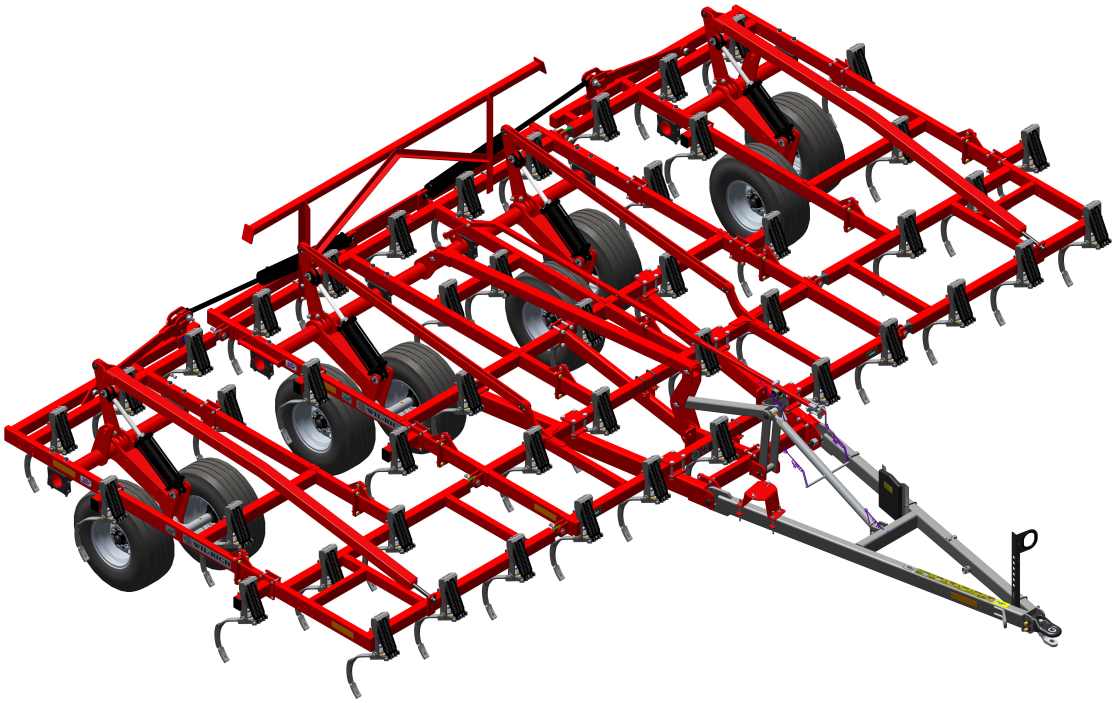
Assembly Manual

SN 2320466407-

4000361191 / APR 2024

3 Section Field Cultivator



VÄDERSTAD

VADERSTAD INC. LIMITED WARRANTY TERMS AND CONDITIONS – UNITED STATES AND CANADA

EFFECTIVE FOR EQUIPMENT RETAILED AND DELIVERED AFTER MAY 21ST, 2021

WHAT IS WARRANTED Vaderstad Inc. warrants its new equipment to be free of defects in material and workmanship at time of delivery to the first retail purchaser, renter, or lessee. These terms apply to all 10K, Wil-Rich and Wishek brands of new equipment originally marketed in the United States and Canada.

WARRANTY PERIOD

- 12 Months from the date of delivery to the first retail purchaser, renter or lessee.
- 483 Disk Chisel, Field Cultivator and Disk Cultivators: 3 years on main frames, wing frames, and shank assemblies

EXCEPTIONS FROM THIS WARRANTY

- Freight Charges - This warranty does not cover freight charges.
- Improvements, Changes, or Discontinuance Vaderstad Inc. reserves the right to make changes and improvements in design or changes in specifications at any time to any product without incurring any obligations to owners of products previously sold.
- Repairs and Maintenance Not Covered Under Warranty - This warranty does not cover conditions resulting from misuse, natural calamities, use of non-Vaderstad Inc. parts, negligence, alteration, accident, use of unapproved attachments, usage which is contrary to the intended purposes, or conditions caused by failure to perform required maintenance. Replacement of Wear or Maintenance items (unless defective) such as but not limited to, filters, hoses, belts, lubricants, light bulbs, wheel alignment, tightening of nuts, belts, bolts, and fittings, service tune-up, computer parameter adjustments and general adjustments which may from time to time be required are not covered.
- Rubber Tire Warranty - Rubber tires are warranted directly by the respective manufacturer only and not by Vaderstad Inc.
- Satellite Outages - Interruptions in satellite interfaces and satellite communications are outside the control of this product and are not covered by this warranty. The company is not responsible for issues or degradation of system performance resulting from such interruptions in satellite interfaces and satellite communications where the issues are not related to defects in this product.

OWNER'S OBLIGATION

It is the responsibility of the Owner to transport the equipment or parts to the service shop of an authorized Vaderstad Inc. Dealer or alternatively to reimburse the Dealer for any travel or transportation expense involved in fulfilling this warranty. This Warranty does NOT cover rental of replacement equipment during the repair period, damage to products which have been declared a total loss and subsequently salvaged, overtime labor charges, freight charges for replacement parts, or special handling requirements (such as, but not limited to, the use of cranes).

EXCLUSIVE EFFECT OF WARRANTY AND LIMITATION OF LIABILITY

THIS WARRANTY IS IN LIEU OF ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PURPOSE OR OTHER REPRESENTATIONS, WARRANTIES OR CONDITIONS, EXPRESSED OR IMPLIED. The remedies of the Owner set forth herein are exclusive. The Company neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with the sale of covered machines. Correction of defects, in the manner and for applicable period of time provided above, shall constitute fulfillment of all responsibilities of Vaderstad Inc. to the Owner, and Vaderstad Inc. shall not be liable for negligence under contract or in any manner with respect to such machines. IN NO EVENT SHALL THE OWNER BE ENTITLED TO RECOVER FOR INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES SUCH AS BUT NOT LIMITED TO, LOSS OF CROPS, LOSS OF PROFITS OR REVENUE, OTHER COMMERCIAL LOSSES, INCONVENIENCE OR COST OF RENTAL OR REPLACEMENT EQUIPMENT.

Some States or Provinces do not permit limitations or exclusions of implied warranties or incidental or consequential damages, so the limitations or exclusions in this warranty may not apply.

"VADERSTAD INC." AS REFERRED TO HEREIN WITH RESPECT TO SALES IN: UNITED STATES and CANADA: Vaderstad Inc.
PO Box 1030
Wahpeton, ND 58074

Additional Warranty Information

New Equipment Warranty - Equipment is eligible for warranty service only if it qualifies under the provisions of the New Equipment Warranty. The selling dealer will deliver this Warranty to the original retail purchaser at the time of sale, and the dealer will register the sale and Warranty with Vaderstad Inc.

Subsequent Owners - This Warranty covers the first retail purchaser and all subsequent owners of the equipment during the specified warranty period. Should the Vaderstad Inc. Dealer sell this equipment to a subsequent owner, the Dealer must deliver the warranty document to the subsequent owner so the subsequent owner can register ownership with Vaderstad Inc. and obtain the remaining warranty benefits, if available, with no intermission in the Warranty Period. Subsequent Owner Procedure will apply. It is the responsibility of the subsequent owner to transport the equipment to the service shop of an authorized Vaderstad Inc. Dealer or alternatively to reimburse the Dealer for any travel or transportation expense involved in fulfilling this warranty. This Warranty does NOT cover charges for rental or replacement equipment during the repair period, products which have been declared a total loss and subsequently salvaged, overtime labor charges, freight charges for replacement parts, or units sold at auction.

Warranty Service - To be covered by Warranty, service must be performed by an authorized Vaderstad Inc. It is recommended that you obtain warranty service from the Dealer who sold you the equipment because of that Dealer's continued interest in you as a valued customer. In the event this is not possible, warranty service may be performed by any other authorized Vaderstad Inc. Dealers in the United States or Canada. It is the responsibility of the Owner to transport the equipment to the service shop of an authorized Vaderstad Inc. Dealer or alternatively to reimburse the Dealer for any travel or transportation expense involved in fulfilling this warranty.

Maintenance Service - The Owner's Manual furnished to you with the equipment at the time of delivery contains important maintenance and service information. You must read the manual carefully and follow all the maintenance and service recommendations. Doing so will result in greater satisfaction with your equipment and help avoid service and warranty problems. Please remember that failures due to improper maintenance of your equipment are not covered by warranty.

Maintenance Inspections - To insure the continued best performance from your agricultural equipment, we recommend that you arrange to make your equipment available to your selling Dealer for a maintenance inspection 30 days prior to warranty expiration.

Introduction

Safety Alerty Symbol

This is the safety alert symbol. The safety alert symbol will direct the operator's attention to information that involves personal safety and the safety of others.

Safety Messages

The words DANGER, WARNING, or CAUTION are used with the safety alert symbol. Learn to recognize these safety alerts and follow the recommended precautions and safety practices.

Indicates an imminently hazardous situation that, if not avoided, will result in DEATH OR VERY SERIOUS INJURY.

Indicates an potentially hazardous situation that, if not avoided, could result in DEATH OR SERIOUS INJURY.

Indicates a potentially hazardous situation that, if not avoided, will result in MINOR INJURY.

Informational Messages

The word important or note are not related to personal safety but are used to give additional information and tips for operating or servicing this equipment.

IMPORTANT: Identifies special instructions or procedures which, if not strictly observed, could result in damage to or destruction of the machine, process, or its surroundings.

NOTE: identifies points of particular interest for more efficient and convenient repair or operation.

Safety Signs

Do not remove or obscure Danger, Warning, or Caution signs. Replace any Danger, Warning or Caution signs that are not readable or are missing. Replacement signs are available from the dealer in the event of loss or damage. The actual location of the safety signs is illustrated at the end of this section.

Keep signs clean by wiping off regularly. Use a cleaning solution if necessary.

If parts have been replaced or a used machine has been purchased, make sure all safety signs are in the correct location and can be read. Illustrations of safety sign locations are located at the rear of this section.

Replace any safety signs that cannot be read or are missing. Clean the machine surface thoroughly with a cleaning solution before replacing signs. Replacement safety signs are available from a dealer.

A Word to The Operator

It is the operator's responsibility to read and understand the safety section in this manual and the manual for all attachments before operating this machine.

Study the features in this manual and make them a working part of a safety program. Keep in mind that this safety section is written only for this type of machine. Practice all other usual and customary safe working precautions. The operator can prevent serious injury and death.

This safety section is intended to point out some of the basic safety situations that may be encountered during the normal operation and maintenance of this machine. This section also suggests possible ways of dealing with these situations. This section is not a replacement for other safety practices featured in other sections of this manual.

Personal injury or death may result if these precautions are not followed.

Learn how to operate the machine and how to use the controls properly.

Do not let anyone operate the machine without instruction and training.

For personal safety and the safety of others, follow all safety precautions and instructions found in the manual and on safety signs affixed to the machine and all attachments.

Use only approved attachments and equipment.

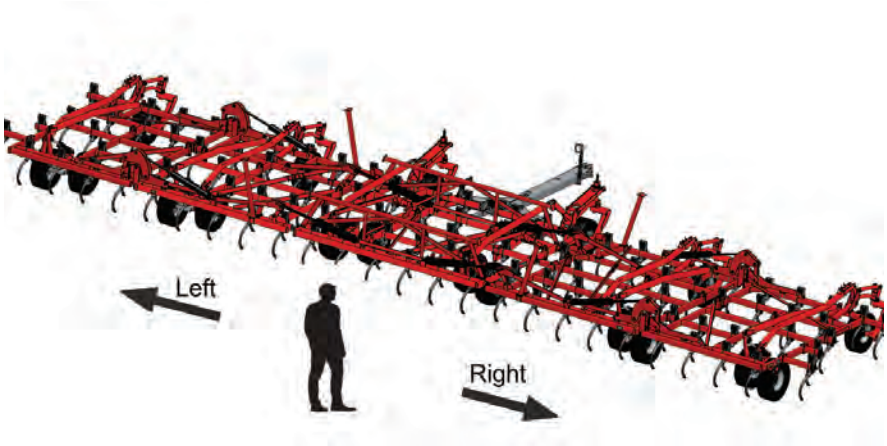
Make sure the machine has the correct equipment needed by the local regulations.

An operator should not use alcohol or drugs which can affect their alertness or coordination. An operator on prescription or 'over the counter' drugs need medical advice on whether they can properly operate machines.

If any attachments used on this equipment have a separate Operator Manual, see that manual for other important safety information.

This Manual

Right-hand and left-hand, are used in this manual. This is determined by facing the direction of travel of the machine from rear.



The photos, illustrations, and data used in this manual were current at the time of printing, but due to the possible in-line production changes, your machine can vary slightly in detail. The manufacturer reserves the right to redesign and change the machine as necessary without nodification.

In some illustrations and photos used in this manual, shields or guards may have been removed for clarity. Never operate the machine with any shields or guards removed. If the removal of shields or guards is necessary to make a repair, they must be replaced before operation.

Operation

Prepare For Operation

Read and understand all operating instructions and precautions in this manual before operating or servicing the machine.

Know and understand the positions and operations of all controls. Make certain all controls are in neutral and the parking brake is applied before starting the machine. Make sure the steering wheel is centered and locked.

Any time the engine is running and the parking brake is disengaged, the machine will turn if the steering wheel is moved even though the travel control lever is in neutral.

Make certain all people are well away from the area of work before starting and operating the machine. Check and learn all controls in an area clear of people and obstacles before starting work. Be aware of the machine size and have enough space available to allow for operation. Never operate the machine at high speeds in crowded places.

Emphasize the importance of using correct procedures when working around and operating the machine. Do not let children or unqualified people operate the machine. Keep others, especially children, away from the area of work. Do not permit others to ride on the machine.

Make sure the machine is in the proper operating condition as stated in the Operator's Manual. Make sure the machine has the correct equipment required by local regulations.

All equipment has a limit. Understand the speed, brakes, steering, stability, and load characteristics of the equipment before starting.

Operation (Cont'd)

Personal Protective Equipment

Wear all personal protective equipment (PPE) and protective clothing issued or called for by job conditions and county local regulations. PPE includes, but is not limited to, equipment to protect eyes, lungs, ears, head, hands, and feet when operating, servicing, or repairing equipment.

Agricultural Chemicals

Agricultural chemicals can be very hazardous.
Improper use of fertilizer, fungicides, herbicides, insecticides and pesticides can injure people, plants, animals, soil and other people's property.

Always read and follow all manufacturers' instructions before opening any chemical container.

Read and follow instructions each time a chemical is used.

Use the same precautions when adjusting, servicing, cleaning or storing the machine as used when installing chemicals into the hoppers or tanks.

Inform anyone who comes in contact with chemicals of the potential hazards involved and the safety precautions required.

Stand upwind and away from smoke from a chemical fire.

Store or dispose of all unused chemicals only in a manner as specified by the chemical manufacturer.

Operation (Cont'd)

Traveling On Public Roads

Machine was designed for apply chemicals and fertilizers in off-road use. Do not use the machine for transporting product on public roads. Chemical spills result in environmental damage. A loaded machine driven on public roads also runs a high risk of tire failure. Personal injury could result.

Always walk around and visually inspect the machine before traveling on public roads. As a warning, honk the horn twice before starting the engine. Check for damage and / or faulty components that can fail and create a hazardous condition. Make sure all the machine systems operate properly. The following, including, but not limited to: front road lights, tail and brake lights, hazard warning lights, parking brake, horn, windshield wiper and washer and rear view mirrors. Repair or replace any component not in proper working order.

Never drive at a speed causing the machine to bounce or lose control.

Obey all traffic rules. Operate the machine with hazard warning lights on, unless prohibited by law. Use of road lights while traveling on public roads is operator's responsibility.

Maintenance (Cont'd)

Fire Prevention And First Aid

Be prepared for emergencies.

Keep a first aid kit handy for treatment of minor cuts and scratches.

Always carry one or more fire extinguishers of the correct type. Check fire extinguishers regularly as instructed by the manufacturer. Make sure the fire extinguishers are properly charged and in operating condition.

Due to the nature of the crops this machine will operate in, the risk of fire is of concern. Use a water type fire extinguisher or other water source for a fire in crops.

For fires involving anything other than crops, such as oil or electrical components, use a dry chemical fire extinguisher with a ABC rating. Mount fire extinguishers within easy reach of where fires can occur. Frequently remove accumulated crop material from the machine and check for overheated components. Check the machine daily for any noises that are not normal. Such noises could indicate a failed component that can cause excess heat.

If any flame cutting, welding, or arc welding is to be done on the machine or attachments, make sure to clear any crop material or debris from around the area. Make sure the area below the work area is clear of any flammable material as falling molten metal or sparks can ignite the material.

If fire occurs stand upwind and away from the smoke from the fire.

High Pressure Leaks

Fluid leaking from the hydraulic system or the fuel injection system under high pressure can be very hard to see. The fluid can go into the skin causing serious injury.

Fluid injected into the skin must be surgically removed within a few hours. If not removed immediately, serious infection or reaction can develop. Go immediately to a doctor who knows about this type of injury.

Use a piece of cardboard or wood to search for possible leaks. Do not use your bare hand. Wear leather gloves for hand protection and safety goggles for eye protection.

Relieve all pressure before loosening any hydraulic lines. Relieve the pressure by lowering raised equipment, shutting off accumulator valve, if equipped, and shutting off the engine. Tighten all connections securely before apply pressure.

Maintenance (Cont'd)

Tire Safety

Check the tires for cuts, bulges and the correct pressure. Replace worn or damaged tires. When tire service is needed, have a qualified tire mechanic service the tire. Changing the tire can be very hazardous and must be done by a qualified tire mechanic using the proper tools and equipment. See the Specifications Sections for the correct tire size.

Tire explosion and / or serious injury can result from over inflation. Do not exceed the tire inflation pressures. See the Specifications Section for the correct tire pressure.

Do not inflate a tire that is seriously under inflated or has been run flat. Have the tire checked by a qualified tire mechanic.

Do not weld on the rim when a tire is installed. Welding can make an air / gas mixture that can cause an explosion and burn with high temperatures. This danger applies to all tires, inflated or deflated. Removing air or breaking the bead is not enough. The tire must be
completely removed from the rim prior to welding.

When preparing a calcium chloride solution for fluid ballasting the tractor tires, never pour water onto the calcium chloride. A chlorine gas can be generated which is poisonous and explosive. This can be avoided by slowly adding calcium chloride flakes to water and stirring until they are dissolved.

When seating tire beads onto the rims, never exceed 2.4 bars (35 psi) or the maximum inflation pressure specified on the tire. Inflation beyond this maximum pressure may break the bead, or even the rim, with explosive force.

Replacement Parts

Where replacement parts are necessary for periodic maintenance and servicing, genuine replacement parts must be used to restore your equipment to original specifi cations.

The manufacturer will not accept responsibility for installation of unapproved parts and / or accessories and damages as a result of their usage.

Torque Specifications

Grade 2			Grade 5		Grade 8	
						
Bolt Diameter	3/8” (9.53 mm)	1/2” (12.7 mm)	5/8” (15.88 mm)	3/4” (19.05 mm)	7/8” (22.23 mm)	1” (25.4 mm)
Hex Head	9/16” (14.3 mm)	3/4” (19.05 mm)	15/16” (23.83 mm)	1-1/8” (28.58 mm)	1-5/16” (33.34 mm)	1-1/2” (38.1 mm)
**Torque	ft/lbs (N.m)**					
UNC GR2	18 (24.40)	45 (61.01)	89 (120.67)	160 (216.93)	252 (341.67)	320 (433.86)
UNC GR5	30 (40.67)	68 (92.19)	140 (189.81)	240 (325.39)	360 (488.09)	544 (737.56)
UNC GR8	40 (54.23)	100 (135.58)	196 (165.74)	340 (460.98)	528 (715.87)	792 (1073.81)
UNF GR2	21 (28.47)	51 (69.15)	102 (138.29)	178 (241.34)	272 (368.78)	368 (498.94)
UNF GR5	32 (43.39)	70 (94.91)	168 (227.78)	264 (357.94)	392 (531.48)	572 (775.53)
UNF GR8	48 (65.08)	112 (151.85)	216 (292.86)	368 (498.94)	792 (1073.81)	840 (1138.89)

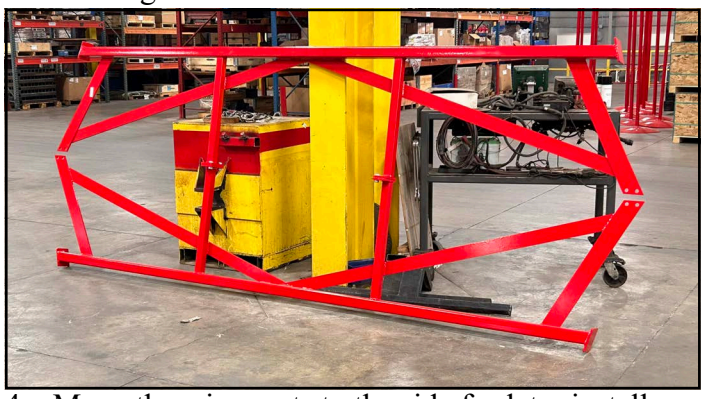
Wheel Nut & Bolt Torque		
Nut Size	**Grade**	**Torque	ft/lbs (N.m)**
1/2” - 20UNF x 60”	5	93 (126.1)
1/2” - 20UNF x 60”	5	93 (126.1)
1/2” - 20UNF x 90”	5	93 (126.1)
9/16” - 18UNF x 90”	5	133 (180.3)
5/8” - 18UNF x 90”	5	187 (253.5)
5/8” - 18UNF x 90” (Heavy Hex)	5	187 (253.5)
3/4” - 16UNF (Bud Nut)	8	462 (626.4)
3/4” - 16UNF (Flange Nut)	8	462 (626.4)
7/8” - 14UNF (Flange Nut)	8	735 (996.5)
Nut Size	**Grade**	**Torque	ft/lbs (N.m)**
1/2” - 20UNF x 1-7/16”	5	72 (97.6)
1/2” - 20UNF x 1-1/4”	5	72 (97.6)
1/2” - 20UNF x 1-1/2”	5	72 (97.6)
1/2” - 20UNF x 1-3/4”	5	72 (97.6)
1/2” - 20UNF x 1”	5	72 (97.6)
9/16” - 18UNF x 1-3/4”	5	103 (139.6)
9/16” - 18UNF x 2-1/4”	5	103 (139.6)

Unbundling

Unbundling Field Cultivator

1. Remove packing materials.

2. Use two crane/hoists with slings to secure the frame assemblies and prevent tipping.
3. Remove all packing materials. Cut and remove all banding.



4. Move the wing rests to the side for later installation.

Unfold and Connect the Main Frame and Wing Sections

Preparation

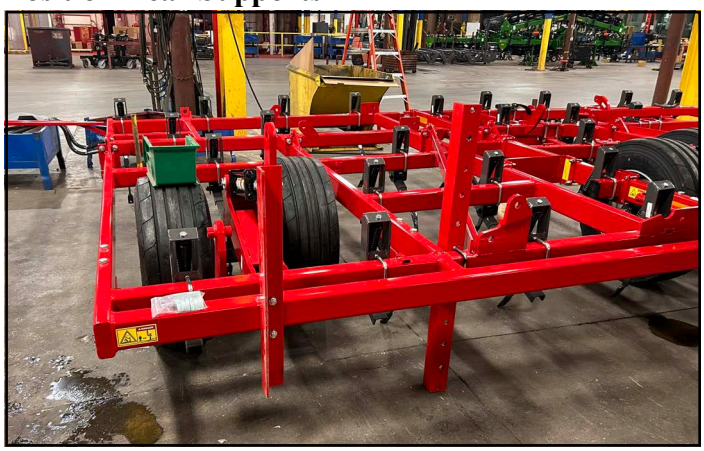
1. Position two cranes/hoists in the work area to move heavy parts for assembly.
2. Find hardware in the bundled box labeled C40A.

Rotate Sections Down

1. Using two cranes/hoists, attach a pair of slings on the top where the main frame joins each wing.

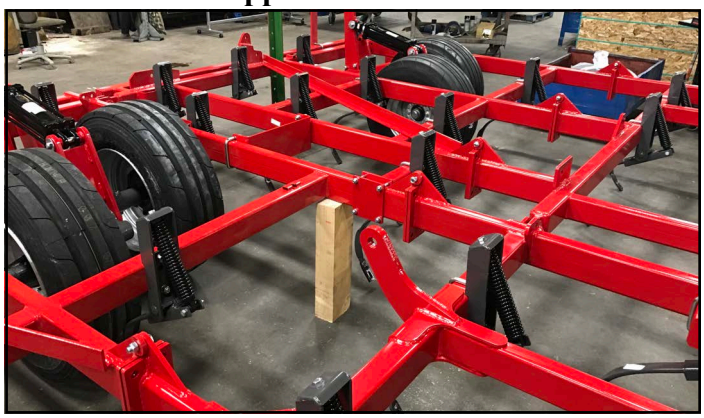
2. Lift the frame and wings to support the weight as you move the bottom of the assembly back and lower the slings to rotate the sections flat.

