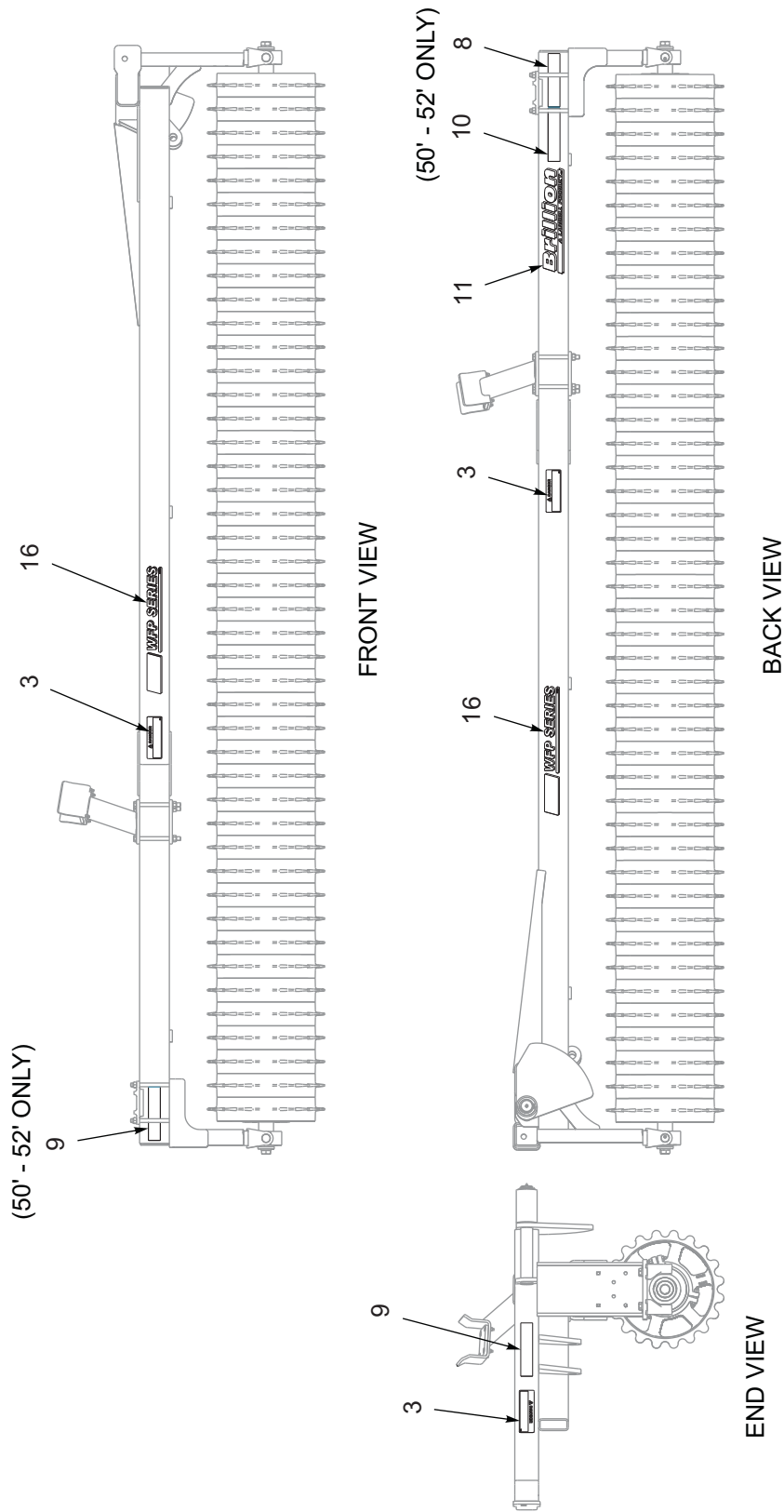


Figure 1-7: RH Wing Decals (3 of 5)

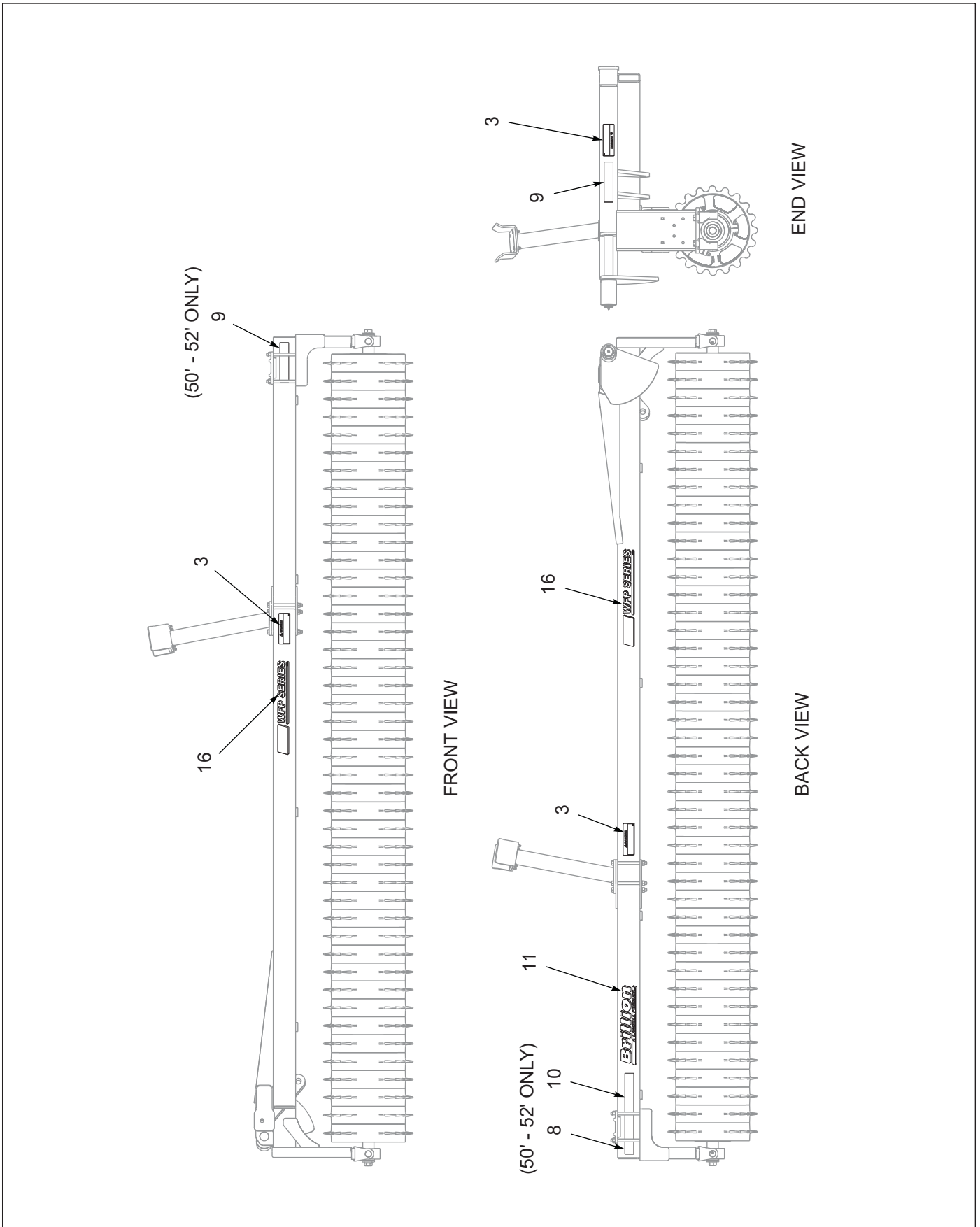


Figure 1-8: LH Wing Decals (4 of 5)

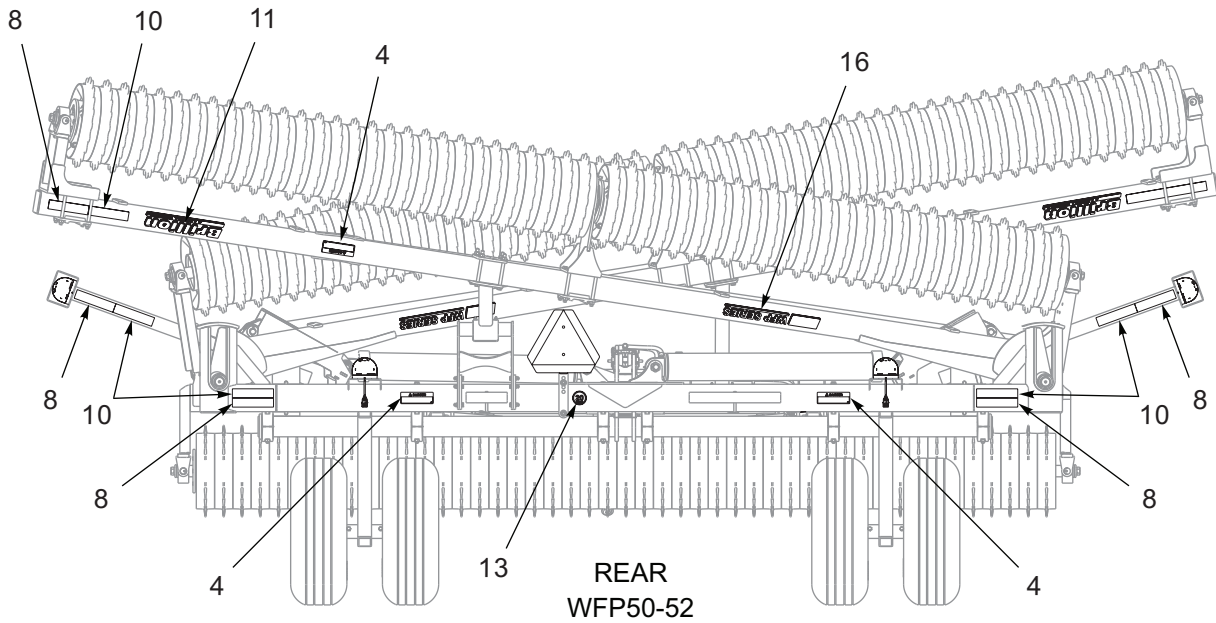
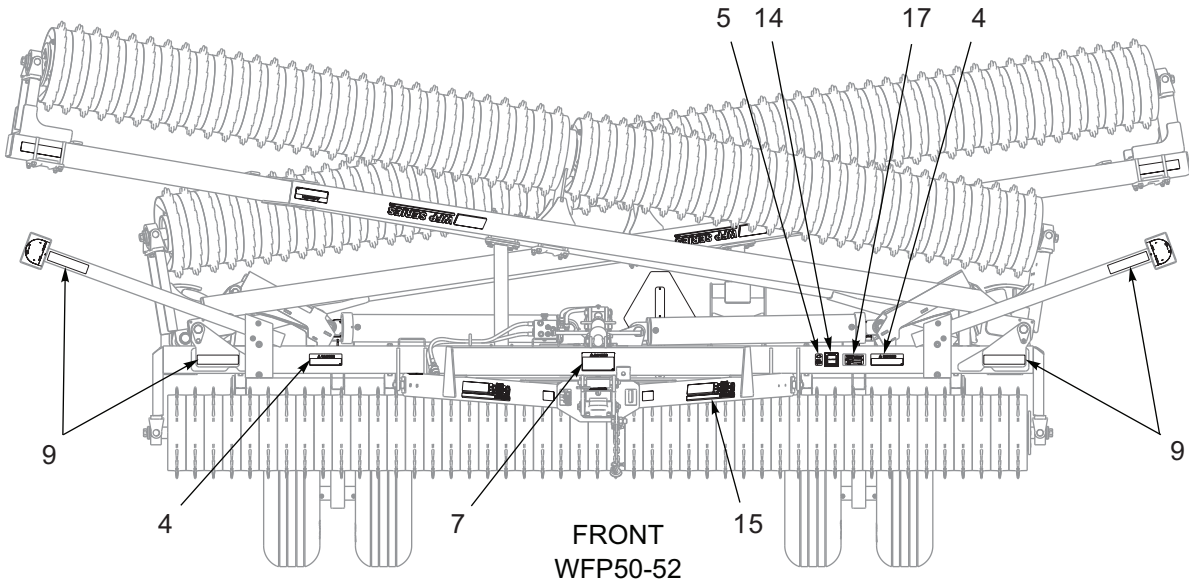


Figure 1-9: WFP50-52 Decals (5 of 5)

## Assembly

**CAUTION**

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

**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.

**NOTE**

Refer to the repair parts manual F-662 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.

**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 valves. Note the different torque requirements for bolts with locknuts. 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.

**IMPORTANT**

All Harnesses must be firmly attached to machine frame members or Hydraulic Hoses so they do not sag or become torn loose by field debris. Use the tie wraps provided.

Check to be sure the Harnesses are slack enough so as to not be stretched or interfered with while raising and lowering of the machine.

## Frame and Transport Axle Assembly

### NOTE

*The Bearing Inserts are maintenance free and require no grease.*

1. Select a smooth, level area that can be reached by a hoist or lift truck.
2. Place the Center Frame on supports, approximately 36 inches high and rated for 2,000 lbs. or higher.
3. Place a Bearing Insert into each Bearing Half. Position a set on each side of the transport Axle Lugs. Attach with 5/8-11 x 13 Bolts, Flat Washers and Locknuts. **See Figure 2-2.**
4. Repeat for the other bearing halves. Tighten all hardware.
5. Attach the Wing Support to the rear of the frame with 1/2-13 x 1 3/4" Bolts, Flat Washers and Locknuts.
6. Place the 1-3/4 x 9 Transport Lock onto the storage lug on the left side of the rear frame. Secure with Clevis Pin and Hairpin Cotter.
7. Place the 1-3/4 x 20 Transport Lock onto the storage lug on the right side of the rear frame. Secure with Clevis Pin and Hairpin Cotter.
8. Install the base end of the 4 x 20 Hydraulic Cylinder to the Frame Lug and the rod end of the cylinder to the Transport Axle Lug with the 1 x 6 Pins. Secure with Flat Washers and 5/16 x 2 Roll Pin.
9. Tighten all hardware to the recommended torques. **See Page 4-1.**

## Tire and Wheel Installation



### WARNING

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

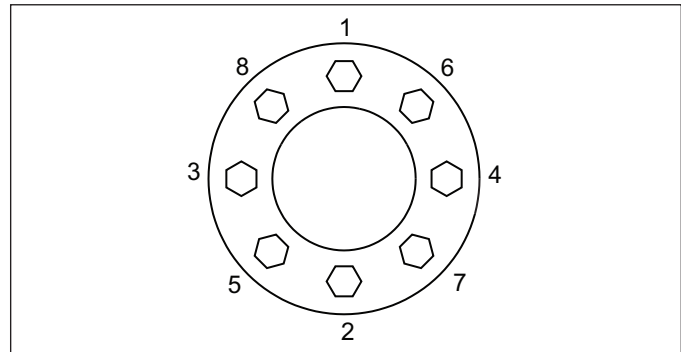
### NOTE

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

The Pulverizer uses 12.5L-15Fi, Ply Rating F tires and should be inflated to 90 PSI.

Install Tire and Wheel Assemblies onto Hub and Spindles with 9/16-18 x 1-1/8 Wheel Bolts. **See Figure 2-2.** Tighten 9/16-18 x 1-1/8 Wheel Bolts to 50 Ft-Lbs using the sequence in **Figure 2-1.** Tighten to a full torque of 120-125 Ft-Lbs.

Leave supports under frame to support the machine in case of weight shift while adding components.



**Figure 2-1: Tightening Sequence**



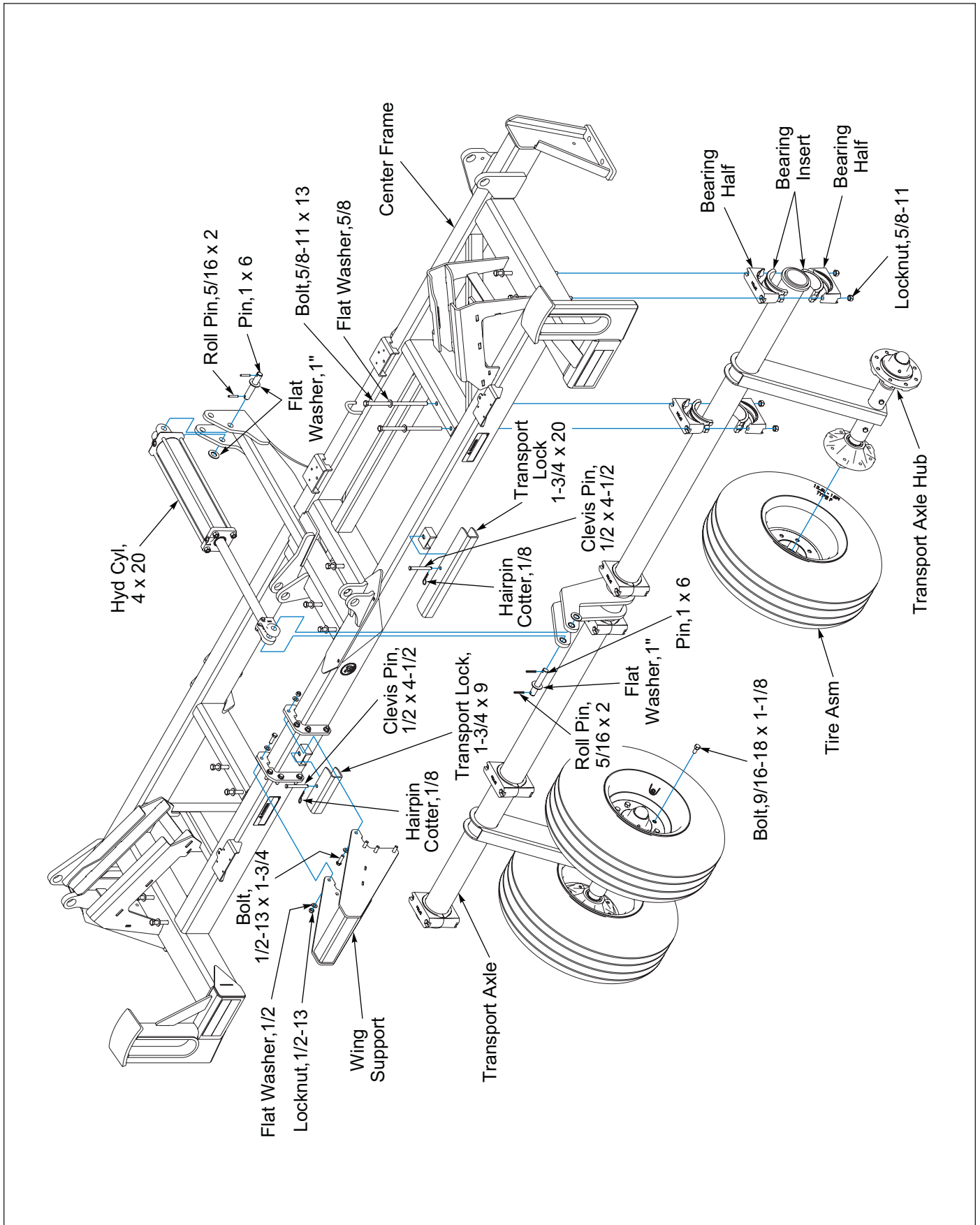


Figure 2-2: Frame and Transport Axle Assembly

# Center Frame Roller Assembly Installation

**NOTE**

*Wheel Stop is on the Clamp side of the Roller Assembly.*

**NOTE**

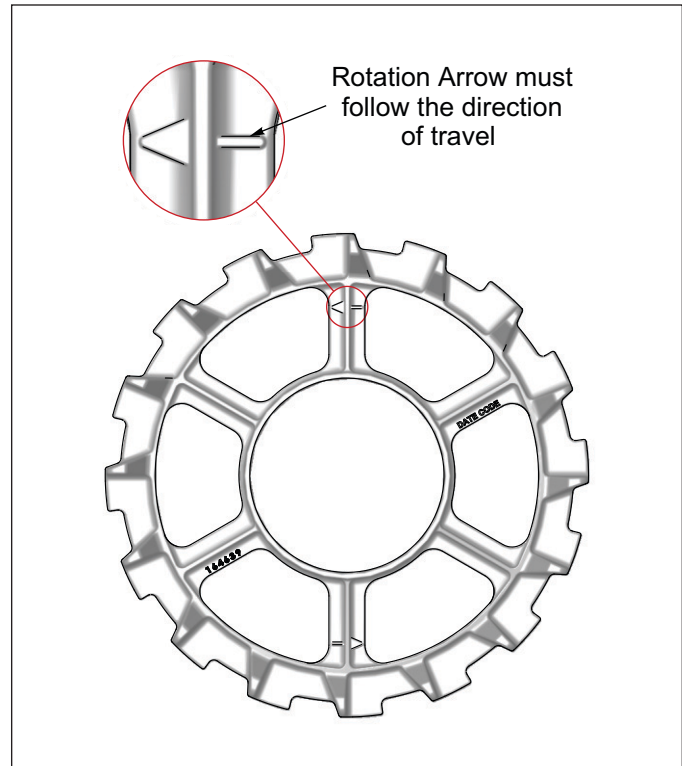
*Crowfoot Wheel Rotation Arrow must follow the direction of travel. See Figure 2-3.*

**Roller Assemblies** are pre-assembled from the factory with trunnion bearings, shims, and retaining washers. Crowfoot Wheel Rotation Arrow must follow the direction of Travel. **See Figure 2-3.**

1. Loosen the 1-8 Bolt on each end of the Roller Assembly approximately 4 turns.
2. With the Bearing Grease Fitting facing towards the rear of the machine, slide the Trunnion Bearing Mounts onto the Trunnion Bearings and lift the Roller Assembly up to the Center Frame Bearing Hangers. Hand tighten 3/4-10 hardware to hold Trunnion Bearing Mounts in place. **See Figure 2-5.**
3. Look at each Trunnion Bearing Mount to make sure that it is sitting perpendicular to the Center Frame Bearing Hanger. **See Figure 2-4.** 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 Trunnion Bearing, all three can be on the outside between the Trunnion Bearing and Flat Top Washer, or a combination on either side, but all three must be used to minimize the gap. If gap cannot be properly minimized with bearing snap rings to outside, turn bearing around to have snap ring to inside. The bearing inner race is offset with respect to the trunnion bosses by 1/32". By installing bearings with snap rings in versus out, 1/16" difference can be made up at assembly if needed.
4. Tighten 3/4-10 and 1-8 hardware to specification per torque chart. **See Page 4-1.**

**V-Wheel Roller Assemblies** are installed in the same manner except for the Center Bearing Hanger. **See Figure 2-6.**

1. Install Center Bearing Hanger onto the bottom of the Center Frame front tube with 5/8-11 x 2-1/4 Bolts and Flange Locknuts.
2. Place Square Bore Bearing into the end of each Roller Assembly. Install the Roller Assemblies as stated above.



