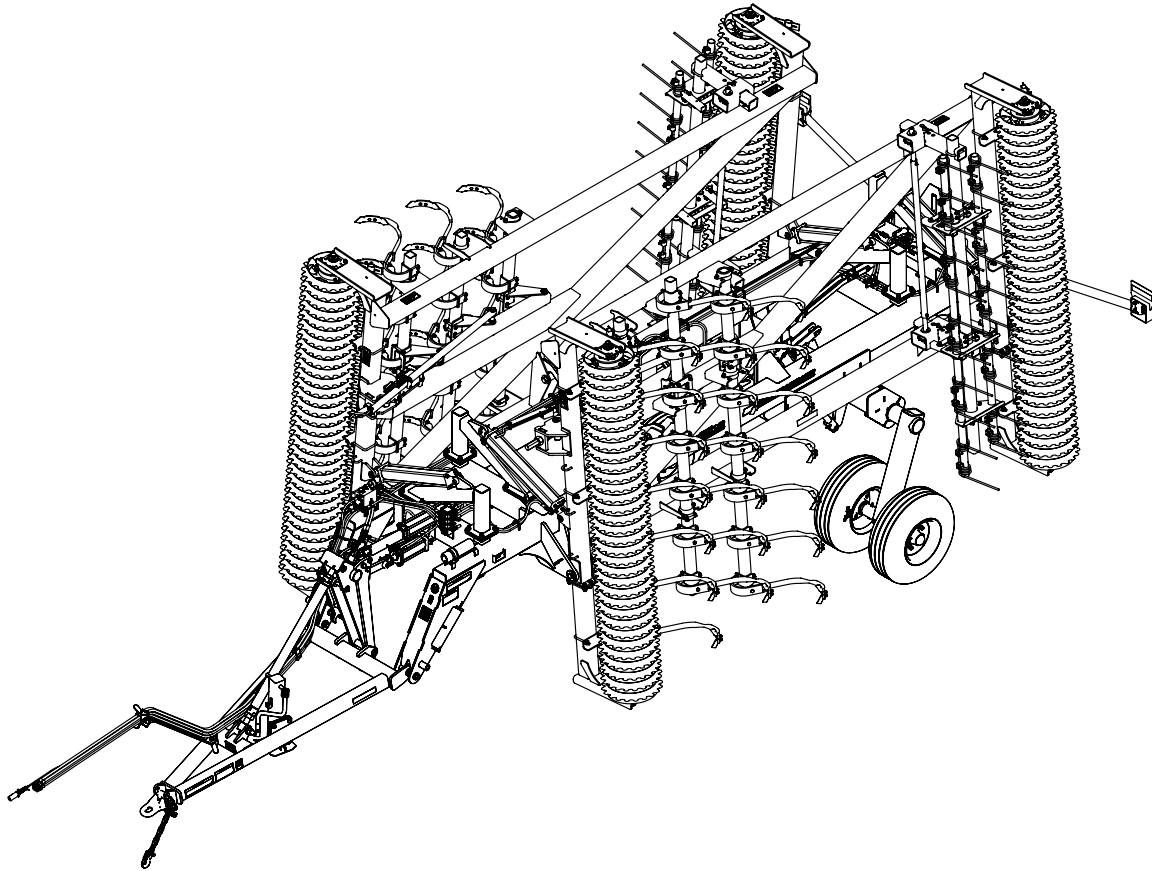




Pulvi-Mulcher 3620 Model Operator's Manual



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Introduction and 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 3620 Series of Pulvi-Mulchers features taller and stronger two-piece S-Tine shanks with additional clearance for improved residue flow through the machine. 8" roller axles with heavy-duty bearings improves reliability and reduces down time. Choice of notched, crowfoot or optimizer ductile iron wheels allow these machines to be set-up to match your soil conditions.

Using this Manual

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

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

Owner Assistance

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

Warranty Registration

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

Enter your product information below for quick reference.

MODEL NUMBER _____

SERIAL NUMBER _____

DATE OF PURCHASE _____

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

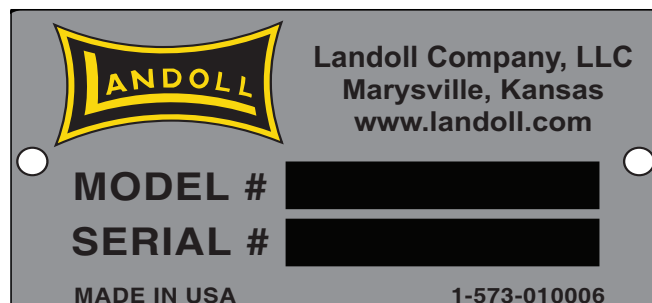


Figure 1-1: ID Plate

Safety

NOTE

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

Understanding Safety Statements

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

NOTICE

Special notice - read and thoroughly understand.



CAUTION

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



WARNING

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



DANGER

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

NOTE

You should read and understand the information contained in this manual and on the implement decals before you attempt to operate or maintain this equipment.

Examine safety decals and be sure you have the correct safety decals for the implement. **See Figure 1-3.**

Order replacement decals through your Brillion dealer.

Keep these signs clean so they can be observed readily. It is important to keep these decals cleaned more frequently than the implement. Wash with soap and water or a cleaning solution as required.

Replace decals that become damaged or lost. Also, be sure that any new implement components installed during repair include decals which are assigned to them by the manufacturer.

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



DANGER

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

Transporting Safety

IMPORTANT

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

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

Do not tow an implement that, when fully loaded, weighs more than 1.5 times the weight of the towing vehicle.

Carry reflectors or flags to mark the tractor and implement in case of breakdown on the road.

Do not transport at speeds over 20 MPH under good conditions. Never travel at a speed which does not allow adequate control of steering and stopping. Reduce speed if towed load is not equipped with brakes.

Avoid sudden stops or turns because the weight of the implement may cause the operator to lose control of the tractor. Use a tractor heavier than the implement.

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

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

Attaching, Detaching and Storage

- Do not stand between the tractor and implement when attaching or detaching implement unless both are blocked from moving.
- Block implement so it will not roll when unhitched from the tractor.

Maintenance Safety

- Block the implement so it will not roll when working on or under it to prevent injury.
- Do not make adjustments or lubricate the machine while it is in motion.
- Make sure all moving parts have stopped.
- Understand the procedure before doing the work. Use proper tools and equipment.

Protective Equipment

- Wear protective clothing & equipment appropriate for the job. Avoid loose fitting clothing.
- Because prolonged exposure to loud noise can cause hearing impairment or hearing loss, wear suitable hearing protection, such as earmuffs or earplugs.

Tire Safety

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

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side, not in front of or over the tire assembly. Use a safety cage if available.

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

Chemical Safety

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

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

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

Prepare for Emergencies

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

High Pressure Fluid Safety

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

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

Avoid the hazard by relieving pressure before disconnecting hydraulic lines.

NOTE

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

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

Safety Chain

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

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

A second chain should be used between each implement.

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

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

Do not use a safety chain for towing.

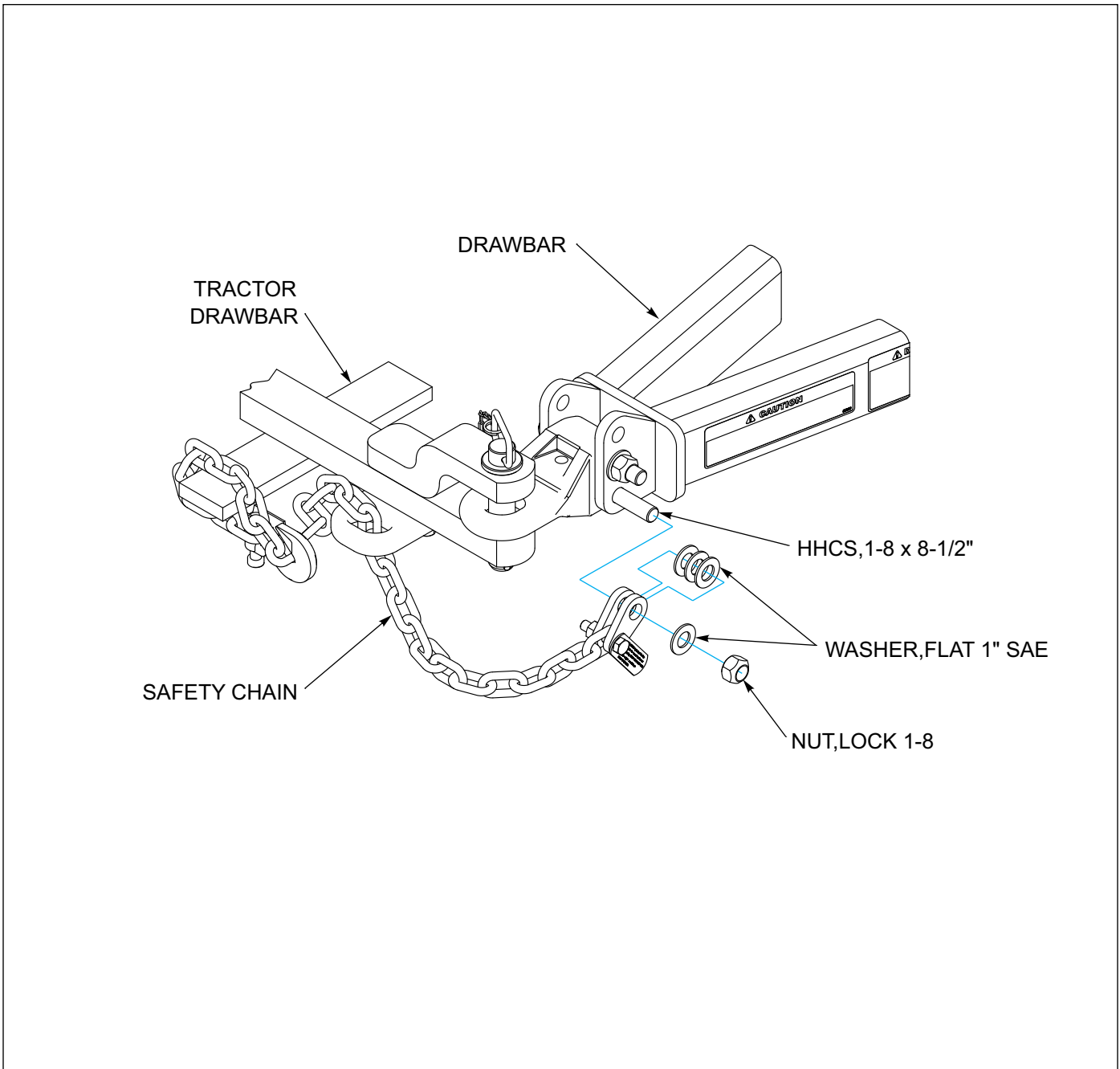
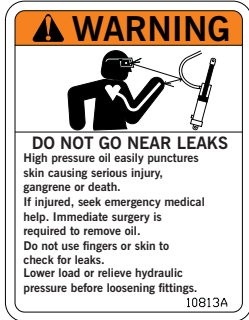
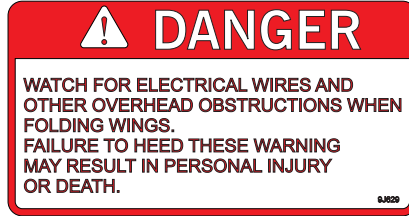


Figure 1-2: Safety Chain

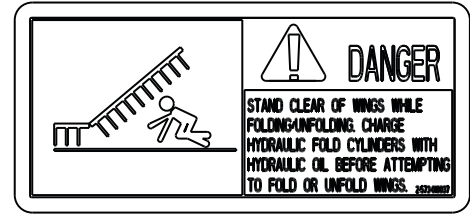
Decals



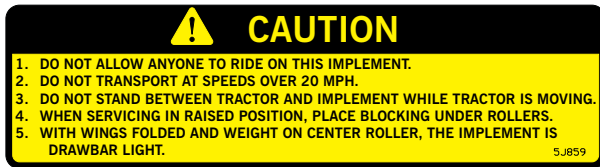
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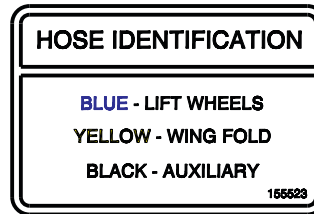
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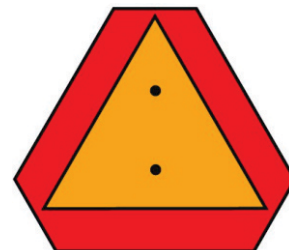
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Figure 1-3: Decals

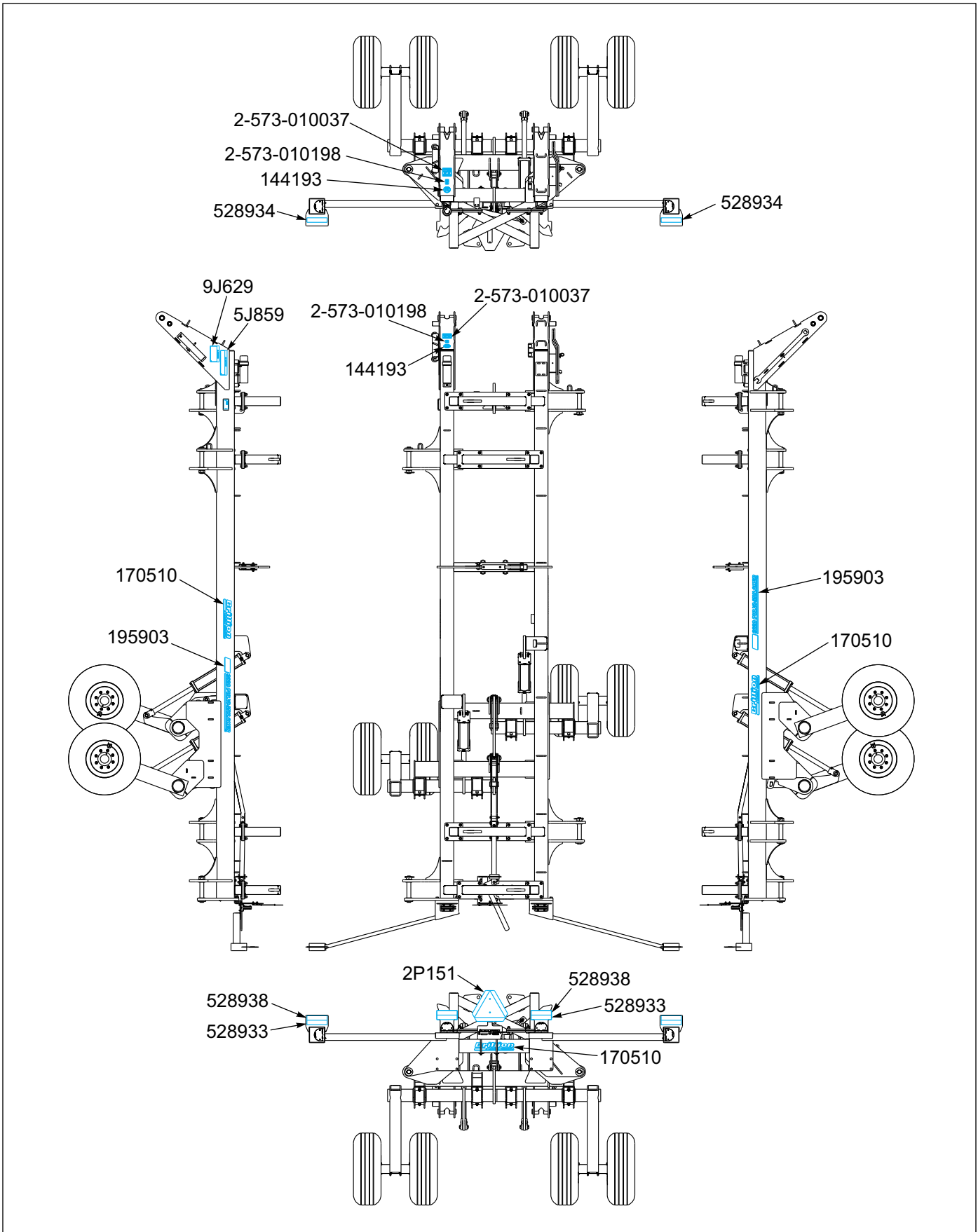


Figure 1-4: Decal Locations Frame (1 of 4)

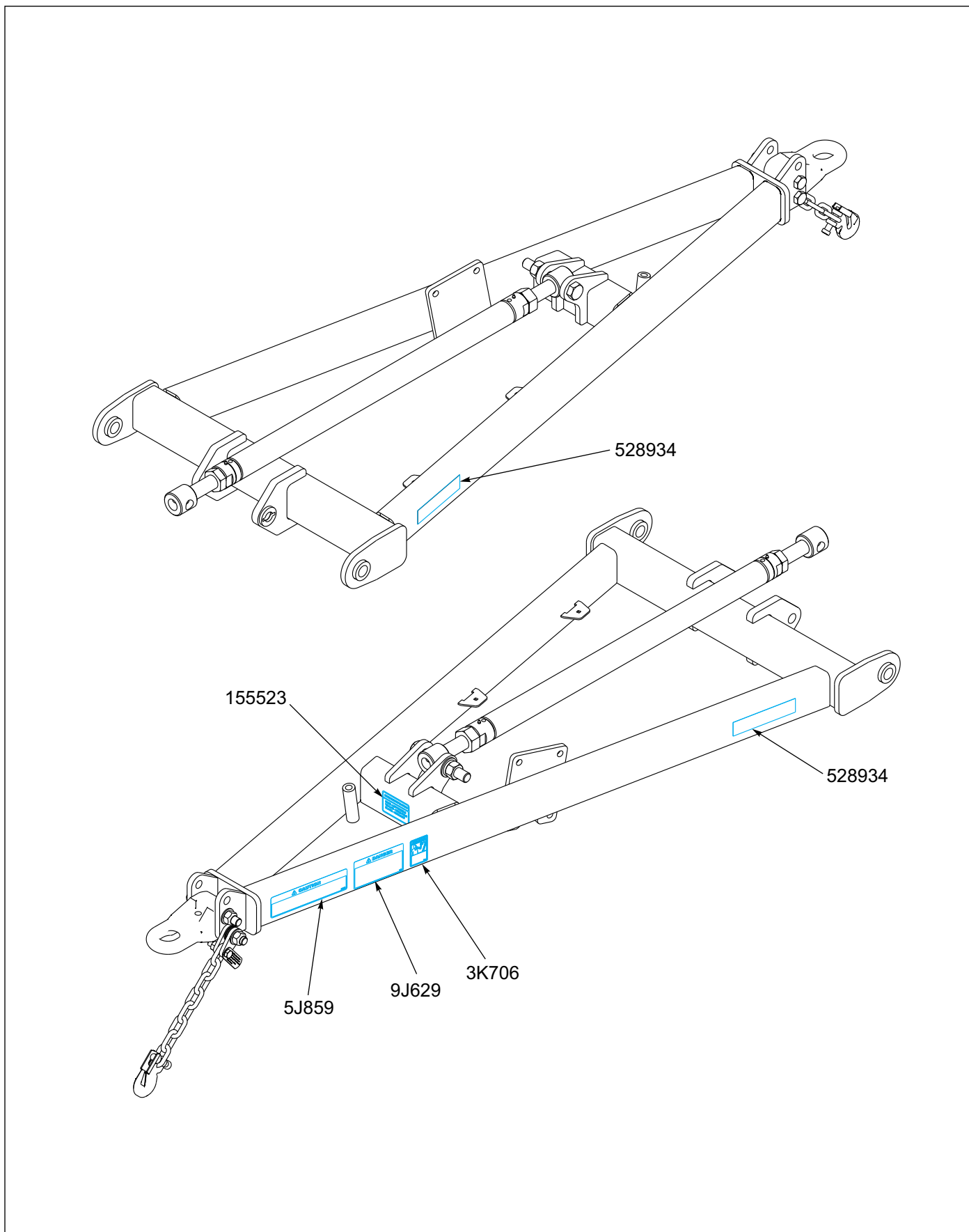


Figure 1-5: Decal Locations Drawbar (2 of 4)

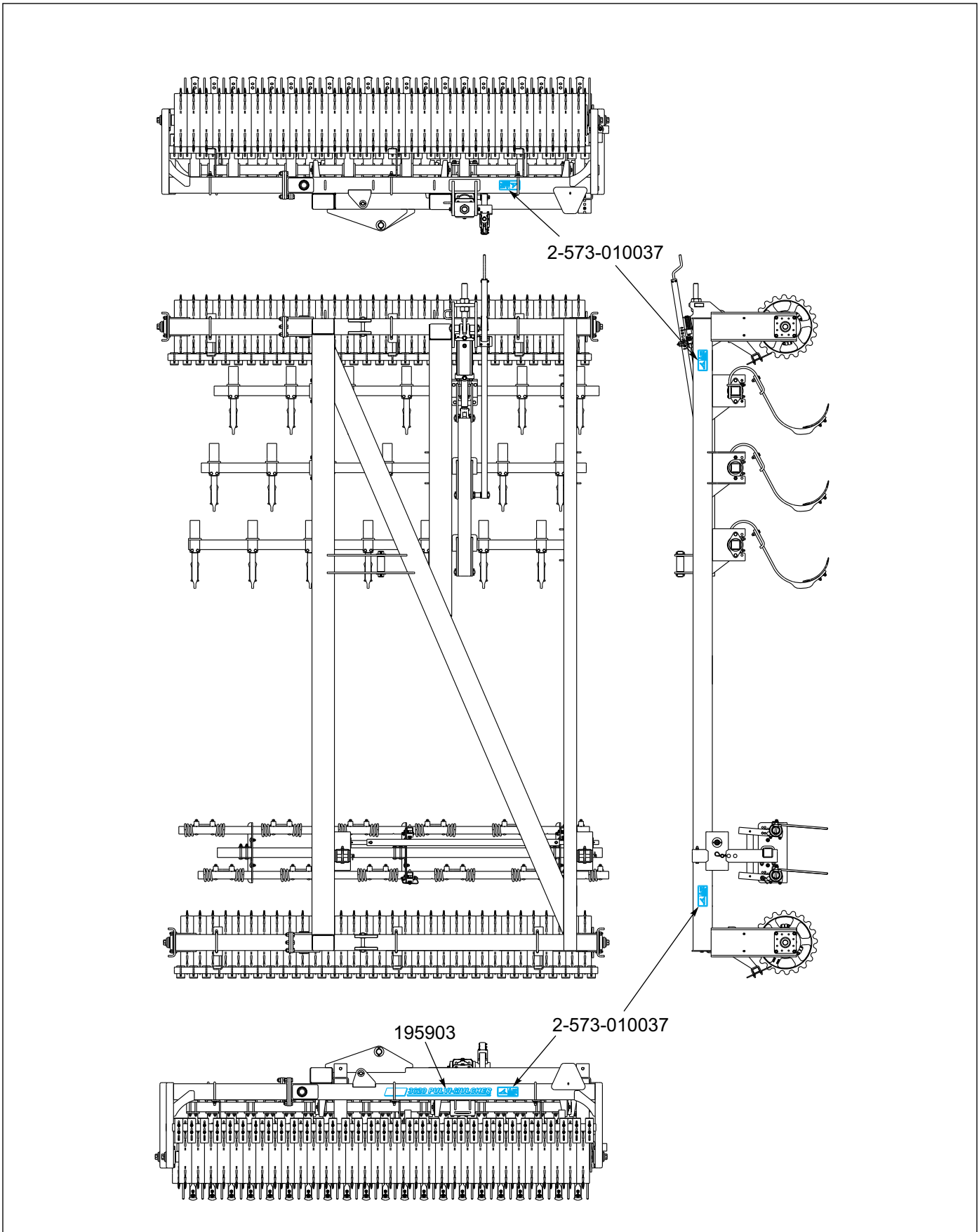


Figure 1-6: Decal Locations Right Hand Wing (3 of 4)

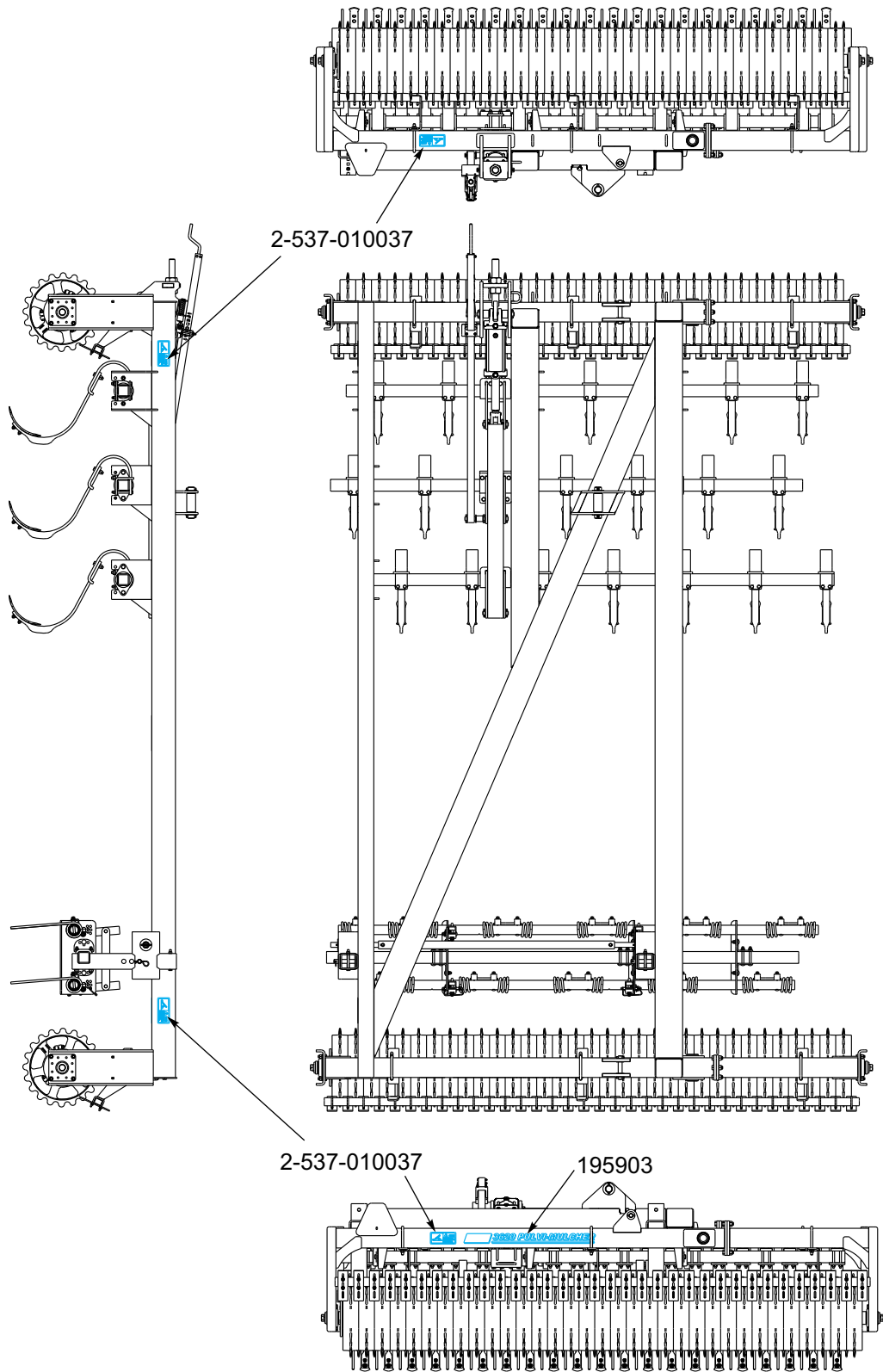


Figure 1-7: Decal Locations Left Hand Wing (4 of 4)

Chapter 2

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, rockshaft, 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-820 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.

Frame Assembly

NOTE

Position the Rockshaft halves on a level surface under the designated frame assembly area. This will add in ease of assembly. **See Figure 2-1.**

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

IMPORTANT

- If pre-assembled parts or fasteners are temporarily removed, remember where they go. It is best to keep parts separated.
- Check that all working parts move freely, bolts are tight and cotter pins spread.
- Refer to the Torque Table for proper torque values. Note the different torque requirements for bolts with lock nuts. **See Page 4-1.**

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

Attaching Rockshafts

Spread open the four UHMW Bearings and place onto the Rockshaft. Make sure the mounting surface is free of rust or dirt. **See Figure 2-1.**

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

Attach two 4-1/2 x 20 Hydraulic Cylinders base ends to the Lift Cylinder Lugs located on the inside of the center frame tubes using vendor supplied hardware. Attach the rod ends to the Rockshaft Cylinder Lugs with vendor supplied hardware.

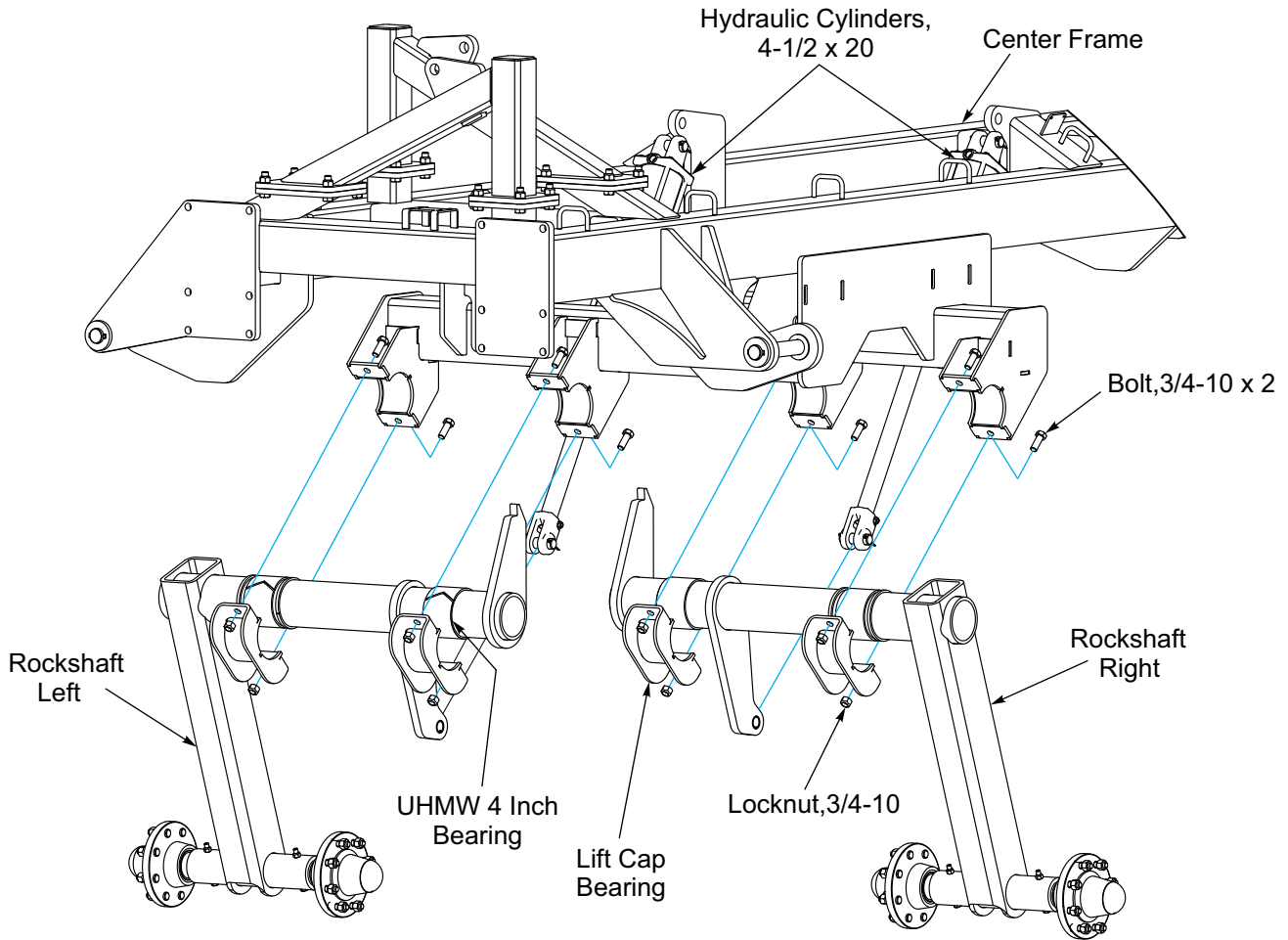


Figure 2-1: Attaching the Rockshafts

Tire Installation



WARNING

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

NOTE

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

Remove the eight Wheel Nuts from the Hub. Install the tire and wheel assembly onto the hub. **See Figure 2-3.** The 3620 Pulvi-Mulcher uses 12.5 x 15 FI tires and should be inflated to 90 PSI.

Re-Install the 5/8-18 Wheel Nuts and tighten to 50 ft-lbs using the sequence in **Figure 2-2.** Then tighten to full torque of 140-170 ft-lbs.

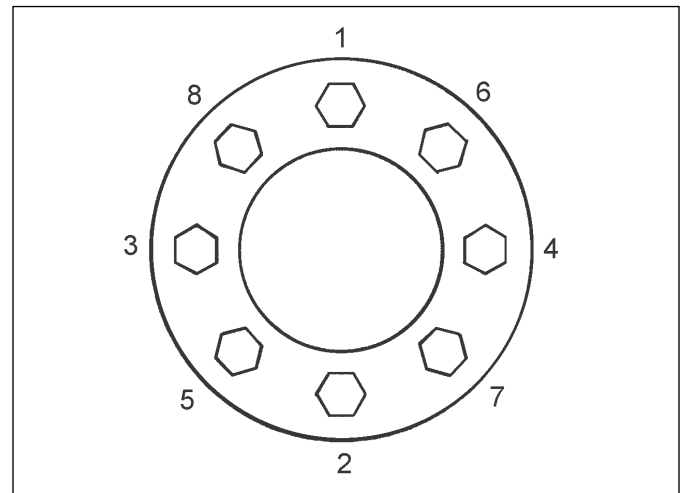


Figure 2-2: Stud Tightening Sequence

NOTE

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

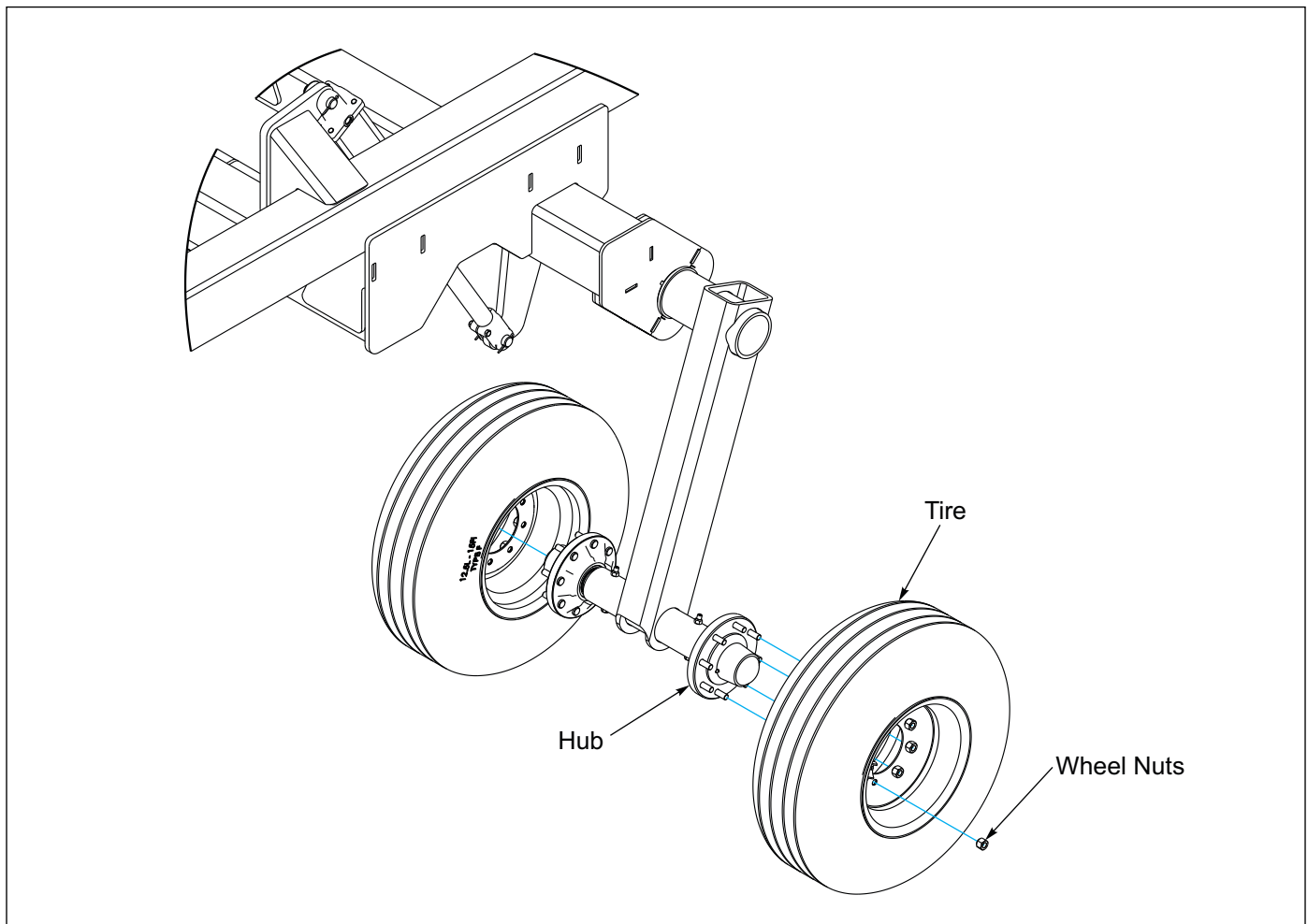


Figure 2-3: Tire Installation

Drawbar Installation

Mount the Drawbar to the lugs on the front of the frame, slide the 1-7/16 x 10-1/4 Pins into the frame bushings. Place a washer 1-1/2 x 2-1/4 x 10ga on each end of Pin and secure with 3/8 x 2-1/4 Roll Pins. **See Figure 2-4.**

Attach the bottom of the Hitch Leveler Mast to the Drawbar by removing the Roll Pin, Washer and 1-1/4 x 12-1/2 Pin. Slide the Hitch Leveler Mast between the center lugs and reinstall the Pin, Washer and Roll Pins.

Install the Turnbuckle to the Leveler with 1-1/4 x 8-1/4 Pin. Place a 1-1/4 x 1-7/8 x 14ga Washer on each end of pin and secure with 5/16 x 2 Roll Pins.

Attach the Jack to the Drawbar using four 3/4-10 x 2-1/2 Bolts and Locknuts.

Attach the Hose Holder Bracket to the Drawbar using 3/4-10 x 7 Bolt, with flange up thread one 3/4-10 Serrated Nut onto the bolt, place the Hose Bracket over the bolt and against the flange of the installed nut. Thread the second 3/4-10 Serrated Nut with flange down tight.

Attach the Connector Holder using two 1/4-20 x 1 Bolts and Locknuts. Nut serrations should be against Bracket. Bracket should swivel when installed.