Position Rear Supports



1. Remove the nuts and brackets attaching the four shipping stands to the rear of the main frame and wings.
2. If the shipping stands are long enough, reinstall the four shipping stands with the nuts and brackets to support the main frame and wings in the rear. If they are not long enough, use other supports.

Position Front Supports



1. Position two more supports to a height of around 26 inches near the front of the main frame.

Lower Main Frame and Wing Sections

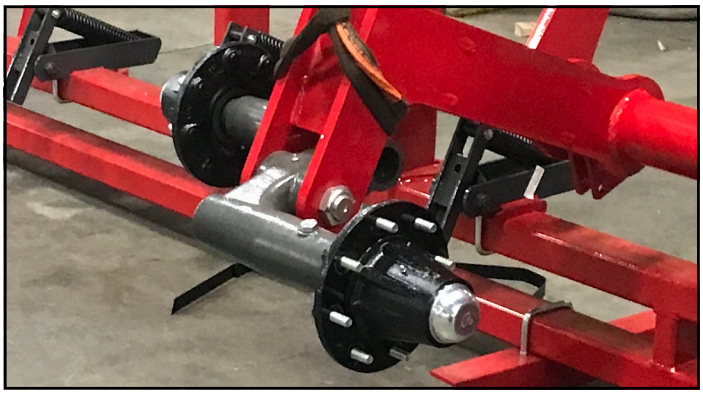
1. Fully lower the sections to rest on the four rear and two front supports.
2. Remove the slings.

Attach Wheel Assemblies to Hub and Spindle Assemblies

Preparation

1. Position a crane/hoist in the work area to move heavy parts for assembly.

Main Frame

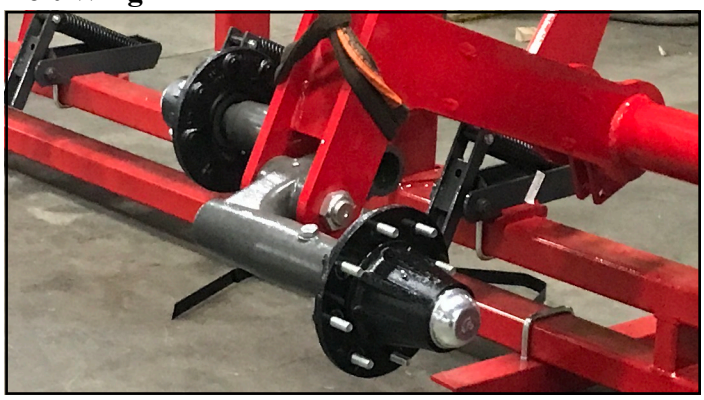


1. Remove the nuts from the bolts on the four hub and spindle assemblies.

2. Loosen the nuts in the axle clamp assemblies to allow the main frame axle to rotate.
3. Use a safe lifting device to position the axle leg-subweld as needed to attach each wheel assembly.

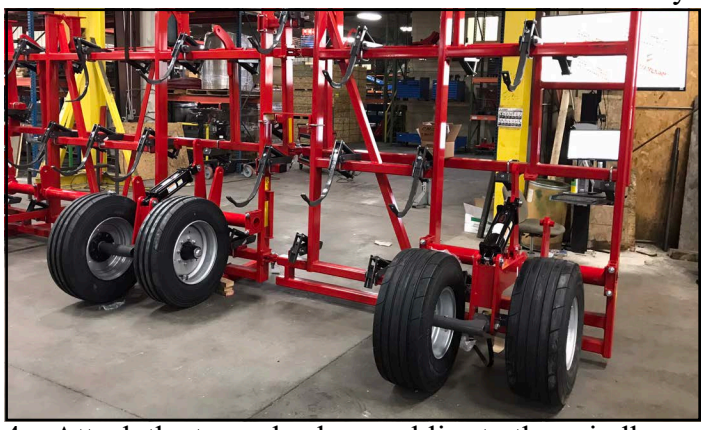
4. Attach the four wheel assemblies to the spindle assemblies with the bolts and nuts. Tighten the nuts to 185 lbs.

Left Wing



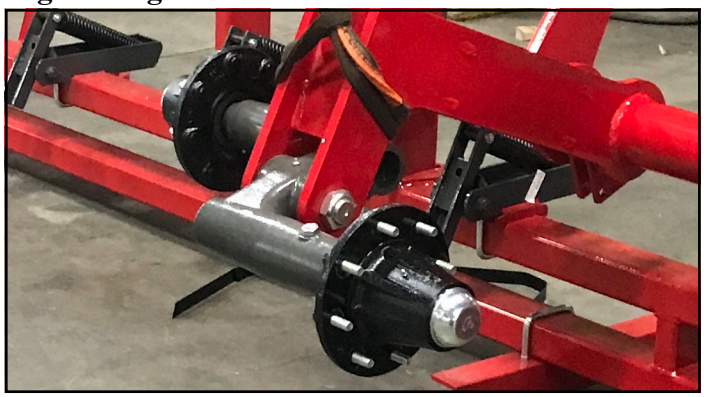
1. Remove the nuts from the bolts on the two hub and spindle assemblies.

2. Loosen the nuts in the axle clamp assembly to allow the left wing axle to rotate.
3. Use a safe lifting device to position the axle leg-subweld as needed to attach each wheel assembly.



4. Attach the two wheel assemblies to the spindles with the bolts and nuts. Tighten the nuts to 75 lbs.

Right Wing



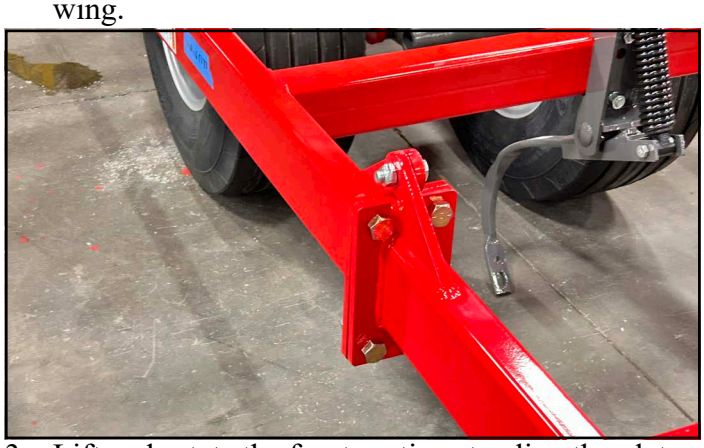
1. Remove the nuts from the bolts on the two hub and spindle assemblies.

2. Loosen the nuts in the axle clamp assembly to allow the right wing axle to rotate.
3. Use a safe lifting device to position the axle leg-subweld as needed to attach each wheel assembly.

4. Attach the two wheel assemblies to the spindles with the bolts and nuts. Tighten the nuts to 75 lbs.

Connect the Sections

1. Loosen the ten bolts in the hinge plates joining the main wings with the front wings and joining the main frame with the front frame to allow the sections to rotate.
2. Using two cranes/hoists, attach a pair of slings where the front main frame joins with each front wing.



3. Lift and rotate the front sections to align the plates on the ends of the sections.
4. Install 40 bolts, washers and nuts to attach the sections and tighten the bolts in the hinge plates.

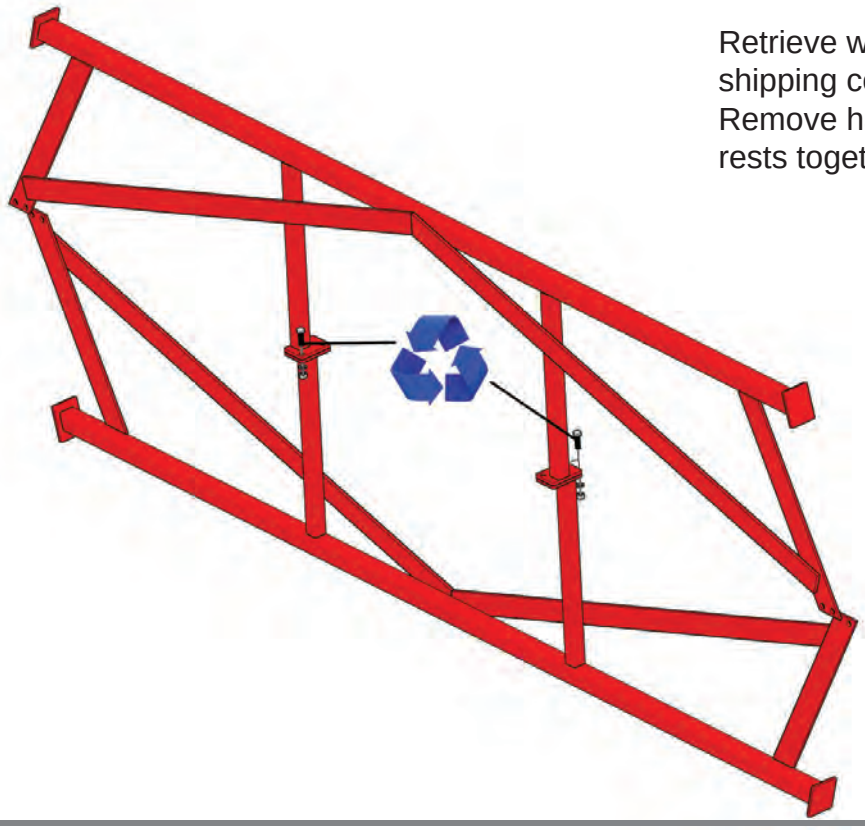
Reinstall Spring Assemblies

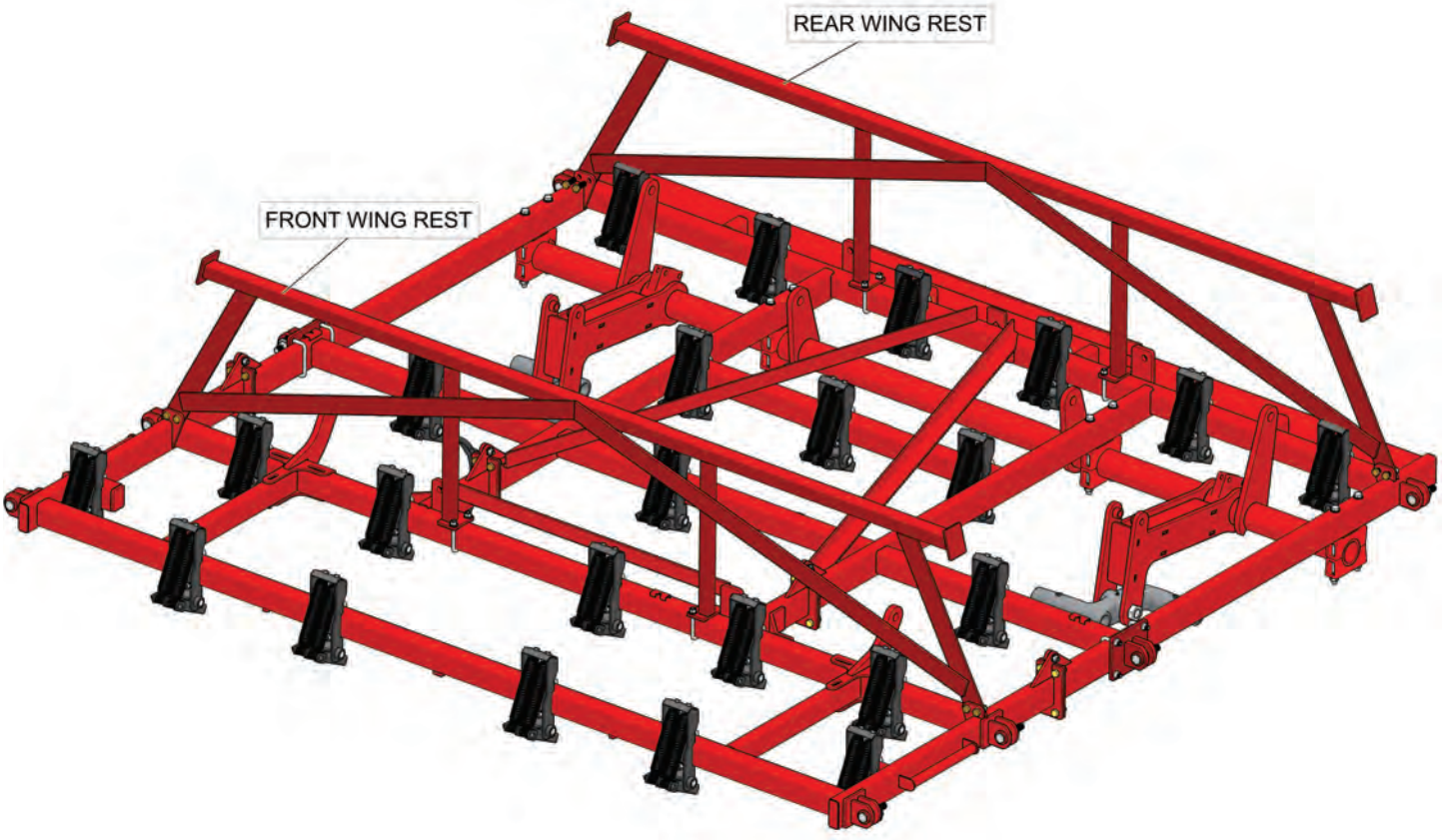
Some spring assemblies were installed backwards for shipping. Remove the backwards spring assemblies and use the existing hardware to reinstall them in the same location facing forward.

WING REST ASSEMBLY

STEP 9:

Retrieve wing rest removed from upright shipping configurations in step 2. Remove hardware connecting both wing rests together.

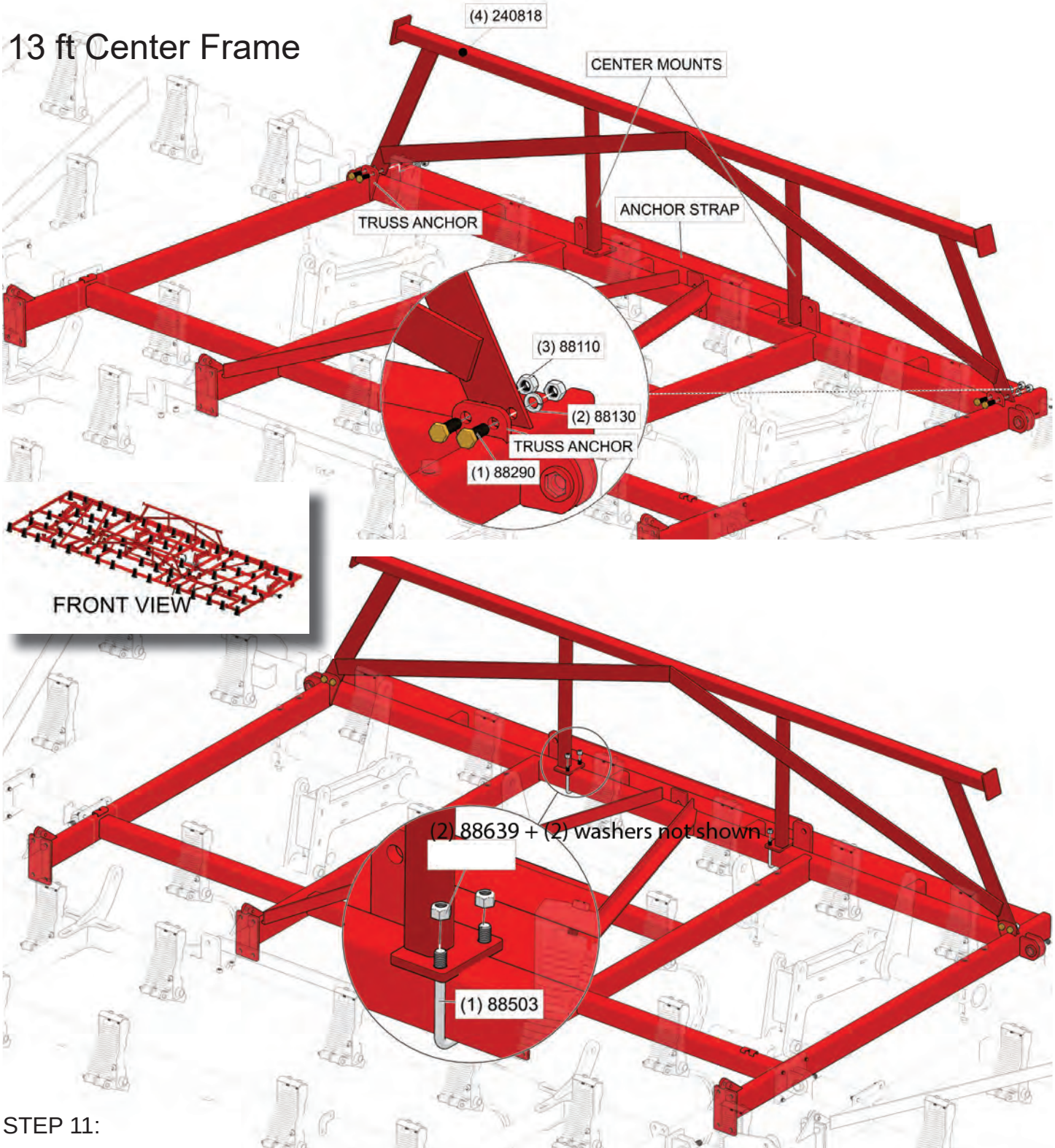




REAR WING REST ASSEMBLY

STEP 10:

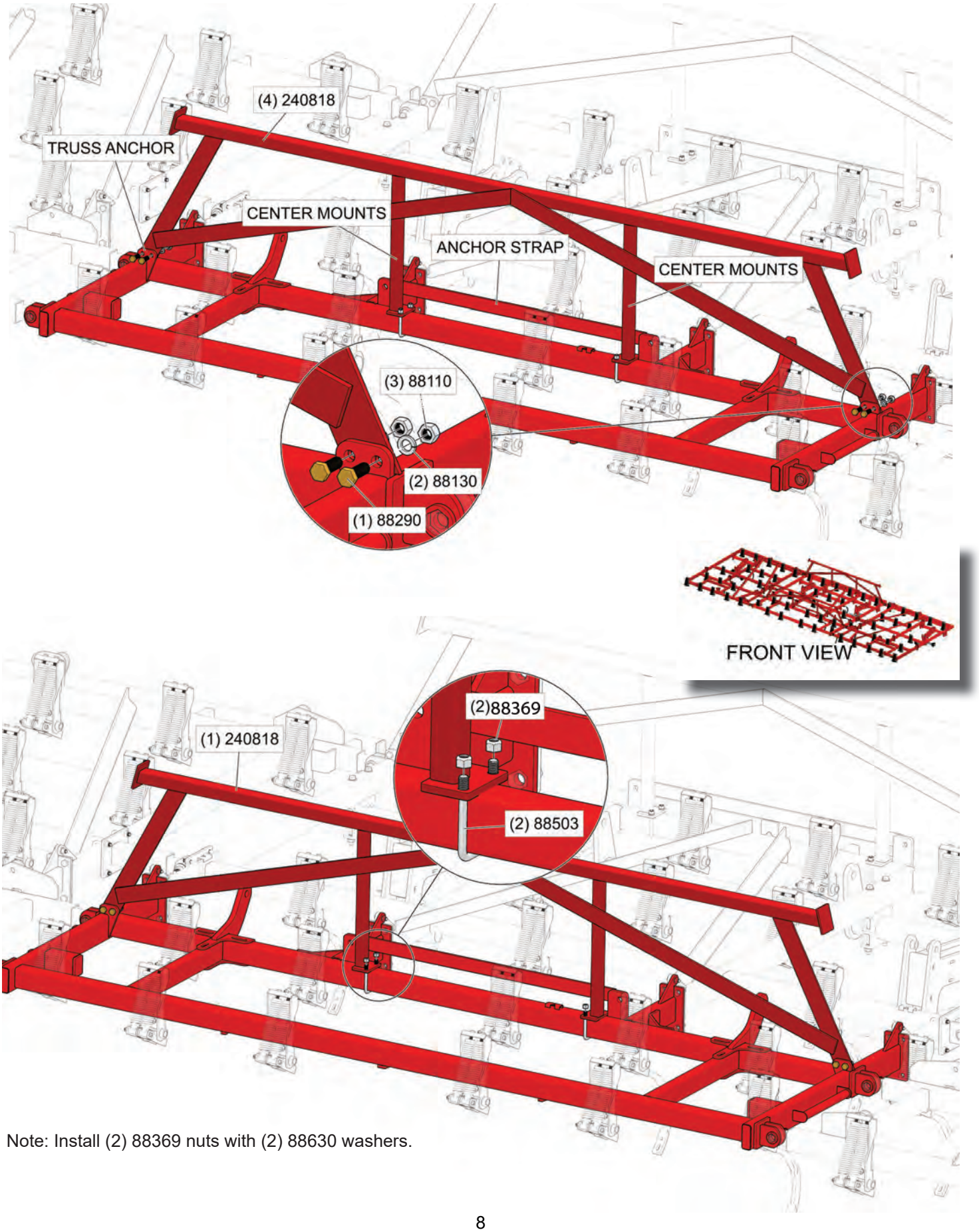
Use four each of the following parts (1) 3/4“x 2 grade 8 bolts, (2) 3/4” lock washer, and (3) 3/4 “nuts to secure (4) wing rest to main frame. The wing rest must be placed behind truss anchors and center mounts must be in front of anchor straps as shown.



STEP 11:

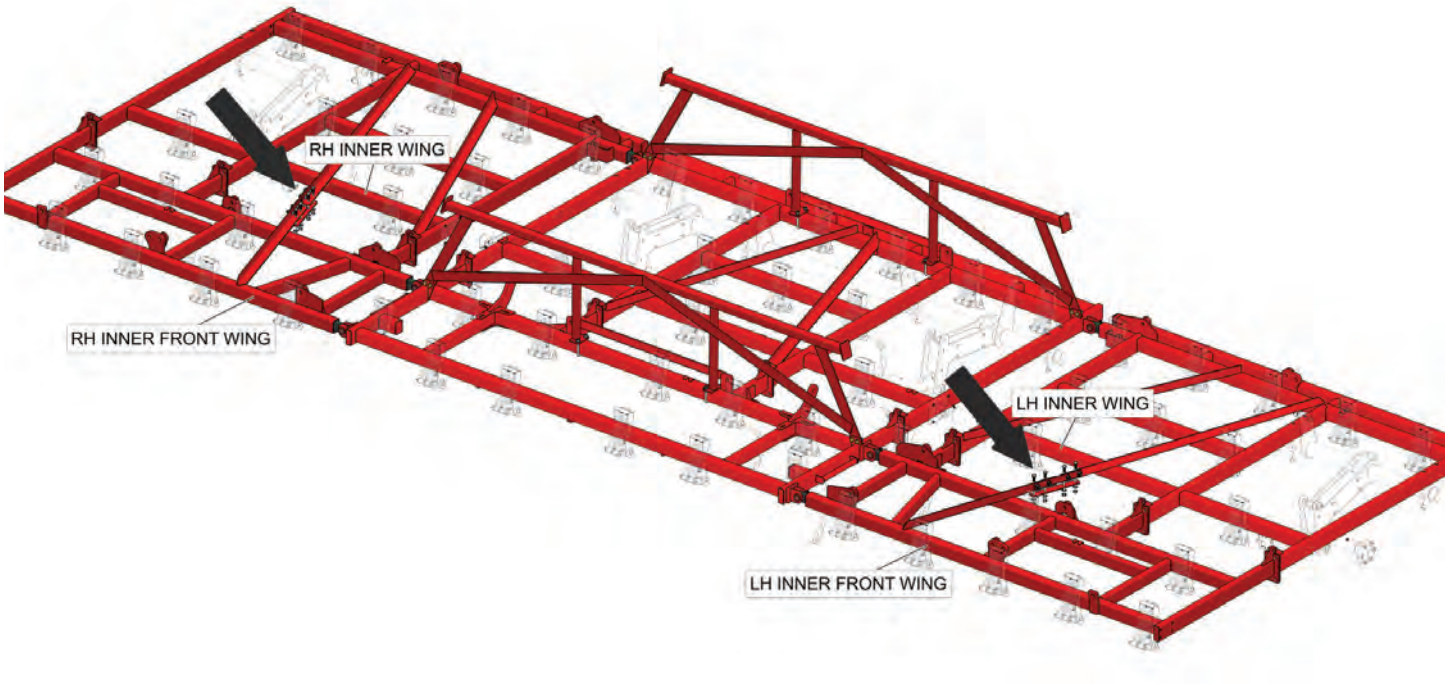
Use one (1) 5/8 x 3 x 5-1/4” U-bolt and two (2) 5/8 top lock hex nut with washers in two places as shown to secure center of the wing rest to the main frame. Repeat steps 10 & 11 to install front wing rest.