**Figure 2-3: Crowfoot Wheel Rotation**

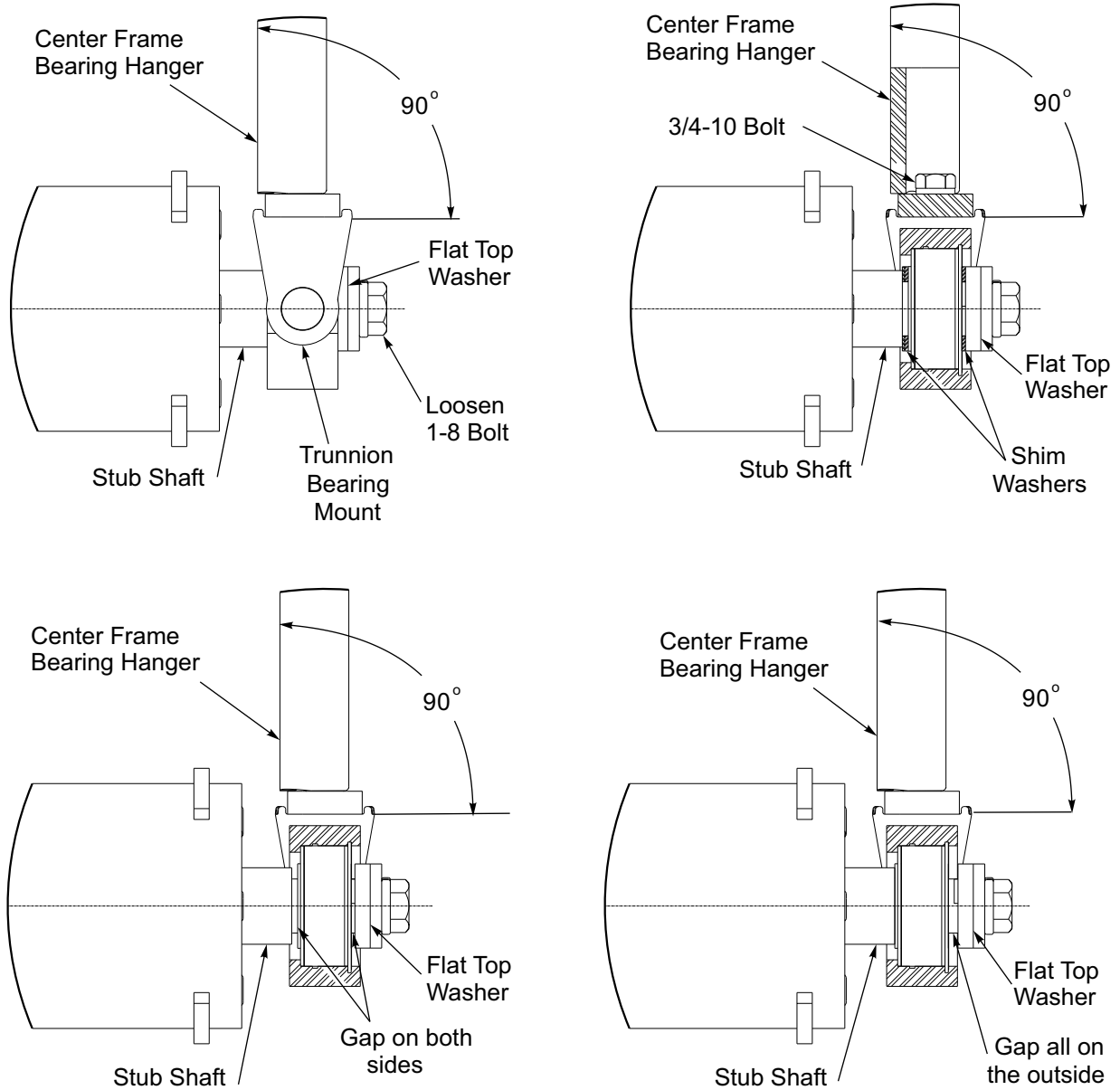


Figure 2-4: Trunnion Spacing

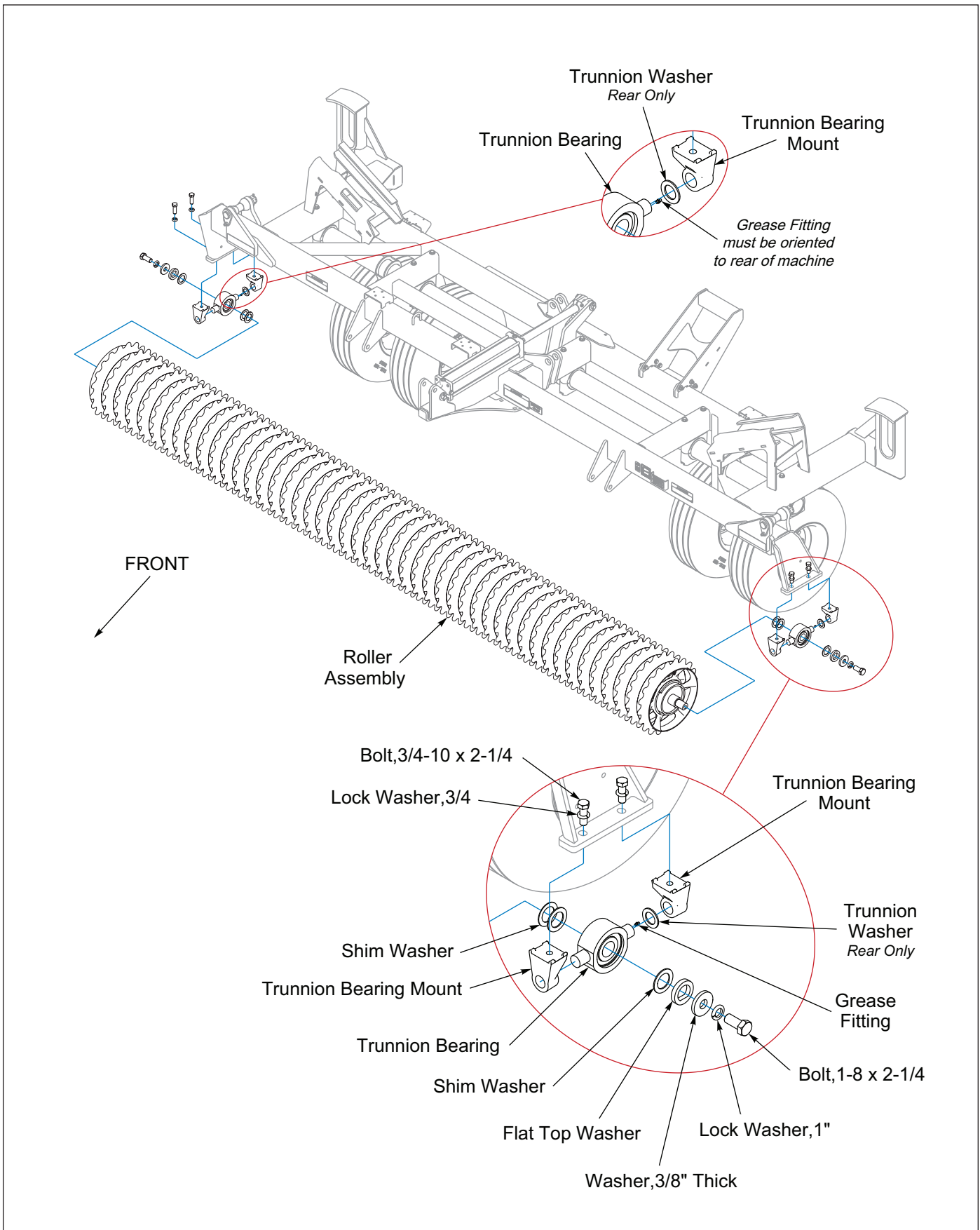


Figure 2-5: Center Frame Roller Assembly Installation

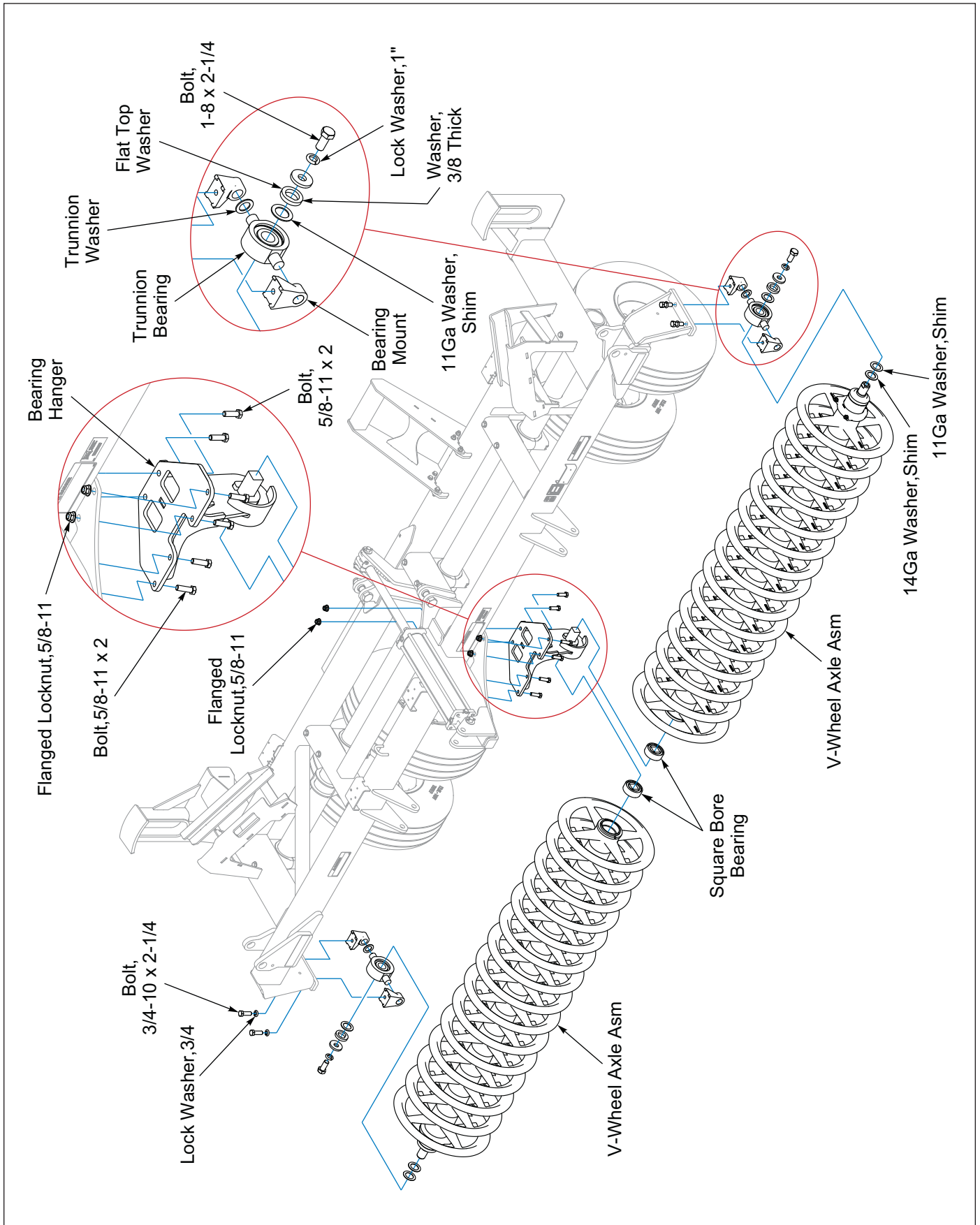


Figure 2-6: Center Frame V-Wheel Roller Installation

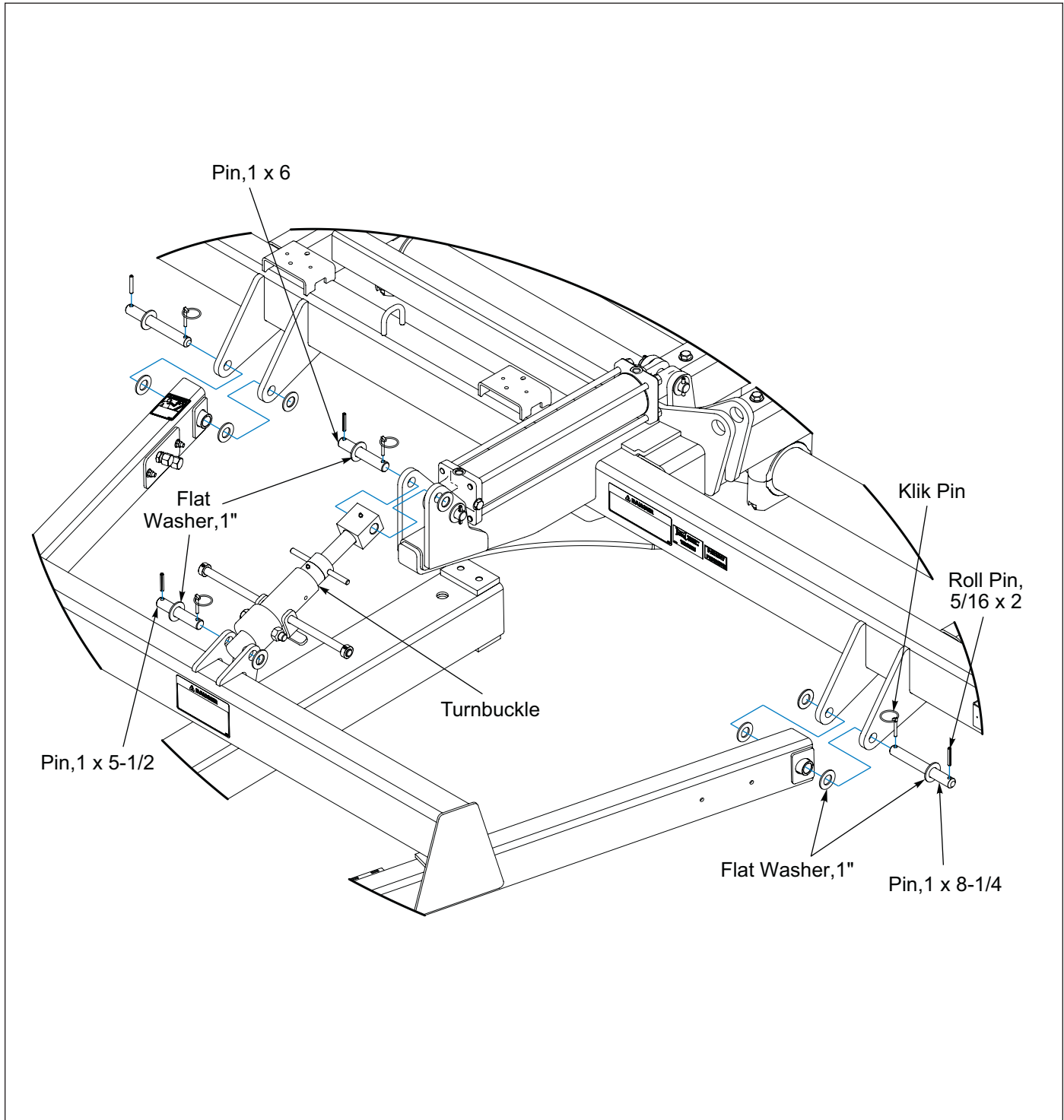
# Drawbar Installation

**NOTE**

*Note the different Pin lengths for Turnbuckle installation.*

1. Attach drawbar to Center Frame with 1 X 8-1/4 Pins. Place a 1" Flat Washer on each side of the Pin. Secure each Pin with a 5/16 x 2 Roll Pin and Klik Pin.

2. Attach turnbuckle to Center Frame Lug with 1 x 6 Pin and to the Drawbar with 1 x 5-1/2 Pin. Place a 1" Flat Washer on each side of the Pin. Secure each Pin with a 5/16 x 2 Roll Pin and Klik Pin.



**Figure 2-7: Drawbar and Turnbuckle**

## Drawbar Jack, Hose Support and Manual Storage Canister Installation

1. Assemble the Jack Mount to the Jack with the 1/2-13 x 1-1/2 Bolts and Locknuts in the four upper holes. Attach the Jack to the drawbar by slipping the Jack sleeve into the Drawbar sleeve and inserting the Jack 3/4 Pin with Chain.
2. Attach the Hose Support to the Drawbar with 5/8-11 x 2-1/4 Bolt, Washer, and Flange Locknut.
3. Install the Manual Storage Cannister to the Drawbar Mount with Hose Clamp.

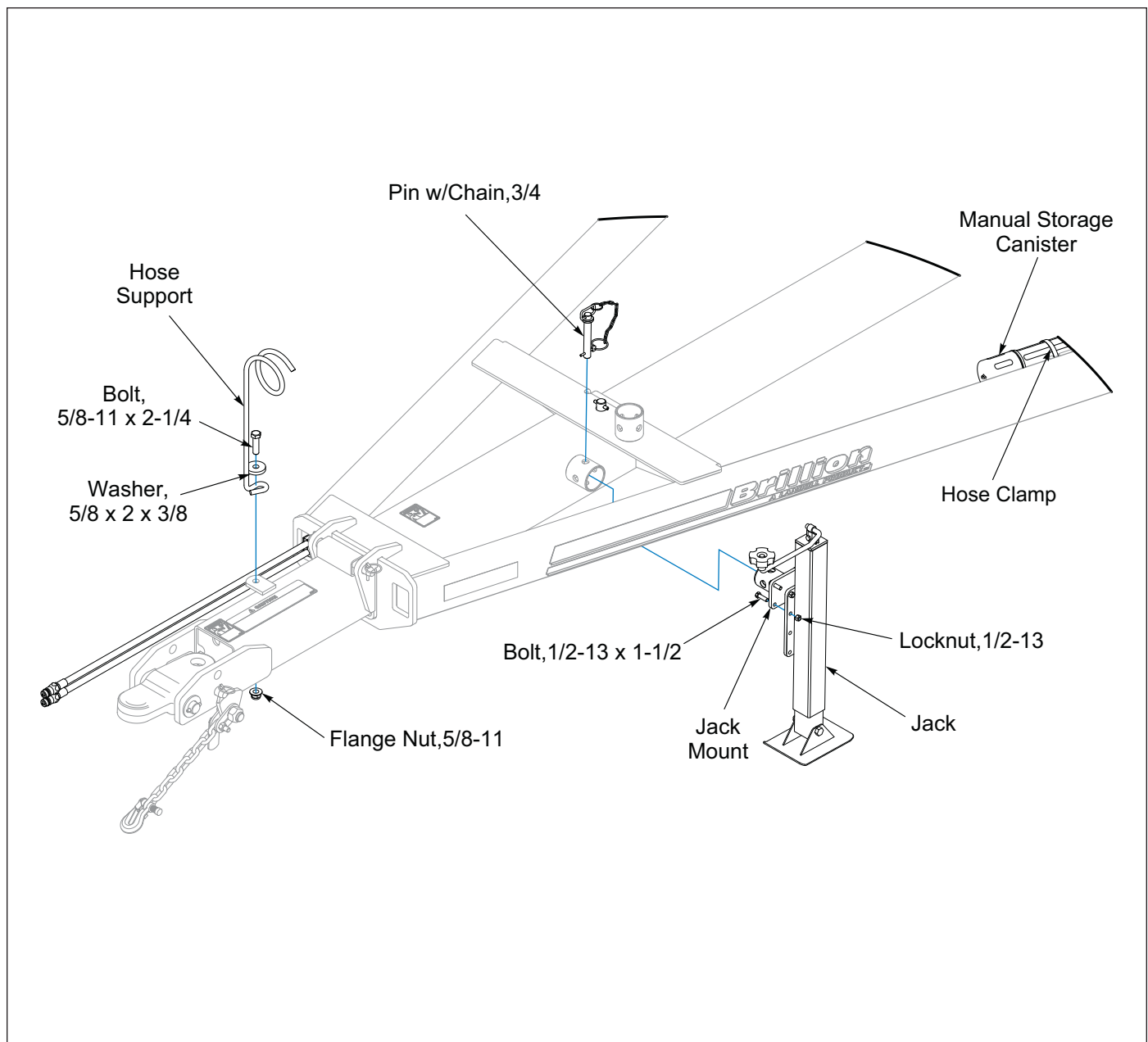


Figure 2-8: Additional Drawbar Assembly

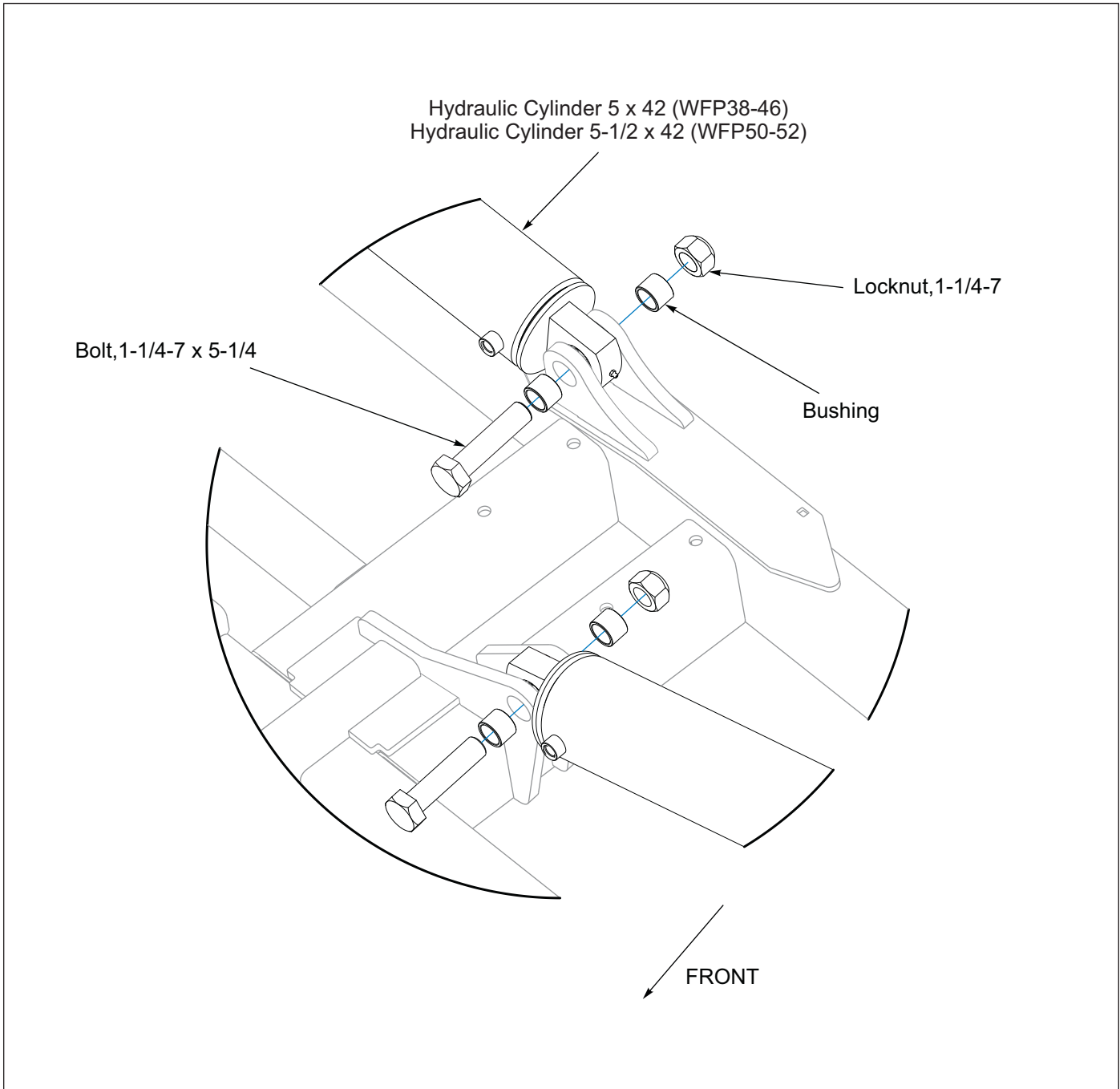
# Wing Fold Cylinder Installation

**NOTE**

*Be sure the hydraulic cylinder ports are facing the front of the machine.*

1. Check to make sure that the Cylinder Ball Joints are free to rotate.
2. Position cylinders so ports are front facing. **See Figure 2-9.**

3. Place the base end of the 5 x 42 Hydraulic Cylinder (WFP38-46) or 5-1/2 x 42 Hydraulic Cylinder (WFP50-52) between each pair of Center Frame Lugs. Insert bushings into frame Lugs. Secure with 1-1/4-7 x 5-1/4 Bolts and Locknuts.
4. Block each Cylinder Rod End Clevis up from the frame to allow for rod movement when purging the Hydraulic Circuit. **See "Purging the Hydraulic System" on page 2-16.**



**Figure 2-9: Wing Fold Cylinder Installation**



# Hydraulic Installation

## IMPORTANT

Unfold and lower the unit to the ground and relieve system pressure before attempting to repair, adjust or disconnect components.



## WARNING

Escaping fluid under pressure can be nearly invisible and have enough force to penetrate the skin causing serious injury. Relieve system pressure before repairing, adjusting, or disconnecting. Use a piece of cardboard, rather than hands, to search for suspected leaks. Wear protective gloves & safety glasses or goggles when working with hydraulic systems. Keep all components (cylinders, hoses, fittings, etc.) in good repair.

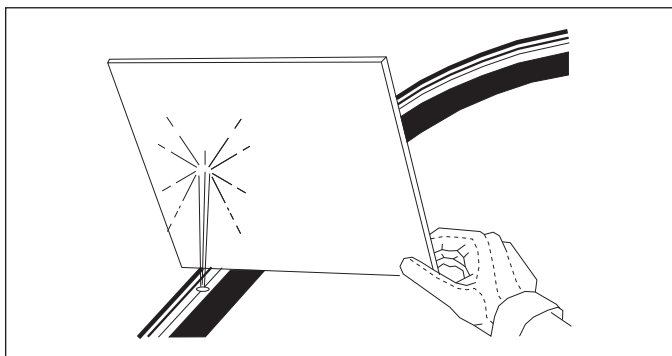


Figure 2-10: Hydraulic Leak Detection

The Wing Float Pulverizer is equipped with a single circuit that folds/unfolds the wings and raises/lowers the machine.

**Hydraulic Circuit approximate oil requirement for machine with 5 x 42 Fold Cylinders: 8.5 gallons**

**Hydraulic Circuit approximate oil requirement for machine with 5-1/2 x 42 Fold Cylinders: 10 gallons**

### 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 Ft-Lbs torque. See "Hydraulic Fitting Torque Specifications" on page 4-2.

## Plumb the Hydraulic Circuit



## CAUTION

The Wing Frames depend upon flow restrictors in the hydraulic manifold to prevent uncontrolled falling when folding or unfolding. Removal or improper settings of these restrictors can cause the machine to fold or unfold improperly and result in serious machine damage.

1. Install a Female Swivel x Male O-Ring Elbow Fitting onto each Drawbar Bulkhead. See Figure 2-11.
2. Install Female Coupler onto each Elbow Fitting

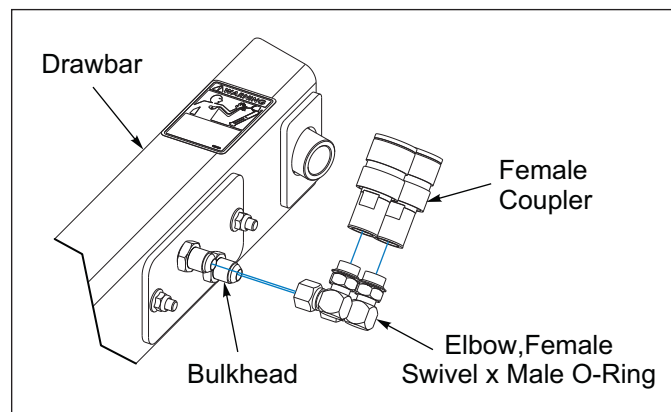


Figure 2-11: Female Coupler Installation

## NOTE

The Magnet provided is used to prevent hoses from dragging with drawbar extended.

3. **Telescoping Drawbars:** Assemble the Magnet, Hose Clamp, Handle and Hardware to the Drawbar Hoses halfway between the Drawbar A-Frame and Hose Support. See Figure 2-12.

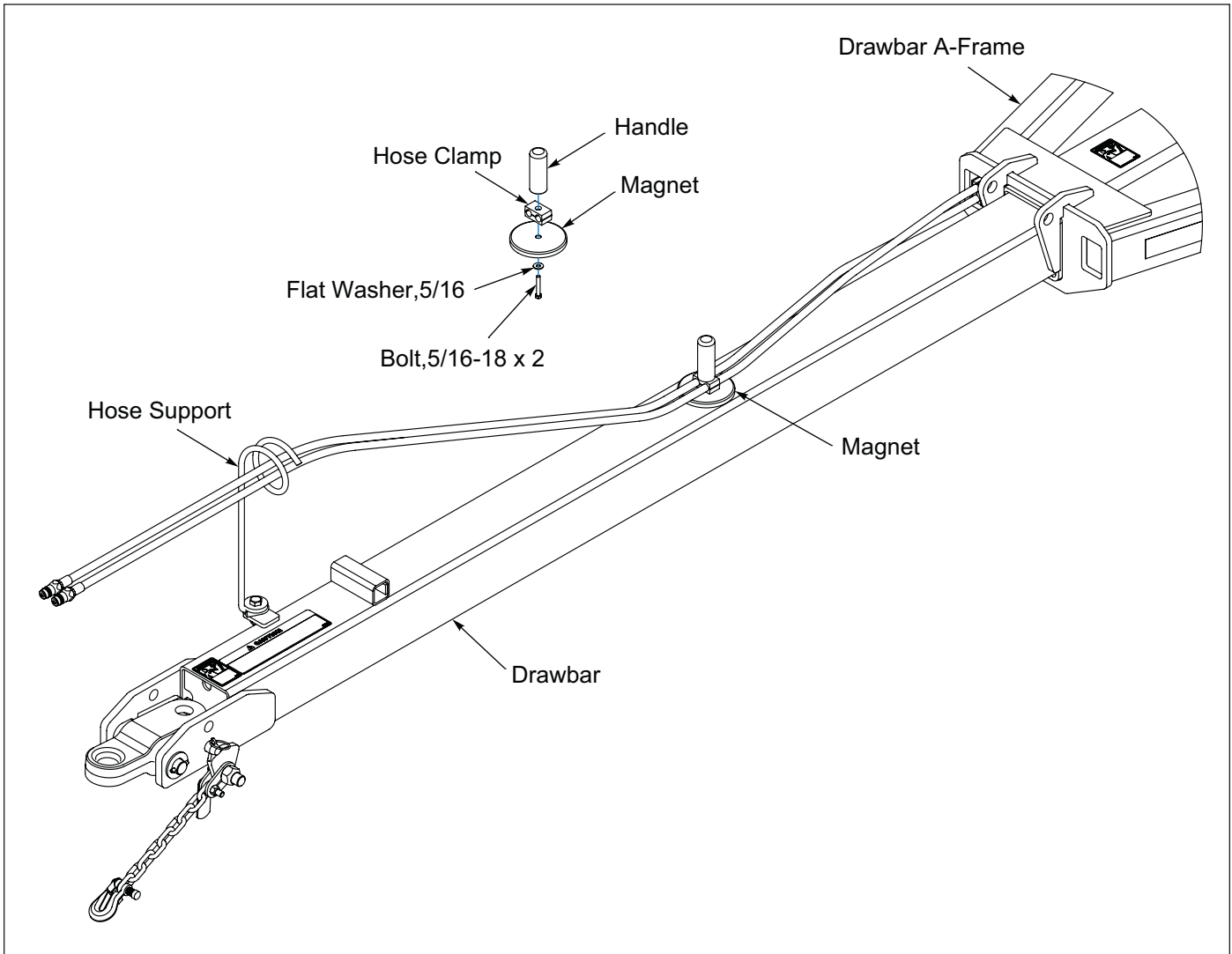


Figure 2-12: Telescoping Drawbar Magnet Hose Holder

## Hydraulic Valve Assembly Installation

1. Fasten Valve Assembly onto Center Frame Bracket with 5/16-18 x 1" Bolts and Lock Washers. See **Figure 2-13**.
2. Lube O-Ring fittings and install Fittings into the Valve Assembly.

### Flow Control Settings (Factory Set)

1. Remove Flow Control Cap and back-off Jam Nut. Close off Flow Control by turning Allen Wrench CW until valve bottoms.

2. For initial setting, Open Flow control by turning Allen Wrench CCW 1 turn. Tighten nut and reinstall Cap.

### Fold Shut-Off

To operate wing fold shut-off circuit:

- To **CLOSE** fold shut-off circuit, loosen Jam Nut, turn valve CW fully until valve bottoms.
- To **OPEN** fold shut-off circuit, turn valve CCW fully, tighten Jam Nut.

When doing maintenance on Valve Cartridges refer to "Valve Assembly Torque Specifications" on page 4-3.

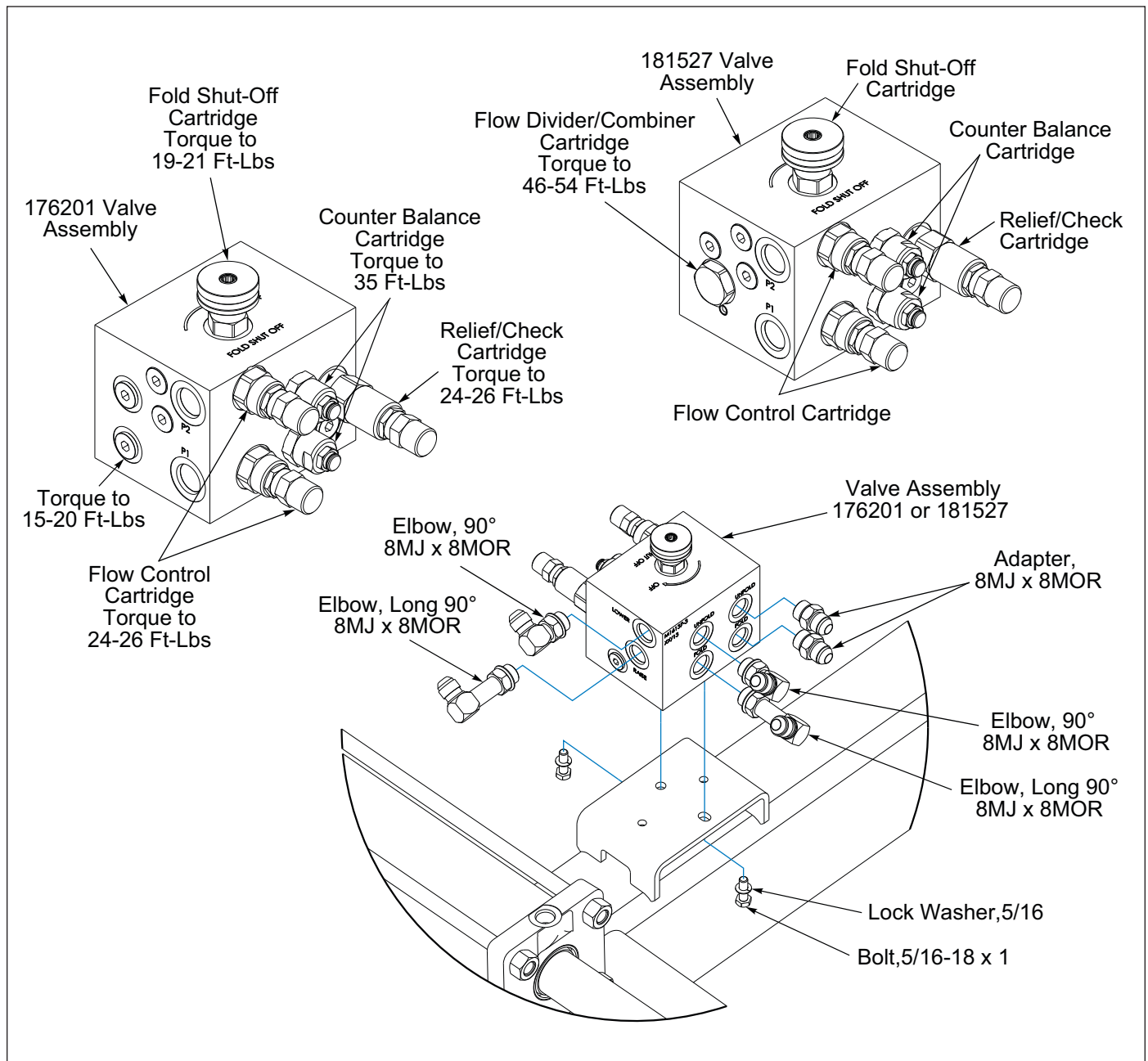
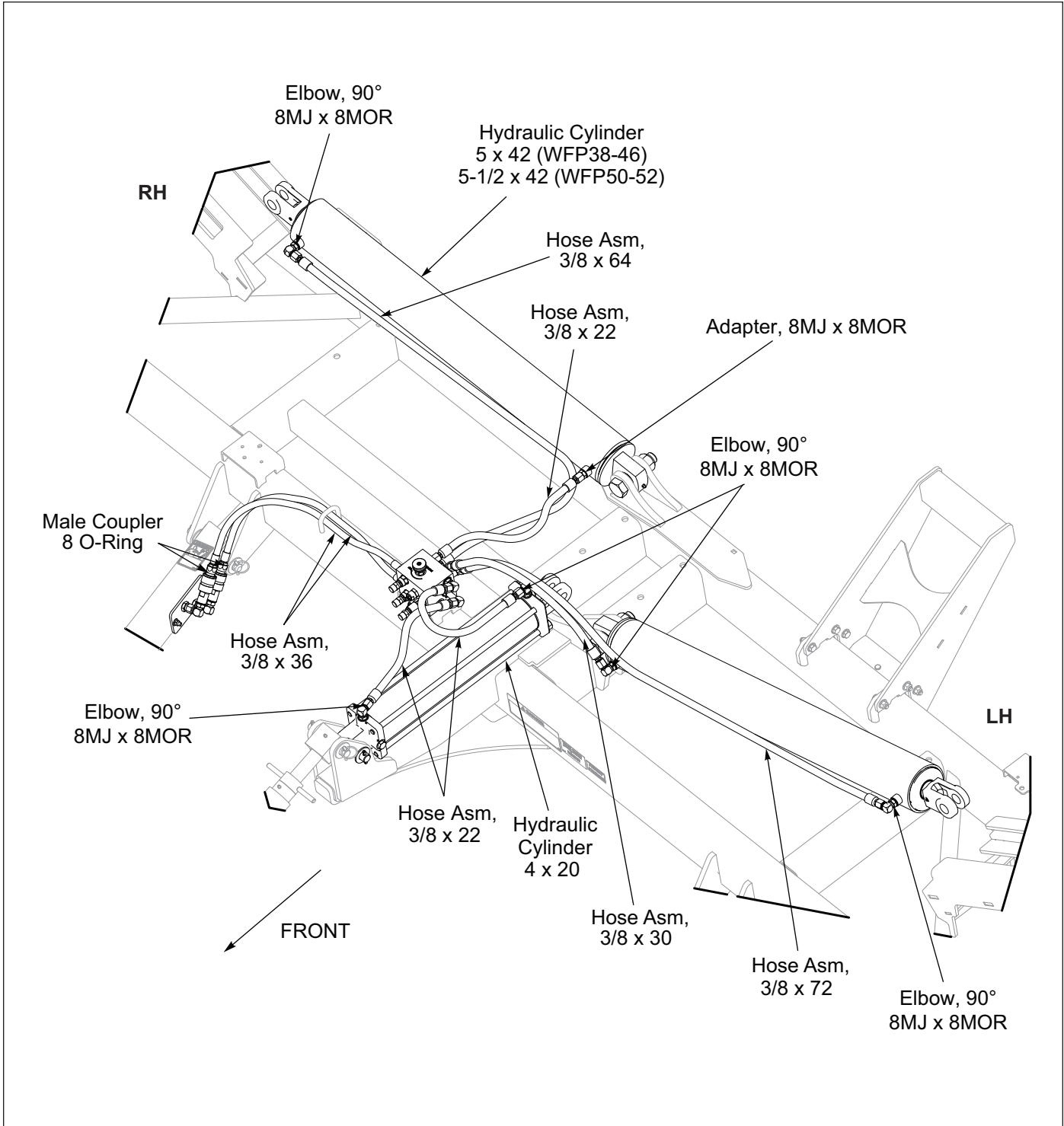


Figure 2-13: Hydraulic Valve Assembly

**Hydraulic Hose Installation**

1. Install Elbow O-Ring Fittings into Lift Cylinder Ports. **See Figures 2-14 and 2-15.**
2. LH Fold Cylinder Ports, install Elbow O-Ring Fittings.
3. RH Fold Cylinder Rod End Port, install an Elbow O-Ring Fitting. RH Fold Cylinder Base End Port install an Adapter O-Ring Fitting.
4. Attach hoses to Cylinders and Manifold.
5. Install Male Couplers on the ends of the Male O-Ring Hose ends and insert them into the Female Coupler on the Drawbar.
6. Secure Hoses with Tie Wraps.