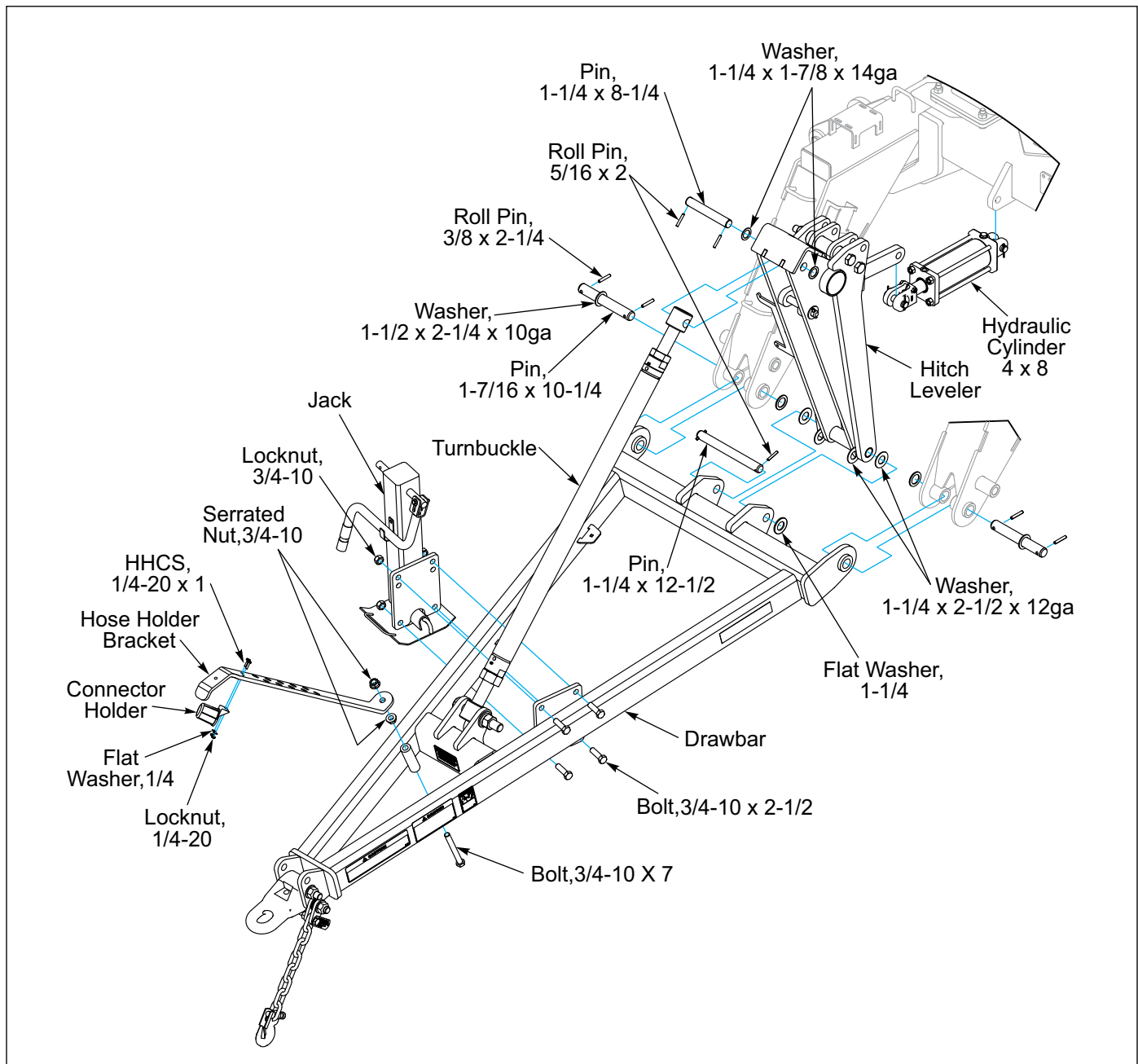


Figure 2-4: Drawbar Installation

Leveling Cylinders

Attach the base end of the 3-1/2 x 16 Hydraulic Cylinder onto the Upper Frame Leveling Cylinder Lug with vendor supplied hardware. Position 1-3/8 x 1-1/16 Spacer between the clevis and attach the rod end to the Hitch Leveler Mast. Place one 1 x 1-1/2 x 14ga Washer on each side and slide 1 x 10-1/8 Pin through and secure with 5/16 x 2 Roll Pins. **See Figure 2-5.**

Attach the base end of the 4 x 8 Hydraulic Cylinder onto the frame lower Leveling Cylinder Lug with vendor supplied hardware. Attach the rod end to the Hitch Leveler Mast Arm with vendor supplied hardware.

NOTE

Cylinder Ports should be facing upward.

Place the Transport lock over the 3-1/2 x 16 Hydraulic Cylinder rod and secure with Bent Pin and Hair Pin.

Adjust turnbuckle as necessary.

Attach the two Adjustment Wrenches to the side of the Hitch Leveler Mast and secure with 1/4 x 1-1/4 Klik Pin.

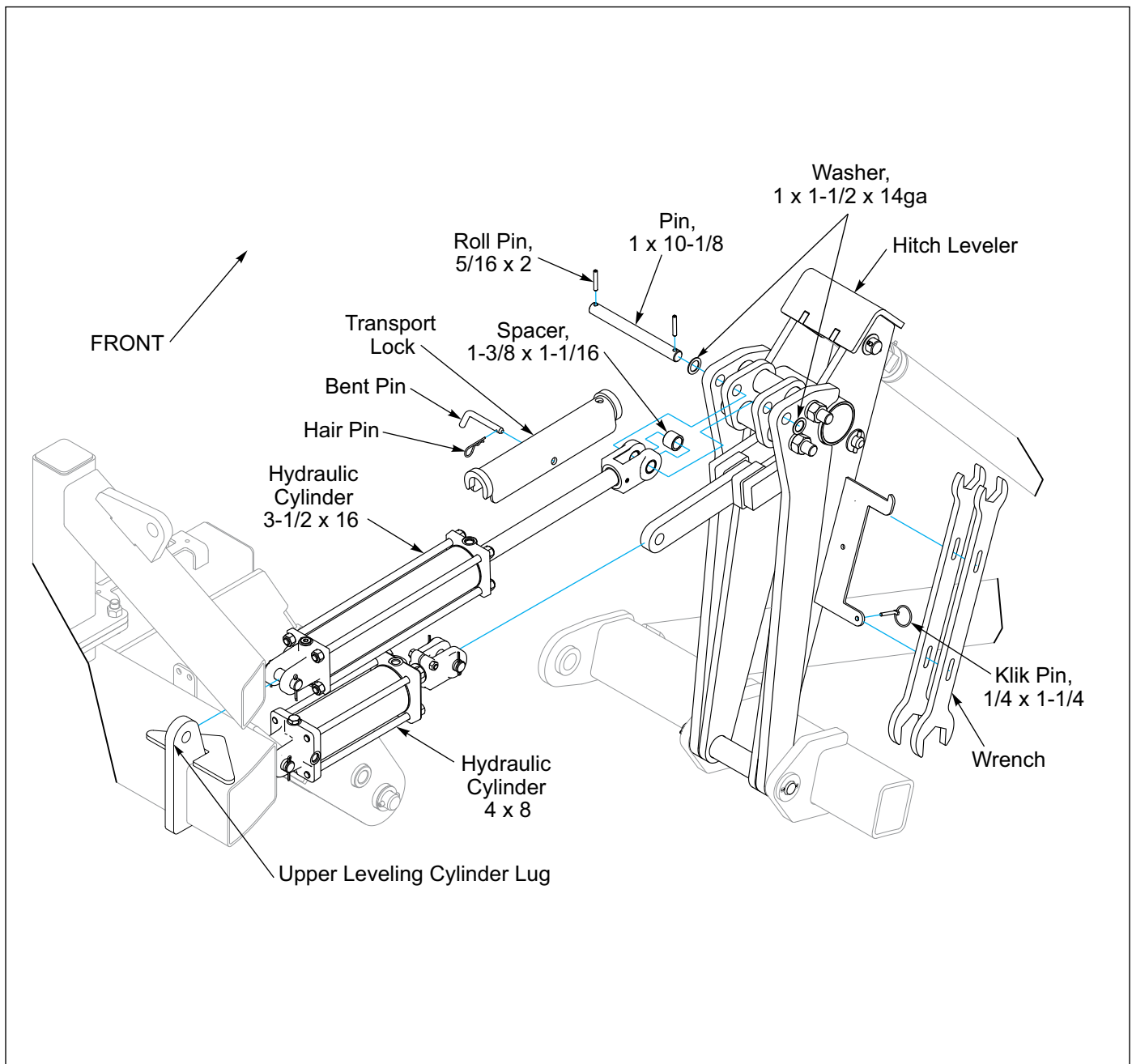


Figure 2-5: Leveling Cylinders

Manual Holder and Wrench Installation

Attach the Manual Holder to the frame using 1/4-20 x 1 Bolts, Flat Washers and Locknuts. **See Figure 2-6.**

Attach the two Open End/Box End Wrenches to the side of the Center Frame and secure with 1/4 x 1-1/4 Lynch Pin.

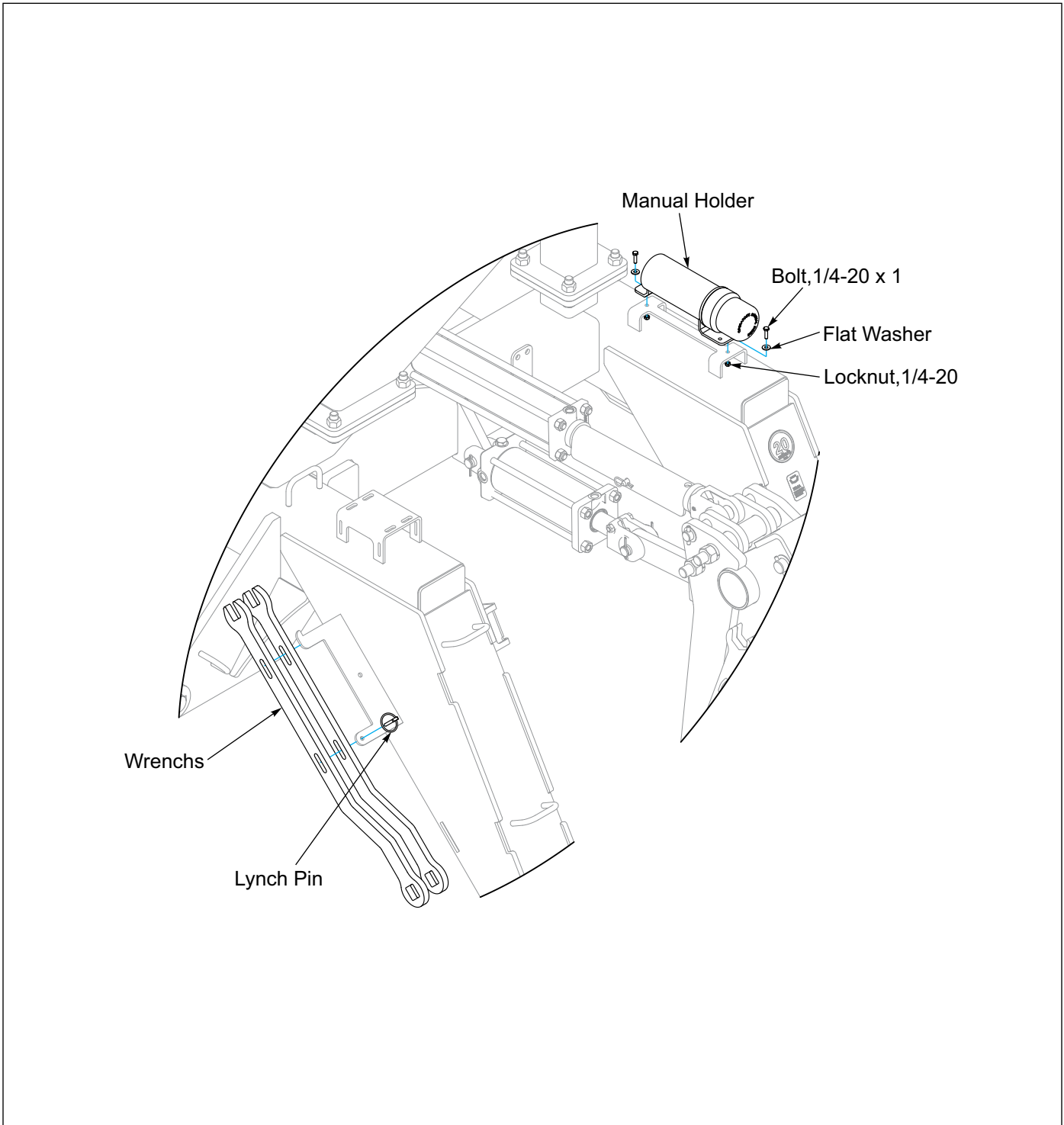


Figure 2-6: Manual Holder

Wing Locks

Insert the rounded end of the Wing Lock Hook into the frame cross member left slot. Align the holes, insert 1-1/4 x 6-1/4 Pin place a 1-1/4 Flat Washer on each side. Secure with the two 5/16 x 2 Roll Pins. **See Figure 2-7.**

Insert the rounded end of the Slotted Wing Lock Hook into the frame cross member right slot. Align the holes, insert 1-1/4 x 6-1/4 Pin place a 1-1/4 Flat Washer on each side. Secure with the two 5/16 x 2 Roll Pins.

Attach the base end of the 1-3/4 x 6 Hyd Cyl to the Wing Lock Hook. Align the holes, slide 3/4 x 2-3/4 Clevis Pin through, place a 3/4 Flat Washer on the outside and secure with 5/32 x 1-1/2 Cotter Pin.

Place two 3/4 x 1-1/4 x 14ga Machinery Bushings on each side of the cylinder rod cross tube and place end between the Wing Hook Slots. Slide 3/4 x 3-7/8 Pin through, place a 3/4 x 1-1/4 x 14ga Machinery Bushing on each end. Secure with the two 3/16 x 1-1/2 Roll Pins.

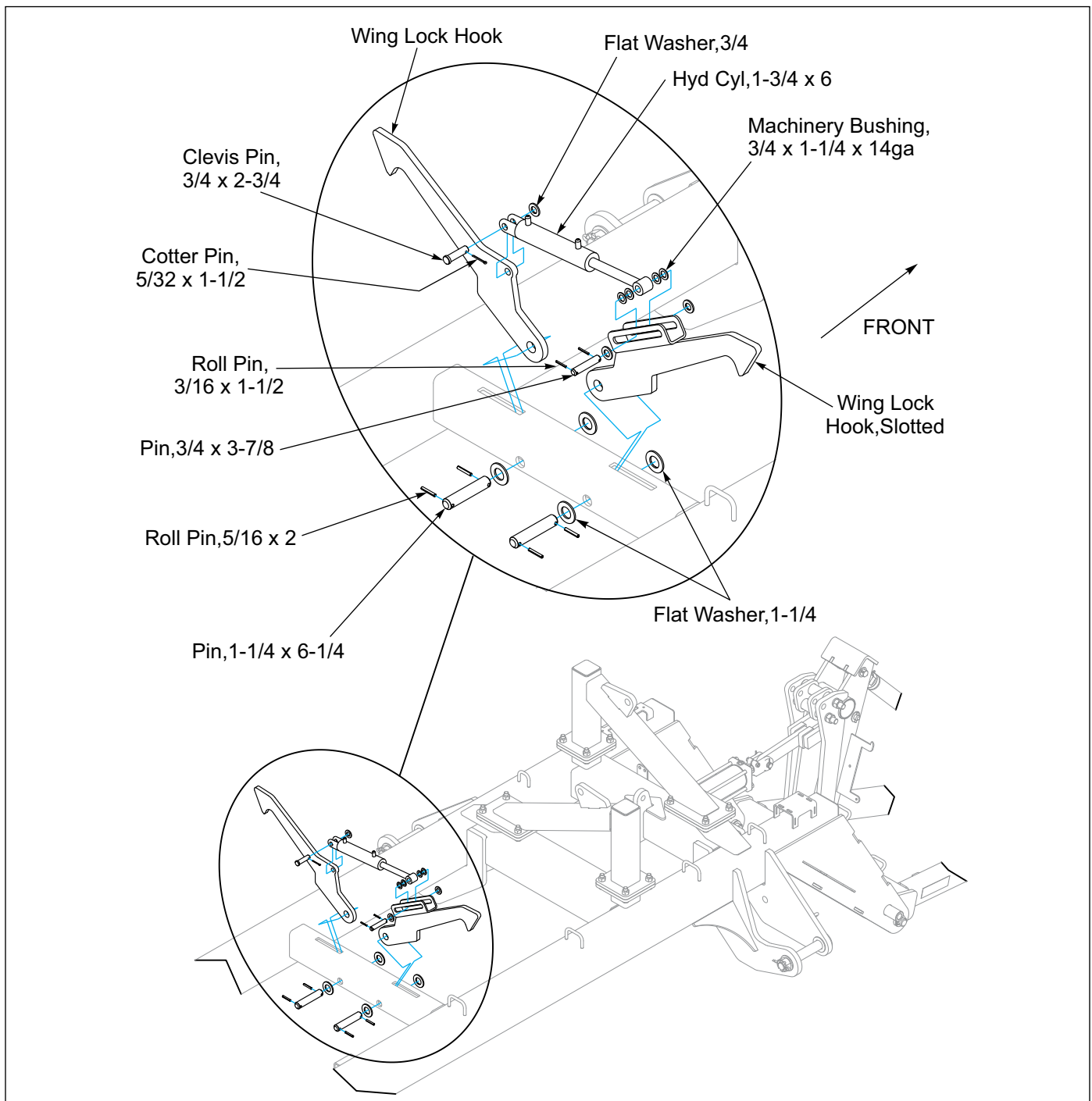


Figure 2-7: Wing Locks

Rear Frame Transport Locks

Attach the Transport Lock Latch's onto the frame by placing Stainless Steel 1-1/4 x 2-1/2 x 12ga Washer on each side of the latch, and positioning the latch between the frame lug. Slide the 1-1/4 x 6-1/4 Pin through, place a 1-1/4 Flat Narrow Washer on each side. Secure with the two 5/16 x 2 Roll Pins.

Place Lever Lock Bracket on top of the rear frame cross member. Insert four 1/2-13 x 7-1/2 Bolts with Washers through the top of bracket. Underneath the cross member position two 2 Hole Plates with bolts going through. Secure with Locknuts.

Attach the SMV sign to the Lever Lock Bracket with two 5/16-18 x 1 Bolts, Washers and Locknuts.

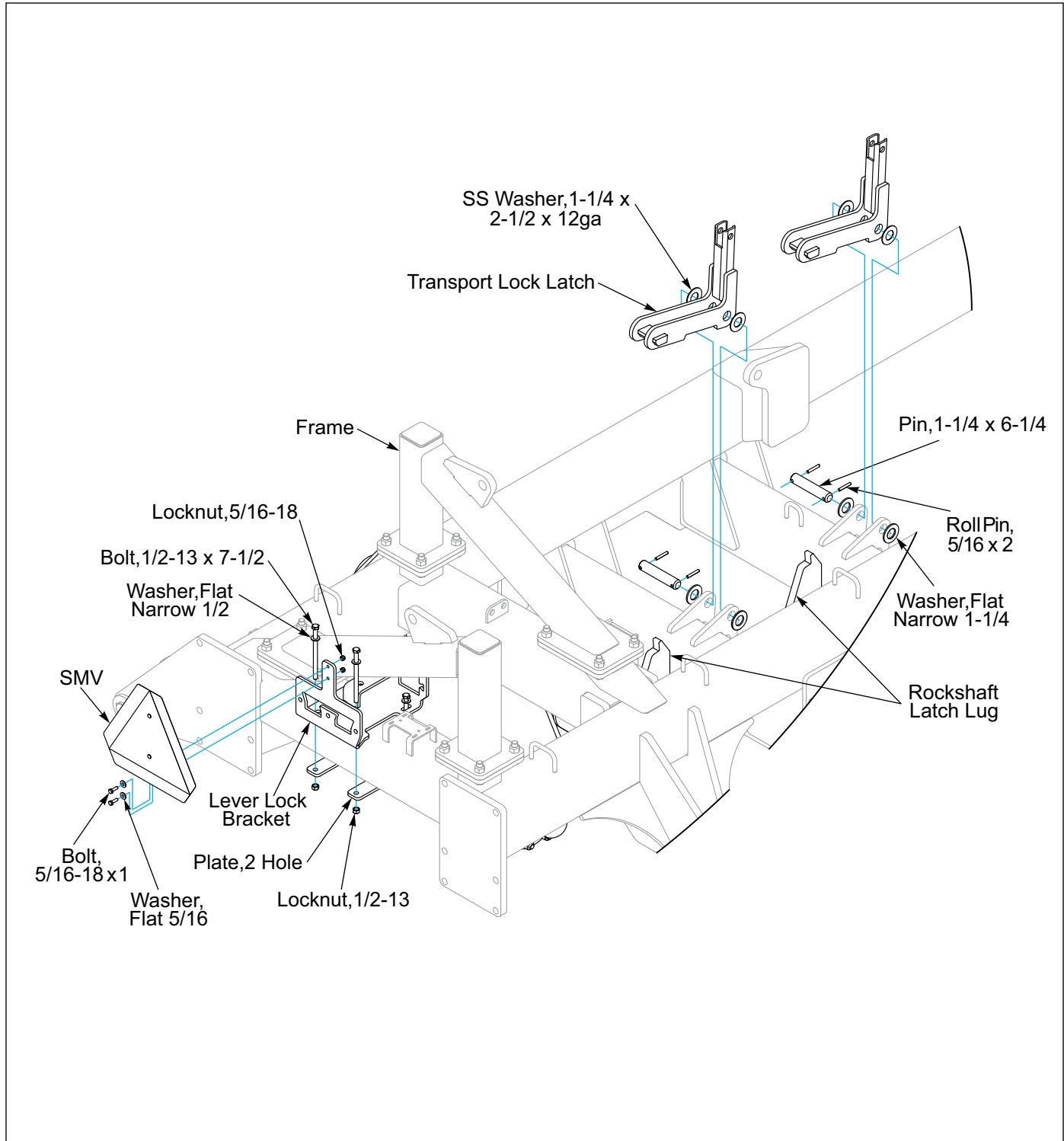


Figure 2-8: Rear Frame Transport Locks

Rear Transport Lock

Attach Lever to Lever Lock Bracket and secure Lever ball joint to Bracket with 5/8-11 x 2-1/4 Bolt and Locknut.

Position the Tube Guides into the Lever Lock Bracket front cutout, they should be able to slide up and down freely. Slide the tube end of the Transport Lock Actuator between the guides. Place 5/8 Flat Washers on each side of the Lever End Ball Joint and attach the Lever inside the Transport Actuator Tube. Align the holes and secure with 5/8-11 x 2-3/4 Bolt and Locknut.

Position the jogged end of the Transport Lock Actuator to the rear Transport Lock Latch. Position the Transport Lock Link to the inside of the Transport Lock Latch, align the holes. Slide 3/4 x 3-7/8 Pin through, then place a 3/4

Flat Washer on each side. Secure with 3/16 x 1-1/2 Roll Pins.

Connect the Transport Lock Link to the front Transport Lock Latch, align the holes. Slide 3/4 x 3-1/4 Pin through, then place a 3/4 Flat Washer on each side. Secure with 3/16 x 1-1/2 Roll Pins.

Actuate the lever to ensure there is no binding. Place Lever so that the Lock is in field position (Lever to the right; Transport Lock Latches up).

Attach the Lever Latch to the center hole at the rear of the Lever Lock Bracket with a 1/2-13 x 1-3/4 Bolt and a Flat Washer, securing it with a Flat Washer and a Locknut so it can pivot freely. Pivot the Lever Latch over the top of the Lever to lock it in place. Secure the Lever Lock Latch to the Lever Lock Bracket by inserting from the inside a 1/2 x 1-3/8 Clevis Pin and a Hair Pin Cotter.

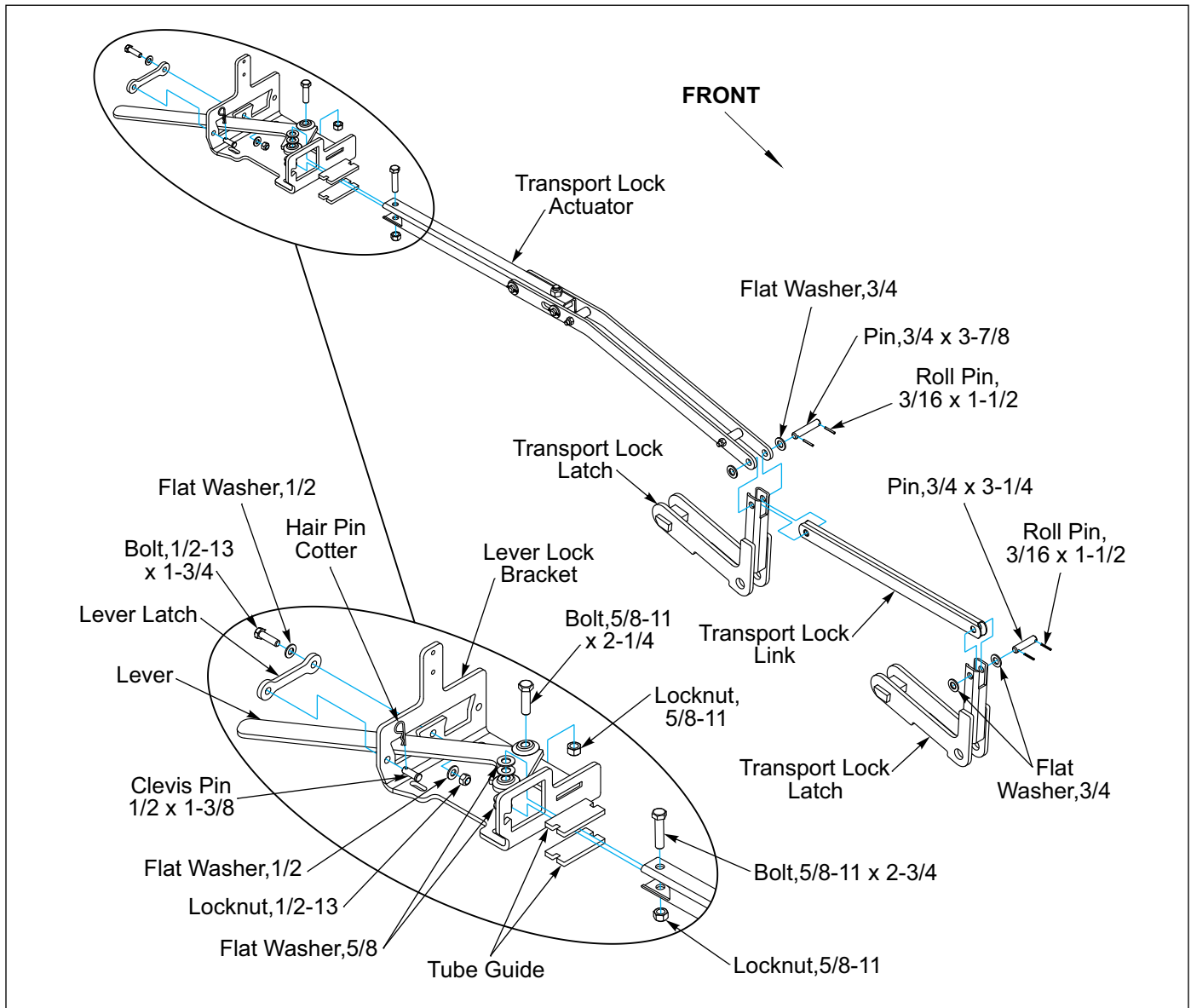


Figure 2-9: Rear Transport Lock

Fold Cylinders

Attach the four 4 x 30 Hydraulic Cylinders to the Center Frame Cylinder Lugs, by removing the Cotter Pins and the Pins from the base end of the cylinders and placing them over the cylinder lugs on the frame. Secure by reinstalling the Pins and Cotter Pins. **See Figure 2-10.**

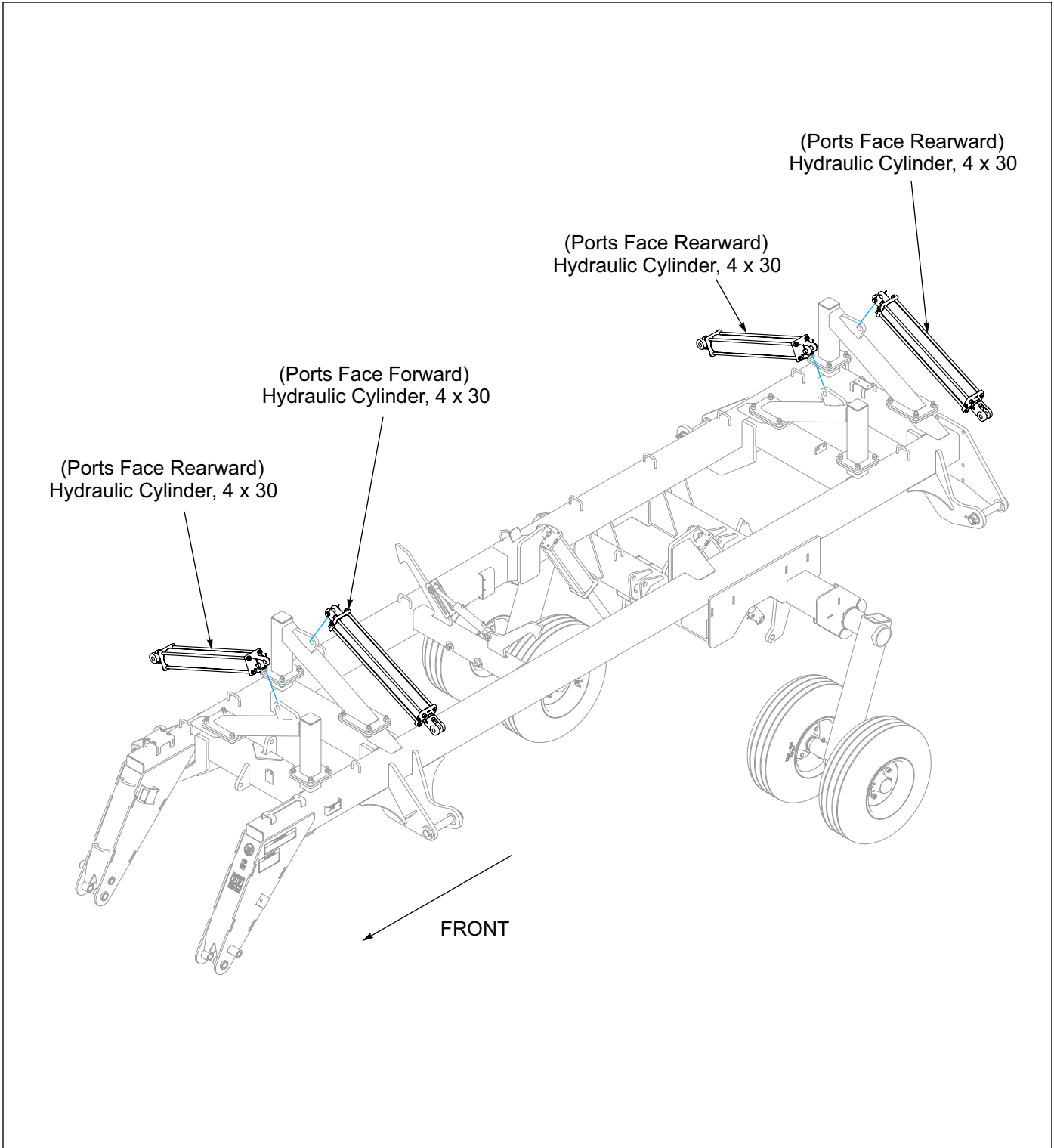


Figure 2-10: Fold Cylinders

Fold Cylinder Stops

Install Cylinder Stops by removing Clevis Set Screw from Cylinder Clevis. Remove Cylinder Clevis from cylinder rod and place Cylinder Stop over cylinder rod. Reattach Cylinder Clevis, secure with Clevis Set Screw. See **Figure 2-11**.

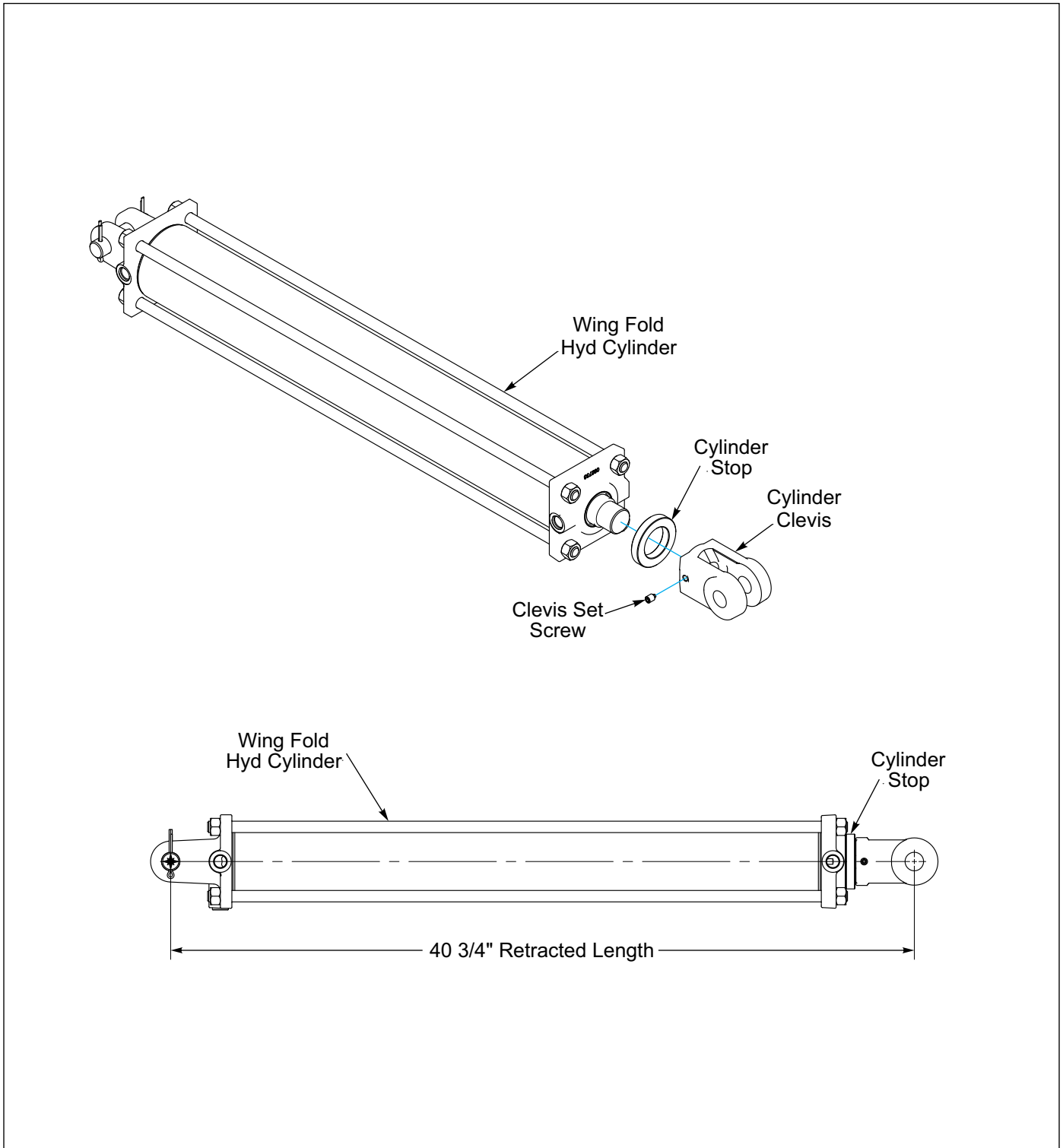


Figure 2-11: Fold Cylinder Stops

Hydraulics



WARNING

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 your hands, to search for suspected leaks. Wear protective gloves & safety glasses or goggles when working with hydraulic systems.

The hydraulic system consists of 3 separate circuits. Plumb the circuits in the following order:

Lift Circuit - Blue - See Figures 2-13, 2-14 and 2-15.

The Lift Circuit requires approximately 4-1/2 gallons of oil.

Fold Circuit - Yellow - See Figures 2-16 and 2-17.

The Fold Circuit requires approximately 6 gallons of oil.

Tooth Control - Black - See Figures 2-18 and 2-19.

The Tooth Control Circuit requires approximately:
2-3/4 gallons with tines lowered.
2-1/4 gallons with tines raised.

Manifold/Valve Installation

1. Attach the 16 Port Manifold to the front manifold bracket located on top of the left side inner frame tube with 1/2-13 x 3-1/2 Bolts, Flat Washers and Nuts. See Figures 2-16 and 2-18.
2. Attach Flow Divider Valve with 3/8-16 x 3-1/4 Bolt, Flat Washer, Lock Washer and Nut. Install Cartridge. See Figure 2-13.
3. Attach Relief Valve with 1/4-20 x 2 Bolt and Locknut. See Figure 2-13.
4. Attach Counterbalance Valve to inside of Frame Bracket with 5/16-18 x 2 Bolt, Flat Washer, Lock Washer and Nut. See Figures 2-12 and 2-13.
5. Attach Down Pressure Valve to Frame Bracket with 3/8-16 x 1 bolt, flat and lock washers. Install pressure gauges into top of pressure valve. See Figure 2-16.

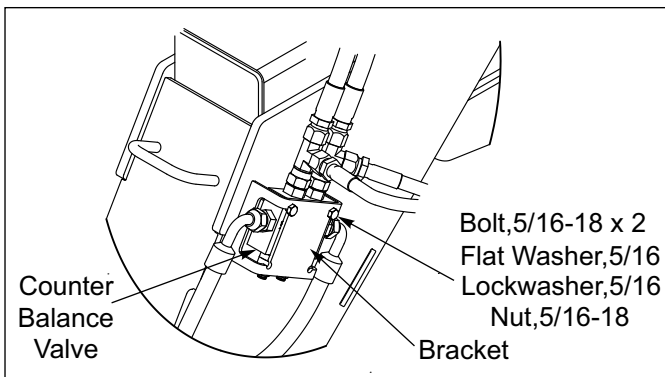


Figure 2-12: Counter Balance Valve

Hose Installation

1. Install the Lift Circuit hoses. See Figures 2-13, 2-14 and 2-15. Wrap the Lift Circuit System hoses near the Tractor Tips with blue hose wrap.
2. Install the Fold hoses. See Figures 2-16 and 2-17. Wrap Fold System hoses near the Tractor Tips with yellow hose wrap. NOTE: Restrictor location and size.
3. Install the Tooth Control hoses. See Figures 2-18 and Figure 2-19. Wrap the Tooth Control System hoses near the Tractor Tips with black hose wrap.
4. Route the Hoses to the right side of the Drawbar and clamp each set of system's hoses with hose clamps. Secure with Flat Washer under the head of 3/8-16 x 4-1/2 Bolt and Locknut.
5. Continue routing the hoses to the front of the Drawbar up the Hose Holder Bracket. Install 3/8-16 x 4-1/2 Bolt and secure with Nut. Place the Hose Clamp over the bolt and hoses. Secure with Wing Nut.
6. Secure all hoses with Cable Ties and Tywraps.



CAUTION

Restrictors are installed in the rod end of wing fold cylinders to prevent uncontrolled dropping of wings. Removal of these restrictors, or improper installation can result in serious damage to the implement

Tightening Procedure For JIC 37° Swivel Female Nuts

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

Tightening Procedure For Swivel O-Ring Fittings

1. Lubricate o-ring and install the fitting until the metal washer which backs up the o-ring contacts the face of the boss.
2. Orient the fitting by turning counterclockwise up to 1 turn.
3. Tighten the lock nut using 50-60 foot pounds torque.

(See "Hydraulic Fitting Torque Specifications" on page 4-2.)