FRONT WING REST ASSEMBLY



Note: Install (2) 88369 nuts with (2) 88630 washers.

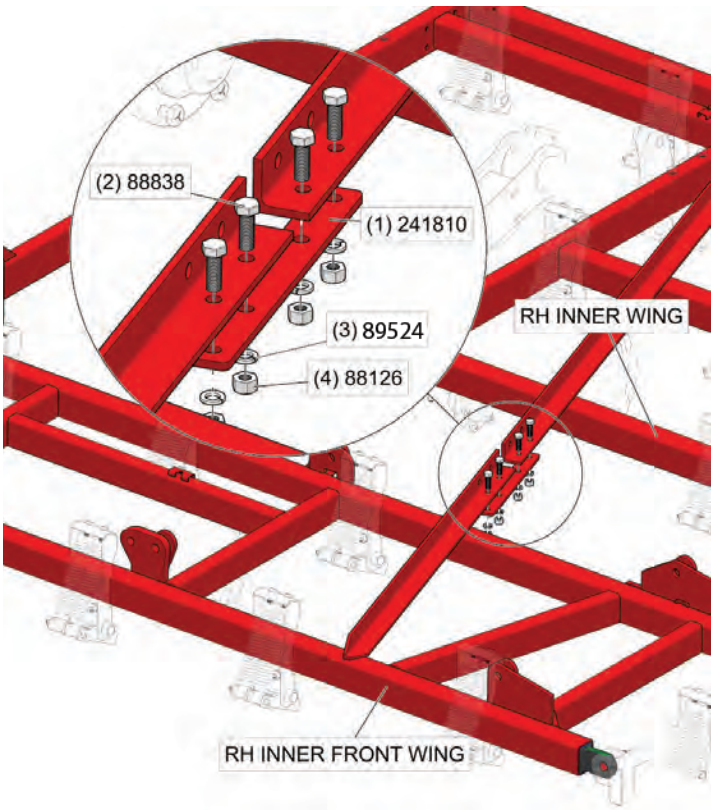
WING MOUNTING PLATE

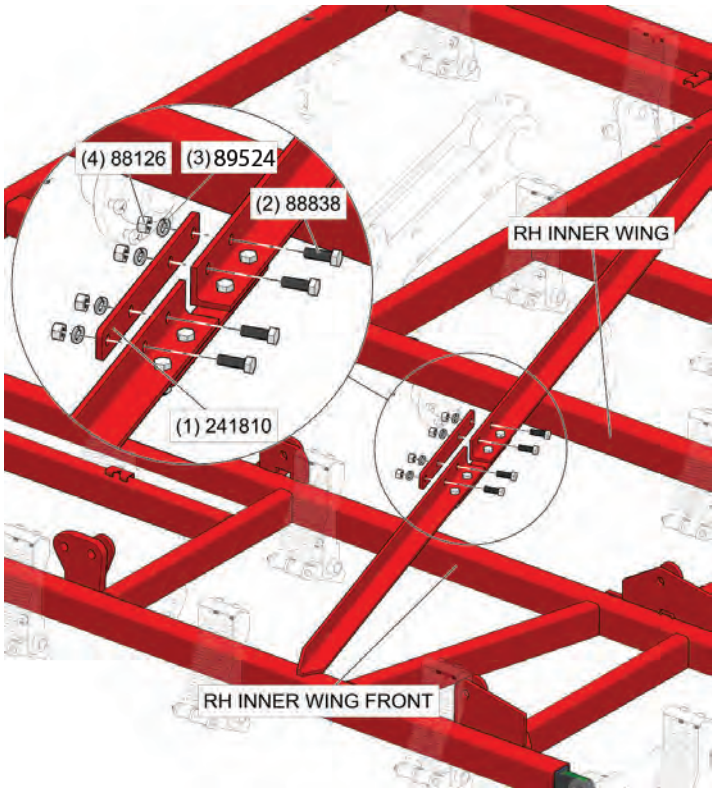


STEP 12 (11' 8" wings only):

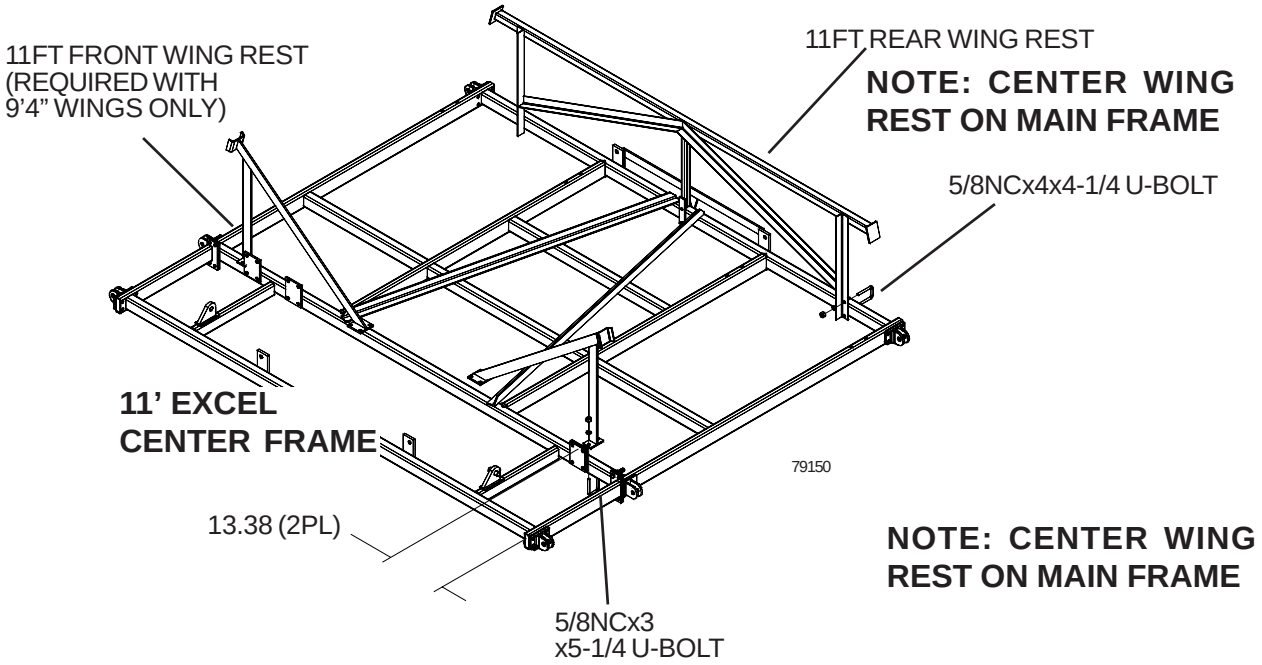
Attach plates (1) using a total of eight of each of the following parts: (2) 5/8: x 1-3/4” grade 5 bolt, (3) 5/8” lock washer, and (4) 5/8” grade 5 nut. Do the same steps on the LH wing.

Note: the bolt heads must be on the inside of the braces as shown. Go back and tighten flange bolts in step 6.



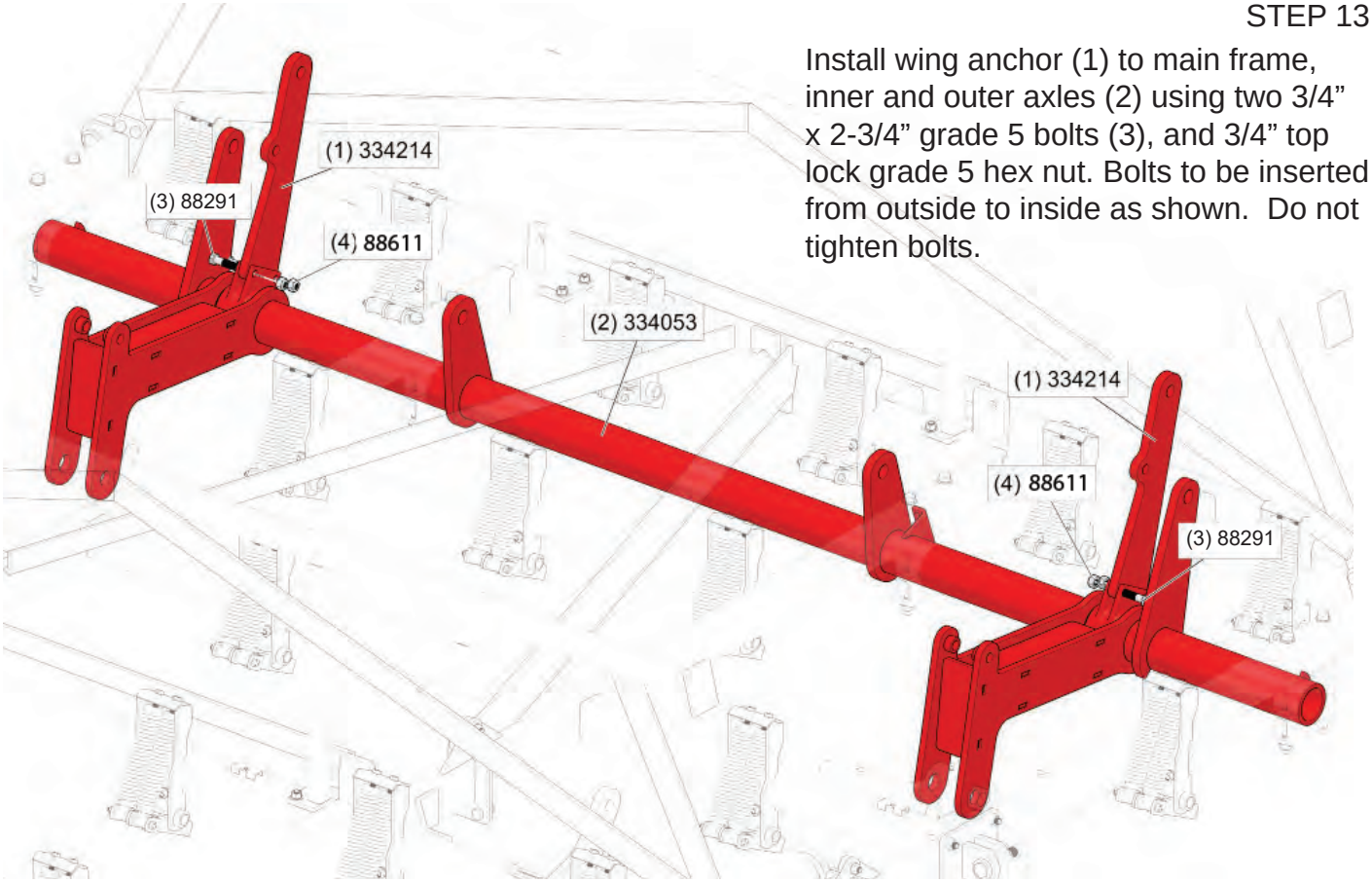


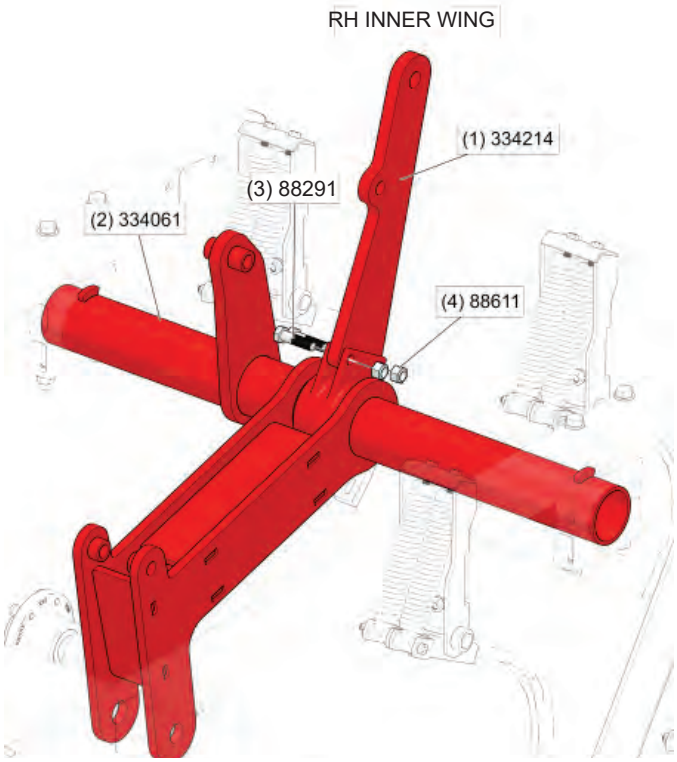
11 ft Center Frame

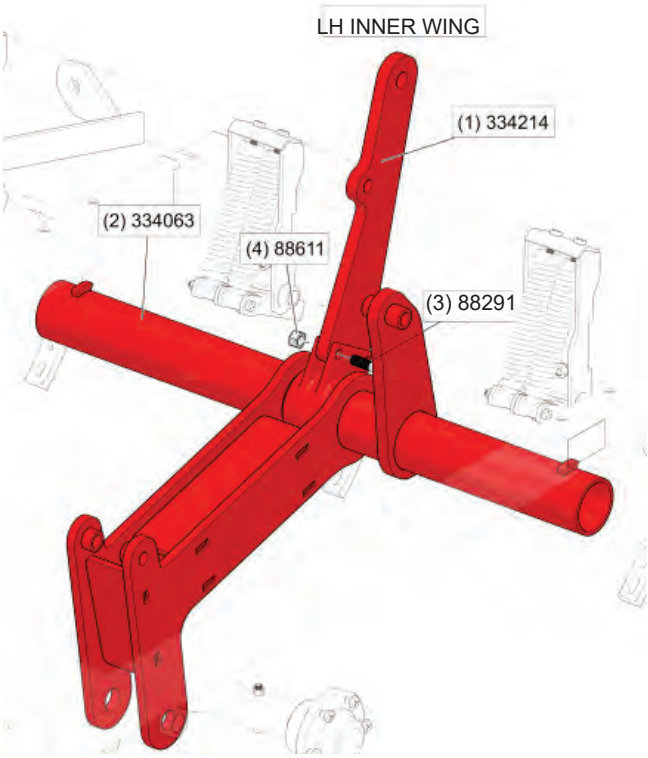


STEP 13:

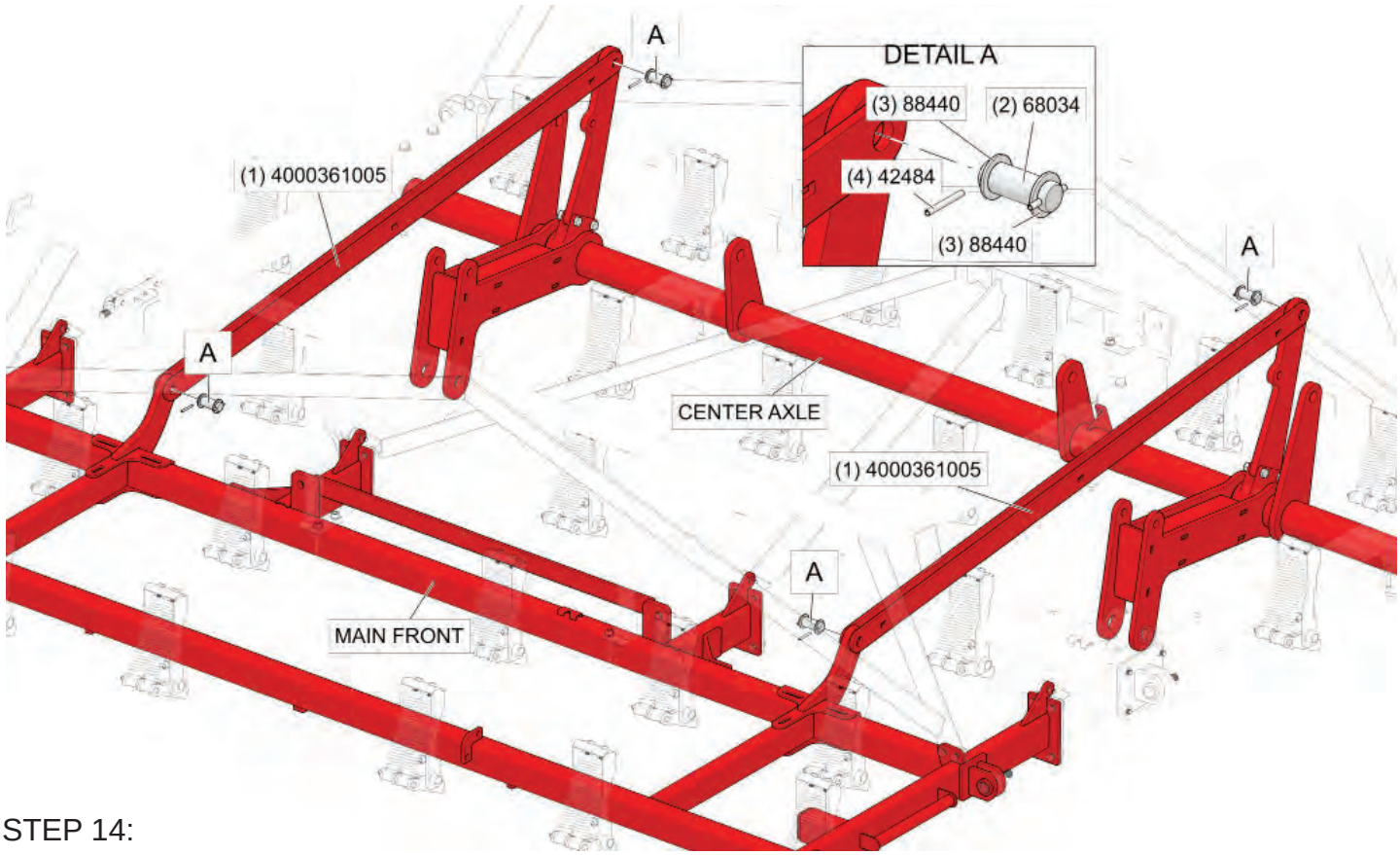
Install wing anchor (1) to main frame, inner and outer axles (2) using two 3/4” x 2-3/4” grade 5 bolts (3), and 3/4” top lock grade 5 hex nut. Bolts to be inserted from outside to inside as shown. Do not tighten bolts.







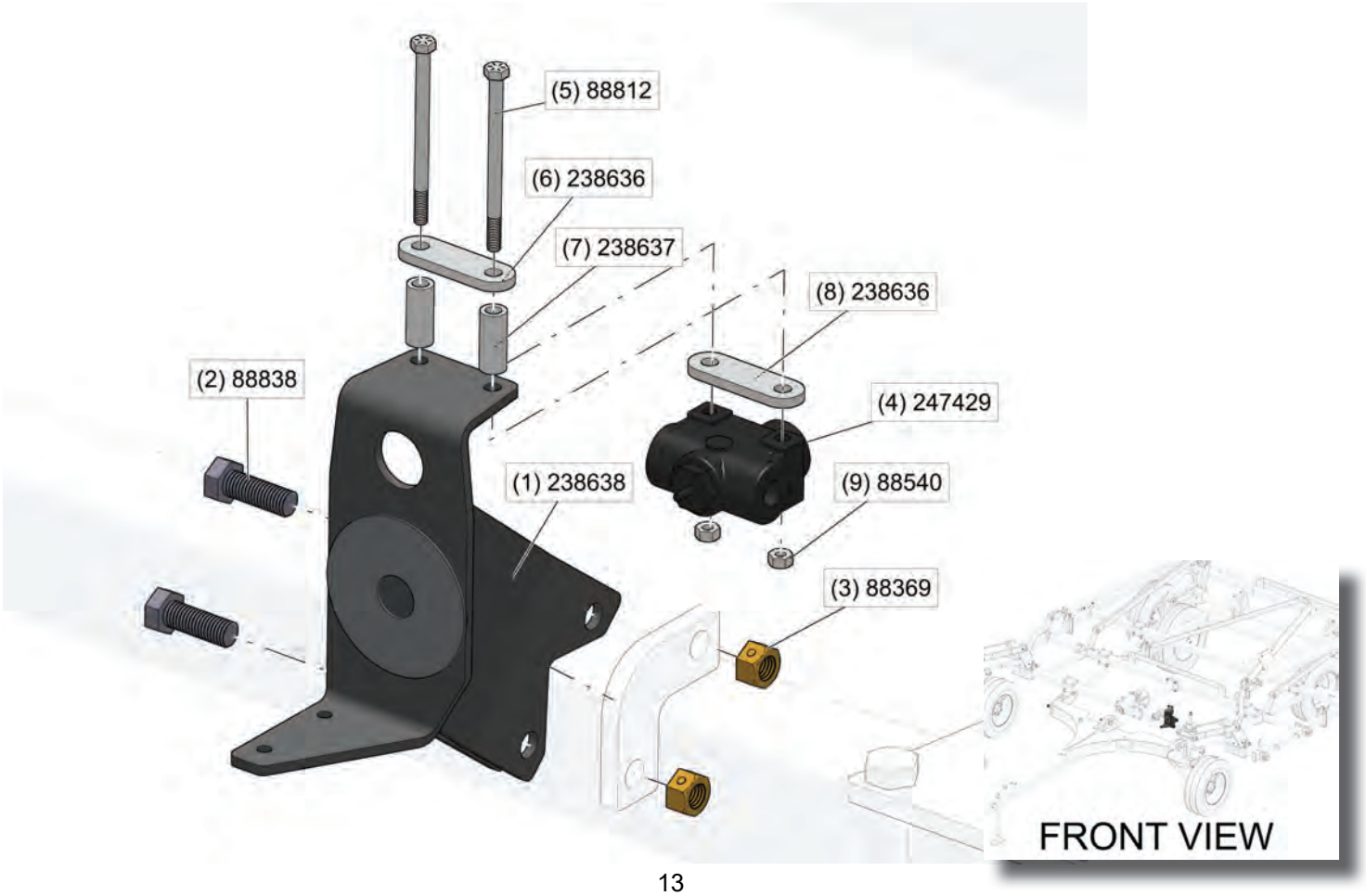
Repeat step 13 for RH and LH outer wings.



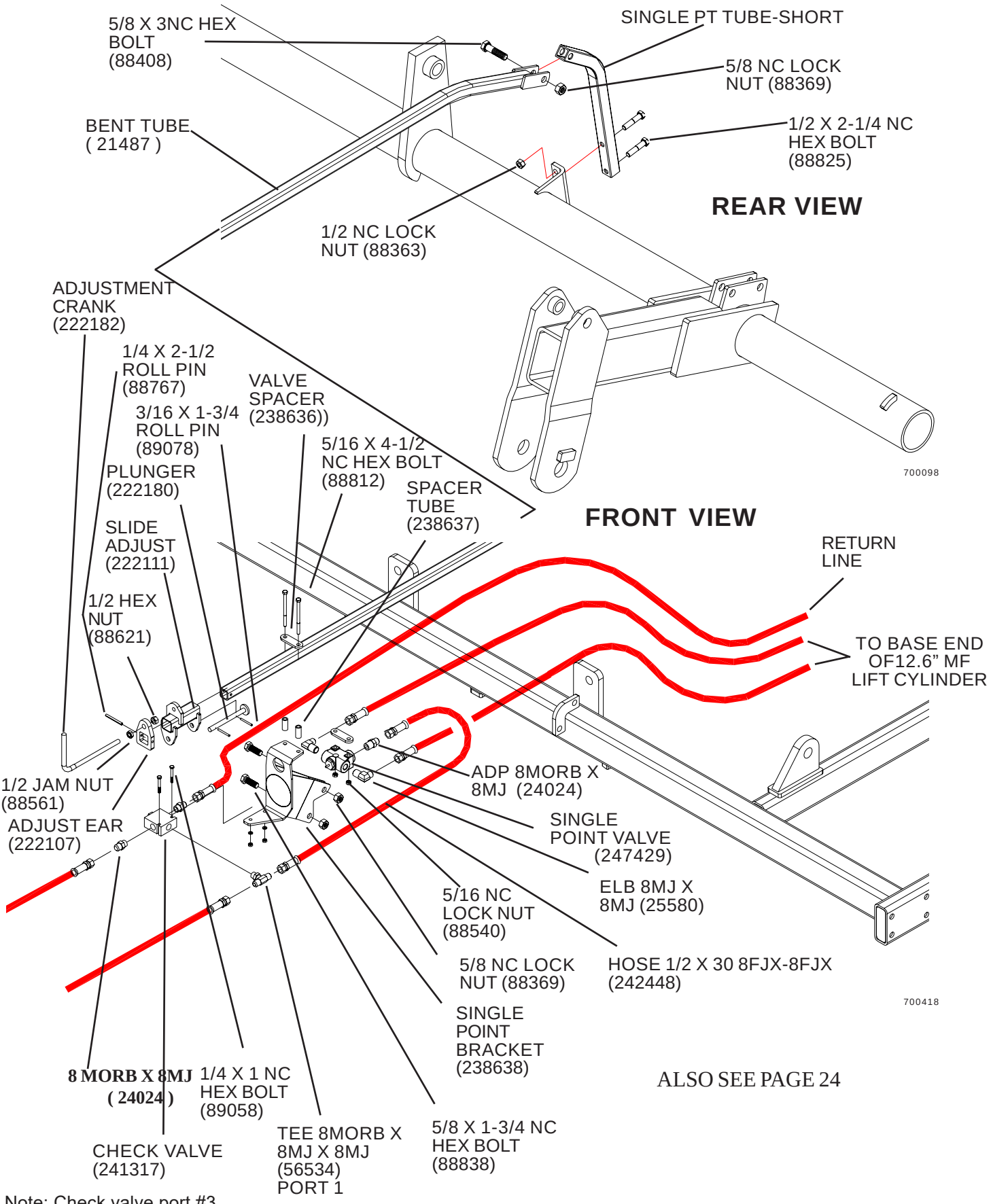
STEP 14:

Install anchor link (1) to wing anchor on the axle and the main frame. Use a 1-1/4” x 3-3/8” inch long pin (2) with two machine bushinWgs (3) and two 1/4” x 2-1/4” roll pin to secure both ends. Do this in two places as shown.