**Figure 2-14: Hydraulic Hose Installation**

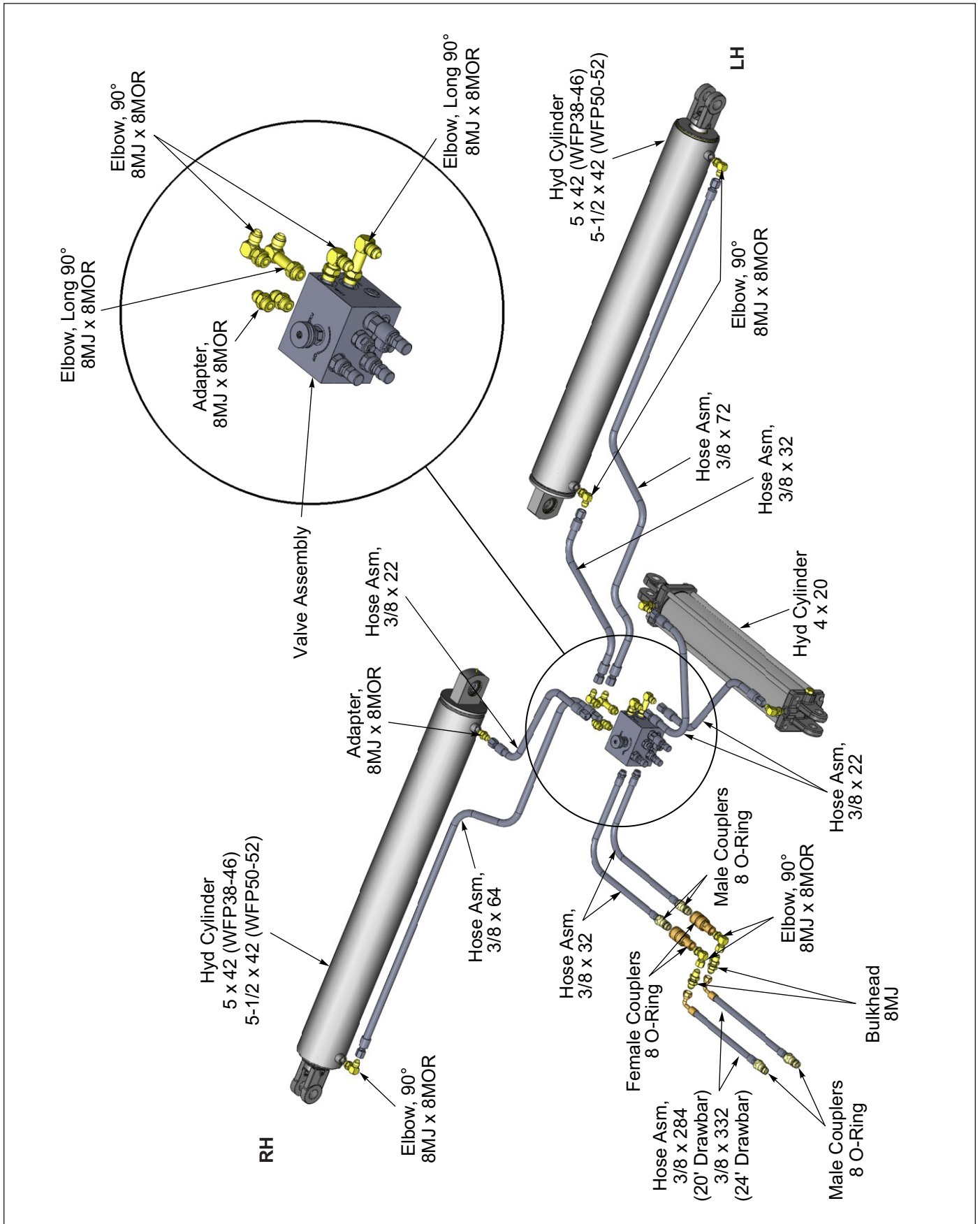


Figure 2-15: Hydraulic Schematic

## Purging the Hydraulic System

### IMPORTANT

Unfold and lower the unit to the ground and relieve system pressure before attempting to repair, adjust or disconnect components.

### NOTE

*Never unfold the wings past center until all air is out of the hydraulic system, as free-falling may occur.*



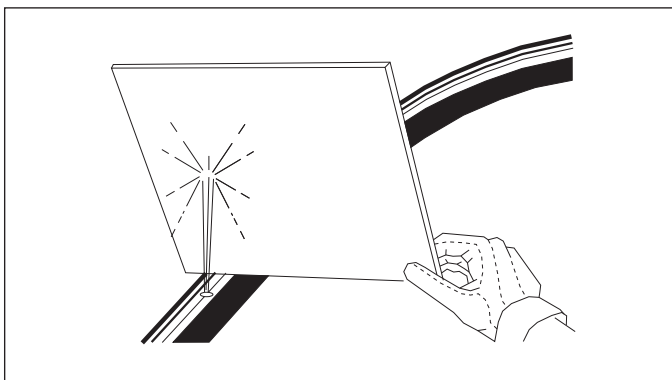
### CAUTION

The wings depend upon the passage of oil through a flow restrictor to keep from free-falling. If the cylinder is not full of oil the wing will drop and may cause damage to the machine.



### WARNING

Escaping fluid under pressure can be nearly invisible and have enough force to penetrate the skin causing serious injury. Relieve system pressure before repairing, adjusting or disconnecting. Use a piece of cardboard, rather than your hands, to search for suspected leaks. (See Figure 2-16.) Wear protective gloves & safety glasses or goggles when working with hydraulic systems. Keep all components (cylinders, hoses, fittings etc.) in good repair.



**Figure 2-16: Hydraulic Leak Detection**



### DANGER

Falling wings can cause injury or death. Stand clear when wings are being raised or lowered.



### DANGER

Bleed the air from Wing Lift Cylinders before operating. Failure to do so will allow wings to free-fall and may cause serious personal injury. See Operator's Manual for correct procedure.

The Hydraulic System is not filled with oil and should be purged of air before transporting and field operations.

1. Hitch the tractor to the Pulverizer Drawbar and connect the Hydraulic Hoses.
2. Check to make sure that the tractor hydraulic reservoir is full of manufacture's recommended oil.
3. If the Transport Lock is installed, raise the Pulverizer and remove the Transport Lock, which allows the Lift Cylinder to extend and retract.
4. With the wings unfolded and each Wing Fold Cylinder Rod End Clevis unpinned, block each Fold Cylinder Rod End up to allow for rod movement. Slowly raise the machine and continue to hold the hydraulic level until Lift Cylinder is extended and the Fold Cylinders are retracted. Completely extend and retract the Fold and Lift Cylinders to verify that the Cylinders are working throughout the stroke. Recheck tractor oil reservoir. Fully extend and fully retract the Fold and Lift Cylinders 5 or 6 times or more to purge air from the Hydraulic Circuit. If the cylinders are not working smoothly, fully extend the cylinders and continue to hold the lever to purge any remaining air.
5. Leave the Wing Fold Cylinders extended for installation.
6. Do not loosen any Hydraulic Hoses or Fittings.
7. Recheck tractor reservoir oil level to make sure it is within operating limits.

**Hydraulic Circuit approximate oil requirement for machine with 5 x 42 Fold Cylinders: 8.5 gallons**

**Hydraulic Circuit approximate oil requirement for machine with 5-1/2 x 42 Fold Cylinders: 10 gallons**



## Wing Installation

1. Assemble the Wings onto the Center Frame. **See Figure 2-17.** At the rear of the Center Frame, slide the RH or LH Wing Guide Roller into the Center Frame Yoke/Guide. At the front of the Center Frame, place a Spacer on each side of the Spherical Bearing, positioning it between the Center Frame Lugs.
2. Insert 1-3/4 Threaded Pin, place Thick Washer and hand tighten Slotted Nut. Secure 1-3/4 Threaded Pin by inserting 1/2-13 x 2-1/4 Bolt from the inside out with the Locknut on the front.
3. Torque Slotted Nut initially to 350 Ft-Lbs. If nut slot is not aligned with slotted pin hole in Threaded Pin, tighten nut up to 400 Ft-Lbs to align next slot. Install 1/4 x 2-1/2 Cotter Pin.
4. Install a 1/8 NPT Zerk Fitting into each Wing Guide Roller Pin.
5. Attach the Wing Fold Links, to the Wing Frame by placing the Links between the two Wing Frame Hinge Lugs. Place the 1-3/4 x 15/16 Sleeve between the Links. With the Wing Frame Hinge Lugs, Wing Fold Link and Sleeve holes aligned, insert a 1-1/4 x 7-5/16 Pin into the Wing Frame Hinge Lug. Place 1-1/4 Flat washer on the end of the Pin and secure with 5/16 x 2 Roll Pins.
6. Attach the Hydraulic Cylinder to the Wing Fold Links. Place the Center Link between the Hydraulic Cylinder Rod End Clevis and the outer links on each side of the Rod End Clevis. Insert 1-1/4 x 9 Pin into the Wing Fold Links and the Hydraulic Cylinder. Place a 1-1/4 x 14ga Bushing on each side, followed by a Wing Link Roller on each side. Place 1-1/4 x 14ga Bushing on each end of the Pin and end to the Wing Link Roller. Secure with 5/16 x 2 Roll Pins.



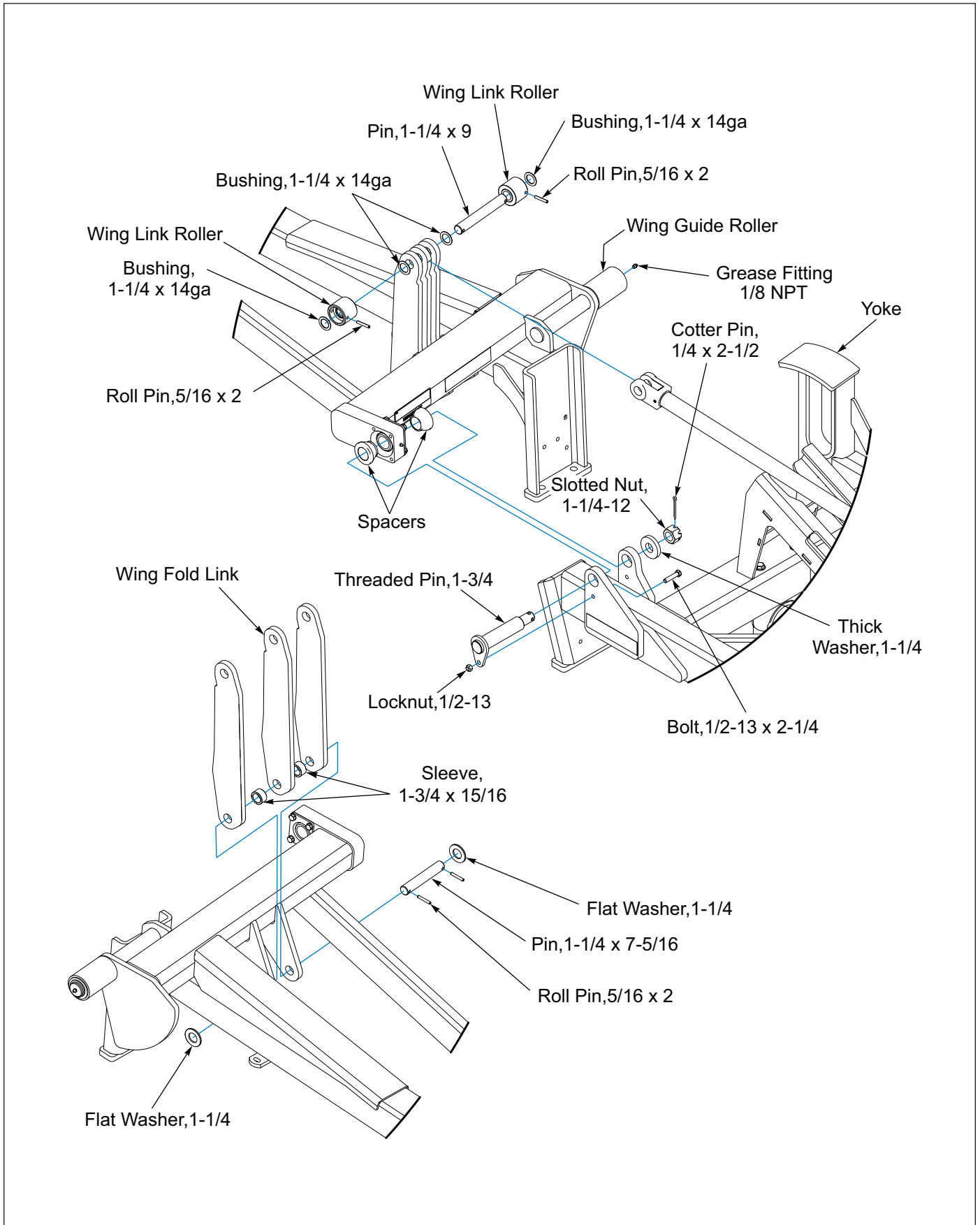
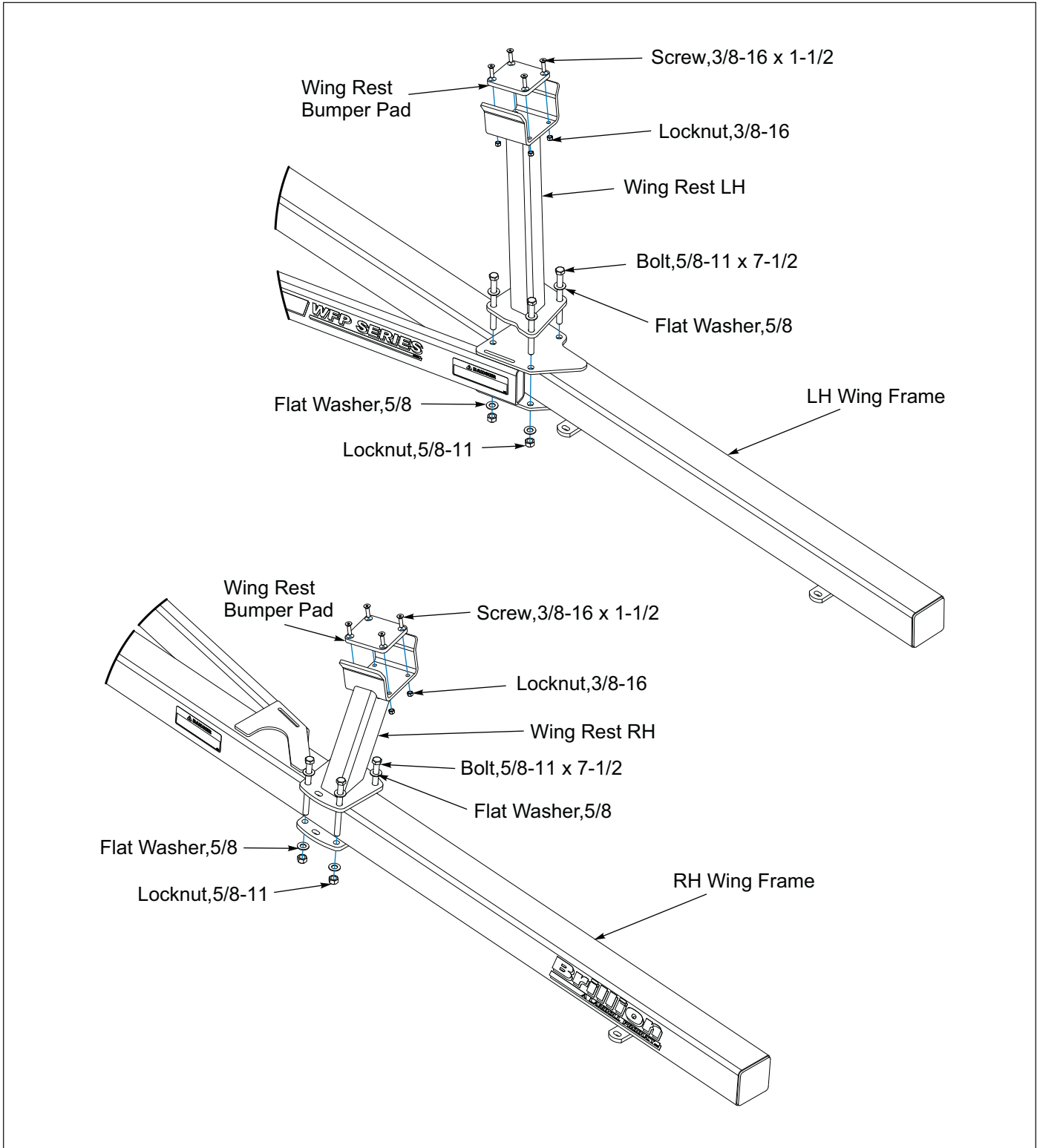


Figure 2-17: Wing to Frame Installation

# Wing Rest Installation

1. Install the RH and LH Wing Rest to the RH and LH Wing Frame 4-Hole Plate located under the Wing Frame Tube. Secure with 5/8-11 x 7-1/2 Bolts, Flat Washers and Flange Locknuts. **See Figure 2-18.**

2. Attach the Wing Rest Bumper Pads onto the top of the RH and LH Wing Rest with 3/8-16 x 1-1/2 Flat Head Screws and Locknuts.



**Figure 2-18: Wing Rest Installation**

## Wing Frame Roller Assembly Installation

### NOTE

Wheel Stop is on the Clamp side of the Roller Assembly.

### 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 2-19.

Roller Assemblies are pre-assembled from the factory with trunnion bearings, shims, and retaining washers. Crowfoot Wheel Rotation Arrow must follow the direction of travel. See Figure 2-19.

1. Support Wing Frame outer end from above the Frame.
2. Place Bearing Hanger Clamp on the top of the Wing Frame Tube and assemble the bolt on Bearing Hanger on the end of the Wing Frame with 5/8-11 x 7 Bolts and Flange Locknuts. Do not tighten. See Figure 2-20.
3. Position the Trunnion Bearings so the Grease Fitting faces the rear of the machine.
4. Place a Trunnion Washer on the Trunnion Bearing's rear facing boss with the grease fitting. Slide the Trunnion Bearing Mounts onto Trunnion Bearings
5. Lift the Roller Assembly up to the Wing Frame Bearing Hangers and attach Trunnion Mounts with 3/4-10 x 2-1/4 Bolts and Lock Washers. Tighten Inner Trunnion Mounts first, then outer Trunnion Mounts.
6. Tighten outer bolt on Bearing Hanger making sure it pulls up evenly, adjust as needed to minimize end loading the Trunnion Bearings.

### NOTE

Outer Roller Assembly is 104" for the WFP50 and 116" for the WFP52. Inner Roller Assembly is 104" for WFP50/52.

**WFP50-52 Machine Models:** Install Center Bearing Hanger to the bottom of the Wing Frame Tube with Bearing Hanger Clamp, 5/8-11 x 7 Bolts and Locknuts. See Figure 2-21.

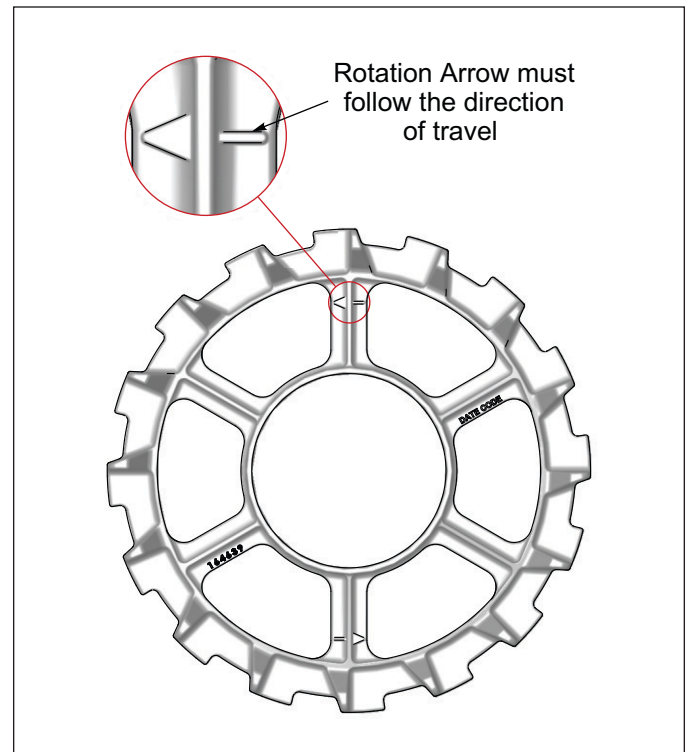


Figure 2-19: Wheel Rotation

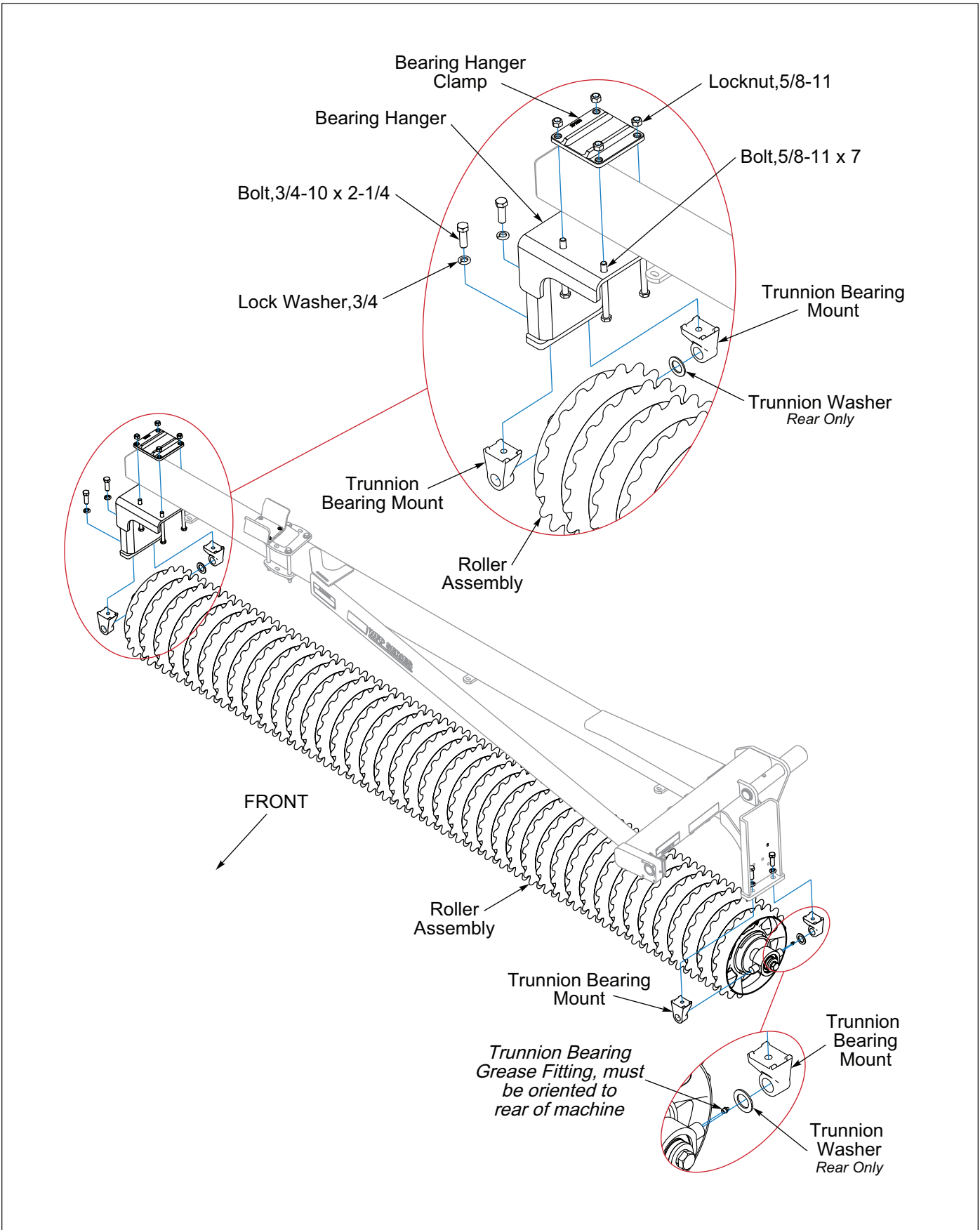


Figure 2-20: Wing Frame Roller Axle Installation, WFP38-46

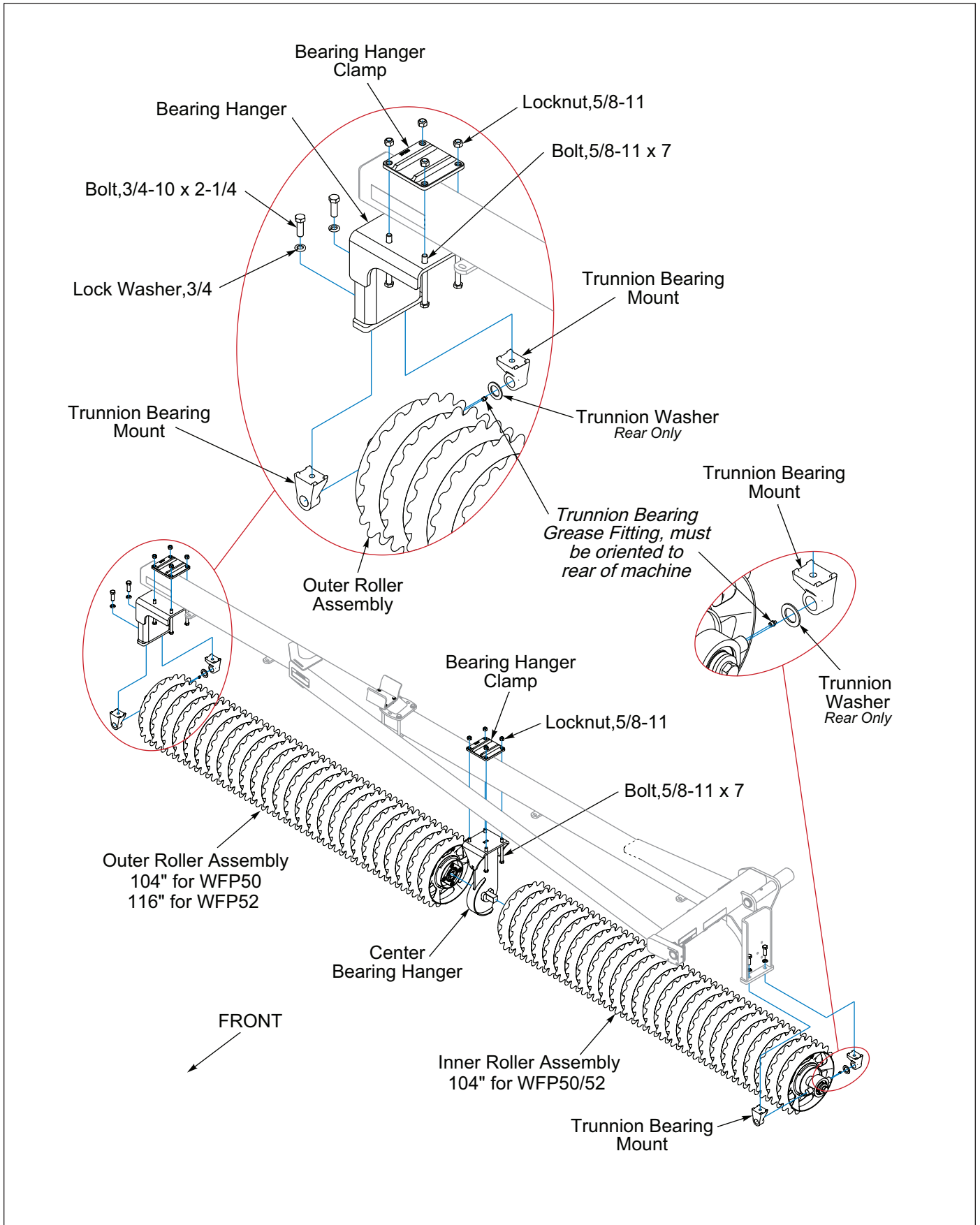


Figure 2-21: Wing Frame Roller Installation, WFP50-52

## Warning Lamp Installation

### **NOTE**

*Be sure when assembling Lamps onto Brackets that the wires are not pinched when tightening hardware.*

1. Attach a Red Lamp with the Lamp Red Lens facing rearward to Light Brackets located on top of the rear frame tube, with 1/4-20 x 1-1/2 Bolts and Locknuts. **See Figure 2-22.**
2. Attach the LH and RH Warning Lamp Brackets to the front of the front frame tube approximately 18" from the inside of the bearing hangers with 5/8-11 U-Bolts and Flange Locknuts and tighten. **See Figure 2-23 or 2-24.**
3. Slide a Warning Lamp Bracket into each of the RH and LH Warning Lamp Brackets. Attach with 1/2-13 U-Bolts and Flange Locknuts. Do not fully tighten at this time.
4. Attach the Flasher Control Module on top of the Module Bracket located on top of the front frame tube, with 1/4-20 x 1-1/2 Bolts and Locknuts.
5. Route the flat end of the 7-Pin Harness inside and through the right side of the Drawbar A-Frame. Connect the 7-Pin Harness and Flasher Control Module. Route the other end along the drawbar with the hydraulic hoses up to the tractor.

### **IMPORTANT**

**Connectors with Green Tape is right side and Yellow Tape is left side.**

6. Lay out the Lamp Harness. Noting that the cords are marked with Green Tape are for the right side and Yellow Tape are for the left side. Connect the Harness to the Flasher Control Module.
7. Route the 2-Prong Cords along the left and right top of the front frame tube and up through the Warning Lamp Bracket. Ensure 2-Prong Cord sticks out the slot opening at the top of the bracket. Connect the Amber Lamp and Lamp Harness. Secure Lamp to Warning Lamp Bracket with 1/4-20 x 1-1/2 Bolts and Locknuts
8. Adjust the Warning Lamp Bracket so the Lamp can be easily seen from the rear of the machine. Tighten 1/2-13 U-Bolt and Flange Locknuts. WFP50-52 Amber Lamp on the Warning Lamp Brackets must not be greater than 16" from the folded wing outer edge. **See Figure 2-24.**
9. WFP50-52 place an Amber Reflective Decal on the front side on each Warning Lamp Bracket. Place a Red Reflective and an Orange Decal on the rear on each Warning Lamp Bracket. **See Figure 2-24.**

10. Route the "Right" 3-Prong Cord across the top of inner frame tube to the rear frame, connect the Lamp Harness into the right Red Lamp. Route the "Left" 3-Prong Cord along the top of front frame, then across the left inner frame, connect the Lamp Harness and the left Red Lamp.
11. Bundle and secure excess cord to the Light Brackets, Warning Lamp Brackets, Module Bracket, along the Pulverizer Frame, Drawbar and Hydraulic Hoses with Tie Wraps. Allowing enough harness length to reach the tractor socket and enough slack where the drawbar meets the frame for the machine to raise and lower.
12. Raise, lower, fold and unfold machine to check for proper clearance, adjust accordingly.