Hydraulic Lift Layout

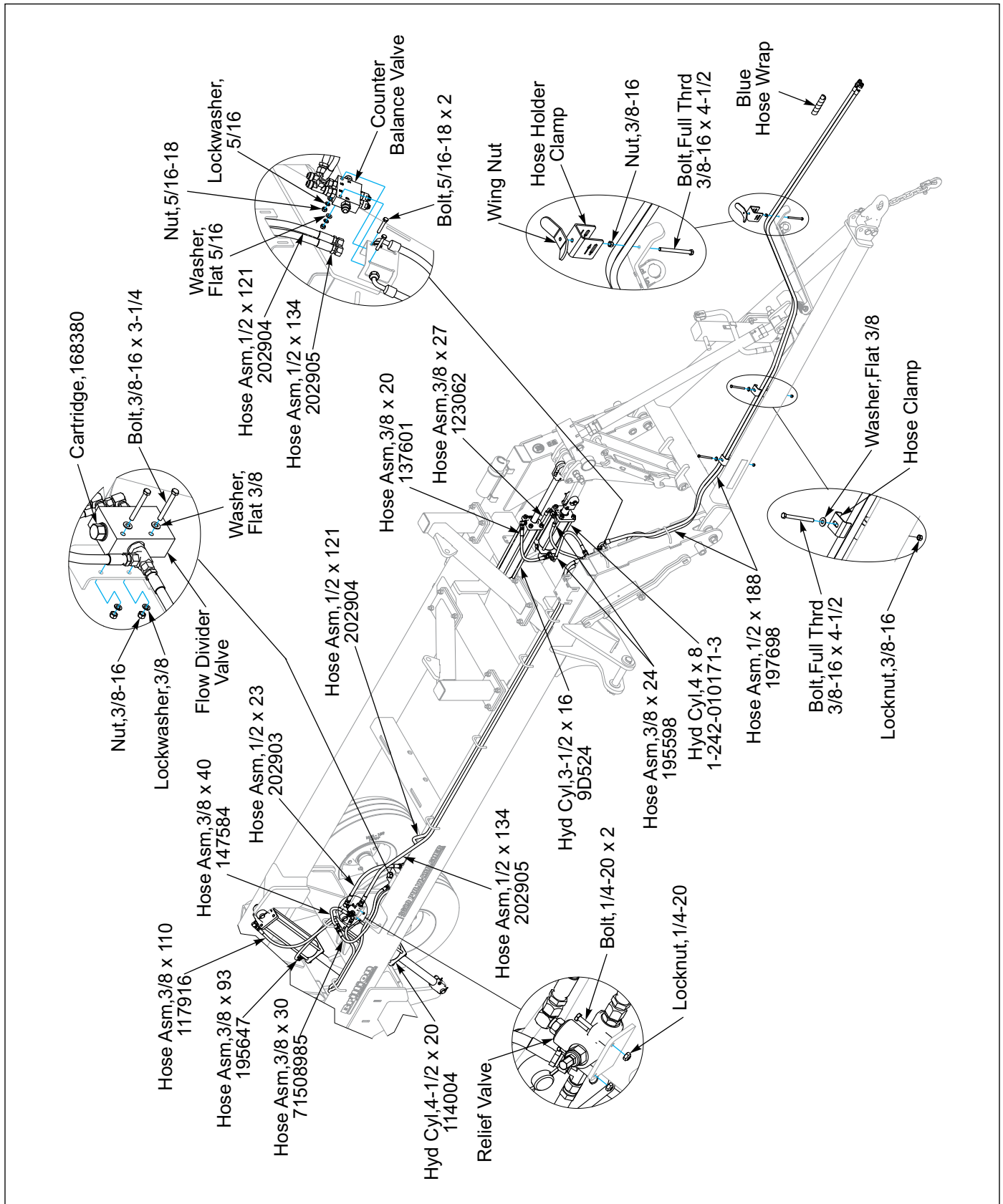


Figure 2-13: Hydraulic Lift Layout

Hydraulic Lift Schematic - Rear

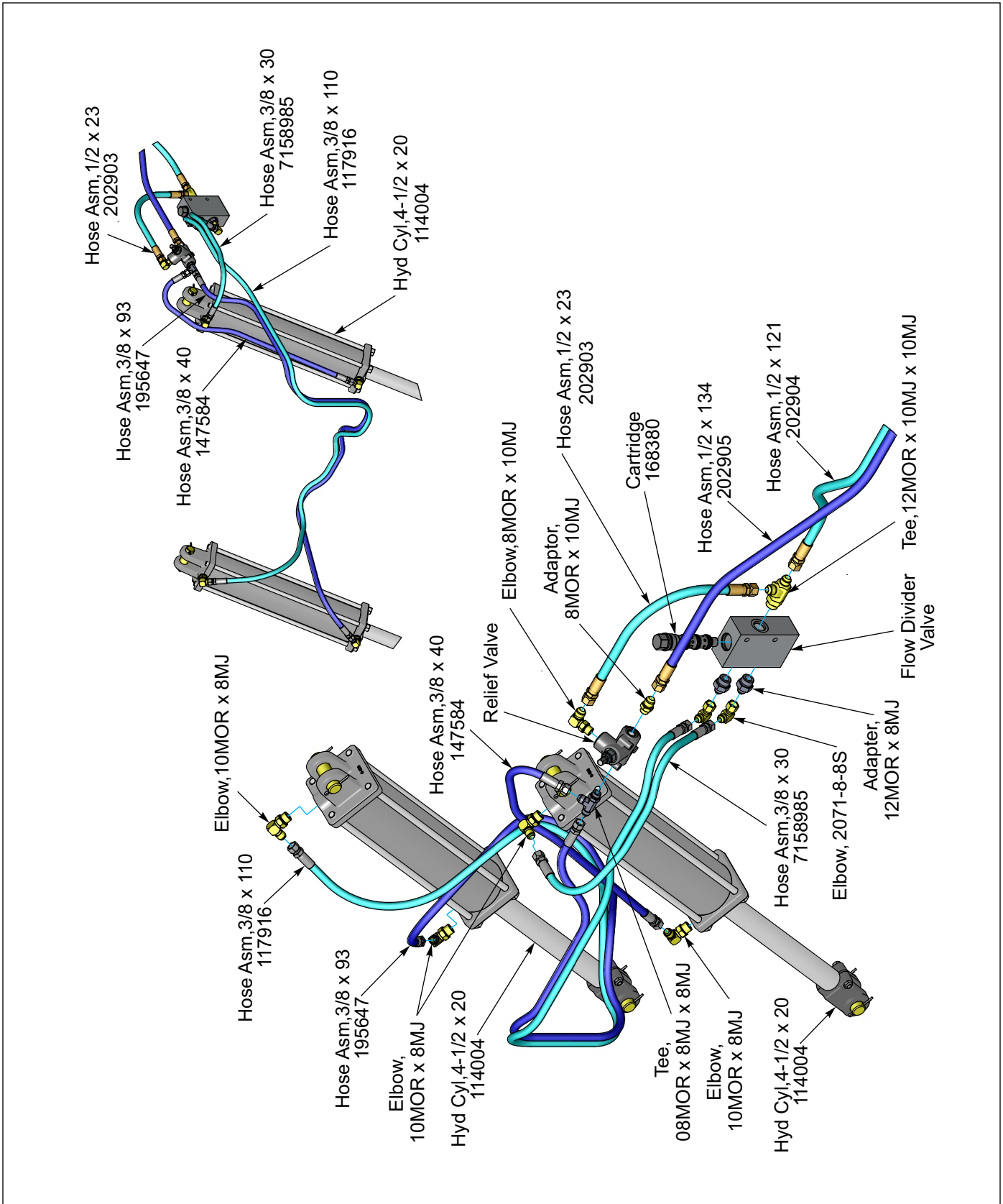


Figure 2-14: Hydraulic Lift Schematic - Rear

Hydraulic Lift Schematic - Front

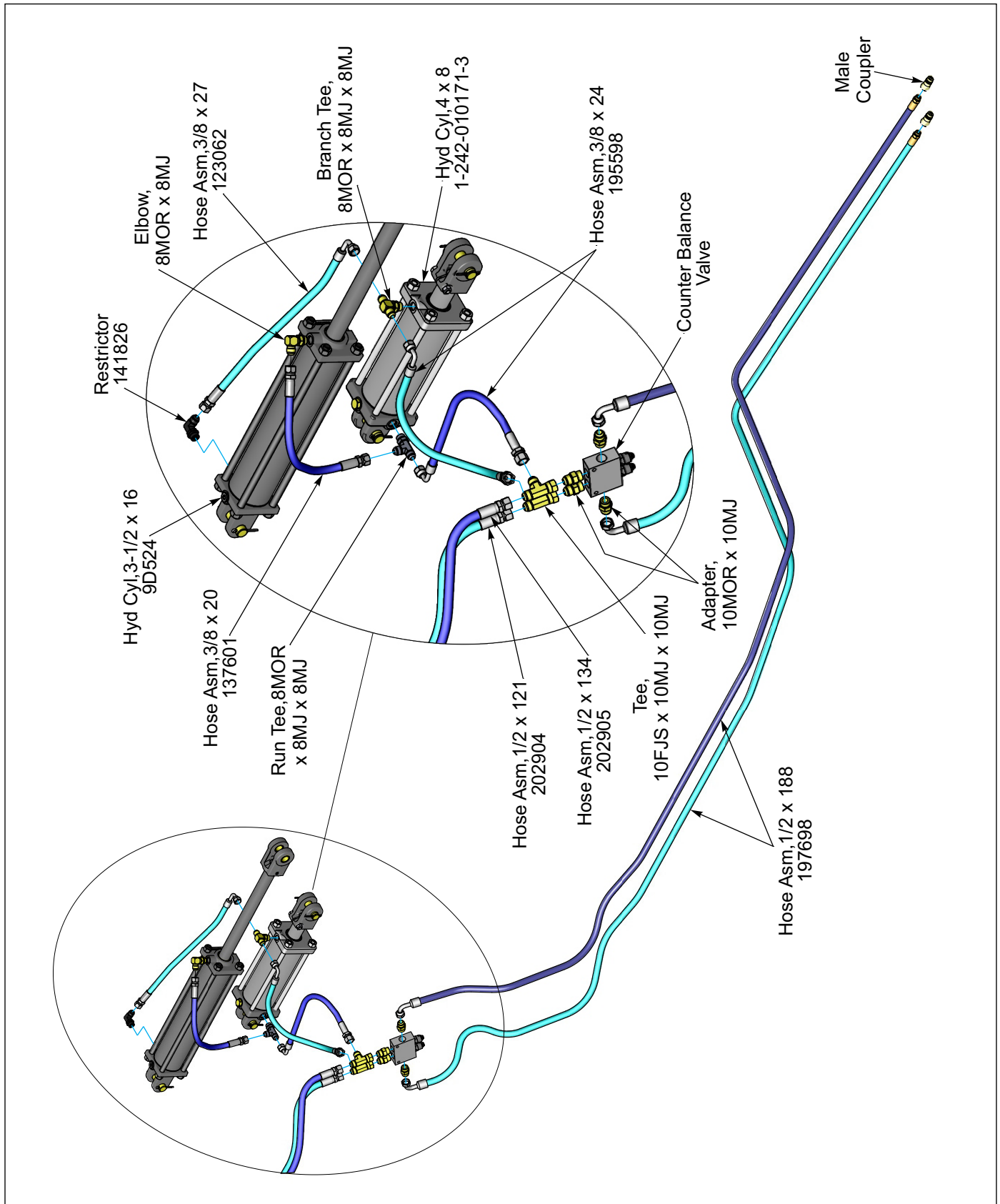


Figure 2-15: Hydraulic Lift Schematic - Front

Hydraulic Fold Layout

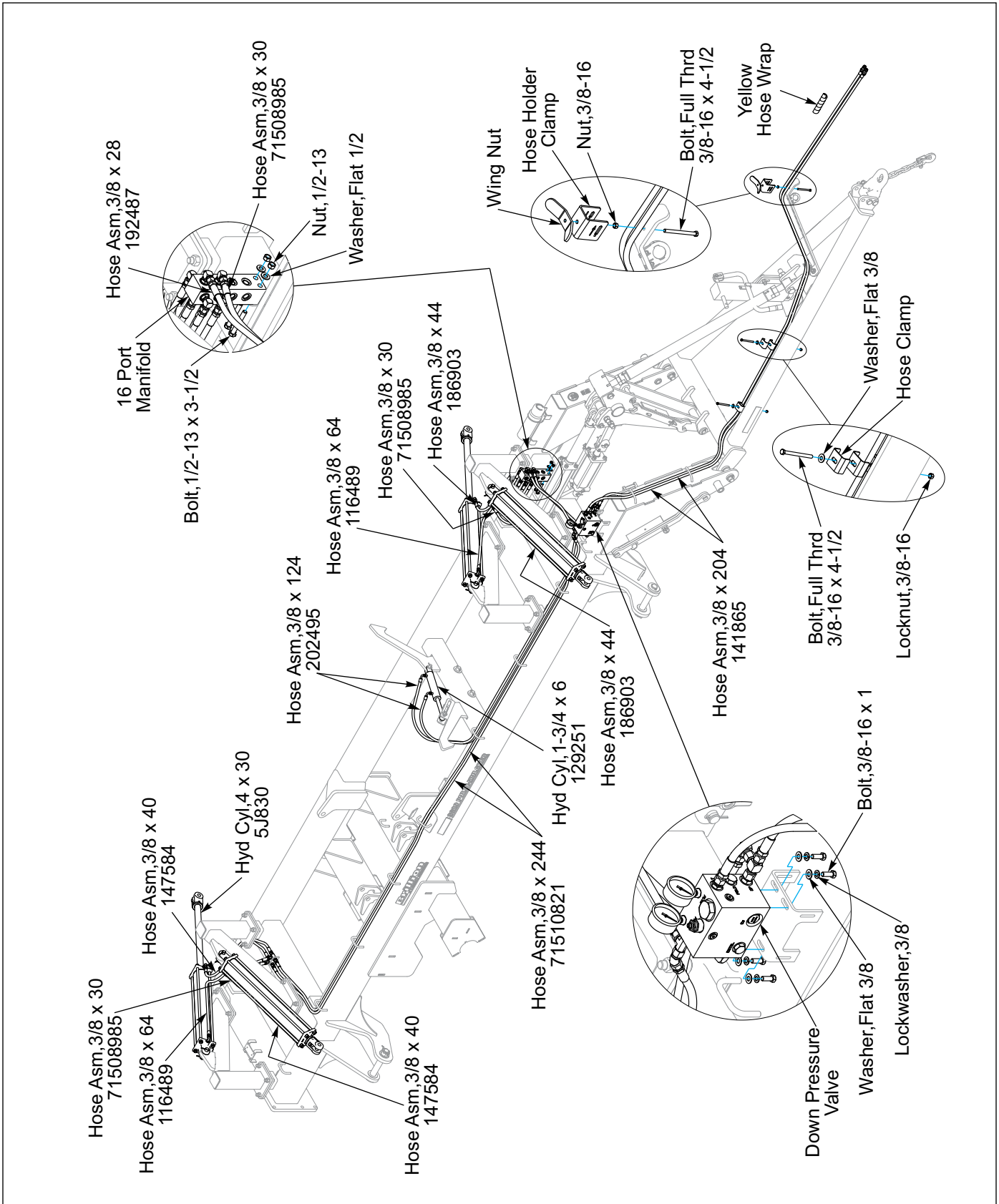


Figure 2-16: Hydraulic Fold Layout

Hydraulic Fold Schematic

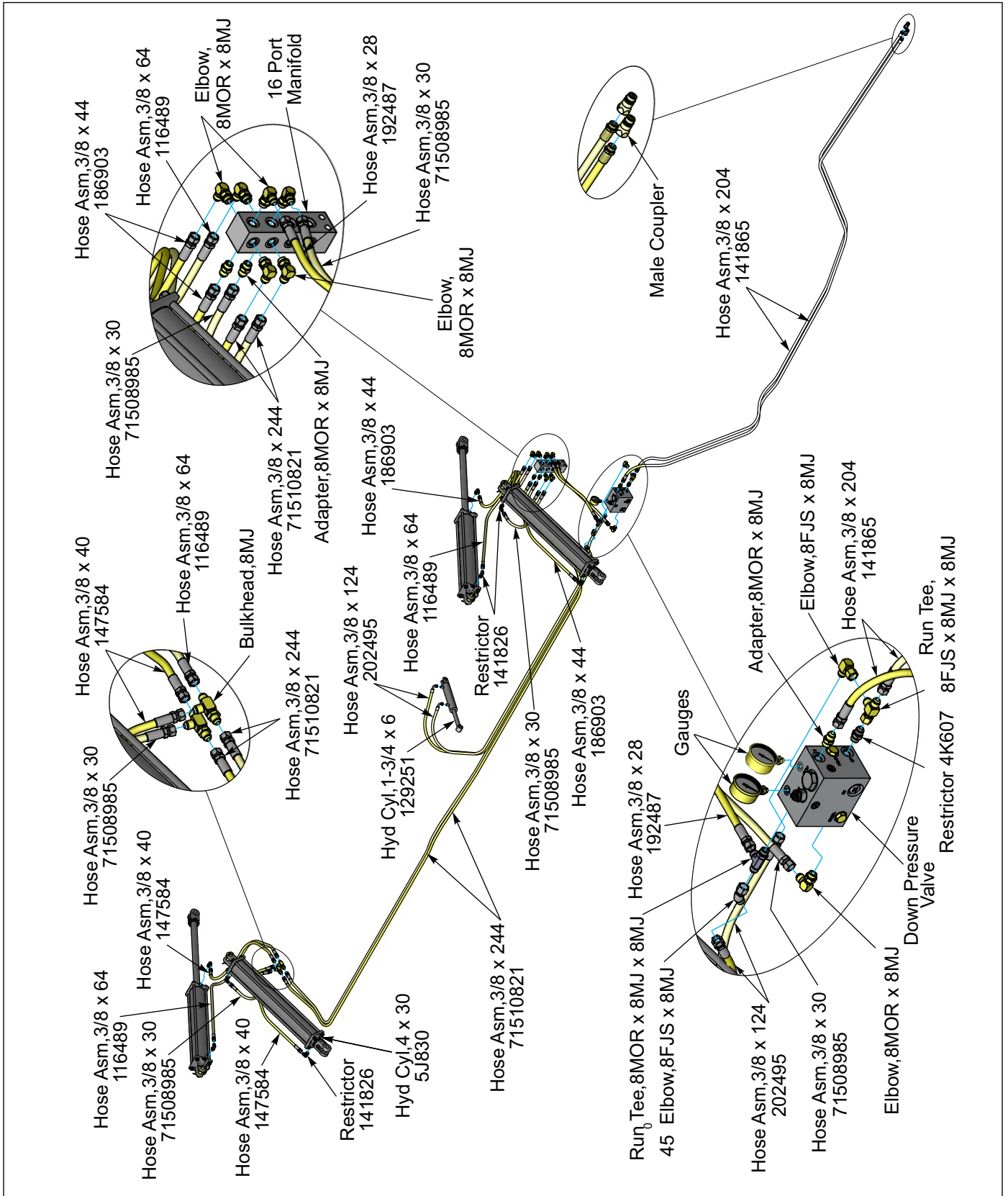


Figure 2-17: Hydraulic Fold Schematic

Hydraulic Tooth Control Layout

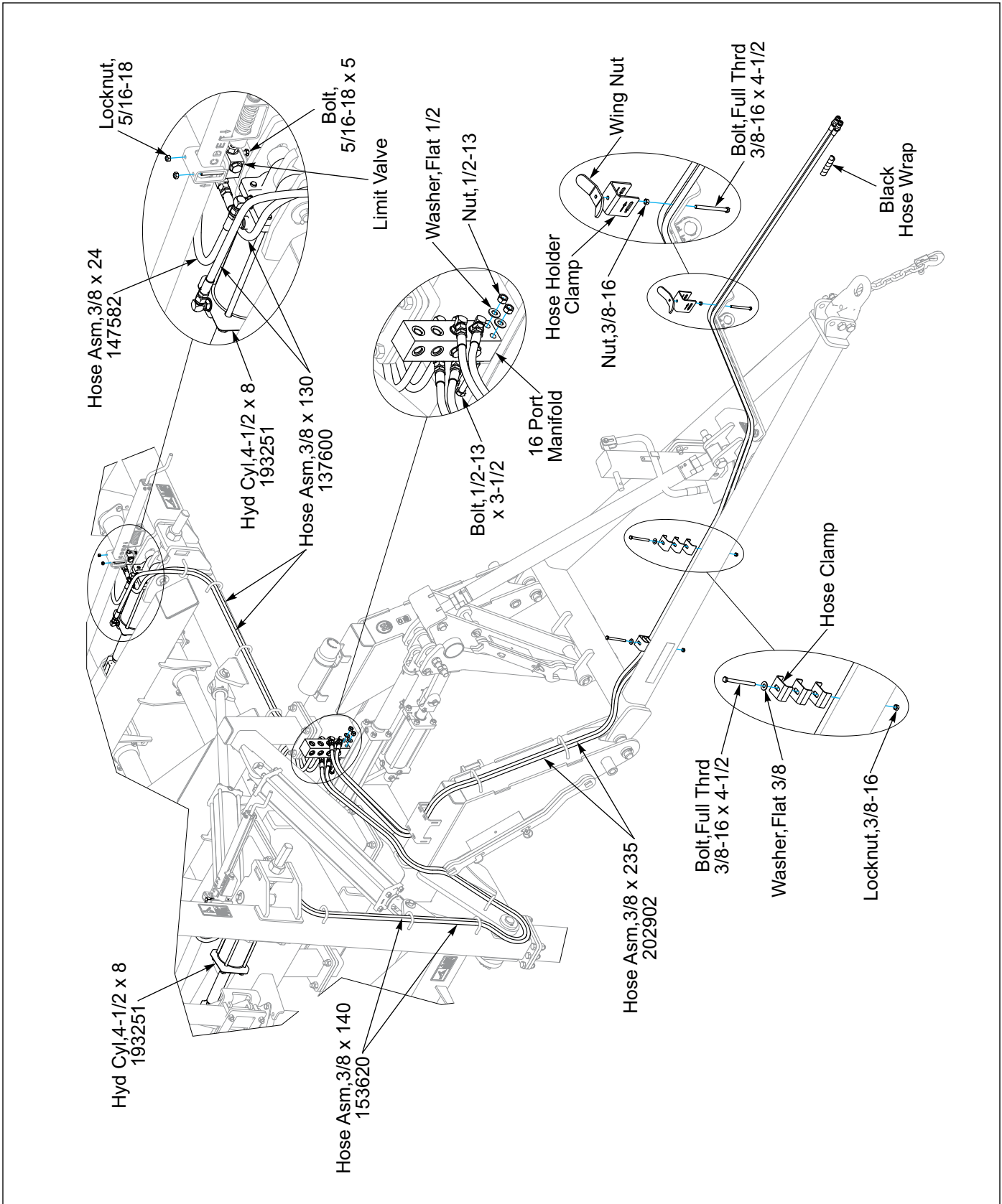


Figure 2-18: Hydraulic Tooth Control Layout

Hydraulic Tooth Control Schematic

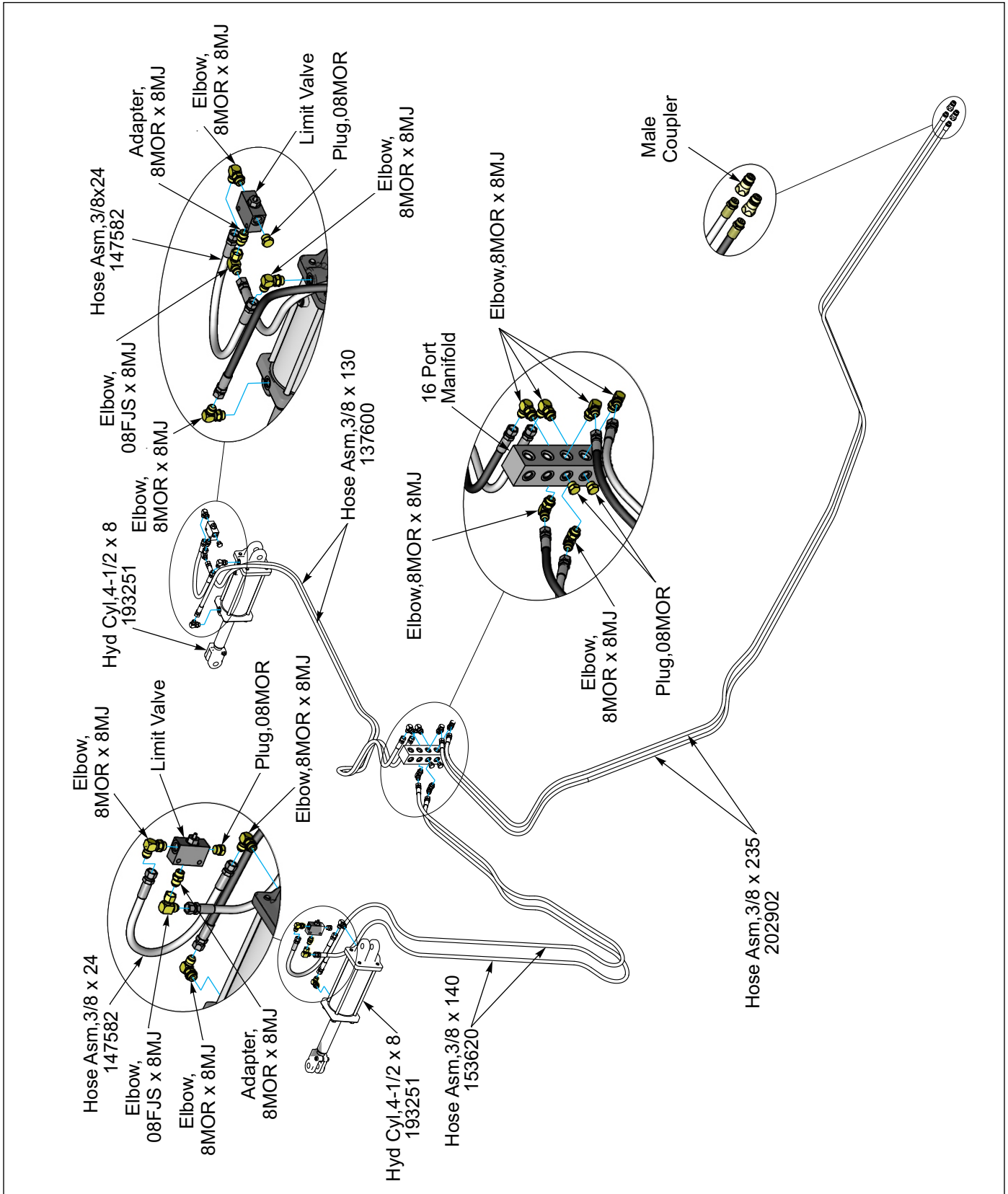


Figure 2-19: Hydraulic Tooth Control Schematic

Purging the Hydraulic System



WARNING

Escaping hydraulic fluid can cause serious personnel injury. Relieve system pressure before repairing, adjusting, or disconnecting. Wear proper hand and eye protection when searching for leaks. Use cardboard instead of hands. See Figure 2-20. Keep all components (cylinders, hoses, fittings, etc.) in good repair.

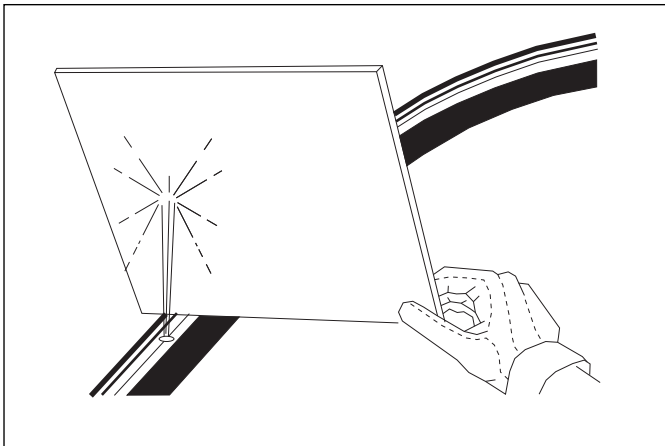


Figure 2-20: Hydraulic Leak Detection

The hydraulic system is not filled with oil and should be purged of air before transporting and field operations. Carefully hitch the 3620 to the tractor and connect the hydraulic lift hoses. Check to make sure the tractor hydraulic reservoir is full of the manufacturer's recommended oil.

Purge the Lift Cylinders

Slowly raise machine and continue to hold hydraulic lever until lift and leveling cylinders are completely extended. Lower and raise unit completely extend and retract cylinders 5-6 times to purge air from the lift circuit. Do not loosen hoses/fittings. Recheck tractor reservoir oil level. Lift circuit requires approximately 4-1/2 gallons of oil.

Purge Fold Circuit

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

Wing Extensions

Attach two Wing Extensions to each wing using six 3/4-10 x 2-1/2 Bolts and Locknuts then tighten. See Figure 2-21.

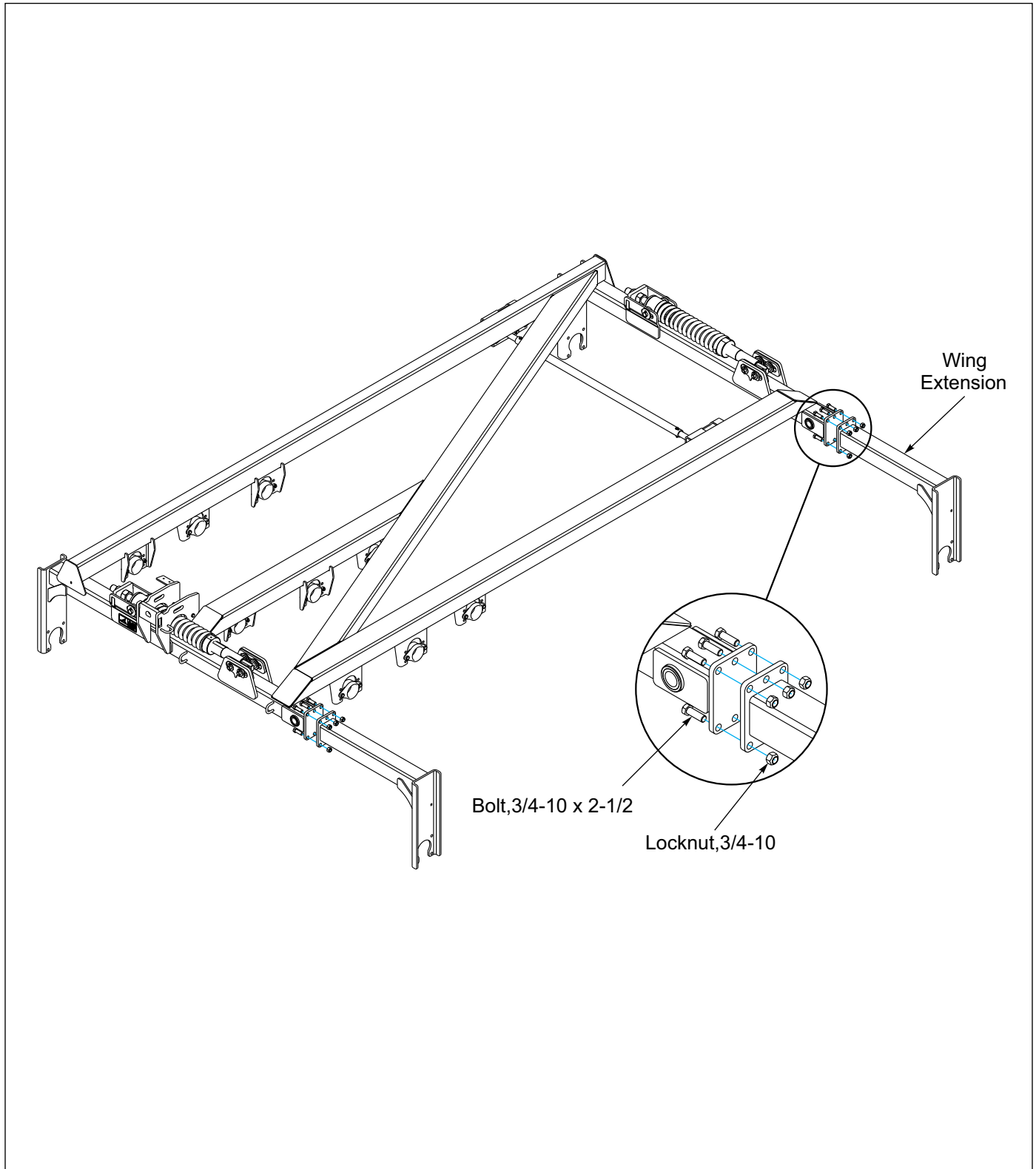


Figure 2-21: Wing Extensions

Wing to Frame Installation

NOTE

Attach the Wing Frame to the Center Frame before attaching Wing Frame to the Cylinders.

If not already assembled on center frame. Insert one 1/2 x 2-1/4 Groove Pin into one end of each 1-3/4 x 11-3/4 Pins. Set aside.

Attach the Wing to the Center Frame Hinge Lugs by placing the Wing between the two Frame Hinge Lugs. Once positioned place one 1-3/4 Thrust Washer between each Wing Frame Hinge and Center Frame Hinge Lug.

With Wing Frame Hinge Lugs, and Bushing holes aligned, insert preassembled 1-3/4 x 11-3/4 Pin, that was set aside, into the Wing Frame Hinge Lug side with the Keeper Plate so the Groove Pin fits into the slot. **See Figure 2-22.** Repeat for remaining three Wing Hinge Locations.

Place 1-1/2 Flat Washer on the end of the Pin and secure with 1-1/2 x 6 Slotted Nut and 3/8 x 3 Cotter Pin.

Insert one 5/16 x 2 Roll Pin into one end of each 1 x 8-3/4 Pins. Slide one 1 inch Flat Washer onto pin. Set aside.

Attach the 4 x 30 Hydraulic Cylinders to the Wing Frame by placing rod end of cylinder between the Lugs on the wing frame. Place a 1 x 2 x 11ga Washer on each side between the Cylinder Clevis and Wing Frame Lug, insert 1 x 8-3/4 pin that was set aside. Place a 1 x 2 x 11ga Washer on each side of the pin and secure with 5/16 x 2 Roll Pin. **See Figure 2-23.** Repeat for remaining three Wing Hinge Locations.

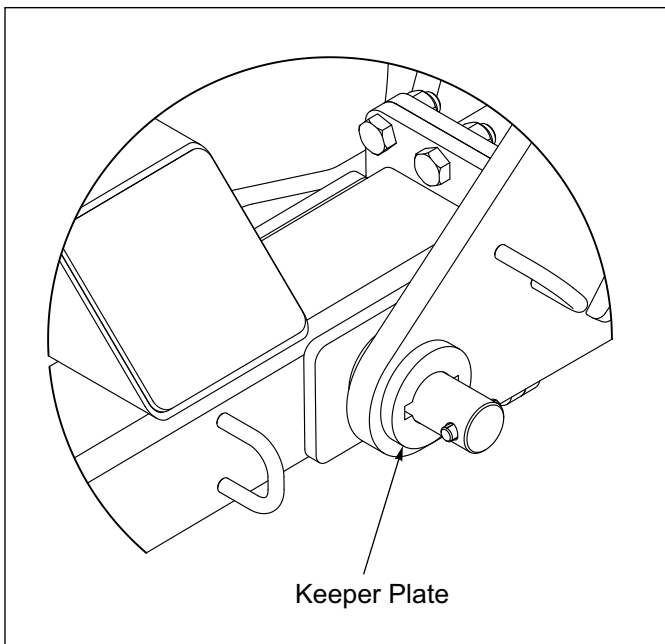


Figure 2-22: Wing Hinge Keeper Plate

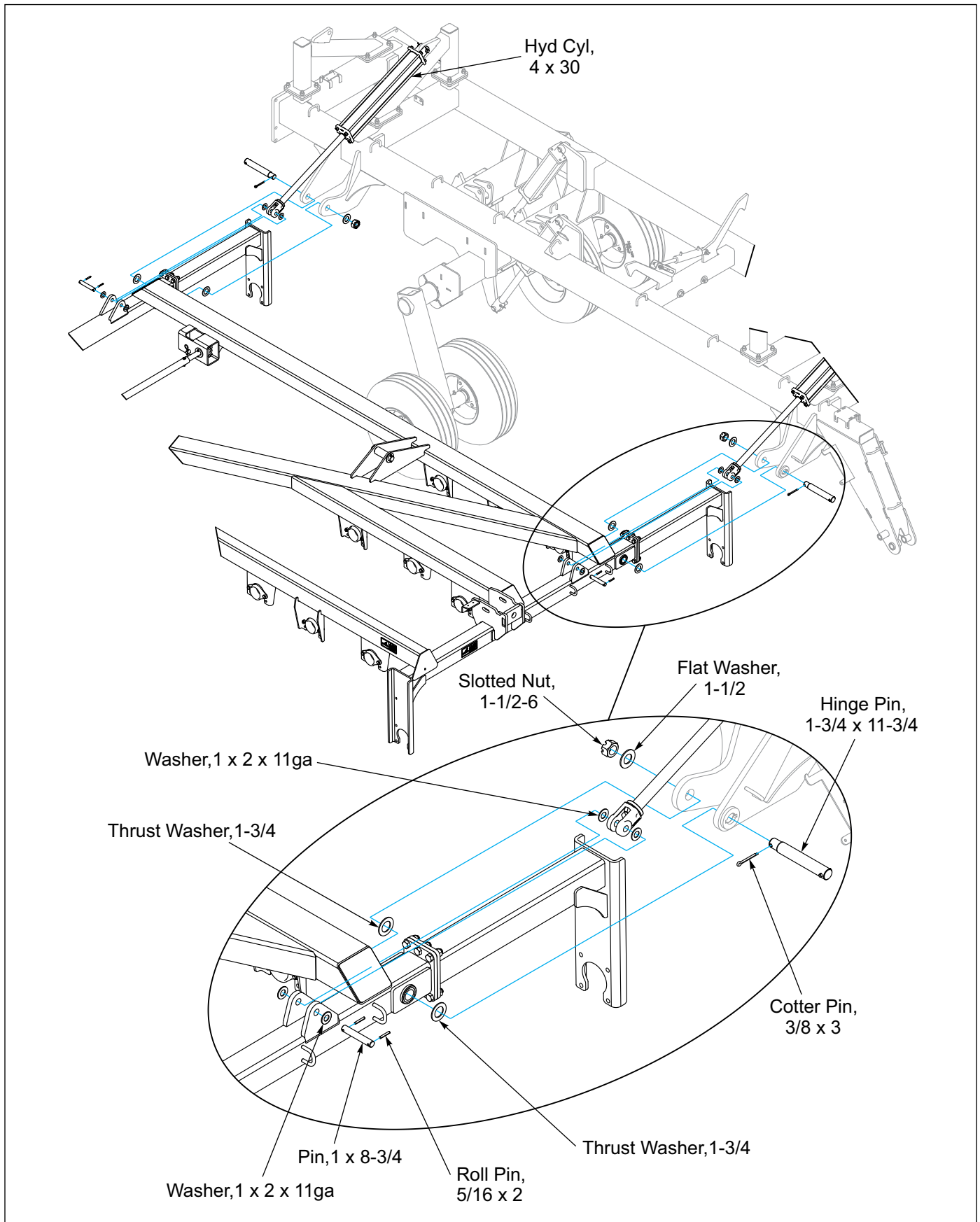


Figure 2-23: Wing to Frame Installation

Tooth Tube Installation

Verify Tooth Tube Bearings are positioned in the proper hole.

Top Hole: 20" Crowfoot or 20" Optimizer. See **Figure 2-24**.

Bottom Hole: 24" Notched Wheel. Tooth Tube Bearing Position for 24" Notched Wheels. See **Figure 2-25**.

After marking the tubes for the shank locations, slide the Tooth Tubes into the Tooth Tube Bearings accordingly. See **Figures 2-27 and 2-28**.

Position Tooth Tubes in the proper lateral position to the frame before continuing. See **Figures 2-31 and 2-32**.