DEPTH CONTROL 5 SECTION



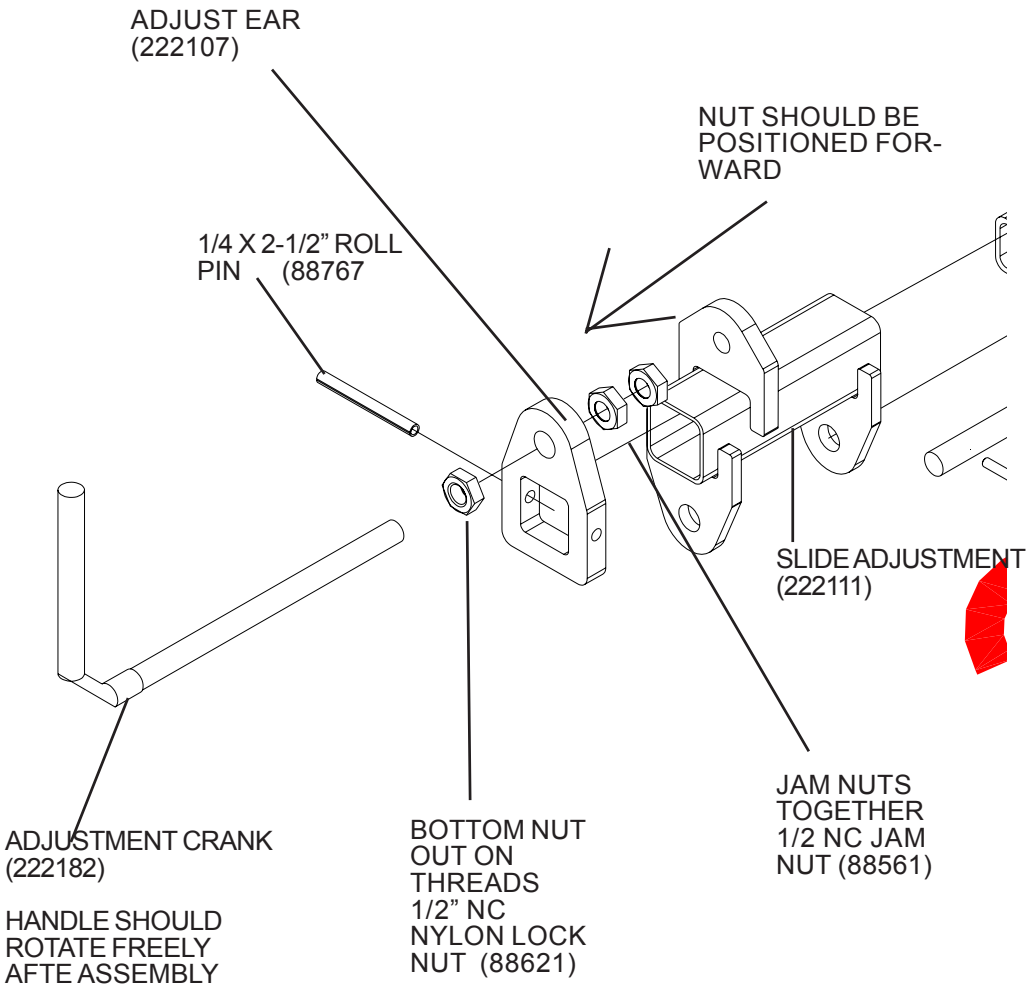
OPTIONAL - SINGLE POINT DEPTH CONTROL

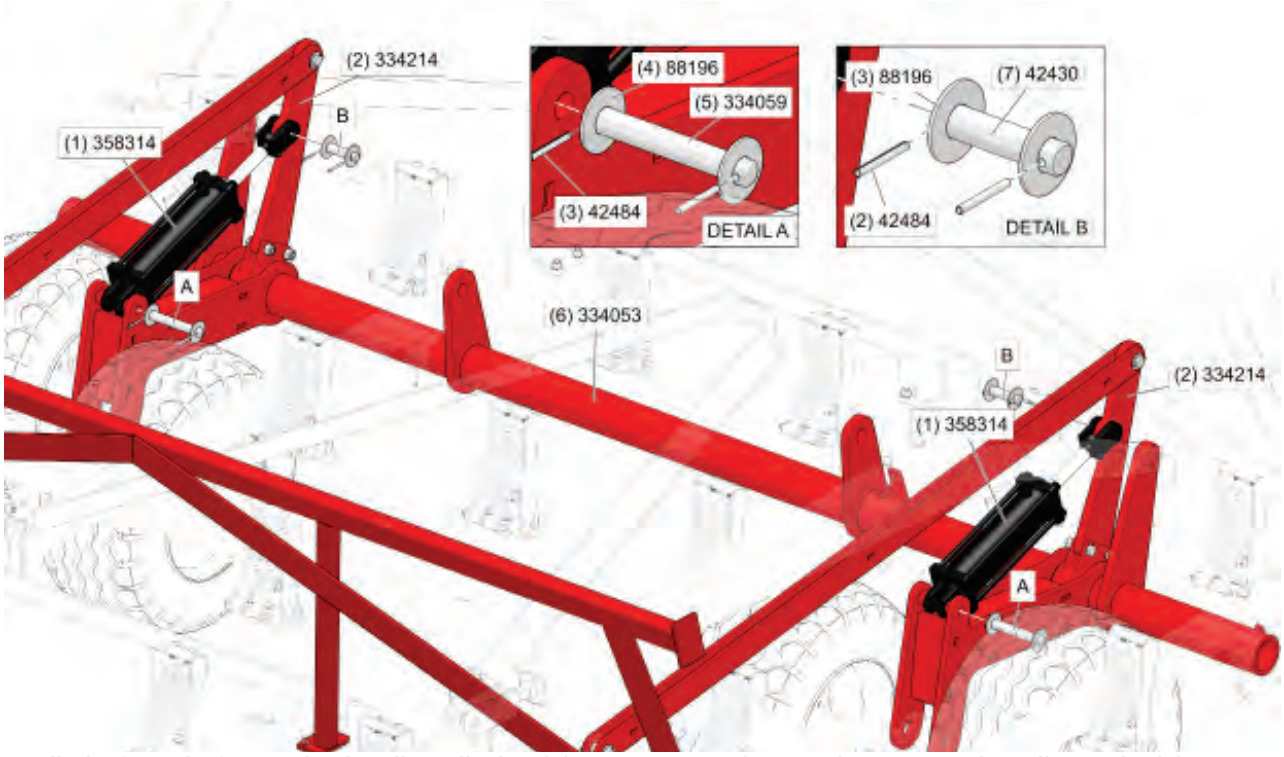


ALSO SEE PAGE 24

Note: Check valve port #3 should face the tractor for installation.

HANDLE ASSEMBLY

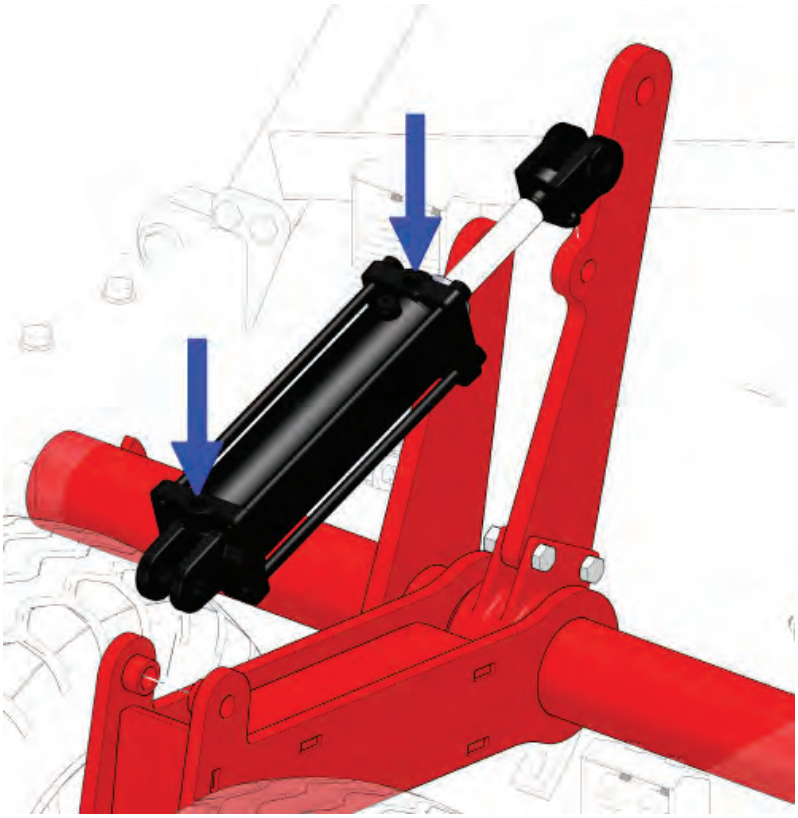


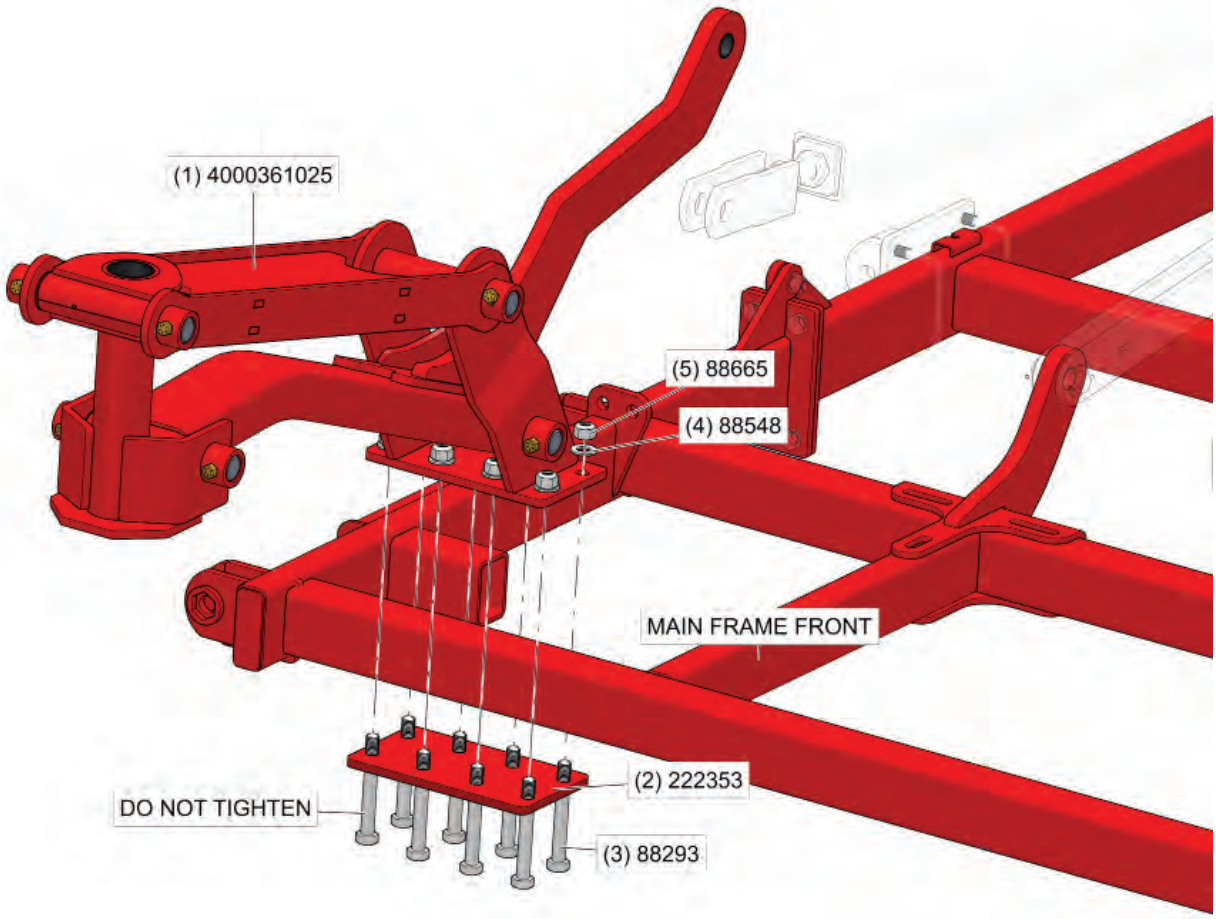


Install shaft end of 4x12 hydraulic cylinder (1) 358314 to wing anchors. Use headless pin (2) 1x3-7/16, two flat washers (3) 1 (1/1/16x2-1/2ACT) 2ZP, and two roll pin (4) 1/4x2-1/4 ZP. Use headless pin (5) and same washers and roll pin that were used in rod end for the base end of cylinder to center axle as shown. Same tasks to be done on both RH and LH sides of center axle.

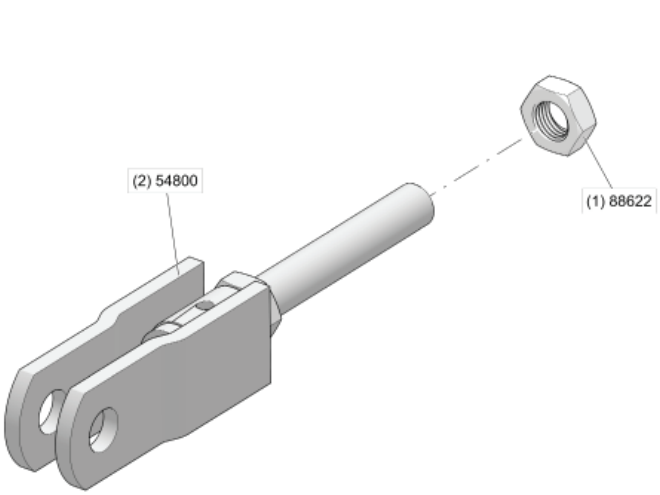
CYLINDER ORIENTATION

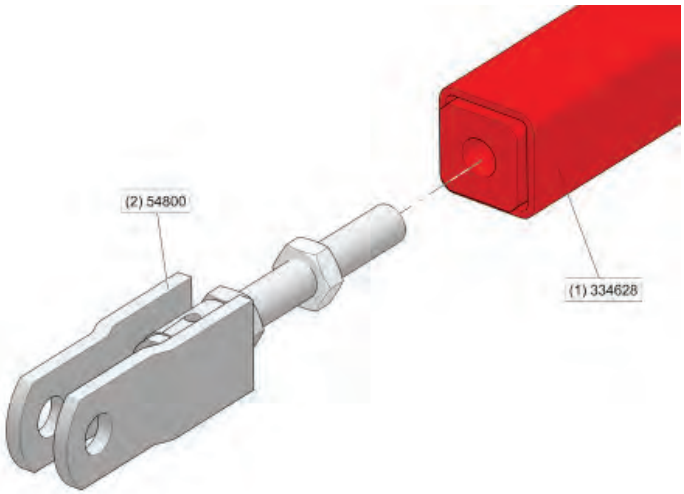
Hydraulic ports to face towards the sky as illustrated.



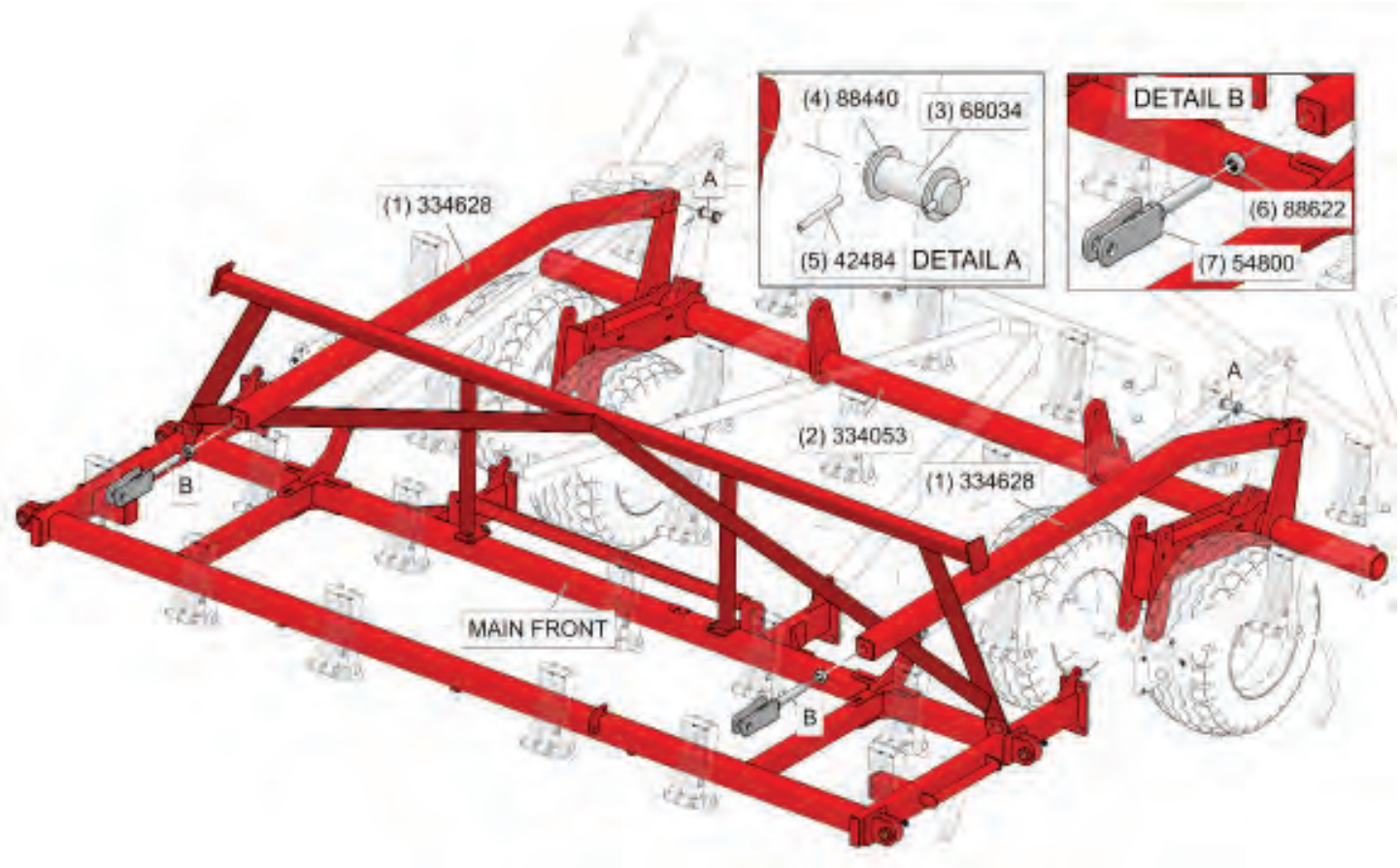


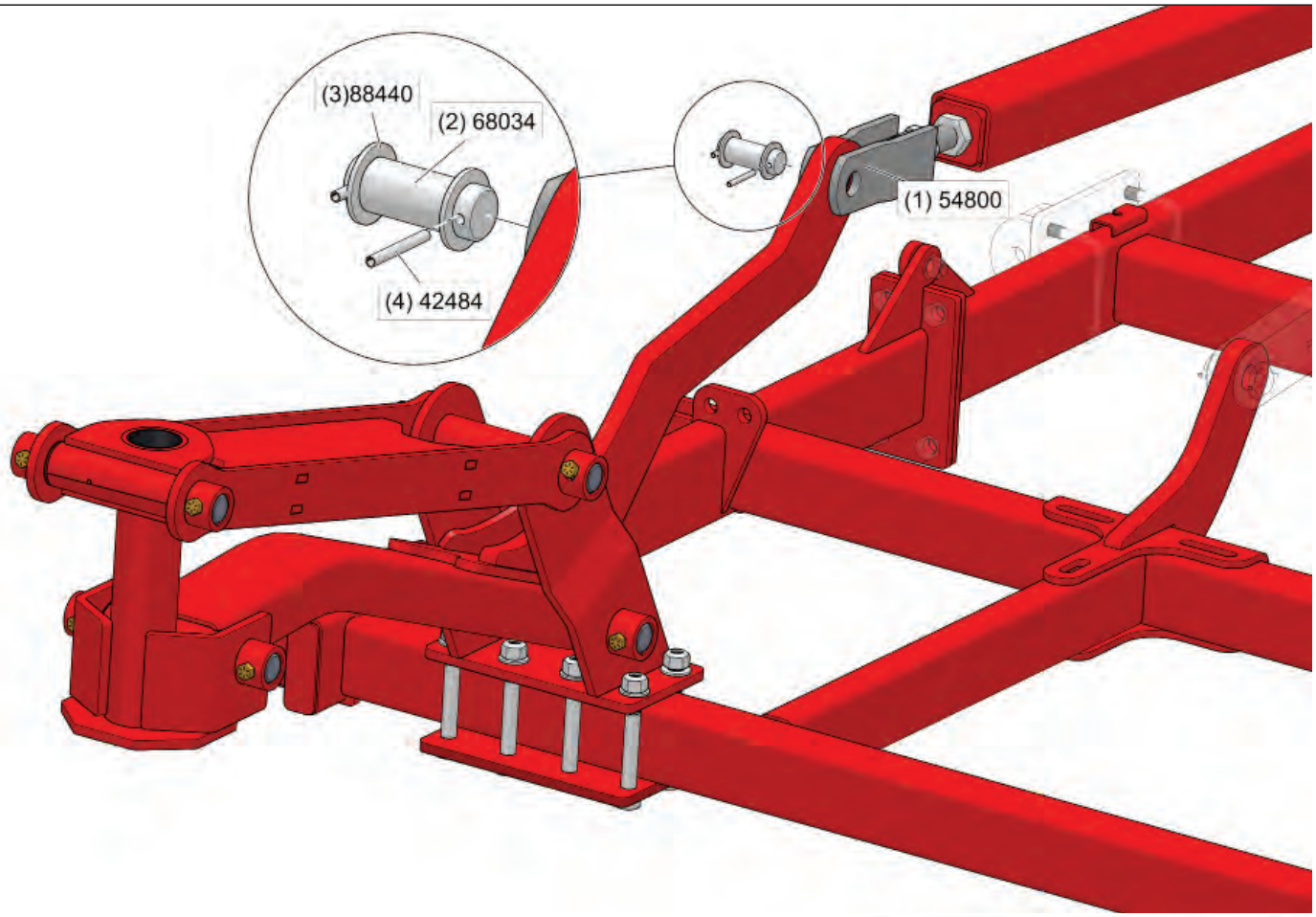
STEP 16:
Thread 1-1/4” jam nut (1) onto the clevis adjust rod (2) and install in front end of the main frame anchor tube (1) as shown. Do this in two placeS.