### **IMPORTANT**

**All Harnesses must be firmly attached to the machine frame members or hydraulic hoses, so they do not sag or become torn loose by field debris. Use the Tie Wraps provided. Check to be sure the Harness is slack enough so as to not be stretched or interfered with while raising and lowering of the machine.**

### **NOTE**

*The 7-Pin Harness connects to the tractor socket when in use. Allow enough harness length to reach tractor socket. Roll or fold up excess and secure to hydraulic hoses or Drawbar.*

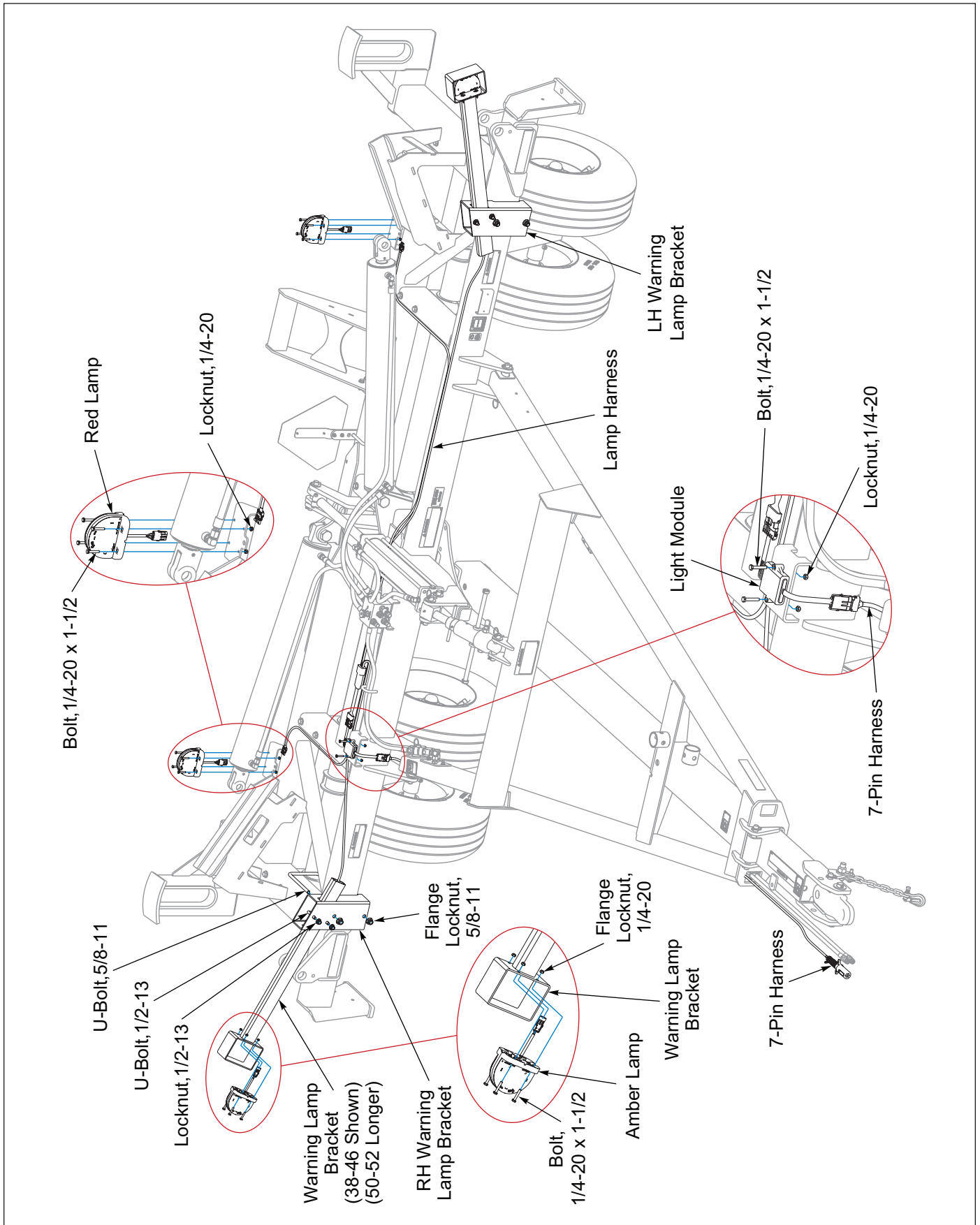


Figure 2-22: Warning Lamp Installation

# WFP38-46 Warning Lamp Bracket Dimensions

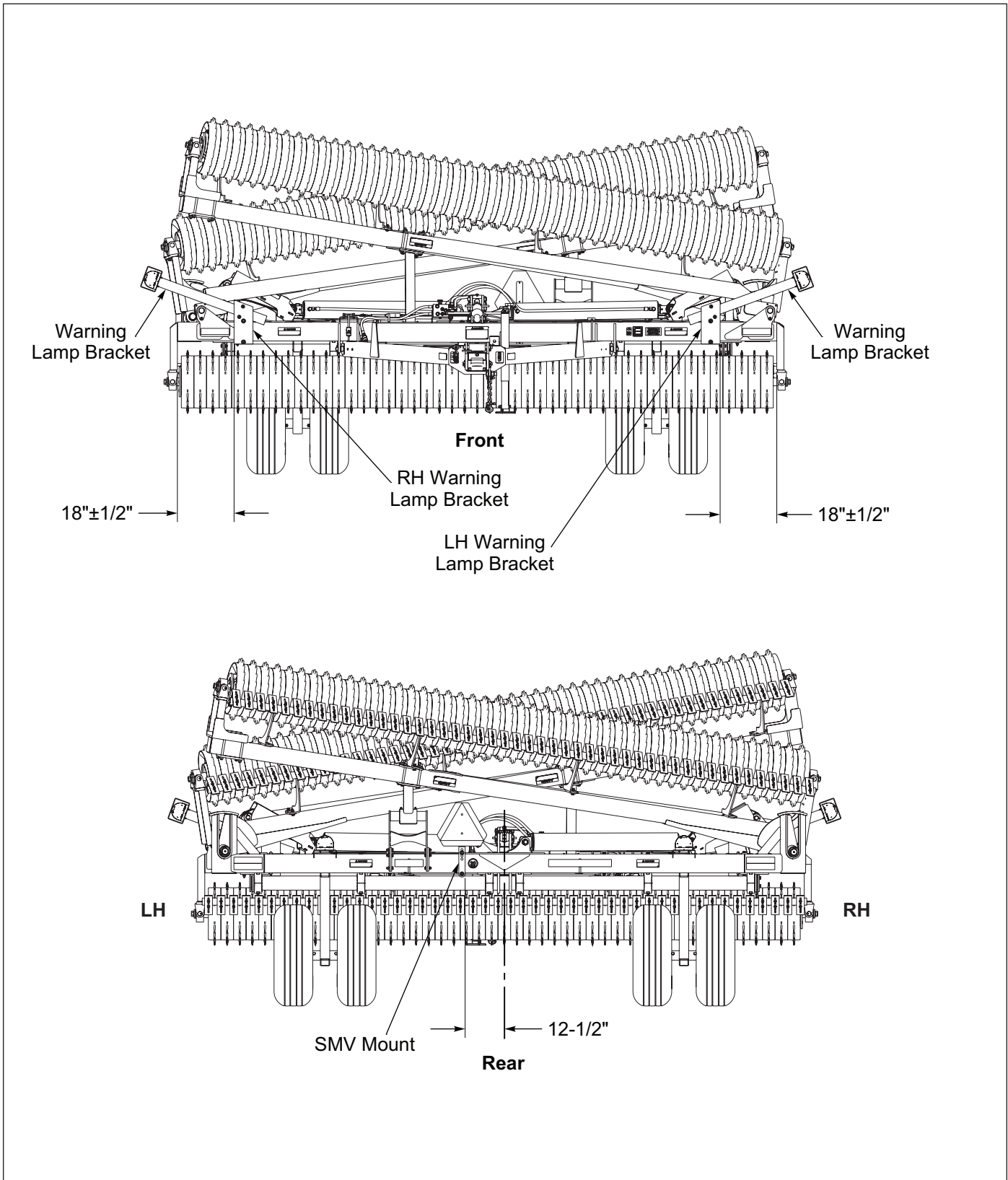


Figure 2-23: WFP38-46 Warning Lamp Bracket Dimensions



# WFP50-52 Warning Lamp Bracket Dimensions

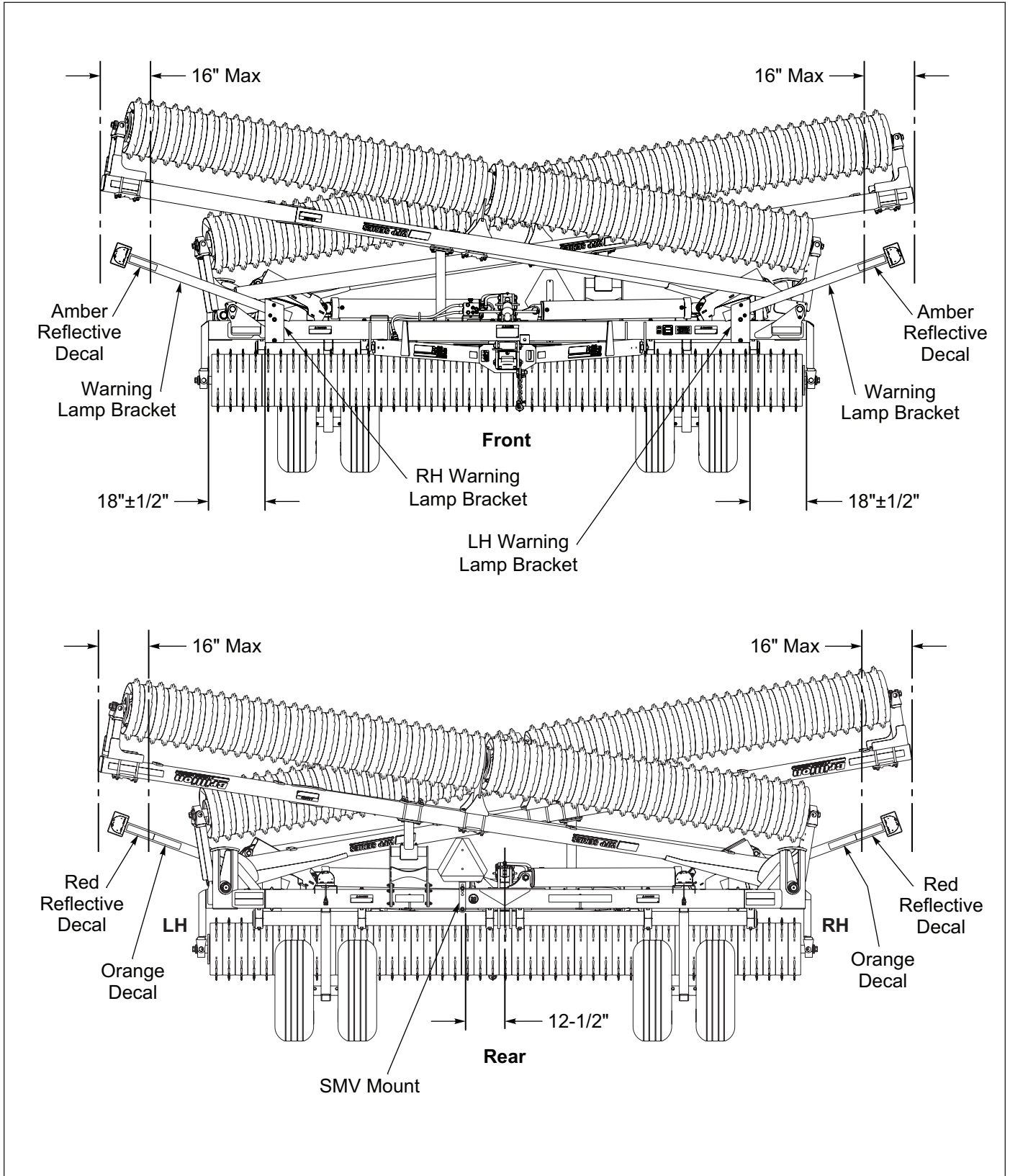
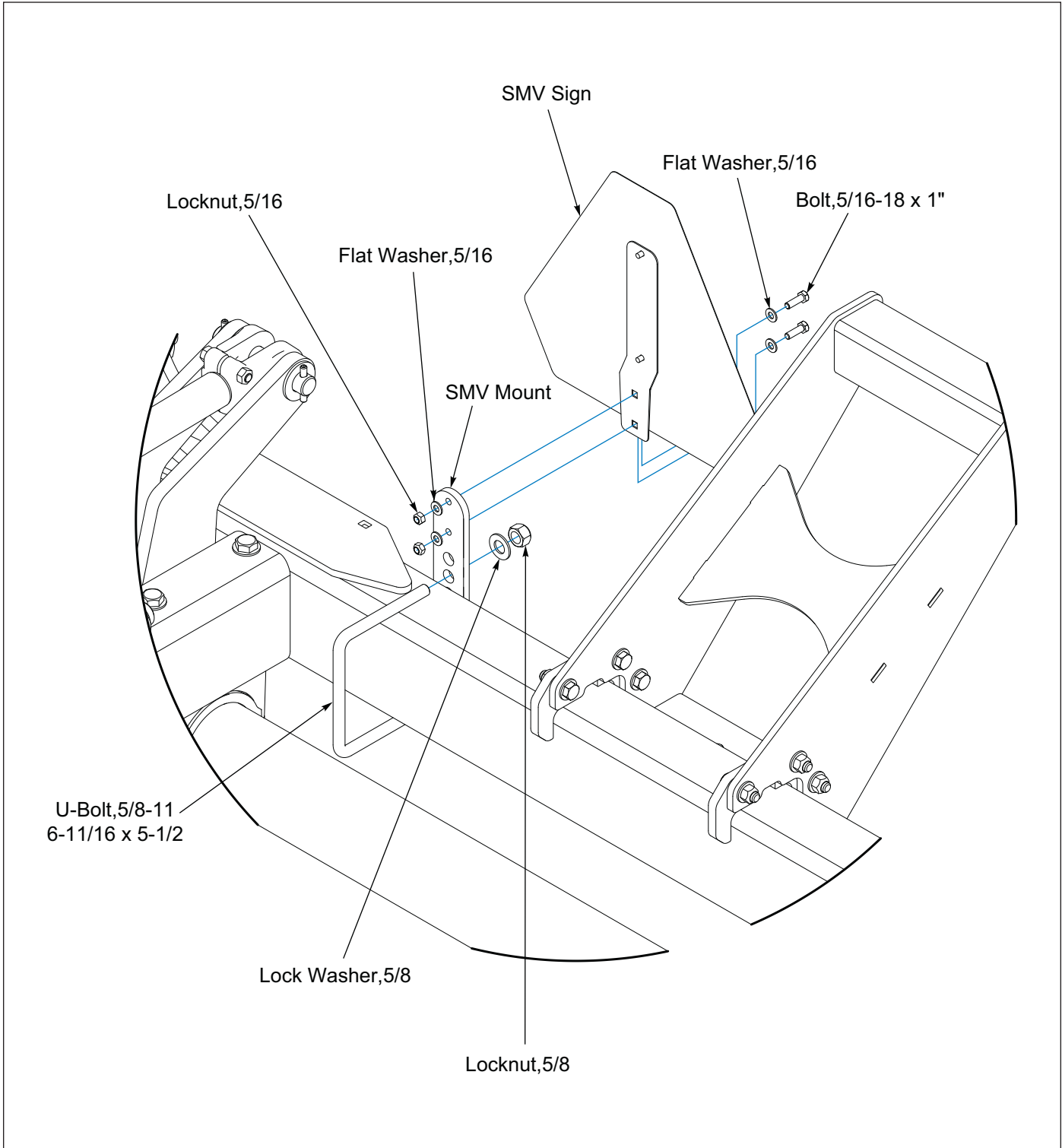


Figure 2-24: WFP50-52 Warning Lamp Bracket Dimensions

# SMV Installation

1. Attach the SMV Mount to the frame tube 12-1/2" left of center with 5/8-11 U-Bolts, Flat Washers and Locknuts. **See Figures 2-23 or 2-24.**
2. Attach the SMV Sign to the mount with 5/16-18 X 1 Bolts, Flat Washers, and Locknuts. **See Figure 2-25.**



**Figure 2-25: SMV Installation**



## Center Notch Wheel Scraper - Optional

**NOTE**

*A scraper can be used as a guide to achieve the 1/4" gap, between the Scraper and Notched Wheels.*

1. Place the Center Roller on level ground. Install the Center Scraper Mounts to the Center Frame Front Tube with 1/2-13 U-Bolts and Flange Locknuts. Attach a Scraper Mount Bracket to the bottom of each Center Frame End Cross Tube by placing a 4-Hole Plate on top and attaching it with 1/2-13 x 8 Bolts, Flat Washers, and Flange Locknuts. Do not tighten. **See Figure 2-26.**
2. Attach the Scraper Tube Brackets to the Center Scraper Mounts and Scraper Mount Brackets with 1/2-13 x 1-3/4 Bolts, Flat Washers and Flange Locknuts. Pull the Scraper Tube Brackets as far towards the rear as possible. Tighten the 1/2-13 x 1-3/4 Bolts.
3. Center Scraper Tube over the length of the Center Roller. Place the 3/8-16 U-Bolts as close as possible to the Scraper Tube Bracket Flange Bend. Assemble the Scraper Tube to the Scraper Tube Brackets with a 3/8-16 U-Bolts, Scrapers, and Flange Locknuts. Adjust the Center Scraper Mounts and Scraper Mount Brackets as needed to center the Scrapers between the Notched Wheels and adjust the Scrapers so that there is a 1/4" gap between the Scraper and the Notched Wheels. **See Figure 3-13.** Tighten hardware.
4. Attach the remaining Scrapers to the Scraper Tube with 3/8-16 U-Bolts and Flange Locknuts. The Scrapers must be centered between the Notched Wheels along with a 1/4" gap between the Scraper and Notched Wheels.

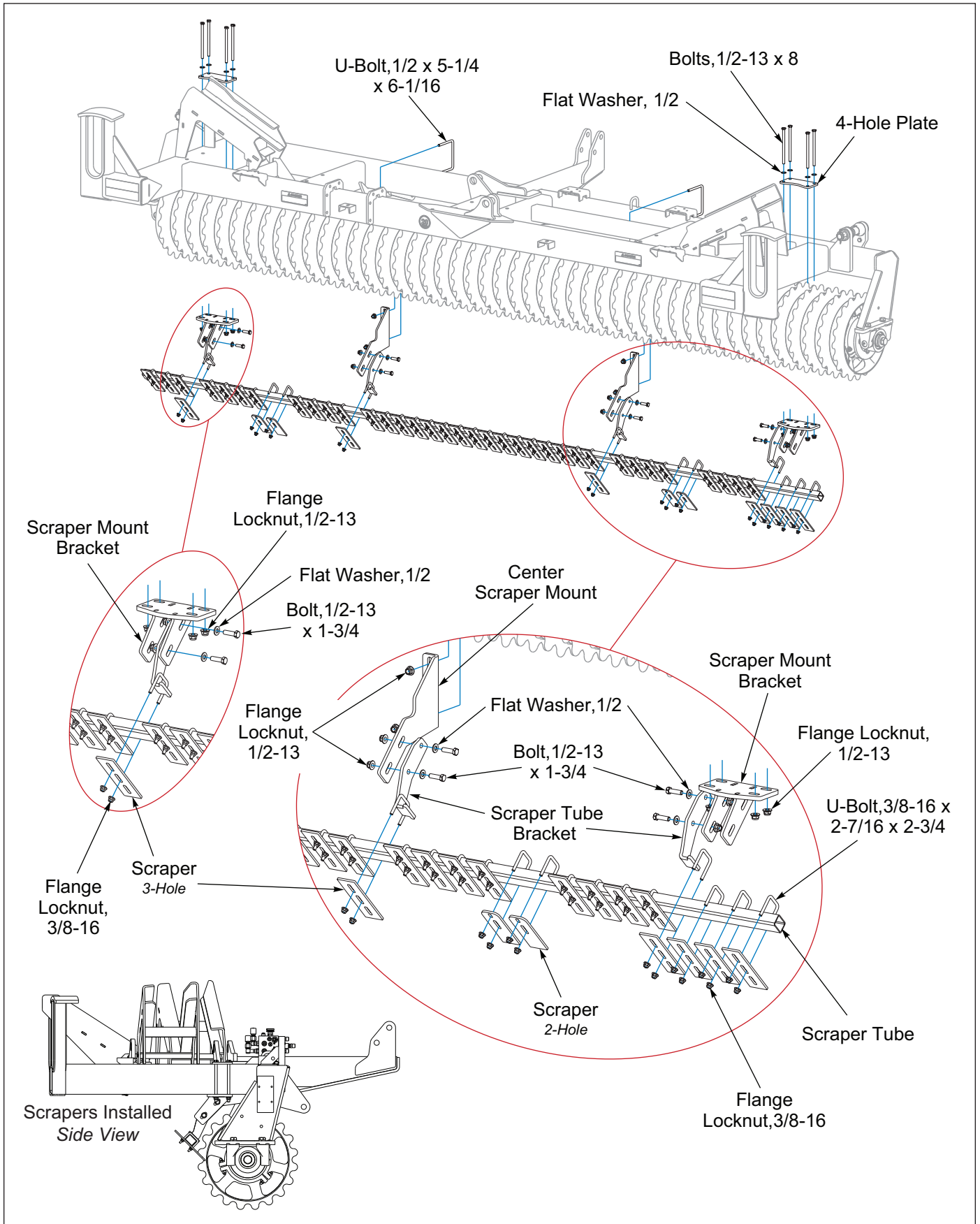


Figure 2-26: Center Notch Wheel Scrapers - Optional

## Wing Notch Wheel Scraper - Optional

**NOTE**

*A scraper can be used as a guide to achieve the 1/4" gap between the Scraper and Notched Wheels.*

1. Place the Wing Rollers on level ground. Assemble the RH and LH Wing Scraper Mounts to Wing Frame Mounts with 1/2-13 x 1-3/4 Bolts, Flat Washers, and Flange Locknuts. Do not tighten. **See Figure 2-27.**
2. Center the Scraper Tube over the length of the Wing Roller. Place the 3/8-16 U-Bolts as close as possible to the Wing Scraper Mount Flange bend. Assemble the Scraper Tube to the Wing Scraper Mounts with 3/8-16 U-Bolts, Scrapers, and Flange Locknuts. Pull the Wing Scraper Mounts as far towards the rear as possible. Adjust the Wing Scraper Mounts as needed to center the Scrapers between the Notched Wheels and adjust the Scrapers so there is a 1/4" gap between the Scraper and Notched Wheels. **See Figure 3-13.** Tighten all hardware.
3. Attach the remaining Scrapers to the Scraper Tube with 3/8-16 U-Bolts and Flange Locknuts. The Scrapers must be centered between the Notched Wheels along with a 1/4" gap between the Scraper and Notched Wheels.

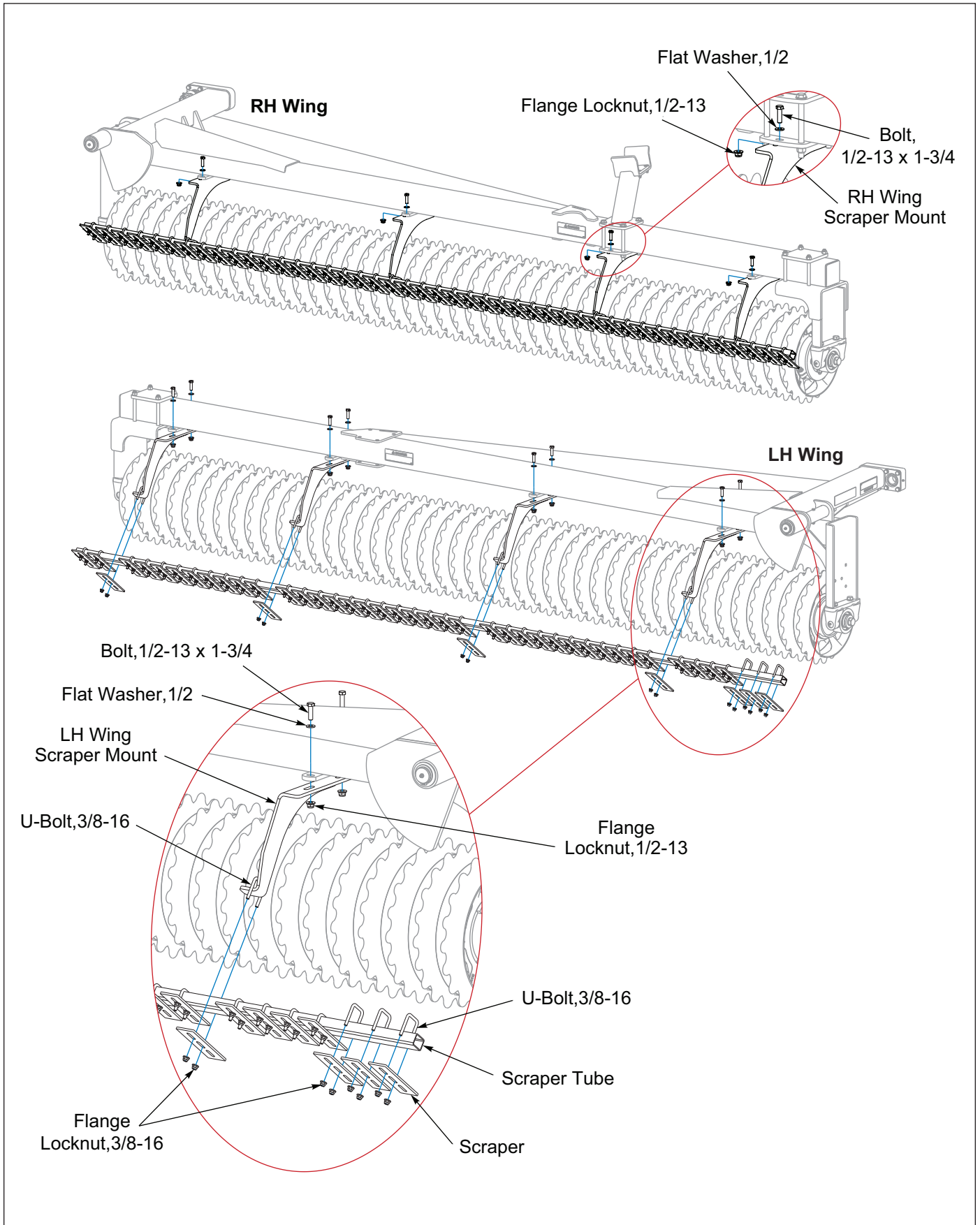


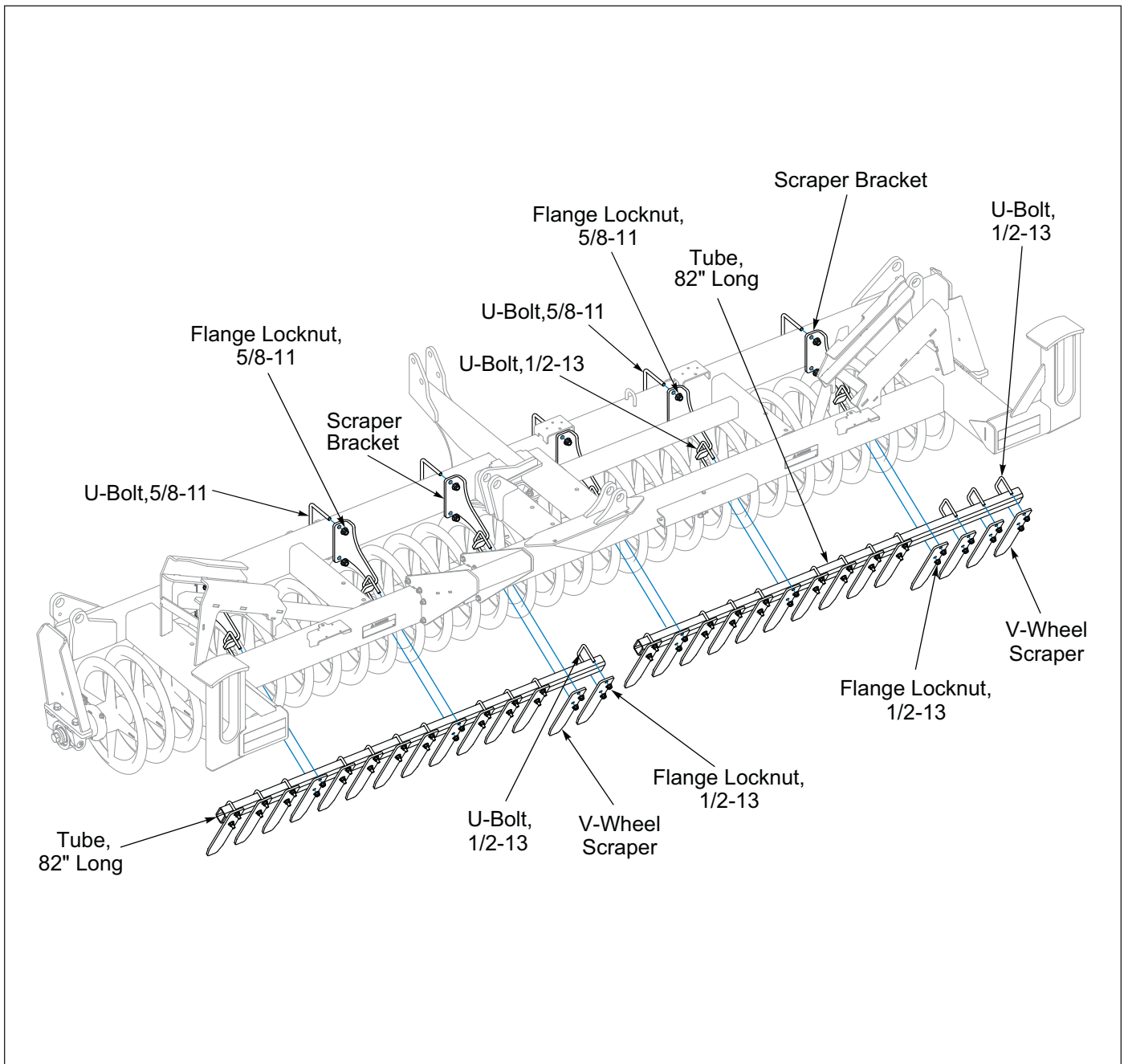
Figure 2-27: Wing Notch Wheel Scrapers





## Center V-Wheel Scraper - Optional

1. Place the Center Roller on level ground. Assemble the Scraper Brackets to the back of the Front Frame Tube with 5/8-11 U-Bolts and Flange Locknuts. **See Figure 2-28.** Do Not Tighten.
2. The Scraper Assembly is pre-assembled with Scrapers attached to the Scraper Tube. Lay the Scraper Assembly behind the Center Roller so the Scrapers are outward when attached to the Scraper Brackets. Center the Scraper Assembly over the length of the Center Roller with the Scrapers between the V-Wheels.
3. Loosen the Flange Locknuts where the corresponding 1/2-13 U-Bolt will attach the Scraper Tube to the Scraper Brackets. Position the 1/2-13 U-Bolts as close as possible to the Wing Scraper Bracket flange bend by adjusting the Scraper Brackets. Center the Scrapers between the V-Wheels and mount the Scraper Tube to the Scraper Brackets by tightening the Flange Locknuts. Tighten Scraper Brackets 5/8-11 Hardware. **See Figure 2-28.**
4. Center all Scrapers between the Roller Wheels.



**Figure 2-28: Center V-Wheel Scrapers - Optional**

ASSEMBLY

# Wing V-Wheel Scraper - Optional

1. Place the Wing Rollers on level ground. Assemble 209842 Wing Scraper Brackets to the Wing Frame Rear Tube with 5/8-11 U-Bolts and Flange Locknuts. Assemble 209843 Wing Scraper Brackets to the bottom of the Wing Frame Scraper Mounting Plate with 1/2-13 x 2 Bolts and Flange Locknuts.
2. The Scraper Assembly is pre-assembled with Scrapers attached to the Scraper Tube. Mitered Scraper Tubes and End Scrapers must be positioned to be mounted on the outer end of the Wing Frame. Lay the Scraper Assembly behind the Wing Roller so

the Scrapers are outward when attached to the Wing Scraper Brackets and centered between the V-Wheels.

3. Loosen the Flanged Locknuts where the corresponding 1/2-13 U-Bolt will attach the Scraper Tube to the Wing Scraper Brackets. Position the 1/2-13 U-Bolts as close as possible to the Wing Scraper Bracket flange bend by adjusting the Wing Scraper Brackets. Center the Scrapers between the V-Wheels and mount the Scraper Tube to the Wing Scraper Brackets by tightening the Flange Locknuts. Tighten Wing Scraper Brackets 5/8-11 Hardware.
4. Center all Scrapers between the Roller Wheels.