Place stops on Tooth Control Tube against Tooth Tube Bearing to prevent Tooth Control Tube from sliding right or left. Secure with 1/2-13 x 4-1/2 Bolts and Locknuts. See **Figure 2-26**.

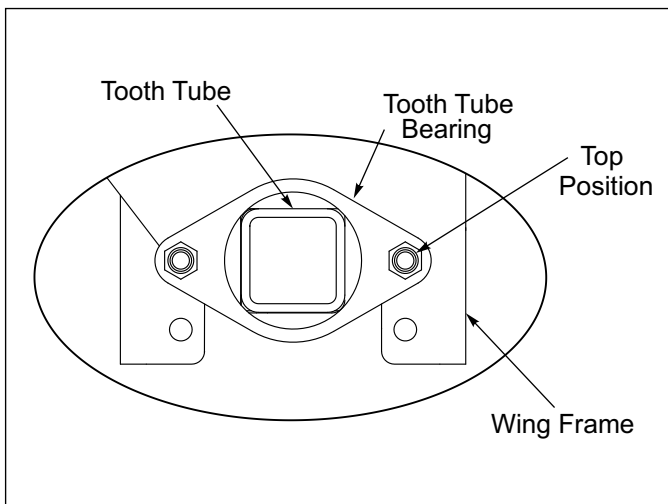


Figure 2-24: Wing Tooth Tube Bearing Position for 20" Crowfoot or 20" Optimizer Wheels

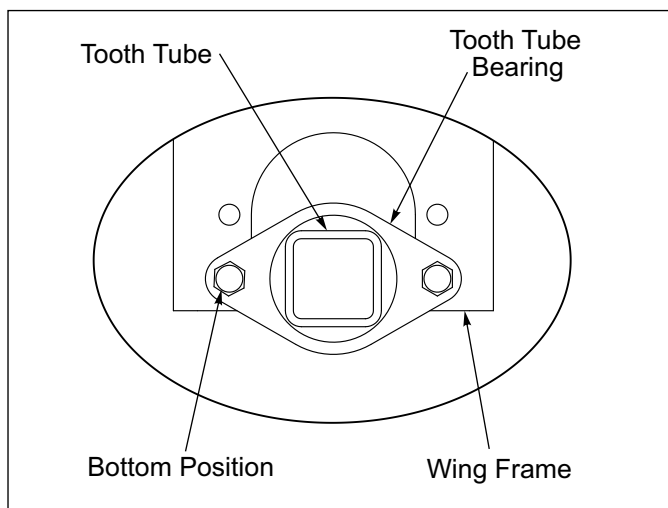


Figure 2-25: Wing Tooth Tube Bearing Position for 24" Notched Wheels

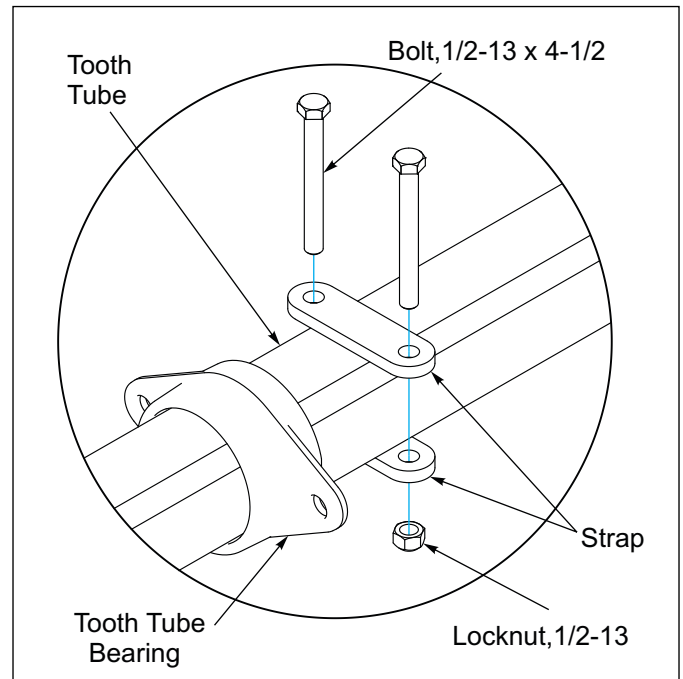


Figure 2-26: Wing Tooth Control Tube Stop

Shank Mounting Dimensions

Mark the tubes for Shank locations prior to installing the tubes. See Figures 2-27 and 2-28.

NOTE

Do Not mount the Shanks to the tubes at this time

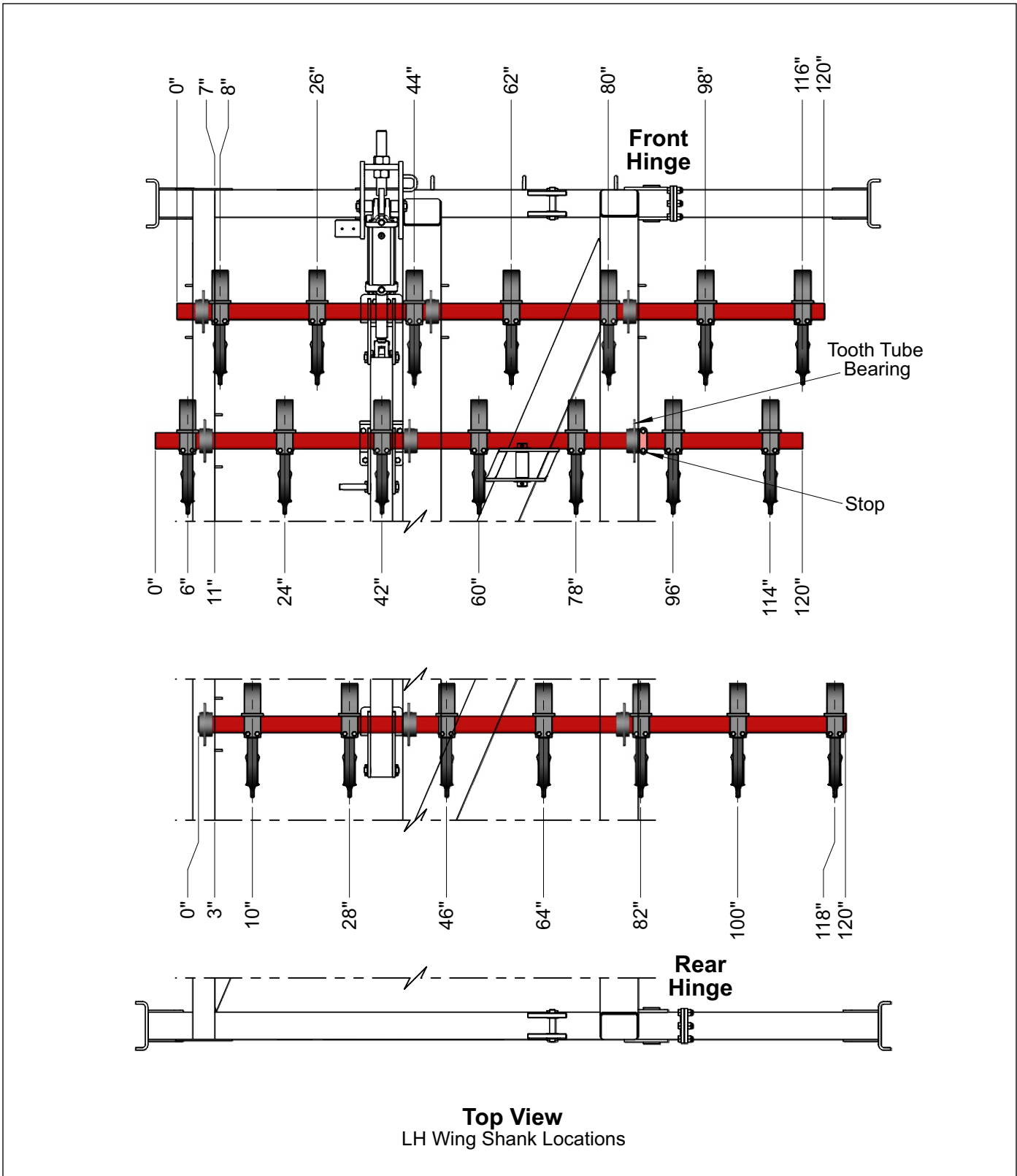


Figure 2-27: LH Wing Shank Mounting Dimensions

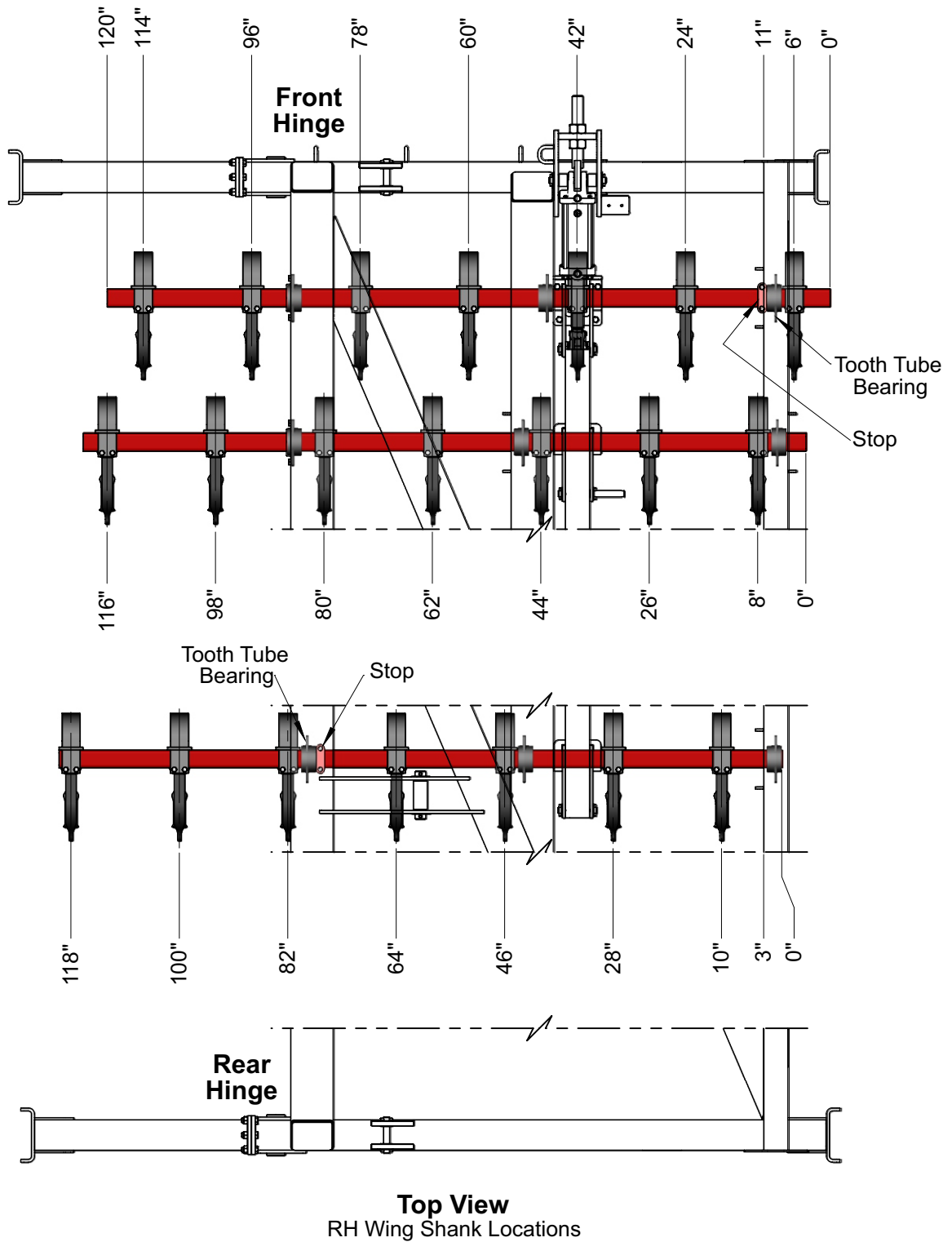


Figure 2-28: RH Wing Shank Mounting Dimensions

Tooth Control Linkage Installation

Thread one 1-3/4-5 nut onto the Cylinder Anchor Rod and insert into rod lug on frame. Thread the other 1-3/4-5 nut onto the Cylinder Anchor. Snug the two nuts at this time. Install the 4-1/2 x 8 Hydraulic Cylinder by attaching the base end of the cylinder to the Cylinder Anchor Rod then placing Sleeve 1.03 x 2.0 x 1.563 on each side of the base end. Slide 1 x 9-1/2 pin through and secure both sides of the pin with 1 inch wide washers and 5/16 x 2 roll pins. **See Figures 2-31 and 2-32.**

Adjust the Cylinder Anchor Rod to approximately 6-3/4" for machines with 20" Wheels, **See Figure 2-29** and 7-1/8" for machines with 24" Notched Wheel. **See Figure 2-30.**

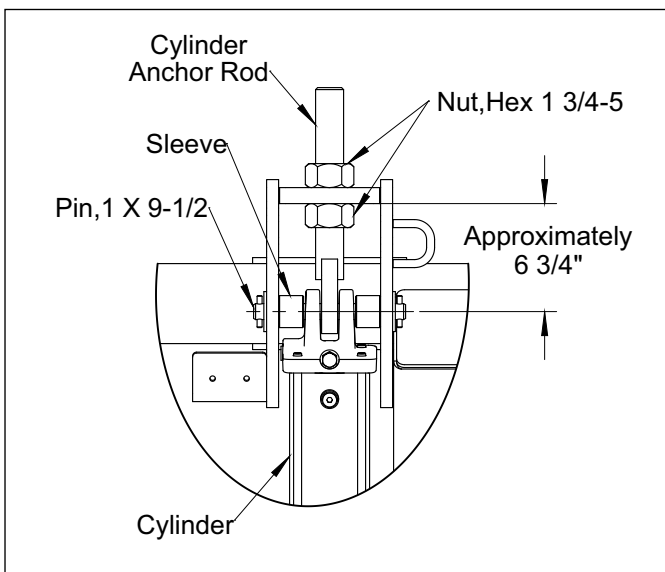


Figure 2-29: 20" Wheel Cylinder Anchor Position

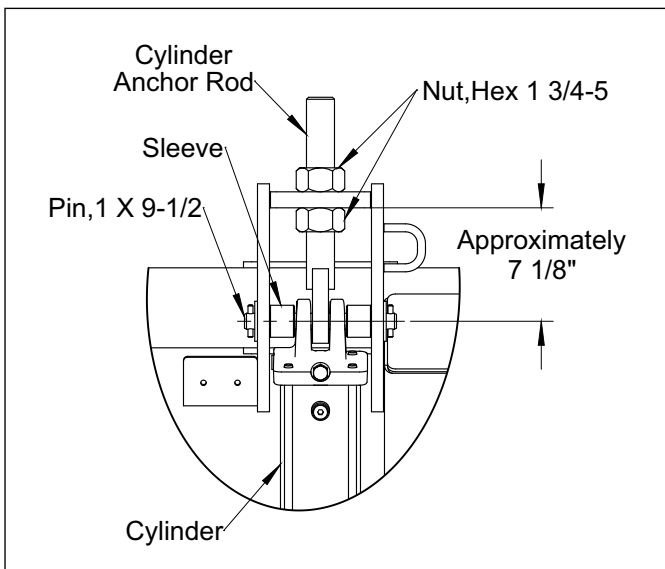


Figure 2-30: 24" Wheel Cylinder Anchor Position

Left Hand Tooth Control

LH Wing Frame, attach a Tooth Control Bracket on the top of the Front Tooth Tube by sliding a Clamp Plate into the Tooth Control Bracket Slot and under the Tooth Tube. Secure with 5/8-11 x 5 Bolts and Locknuts, **Do Not** tighten at this time. Lay the Cylinder Rod Clevis between the Tooth Control Bracket Lugs. Position the Tooth Control Tube over the top of the Cylinder Rod Clevis and between the Tooth Control Bracket Lugs and insert a 1 x 6-1/2 Pin. Place a 1" Flat Washer on each side of the Pin against the Tooth Control Bracket. Secure Pin with 5/16 x 2 Roll Pins. **See Figures 2-31 and 2-33.**

Position a Tooth Control Bracket on top of the Rear Tooth Tube while straddling the Tooth Control Tube. Insert 1 x 6-1/2 Pin. Place a 1" Flat Washer on each side of the Pin against the Tooth Control Clamp and secure Pin with 5/16 x 2 Roll Pins. Tooth Control Clamps should

be aligned with each other. Attach Tooth Control Bracket on Tooth Tube by sliding a Clamp Plate into the Tooth Control Bracket Slot and under the Tooth Tube with 5/8-11 x 5 Bolts and Locknuts.

Position a Tooth Control Clamp w/cutout on top of the Middle Tooth Tube while straddling the Tooth Control Tube. Insert 1 x 11 Pin with the wider hole spacing into the Tooth Control Tube. Place a 1" Flat Washer on each side of the Pin against the Tooth Control Bracket and secure Pin with 5/16 x 2 Roll Pins (At this time leave the last 5/16 x 2 roll pin out of the 1 x 11 pin). Attach Tooth Control Clamp on the Tooth Tube with two 5/8-11 x 5 Bolts and two 5/8-11 x 2 Bolts and Locknuts and 4 Hole Plate.

Ensure that linkage doesn't bind and clamps are positioned correctly. Tighten bolts and nuts at this time.

See "General Torque Specifications" on page 4-1.

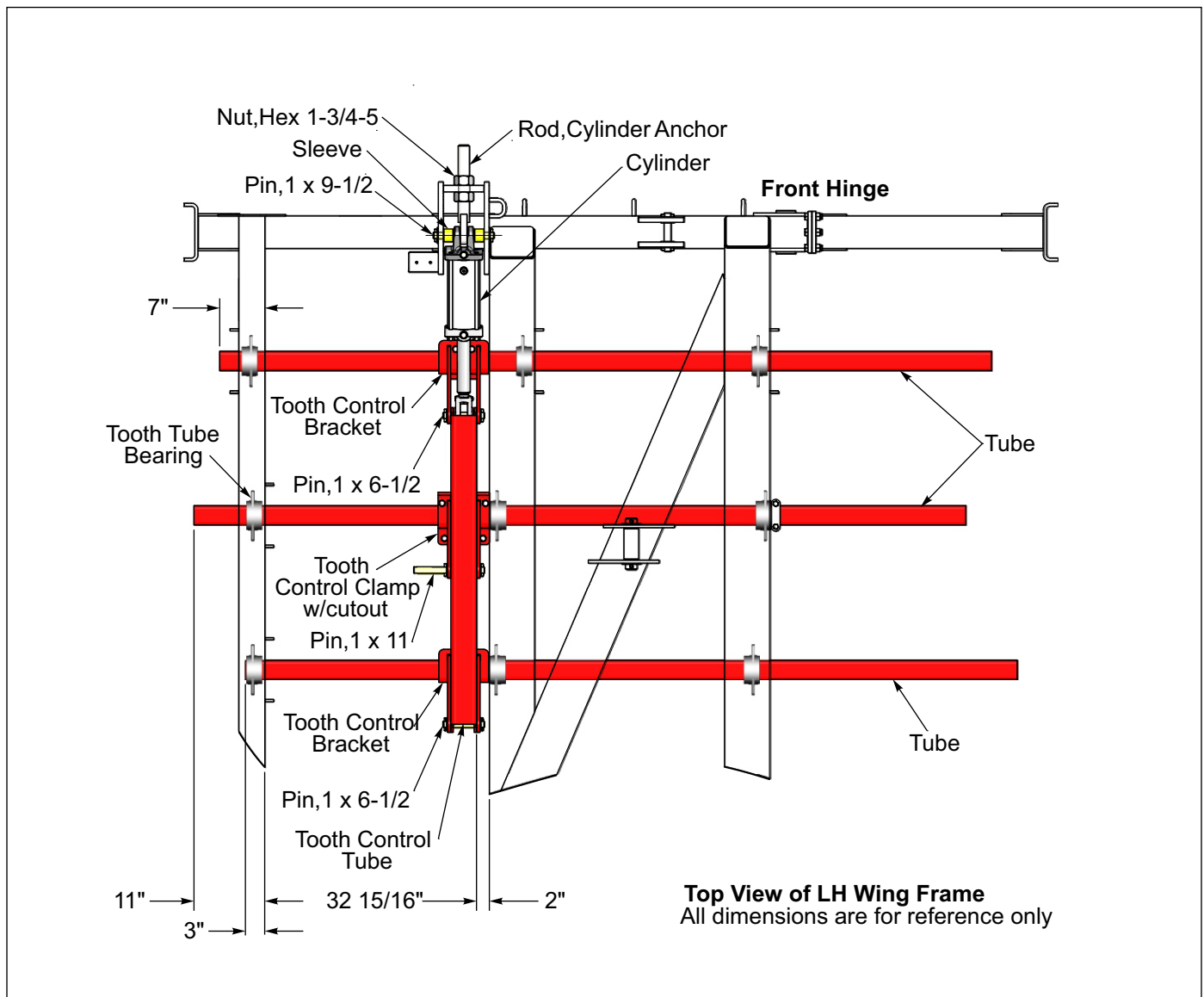


Figure 2-31: LH Wing Tooth Control Mounting Dimensions

Right Hand Tooth Control

RH Wing Frame, attach a Tooth Control Clamp w/cutout to the Front Tooth Tube by placing the Tooth Control Clamp on top of the Tooth Tube and a 4-Hole Plate under the Tooth Tube with two 5/8-11 x 5 Bolts and two 5/8-11 x 2 Bolts and Locknuts, **Do Not** tighten at this time. Lay the Cylinder Rod Clevis between the Tooth Control Clamp Lugs. Position the Tooth Control Tube over the top of the Cylinder Rod Clevis and between the Tooth Control Clamp Lugs and insert a 1 x 6-1/2 Pin. Place a 1" Flat Washer on each side of the Pin against the Tooth Control Bracket. Secure Pin with 5/16 x 2 Roll Pins. **See Figures 2-32 and 2-34.**

Position a Tooth Control Bracket on top of the Rear Tooth Tube while straddling the Tooth Control Tube. Insert 1 x 6-1/2 Pin. Place a 1" Flat Washer on each side of the Pin against the Tooth Control Clamp and secure with Pin 5/16 x 2 Roll Pins. Tooth Control Clamps should be aligned with each other. Attach Tooth Control Bracket

on Tooth Tube by sliding a Clamp Plate into the Tooth Control Bracket Slot and under the Tooth Tube with 5/8-11 x 5 Bolts and Locknuts.

Position a Tooth Control Bracket on top of the Middle Tooth Tubes while straddling the Tooth Control Tube. Insert 1 x 11 Pin with the wider hole spacing into the Tooth Control Tube. Place a 1" Flat Washer on each side of the Pin against the Tooth Control Bracket and secure Pin with 5/16 x 2 Roll Pins (At this time leave the last 5/16 x 2 roll pin out of the 1 x 11 pin). Tooth Control Brackets should be aligned with each other. Attach Tooth Control Brackets on the Tooth Tube by sliding a Clamp Plate into the Tooth Control Bracket Slot and under the Tooth Tube with 5/8-11 x 5 Bolts and Locknuts.

Ensure that linkage doesn't bind and the Tooth Control Brackets and the Tooth Tubes are positioned correctly. Tighten the Bolts and Nuts at this time. **See Figure 2-34.**

See "General Torque Specifications" on page 4-1.

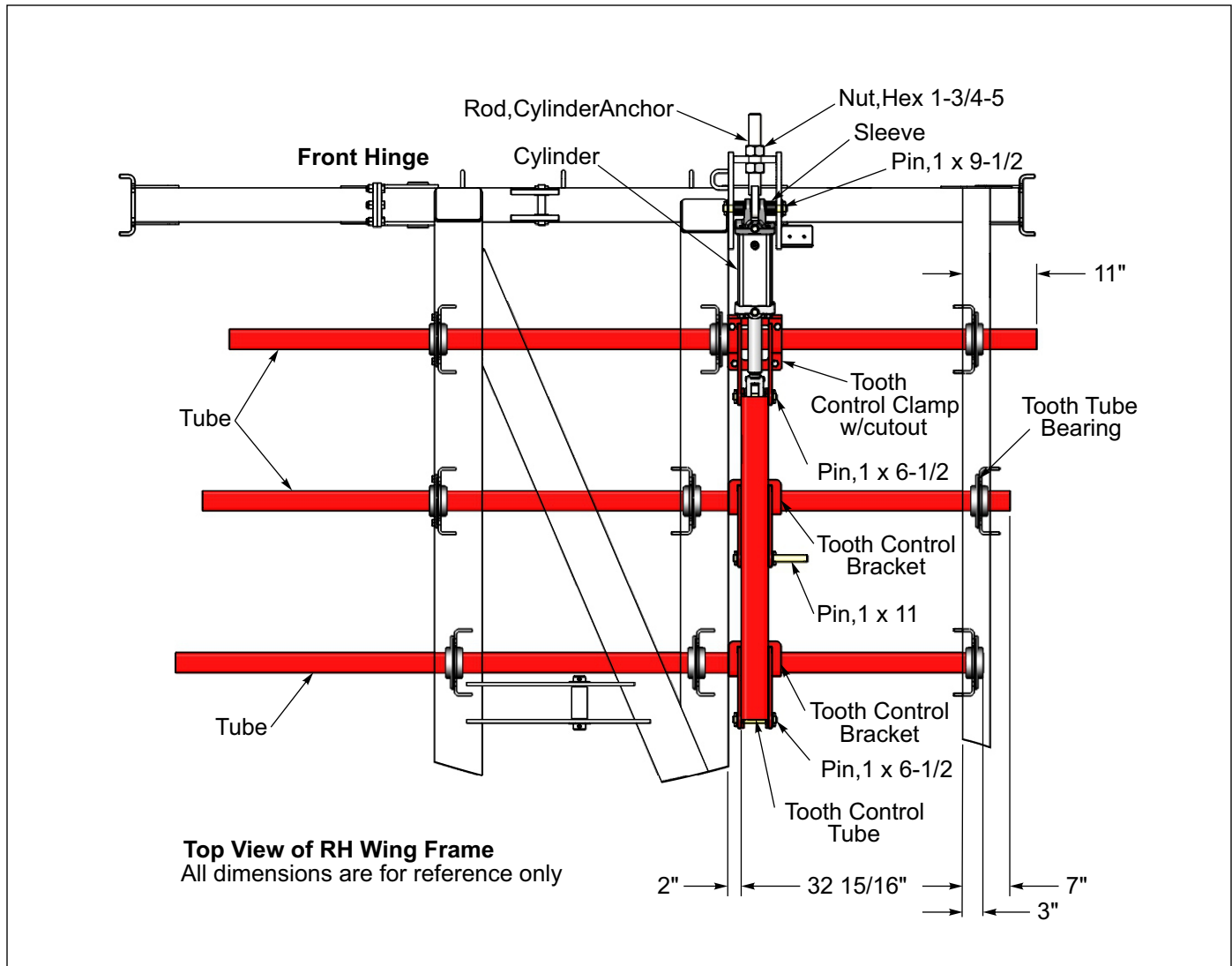


Figure 2-32: RH Wing Tooth Control Mounting Dimensions

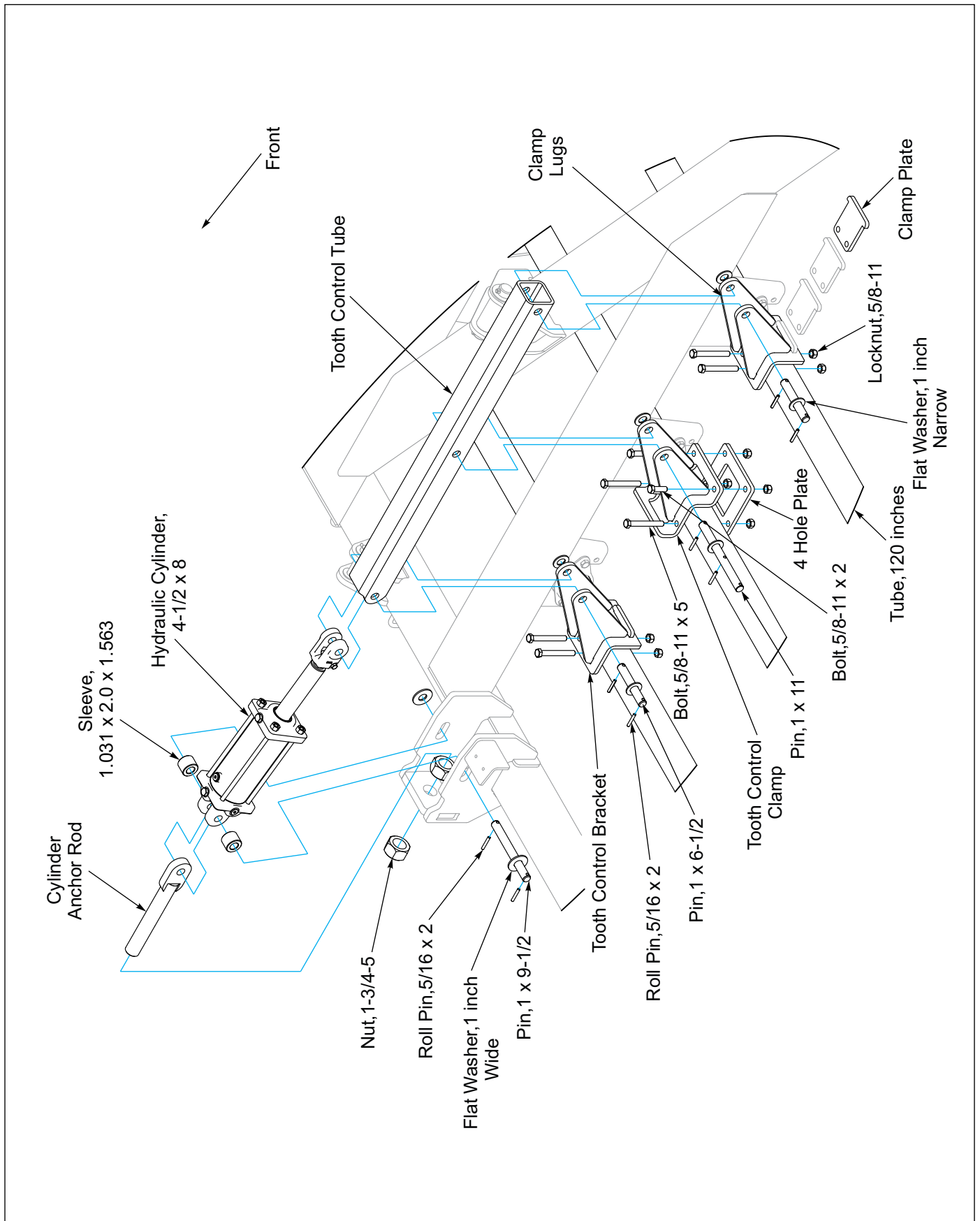


Figure 2-33: LH Tooth Control Linkage

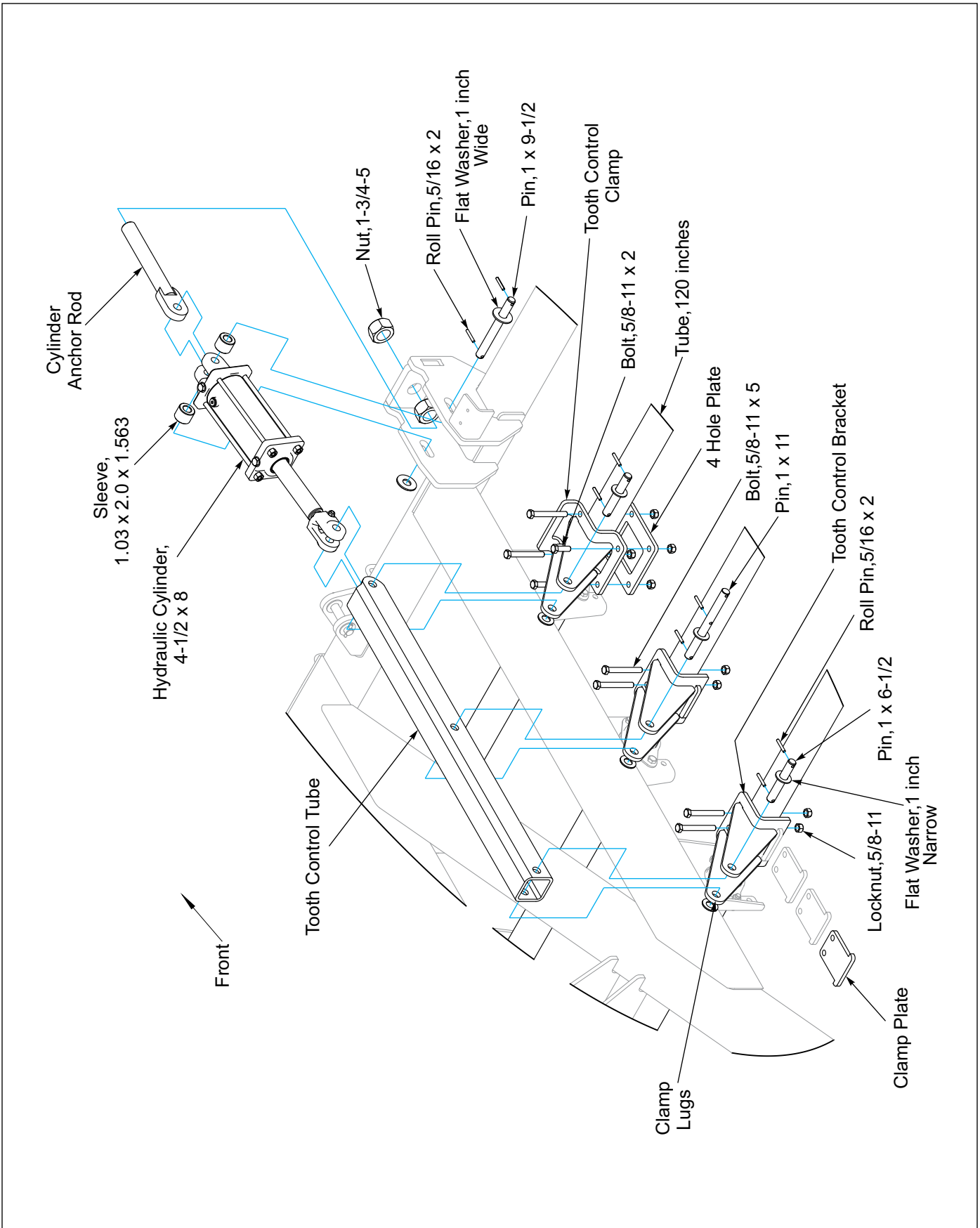


Figure 2-34: RH Tooth Control Linkage

Shank Installation

Engage Transport Locks

NOTE

See Figures 2-28 and 2-27 for Wing Shank Mounting Dimensions.

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

Assembly Points to Shanks as shown in See **Figure 2-35**.

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

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

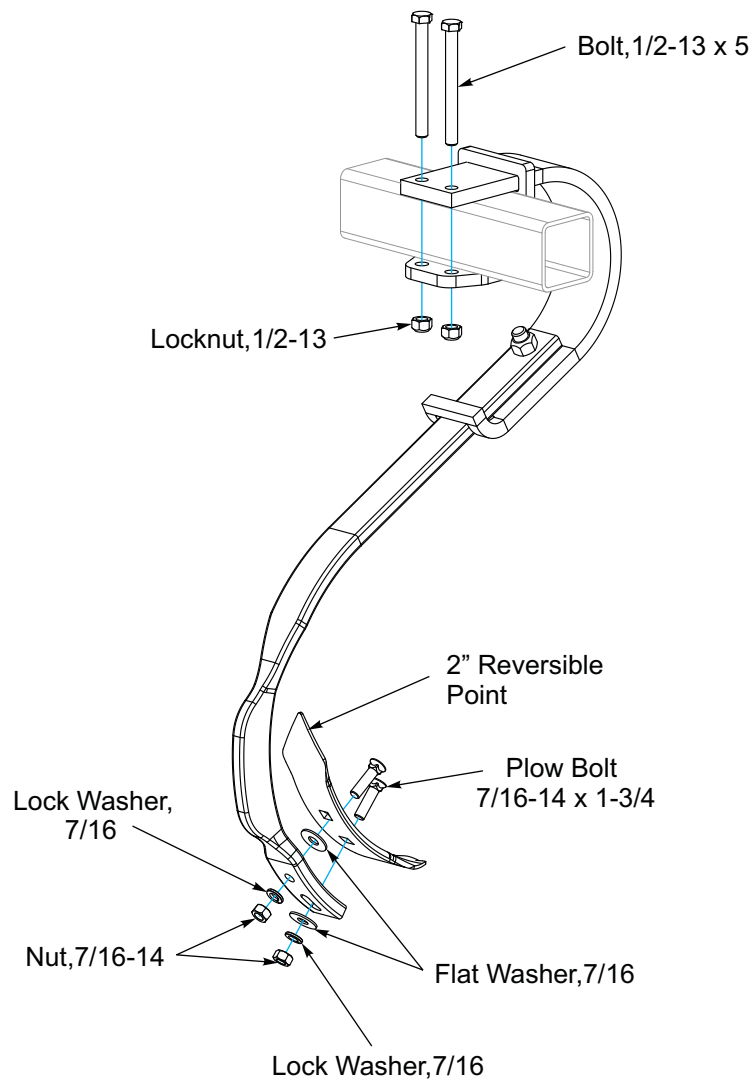


Figure 2-35: Shank Installation

Shank Depth Control Installation

Slide Flat Washer, Bushing another Flat Washer over the 1 x 11 Pin located on the middle clamp. Insert the Shank Adjustment Tube over pin, place another Flat Washer and secure with 5/16 x 2 Roll Pin.