Slide the main frame anchor tube (1) from the back to the front of the frame over the front wing rest crossmember. Use a 1-1/4” x 3-3/8” long headless pin (3) with two machinery bushings (4), and two 1/4” x 2-1/4” long roll pin (5) to secure the rear end of the wing tube to the upper hole in the axle anchor. Do this in two places.

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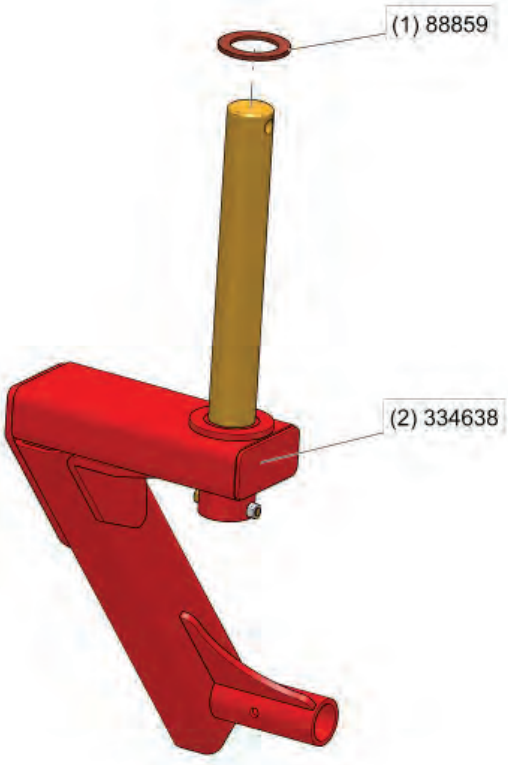
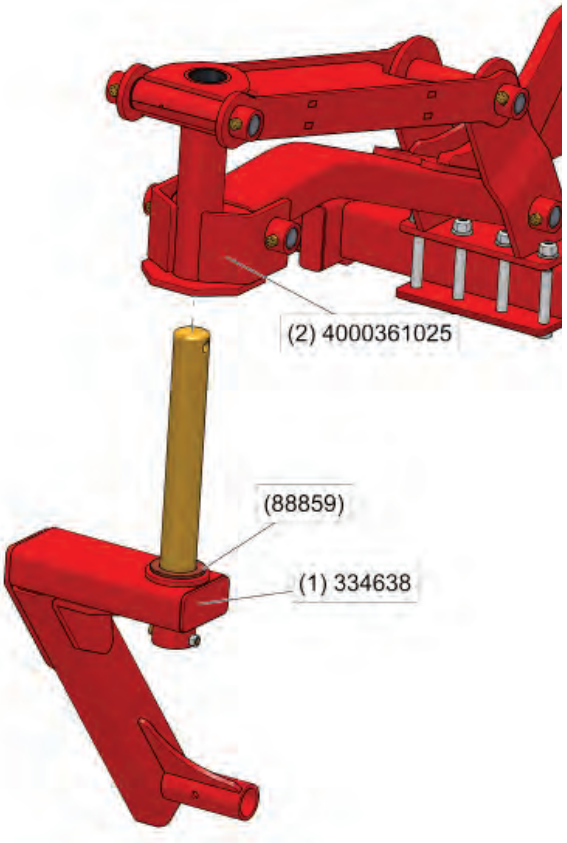
(2) 68034
(4) 42484
(1) 54800


(1) 88859
(2) 334638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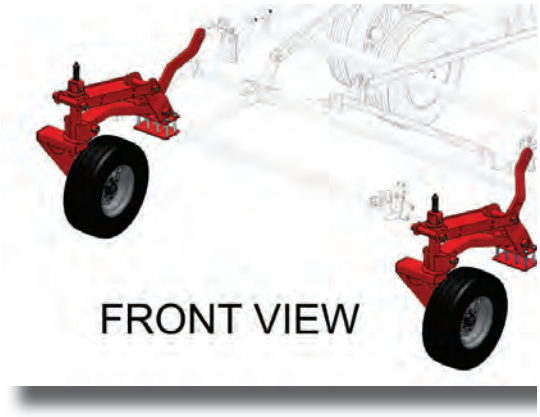
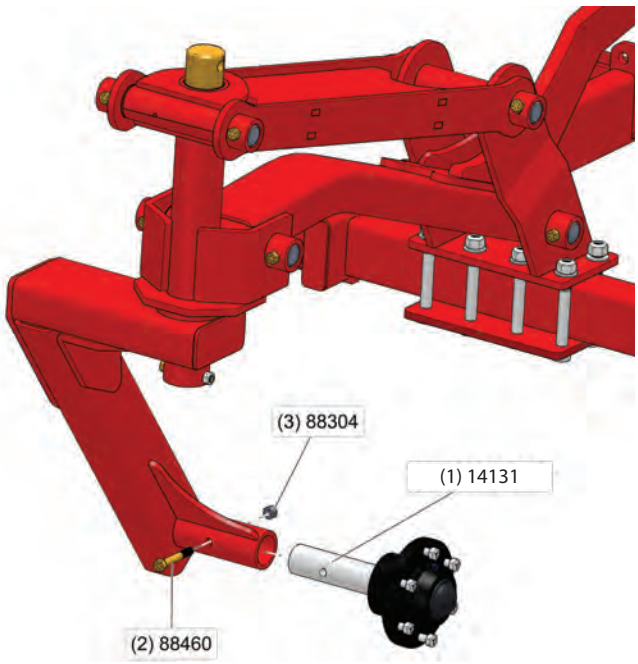
(88859)
(1) 334638


FRONT VIEW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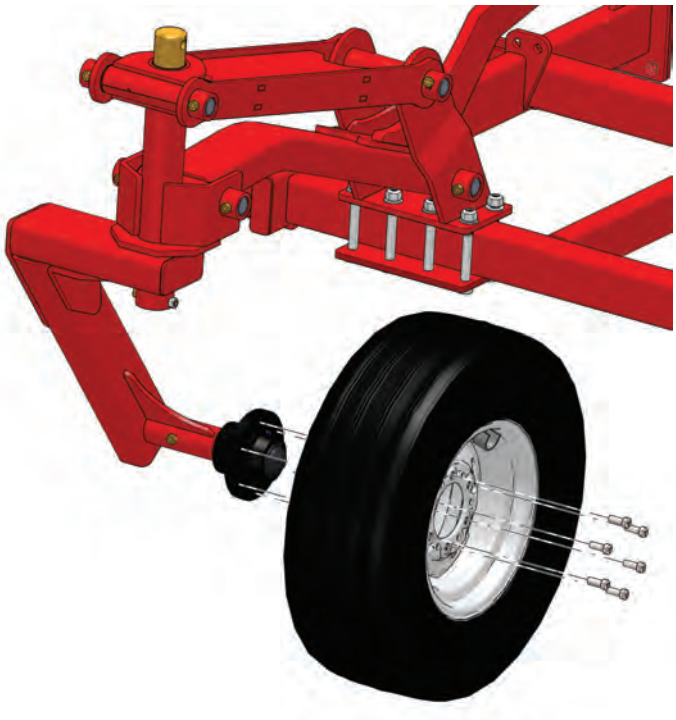
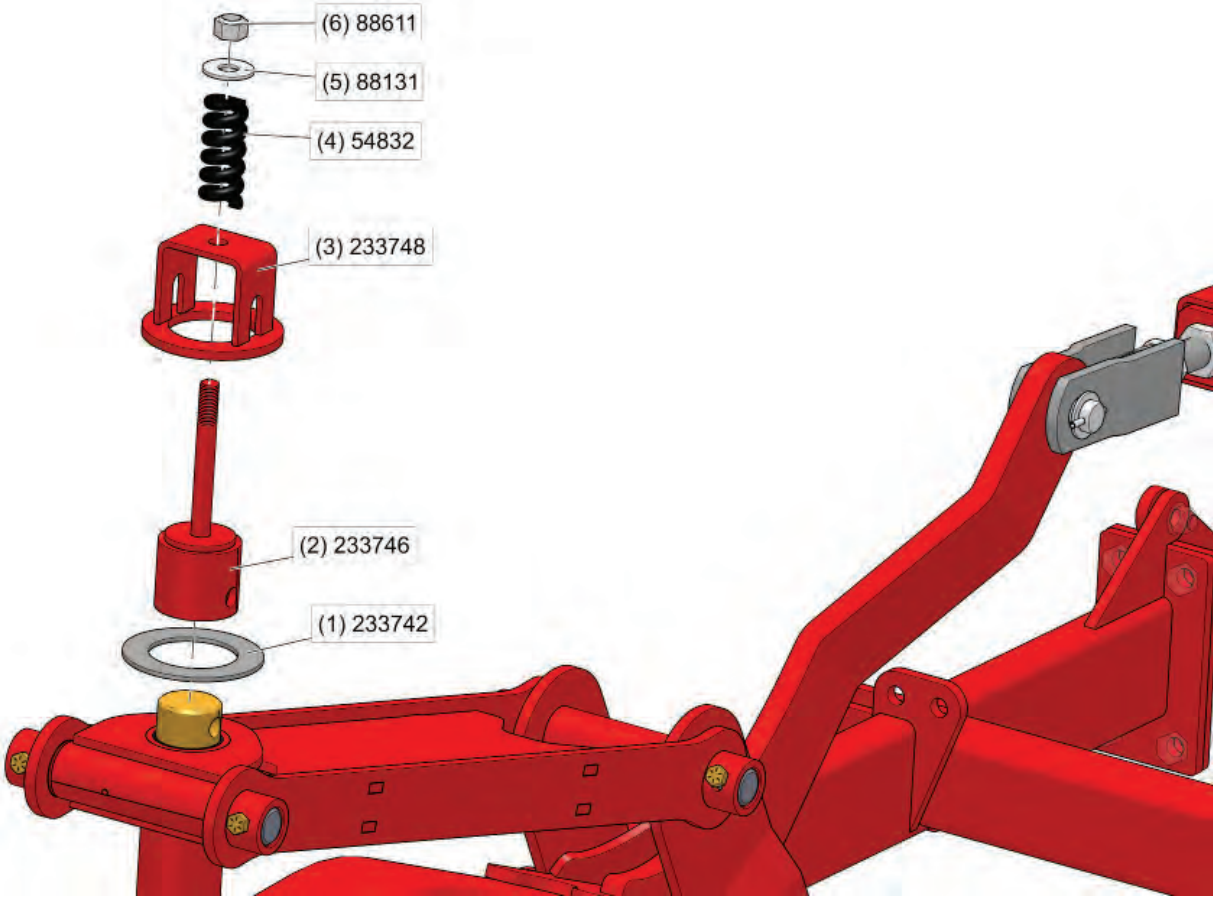
(2) 88460

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(5) 88131
(4) 54832
(3) 233748
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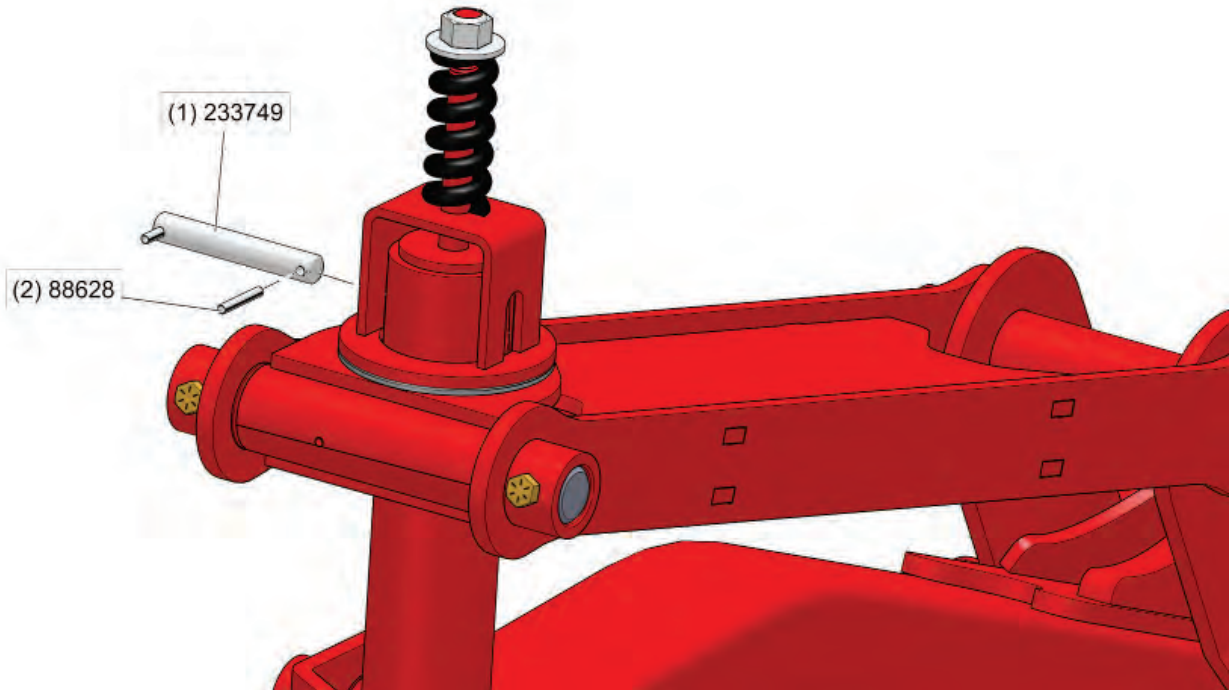
(1) 233742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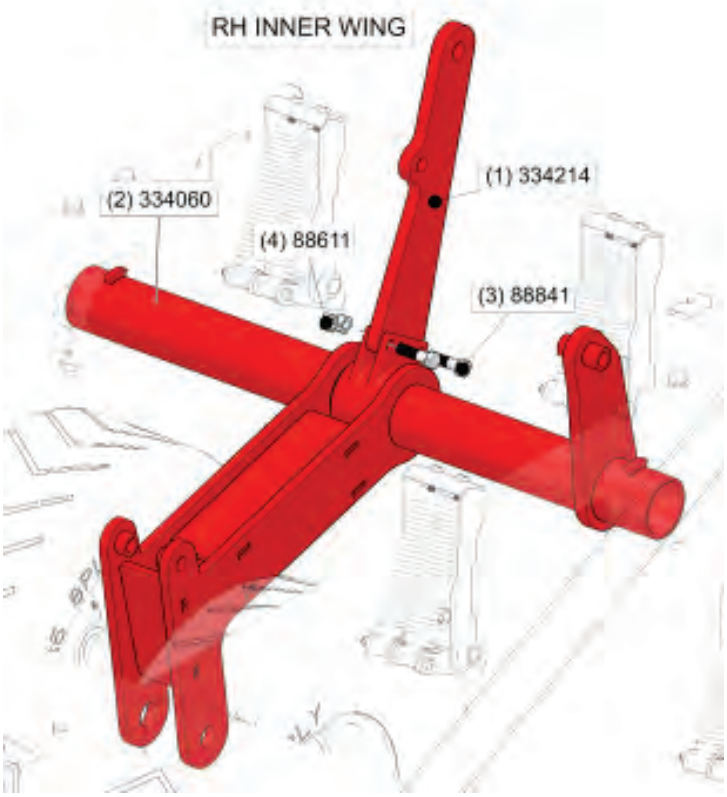
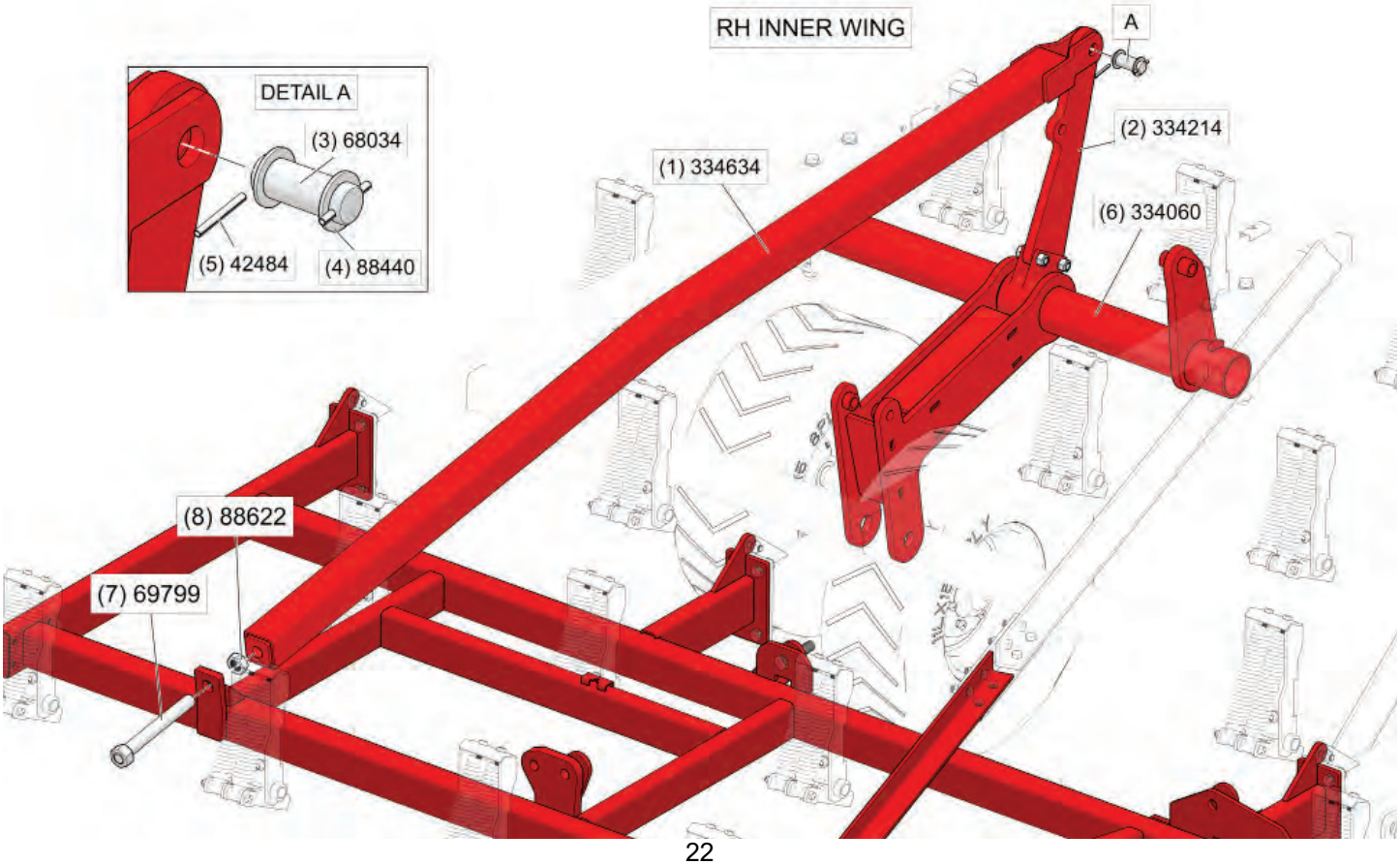

RH INNER WING
(1) 334214
(2) 334060
(4) 88611
(3) 88841


RH INNER WING
A
DETAIL A
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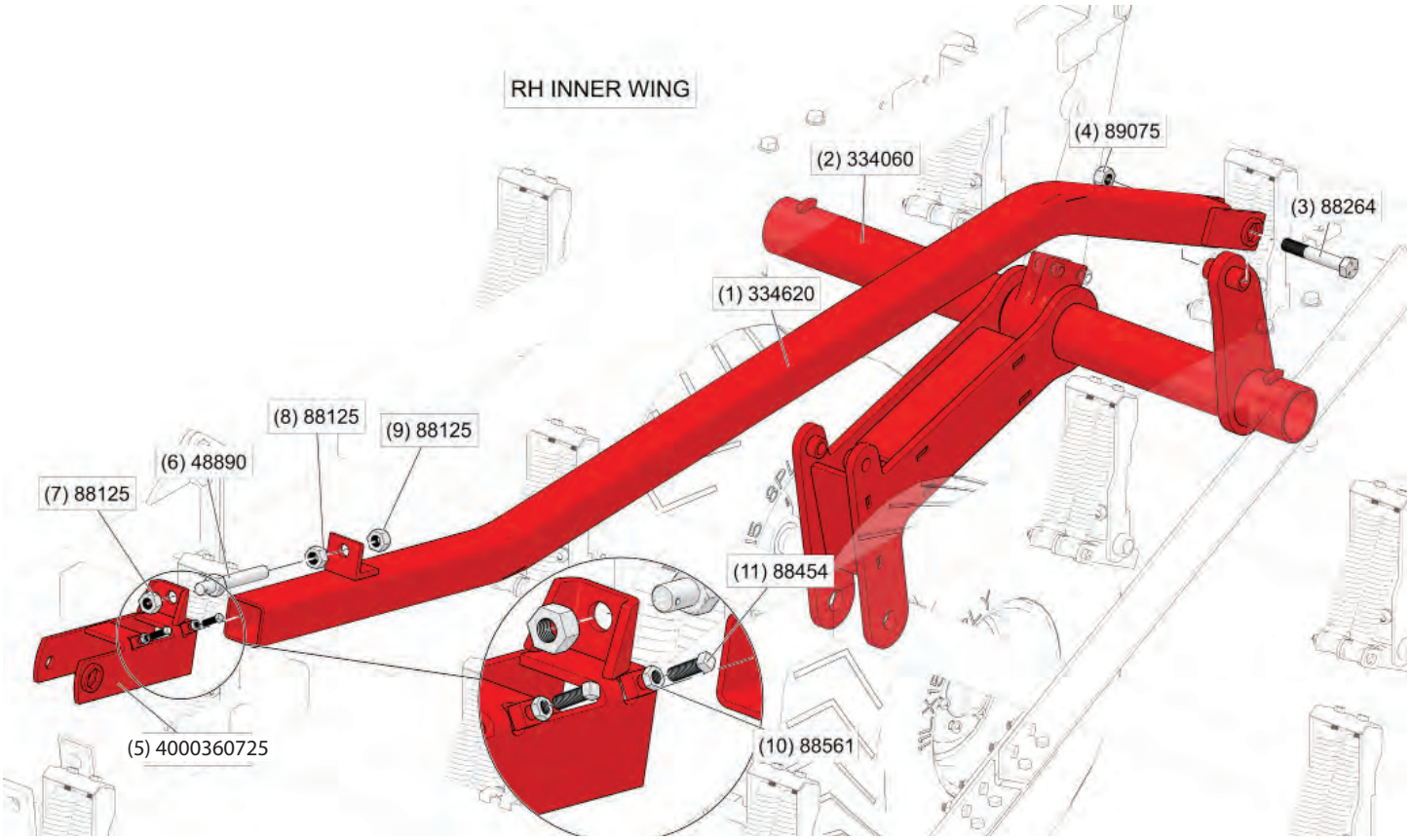
(5) 42484
(4) 88440
(1) 334634
(2) 334214
(6) 334060
(8) 88622
(7) 69799