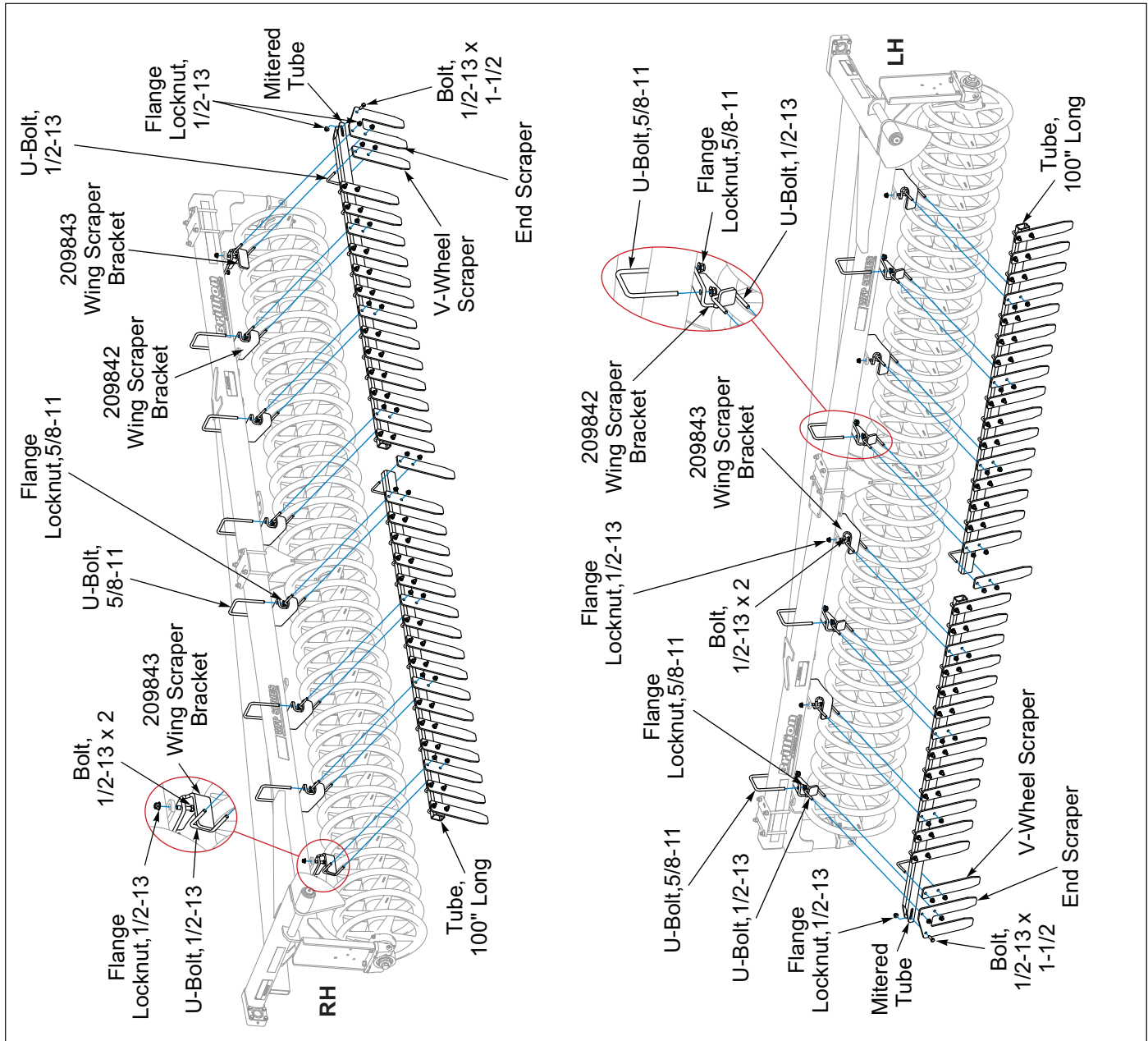


Figure 2-29: Wing V-Wheel Scraper WFP50 - Optional

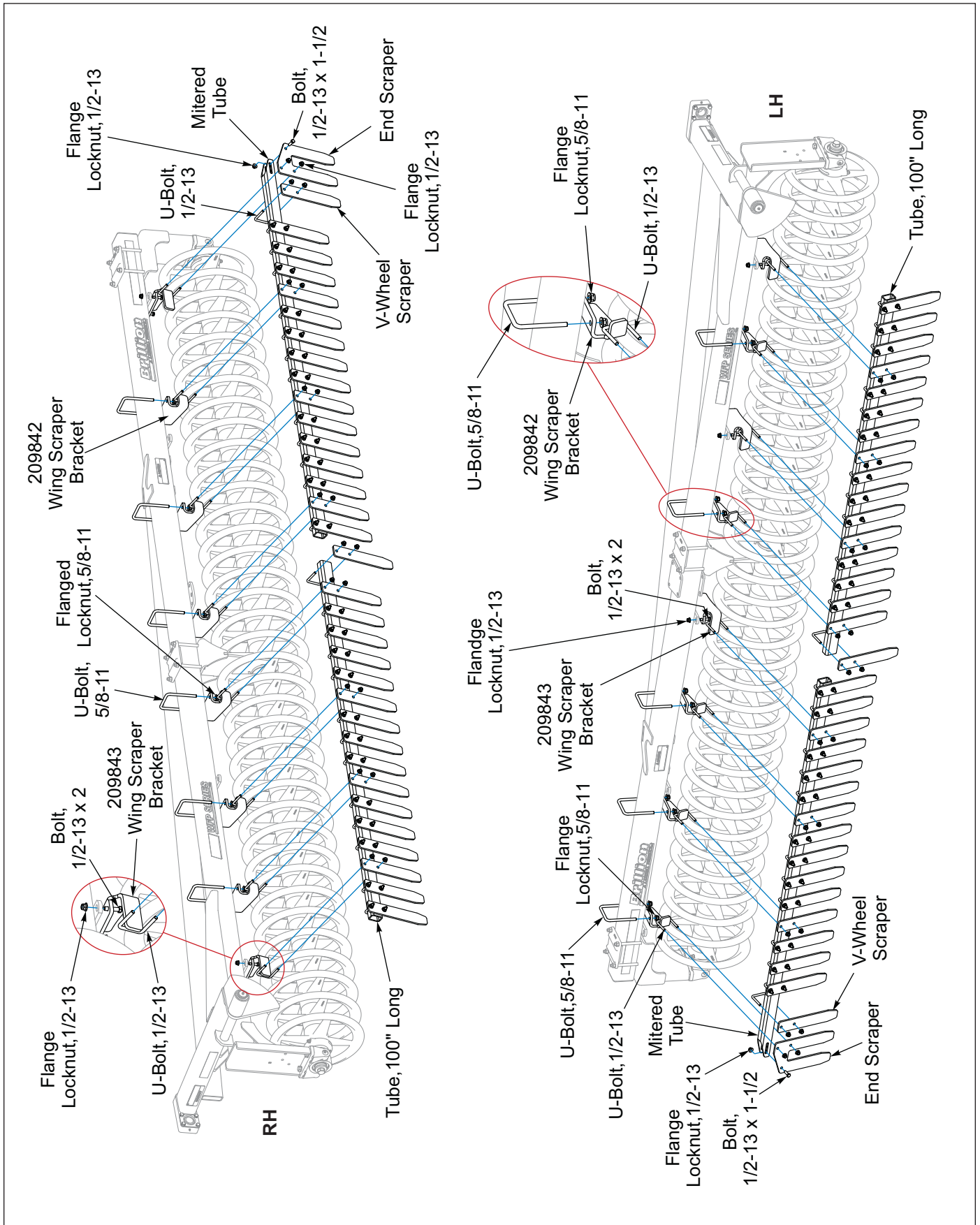


Figure 2-30: Wing V-Wheel Scraper WFP52 - Optional

# Acre Meter Installation - Optional

**IMPORTANT**

Unfold and lower machine prior to performing any steps.

1. Attach the Acre Meter Assembly to the front frame tube using 5/8-11 U-Bolt and Locknuts. See **Figure 2-32**.
2. Attach the Acre Meter Switch to the Acre Meter Bracket using #8-32 x 1-1/4" Screws, Flat Washers, Lock Washers, and Locknuts. Attach the short pickup switch ground wire under one of the screw heads, removing paint under the wire connector to assure a good electrical ground connection. **Do not tighten at this time**. Set aside.
3. Remove the existing 1- 8 x 2-1/4 Bolt, 1" Lock Washer and 3/8" Thick Washer from the roller end. Slide existing Lock Washer, a 3/8" Thick Washer, Magnet Wheel and existing 3/8" Thick Washer onto 1-8 x 3 Bolt. Insert into end of roller and fully tighten.
4. Remove the existing Trunnion Bearing Bolts and Lock Washers from Bearing Hanger. Place the Acre Meter

Bracket onto the Bearing Hanger and re-install existing Trunnion Bearing Bolts and Lock Washers. Fully tighten.

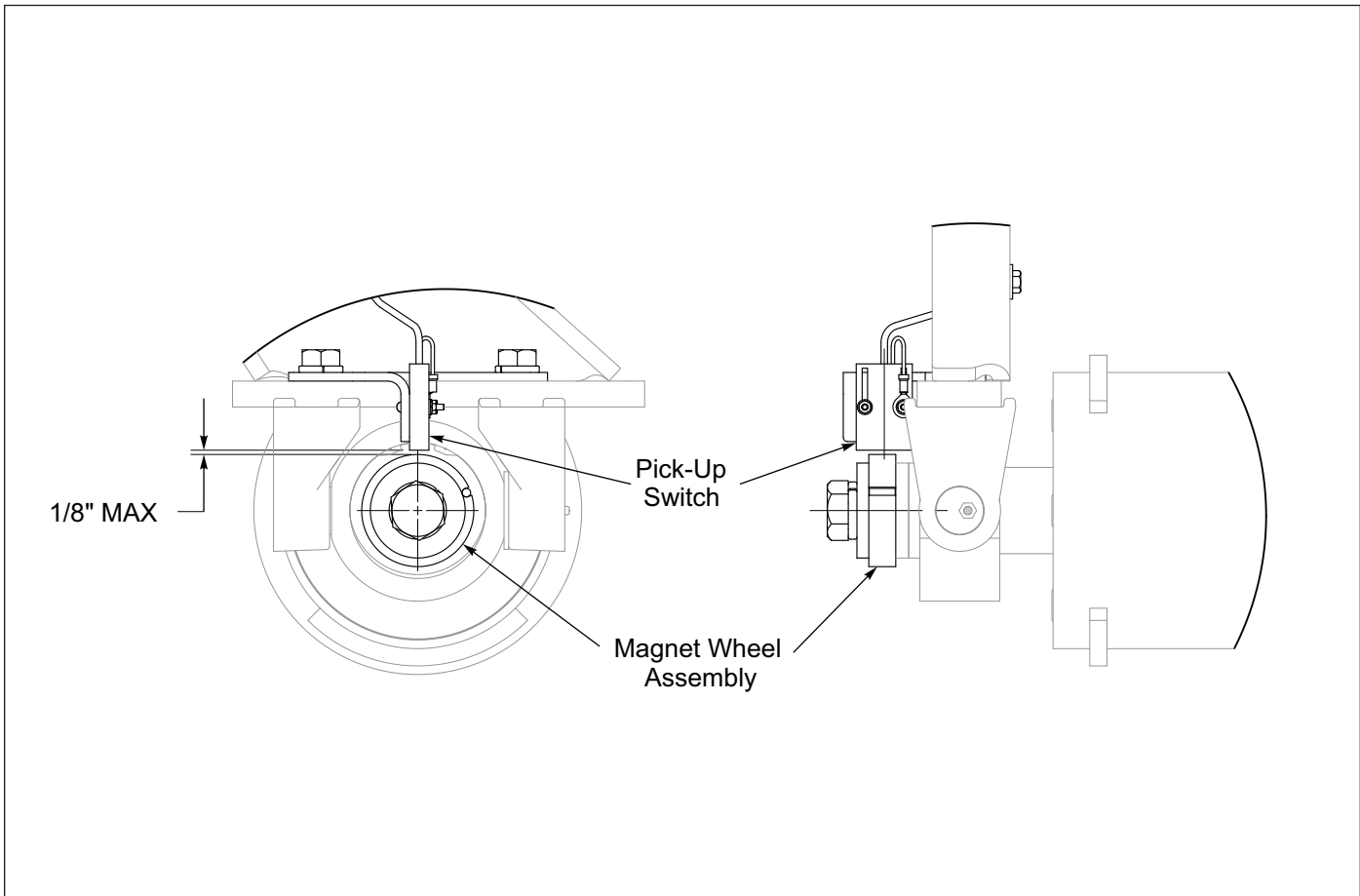
5. Adjust the Acre Meter Switch so the center line of Magnet Wheel and Pick-Up Switch are horizontally and vertically aligned with a maximum 1/8" between Magnet Wheel and Pick-Up Switch. Now firmly tighten all screws. See **Figure 2-31**.

**NOTE**

*Alignment of Pick-Up Switch and Magnet Wheel is critical. Improper alignment will cause the acre counter to record acres erratically or not at all.*

6. Route the wire from the Acre Meter across the front frame to the Acre Meter Switch and connect the mating plugs.
7. Secure Harness to existing Light Harness with Tie Wraps to prevent Harness from rubbing or becoming entangled. Install Hose Clamp into 1/2" hole in the Trunnion Bearing Plate with 3/8-16 x 1-1/4 Bolt, Flat Washer and Locknut and Nut.

**See Page 3-10 to program the Acre Meter.**



**Figure 2-31: Side View**

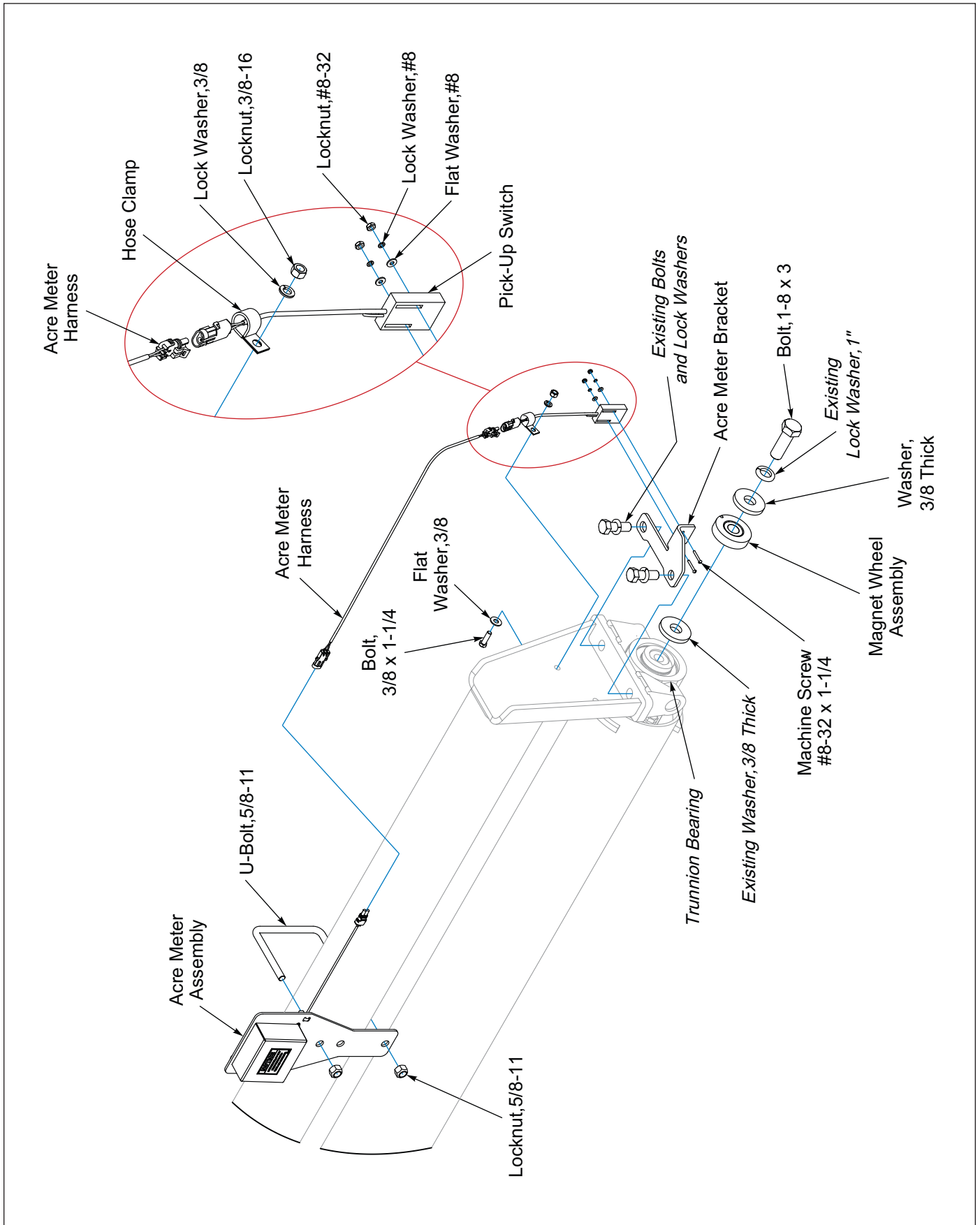
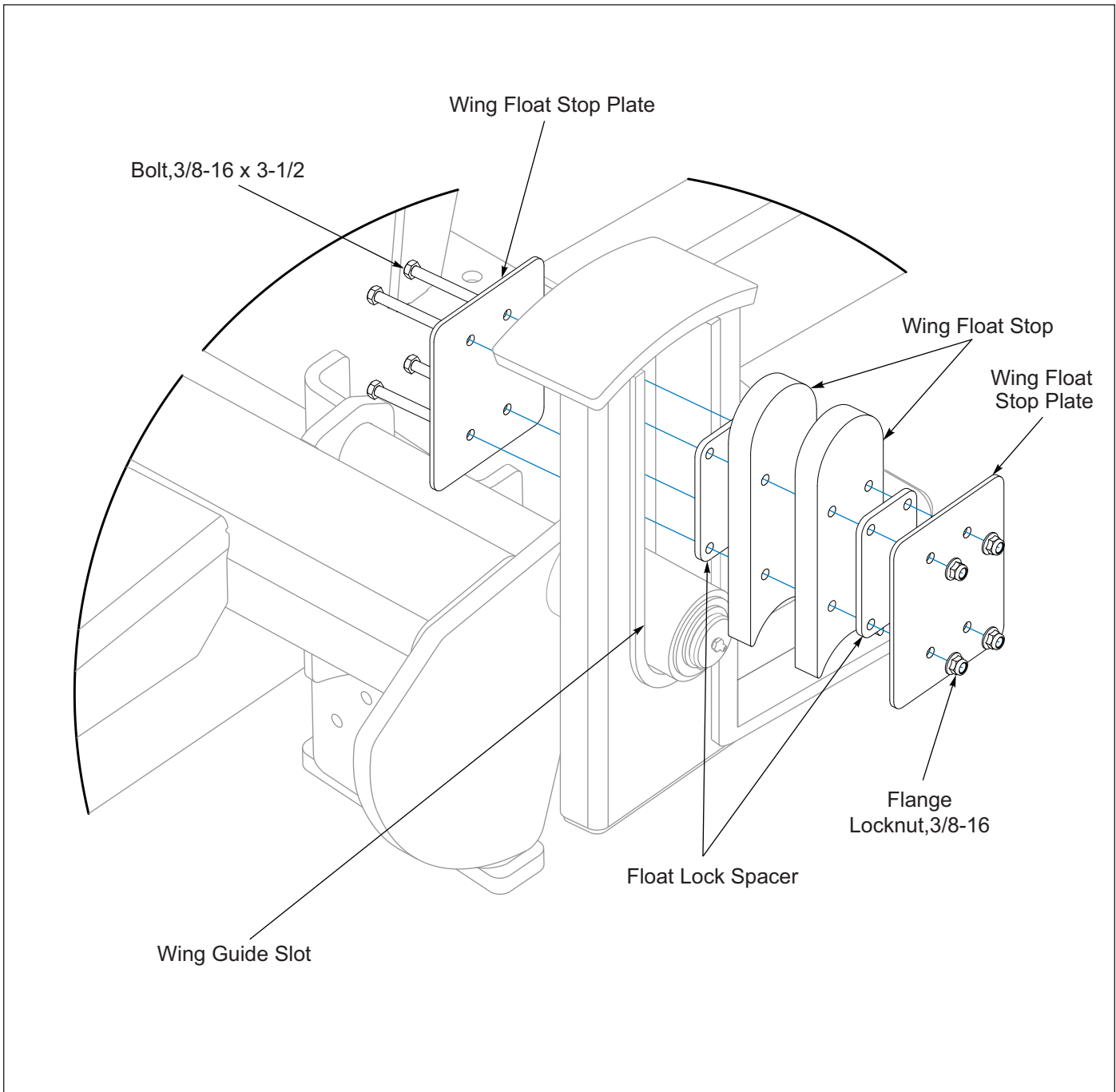


Figure 2-32: Acre Meter Installation

## Float Lock Kit - Optional

Float Lock Kits prevent the Wings from floating, which allows for the weight to transfer in softer field conditions.

1. Place Wing Float Stops into the Center Frame Wing Guide Slot. **See Figure 2-33.**
2. Place a Float Stop Spacer on each side of the Wing Float Stops.
3. Place a Wing Float Stop Plate against each Float Lock Spacer. Insert 3/8-16 x 3-1/2 Bolts from the inside outward. Secure with 3/8-16 Flange Locknuts.



**Figure 2-33: Float Lock Kit**

**DANGER**

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

**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**

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.

**DANGER**

When transporting the unit, place cylinder lockout in the transport lock position after fully extending the lift cylinder. Insert the lockout pin to secure the cylinder lockout. Failure to lockout the cylinder 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 Pulverizer is designed to be pulled by a tractor equipped with or without a hammer strap. See "Safety Chain" on page 1-4.

Before attaching the implement, prepare the tractor as follows:

1. Inflate the rear tractor tires equally and add ballast according to the Tractor Operator's Manual.
2. Lock the Tractor Drawbar in the center position.

## Pulverizer Preparation

1. Prior to operating the Pulverizer, 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



**DANGER**

**Do not allow any bystanders to stand between the tractor and the implement while backing up to the implement.**

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. Always store Jack pinned on the Sleeve on top of the Drawbar A-Frame before setting the machine in motion.
3. Clean all hydraulic couplings and attach to the tractor.
4. Fully extend the hydraulic Lift Cylinder, and retract the Wing Fold Cylinders. Secure Transport Lock with Pin and Hairpin Cotter. **See Figure 3-7.**
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 "Safety Chain" on page 1-4.**
6. Connect the 7-Pin Connector to tractor outlet, routing cable by avoiding pinch points.
  - 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.
  - 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. **See "Warning Lamps" on page 4-7.**

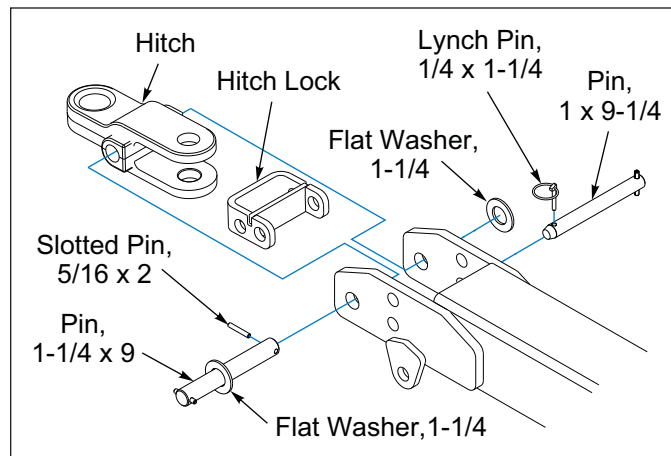
| DRAWBAR CAT | Min Pin Size  | Max PTO HP   |
|-------------|---------------|--------------|
| 2           | 1-1/4" (30mm) | 154 (115 Kw) |
| 3           | 1-1/2" (38mm) | 248 (185 Kw) |

**Table 3-1: Hitch Pin Size**

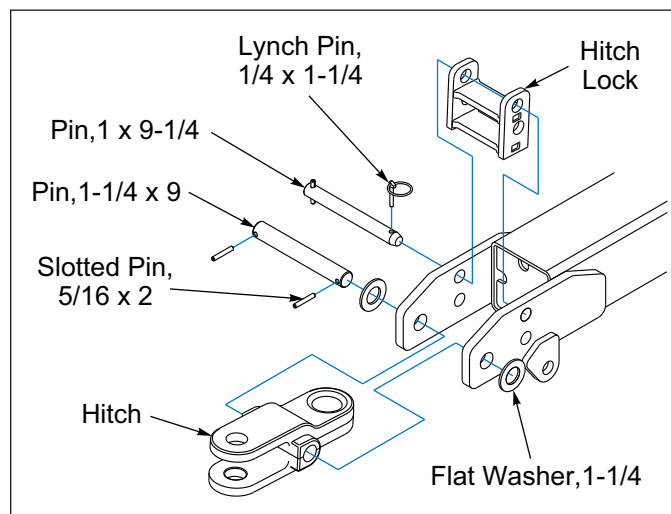
# Hitch Lock

The Hitch Lock prevents the hitch from moving in either the Spade and Clevis position. *Note the different orientation of the Hitch Lock.*

- **Spade Position:** Insert the Hitch Lock into the clevis end opening. Secure the Hitch Lock with 1 x 9-1/4 Pin and 1/4 x 1-1/4 Lynch Pin. **See Figure 3-1.**
- **Clevis Position:** Insert the spade end of the hitch into the Hitch Lock opening. Secure the Hitch Lock with 1 x 9-1/4 Pin and 1/4 x 1-1/4 Lynch Pin. **See Figure 3-2.**



**Figure 3-1: Spade Position**



**Figure 3-2: Clevis Position**



## Telescoping Drawbar

The Telescoping Drawbar is designed to be operated with the Drawbar Extension retracted or extended. **See Figure 3-3.** The Drawbar must be extended when used as a companion equipment.

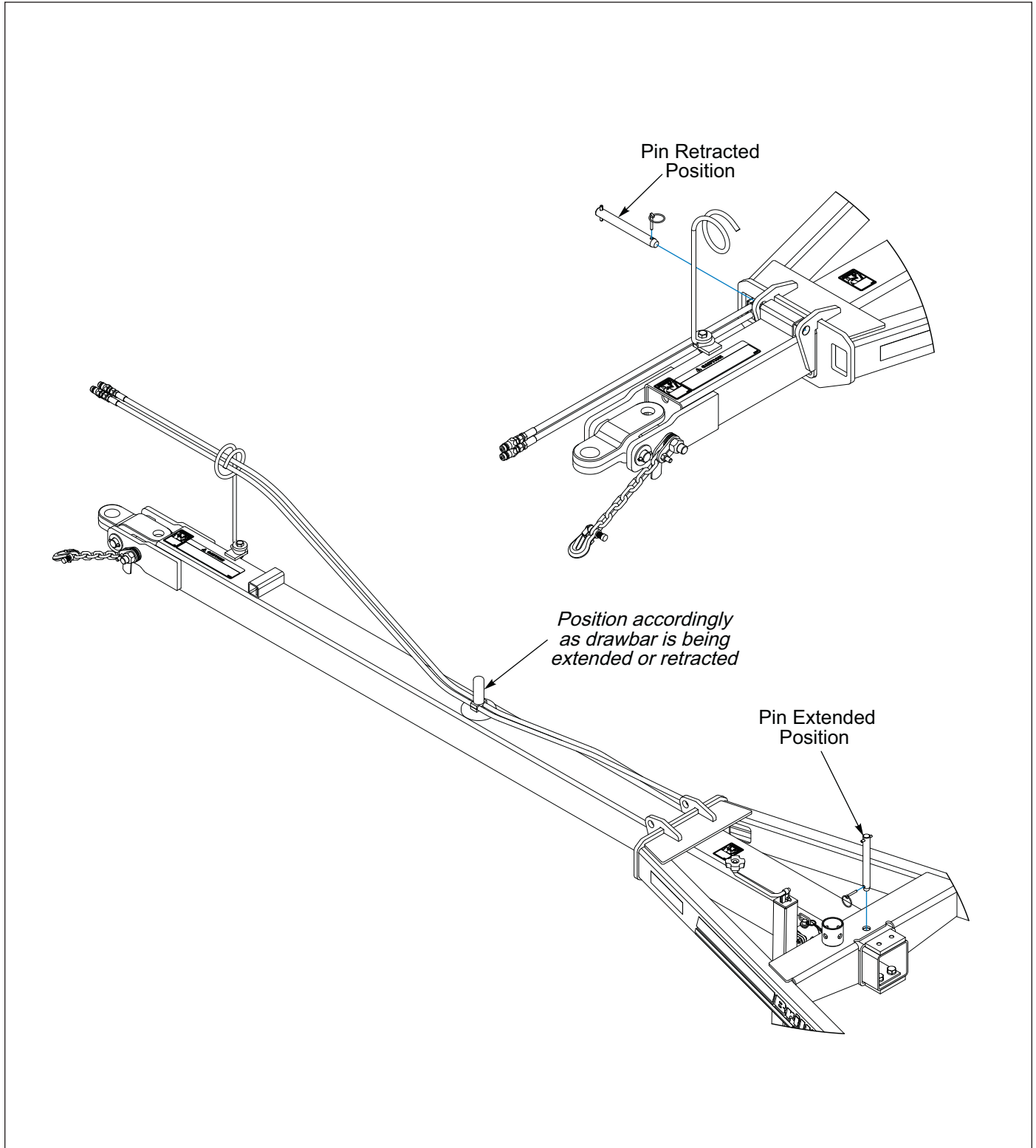


Figure 3-3: Telescoping Drawbar

# Hydraulic System

## IMPORTANT

Unfold and lower the unit to the ground and relieve system pressure before attempting to repair, adjust, or disconnect components.

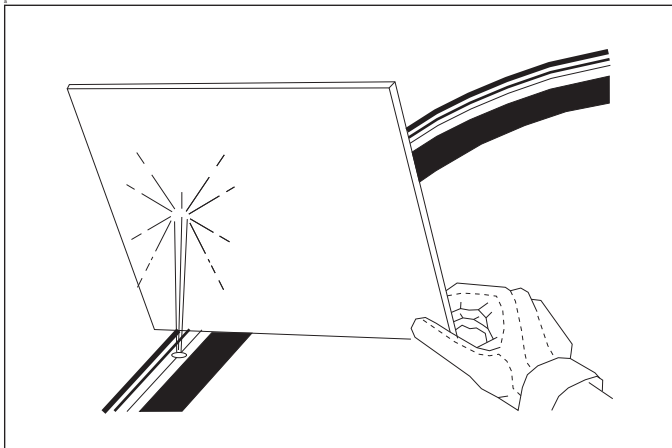
## NOTE

*Never unfold the wings past center until all air is out of the hydraulic circuit, as free-falling may occur.*

The Pulverizer is equipped with a single hydraulic circuit that folds/unfolds the Wings and raises/lowers the machine.

## ! WARNING

**Escaping fluid under pressure can be nearly invisible and have enough force to penetrate the skin causing serious injury. Relieve system pressure before repairing, adjusting, or disconnecting. Use a piece of cardboard, rather than your hands, to search for suspected leaks. See Figure 3-4. Wear protective gloves & safety glasses or goggles when working with hydraulic systems. Keep all components (cylinders, hoses, fittings etc.) in good repair.**



**Figure 3-4: Hydraulic Leak Detection**

## ! DANGER

**Falling wings can cause injury or death. Stand clear when wings are being raised or lowered.**

## ! DANGER

**Bleed the air the Wing Lift Cylinders before operating. Failure to do so will allow wings to free-fall and may cause serious personal injury. See Operator's Manual for correct procedure.**

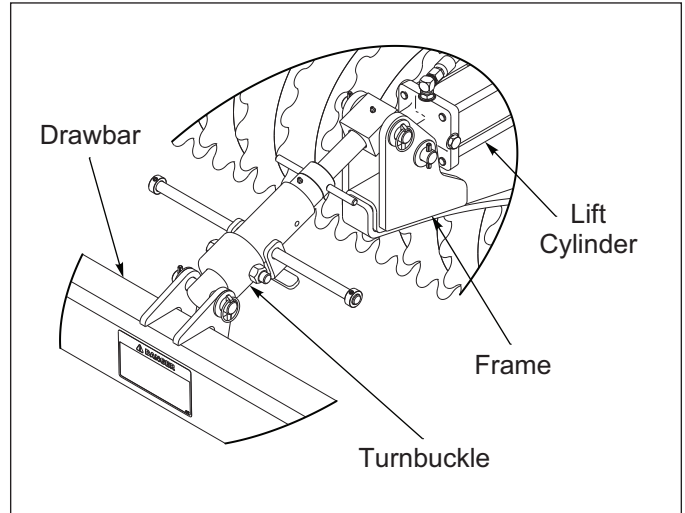
- The hydraulic valve assembly is equipped with flow restrictors to prevent uncontrolled falling of wing frames when folding or unfolding. Removal or improper settings of these restrictors can cause the machine to fold or unfold improperly and result in serious machine damage.
- Whenever raising/folding or lowering/unfolding, 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.
- On level ground, unfold the wings completely and lower machine to the ground. Make sure the Wing Cylinders are extended completely and the Transport Axle Cylinder is retracted. The Cylinders should be working smoothly through the stroke, if not purge the system. **See "Purging the Hydraulic System" on page 2-16.** 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.
- Do not loosen hoses/fittings after the Hydraulic Circuit has been purged.
- Recheck tractor reservoir oil level.