Place the Limit Valve with the Slide Pad on top between the two holes on the wing frame weldment. Insert two 5/16-18 x 5 Bolts up through the weldment on either side of the Shank Adjustment Tube. Align the bolts with Depth Stop Guide and place over the tube. Secure with 5/16-18 locknuts. **See Figure 2-36.**

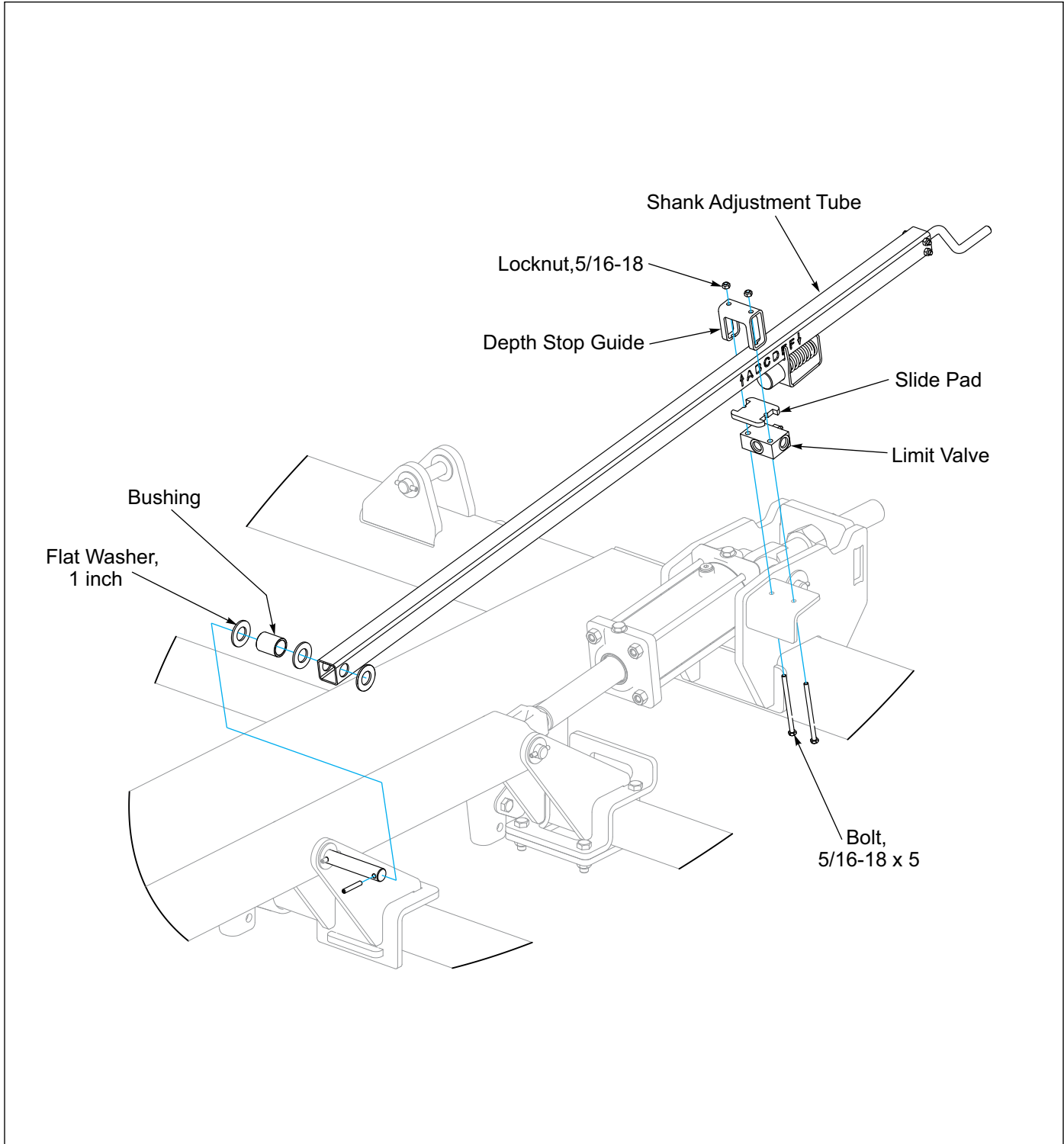


Figure 2-36: Shank Depth Control Installation

Roller Installation

Refer to **Figure 2-39** for roller placement. Place Shim Washer(s) and Dirt Shield on Roller Stub Shaft. Place the Flange Bearing over the Roller Stub Shaft. Lift and support the Roller Assembly up to the Bearing Hanger. Attach the Flange Bearing to the Bearing Hanger with four 5/8-11 x 1-3/4 Bolts and Locknuts. Install remaining Washers and Bolts as shown. Tighten.

NOTE

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

NOTE

*Crowfoot Wheel Rotation Arrow must follow the direction of travel. See **Figure 2-37**.*

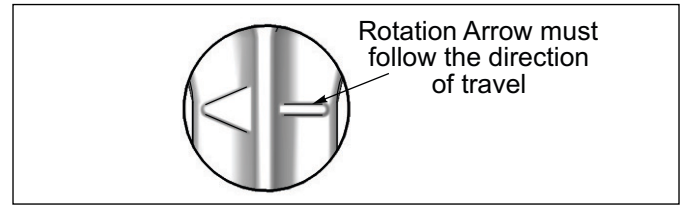


Figure 2-37: Wheel Rotation

Look at each Flange Bearing to make sure that it is sitting perpendicular to the Bearing Hanger. If not adjust the Shim Washers accordingly, for each side there are two 11ga and one 14ga Shim Washers. Shim Washers can be all three on the inside between the Stub Shaft shoulder and the Dirt Shield. All three can be on the outside between the Flange Bearing and Flat Top Washer, or a combination on either side, but all three must be used to minimize the gap. See **Figure 2-38**. Tighten all hardware. See **Page 4-1**.

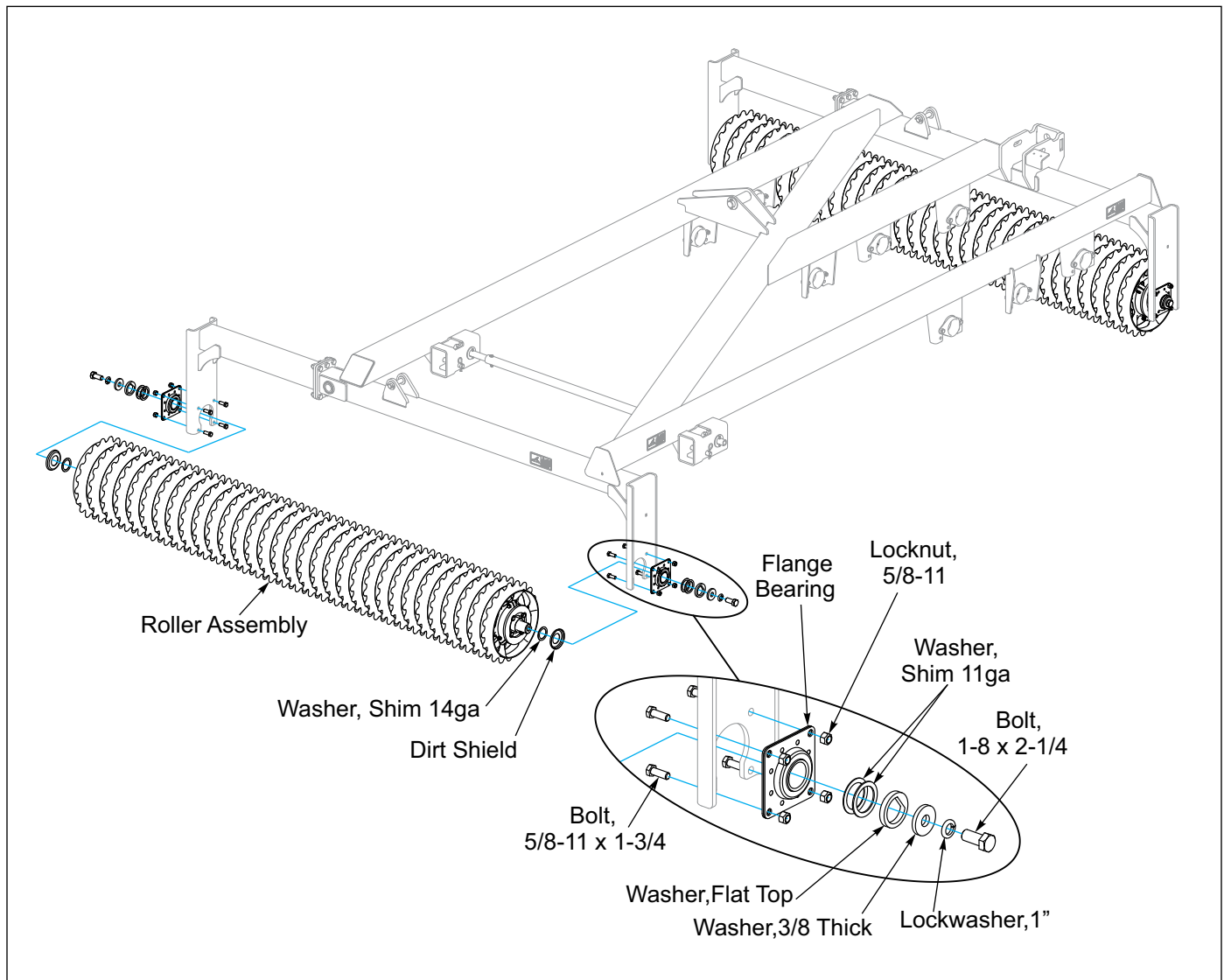


Figure 2-38: Roller Assembly

Roller Assemblies

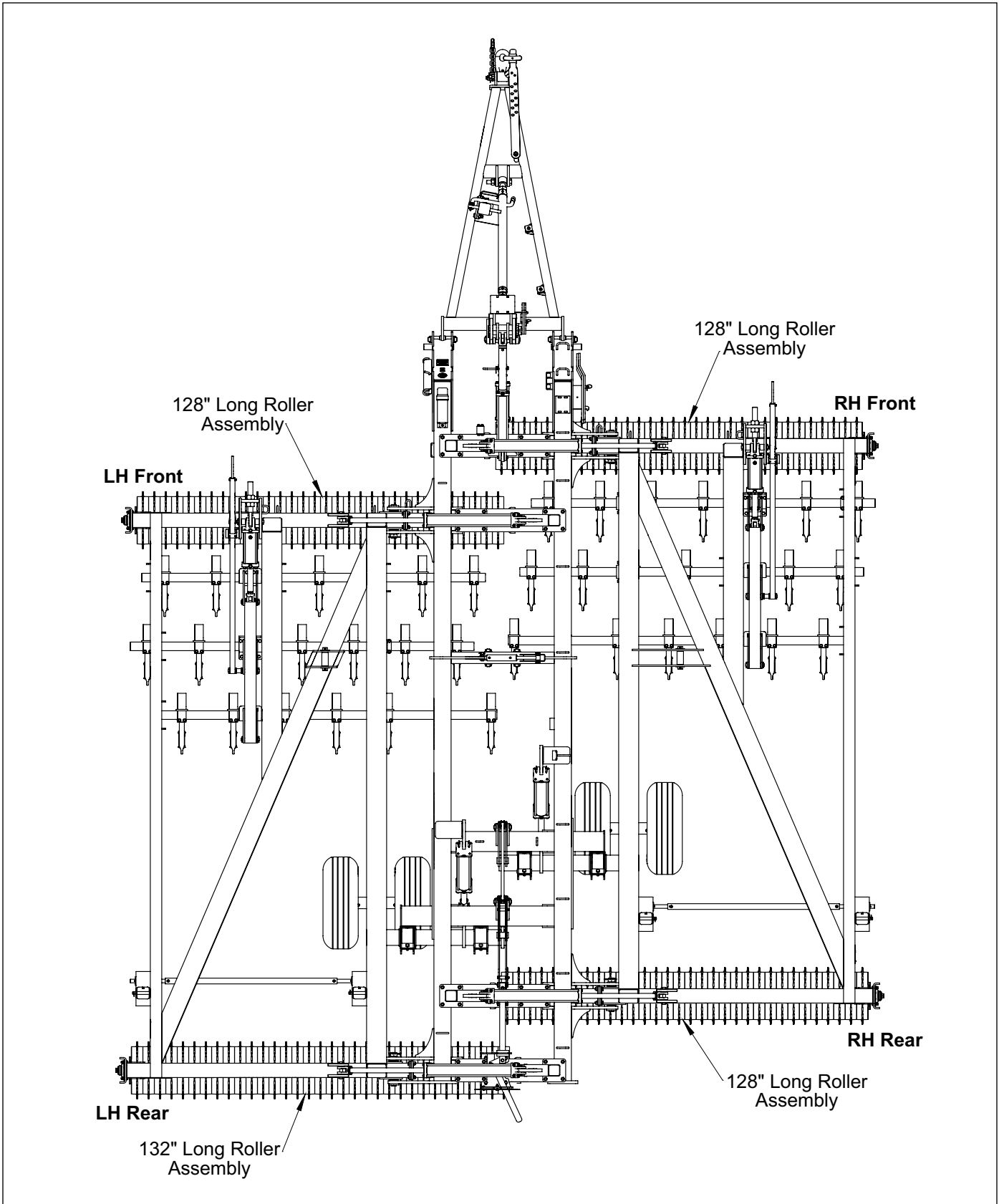


Figure 2-39: Roller Assemblies

Rear Scraper Installation

Refer to the Mounting Dimensions, **See Figure 2-41.**

With the Rollers on level ground, place the 5/8-11 U-bolts over the frame tube and through the Wing Scraper Mounts, secure with Flanged Locknut.

Attach the Scrapers to the Scraper Tube (spaced approximately 4 inches apart) and secure with 3/8-16 U-Bolt and Flanged Locknut. Attach the Scraper Tube to the Wing Scraper Mount and secure with 3/8-16 U-Bolt and Flanged Locknut. Install the Scrapers with 1/4" clearance from the Notched Wheels. Components have been removed for clarity. **See Figure 2-40.**

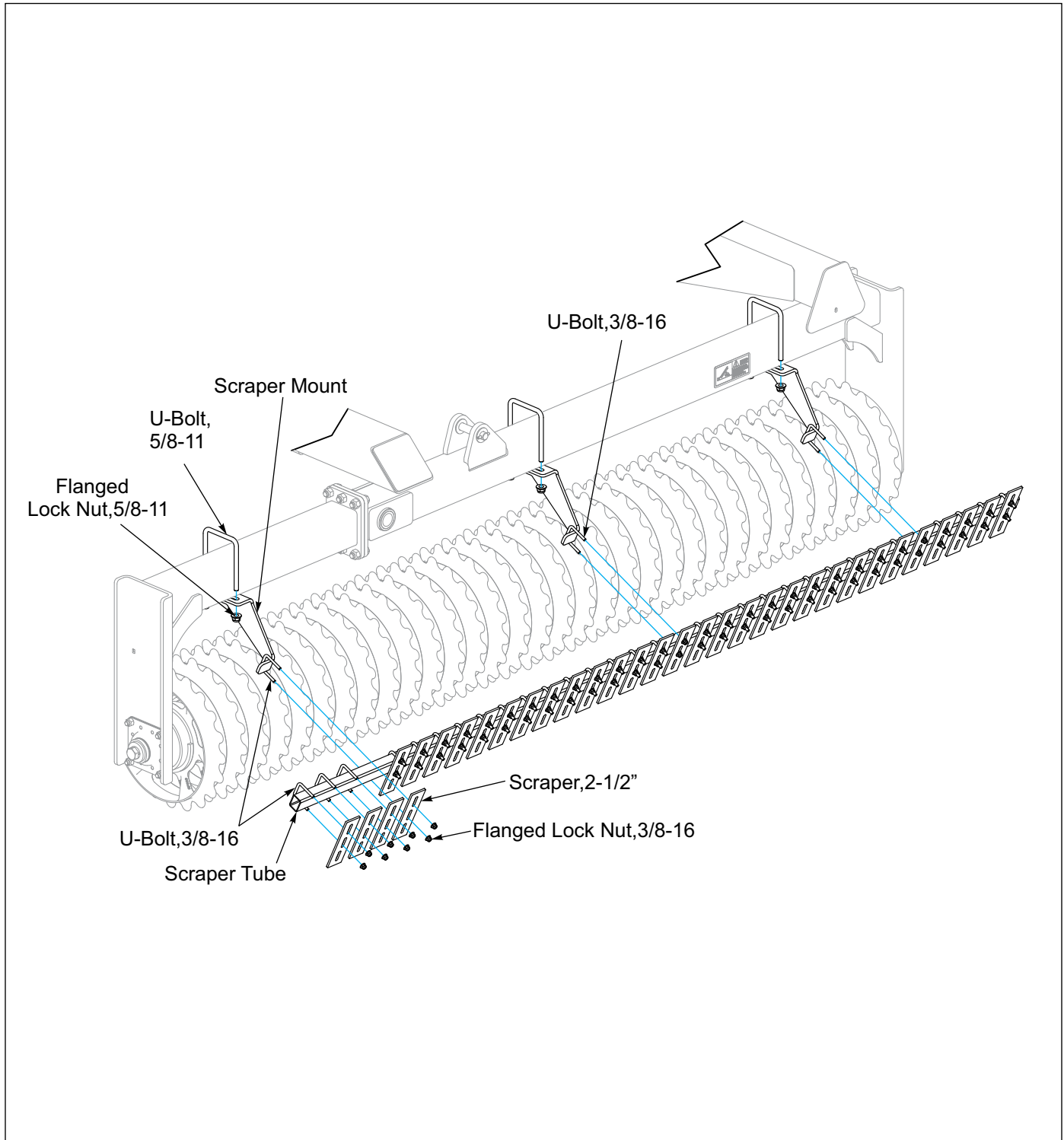


Figure 2-40: Scrapers

Scraper Mounting Dimensions

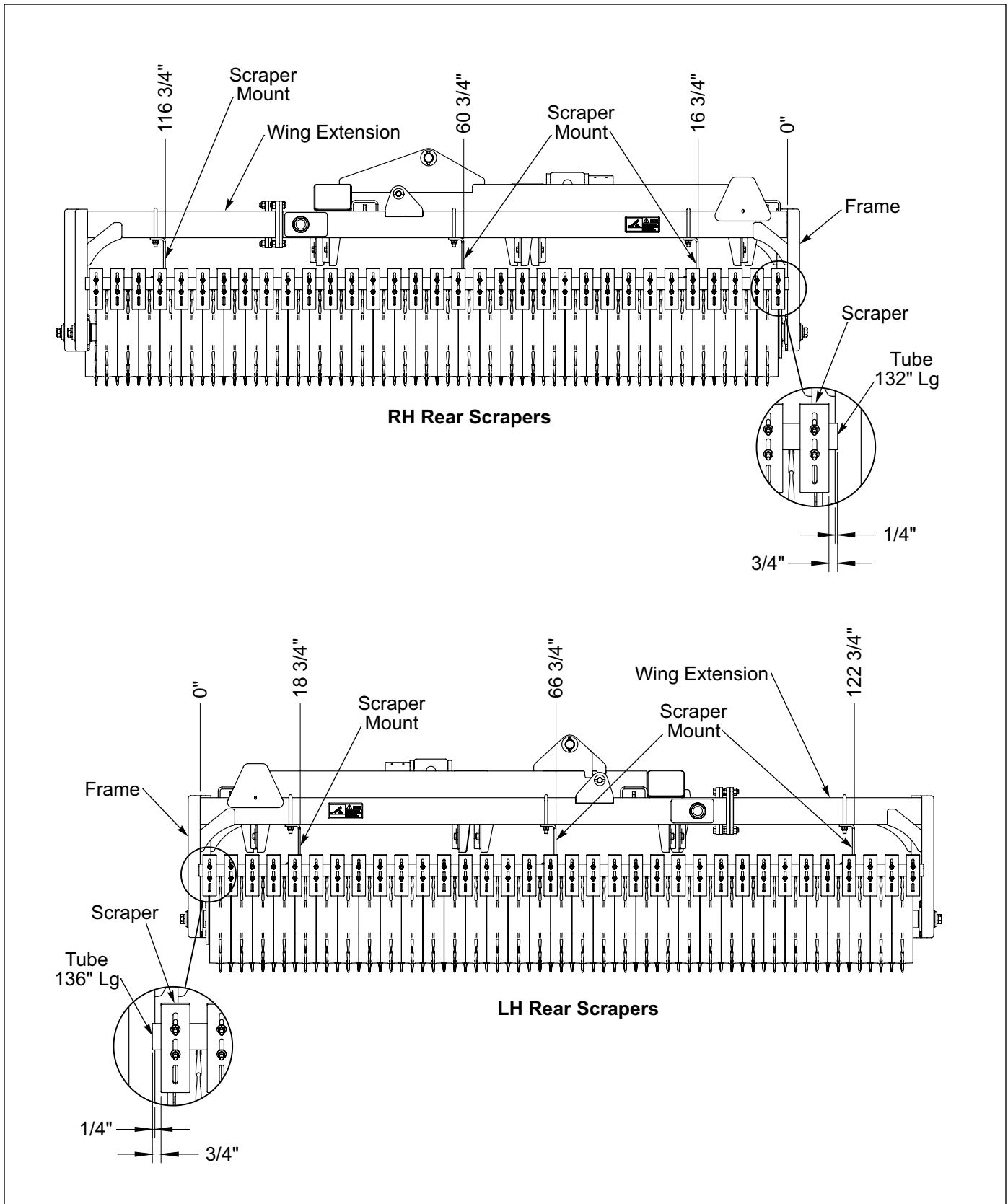


Figure 2-41: Scraper Mounting Dimensions

Coil Tine Harrow Installation

Refer to **Figure 2-43** for Harrow placement.

The Coil Tine Harrow comes factory assembled and just needs the Harrow Adjustment Tubes installed prior to mounting on the 3620.

Place the cut-out portion of the Harrow Adjustment Tube against the harrow tube. Insert 1/2-13 U-Bolt through the tube. Secure with Locknut and Flat Washer. (*Do Not fully tighten at this time*).



WARNING

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

Position the Harrow Adjust Tubes up and into the Harrow Adjustment Box so the top of the tube is protruding. Align the Harrow Adjustment Tube holes and the box holes. Insert 1 x 7-5/16 Pin and secure with 5/16 x 2 Roll Pin and 3/16 Hairpin Cotter. Insert 1/2-13 x 5 Bolt into top hole of tube. Secure with Locknut. Fully tighten U-Bolts at this time. **See Figure 2-42.**

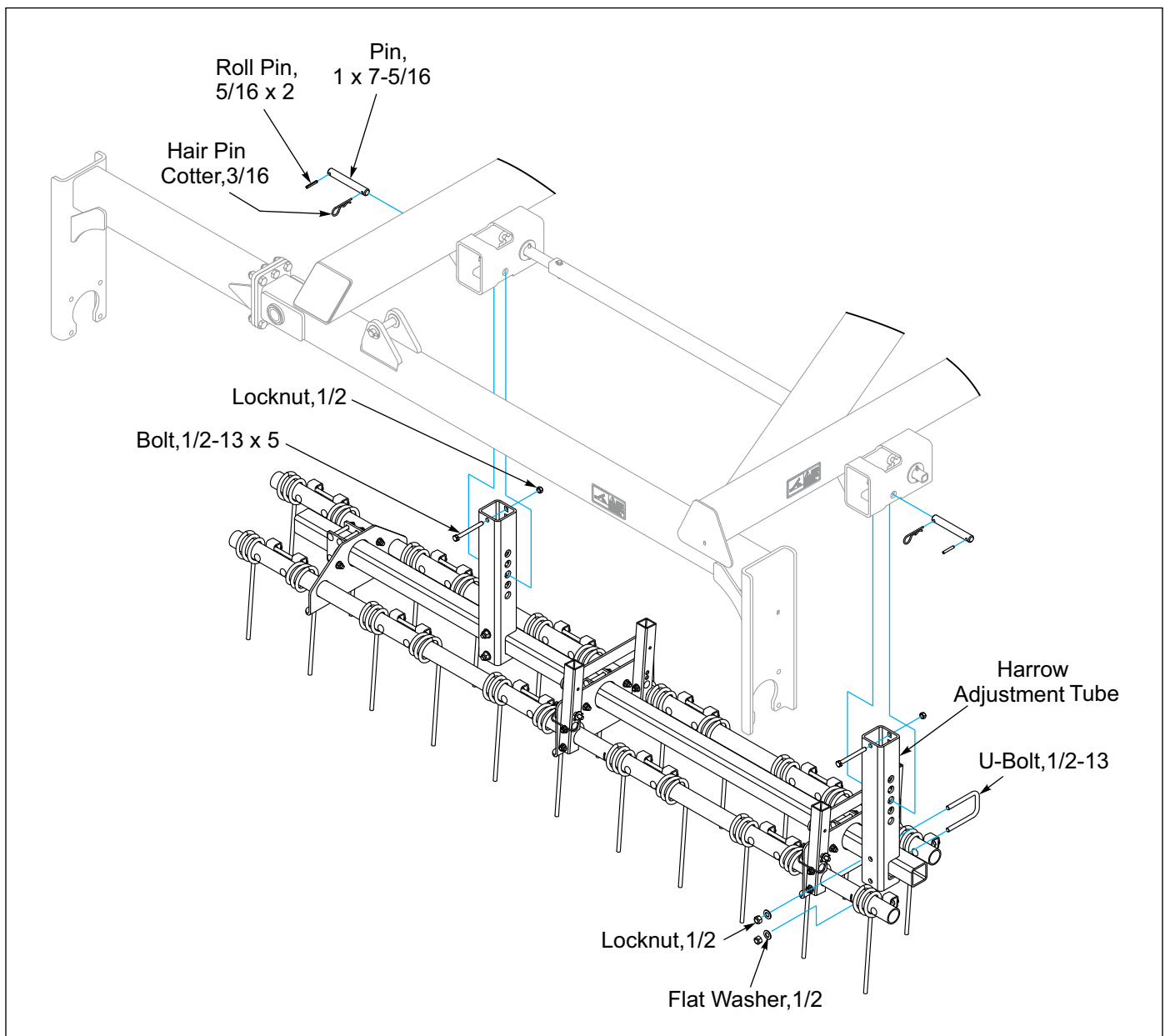


Figure 2-42: Coil Tine Harrow Installation

Coil Tine Harrow Positioning

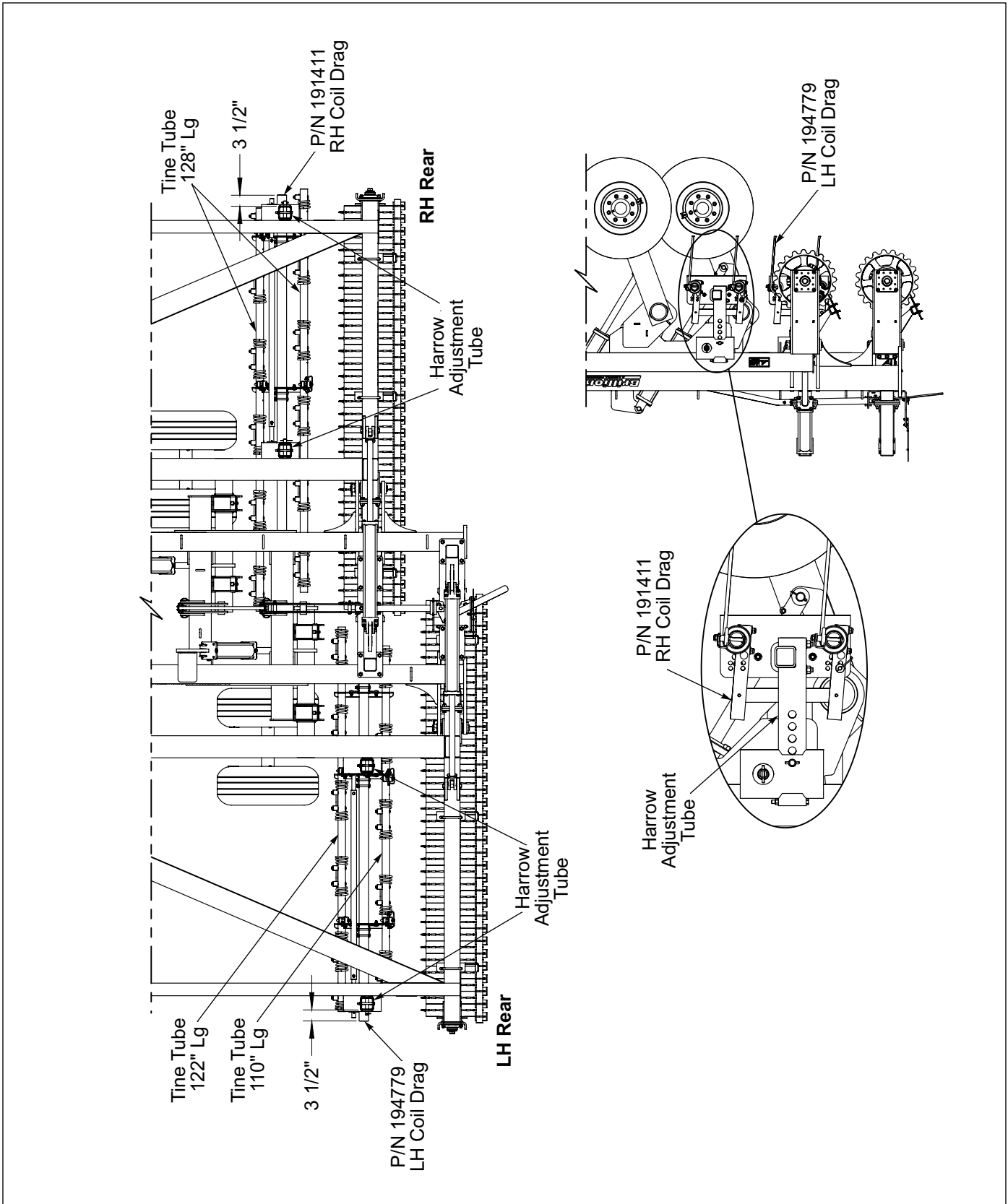


Figure 2-43: Coil Tine Harrow Positioning

Front Scrapers

Refer to the Mounting Dimensions, **See Figure 2-45.**

With the Rollers on level ground, place the 5/8-11 U-bolts over the frame tube and through the Wing Scraper Mounts, secure with Flanged Locknut.

Attach the Scrapers to the Scraper Tube (spaced approximately 4 inches apart) and secure with 3/8-16 U-Bolt and Flanged Locknut. Attach the Scraper Tube to the Wing Scraper Mount and secure with 3/8-16 U-Bolt and Flanged Locknut. Install the Scrapers with 1/4" clearance from the Notched Wheels. Components have been removed for clarity. **See Figure 2-44.**

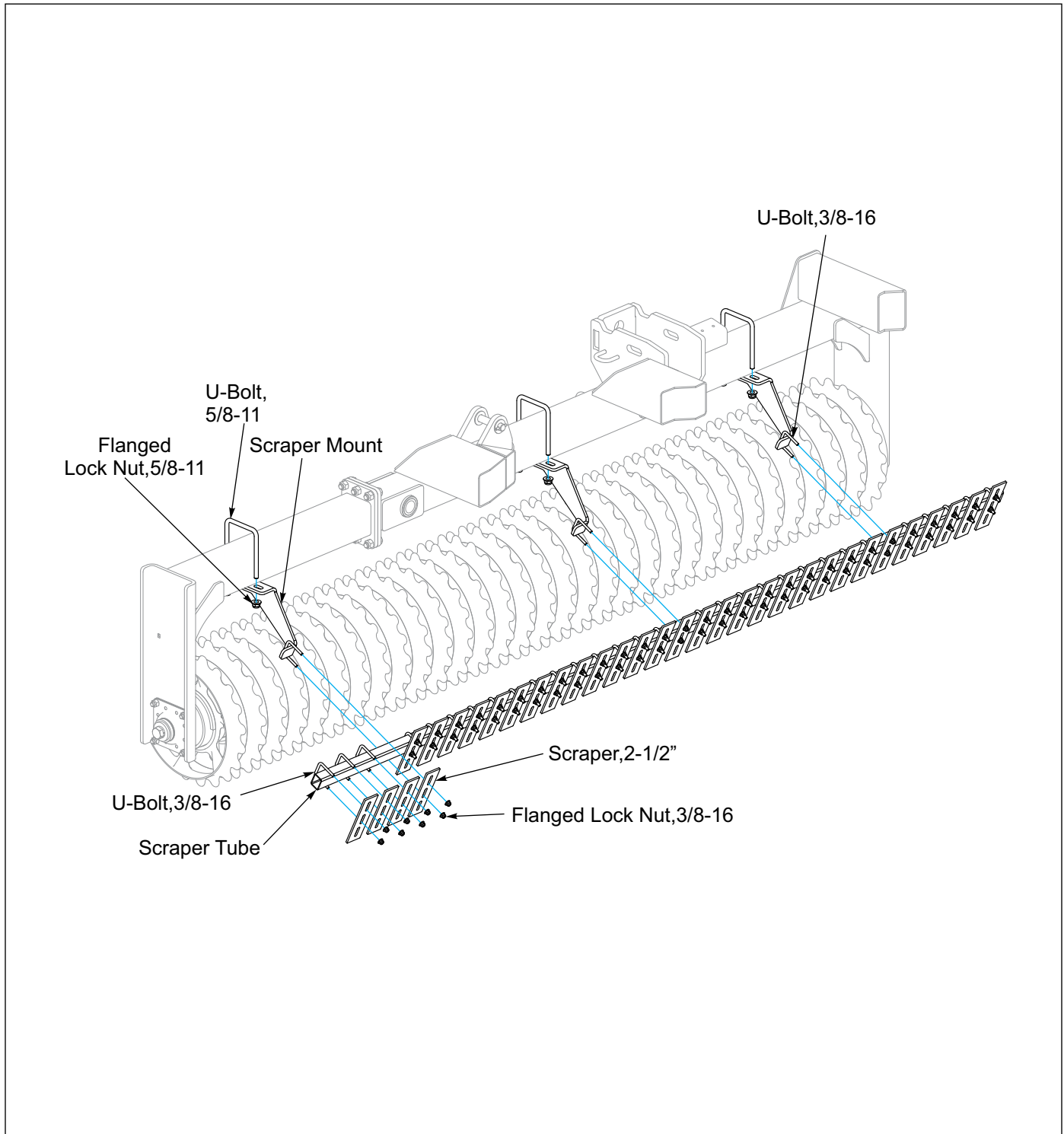


Figure 2-44: Front Scraper

Front Scraper Dimensions

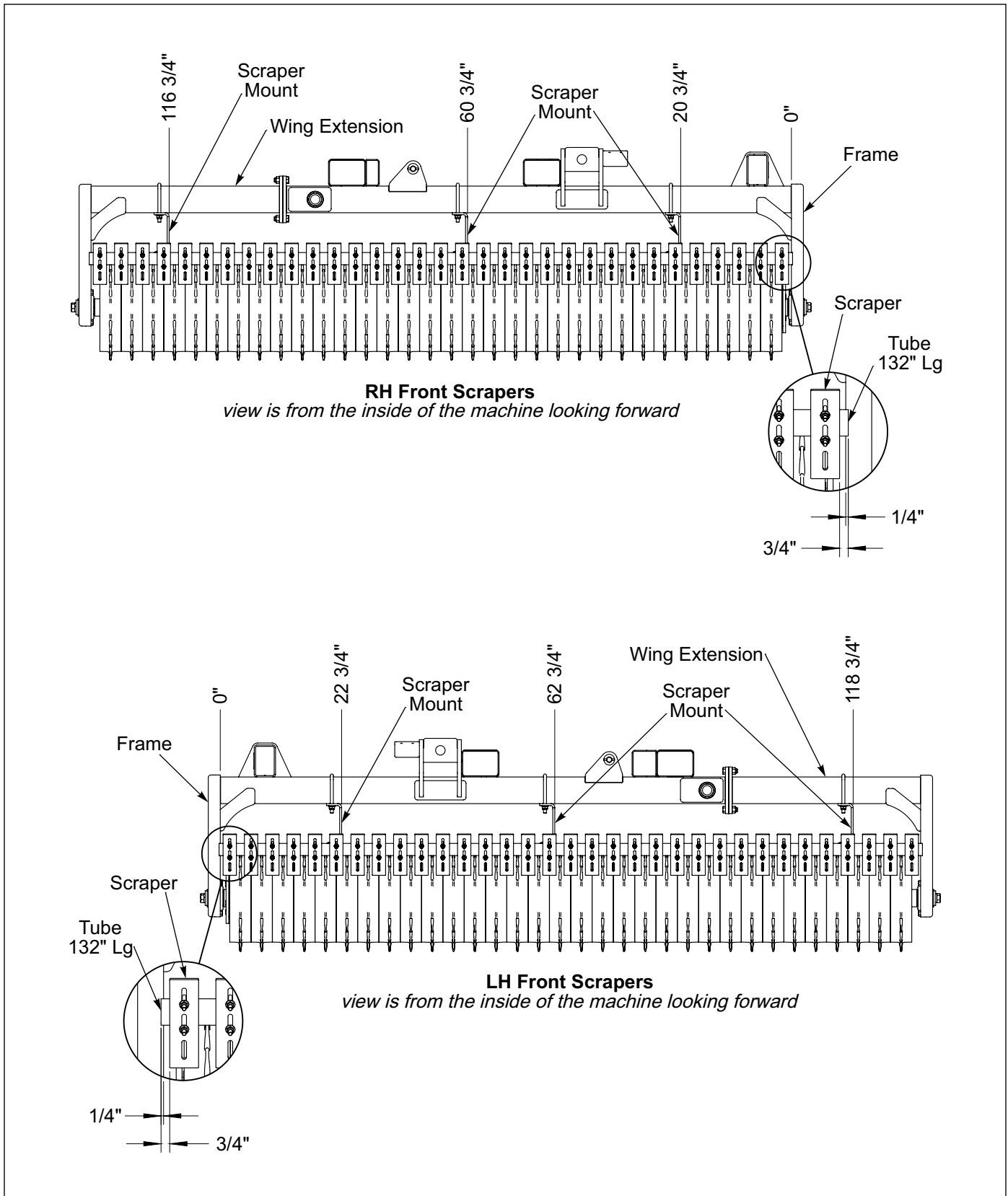


Figure 2-45: Front Scraper Dimensions

LED Installation Instructions

1. Layout the Lamp Harness, noting that the connectors marked with Green Tape is Right Side and Yellow Tape is Left Side. Route the left side 2 prong connector through the LH Light Bracket. Route the right side 2 prong connector through the RH Light Bracket. **See Figure 2-46.**

NOTE

If equipped install Rear Hitch first. See Figure 2-49.

2. Attach the LH Light Bracket to the left rear of frame using two 3/4-10 x 2-1/2 Bolts and Locknuts. Repeat for the Right Hand side.
3. Connect a Amber Lamp to the LH 2 prong connector and insert into the Lamp Bracket end. Secure with four 1/4-20 x 1-1/2 Bolts, Washers and Locknuts. Repeat for the Right Hand side.
4. Route the Red Lamp connector through the Reflector Assembly and connect to the LH 3 prong Lamp Harness connector. Secure with four 1/4-20 x 1-1/2 Bolts, Washers and Locknuts. Repeat for the Right Hand side. *Note: Red LED faces rear.*
5. Attach the Flasher Module to the center frame weldment using two 1/4-20 x 1-1/2 Bolts and Locknuts.
6. Plug the Lamp Harness into the Flasher Module.
7. Plug the 7 Pin Harness into the Flasher Module, then route the harness along the right side of the frame with hoses and secure with Tie Straps. **See Figure 2-46.**
8. Bundle and secure excess cord to the Light Bracket with Tie Straps. Secure cords along frame using Tie Straps.