RH INNER WING
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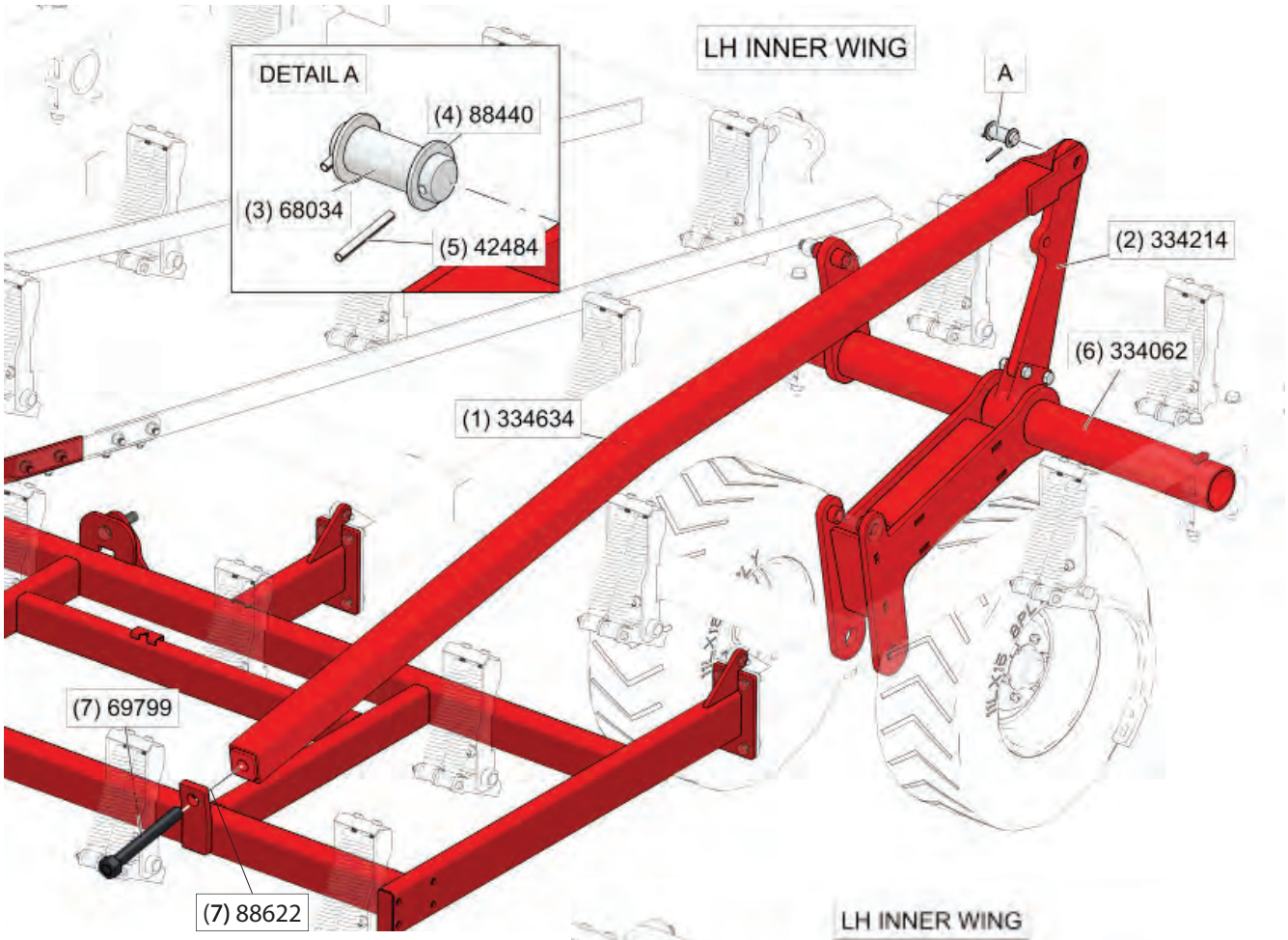
(2) 334060
(3) 88264
(1) 334620
(8) 88125
(9) 88125
(6) 48890
(7) 88125
(11) 88454
(5) 4000360725
(10) 88561


LH INNER WING
DETAIL A
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(3) 68034
(5) 42484
A
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(6) 334062
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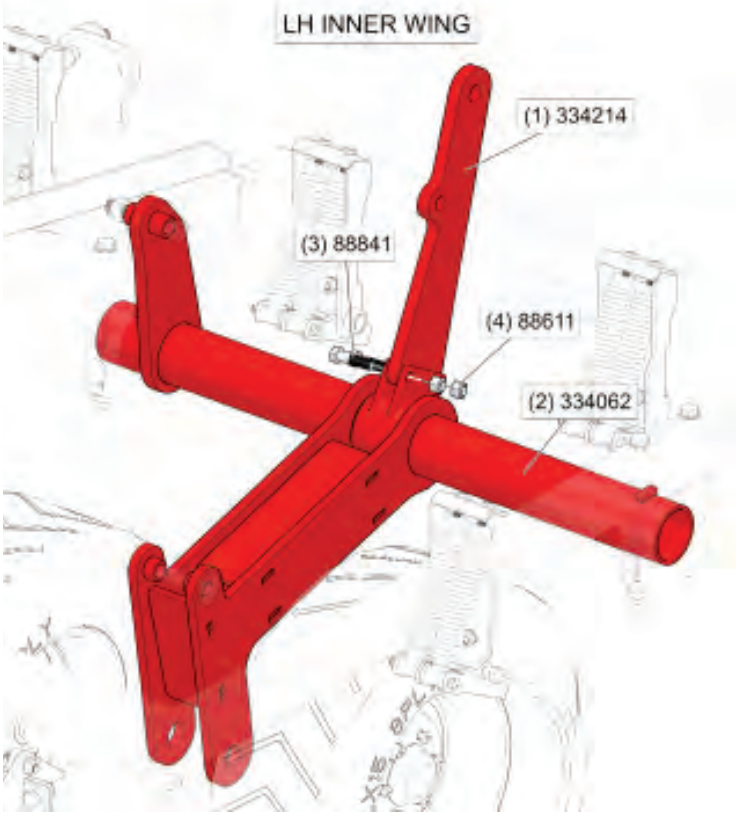
(7) 69799
(7) 88622


LH INNER WING
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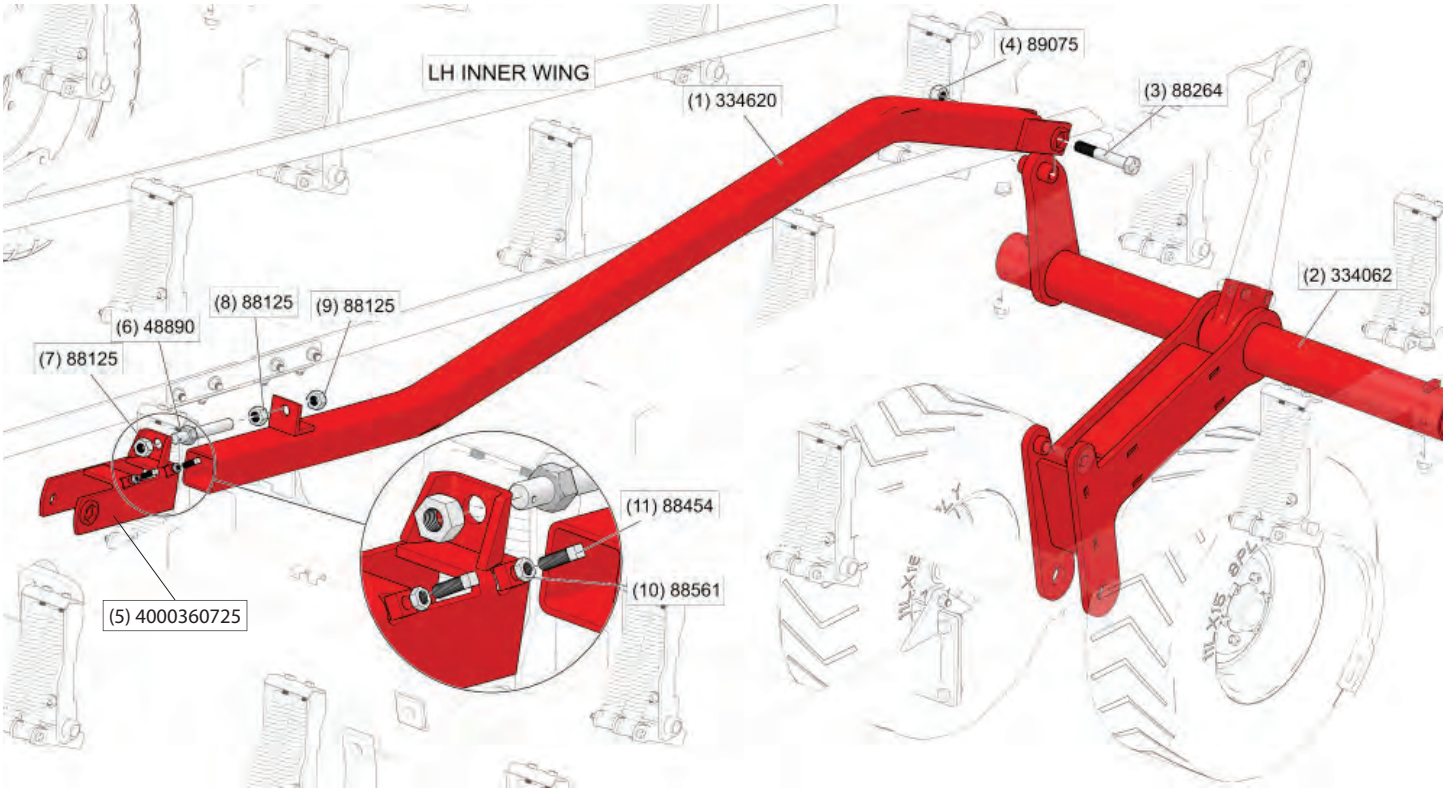
(3) 88841
(4) 88611
(2) 334062


LH INNER WING
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(2) 334062
(3) 88264
(4) 89075
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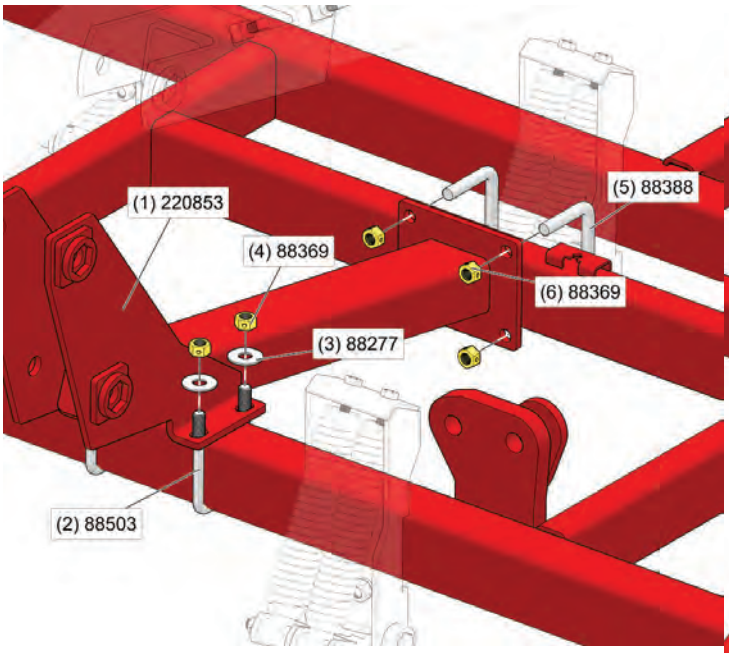
(6) 48890
(7) 88125
(8) 88125
(9) 88125
(10) 88561
(11) 88454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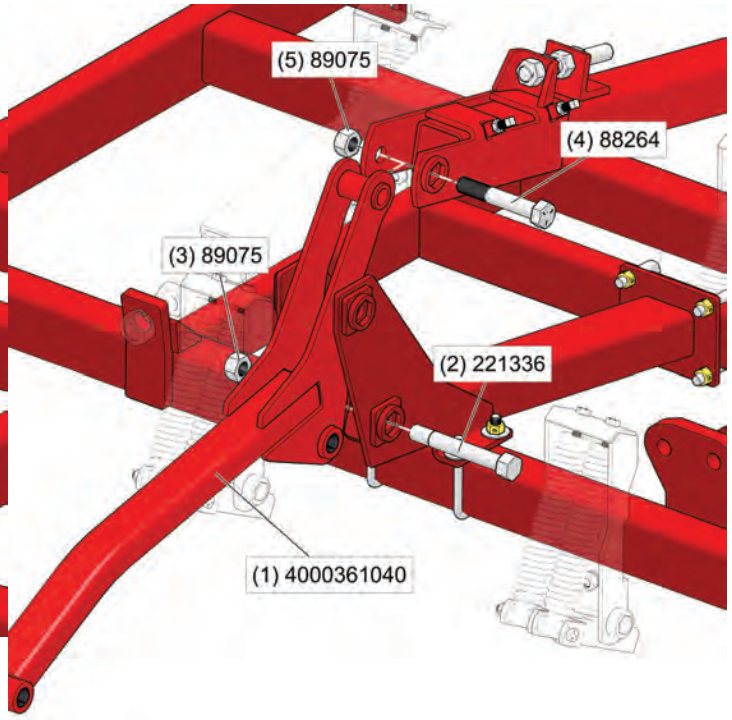
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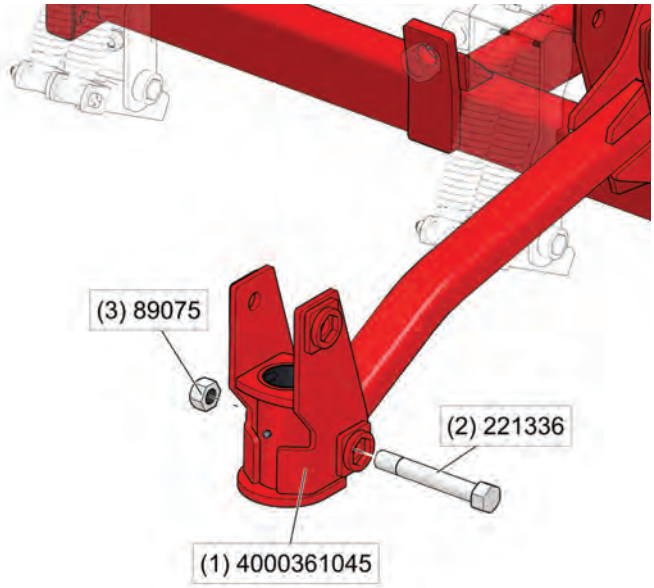
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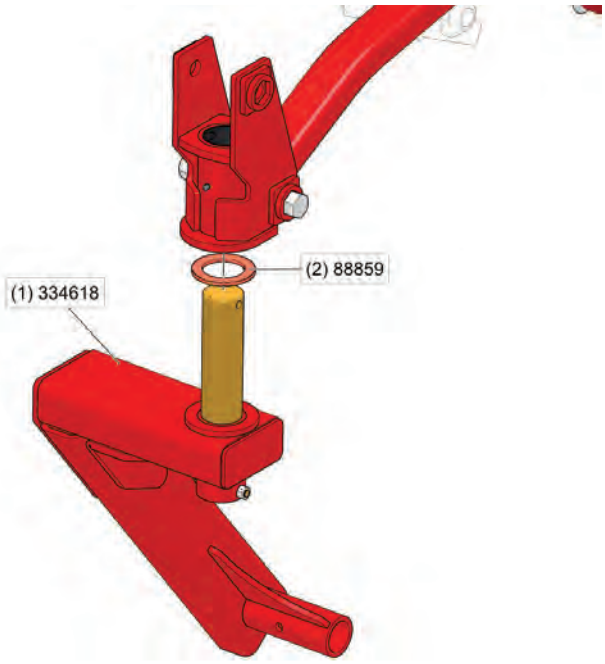
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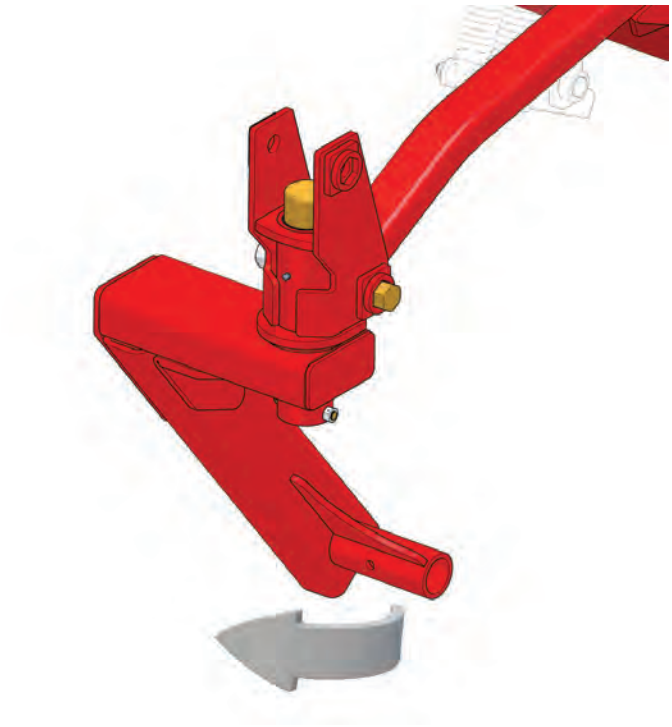

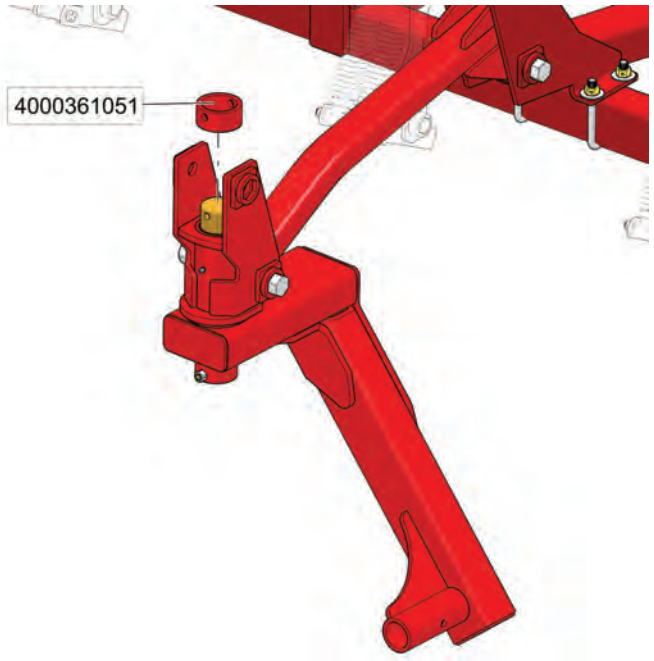
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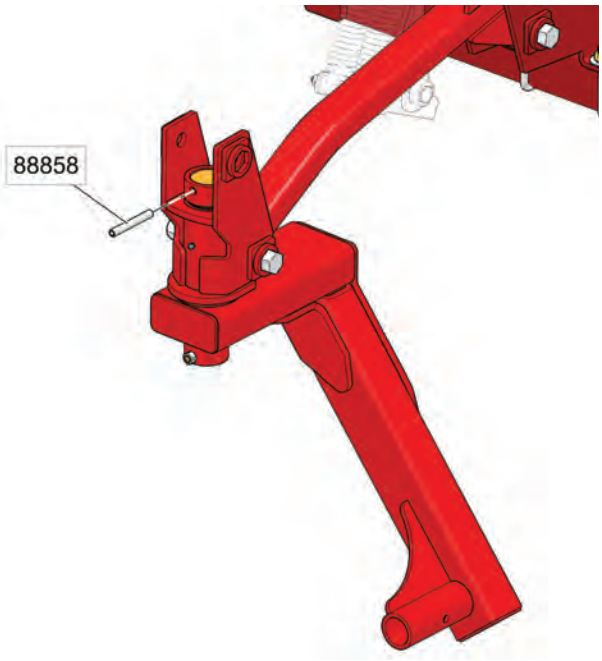
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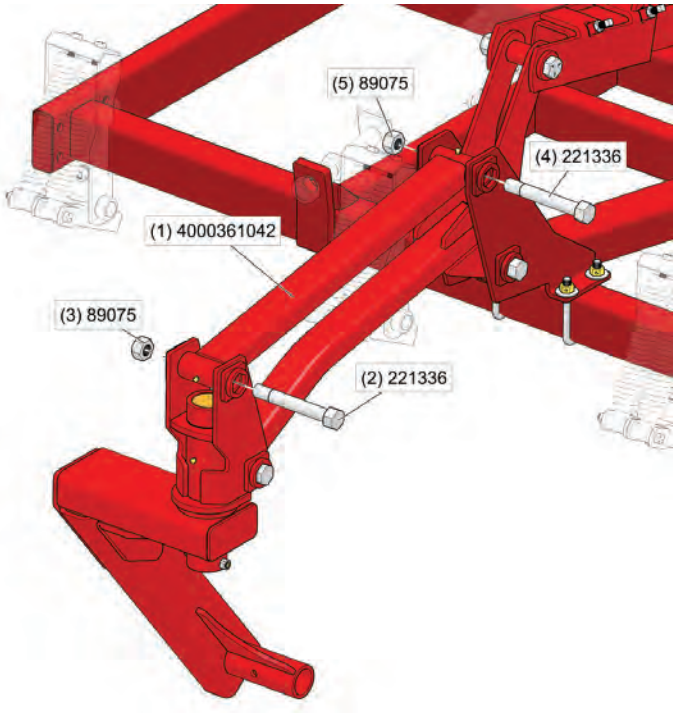
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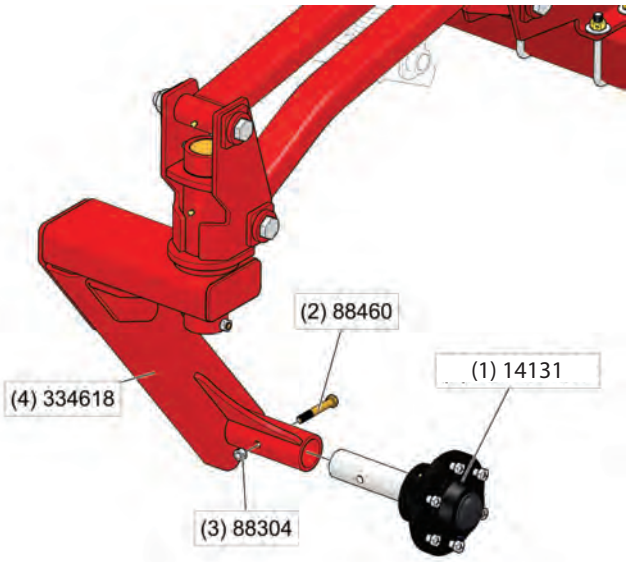
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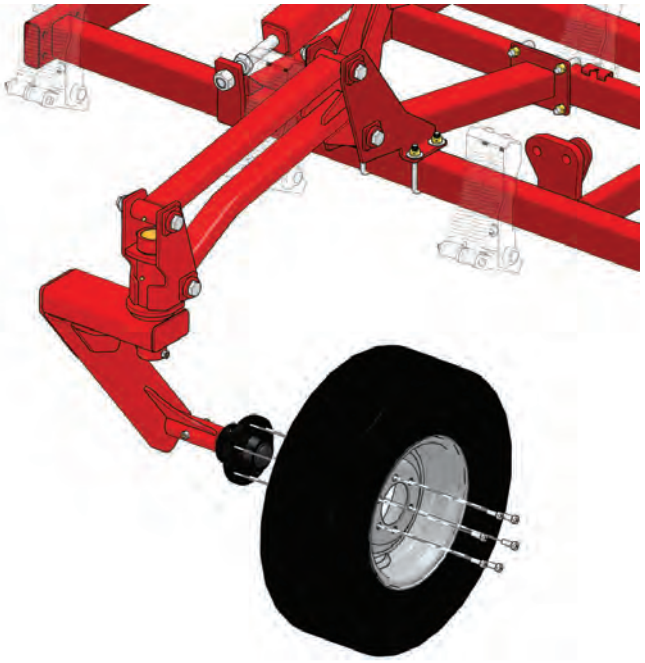
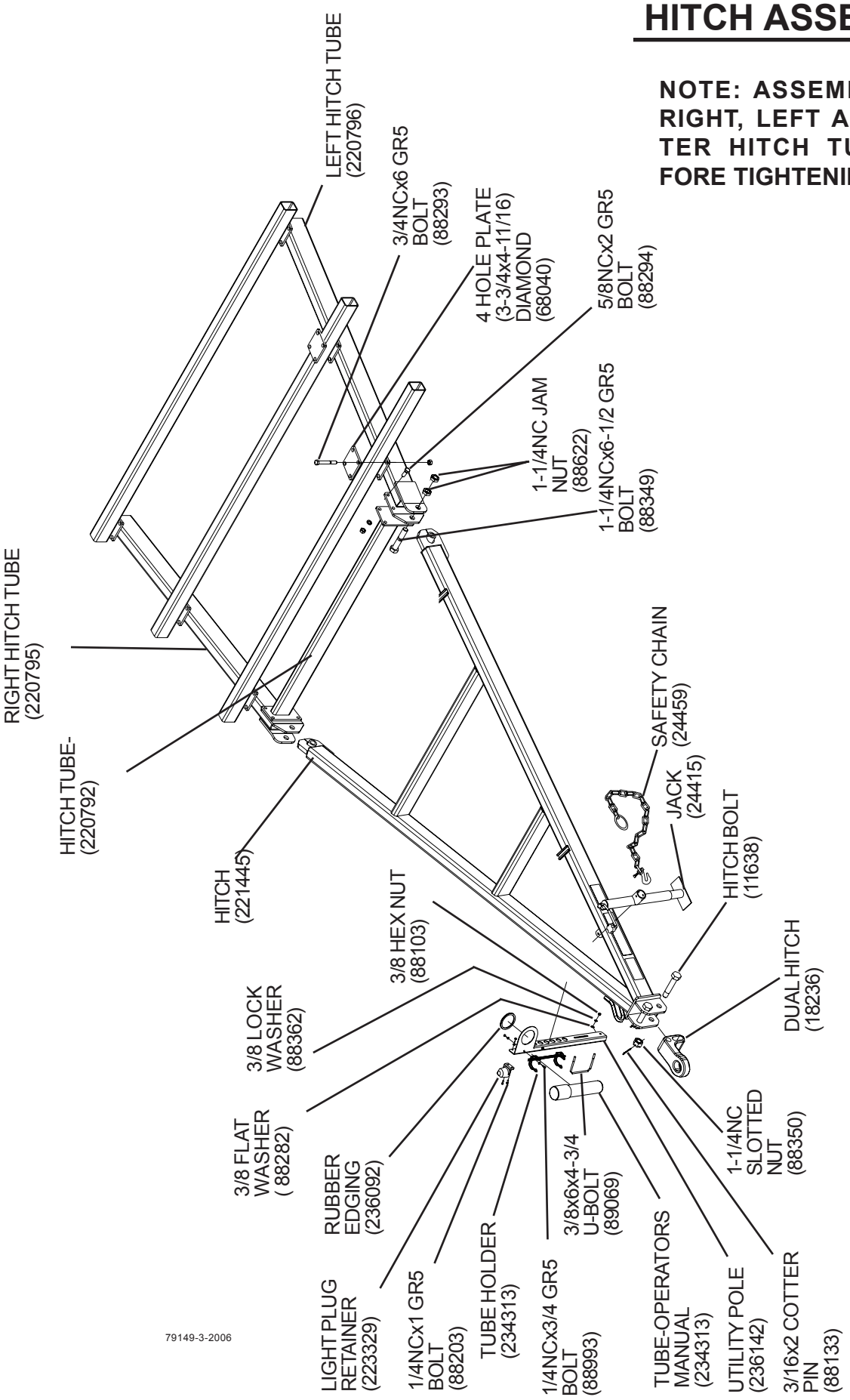
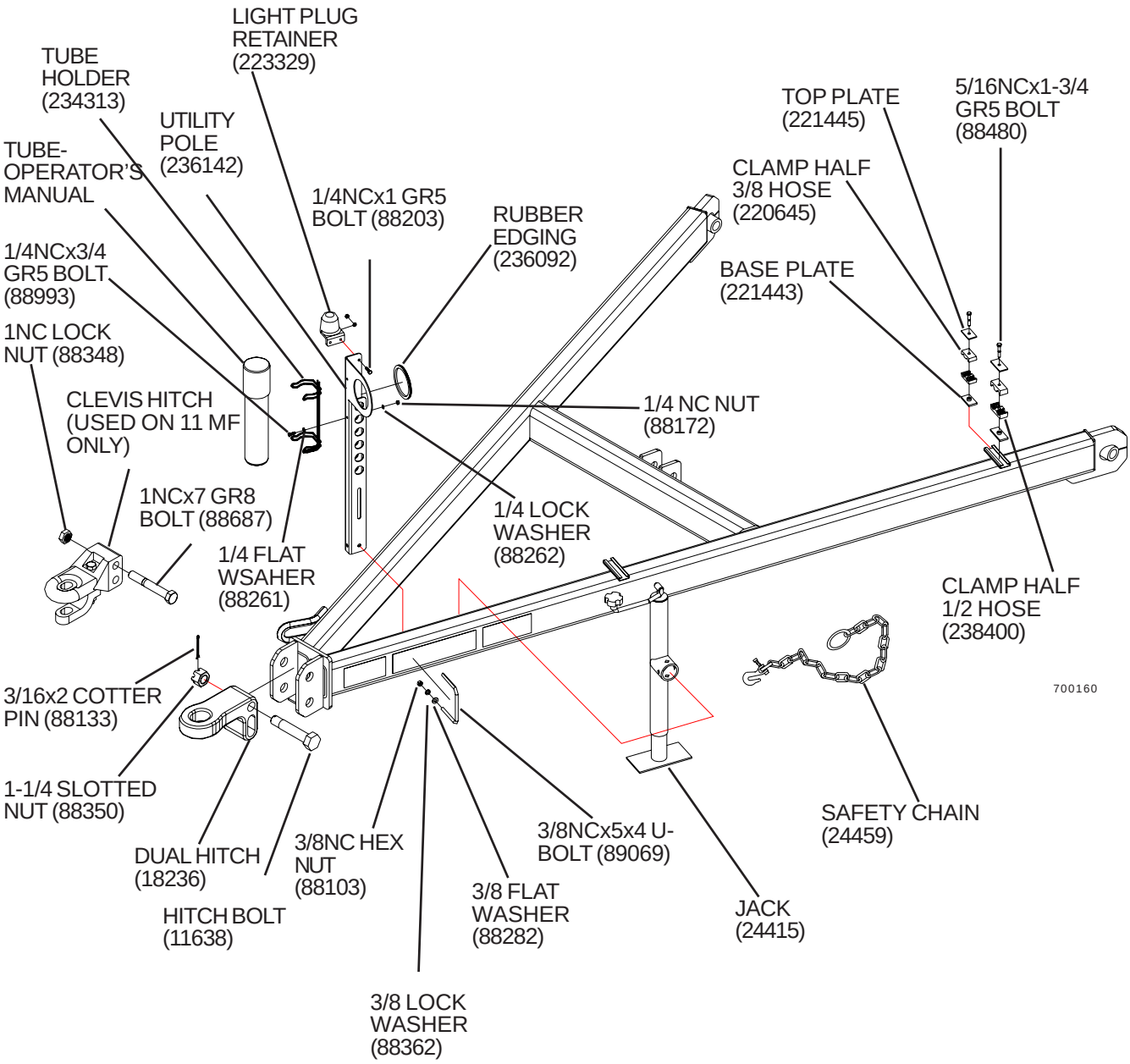