## General Operation

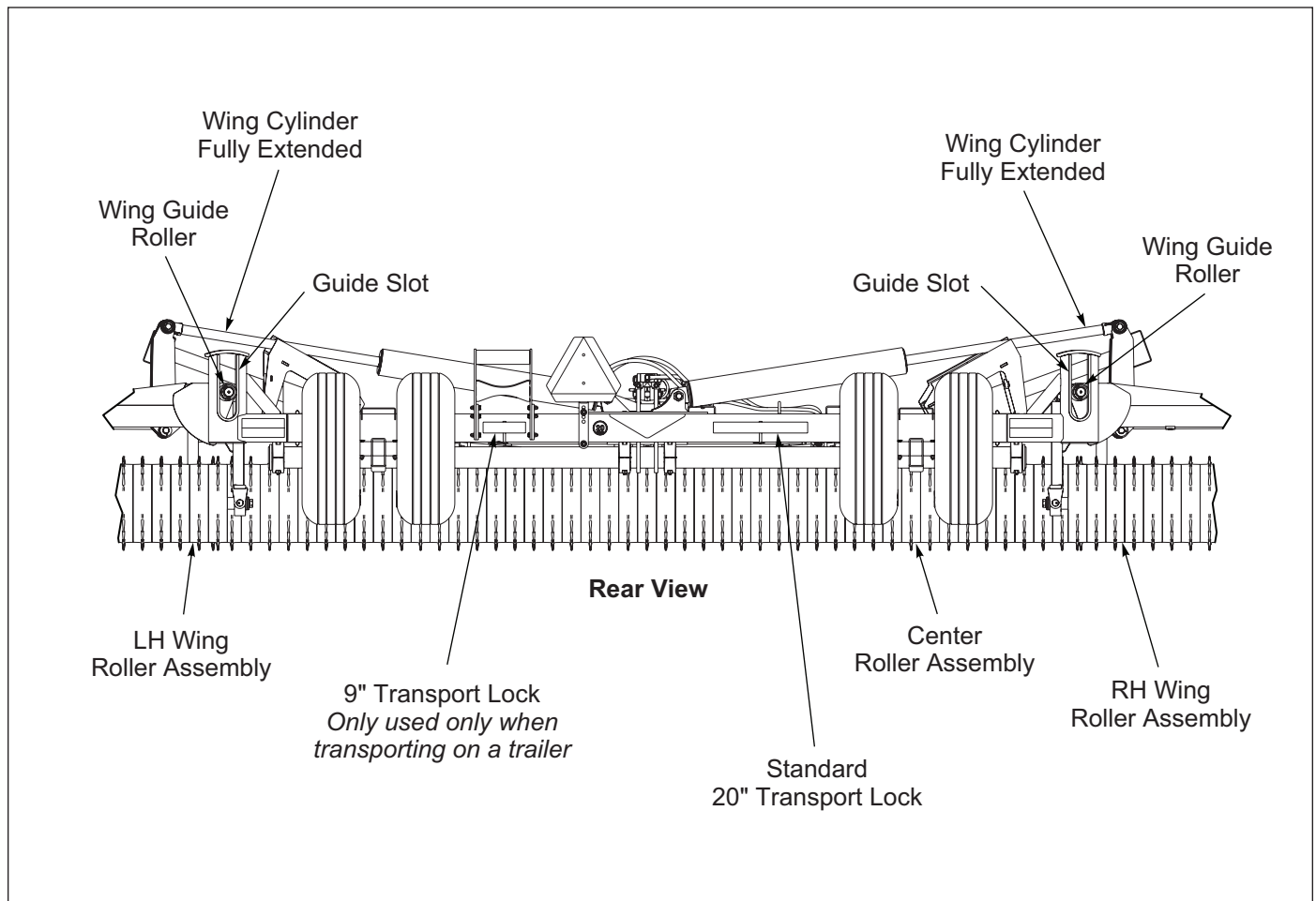
1. Horsepower requirements will vary due to speed, moisture, residue and types of soils. Local dealers can help in making recommendations for your conditions.
  - The minimum horsepower requirement as an Independent Tool is 3-5 horsepower per foot of rolling width.
  - The minimum horsepower requirement as a Companion Tool is 1-3 horsepower per foot of rolling width.
2. Operating speed is typically 5-8 mph. Reduce speed in rocky conditions to prevent wheel breakage.
3. Wings should always unfold first, then machine lowers. If not, reduce hydraulic fluid flow.
4. Unfold and lower the machine on a level surface. Adjust the Turnbuckle so that each Wing Roller is at the lower 1/3 of its respective Guide Slot. **See Figures 3-5 and 3-6.**
5. During field operation, it is not necessary to raise the machine for turns, but turns should be as wide as possible.


**WARNING**

**Watch out for Overhead Electrical Wires and other Overhead Obstructions when folding and unfolding Pulverizer Wings.**



**Figure 3-5: Turnbuckle**



**Figure 3-6: Pulverizer Unfolded**

**OPERATION**

# Transport Lock

**NOTE**

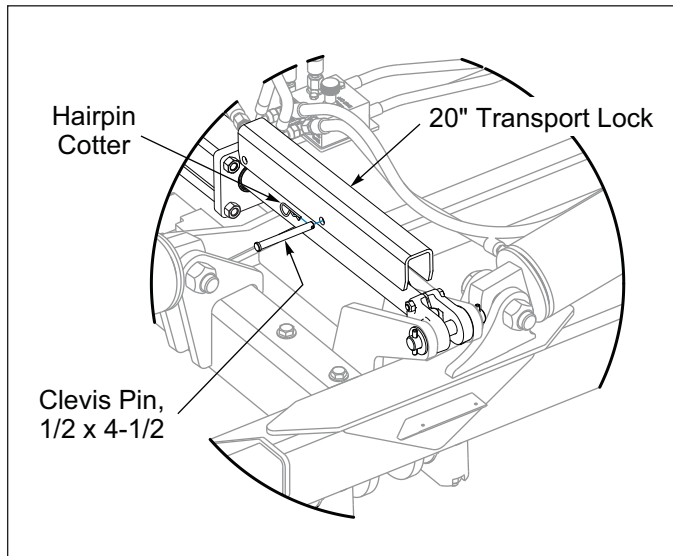
20" Transport Lock is standard. 9" Transport Lock is used only when transporting on a trailer.

**Field to Road**

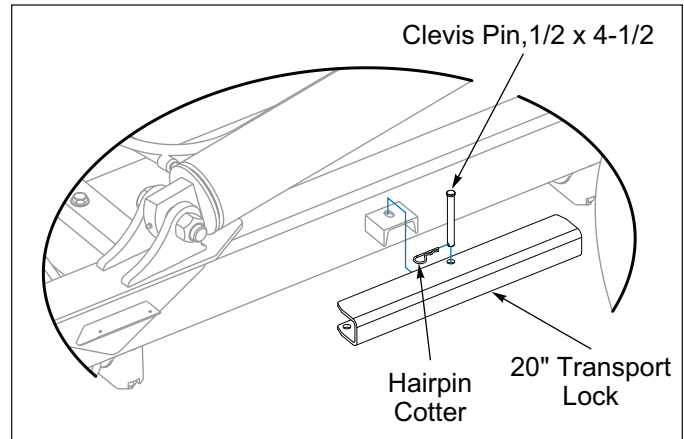
1. Fold Wings completely and raise the machine fully. Wing Cylinders retracted and Lift Cylinder extended.
2. Remove the stored 20" Transport Lock, 1/2 x 4-1/2 Clevis Pin and Hairpin Cotter. **See Figure 3-8.**
3. Place the Transport Lock over the exposed Lift Cylinder Rod. Secure with 1/2 x 4-1/2 Clevis Pin and Hairpin Cotter. **See Figure 3-7.**

**Road to Field**

1. Raise the machine fully. Wings should be folded.
2. Remove Lift Cylinder 20" Transport Lock, Hairpin Cotter and 1/2 x 4-1/2 Clevis Pin from Cylinder rod. **See Figure 3-7.**
3. Store Transport Lock on the rear frame tube channel. Secure with 1/2 x 4-1/2 Clevis Pin and Hairpin Cotter. **See Figure 3-8.**
4. Unfold Wings and Lower Pulverizer to the ground.



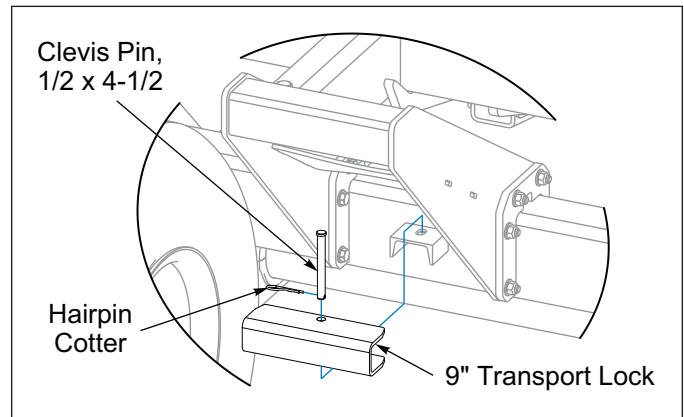
**Figure 3-7: Transport Lock - Engaged**



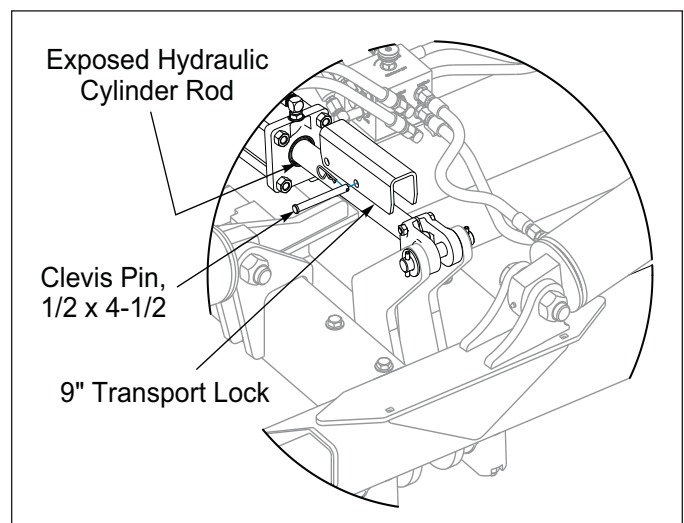
**Figure 3-8: Transport Lock - Stored**

# Transporting on a Trailer

1. Remove the short (9" long) Transport Lock from under the Wing Support. **See Figure 3-9.**
2. Place the short Transport Lock over the exposed Lift Cylinder Rod. **See Figure 3-10.**
3. Secure with 1/2 x 4-1/2 Clevis Pin and Hairpin Cotter.

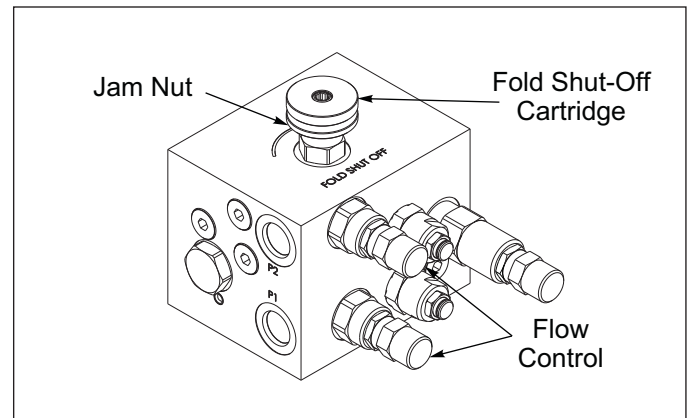


**Figure 3-9: Trailer Transport Lock - Stored**

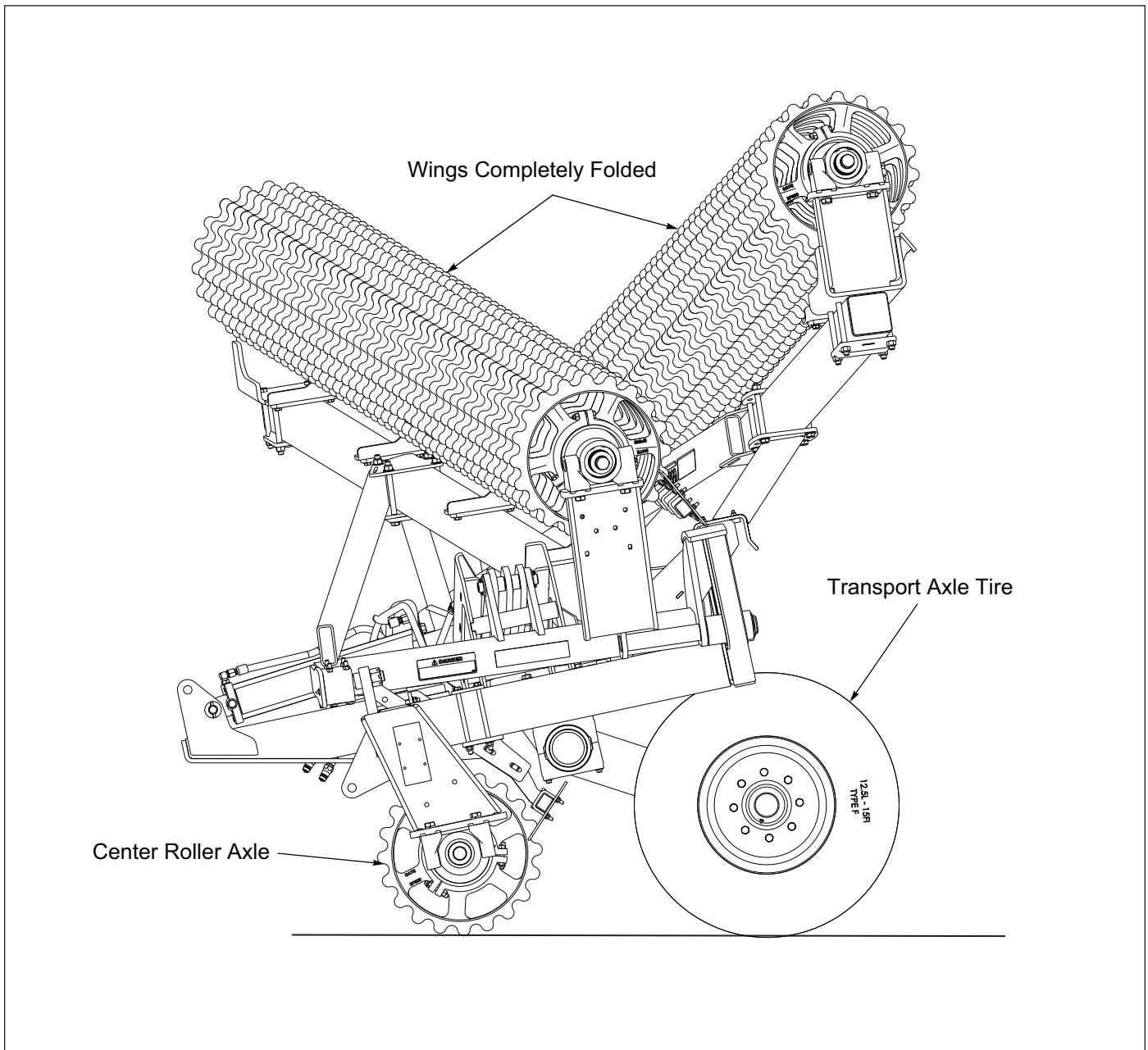


**Figure 3-10: Trailer Transport Lock - Engaged**

4. Close the Fold Shut-Off Valve completely, by backing off Jam Nut and turn Valve CW until it bottoms. Tighten Jam Nut. **See Figure 3-11.**
5. Raise the Transport Axle to where the Center Roller Axle and the Transport Axle Tires are both touching the Trailer Deck.
6. Disconnect Drawbar from tractor.
7. Retract Telescoping Drawbar.
8. Disconnect (Quick Coupling) Hydraulic Hoses and the Ag Harness from where the frame connects to the Drawbar.
9. Remove Turnbuckle and the Drawbar Pins.



**Figure 3-11: Valve Assembly Fold Shut-Off**



**Figure 3-12: Transporting on Trailer**



# Scraper Adjustment

**NOTE**

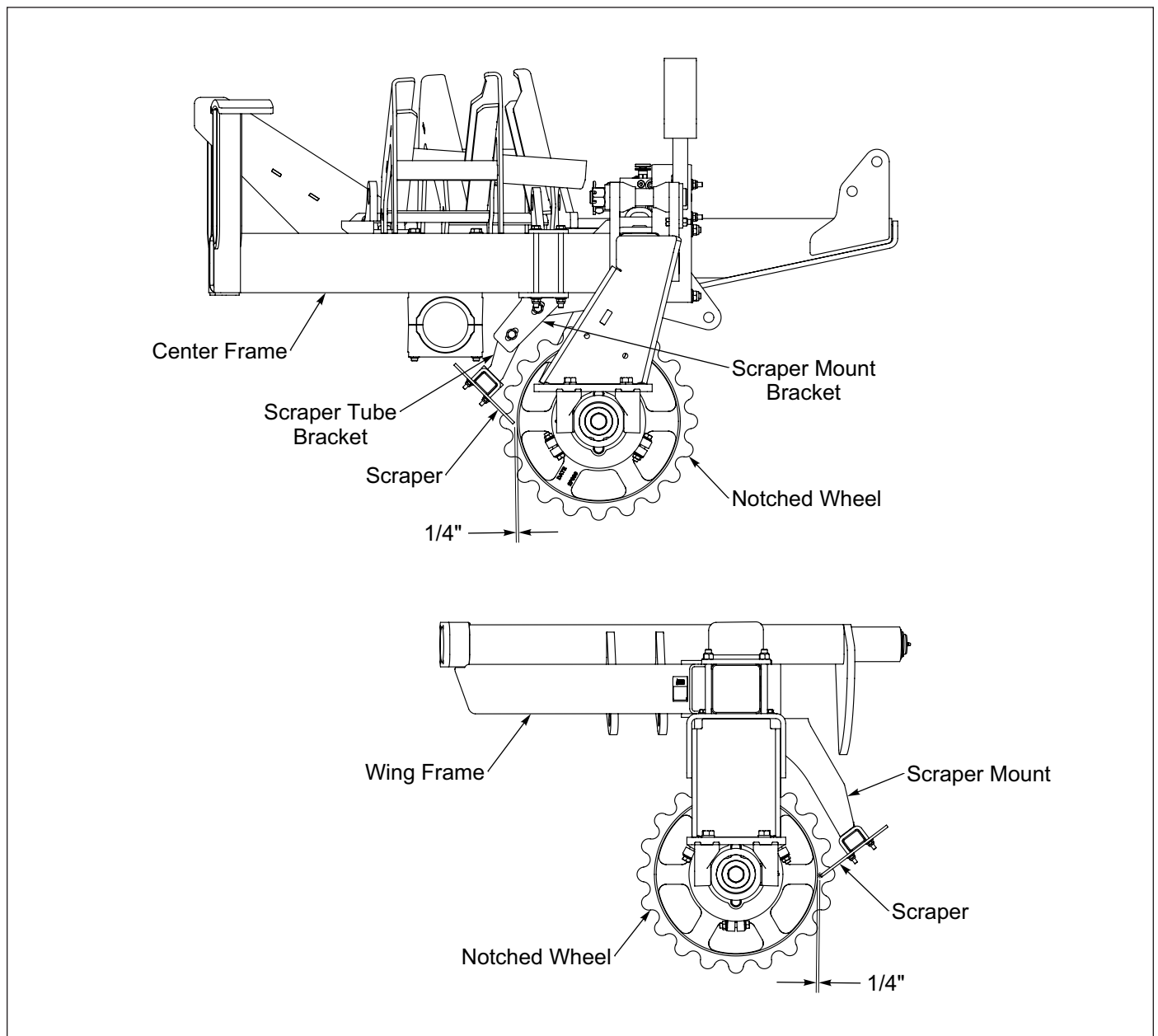
*Notched Roller Wheel Scrapers are optional and reversible.*

**NOTE**

*Scraper can be used as a guide to achieve the 1/4" gap between the Scraper and Notched Wheels.*

Notched Roller Wheel Scrapers are designed to keep the Notched Roller Wheels from building up with moist soil during operation. Adjustment of the Scrapers will be necessary as the Roller Wheels and/or the Scrapers wear.

1. Unfold and Lower Pulverizer on a level surface.
2. Push Notched Wheels against welded Roller Axle End Stops. Add Clamp End Spacers if needed. See **"Clamp End Spacers - Optional"** on page 4-10.
3. Adjust Scrapers as needed to obtain a 1/4" gap between the Scraper and Notched Wheels. See **Figure 3-13**.



**Figure 3-13: Scraper Adjustment**

# Loup Acre Meter Kit - Optional

**IMPORTANT**

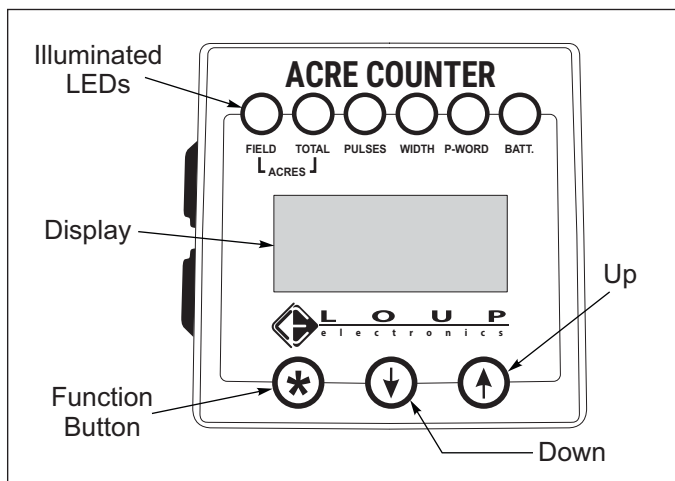
**Acre Meter is dust and splash resistant, under no circumstances should this unit be submerged in any conductive, corrosive, or flammable liquid. At no time use high pressure water or air to clean it, as this can damage the unit.**

## Settings for Loup Acre Meters

The battery operated Acre Meter operates in one of two modes.

1. In sleep mode, the display is blank and the counter is accumulating acres. Sleep mode will be entered if a button is not pressed for 20 seconds.
2. In entry mode, the display is on, and the operator can enter values. To get into entry mode, press the **\*/FUNC** button. If you continue to press the **\*/FUNC** button, the acre counter will cycle through the functions that it can perform. The LEDs above the display indicate which function is selected.

**The available functions are:** Field Acres, Total Acres, Pulses per 400 feet, Width, Password and Low Battery. **See Figure 3-14.**



**Figure 3-14: Acre Meter**

### Field Acres

Press the **\*/FUNC** button until the “**FIELD**” LED is lit. The digits indicate the acres covered since the field acre counter was cleared.

To clear the field acre count, press the **UP** and **DOWN** buttons simultaneously for two seconds. If a password has been entered, you will not be able to clear the total acre count. Field acres will count in tenths of an acre up to 9999.9 acres.

### Total Acres

Press the **\*/FUNC** button until the “**TOTAL**” LED is lit. The digits indicate the acres covered since the total acre counter was cleared.

To clear the total acre count, press and hold the **UP** and **DOWN** buttons for two seconds. If a password has been entered, you will not be able to clear the total acre count. Total acres will count from .1 to 99999 acres.

### Pulses Per 400 Feet

Press the **\*/FUNC** button until the “**PULSES**” LED is lit. The number in the display indicates how many pulses are generated for every 400 feet driven. There are two methods to enter the pulses per 400 feet:

1. If you know the number, select it using the **UP** and **DOWN** buttons. When you press the **\*/FUNC** button, the Acre Counter will accept the number in the display as the new pulses per 400 feet. **See Table 3-2..**
2. If you do not know the pulses per 400 feet, press and hold the **UP** and **DOWN** buttons until the “0” appears in the display. The “**PULSES**” LED will blink. The acre counter is now counting shaft rotations. Enter the cab, lower pulverizer, engage clutch if equipped, and drive 400 feet. Press the **\*/FUNC** button to wake up the acre counter. The “**PULSES**” LED will light. The number displayed is the pulses per 400 feet. Press the **\*/FUNC** button to accept the setting.

If a password is set, you will not be able to adjust the pulses.

### Width

Press the **\*/FUNC** button until the “**WIDTH**” LED is lit. The number displayed is the length of your machine in feet.

To adjust the width, press the **UP** and **DOWN** buttons. If a password has been entered, you will not be able to adjust the width.

The width can be adjusted from .1 to 99.9 feet, in tenths of a foot.

### Password

The password function allows you to protect the total acre count, pulses per 400 feet, and width settings with a password. This stops anyone from accidentally changing those settings. When the acre counter is shipped, the password is disabled. You can modify the pulses per 400 feet and machine width at any time.

Press the **\*/FUNC** button until the “**PASS**” LED is lit. The digits will display the word “**Ent**” or “**dis**”.

**If the display shows “dis”.** The password is disabled. The total acre count, pulses/400 feet, width, and password settings can be adjusted using the **UP** and **DOWN** buttons. The password can also be changed using the **UP** and **DOWN** buttons.



If the display shows “Ent”: You must enter your password using the **UP** and **DOWN** buttons. When your password is displayed, press the **\*/FUNC** button to test the password. If the password is correct, you will be able to change the acre counter settings. The password will be viewable until the acre counter enters sleep mode. When the acre counter is in entry mode again, you will have to re-enter the password to change settings.

If the password is not correct, you will not be able to change the acre counter settings. When the “PASS” function is selected again, “Ent” will appear in the display.

**Changing the Password**

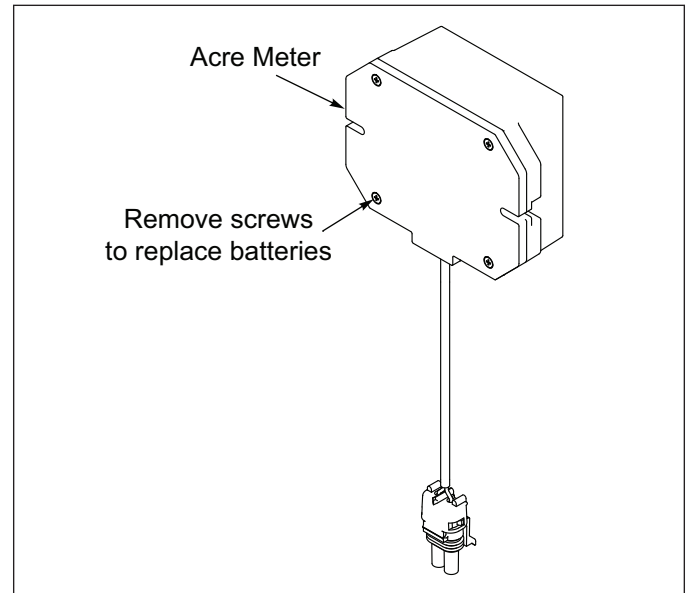
Select a new password using the **UP** and **DOWN** buttons. Press the **\*/FUNC** button until the word “SET” appears in the display. Release the **\*/FUNC** button. The number in the display is your new pass code. Make sure you record this number. Press and hold the **\*/FUNC** button until the word “dis” appears in the display.

If the password is forgotten, it can be disabled by removing the batteries. The password is intended for rental units. It is recommended that a seal be affixed to the rear plate of the acre counter to determine if the settings have been tampered with.

**Battery Replacement**

The battery operated acre counter uses 3 AA batteries. The “BATT” LED will light when the batteries require replacement. Remove the acre counter from the machine and undo the 4 screws on the back of the case. See **Figure 3-15**. This will separate the housing from the rear plate. Replace the batteries with 3 high quality AA alkaline batteries.

See “Acre Meter Troubleshooting” on page 4-11.



**Figure 3-15: Battery Replacement**

| Wheel Type |                 | Pulses |
|------------|-----------------|--------|
| 2P800      | Notched Ductile | 90     |

**Table 3-2: Acre Meter Settings**

## Transport

1. Check and follow all federal, state, and local requirements before transporting the Pulverizer.
2. The Pulverizer should be transported only by tractor required for field operation. The machine weight should not exceed more than 1.5 times the tractor weight. Maximum transport speed for the Pulverizer is 20 mph.

### **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.

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.

4. 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.
5. A Safety Chain is provided with the implement to insure safe transport. **See "Safety Chain" on page 1-4.**
  - 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. 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.

6. Before transporting:
  - Know the transport height and width of the unit before transport. Use caution when transporting near bridge and power lines.