NOTE

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

Electrical Layout

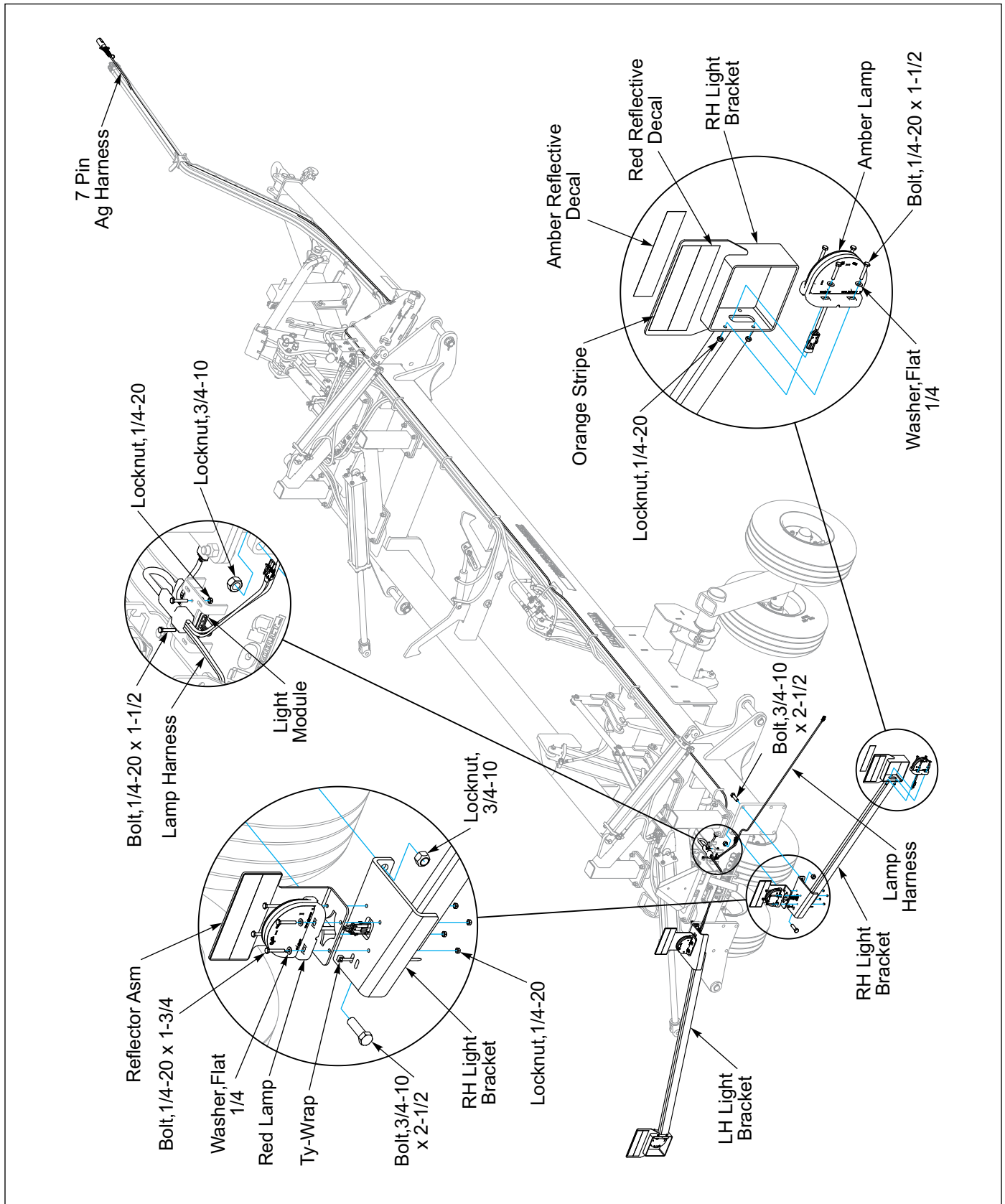


Figure 2-46: Electrical Layout

Optional V-Leveler Installation

Refer to Wing Leveler Mount Placement Dimensions, **See Figure 2-48.**

Wing V-Leveler Installation

Position the Leveler Mounts under the Wing Frames. Slide the Clamp Plate through the Clamp Plate slot. Secure with two 1/2-13 x 7 Bolts and Locknuts.

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

On the opposite side place the 1 x 1-1/2 Bushing over the bolt and into the opening secure with Flat Washer and Locknut. **See Figure 2-47.**

Center V-Leveler Installation

Place the cutout of the V-Leveler Bracket on top of the Drawbar cross member, located on the rear of the Drawbar. Secure with 5/8-11 U- Bolts and Locknuts. **See Figure 2-47.**

Position the Strut Plates on each side of the V-Leveler Bracket. Place Flat Washers on each end of the 1 x 7 Pin and secure with Kilk Pin on one end and 5/16 x 2 Roll Pin on the other end.

Lift the V-Leveler Bar up as to align the bottom Strut Plate hole with the V-Lever Bar. Place Flat Washers on each end of the 1 x 8 Pin and secure with Kilk Pin on one end and 5/16 x 2 Roll Pin on the other end.

Lift V-Leveler Bar up until outer Leveler Strut holes aligns with the frame leveler holes. Place Flat Washers on each end of the 1 x 12-3/4 Pin and secure with Kilk Pin on one end and 5/16 x 2 Roll Pin on the other end.

V-Lever

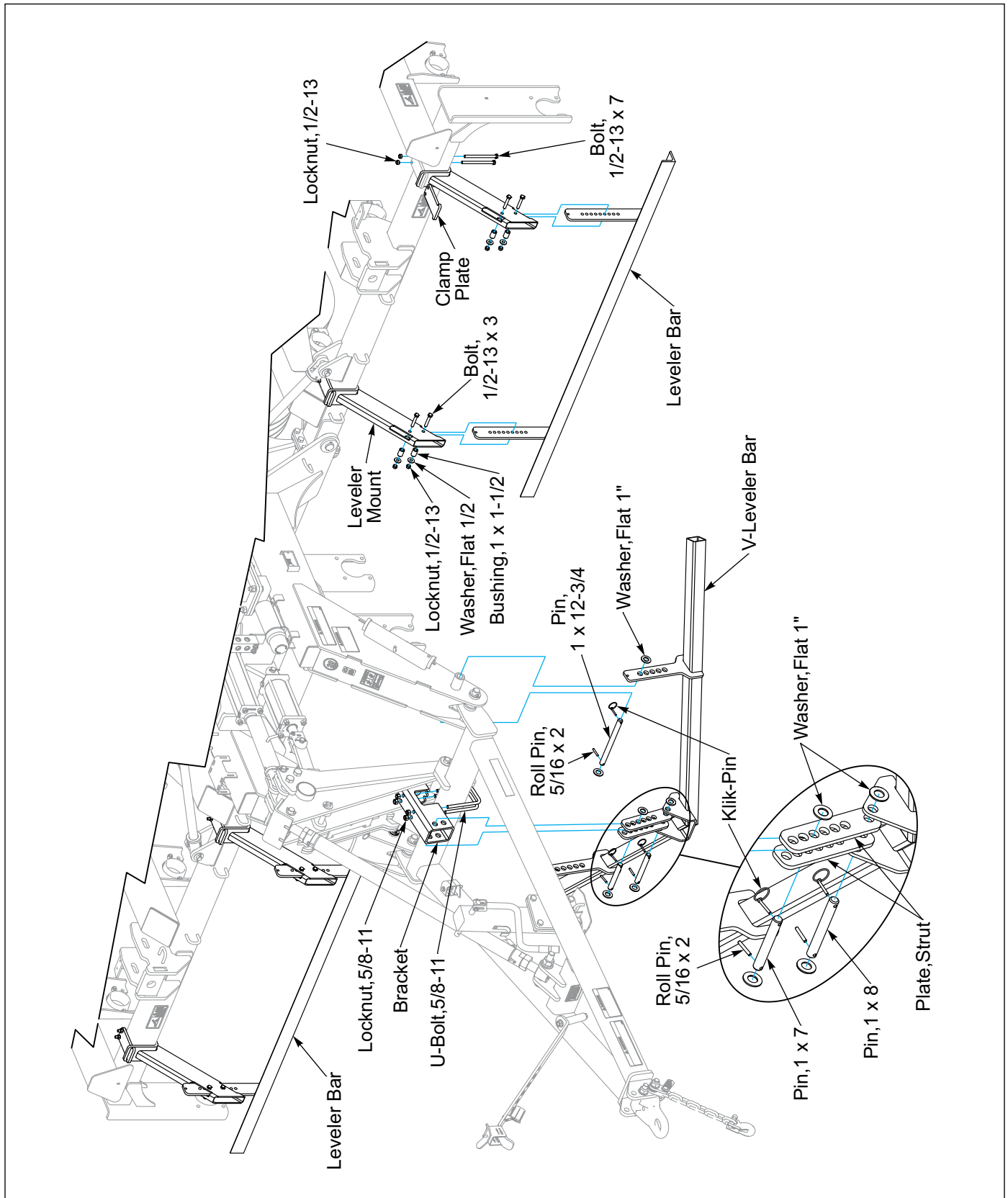


Figure 2-47: V-Lever Installation

V-Leveler Mounting Dimensions

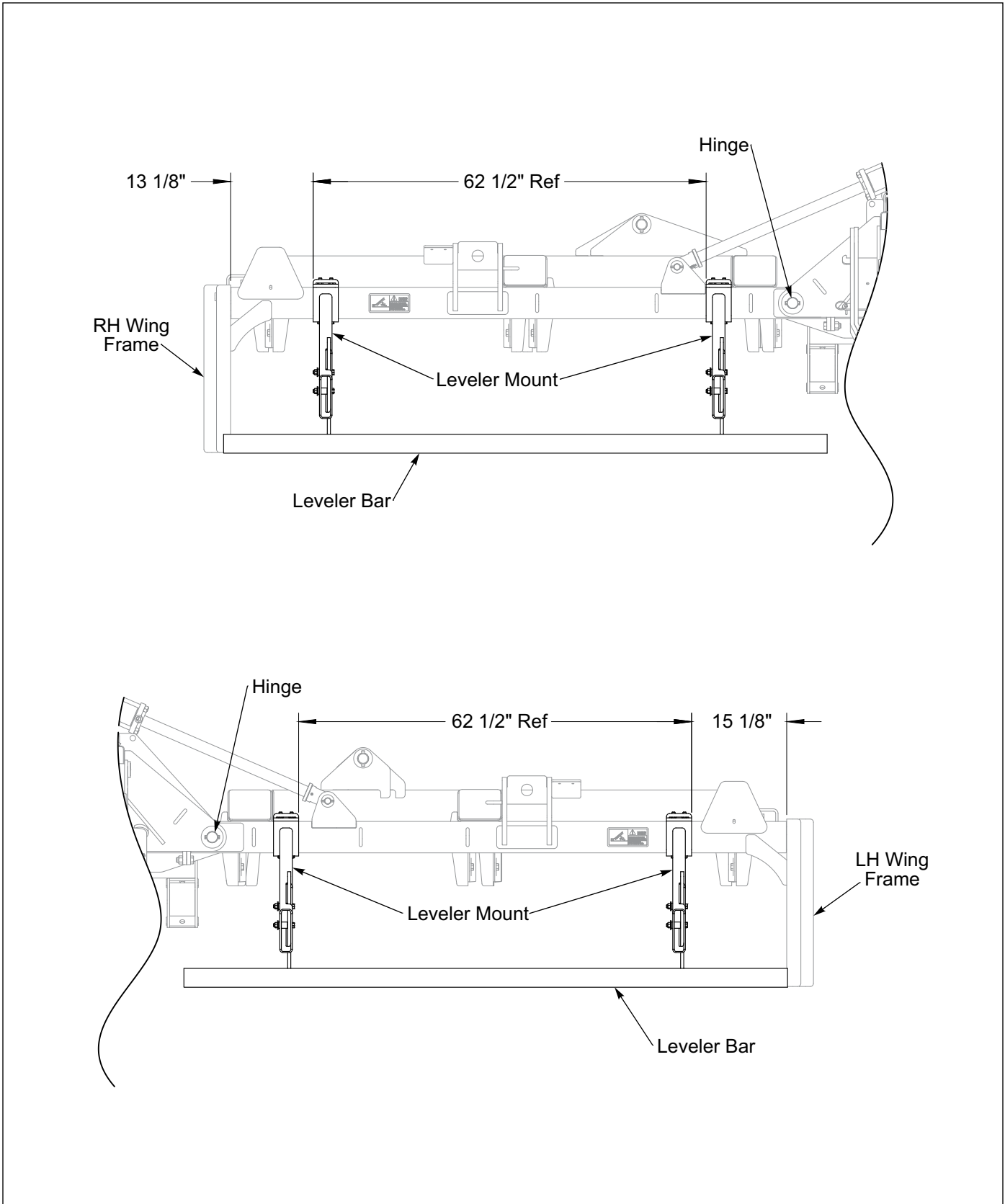


Figure 2-48: V-Leveler Mounting Dimensions

Rear Hitch

Position the Rear Hitch to the rear frame hitch plates, insert eight 3/4-10 x 3 Bolts in the middle and bottom holes. Place the LH and RH Light Brackets on the top. Secure with 3/4-10 x 3-1/2 Bolts and Locknuts. Slide the two Bulkhead Adapters into the bulkhead plate and tighten. Attach the two female Couplers rearward onto the Bulkhead Adapters. Attach the two 3/8 x 500 inch long hoses onto the front of the bulkhead and tighten. **See Figure 2-49. (See “Hydraulic Fitting Torque Specifications” on page 4-2.)** Route the Hose Assembly along the right hand frame tube with the other Hydraulic Hoses to the front of the drawbar. Secure with Tywraps.

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

NOTE

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

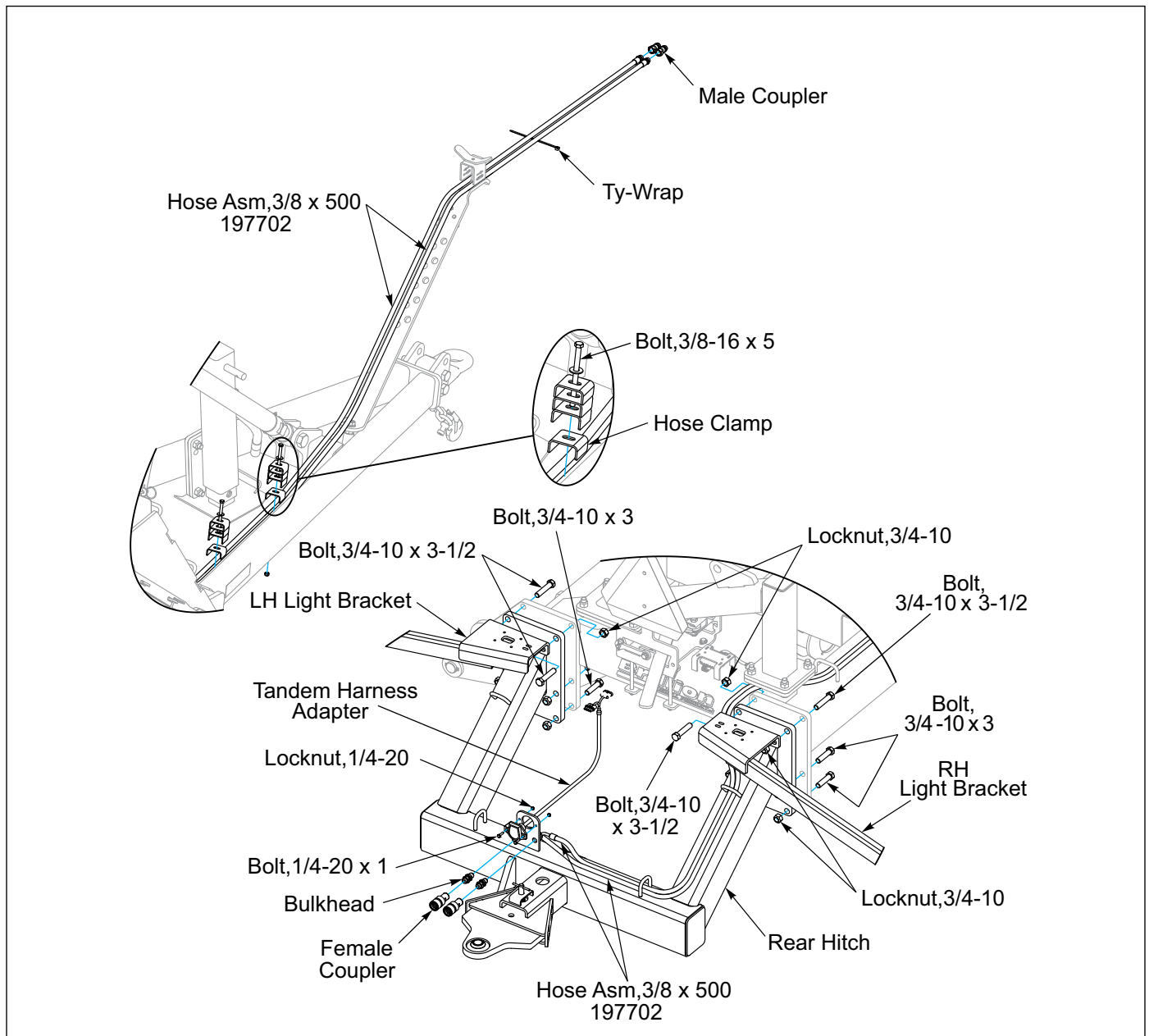


Figure 2-49: Rear Hitch

Chapter 3

Operation



DANGER

Never allow anyone to ride on the 3620 Pulvi-Mulcher at any time. Allowing a person to ride on the machine can inflict serious personal injury or death to that person.



DANGER

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



WARNING

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



DANGER

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



CAUTION

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

Tractor Preparation

The Brillion 3620 Pulvi-Mulcher is designed to be pulled by tractor equipped with a double lip or clevis type hitch.

Note: CAT 2 is not for clevis tractor hitch.

If your tractor is not equipped as such, you need to purchase the hitch from your local tractor dealer. If your implement is equipped with the clevis option, this should be removed. The clevis option is only for transport use.

Before attaching the implement, prepare the tractor as follows:

1. 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.

Pulvi-Mulcher Preparation

1. Prior to operating the 3620 Pulvi-Mulcher, inspect it thoroughly for good operating condition.
2. Replace worn or missing parts.
3. When the machine is new, check the bolt tightness after a few hours of operation. Tighten any loose nuts or bolts. Check the lift wheel lug bolts daily.
4. Check the lift wheel tire inflation. Inflate all tires equally to avoid side draft. Follow the tire manufacturer's recommended pressures listed on the sidewall of the tires.

Attaching to the Tractor

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

Table 3-1: Hitch Pin Size

DRAWBAR CAT	Min Pin Size	Max PTO HP
2	1-1/4" (30mm)	154 (115 Kw)
3	1-1/2" (38mm)	248 (185 Kw)
4	2" (50mm)	402 (300 Kw)

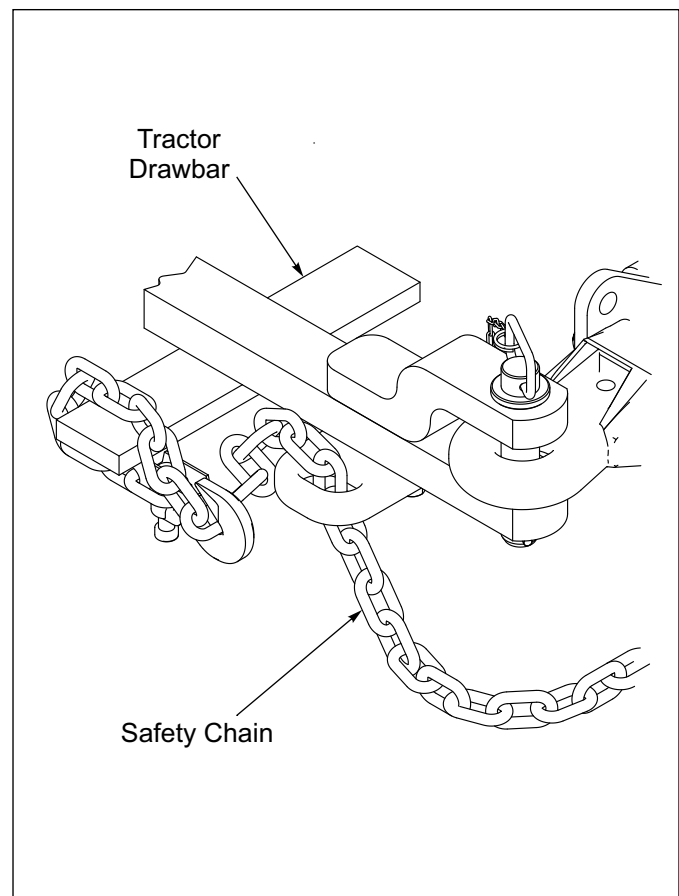


Figure 3-1: Safety Chain to Tractor

Hydraulic Lift System

The 3620 Pulvi-Mulcher is equipped with a hydraulic lift system. Two hydraulic cylinders are used to level and stabilize the hitch and two hydraulic cylinders are used on the rockshafts. The rockshafts are linked together hydraulically with a flow divider/combiner valve. The divider/combiner valve has a rephase function to allow the rockshafts to be resync'd if necessary.

The transport lock latches at the Rockshaft Lugs, lock the machine in the raised position and the transport lock channel on the cylinder rod, locks the leveling cylinder in extended position. A relief valve protects the locks from accidental hydraulic activation if locks are engaged. A counterbalance valve is utilized to aid in coupling to tractor and acts as a hydraulic lock. **See Figure 3-3.**

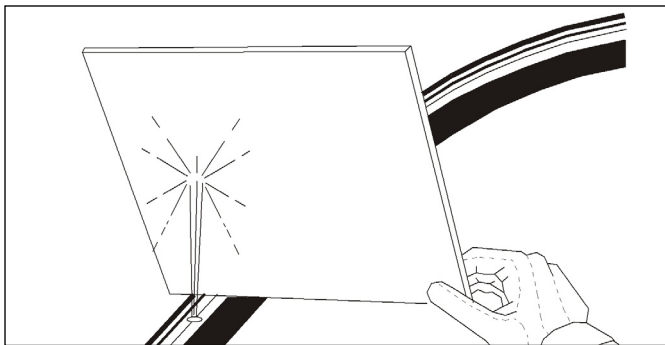


Figure 3-2: Hydraulic Leak Detection

WARNING

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

If the hydraulic system is not filled with oil it must be charged and purged of air before transporting and field operations. Carefully hitch the Pulvi-Mulcher to the tractor and connect the hydraulic lift hoses. Check to make sure the tractor hydraulic reservoir is full of the manufacturer's recommended oil.

Slowly raise the machine, and continue to hold the hydraulic lever until all lift cylinders are fully extended. Lower and raise the unit to verify that all cylinders are working simultaneously throughout the stroke. Fully extend the lift cylinders and continue to hold the lever until all cylinder rod movement stops. Raise/Lower machine 5 times to purge air from the system.

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

The Lift Circuit requires approx. 4-1/2 gallons of oil.

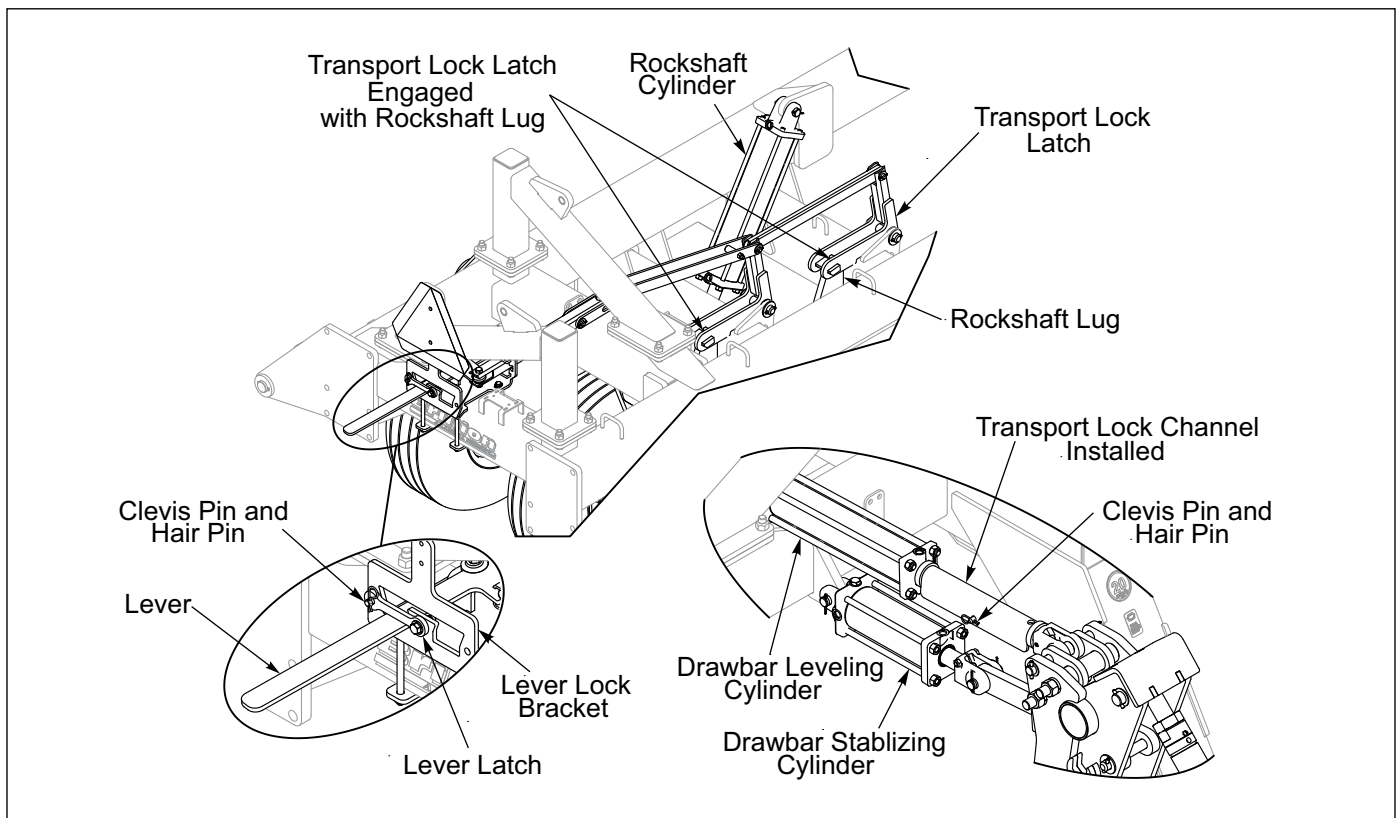


Figure 3-3: Installed Transport Locks

Hydraulic Fold System

1. The 3620 Pulvi-Mulcher is equipped with a hydraulic fold system to raise and lower the wing frames for narrow transport. There is also a pressure reducing valve used to incorporate an active hydraulic wing down pressure.
2. Restrictors in wing cylinders ports help control wing speed when folding/unfolding. Removal or improper assembly of these restrictors can cause the machine to fold improperly and result in serious machine damage.
3. Active down pressure is used to distribute the center frame weight to wings. Flow may need to be reduced to prevent hydraulic oil from overheating on tractor.
6. Slowly engage the tractor lever and fold/unfold the wing frames. When the wings are unfolded, continue holding the tractor lever to fully extend all fold cylinders. This will allow the wings to fully flex in the field.

NOTE

Active hydraulic down-pressure system requires tractor be equipped with closed center or pressure/flow compensated hydraulics.

Use only as much down-pressure as necessary to achieve consistent operating depth.

In addition, excessive down-pressure increases wear on components.

The amount of down-pressure needed to keep wheels in contact with surface depends upon soil hardness, moisture and residue cover.

Too little down-pressure causes inconsistent penetration.

4. Wing locks are automatically engaged when wings are folded. To disengage wing locks retract wing fold cylinders completely, then unfold. Locks will unhook before wings unfold (machine must be in the raised position). **See Figures 3-4 and 3-5.**

The Fold Circuit requires approximately 6 gallons of oil.



WARNING

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

5. To fold/unfold the 3620 Pulvi-Mulcher, find a level area large enough to accommodate the unit when it is fully unfolded. The tractor should be stopped and not moving with the unit fully raised.

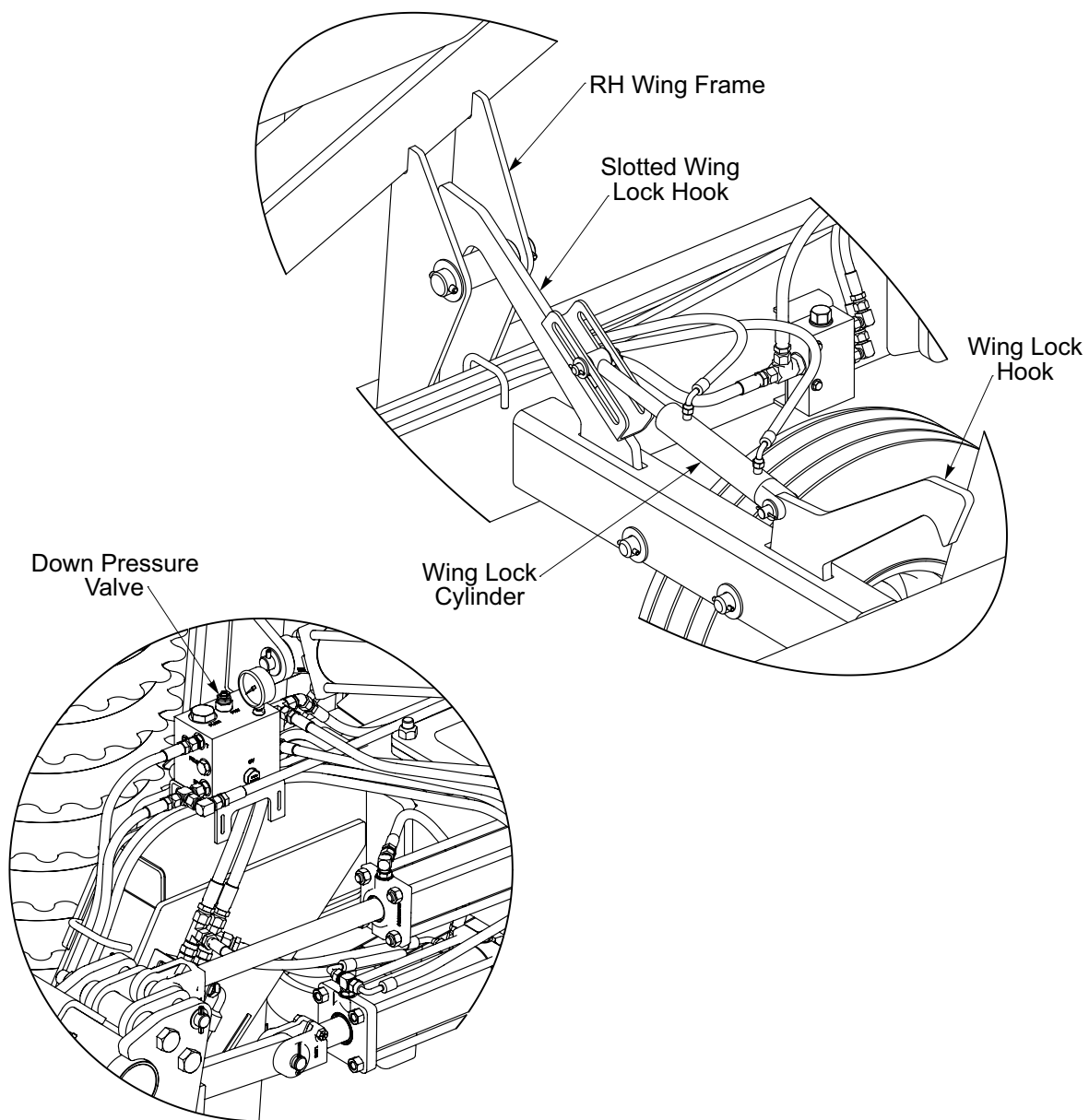
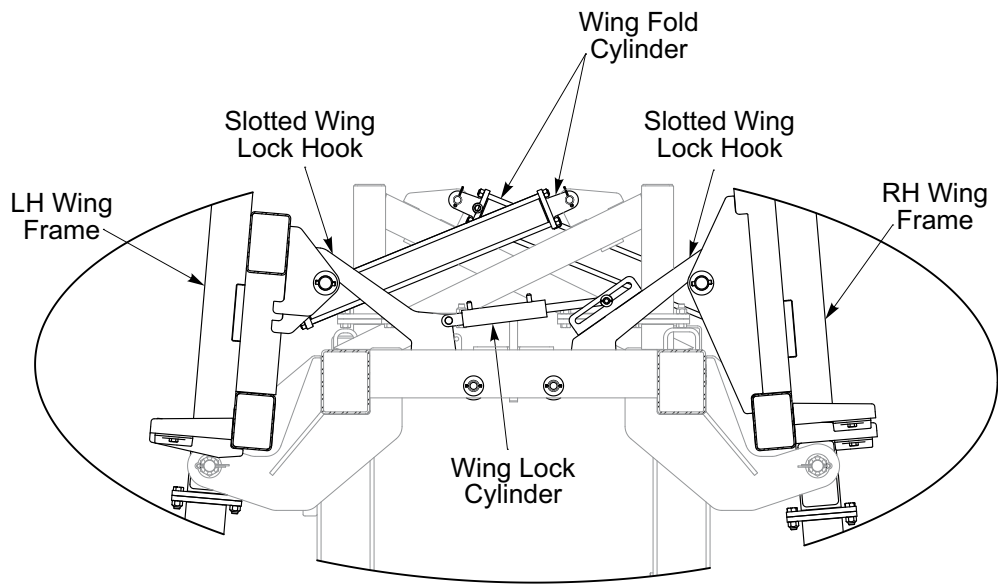
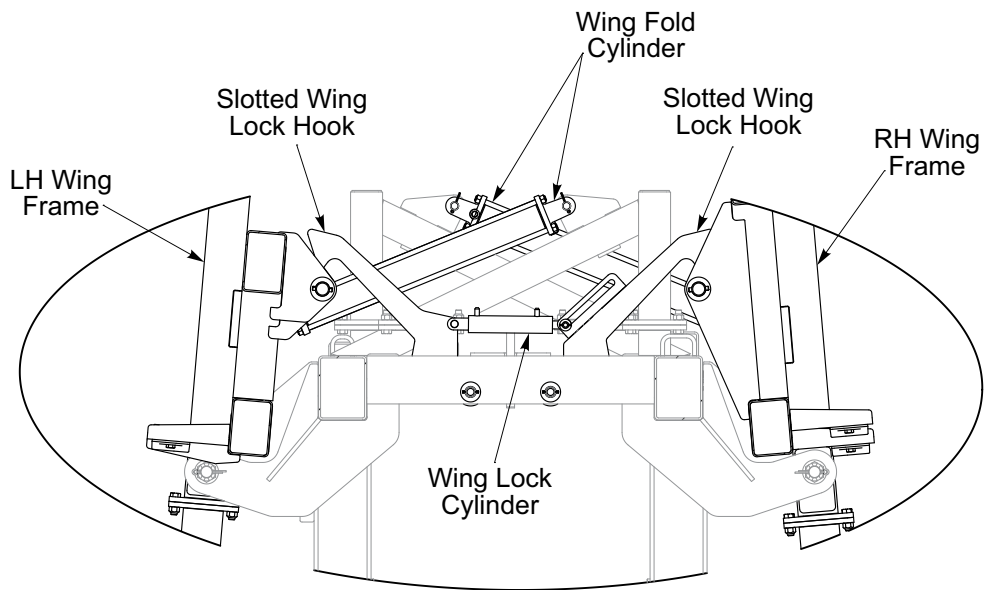


Figure 3-4: Wing Lock Hooks



Wing Lock Engaged



Wing Lock Disengaged

Figure 3-5: Wing Locks

General Operation

1. The minimum horsepower requirements are typically 9-10 horsepower per foot of width. This will vary widely due to speed, depth, moisture, residue and types of soils. Local dealers can help in making recommendations for your areas.
2. Operating speed is typically 5-8 mph. Excessive speed can cause rapid sweep/point wear. Reduce speed in rocky conditions to prevent wheel breakage.
3. Lift wheels must always be in raised position. Pulverizer wheels are used to gauge the depth of each frame section.
4. Do not turn with the teeth in the ground, this can put excessive side load on the shanks. Raise the shanks using hydraulic tooth control when making turns to prevent bent or broken shanks.



CAUTION

Failure to remove both Locks will cause damage to the Rockshaft.

Rockshaft Transport Lock

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

Road to Field

Raise machine fully.

1. Actuate the Lever at the rear of the machine to raise the Transport Locks to Field Position. **See Figure 3-6.**
2. Slide the Lever Into the Field Position in the Lever Bracket.
3. Install the clevis pin and Hair Pin into the Lever Latch to lock the Lever in Field Position.
4. Remove Hitch Leveler Transport Lock, Bent Pin and Hair Pin from Hitch Leveler Cylinder and store it on Hitch Leveler Mast Tab. Install Bent Pin and Hairpin. **See Figure 3-8.**

Field to Road

Raise machine fully.