HITCH ASSEMBLY

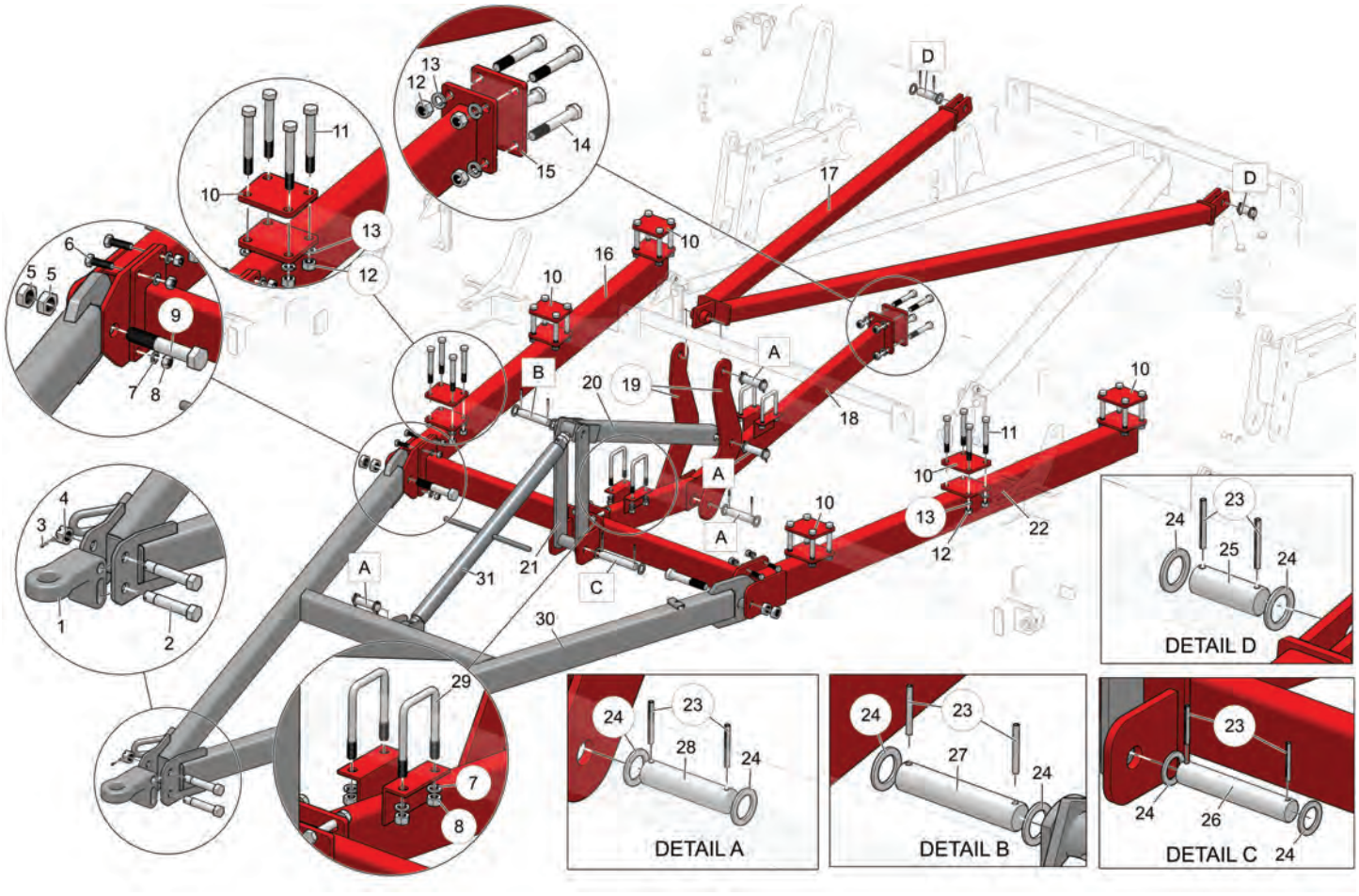
NOTE: ASSEMBLE ALL RIGHT, LEFT AND CENTER HITCH TUBE BEFORE TIGHTENING



HITCH ASSEMBLY CONTINUED



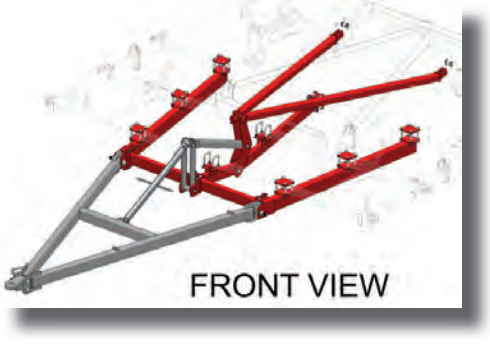
11’ & 13’ T/L HITCH A-FRAME 13’ LL



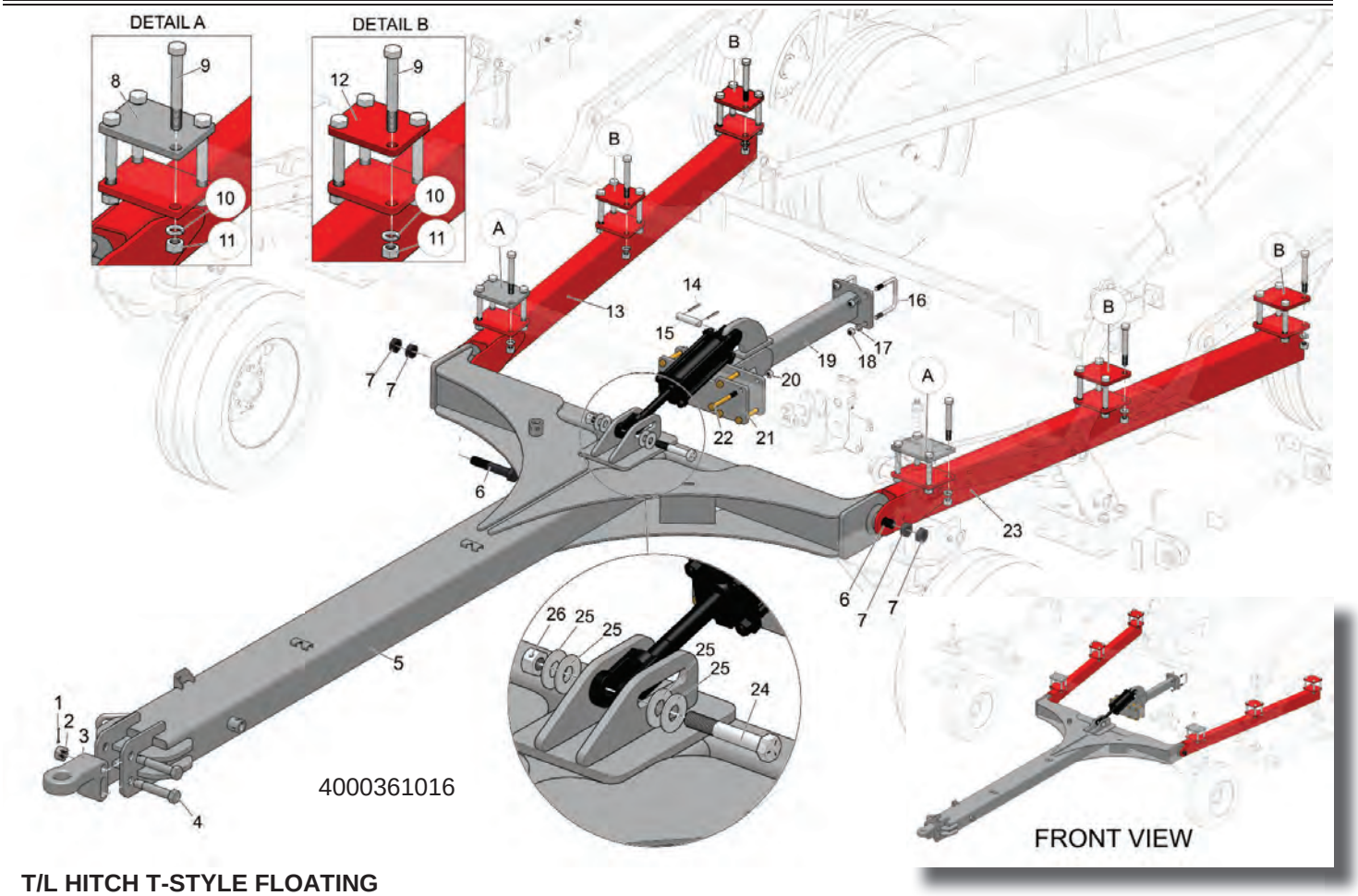
QX² & XL² SIZES 11' & 13' T/L HITCH A-FRAME 13' LL

ITEM	PART #	QTY	DESCRIPTION
1	42824	1	CAST DUAL HITCH
2	11638	2	BOLT, HITCH SPECIAL 1-1/4 X 6-1/2
3	88133	2	PIN-COTTER: 3/16 DIA X 2 ZP
4	88350	2	NUT-CASTLE: 1-1/4-7NC 2ZP
5	88622	4	NUT JAM 1-1/4-7NC 5Z
6	88294	8	BOLT-HEX: 5/8-11NC X 2 5ZP
7	88129	16	WASHER-LOCK: HELICAL 5/8ID (11/16ACT) ZP
8	88126	16	NUT-HEX: 5/8-11NC 5ZP
9	88349	2	BOLT-HEX: 1-1/4-7NC X 6-1/2 5ZP
10	68040	6	FLAT (RED) 11' & 13"
11	88293	24	BOLT-HEX: 3/4-10NC X 6 5ZP
12	88110	28	NUT-HEX: 3/4-10NC 5ZP
13	88130	28	WASHER-LOCK: HELICAL 3/4ID (13/16ACT) ZP
14	88305	4	BOLT-HEX: 3/4-10NC X 5 5ZP
15	68354	1	4 HOLE BOLT PLATE (3.5 X 4.75) RED
16	220795	1	QX² & XL² HITCH TUBE-RIGHT
17	67743	1	13EXC CENTER LIFT TUBE BRACKET
18	220785	1	CENTER FRAME HITCH ATTACHMENT
19	67933	2	PLATE (3-HOLE) 5-SECT
20	67906	1	LINKAGE
21	67937	1	CENTER HITCH BRACKET
22	220796	1	QX² & XL² HITCH TUBE-LEFT
23	42484	16	PIN-ROLL: 1/4 X 2-1/4 ZP
24	88440	16	BUSHING-MACHINERY: 1-1/4 X 1-7/8 14GA ZP
25	68034	2	HEADLESS PIN(2) 1-1/4X3.38
26	68032	1	HEADLESS PIN(2) 1-1/4X7.25
27	68030	1	HEADLESS PIN(2) 1-1/4X6.13
28	68031	4	HEADLESS PIN(2) 1-1/4X5.12
29	88503	4	BLT-U 5/8-11NC X 3 X 5-1/4 Z
30	233672	1	13 EXC MAIN FRAME HITCH
31	68036	1	ADJUSTER ASSEMBLY

NO MAIN FRAME TIRES USED



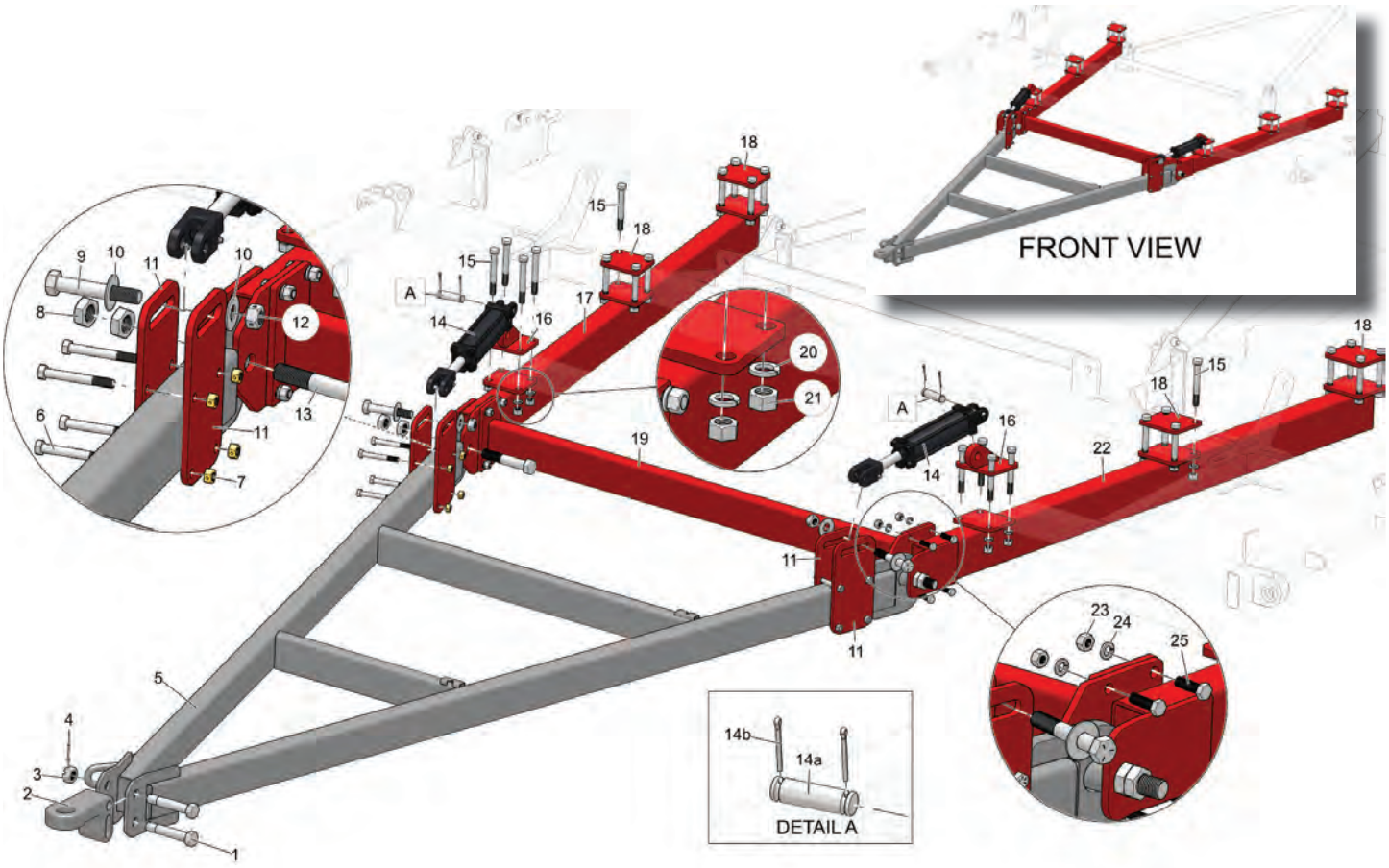
T/L HITCH T-STYLE FLOATING



T/L HITCH T-STYLE FLOATING

ITEM	PART NUMBER	QTY	DESCRIPTION
1	88133	2	PIN-COTTER: 3/16 DIA X 2 ZP
2	88350	2	NUT-CASTLE: 1-1/4-7NC 2ZP
3	55920	1	CAST DUAL HITCH
4	11638	2	BOLT, HITCH SPECIAL 1-1/4X6-1/2
5	334051	1	T-HITCH WELDMENT
6	88349	2	BOLT-HEX: 1-1/4-7NC X 6-1/2 5ZP
7	88622	4	NUT JAM 1-1/4-7NC 5Z
8	334677	2	WIDER HITCH PLATE - PAINTED
9	88293	24	BOLT-HEX: 3/4-10NC X 6 5ZP
10	88130	24	WAHSER-LOCK: HELICAL 3/4ID (13/16ACT) ZP
11	88110	24	NUT-HEX: 3/4-10NC 5ZP
12	68040	4	FLAT (RED) 11' & 13'
13	334643	1	HITCH TUBE WELDMENT RIGHT
14	88767	2	PIN ROLL 1/4DIA X 2-1/2Z
15	221714	1	HEADLESS PIN(2) 1X4.00
16	88501	2	BLT-U 5/8-11NC X 4 X 4-1/4 Z
17	88129	4	WASHER-LOCK: HELICAL 5/8ID (11/16ACT) ZP
18	88126	4	NUT-HEX: 5/8-11NC 5ZP
19	334045	1	T-HITCH WEIGHT BALANCE BRACE WELDMENT
20	88845	8	NUT TOP LK 5/8-11NC 5Z
21	334050	1	T-HITCH BRACE BACK PLATE
22	89547	8	BOLT-HEX: 5/8-11NC X 5-1/2 8YZP
23	334646	1	HITCH TUBE WELDMENT LEFT
24	88264	1	BOLT-HEX: 1-8NC X 6 5ZP
25	88196	4	WASHER-FLAT: 1 (1/1/16 X 2-1/2ACT) 2ZP
26	88348	1	NUT-LOCK: 2 POS 1-8NC 2ZP