### **DANGER**

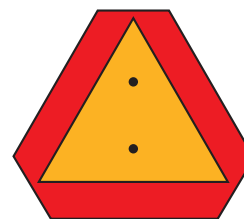
**Stay away from power lines when transporting, extending implement. Electrocutation can occur without direct contact.**

- Clean all Hydraulic Couplings and attach to tractor remotes.
- Connect the Safety Warning Lights 7-Pin Plug into the tractor 7-Pin outlet, routing cord by avoiding pinch points.
- Raise the machine to full transport height.
- Make sure Transport Lock is installed and secured. Do not depend solely on implement hydraulics for transport. **See "Transport Lock" on page 3-6.**

### **WARNING**

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

- Check all tires for proper inflation, and that wheel bolts or lug nuts are properly torque. **See "Tires" on page 4-4.**
- Verify that all warning lights, SMV sign, reflectors, and safety decals are clearly visible and functioning properly.
- Transport during daylight hours whenever 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. **See Figure 3-16.**



**Figure 3-16: SMV Sign**

## General Torque Specifications

(rev. 4/97)

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% (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

| UNC SIZE | SAE Grade 2 | SAE Grade 5 | SAE Grade 8 | UNF SIZE | SAE Grade 2 | SAE Grade 5 | SAE Grade 8 |
|----------|-------------|-------------|-------------|----------|-------------|-------------|-------------|
| 1/4-20   | 4 [5]       | 6 [7]       | 9 [11]      | 1/4-28   | 5 [6]       | 7 [9]       | 10 [12]     |
| 5/16-18  | 8 [10]      | 13 [13]     | 18 [22]     | 5/16-24  | 9 [11]      | 14 [17]     | 20 [25]     |
| 3/8-16   | 15 [19]     | 23 [29]     | 35 [42]     | 3/8-24   | 17 [21]     | 25 [31]     | 35 [44]     |
| 7/16-14  | 24 [30]     | 35 [43]     | 55 [62]     | 7/16-20  | 27 [34]     | 40 [50]     | 60 [75]     |
| 1/2-13   | 35 [43]     | 55 [62]     | 80 [100]    | 1/2-20   | 40 [50]     | 65 [81]     | 90 [112]    |
| 9/16-12  | 55 [62]     | 80 [100]    | 110 [137]   | 9/16-18  | 60 [75]     | 90 [112]    | 130 [162]   |
| 5/8-11   | 75 [94]     | 110 [137]   | 170 [212]   | 5/8-18   | 85 [106]    | 130 [162]   | 180 [225]   |
| 3/4-10   | 130 [162]   | 200 [250]   | 280 [350]   | 3/4-16   | 150 [188]   | 220 [275]   | 320 [400]   |
| 7/8-9    | 125 [156]   | 320 [400]   | 460 [575]   | 7/8-14   | 140 [175]   | 360 [450]   | 500 [625]   |
| 1-8      | 190 [237]   | 408 [506]   | 680 [850]   | 1-14     | 210 [263]   | 540 [675]   | 760 [950]   |
| 1-1/8-7  | 270 [337]   | 600 [750]   | 960 [1200]  | 1-1/8-12 | 300 [375]   | 660 [825]   | 1080 [1350] |
| 1-1/4-7  | 380 [475]   | 840 [1050]  | 1426 [1782] | 1-1/4-12 | 420 [525]   | 920 [1150]  | 1500 [1875] |
| 1-3/8-6  | 490 [612]   | 1010 [1375] | 1780 [2225] | 1-3/8-12 | 560 [700]   | 1260 [1575] | 2010 [2512] |
| 1-1/2-6  | 650 [812]   | 1460 [1825] | 2360 [2950] | 1-1/2-12 | 730 [912]   | 1640 [2050] | 2660 [3325] |

### 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.

| Nominal Thread Diameter (mm) | Newton Meters (Standard Torque) | Foot Pounds (Standard Torque) | Nominal Thread Diameter (mm) | Newton Meters (Standard Torque) | Foot Pounds (Standard Torque) |
|------------------------------|---------------------------------|-------------------------------|------------------------------|---------------------------------|-------------------------------|
| 6                            | 10 [14]                         | 7 [10]                        | 20                           | 385 [450]                       | 290 [335]                     |
| 7                            | 16 [22]                         | 12 [16]                       | 24                           | 670 [775]                       | 500 [625]                     |
| 8                            | 23 [32]                         | 17 [24]                       | 27                           | 980 [1105]                      | 730 [825]                     |
| 10                           | 46 [60]                         | 34 [47]                       | 30                           | 1330 [1470]                     | 990 [1090]                    |
| 12                           | 80 [125]                        | 60 [75]                       | 33                           | 1790 [1950]                     | 1340 [1450]                   |
| 14                           | 125 [155]                       | 90 [115]                      | 36                           | 2325 [2515]                     | 1730 [1870]                   |
| 16                           | 200 [240]                       | 150 [180]                     | 39                           | 3010 [3210]                     | 2240 [2380]                   |
| 18                           | 275 [330]                       | 205 [245]                     |                              |                                 |                               |

# 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.

### TORQUE SPECIFIED IN FOOT POUNDS

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

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

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

| <b>Valve Torque Values</b> |                                 |                 |
|----------------------------|---------------------------------|-----------------|
| Part Number                | Description                     | Torque (Ft-Lbs) |
| 175158                     | Valve, #8 Needle                | 19-21           |
| 183663                     | Cartridge,Flow Dividr/Combinr   | 46-54           |
| 175161                     | Valve,C'Bal,T-11A,3:1 1200PSI   | 35              |
| 175159                     | Valve,#10ReliefP.O.W/R ev Check | 24-26           |
| 175160                     | Flow Control                    | 24-26           |
| 148988                     | Plug SAE M O-RING Boss HX SKT   | 5-20            |

# Valve Assembly Torque Specifications

When doing maintenance on the Valve Assembly:

- Lubricate Valve Cartridge O-Rings
- Install Valve Cartridges into the Manifold per the required torque specifications listed in the table below in Ft-Lbs.

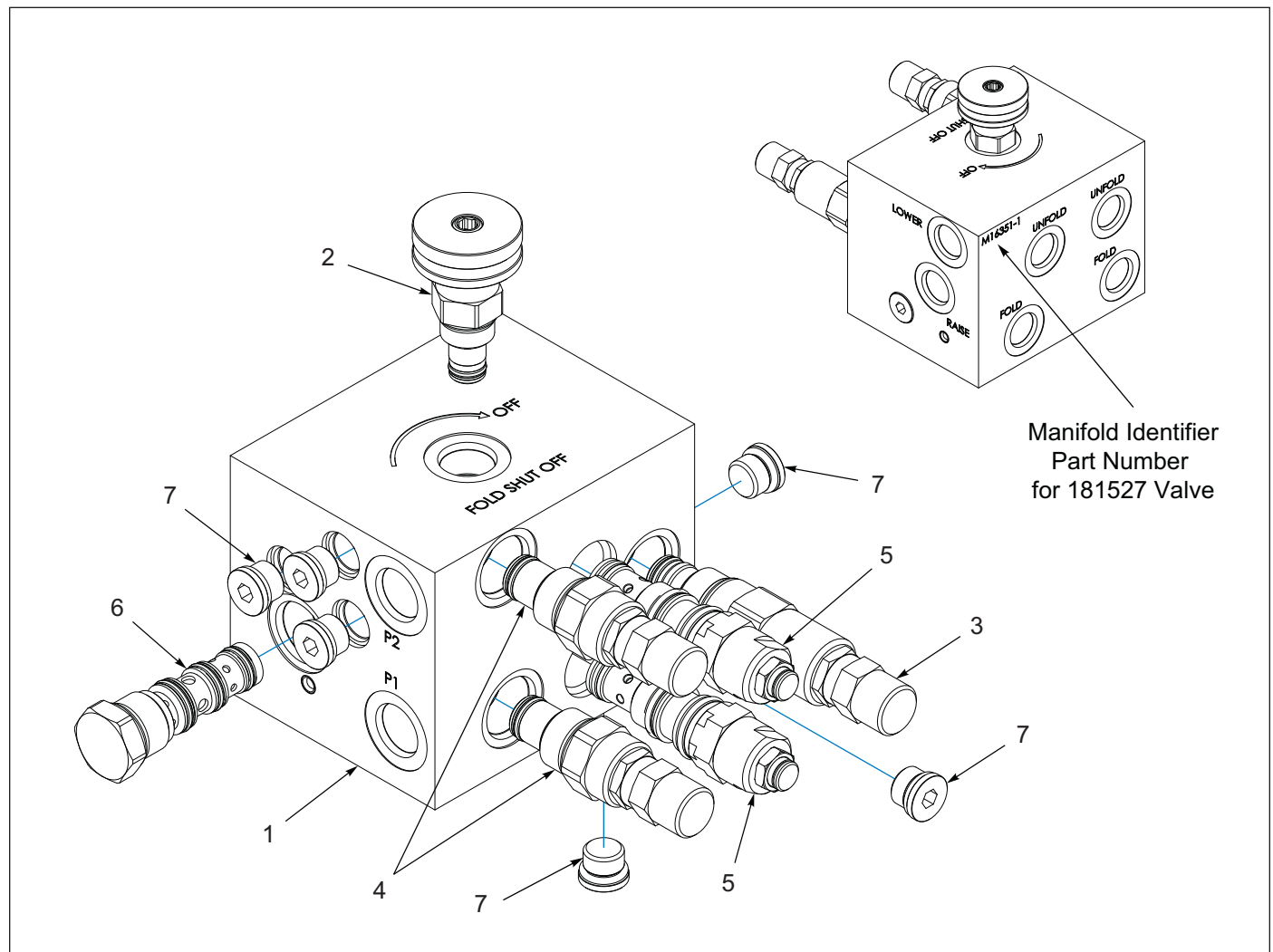


Figure 4-1: Valve Assembly - 181527 Torque Values

## Valve Assembly - 181527 Torque Values

| ITEM | PART NUMBER | DESCRIPTION                               | TORQUE FT-LBS |
|------|-------------|---|---------------|
|      | 181527      | MANIFOLD, WFP38/52 W/FLOW DVDR (M16351-1) | --            |
| 1    | 183662      | MANIFOLD,SEQUENCE W/FD                    | --            |
| 2    | 175158      | VALVE, #8 NEEDLE                          | 19-21         |
| 3    | 175159      | VALVE,# 10RELIEFP.0.W/REV CHECK           | 24-26         |
| 4    | 175160      | FLOW CONTROL                              | 24-26         |
| 5    | 175161      | VALVE,C'BAL,T-11A,3:1 1200PSI             | 35            |
| 6    | 183663      | CARTRIDGE,FLOW DIVIDR/COMBINR             | 46-54         |
| 7    | 148988      | PLUG SAE M O-RING BOSS HX SKT             | 15-20         |

**MAINTENANCE**

## Fasteners

Before operating your Brillion machine, check all hardware for tightness. Use the Tightening Torque Table as a guide. **See Page 4-1.**

After a few hours of use, check entire machine and tighten any loose nuts or bolts. Daily or periodic checks should be made thereafter.

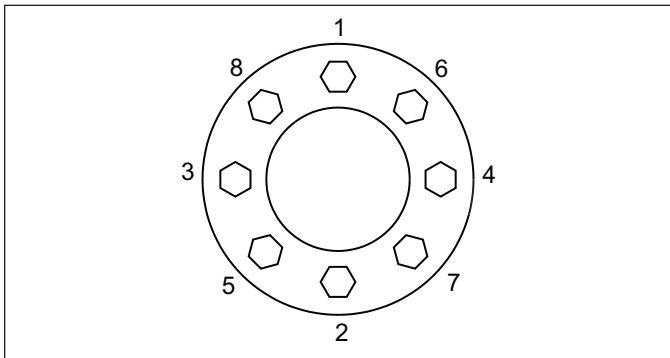
When replacing bolts, be sure to use fasteners of equal grade.

## Tires

Recommended Tire Size: 12.5L-15Fi, Ply Rating F

Tire Inflation Pressure: 90 PSI

When Re-Installing the 9/16-18 x 1-1/8 Wheel Bolts tighten to 50 Ft-Lbs. using the sequence in **See Figure 4-2.** Then tighten to full torque of 120-125 Ft-Lbs.



**Figure 4-2: 8 Bolt Tightening Sequence**

## Wheel Hub 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. If needed, adjust or replace them using the following procedure:

1. Place the Frame on blocks or stands sufficient to lift the Tire clear of the ground.
2. Remove the Tire.
3. Remove the Hub Cap, Cotter Pin, Slotted Nut and Washer.
4. Remove the Hub. Clean and inspect the Bearings and Hub Cavity. Replace any worn or defective parts.
5. Repack the Bearings using a high-quality Wheel Bearing Grease.
6. Install the Inner Bearing into the hub and install the grease seal. Use a driver to install the seal, to avoid damaging the outer edge of the seal. Drive the seal squarely into the hub to avoid any seal distortion.

### NOTE

*The Single Lip Seals should point away from the Hub to keep contaminants out and allow grease to pass.*

7. Slide the Hub, Bearing, and Seals onto a clean Spindle.
8. Install the Outer Bearing Cone, Washer and Slotted Nut.
9. Tighten the Slotted Nut while rotating the Hub until there is a slight resistance to wheel rotation. Then, back the Slotted Nut off one notch, until the wheel rotates freely without end play.
10. Install a new Cotter Pin and re-install the Hub Cap.

## Lubrication Maintenance

Greaseable components are the same on each side.

Lubricate with quality grease or if machine is not used for an extended period. **See Figure 4-3 and .**



### CAUTION

**Over lubrication of these bearings can cause premature bearing failure.**

- Every 20 hours lubricate Trunnion Bearings, Fold Hydraulic Cylinder Base Ends, Spherical Bearings and Wing Hinge Pins.
- Every 50 hours lubricate Wheel Hubs and Turnbuckle.
- Repack Wheel Hub bearings annually before each season usage.
- When the machine is not used for some time, exposed portions of the hydraulic cylinder rods must be cleaned and covered with a thick coat of grease to prevent corrosion, which will damage the seal.

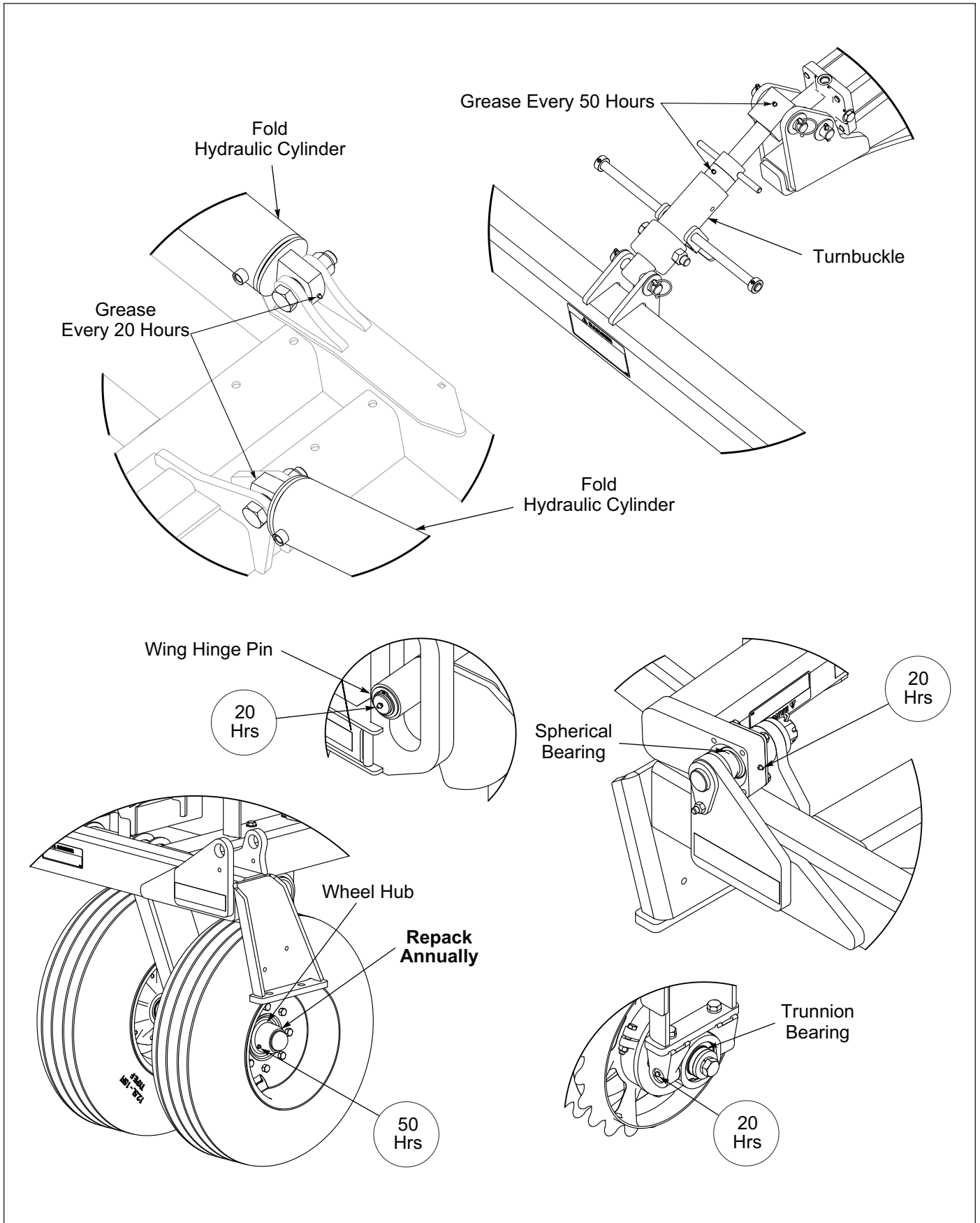


Figure 4-3: Lubrication Intervals

# Hydraulic System Maintenance

**IMPORTANT**

Unfold and lower the unit to the ground and relieve system pressure before attempting to repair, adjust, or disconnect components.

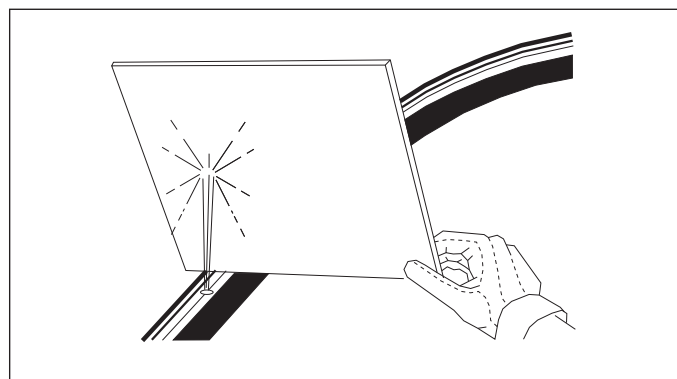
**NOTE**

Never unfold the wings past center until air is out of the hydraulic circuit, as free-falling may occur.



**WARNING**

Escaping fluid under pressure can be nearly invisible and have enough force to penetrate the skin causing serious injury. Relieve system pressure before repairing, adjusting, or disconnecting. Use a piece of cardboard, rather than hands, to search for suspected leaks. See Figure 4-4. Wear protective gloves & safety glasses or goggles when working with hydraulic systems. Keep all components (cylinders, hoses, fittings, etc.) in good repair.



**Figure 4-4: Hydraulic Leak Detection**

1. Check the tractor hydraulic fluid level per tractor owner’s manual and after any leakage. Check fluid level with the machine unfolded, Fold Cylinders extended and Lift Cylinder Retracted.
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 Lock is provided to hold the implement in a raised position. **See Figure 3-7.** Do not attempt to perform any service work under the implement without first installing the transport lock. Before servicing any hydraulic component, unfold and 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 “Purging the Hydraulic System” on page 2-16.**

**The sequence for the hydraulic circuit is as follows:**

**Field to Road:**

1. Machine raises on transport wheels.
2. Wings fold.
3. Install Transport Lock onto Cylinder Rod. **See Figure 3-7.**

**Road to Field:**

1. Remove Transport Lock from Cylinder Rod and place in storage. **See Figure 3-8.**
2. Wings unfold.
3. Machine lowers to the ground.

Pulverizer can be transported on a trailer. **See “Transporting on a Trailer” on page 3-6.**

## Purging Hydraulic System after repairs

**Wings Folded**

If repairs were made with wings folded, cycle fold cylinders, but limit travel to keep weight of wing pushing on cylinder. Cycle minimum of 5 times.

**Wings Unfolded**

If repairs were made with wings unfolded, remove pins from each Fold Cylinder Rod End Clevis. Block cylinders up and cycle cylinders minimum of 5 times to purge air from system.

Do not loosen any hoses or fittings. Recheck tractor reservoir to make sure it is within operating limits.

Reconnect each Fold Cylinder Rod End Clevis to the Wing Fold Links.



## Warning Lamps

When plugging in the 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.

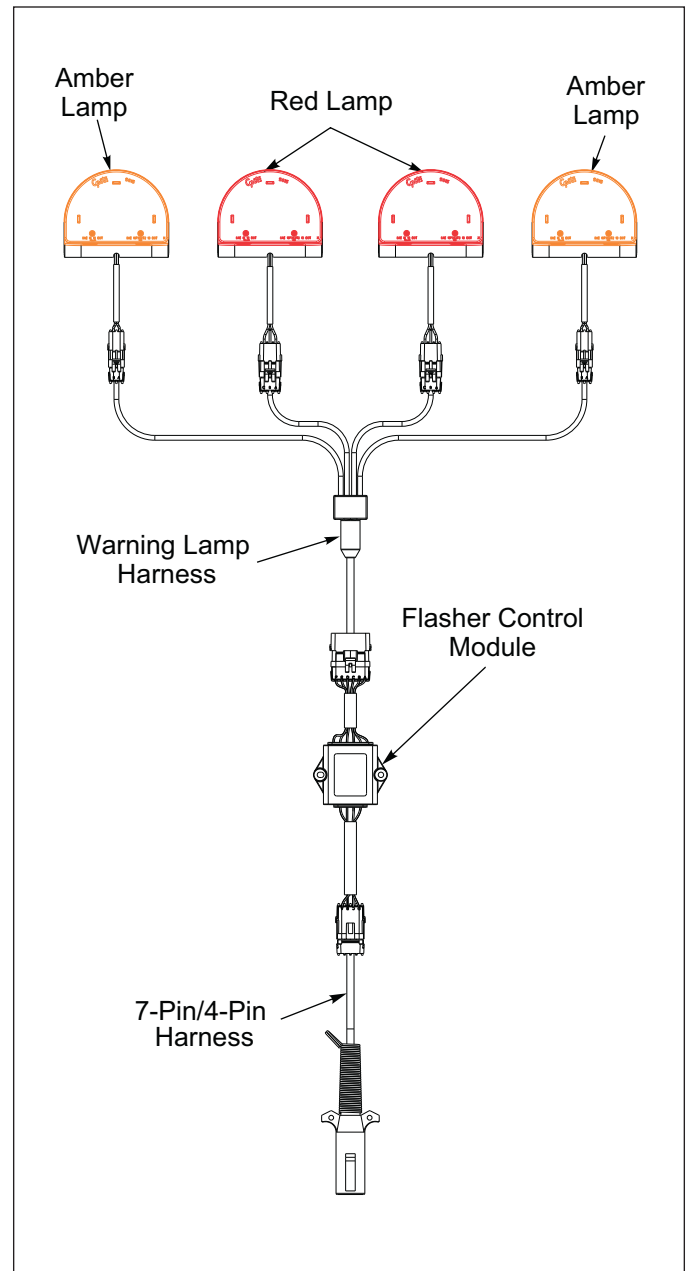


Figure 4-5: Warning Lamps

# Roller Bearing Maintenance

If bearings are removed from frame refer to the steps below to ensure minimum axle load is applied to prolong bearing life.

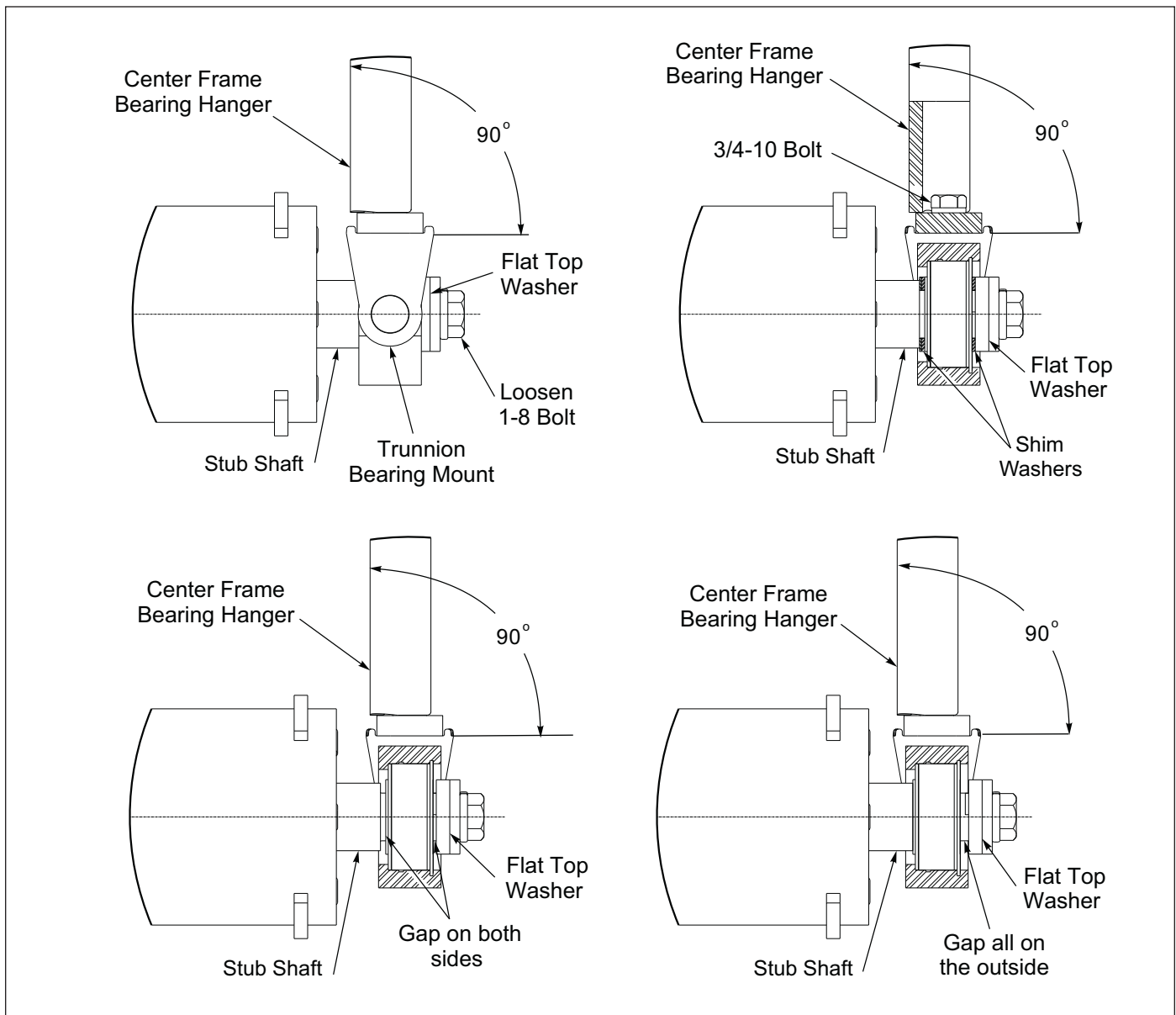
1. With the Bearing Grease Fitting facing towards the rear or upward of the machine, slide the Trunnion Bearing Mounts onto the Trunnion Bearings and lift the Roller Assembly up to the Center Frame Bearing Hangers. Hand tighten 3/4-10 hardware to hold Trunnion Bearing Mounts in place.
2. Look at each Trunnion Bearing Mount to make sure that it is sitting perpendicular to the Center Frame 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 Trunnion Bearing, all three can be on the outside between the Trunnion Bearing and Flat Top Washer, or a combination on either side, but all three must be used to minimize the gap. If gap cannot be properly minimized with bearing snap rings to outside, turn bearing around to have snap ring to inside. The bearing inner race is offset with respect to the trunnion bosses by 1/32". By installing bearings with snap rings in versus out, 1/16" difference can be made up at assembly if needed. **See Figure 4-6.**

3. Tighten 3/4-10 and 1-8 hardware to specification per torque chart. **See Page 4-1.**

**NOTE**

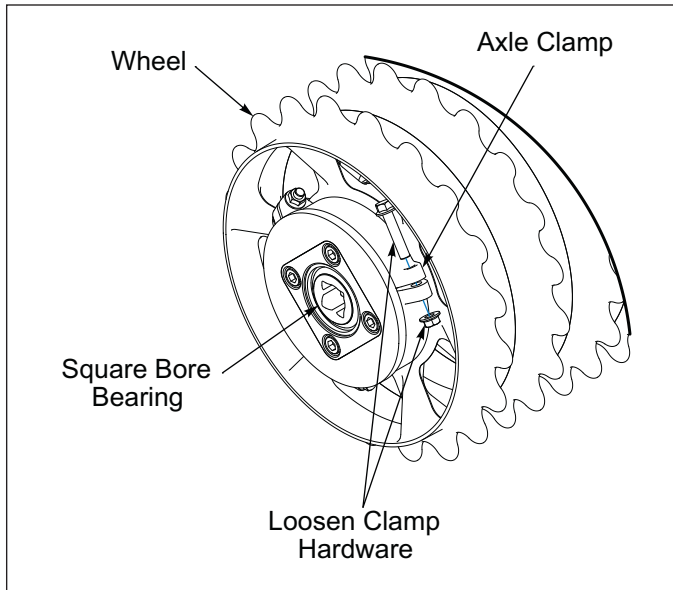
*Wheel Stop is on the Clamp side of the Roller Assembly.*



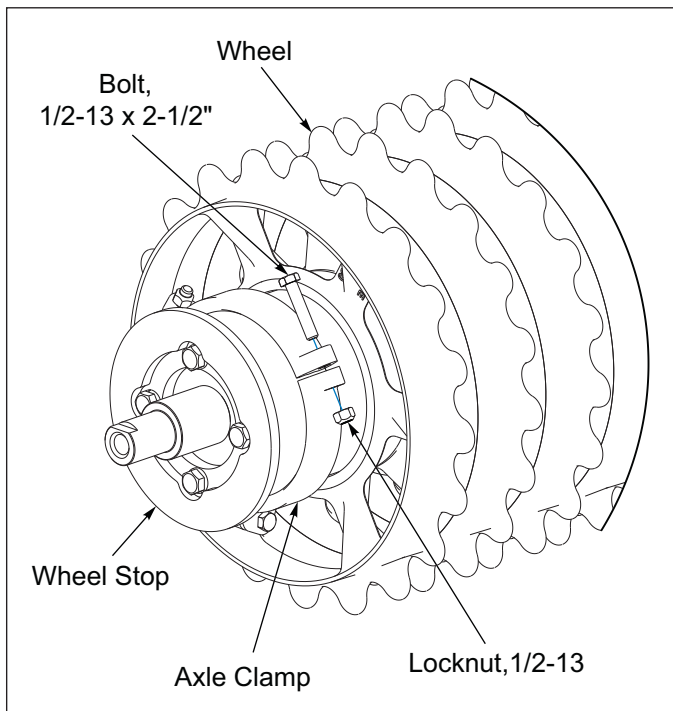
**Figure 4-6: Trunnion Spacing**

## Roller Axle Assembly

After an initial run of 5-10 hours, check the Roller Axle Assemblies to ensure that the wheels are tight to one another. If not, starting at the welded stop end, slide the wheels tight together and adjust the Axle Clamps so that it's against the wheel. **See Figure 4-7.** If there is a gap between the Axle Clamp and the Wheel Stop, install the appropriate clamp spacers. **See Figure 4-10 and 4-11.**



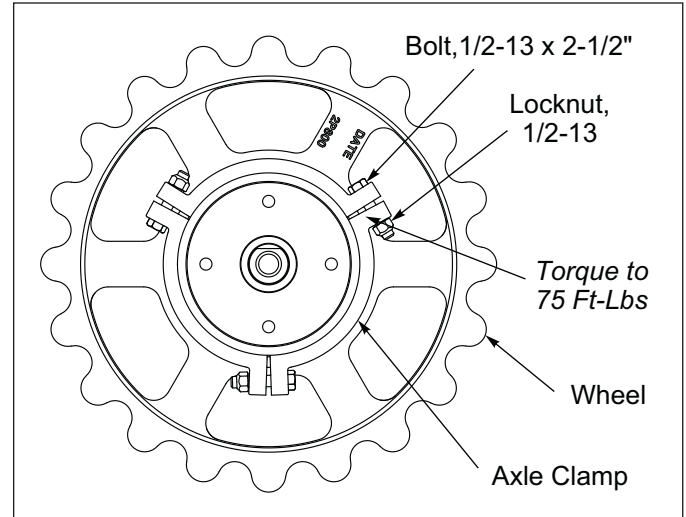
**Figure 4-7: Roller Axle Assembly w/ Square Bore Bearing**



**Figure 4-8: Roller Axle Assembly**

## Clamp Tightening

1. Tighten the Clamp bolts evenly to achieve equal spacing between clamp section. Torque to 75 Ft-Lbs. **See Figure 4-9.**
2. Check assemblies every 50-100 hours.