1. Remove Clevis Pin and Hair Pin from Lever Latch at the rear of the machine. **See Figure 3-6.**
2. Actuate the Lever by sliding the Lever in the Lever Bracket to the Transport Lock Position. The Transport Lock Latch should be over the Rockshaft Lock Lug. **See Figure 3-7.**
3. Install the Clevis Pins and Hair Pins in the Lever Latch to prevent any unexpected unlocking.
4. Remove Hitch Leveler Transport Lock, Bent Pin and Hair Pin from Hitch Leveler Mast Tab and place Transport Lock over the Hitch Leveler Cylinder Rod. Install Bent Pin and Hairpin. **See Figure 3-8.**

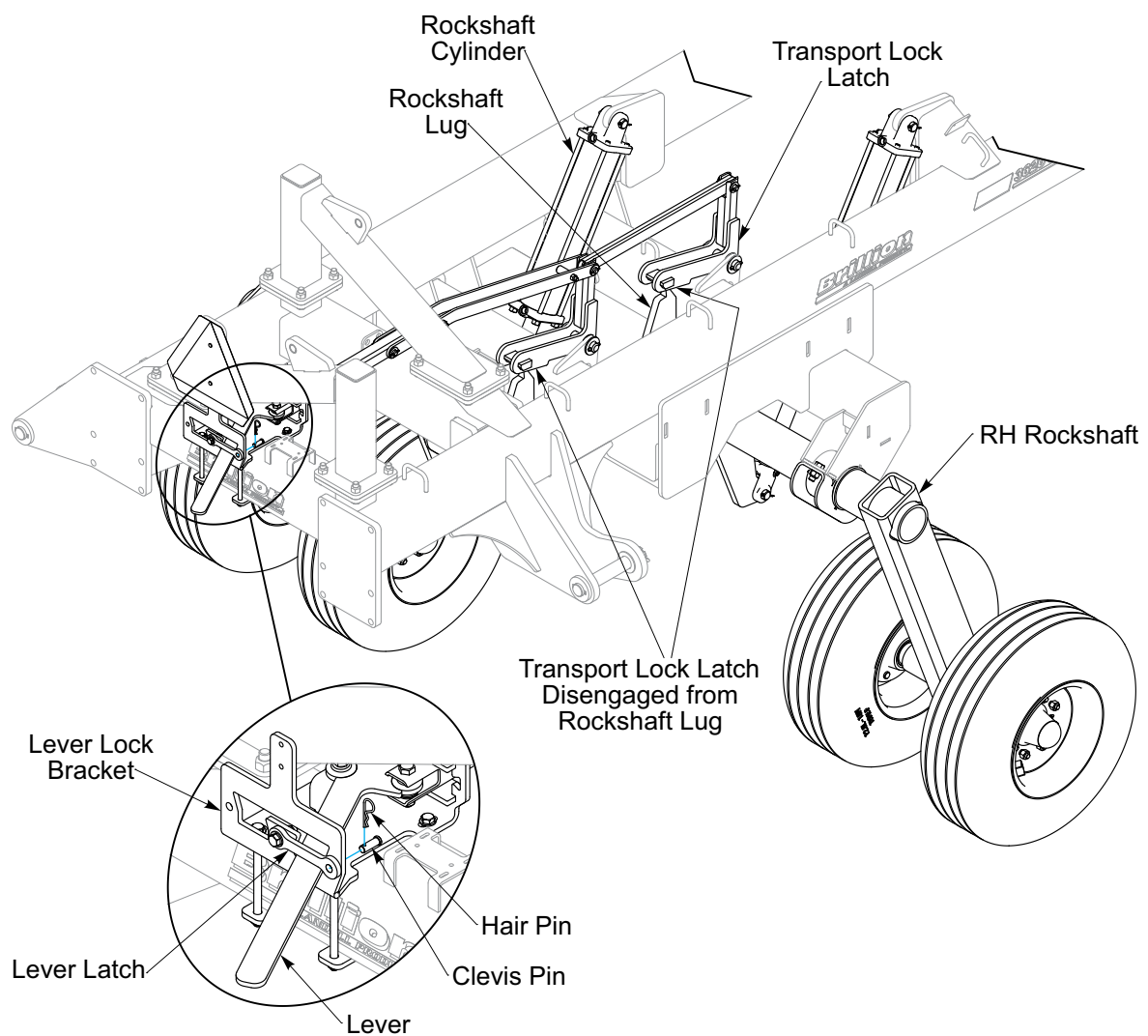


Figure 3-6: Transport Lock Position - Field

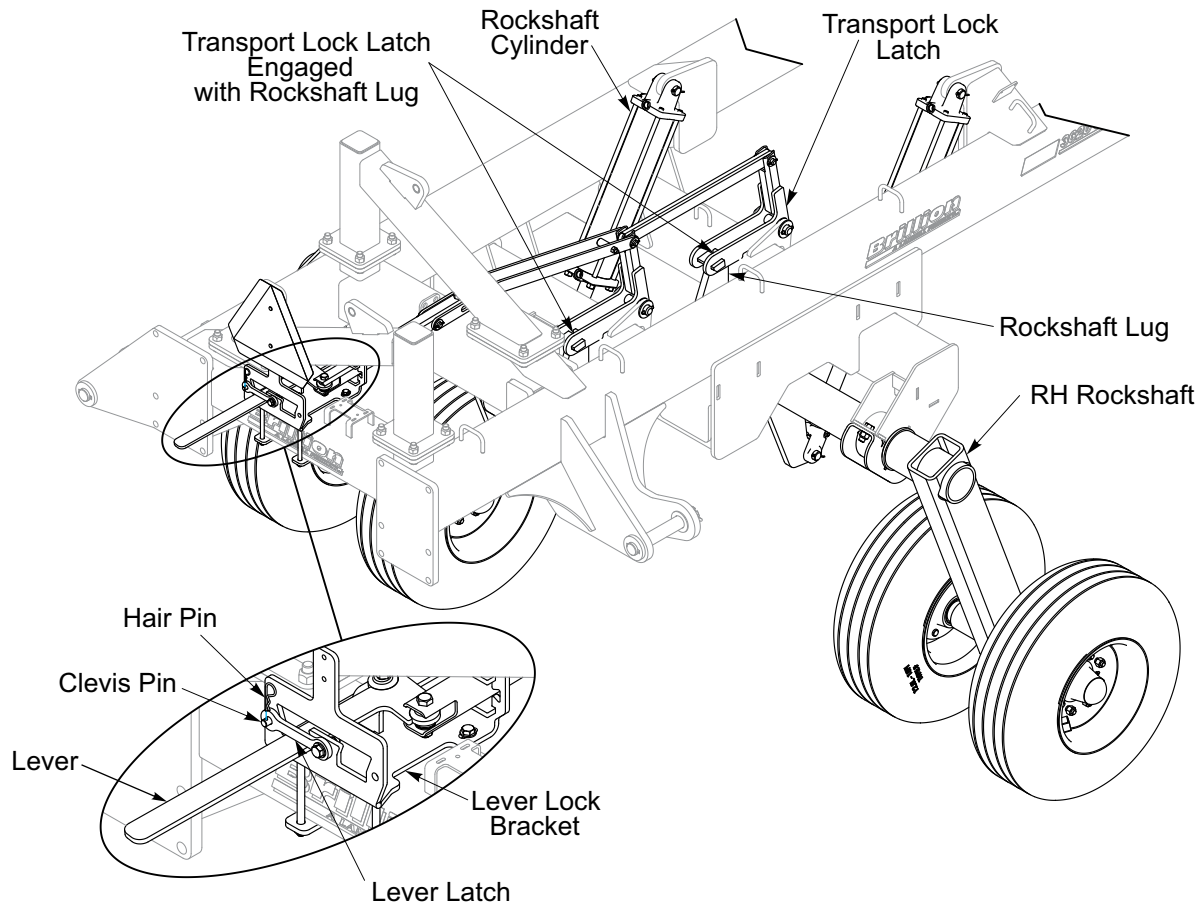


Figure 3-7: Transport Lock Position - Transport

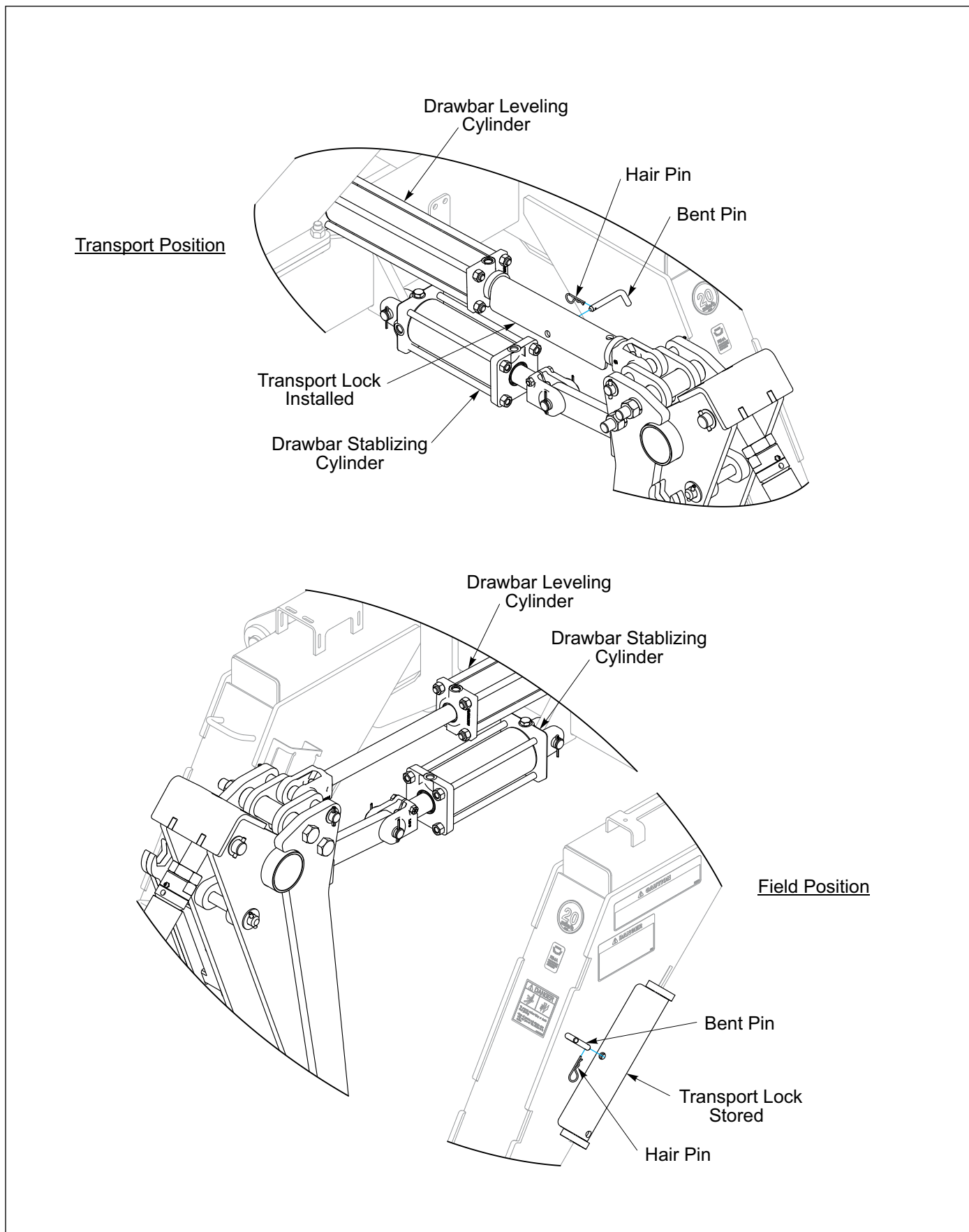


Figure 3-8: Drawbar Transport Lock

Drawbar Turnbuckle

The Pulvi-Mulcher drawbar is designed to float in Field Position and lock into a set position in transport. Depending on tractor hitch height, Turnbuckle may need to be adjusted to level machine front to rear in transport. Use the open end wrench's located on the Hitch Leveler Mast to adjust the turnbuckle. Machine may need to be lowered (Wings Unfolded) to make adjustment. Remove all transport locks before lowering and ensure teeth are raised. **See Figure 3-9.**

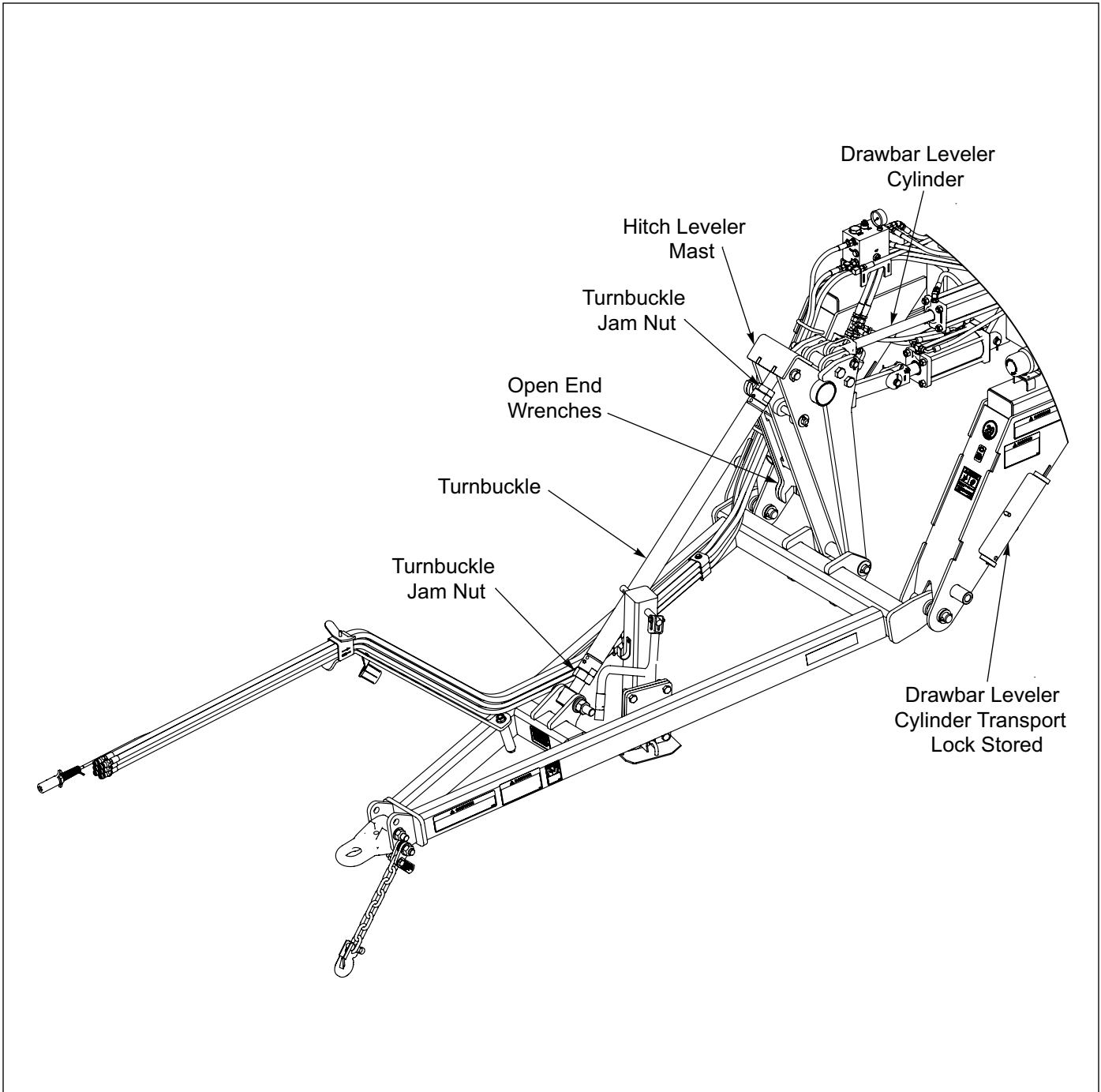


Figure 3-9: Drawbar Turnbuckle

Coil Tine Harrow

3620 is equipped with a Coil Tine Harrow to remove the ridges caused by the shanks and tire tracks before the rear roller compacts the soil. The double coils are individually mounted for flexibility and backup protection. In general the coil drag should run level from front to rear. The Tines depth should be adjusted so the tips are approximately 2" into the soil at the desired Tine angle.

NOTE

The tines will hang straight down when the implement is raised.

The Tine angle may be adjusted for a steeper more aggressive tooth angle or for a flatter tine angle.

Use a steeper tine angle for clean or minimal residue conditions. Use a flatter tine angle to allow for heavier residue to clear.

Adjust the Harrow Tine pitch at the rear of the implement, by removing the Harrow Adjustment Spring Pins from the Angle Adjustment Tubes and rotating the tube to the desired angle. Align the Angle Adjustment Tube Hole with the appropriate Gang Bar Plate Hole and insert the Harrow Adjustment Spring Pins.

Adjust the Harrow Depth with the open end/box end wrench located on the right side of the frame by the Drawbar. Place the wrench on the 1-1/4" square tube and remove the 1"x 7-5/16" Pins and Hair Pins. Use the wrench to raise or lower the Harrow to the desired depth and re-insert Pins and Hair Pins.

Both RH and LH Harrows should be adjusted to the same depth and pitch.

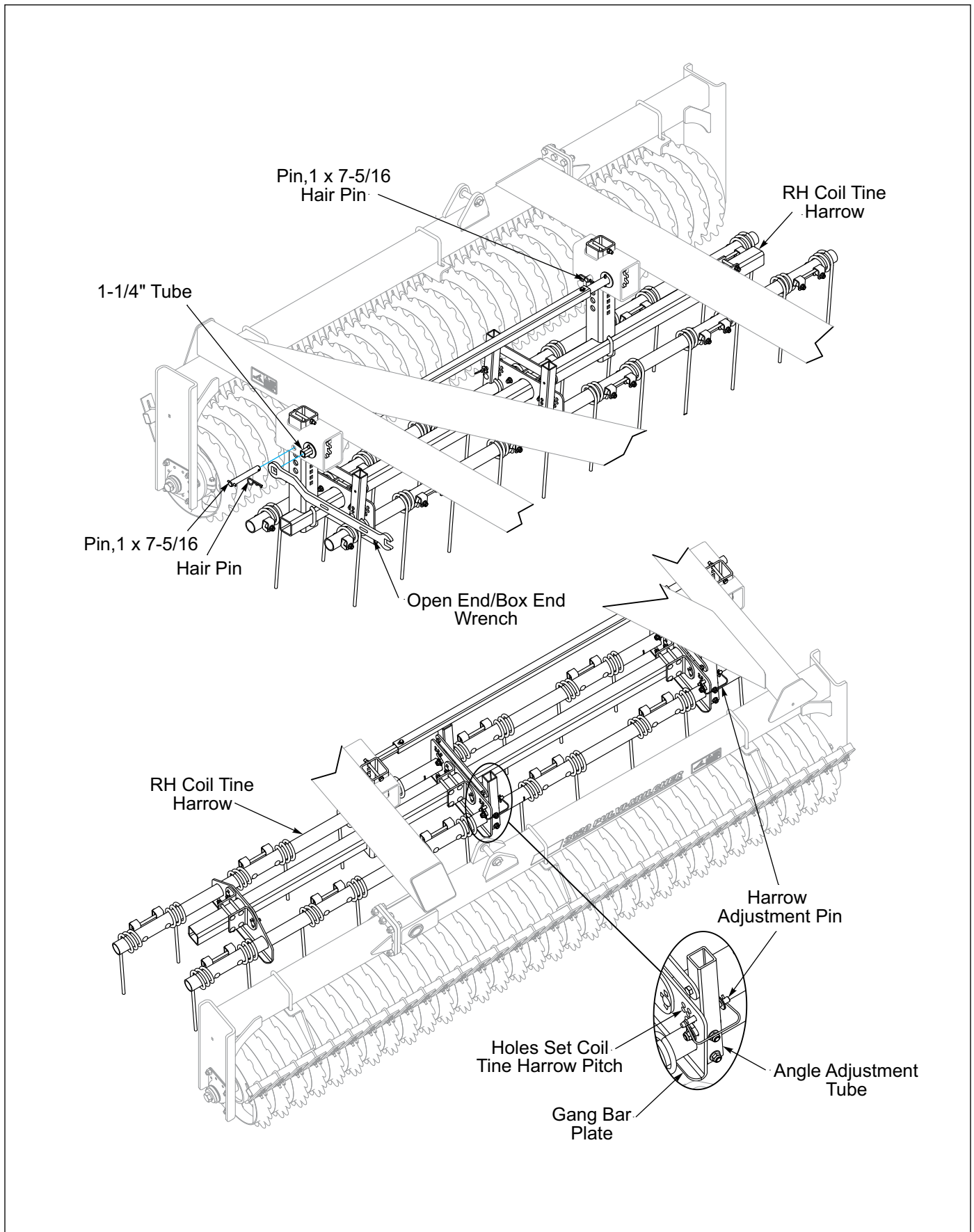


Figure 3-10: Coil Tine Harrow Adjustment

Scraper Adjustment

The Pulvi-Mulcher, if equipped with notched rear wheels will have scrapers. To adjust scrapers; lower machine on level surface. Push wheels against welded stop, add spacer if needed. **See Figures 4-5 and 4-6.** Adjust scrapers to 1/4" gap between scraper and wheel.

NOTE

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

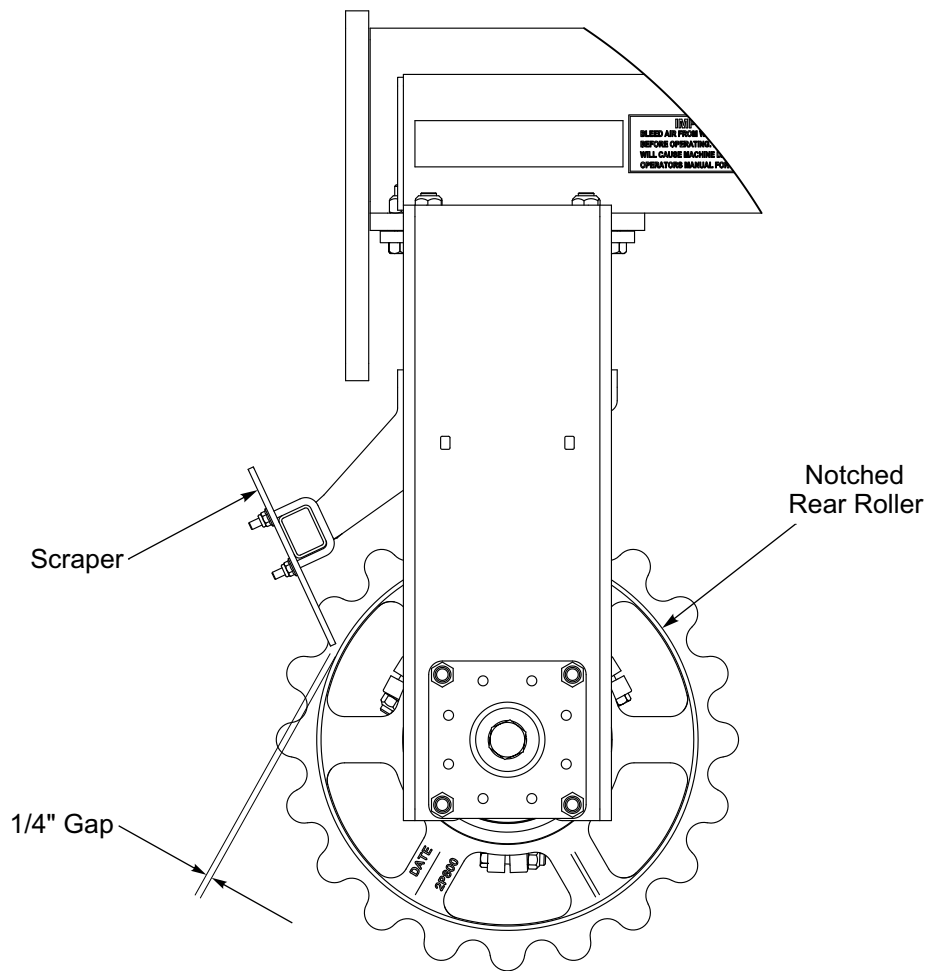


Figure 3-11: Scraper Adjustment

Hydraulic Tooth Control

The 3620 Pulvi-Mulcher is designed with hydraulic tooth control. Each wing has its own depth control valve and cylinder. In the retract position, the cylinders can be purged of air by activating the retract circuit. The depth control valve is activated by an adjustable stop. Indicator on each stop reference the set depth. The cylinders in conjunction with the Shank Depth Control are used to control position of the shanks. Each tooth control cylinder has an adjustable anchor bolt. To set the anchor bolt unfold Pulvi-Mulcher, machine raised, with all tooth control cylinders fully extended.

If Tooth Tubes are not parallel to frame check measurement from the center frame tube or wing frame tube to the cylinder pin. Note the dimension shown is a starting point. Adjust the Cylinder Anchor Adjustment Nuts until the tooth tubes are parallel to the frame. **See Figure 3-12.**

The Tooth Control Circuit requires approximately:
 2-3/4 gallons with tines lowered.
 2-1/4 gallons with tines raised.

Shank Depth Control Adjustment

1. A more precise adjustment of the Shanks can be made using the Shank Depth Control. The "F" setting refers to the maximum operating depth. **See Table 3-2.**

Table 3-2:

Shank Depth Control	
Letter	Shank Depth
F	5"
E	4-1/2"
D	3-1/2"
C	2-1/2"
B	1"
A	N/A

2. Adjust the Shank Depth by turning the Depth Stop Handle until the desired letter, that matches the required shank depth, is centered on the depth Stop Indicator. **See Figure 3-13.**

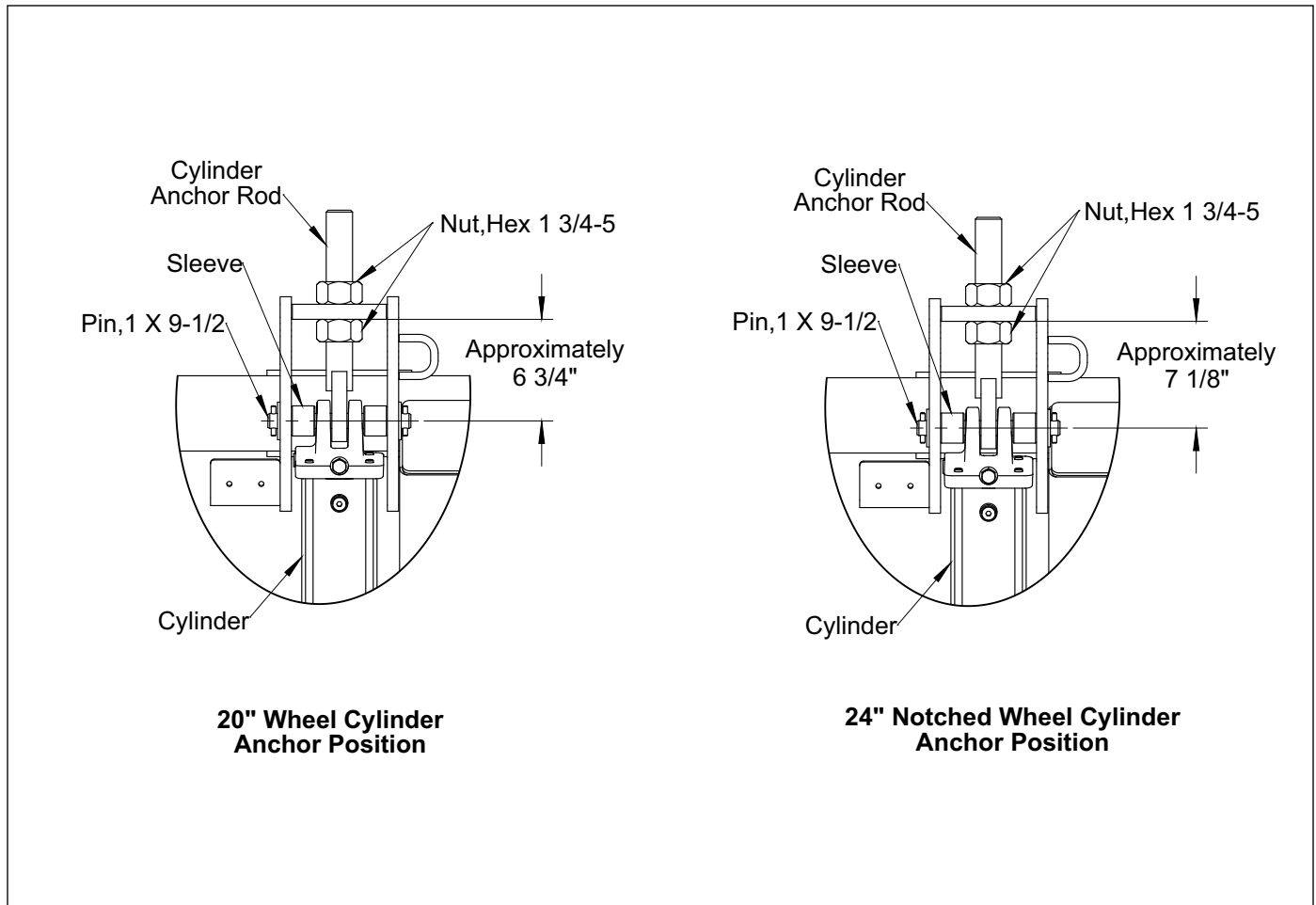


Figure 3-12: Wing Frame Hyd Cyl Spacing

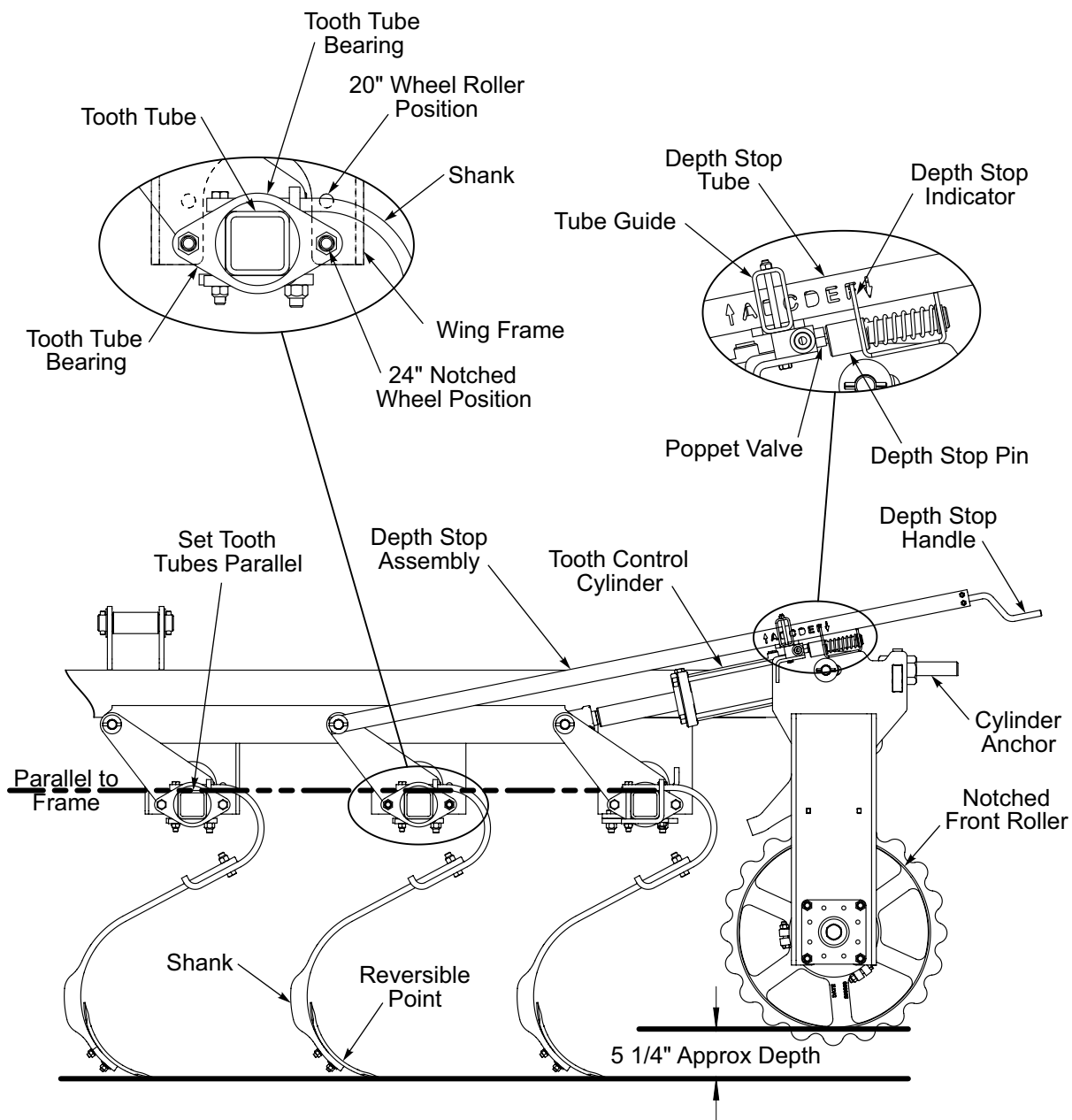


Figure 3-13: Shank Depth Control

Optional V-Leveler

The 3620 V-Levelers purpose is to break up and scatter any large lumps that are above the normal ground level and help fill in tractor wheel tracks in soft soil. If soil pushes ahead of the bar, it is set too low. Striking large rocks will damage the leveler bar and possibly other parts on the machine. Adjust the V-Leveler to the highest position that does the required job. For the Wings remove the 1/2-13 x 3 bolts to raise or lower the Leveler Bar. For the Center Section, remove the 1 x 8 Pin and two 1 x 12-3/4 Pins on the Drawbar to raise or lower the V-Leveler Bar. **See Figure 3-14.**

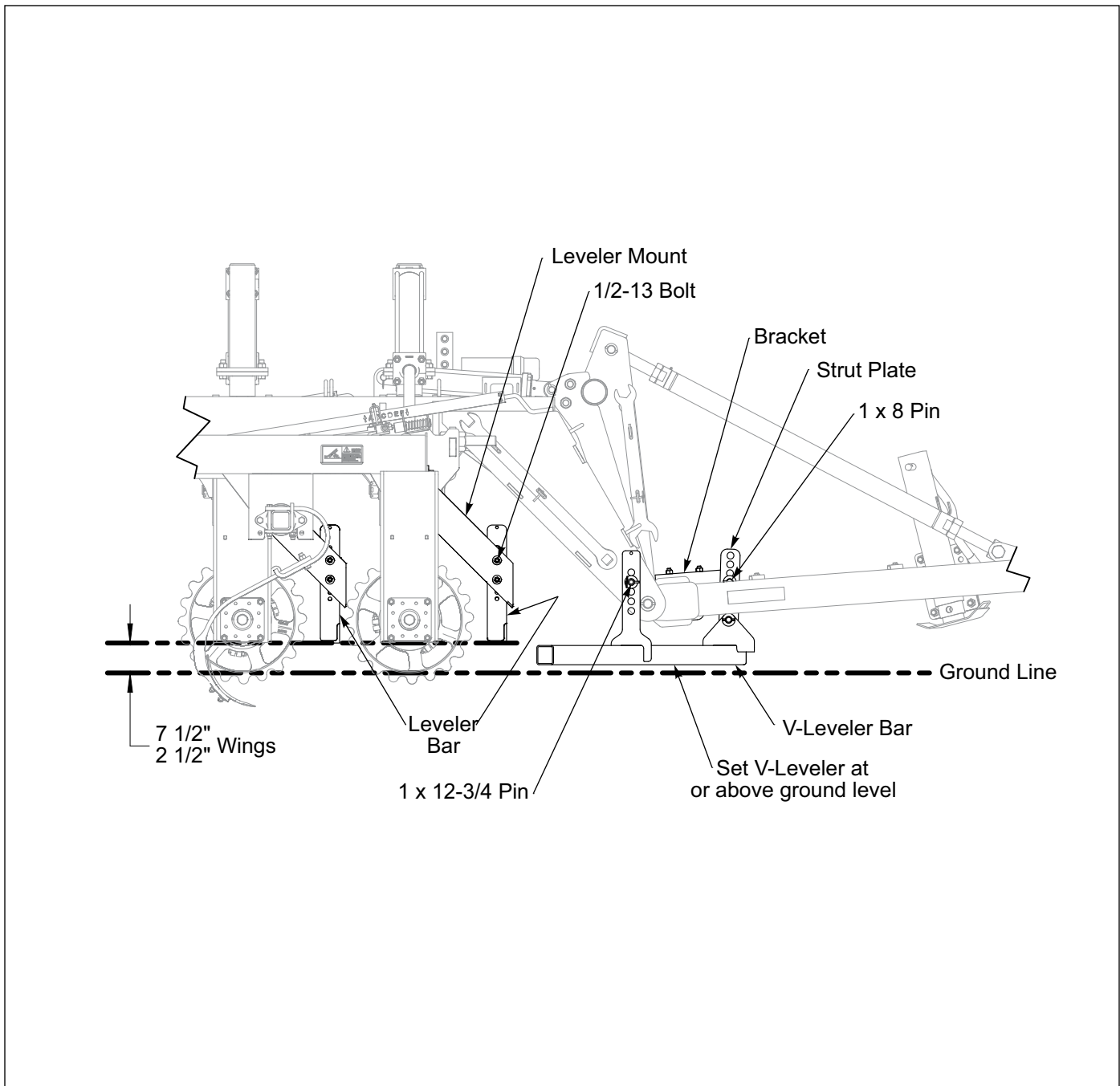


Figure 3-14: V-Leveler

Transport

1. Check and follow all federal, state, and local requirements before transporting the Pulvi-Mulcher.
2. The Pulvi-Mulcher should be transported only by tractor required for field operation. The implement weight should not exceed more than 1.5 times the tractor weight. Maximum transport speed for the Pulvi-Mulcher is 20 mph for the implement and is designated on the speed identification symbol located on the front of the implement (See Figure 3-15.)



CAUTION

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

3. When towing equipment in combination, the maximum equipment ground speed shall be limited to the lowest specified ground speed of any of the towed implements.
4. Maximum transport speed shall be the lesser of travel speed specified in the operator's manual, speed identification symbol, information sign of towed equipment, or limit of road conditions.
5. Slow down when driving on rough roads. Reduce speed when turning, or on curves and slopes to avoid tipping. Equipment altered other than the place of manufacture may reduce the maximum transport speed. Additional weight, added tanks, harrowing attachments, etc. may reduce implement load carrying capabilities.
6. A safety chain is provided with the implement to insure safe transport.
 - The safety chain should have a tensile strength equal to or greater than the gross weight of the implement. The chain is attached to the lower hitch clevis hole with two flat washers between the clamp plates to assure a tight connection. Always use a 1" diameter Grade 8 bolt for this connection.
 - Attach the safety chain to the tractor drawbar (See Figure 3-16.) 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.

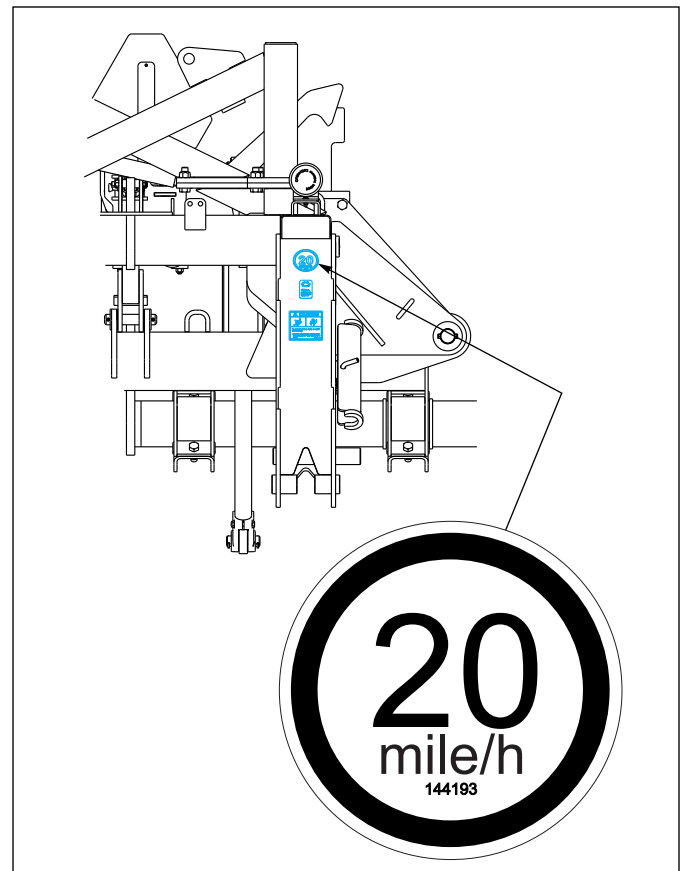


Figure 3-15 Maximum Speed Limit Identification Symbol

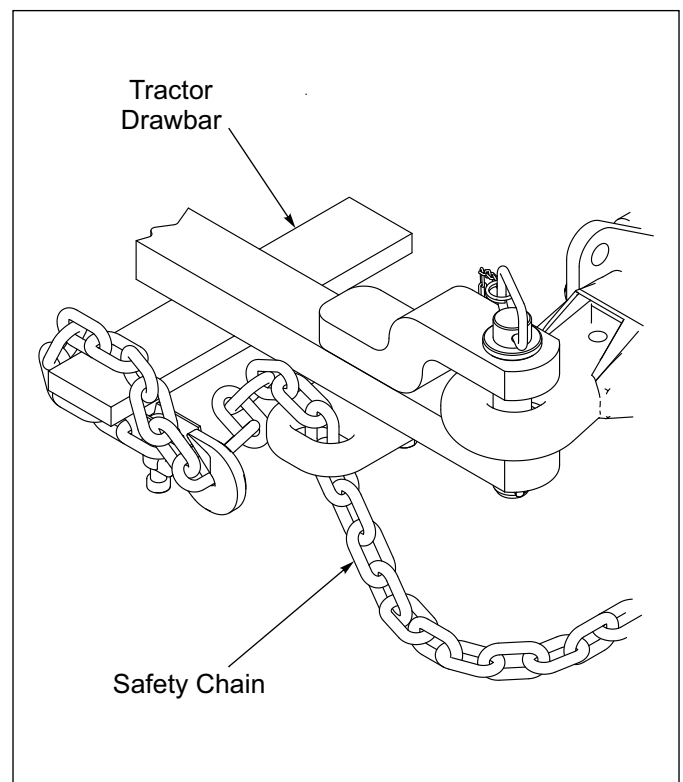


Figure 3-16: Safety Chain

OPERATION

7. Check that tires are of proper size, load rating, and inflated to manufacture specifications before transporting. Check wheel lug bolts to ensure tightness.
8. Know the transport heights and widths of the unit before transporting. Use caution when transporting near bridges and power lines.



WARNING

Electrocution can occur without direct contact

9. Raise the machine to full transport height.
10. Install transport locks on lift systems. Do not depend solely on implement hydraulics for transport. See Figure 3-18.



WARNING

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

11. Transport during daylight hours when ever possible. Always use flashing warning lights, except where such use is prohibited by law. Make sure lights, reflectors and SMV emblem are clearly visible and operating. Remove any obstructions such as dirt, mud, stalks or residue that restricts view before transporting. See Figure 3-17.

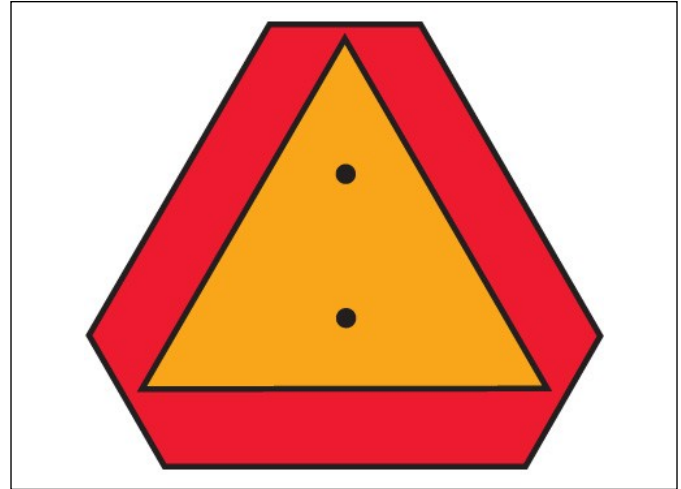


Figure 3-17: SMV Sign

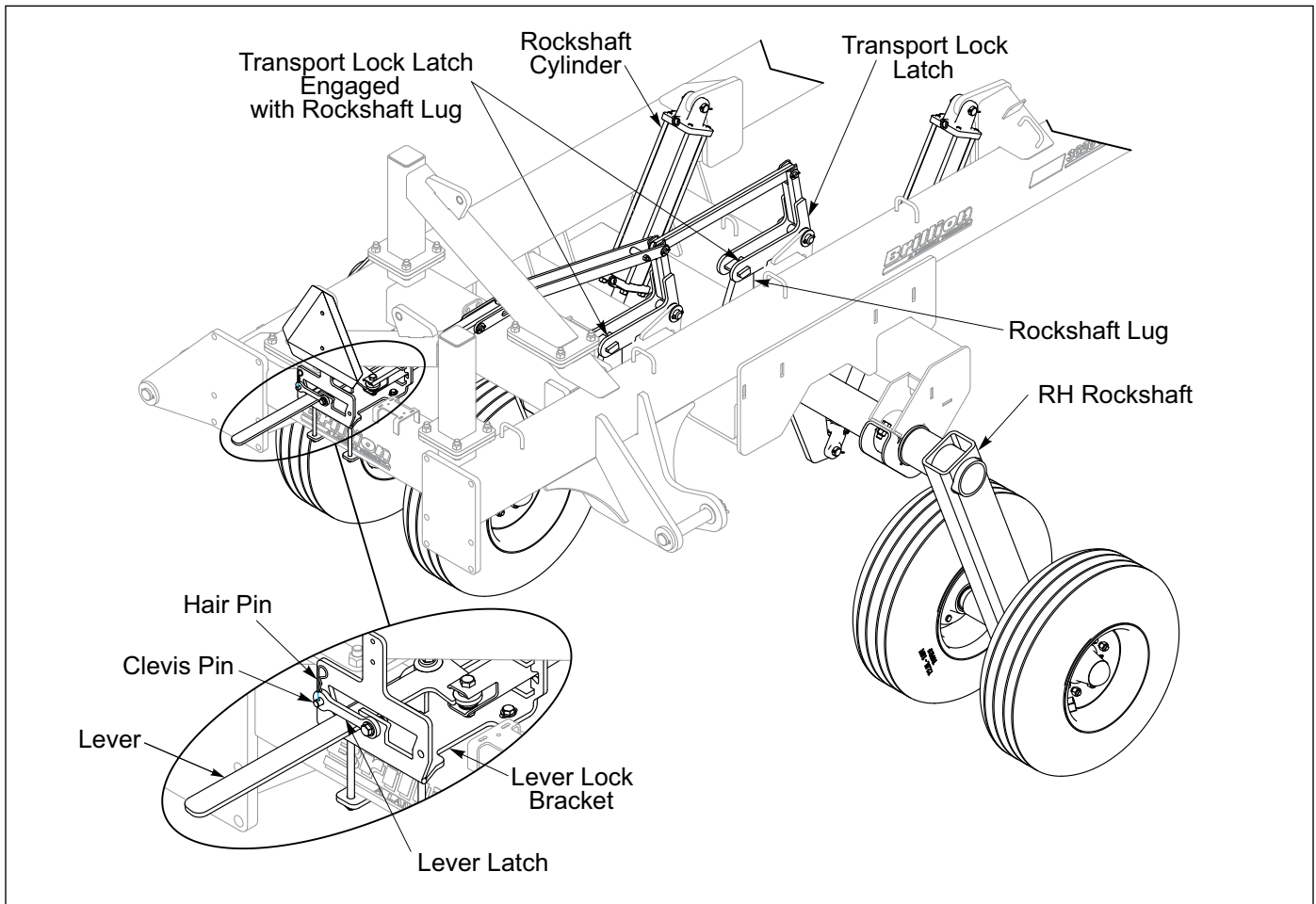


Figure 3-18: Transport Lock - Transport

Maintenance

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% 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

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

PARKER® BRAND FITTINGS

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

AEROQUIP® BRAND FITTINGS

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

GATES® BRAND FITTINGS

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	-----	-----

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 sizes are 12.5 x 15 FI and should be inflated to 90 PSI.

When Re-Installing the 5/8-18 Wheel Nuts tighten to 50 ft-lbs using the sequence in **Figure 4-1**. Then tighten to full torque of 140-170 ft-lbs.

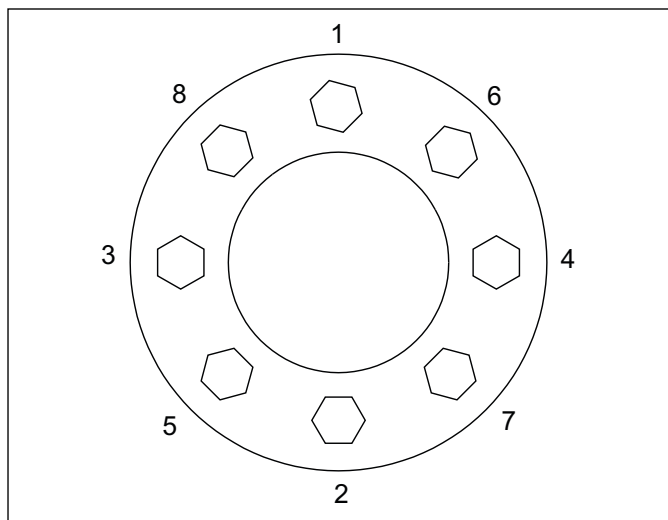


Figure 4-1: Stud Tightening Sequence

Wheel Bearing Maintenance

Wheel bearing maintenance should be performed at the beginning of every season of use. Check the wheel bearings periodically for excessive end play. 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. Slide the triple-lip seal onto the spindle. Do not install the seal into the hub.

NOTE

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

7. Slide the inner bearing cone and hub onto the 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. Slide the triple-lip seal to the hub and install the seal in the hub.
11. Install a new cotter pin and re-install the hub cap.

Lubrication Maintenance

The 3620 Pulvi-Mulcher is equipped with maintenance free bearings in the lifts, leveler, and wings hinges. These areas require no lubrication.

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

Grease turnbuckle every 50 hrs or yearly to prevent seizure. **See Figure 4-2.**

Grease wheels hubs every 50 hrs. **See Figure 4-2.**

Hydraulic Maintenance

IMPORTANT

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

1. Check the tractor hydraulic fluid level per tractor owners manual and after any leakage. Check fluid level with the cylinders in the retracted position.
2. If a cylinder or valve leaks, disassemble the parts to determine the cause of the leak. Any time a cylinder is opened up, or whenever any seal replacement is necessary, it is advisable to clean all parts and replace all seals. Seal kits are available from your Brillion dealer.
3. Check all hydraulic hoses weekly. Look for binding or cracking. Replace all worn or defective parts immediately.
4. Transport locks are provided to hold the implement in a raised position. Do not attempt to perform any service work under the implement without first installing the transport locks. Before servicing any hydraulic component, lower the implement to the ground and relieve all system pressure. If a hydraulic component is disconnected, repaired, or replaced, it will be necessary to purge the system of air before operation. **See “Hydraulic Lift System” on page 3-3 and “Hydraulic Fold System” on page 3-4** on how to purge the hydraulic systems.

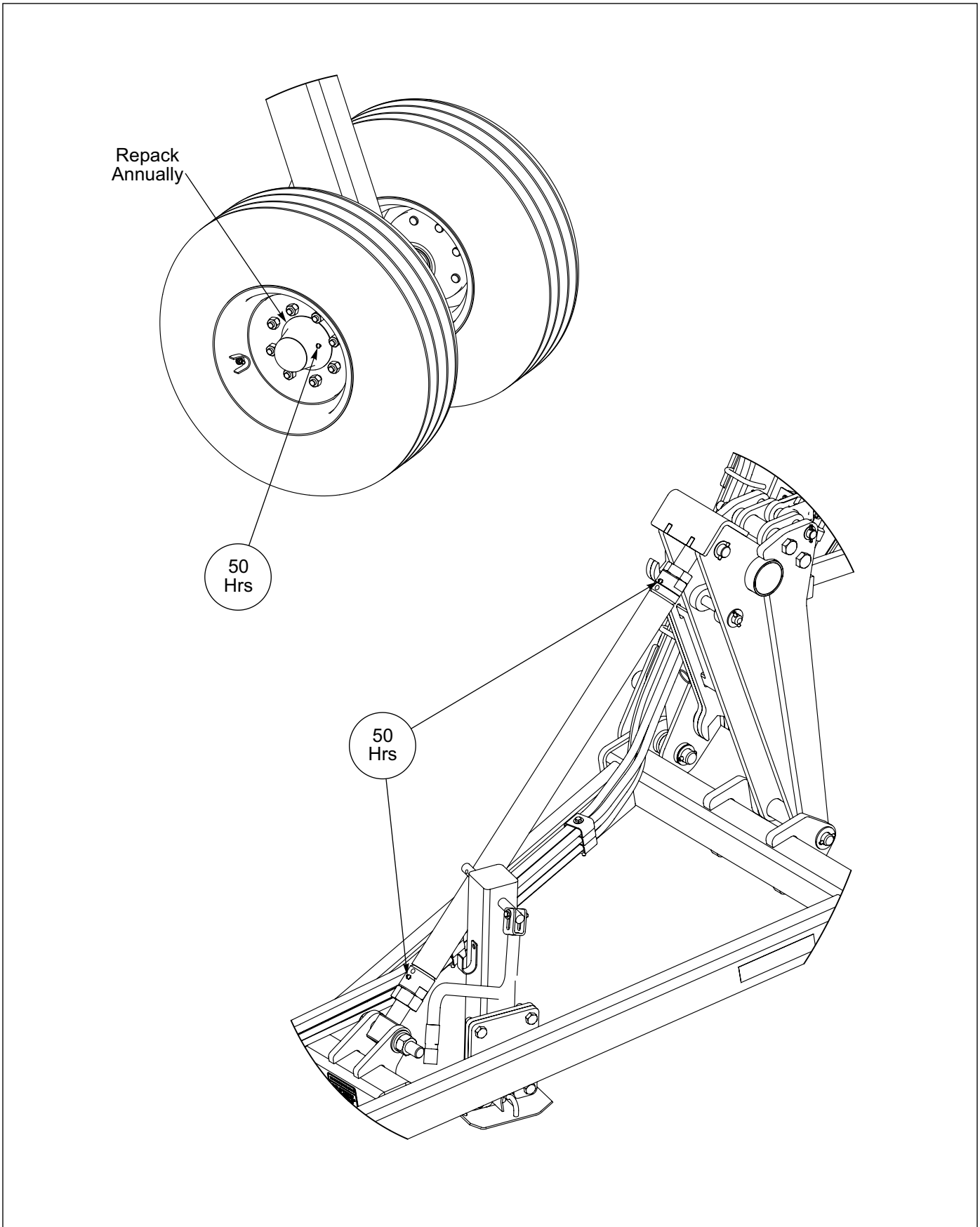


Figure 4-2: Lubrication Points and Intervals

Roller Axle Assembly

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

Clamp Tightening

Tighten the Clamp bolts evenly to achieve equal spacing between clamp section. Torque to 75 ft/lbs. Thereafter check assemblies every 50-100 hours.

See Figure 4-4.

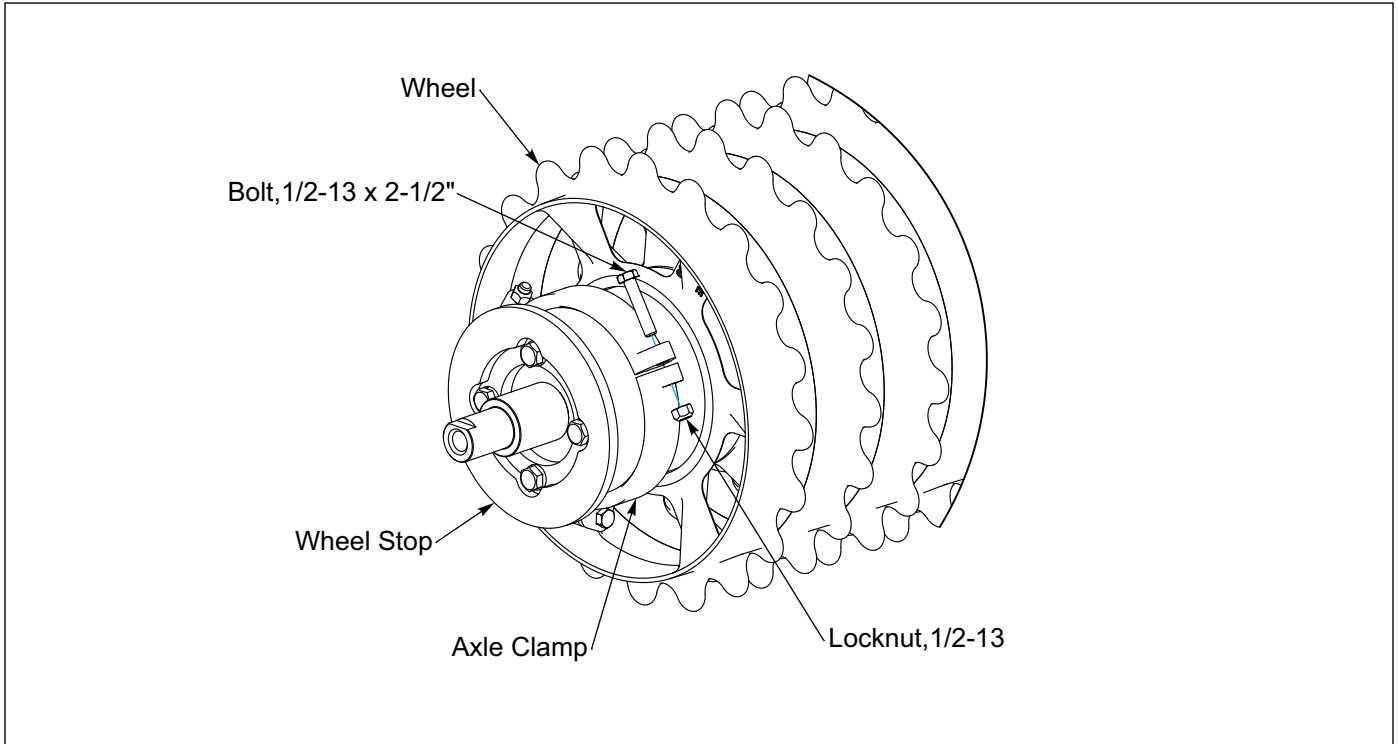


Figure 4-3: Roller Axle Assembly

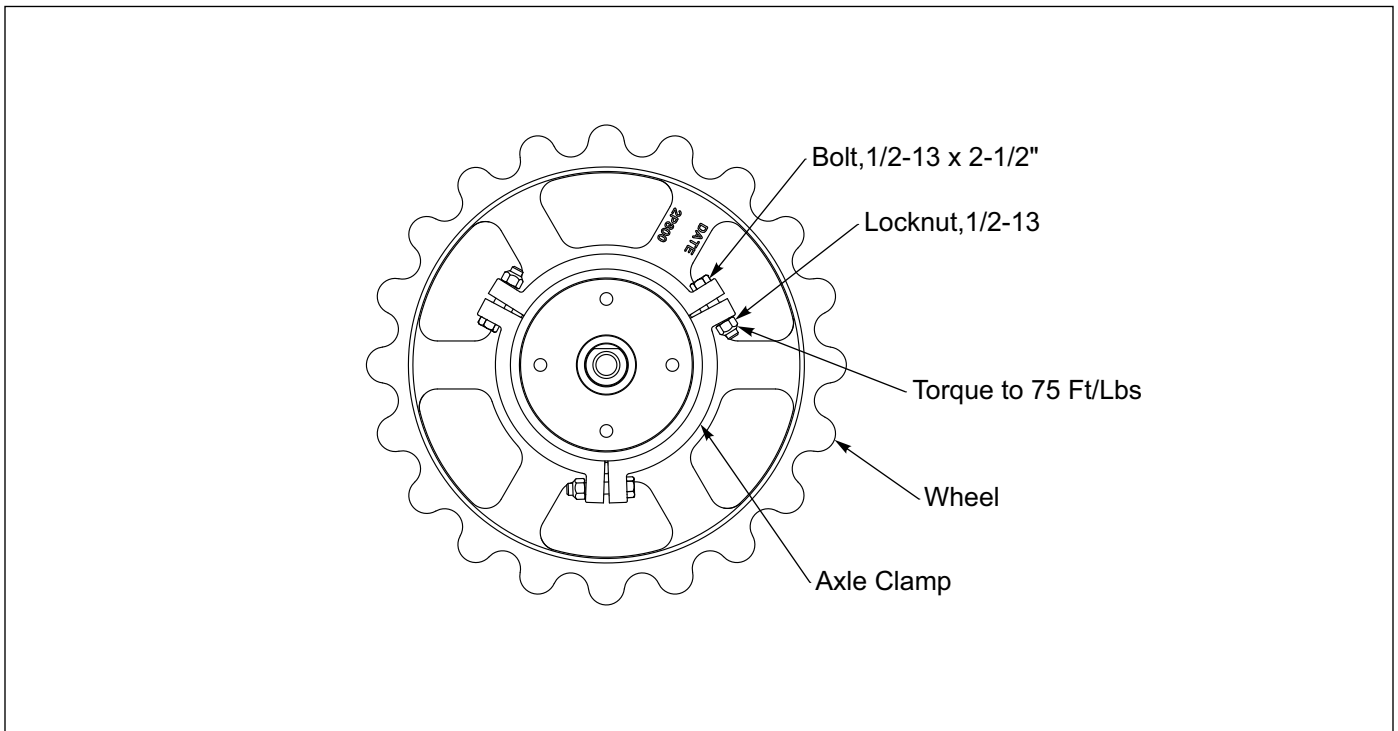


Figure 4-4: Clamp Tightening

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 Locknut. See Page 4-1.

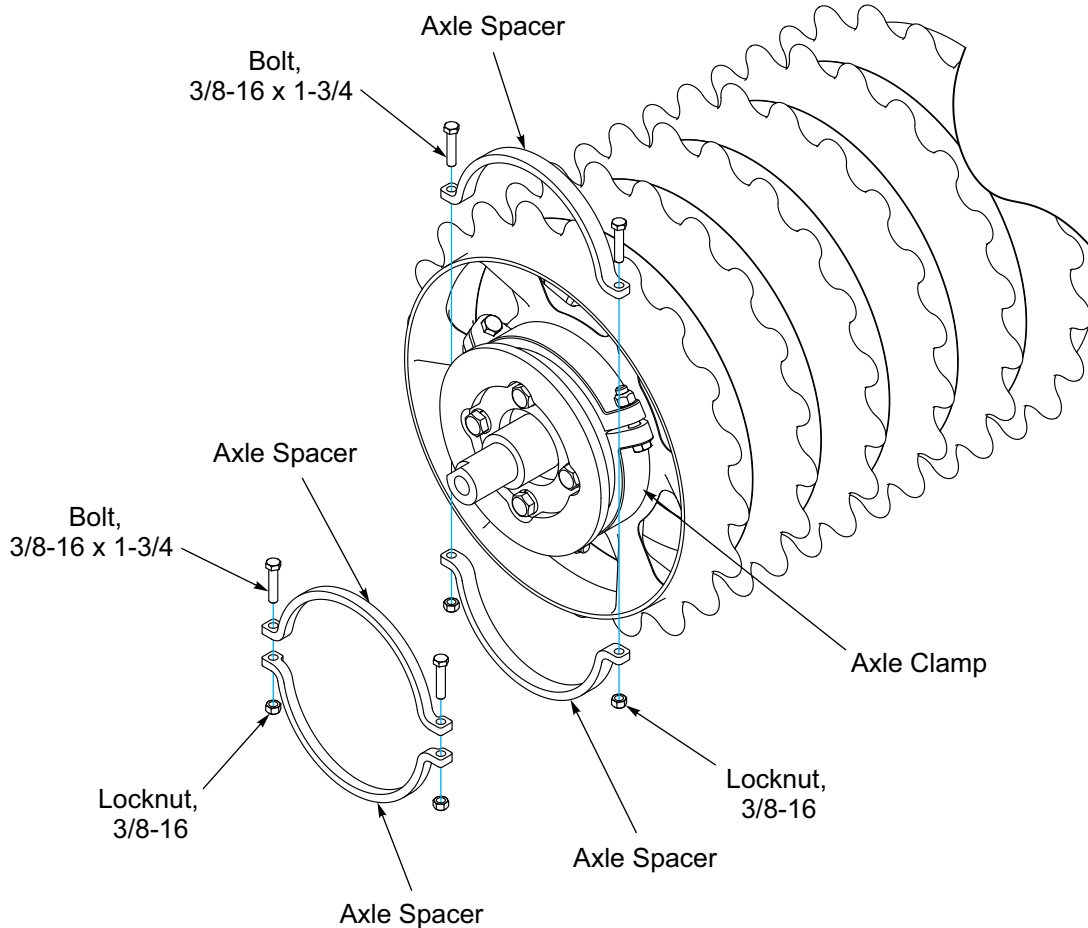


Figure 4-5: Clamp End Spacer Kit 1 of 2 - Optional

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.**

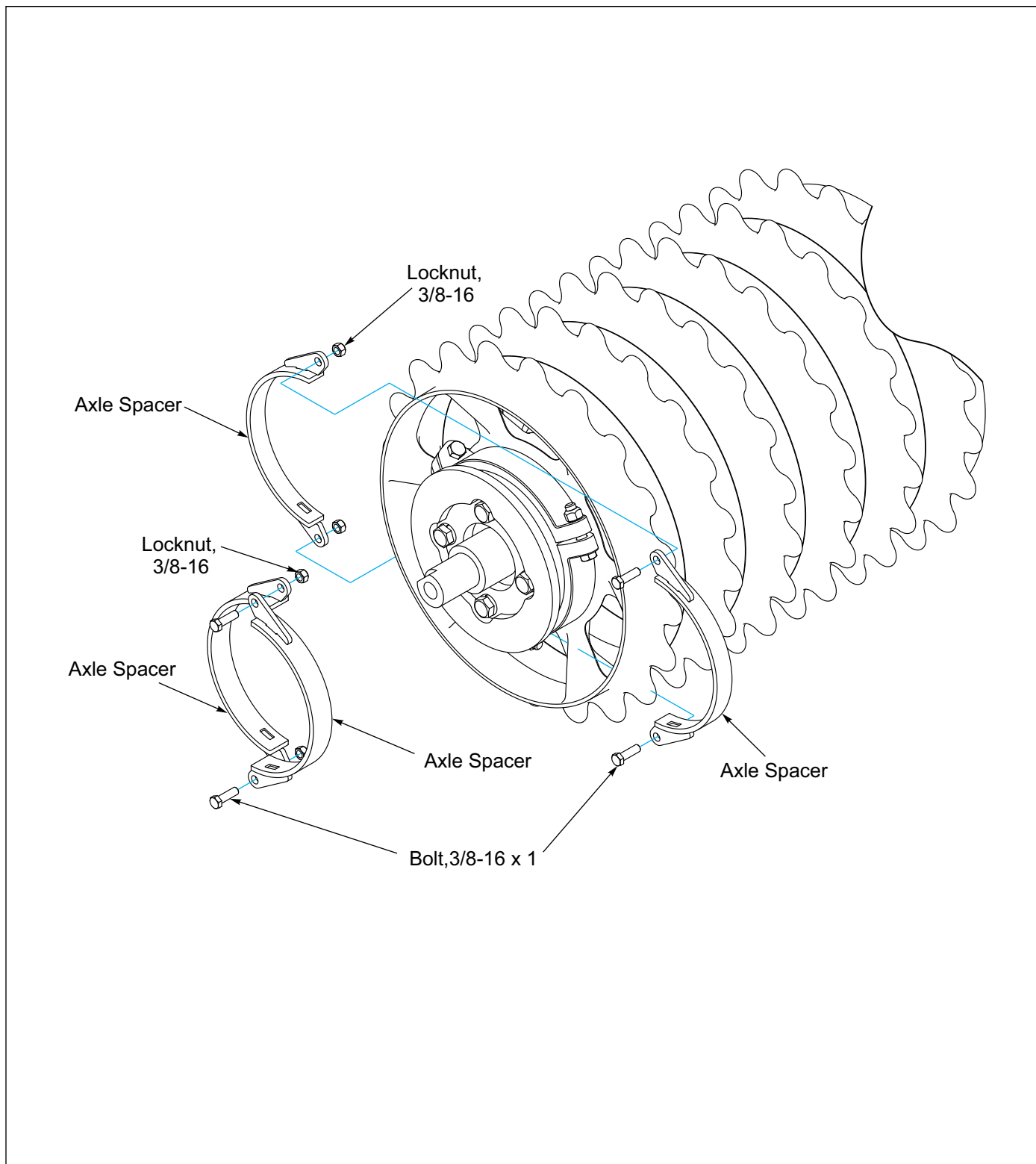
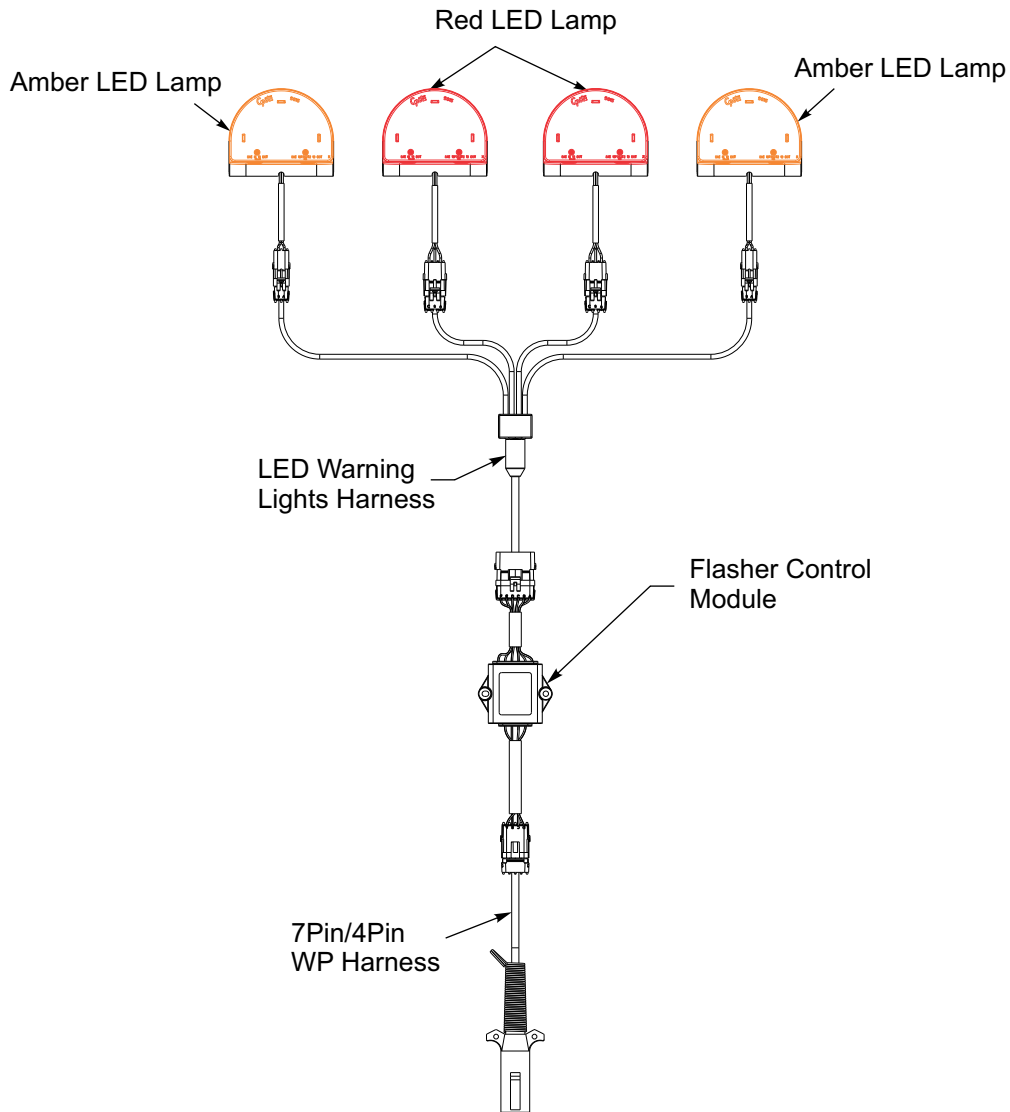


Figure 4-6: Clamp End Spacer Kit 2 of 2 - Optional

LED Warning Lights Tips



When plugging in the LED 7-pin connector:

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

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

Figure 4-7: LED Warning Lights Schematic

Storage

1. The service life of the Pulvi-Mulcher will be extended by proper off-season storage practices. Prior to storing the unit, complete the following procedures:
 - a. Completely clean the unit.
 - b. Inspect the machine for worn or defective parts. Replace as needed.
 - c. Repaint all areas where the original paint is worn off.
 - d. Grease all exposed metal surfaces of shanks and points.
 - e. Apply a light coating of oil or grease to exposed cylinder rods to prevent them from rusting.
 - f. Lubricate each point of the machine as stated in **“Lubrication Points and Intervals” on page 4-4.**
2. Store the unit in a shed or under a tarpaulin to protect it from the weather. The ground tools and tires should rest on boards, or some other object, to keep them out of the soil.
3. If the unit is stored in the folded position, make sure the transport lock pins are installed to prevent settling.
4. Relieve Hydraulic Pressure in hoses after locks are installed.
5. Block wheels before unhitching from tractor.

Maintenance Chart

(Subject to change without notice)

	Initial Run-In	20 Hours	50 Hours	100 Hours/Annually	Storage
Fasteners, Wheel Hub Bolts	X			X	
Grease: Turnbuckle			X		
Adjust Scraper if equipped			X		
Grease Wheel Hub			X	X	
Repack Wheel Hub Bearings				X	
Tighten Roller Axle Wheels and Clamps			X	X	
** Clean machine					X
Grease after cleaning					X
Touch-up paint					X

*** Avoid spraying high pressure washer directly at bearing seals and electrical connections.*

General Reference and Specifications

	WL-3620-21	WLC-3620-21	WCL-3620-21
Approximate Weight	19,386 lbs. (8,793 kg)	18,911 lbs. (8,578 kg)	19,122 lbs. (8,674 kg)
Working Width	21 ft. 0 in. (6.4 m)	21 ft. 0 in. (6.4 m)	21 ft. 0 in. (6.4 m)
Transport Width	12 ft. 3 in. (3.7 m)	12 ft. 3 in. (3.7 m)	12 ft. 3 in. (3.7 m)
Transport Height	13 ft. 4 in. (4.1 m)	13 ft. 4 in. (4.1 m)	13 ft. 4 in. (4.1 m)
Overall Length (Transport)	31 ft. 3 in. (9.5 m)	31 ft. 3 in. (9.5 m)	31 ft. 3 in. (9.5 m)
Road Clearance	13 in. (330 mm)	13 in. (330 mm)	13 in. (330 mm)
Type of Pulverizer Wheel (Front)	20 in. (500 mm) Notched Ductile Iron	20 in. (500 mm) Notched Ductile Iron	20 in. (500 mm) Crowfoot Ductile Iron
Number of Pulverizer Wheels (Front)	64	64	42
Type of Pulverizer Wheel (Rear)	20 in. (500 mm) Notched Ductile Iron	20 in. (500 mm) Crowfoot Ductile Iron	20 in. (500 mm) Notched Ductile Iron
Number of Pulverizer Wheels (Rear)	65	43	65
Rear Roller Scrapers	Standard	N/A	Standard
Roller Axle Size	8 in. (203 mm)	8 in. (203 mm)	8 in. (203 mm)
Bearing Type	61 mm Heavy-Duty	61 mm Heavy-Duty	61 mm Heavy-Duty
Type of Shanks	Heavy-Duty Two-Piece Edge Bent S-Tine Shank 1.75 in. x 0.625 in. (44.5 x 15.9 mm)	Heavy-Duty Two-Piece Edge Bent S-Tine Shank 1.75 in. x 0.625 in. (44.5 x 15.9 mm)	Heavy-Duty Two-Piece Edge Bent S-Tine Shank 1.75 in. x 0.625 in. (44.5 x 15.9 mm)
Number of Shanks	42	42	42
Nominal Shank Spacing	6 in. (152 mm)	6 in. (152 mm)	6 in. (152 mm)
Maximum Shank Depth of Operation	5 in. (127 mm)	5 in. (127 mm)	5 in. (127 mm)
Under Frame Clearance	25 in. (635 mm)	25 in. (635 mm)	25 in. (635 mm)
Two-Row Coil Tine Harrow	Standard	Standard	Standard
Hitch	Pull-Type with Hydraulic Lift	Pull-Type with Hydraulic Lift	Pull-Type with Hydraulic Lift
Hitch Category	Cat. III, IV or V	Cat. III, IV or V	Cat. III, IV or V
Tire Size	(4) 12.5L x 15 FI	(4) 12.5L x 15 FI	(4) 12.5L x 15 FI
Hydraulic Circuits Required	3 (+1 for Rear Hitch)	3 (+1 for Rear Hitch)	3 (+1 for Rear Hitch)
Rear Hitch	Optional	Optional	Optional
Front Roller Scraper Kit	Optional	Optional	N/A
V-Leveler Kit	Optional	Optional	Optional
Hydraulic Down Pressure System	Standard	Standard	Standard
Independent Hydraulic Tooth Control	Standard	Standard	Standard
LED Warning Lights & SMV Emblem	Standard	Standard	Standard
Safety Chain Kit	Standard	Standard	Standard
Powder Coat Paint	Standard	Standard	Standard
Horsepower Requirements	9 to 10 HP (6.7 to 7.5 kW) per ft.	9 to 10 HP (6.7 to 7.5 kW) per ft.	9 to 10 HP (6.7 to 7.5 kW) per ft.
Recommended Operating Speed	6 to 8 MPH (10 to 13 km/h)	6 to 8 MPH (10 to 13 km/h)	6 to 8 MPH (10 to 13 km/h)

GENERAL REFERENCE AND SPECIFICATIONS

	WCC-3620-21	WLO-3620-21	WOL-3620-21	WOO-3620-21
Approximate Weight	18,647 lbs. (8,458 kg)	19,672 lbs. (8,923 kg)	19,870 lbs. (9,013 kg)	20,155 lbs. (9,142 kg)
Working Width	21 ft. 0 in. (6.4 m)	21 ft. 0 in. (6.4 m)	21 ft. 0 in. (6.4 m)	21 ft. 0 in. (6.4 m)
Transport Width	12 ft. 3 in. (3.7 m)	12 ft. 3 in. (3.7 m)	12 ft. 3 in. (3.7 m)	12 ft. 3 in. (3.7 m)
Transport Height	13 ft. 4 in. (4.1 m)	13 ft. 4 in. (4.1 m)	13 ft. 4 in. (4.1 m)	13 ft. 4 in. (4.1 m)
Overall Length (Transport)	31 ft. 3 in. (9.5 m)	31 ft. 3 in. (9.5 m)	31 ft. 3 in. (9.5 m)	31 ft. 3 in. (9.5 m)
Road Clearance	13 in. (330 mm)	13 in. (330 mm)	13 in. (330 mm)	13 in. (330 mm)
Type of Pulverizer Wheel (Front)	20 in. (500 mm) Crowfoot Ductile Iron	20 in. (500 mm) Notched Ductile Iron	20 in. (500 mm) Optimizer Ductile Iron	20 in. (500 mm) Optimizer Ductile Iron
Number of Pulverizer Wheels (Front)	42	64	42	42
Type of Pulverizer Wheel (Rear)	20 in. (500 mm) Crowfoot Ductile Iron	20 in. (500 mm) Optimizer Ductile Iron	20 in. (500 mm) Notched Ductile Iron	20 in. (500 mm) Optimizer Ductile Iron
Number of Pulverizer Wheels (Rear)	43	43	65	43
Rear Roller Scrapers	N/A	N/A	Standard	N/A
Roller Axle Size	8 in. (203 mm)	8 in. (203 mm)	8 in. (203 mm)	8 in. (203 mm)
Bearing Type	61 mm Heavy-Duty	61 mm Heavy-Duty	61 mm Heavy-Duty	61 mm Heavy-Duty
Type of Shanks	Heavy-Duty Two-Piece Edge Bent S-Tine Shank 1.75 in. x 0.625 in. (44.5 x 15.9 mm)	Heavy-Duty Two-Piece Edge Bent S-Tine Shank 1.75 in. x 0.625 in. (44.5 x 15.9 mm)	Heavy-Duty Two-Piece Edge Bent S-Tine Shank 1.75 in. x 0.625 in. (44.5 x 15.9 mm)	Heavy-Duty Two-Piece Edge Bent S-Tine Shank 1.75 in. x 0.625 in. (44.5 x 15.9 mm)
Number of Shanks	42	42	42	42
Nominal Shank Spacing	6 in. (152 mm)	6 in. (152 mm)	6 in. (152 mm)	6 in. (152 mm)
Maximum Shank Depth of Operation	5 in. (127 mm)	5 in. (127 mm)	5 in. (127 mm)	5 in. (127 mm)
Under Frame Clearance	25 in. (635 mm)	25 in. (635 mm)	25 in. (635 mm)	25 in. (635 mm)
Two-Row Coil Tine Harrow	Standard	Standard	Standard	Standard
Hitch	Pull-Type with Hydraulic Lift	Pull-Type with Hydraulic Lift	Pull-Type with Hydraulic Lift	Pull-Type with Hydraulic Lift
Hitch Category	Cat. III, IV or V	Cat. III, IV or V	Cat. III, IV or V	Cat. III, IV or V
Tire Size	(4) 12.5L x 15 FI	(4) 12.5L x 15 FI	(4) 12.5L x 15 FI	(4) 12.5L x 15 FI
Hydraulic Circuits Required	3 (+1 for Rear Hitch)	3 (+1 for Rear Hitch)	3 (+1 for Rear Hitch)	3 (+1 for Rear Hitch)
Rear Hitch	Optional	Optional	Optional	Optional
Front Roller Scraper Kit	N/A	Optional	N/A	N/A
V-Leveler Kit	Optional	Optional	Optional	Optional
Hydraulic Down Pressure System	Standard	Standard	Standard	Standard
Independent Hydraulic Tooth Control	Standard	Standard	Standard	Standard
LED Warning Lights & SMV Emblem	Standard	Standard	Standard	Standard
Safety Chain Kit	Standard	Standard	Standard	Standard
Powder Coat Paint	Standard	Standard	Standard	Standard
Horsepower Requirements	9 to 10 HP (6.7 to 7.5 kW) per ft.	9 to 10 HP (6.7 to 7.5 kW) per ft.	9 to 10 HP (6.7 to 7.5 kW) per ft.	9 to 10 HP (6.7 to 7.5 kW) per ft.
Recommended Operating Speed	6 to 8 MPH (10 to 13 km/h)	6 to 8 MPH (10 to 13 km/h)	6 to 8 MPH (10 to 13 km/h)	6 to 8 MPH (10 to 13 km/h)

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Date	Revision	Improvement(s) Description and Comments	Team Member
03/2017	R0	Initial Release	WML
02/2018	0218	Modified Pressure Valve, added Gauge	WML
11/2018	1118	Incorporated ECN 44217, Increased Tube Wall Thickness	WML



Intertek

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Pulvi-Mulcher 3620 Model Operator's Manual

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