**Figure 4-9: Clamp Tightening**

# 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.

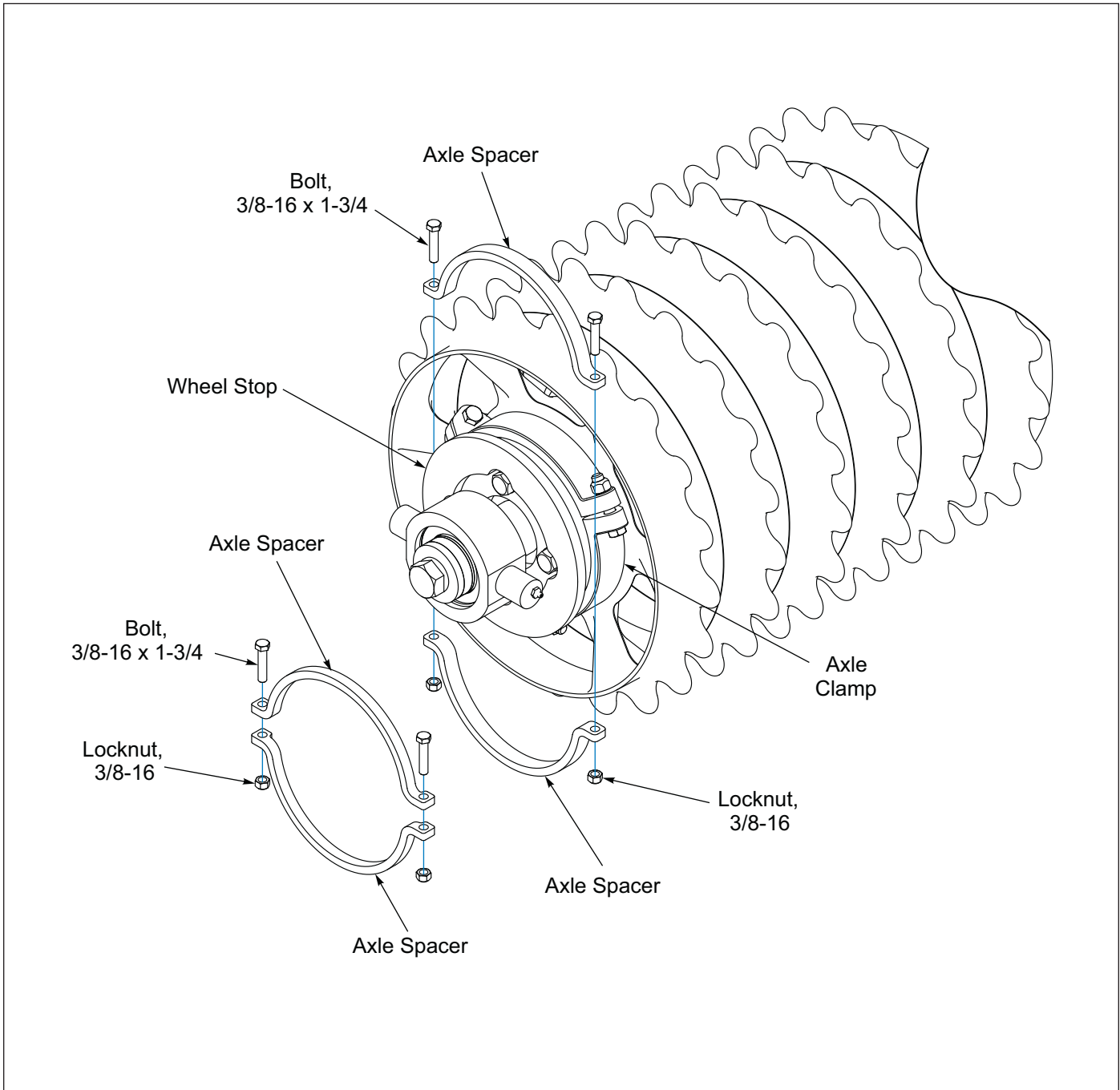
**Kit Part Number 201442 - 3/4" Axle Spacer**

**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 Locknuts. **See Page 4-1.**



**Figure 4-10: Clamp End Spacer Kit, 1/2" and 3/4" - Optional**

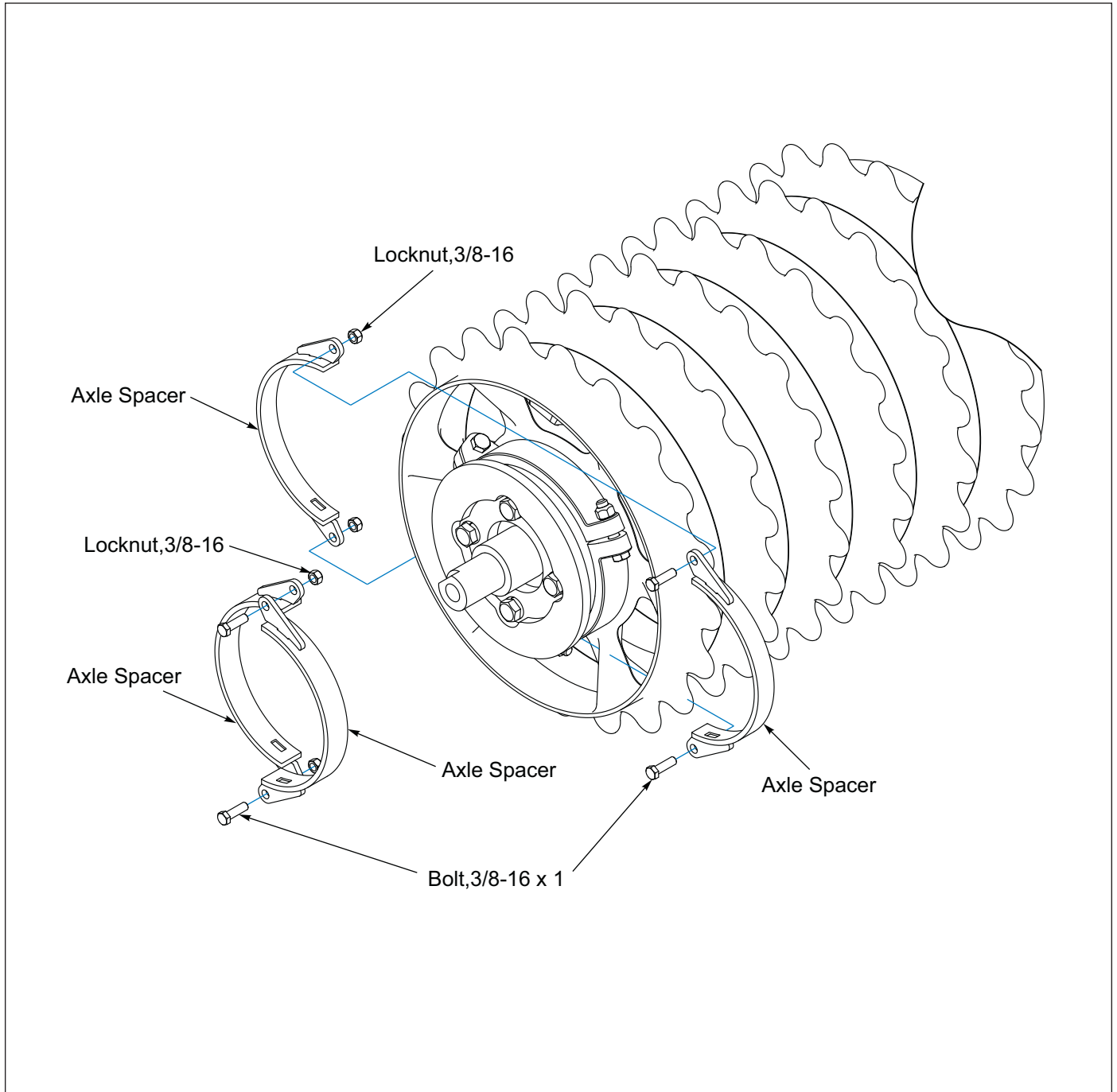
**Kit Part Number 204831 - 1" Axle Spacer**

**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 4-11: Clamp End Spacer Kit, 1", 1-1/4" and 1-1/2" - Optional**

# Acre Meter Troubleshooting

**IMPORTANT**

Acre Meter is dust and splash resistant, under no circumstances should this unit be submerged in any conductive, corrosive, or flammable liquid. At no time use high pressure water or air to clean it, as this can damage the unit.

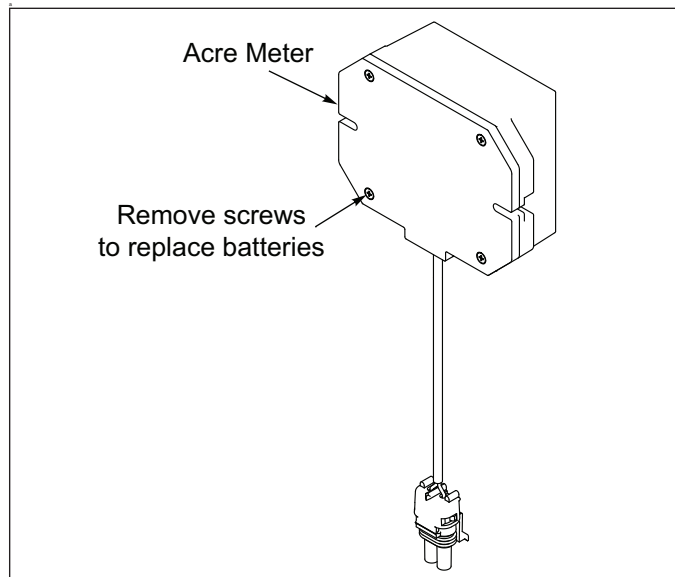


**Figure 4-12: Acre Meter Notice**

**NOTE**

The ground wire is for static discharge protection and has no effect on the ability of the sensor to function properly under normal conditions.

The battery operated Acre Meter uses 3 AA batteries. The Acre Meter will display “LObat” when the batteries require replacement. Remove the Acre Meter from the implement and then the 4 Screws on the back of the case. Separate the housing from the rear plate. Replace with 3 quality AA batteries. See **Figure 4-13**.



**Figure 4-13: Battery Removal**

**Acre Meter does not count pulses during calibration or does not count acres during operation.**

1. Check the position of the Magnet Wheel Assembly and Pick-Up Switch against the set-up instructions in this manual. See “**Acre Meter Installation - Optional**” on page 2-38.

2. Verify that the magnet in the Magnet Wheel Assembly has not come out.
3. Place the Acre Meter display in “Calibrate” mode by pressing the **\*(FUNC)** key until the P-Word indicator is lit and then press the up/down arrow keys until the display shows 0 and the LED is blinking. Break the connection between the display and the Pick-up Switch and short between pins A and B on the display harness connector. You should see the display increment +1 with each contact of the connector terminals.
4. If Step 3 works then wave a magnet in front of the Pick-Up Switch face with it re-connected to the display and see if the display increments up. If not, put an ohm meter or continuity tester on the contacts of the Pick-Up Switch harness and place a magnet in front of the Pick-Up Switch face. The Pick-Up Switch should show continuity or near 0 ohms resistance.

**Acre Meter can not change the width or pulse count settings or clear the field and total acres.**

1. Check to see if a password needs to be entered by pressing the **\*(FUNC)** key until the P-Word indicator LED is lit. If “**dis**” is displayed (password disabled) no password is set.
2. If “**Ent**” is displayed a password must be entered to change the settings or the password must be disabled as instructed in the setup section of this manual.

## Storage

1. The service life of the Pulverizer will be extended by proper off-season storage practices. Prior to storing the unit, complete the following procedures:
  - Completely clean the unit.
  - Inspect the machine for worn or defective parts. Replace as needed.
  - Repaint all areas where the original paint is worn off.
  - Apply a light coating of oil or grease to exposed cylinder rods to prevent them from rusting.
  - Lubricate the machine as stated in “**Lubrication Maintenance**” on page 4-4.
2. Store the unit in a shed or under a tarpaulin to protect it from the weather. The ground engaging components 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 is installed to prevent settling. See “**Transport Lock**” on page 3-6.
4. Relieve Hydraulic Pressure in hoses after Transport Lock is installed.
5. Block wheels before unhitching from tractor.

# Maintenance Chart

|                                  | <b>Initial Run-In</b> | <b>20 Hrs</b> | <b>50 Hrs</b> | <b>Annually</b> | <b>Storage</b> |
|----------------------------------|-----------------------|---------------|---------------|-----------------|----------------|
| Fasteners, Wheel Hub Bolts       | X                     |               |               | X               |                |
| Grease Wing Hinge Pins           |                       | X             |               |                 |                |
| Grease Wing Cylinder Base        |                       | X             |               |                 |                |
| Grease Spherical Bearing         |                       | X             |               |                 |                |
| Grease Trunnion Bearings         |                       | X             |               |                 |                |
| Grease Turnbuckle                |                       |               | X             |                 |                |
| Grease Wheel Hubs                |                       |               | X             | X               |                |
| Repack Wheel Hub Bearings        |                       |               |               | X               |                |
| Adjust Scraper (if equipped)     |                       |               | X             |                 |                |
| Tighten Roller Wheels and Clamps |                       |               | X             |                 |                |
| ** Clean Machine                 |                       |               |               |                 | X              |
| Grease after cleaning            |                       |               |               |                 | X              |
| Touch-up paint                   |                       |               |               |                 | X              |

*\*\* Avoid spraying high pressure washer directly at bearing seals and electrical connections.  
Subject to change without notice.*

# Troubleshooting

| PROBLEM                                  | PROBABLE CAUSE  | SOLUTION   |
|--|---|--|
| <b>Center Roller Bulldozes</b>           | Wing Hinge Roller is not in the correct position.   | Adjust turnbuckle to located Wing Hinge Roller in the lower 1/3 of Guide Slot.                                     |
| <b>Warning Lights do not work</b>        | Connections loose.  | Connect loose connection.  |
|  | Lamp failure  | Replace lamp.  |
|  | Power supply absent.  | Repair power source.   |
|  | Light module failure.   | Replace light module.  |
| <b>Wings do not fold</b>                 | External hydraulic leak.  | Repair leak.   |
|  | Not enough tractor hydraulic pressure.  | Increase hydraulic pressure.   |
|  | Internal hydraulic cylinder leakage.<br><i>Note: Does the cylinder get warm with rod completely extended or retracted and the hydraulic circuit still activated? Heat indicates leakage</i>           | Repair or replace hydraulic cylinder.  |
| <b>Center lowers before wings unfold</b> | If hydraulic fluid flow is too great, back pressure increases and Lift Hydraulic Cylinder becomes activated.  | Reduce hydraulic fluid flow.   |
| <b>Leaving tire tracks in field</b>      | Lift Hydraulic Cylinder isn't fully retracted.  | Retract Lift Hydraulic Cylinder. <i>Note: Make sure that the wing hydraulic cylinders are completely extended.</i> |
|  | External hydraulic leak.  | Repair leak.   |
|  | Air in hydraulic circuit.   | Bleed air from hydraulic circuit.  |
|  | Internal hydraulic cylinder leakage.<br><i>Note: Does the cylinder get warm with rod completely extended or retracted and the hydraulic circuit still activated? Heat indicates internal leakage.</i> | Repair or replace hydraulic cylinder.  |
|  | Tractor valve does not hold pressure.   | Repair tractor valve.  |
|  | Top Link not adjusted properly.   | Adjust turnbuckle to locate wing hinge roller in the lower 1/3 of the Guide Slot.                                  |

**Table 4-1: Troubleshooting**



Specifications

| Product Attributes                                  | WFP38                                       | WFP40                                       |
|---|---|---|
| <b>Approximate Weight</b>                           |   |   |
| (WFPDS) 20" Notched Ductile Iron Wheels w/ Scrapers | 11,000 lbs. (4,990 kg)                      | 11,300 lbs. (5,126 kg)                      |
| (WFPD) 20" Notched Ductile Iron Wheels w/o Scrapers | 10,610 lbs. (4,813 kg)                      | 10,896 lbs. (4,942 kg)                      |
| (WFPO) 20" Optimizer Ductile Iron Wheels            | 11,190 lbs. (5,076 kg)                      | 11,490 lbs. (5,212 kg)                      |
| (WFPC) 20" Crowfoot Ductile Iron Wheels             | 9,620 lbs. (4,364 kg)                       | 9,885 lbs. (4,484 kg)                       |
| (WFPVS) 22" V-Style Ductile Iron Wheels w/ Scrapers | N/A   | N/A   |
| (WFPV) 22" V-Syle Ductile Iron Wheels w/o Scrapers  | N/A   | N/A   |
| <b>Approximate Tongue Weight</b>                    |   |   |
| <b>Drawbar Retracted, Transport</b>                 | 1,075 lbs. (488 kg)                         | 1,125 lbs. (510 kg)                         |
| <b>Powder Coat Paint, Red</b>                       | 780 lbs. (354 kg)                           | 800 lbs. (363 kg)                           |
| <b>Operation</b>                                    | Under 200 lbs. (91 kg)                      | Under 200 lbs. (91 kg)                      |
| <b>Working Width</b>                                | 38 ft. 4 in. (11.7 m)                       | 40 ft. 4 in. (12.3 m)                       |
| <b>Transport Width</b>                              | 17 ft. 5 in. (5.3 m)                        | 17 ft. 5 in. (5.3 m)                        |
| <b>Transport Height</b>                             | 9 ft. 0 in. (2.7 m)                         | 9 ft. 0 in. (2.7 m)                         |
| <b>Overall Length, Drawbar Retracted</b>            | 20 ft. 0 in. (6.1 m)                        | 20 ft. 0 in. (6.1 m)                        |
| <b>Overall Length, Drawbar Extended</b>             | 26 ft. 8 in. (8.1 m)                        | 26 ft. 8 in. (8.1 m)                        |
| <b>Road Clearance</b>                               | 15 in. (381 mm)                             | 15 in. (381 mm)                             |
| <b>Mechanical Transport Lock</b>                    | Standard                                    | Standard                                    |
| <b>Hydraulic Circuits Required</b>                  | 1   | 1   |
| <b>Number of Pulverizer Wheels</b>                  |   |   |
| (WFPDS) 20" Notched Ductile Iron Wheels w/ Scrapers | 117   | 123   |
| (WFPD) 20" Notched Ductile Iron Wheels w/o Scrapers | 117   | 123   |
| (WFPO) 20" Optimizer Ductile Iron Wheels            | 77  | 81  |
| (WFPC) 20" Crowfoot Ductile Iron Wheels             | 77  | 81  |
| (WFPVS) 22" V-Style Ductile Iron Wheels w/ Scrapers | N/A   | N/A   |
| (WFPV) 22" V-Syle Ductile Iron Wheels w/o Scrapers  | N/A   | N/A   |
| <b>Axle Size</b>                                    |   |   |
| WFPDS, WFPD, WFPO, WFPC Models                      | 8 in. (203 mm)                              | 8 in. (203 mm)                              |
| WFPVS, WFPV Models                                  | N/A   | N/A   |
| <b>Hitch</b>  | Pull-Type w/Hydraulic Transport             | Pull-Type w/Hydraulic Transport             |
| <b>Tire Size</b>                                    | 12.5 x 15 FI Tires on 8 Bolt Rims           | 12.5 x 15 FI Tires on 8 Bolt Rims           |
| <b>Scraper Kits</b>                                 | Standard on "S" Models                      | Standard on "S" Models                      |
| <b>WFP Float Lock Kit</b>                           | Optional                                    | Optional                                    |
| <b>Telescoping Drawbar</b>                          | Standard                                    | Standard                                    |
| <b>Electronic Acre Meter Kit</b>                    | Optional                                    | Optional                                    |
| <b>LED Safety Warning Lights &amp; SMV Emblem</b>   | Standard                                    | Standard                                    |
| <b>Safety Chain Kit</b>                             | Standard                                    | Standard                                    |
| <b>Powder Coat Paint, Red</b>                       | Standard                                    | Standard                                    |
| <b>Horsepower Requirements</b>                      | 3 to 5 HP per ft.<br>(2.2 to 3.7 kW per m)  | 3 to 5 HP per ft.<br>(2.2 to 3.7 kW per m)  |
| <b>Horsepower Requirements As Companion Tool</b>    | 1 to 3 HP per ft.<br>(0.75 to 2.2 kW per m) | 1 to 3 HP per ft.<br>(0.75 to 2.2 kW per m) |
| <b>Recommended Operating Speed</b>                  | 3 to 8 MPH<br>(4.8 to 12.9 km/h)            | 3 to 8 MPH<br>(4.8 to 12.9 km/h)            |

Specifications subject to change with or without notice.

Figure 5-1: Model Specs (1 of 3)

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### SPECIFICATIONS

| Product Attributes                                  | WFP42                                       | WFP44                                       | WFP46                                       |
|---|---|---|---|
| <b>Approximate Weight</b>                           |   |   |   |
| (WFPDS) 20" Notched Ductile Iron Wheels w/ Scrapers | 11,900 lbs. (5,398 kg)                      | 12,200 lbs. (5,534 kg)                      | 12,500 lbs. (5,670 kg)                      |
| (WFPD) 20" Notched Ductile Iron Wheels w/o Scrapers | 11,465 lbs. (5,200 kg)                      | 11,750 lbs. (5,330 kg)                      | 12,036 lbs. (5,459 kg)                      |
| (WFPO) 20" Optimizer Ductile Iron Wheels            | 12,075 lbs. (5,477 kg)                      | 12,400 lbs. (5,624 kg)                      | 12,720 lbs. (3,989 kg)                      |
| (WFPC) 20" Crowfoot Ductile Iron Wheels             | 10,350 lbs. (4,695 kg)                      | 10,575 lbs. (4,797 kg)                      | 10,795 lbs. (4,897 kg)                      |
| (WFPVS) 22" V-Style Ductile Iron Wheels w/ Scrapers | N/A   | N/A   | N/A   |
| (WFPV) 22" V-Syle Ductile Iron Wheels w/o Scrapers  | N/A   | N/A   | N/A   |
| <b>Approximate Tongue Weight</b>                    |   |   |   |
| <b>Drawbar Retracted, Transport</b>                 | 1,175 lbs. (533 kg)                         | 1,200 lbs. (544 kg)                         | 1,225 lbs. (556 kg)                         |
| <b>Powder Coat Paint, Red</b>                       | 820 lbs. (372 kg)                           | 840 lbs. (381 kg)                           | 860 lbs. (390 kg)                           |
| <b>Operation</b>                                    | Under 200 lbs. (91 kg)                      | Under 200 lbs. (91 kg)                      | Under 200 lbs. (91 kg)                      |
| <b>Working Width</b>                                | 42 ft. 4 in. (12.9 m)                       | 44 ft. 4 in. (13.5 m)                       | 46 ft. 4 in. (14.1 m)                       |
| <b>Transport Width</b>                              | 17 ft. 5 in. (5.3 m)                        | 17 ft. 5 in. (5.3 m)                        | 17 ft. 5 in. (5.3 m)                        |
| <b>Transport Height</b>                             | 9 ft. 0 in. (2.7 m)                         | 9 ft. 0 in. (2.7 m)                         | 9 ft. 0 in. (2.7 m)                         |
| <b>Overall Length, Drawbar Retracted</b>            | 20 ft. 0 in. (6.1 m)                        | 20 ft. 0 in. (6.1 m)                        | 20 ft. 0 in. (6.1 m)                        |
| <b>Overall Length, Drawbar Extended</b>             | 26 ft. 8 in. (8.1 m)                        | 26 ft. 8 in. (8.1 m)                        | 26 ft. 8 in. (8.1 m)                        |
| <b>Road Clearance</b>                               | 15 in. (381 mm)                             | 15 in. (381 mm)                             | 15 in. (381 mm)                             |
| <b>Mechanical Transport Lock</b>                    | Standard                                    | Standard                                    | Standard                                    |
| <b>Hydraulic Circuits Required</b>                  | 1   | 1   | 1   |
| <b>Number of Pulverizer Wheels</b>                  |   |   |   |
| (WFPDS) 20" Notched Ductile Iron Wheels w/ Scrapers | 129   | 135   | 141   |
| (WFPD) 20" Notched Ductile Iron Wheels w/o Scrapers | 129   | 135   | 141   |
| (WFPO) 20" Optimizer Ductile Iron Wheels            | 85  | 89  | 93  |
| (WFPC) 20" Crowfoot Ductile Iron Wheels             | 85  | 89  | 93  |
| (WFPVS) 22" V-Style Ductile Iron Wheels w/ Scrapers | N/A   | N/A   | N/A   |
| (WFPV) 22" V-Syle Ductile Iron Wheels w/o Scrapers  | N/A   | N/A   | N/A   |
| <b>Axle Size</b>                                    |   |   |   |
| WFPDS, WFPD, WFPO, WFPC Models                      | 8 in. (203 mm)                              | 8 in. (203 mm)                              | 8 in. (203 mm)                              |
| WFPVS, WFPV Models                                  | N/A   | N/A   | N/A   |
| <b>Hitch</b>  | Pull-Type w/<br>Hydraulic Transport         | Pull-Type w/<br>Hydraulic Transport         | Pull-Type w/<br>Hydraulic Transport         |
| <b>Tire Size</b>                                    | 12.5 x 15 FI Tires<br>on 8 Bolt Rims        | 12.5 x 15 FI Tires<br>on 8 Bolt Rims        | 12.5 x 15 FI Tires<br>on 8 Bolt Rims        |
| <b>Scraper Kits</b>                                 | Standard on<br>"S" Models                   | Standard on<br>"S" Models                   | Standard on<br>"S" Models                   |
| <b>WFP Float Lock Kit</b>                           | Optional                                    | Optional                                    | Optional                                    |
| <b>Telescoping Drawbar</b>                          | Standard                                    | Standard                                    | Standard                                    |
| <b>Electronic Acre Meter Kit</b>                    | Optional                                    | Optional                                    | Optional                                    |
| <b>LED Safety Warning Lights &amp; SMV Emblem</b>   | Standard                                    | Standard                                    | Standard                                    |
| <b>Safety Chain Kit</b>                             | Standard                                    | Standard                                    | Standard                                    |
| <b>Powder Coat Paint, Red</b>                       | Standard                                    | Standard                                    | Standard                                    |
| <b>Horsepower Requirements</b>                      | 3 to 5 HP per ft.<br>(2.2 to 3.7 kW per m)  | 3 to 5 HP per ft.<br>(2.2 to 3.7 kW per m)  | 3 to 5 HP per ft.<br>(2.2 to 3.7 kW per m)  |
| <b>Horsepower Requirements As Companion Tool</b>    | 1 to 3 HP per ft.<br>(0.75 to 2.2 kW per m) | 1 to 3 HP per ft.<br>(0.75 to 2.2 kW per m) | 1 to 3 HP per ft.<br>(0.75 to 2.2 kW per m) |
| <b>Recommended Operating Speed</b>                  | 3 to 8 MPH<br>(4.8 to 12.9 km/h)            | 3 to 8 MPH<br>(4.8 to 12.9 km/h)            | 3 to 8 MPH<br>(4.8 to 12.9 km/h)            |

*Specifications subject to change with or without notice.*

**Figure 5-2: Model Specifications (2 of 3)**

| Product Attributes                                  | WFP50                                       | WFP52                                       |
|---|---|---|
| <b>Approximate Weight</b>                           |   |   |
| (WFPDS) 20" Notched Ductile Iron Wheels w/ Scrapers | 12,857 lbs. (5,832 kg)                      | 13,172 lbs. (5,975 kg)                      |
| (WFPD) 20" Notched Ductile Iron Wheels w/o Scrapers | 12,380 lbs. (5,615 kg)                      | 12,680 lbs. (5,752 kg)                      |
| (WFPO) 20" Optimizer Ductile Iron Wheels            | 13,500 lbs. (6,123 kg)                      | 13,860 lbs. (6,287 kg)                      |
| (WFPC) 20" Crowfoot Ductile Iron Wheels             | 11,410 lbs. (5,175 kg)                      | 11,635 lbs. (5,278 kg)                      |
| (WFPVS) 22" V-Style Ductile Iron Wheels w/ Scrapers | 14,317 lbs. (6,494 kg)                      | 13,395 lbs. (6,076 kg)                      |
| (WFPV) 22" V-Syle Ductile Iron Wheels w/o Scrapers  | 14,711 lbs. (6,673 kg)                      | 13,747 lbs. (6,236 kg)                      |
| <b>Approximate Tongue Weight</b>                    |   |   |
| <b>Drawbar Retracted, Transport</b>                 | 1,000 lbs. (454 kg)                         | 1,000 lbs. (454 kg)                         |
| <b>Powder Coat Paint, Red</b>                       | 750 lbs. (340 kg)                           | 750 lbs. (340 kg)                           |
| <b>Operation</b>                                    | Under 200 lbs. (91 kg)                      | Under 200 lbs. (91 kg)                      |
| <b>Working Width</b>                                | 49 ft. 10 in. (15.2 m)                      | 51 ft. 10 in. (15.8 m)                      |
| <b>Transport Width</b>                              | 19 ft. 8 in. (6.0 m)                        | 21 ft. 8 in. (6.6 m)                        |
| <b>Transport Height</b>                             | 10 ft. 0 in. (3.0 m)                        | 10 ft. 0 in. (3.0 m)                        |
| <b>Overall Length, Drawbar Retracted</b>            | 24 ft. 7 in. (7.5 m)                        | 24 ft. 7 in. (7.5 m)                        |
| <b>Overall Length, Drawbar Extended</b>             | 31 ft. 3 in. (9.5 m)                        | 31 ft. 3 in. (9.5 m)                        |
| <b>Road Clearance</b>                               | 15 in. (381 mm)                             | 15 in. (381 mm)                             |
| <b>Mechanical Transport Lock</b>                    | Standard                                    | Standard                                    |
| <b>Hydraulic Circuits Required</b>                  | 1   | 1   |
| <b>Number of Pulverizer Wheels</b>                  |   |   |
| (WFPDS) 20" Notched Ductile Iron Wheels w/ Scrapers | 151   | 157   |
| (WFPD) 20" Notched Ductile Iron Wheels w/o Scrapers | 151   | 157   |
| (WFPO) 20" Optimizer Ductile Iron Wheels            | 99  | 103   |
| (WFPC) 20" Crowfoot Ductile Iron Wheels             | 99  | 103   |
| (WFPVS) 22" V-Style Ductile Iron Wheels w/ Scrapers | 100   | 104   |
| (WFPV) 22" V-Syle Ductile Iron Wheels w/o Scrapers  | 100   | 104   |
| <b>Axle Size</b>                                    |   |   |
| WFPDS, WFPD, WFPO, WFPC Models                      | 8 in. (203 mm)                              | 8 in. (203 mm)                              |
| WFPVS, WFPV Models                                  | 4.5 in. (114 mm)                            | 4.5 in. (114 mm)                            |
| <b>Hitch</b>  | Pull-Type w/<br>Hydraulic Transport         | Pull-Type w/<br>Hydraulic Transport         |
| <b>Tire Size</b>                                    | 12.5 x 15 FI Tires<br>on 8 Bolt Rims        | 12.5 x 15 FI Tires<br>on 8 Bolt Rims        |
| <b>Scraper Kits</b>                                 | Standard on<br>"S" Models                   | Standard on<br>"S" Models                   |
| <b>WFP Float Lock Kit</b>                           | Optional                                    | Optional                                    |
| <b>Telescoping Drawbar</b>                          | Standard                                    | Standard                                    |
| <b>Electronic Acre Meter Kit</b>                    | Optional                                    | Optional                                    |
| <b>LED Safety Warning Lights &amp; SMV Emblem</b>   | Standard                                    | Standard                                    |
| <b>Safety Chain Kit</b>                             | Standard                                    | Standard                                    |
| <b>Powder Coat Paint, Red</b>                       | Standard                                    | Standard                                    |
| <b>Horsepower Requirements</b>                      | 3 to 5 HP per ft.<br>(2.2 to 3.7 kW per m)  | 3 to 5 HP per ft.<br>(2.2 to 3.7 kW per m)  |
| <b>Horsepower Requirements As Companion Tool</b>    | 1 to 3 HP per ft.<br>(0.75 to 2.2 kW per m) | 1 to 3 HP per ft.<br>(0.75 to 2.2 kW per m) |
| <b>Recommended Operating Speed</b>                  | 3 to 8 MPH<br>(4.8 to 12.9 km/h)            | 3 to 8 MPH<br>(4.8 to 12.9 km/h)            |

*Specifications subject to change with or without notice.*

**Figure 5-3: Model Specifications (3 of 3)**



## Document Control Revision Log:

| Date       | Form #     | Improvement(s): Description and Comments   |
|------------|------------|--|
| 03/15/2013 | F-661R1    | Initial Release  |
| 02/14/2014 | F-661R2    | Added 50FT-52FT Models   |
| 08/01/2016 | F-661R3    | Changed to Spherical Wing Bearings   |
| 10/01/2017 | F-661R4    | Added V-Wheel Option for 50FT-52FT Models  |
| 03/2021    | F-661-0321 | ECN 46893 - Adjustments to Roller Assemblies<br>Updated ISO logos to ISO 9001:2015 (Revised 04/2024) |
| 06/2024    | F-661-2406 | ECN 49763 - Add Decals: QR Code, FEMA, 20 mph<br>*Revised Form Format "Year/Month"                   |
|            |            |  |



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# **Wing Float Pulverizer Models WFP38-52 Operator's Manual**

## **Re-Order Part Number F-661**

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