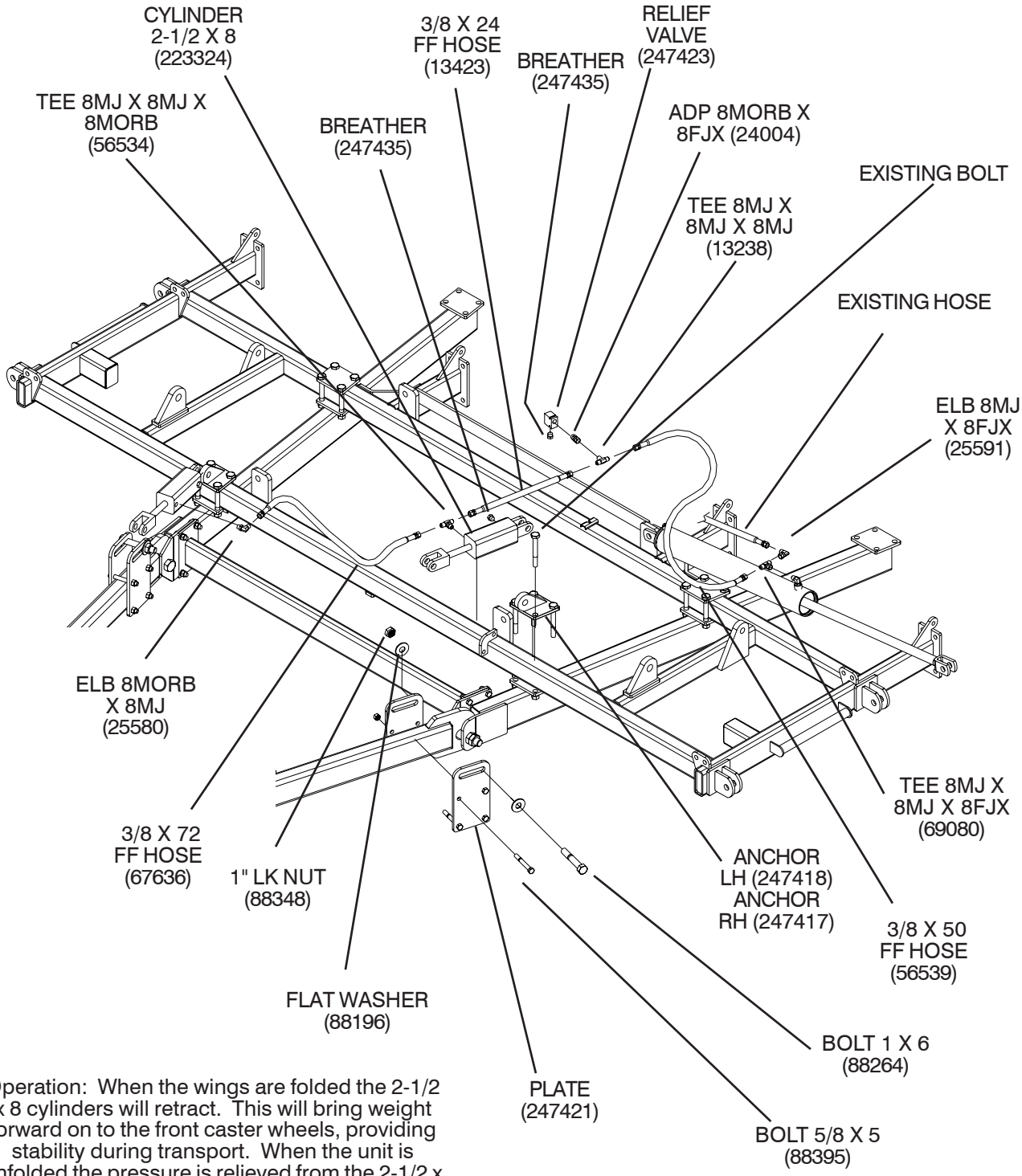
13’ TL HITCH A-FRAME FLOATING



QX² & XL² 13' TL HITCH A-FRAME FLOATING

ITEM	PART #	QTY	DESCRIPTION
1	11638	2	BOLT, HITCH SPECIAL 1-1/4X6-1/2
2	42824	1	CAST DUAL HITCH
3	88350	2	NUT-CASTLE: 1-1/4-7NC 2ZP
4	88133	2	PIN-COTTER: 3/16 DIA X 2ZP
5	233670	1	13FT QUADX HITCH
6	88395	8	BOLT-HEX: 5/8-11NC X 5 5ZP
7	88369	8	NUT-LOCK: 2 POS 5/8-11NC 5YZP
8	88622	4	NUT JAM 1-1/4-7NC 5Z
9	88264	2	BOLT-HEX: 1-8NC X 6 5ZP
10	88196	4	WASHER-FLAT: 1(1-1/16X2-1/2ACT) 2ZP
11	247421	4	PLATE
12	88348	4	NUT-LOCK: 2 POS 1-8NC 2ZP
13	88349	2	BOLT-HEX: 1-1/4-7NC X 6-1/2 5ZP
14	223324	2	HYD CY2-1/2X8 (SAE)
14a	NSS - supplied with Part #14	1	HEADLESS PIN
14b	NSS - supplied with Part #14	4	PIN-COTTER
15	88293	24	BOLT-HEX: 3/4-10NC X 6 5ZP
16	247417	2	ANCHOR WELD RH
17	220795	1	QX² & XL² HITCH TUBE - RIGHT
18	68040	4	FLAT (RED) 11' & 13'
19	220792	1	13FT QX²/XL² HITCH TUBE
20	88130	24	WASHER-LOCK: HELICAL 3/4ID (13/16ACT) ZP
21	88110	24	NUT-HEX: 3/4-10NC 5ZP
22	220796	1	QX² & XL² HITCH TUBE - LEFT
23	88126	8	NUT-HEX: 5/8-11NC 5ZP
24	88129	8	WASHER-LOCK: HELICAL 5/8ID (11/16ACT) ZP
25	88294	8	BOLT-HEX: 5/8-11NC X 2 5ZP

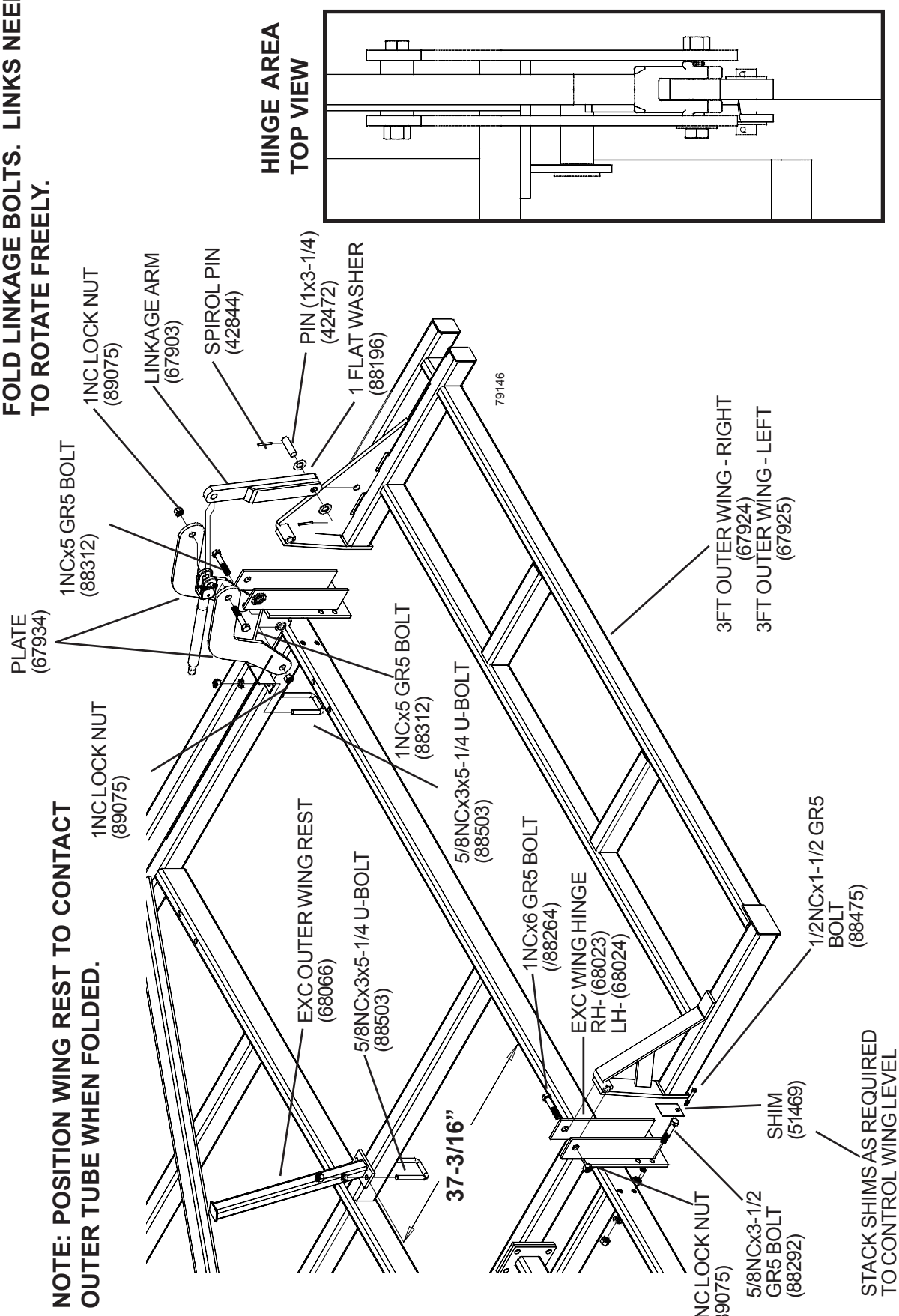
OPTIONAL - HYD WEIGHT BALANCE KIT



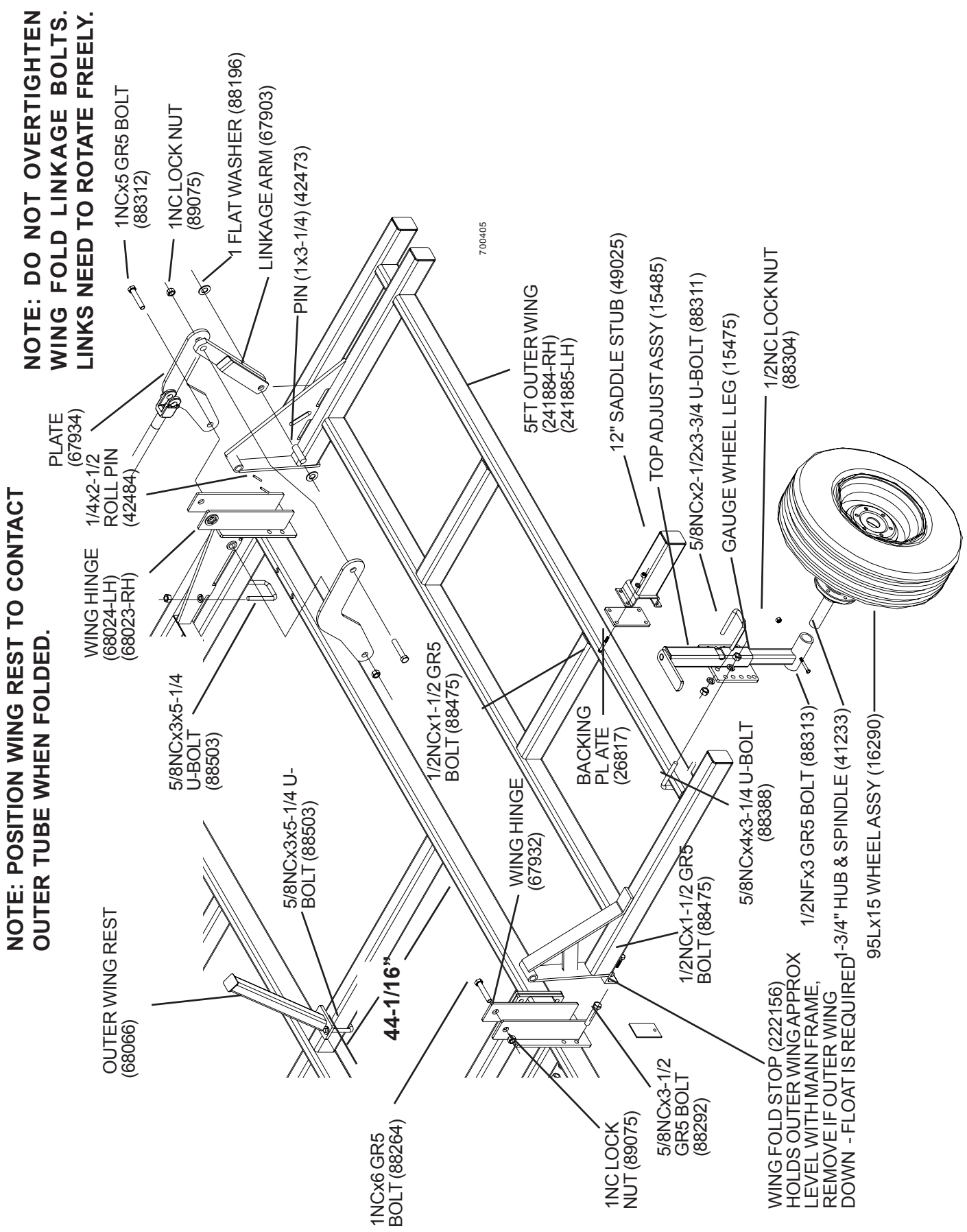
Operation: When the wings are folded the 2-1/2 x 8 cylinders will retract. This will bring weight forward on to the front caster wheels, providing stability during transport. When the unit is unfolded the pressure is relieved from the 2-1/2 x 8 cylinder allowing the hitch to float for field duties. The relief valve provides protection from extreme loads. The releif valve may drip oil in extreme cases.

700740

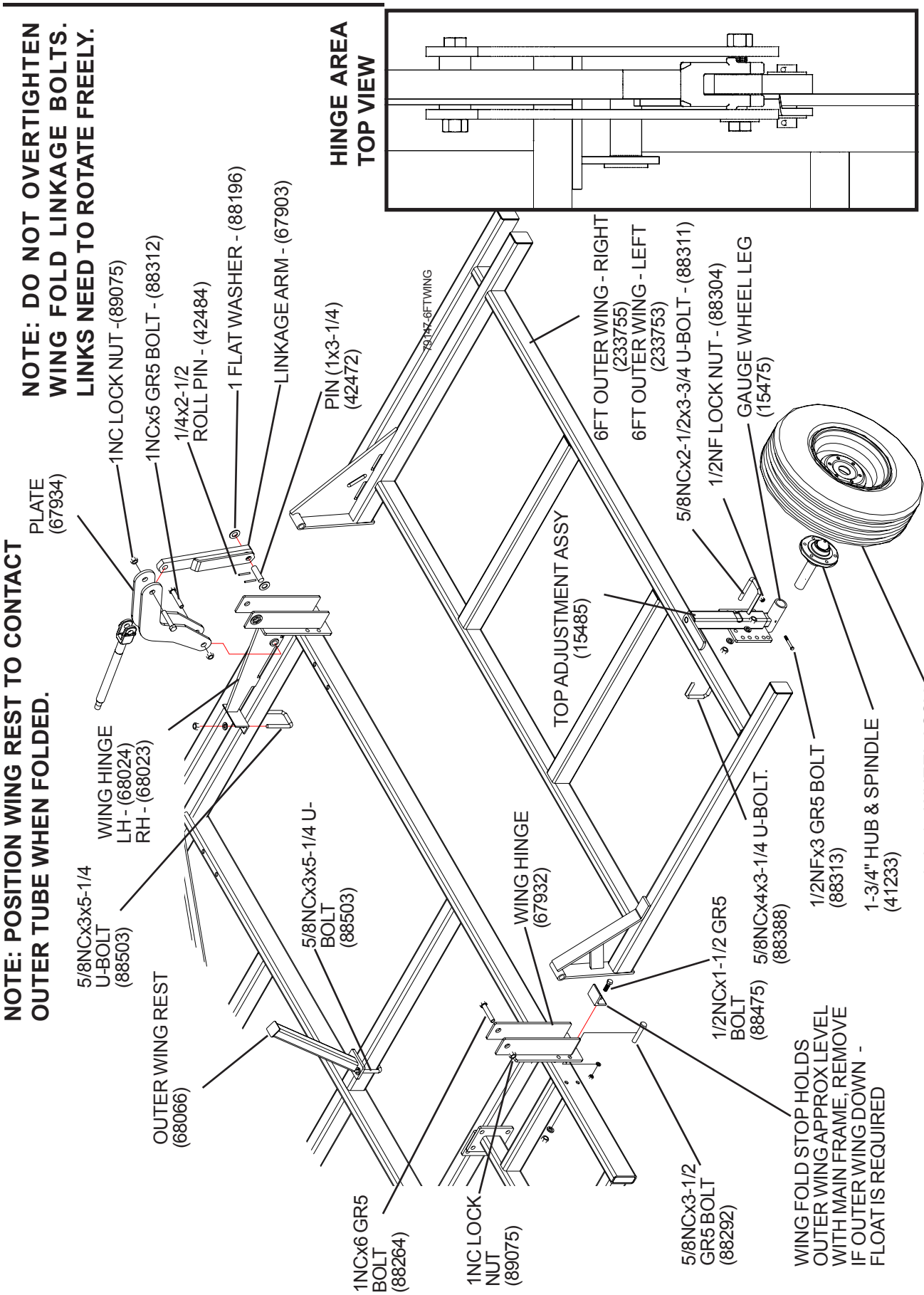
3' OUTER WING


NOTE: DO NOT OVERTIGHTEN WING FOLD LINKAGE BOLTS. LINKS NEED TO ROTATE FREELY.
HINGE AREA TOP VIEW
1NC LOCK NUT (89075)
LINKAGE ARM (67903)
SPIROL PIN (42844)
PIN (1x3-1/4) (42472)
1 FLAT WASHER (88196)
1NCx5 GR5 BOLT (88312)
PLATE (67934)
79146
3FT OUTER WING - RIGHT (67924)
3FT OUTER WING - LEFT (67925)
1NCx5 GR5 BOLT (88312)
5/8NCx3x5-1/4 U-BOLT (88503)
1NC LOCK NUT (89075)
NOTE: POSITION WING REST TO CONTACT OUTER TUBE WHEN FOLDED.
EXC OUTER WING REST (68066)
5/8NCx3x5-1/4 U-BOLT (88503)
37-3/16"
1NCx6 GR5 BOLT (/88264)
EXC WING HINGE RH- (68023) LH- (68024)
1/2NCx1-1/2 GR5 BOLT (88475)
SHIM (51469)
1NC LOCK NUT (89075)
5/8NCx3-1/2 GR5 BOLT (88292)
STACK SHIMS AS REQUIRED TO CONTROL WING LEVEL

5' FLOATING OUTER WING W/GAUGE WHEEL

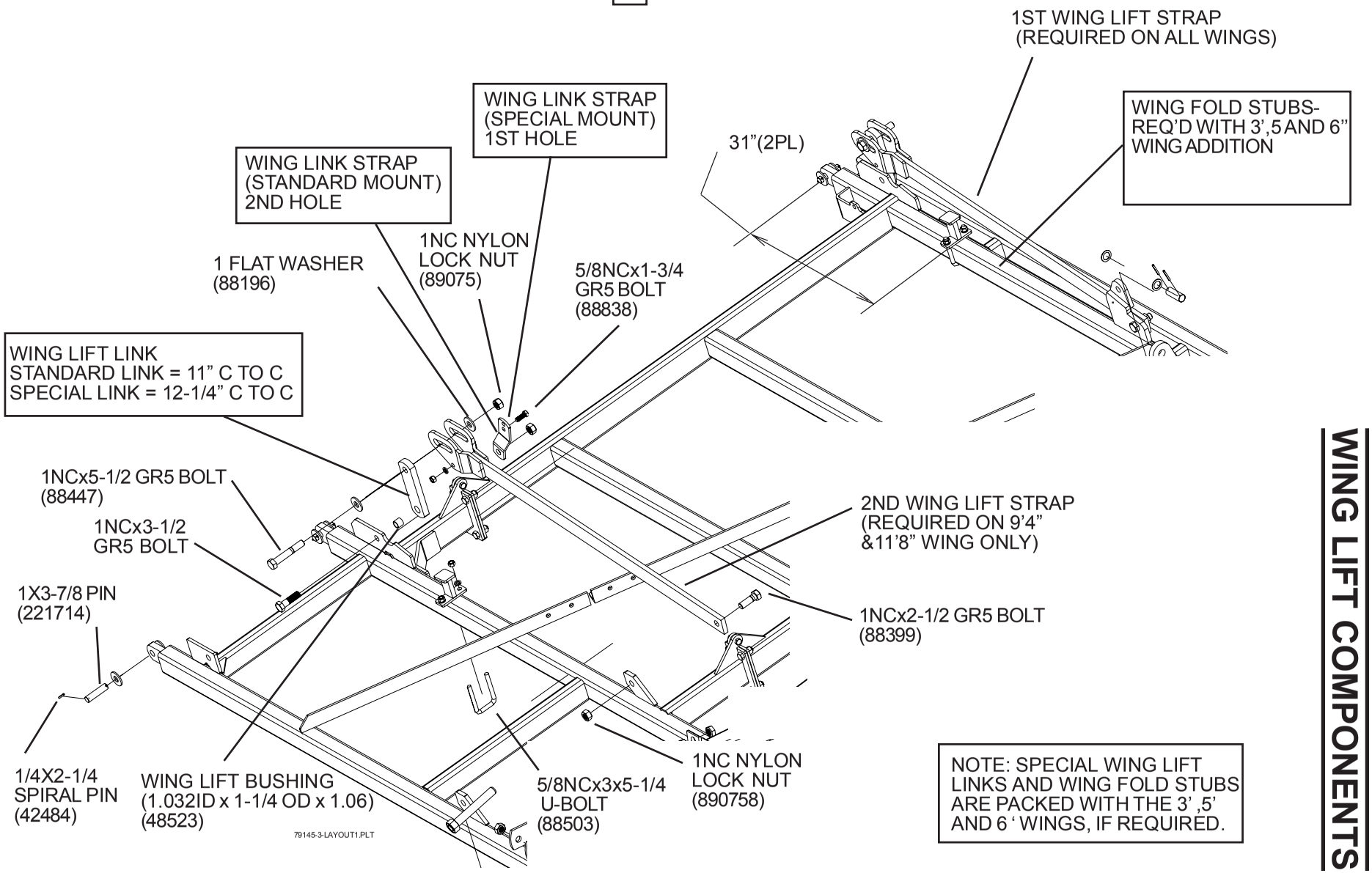


6’ FLOATING OUTER WING W/GAUGE WHEEL



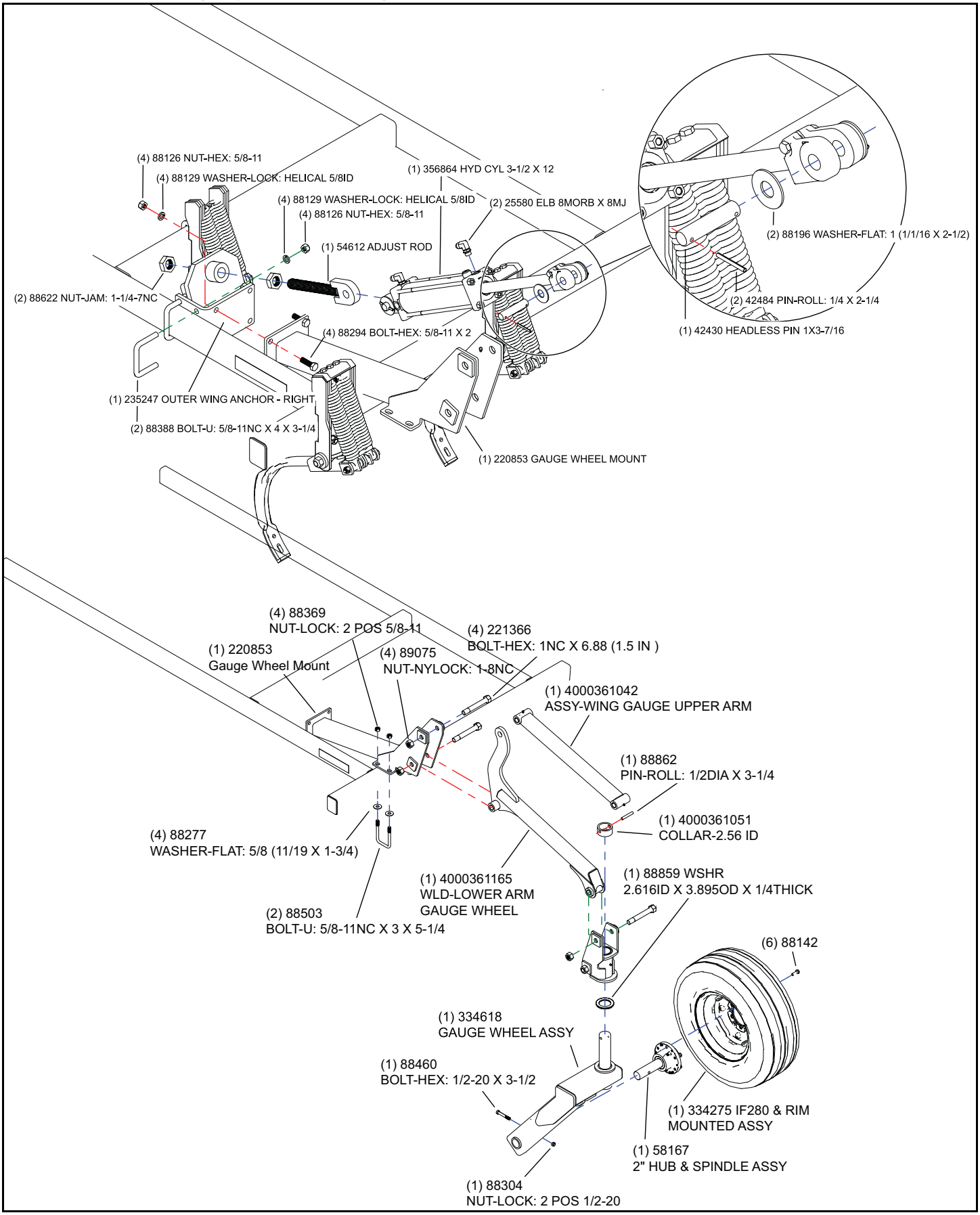
WING LIFT COMPONENTS

NOTE: SPECIAL WING LIFT STRAP MOUNTING, WING FOLD STUBS AND WING LIFT LINK LENGTH ARE NECESSARY WHEN 3', 5' 0R 6' WINGS ARE ADDED. SEE BOXED ☐ CALLOUTS.

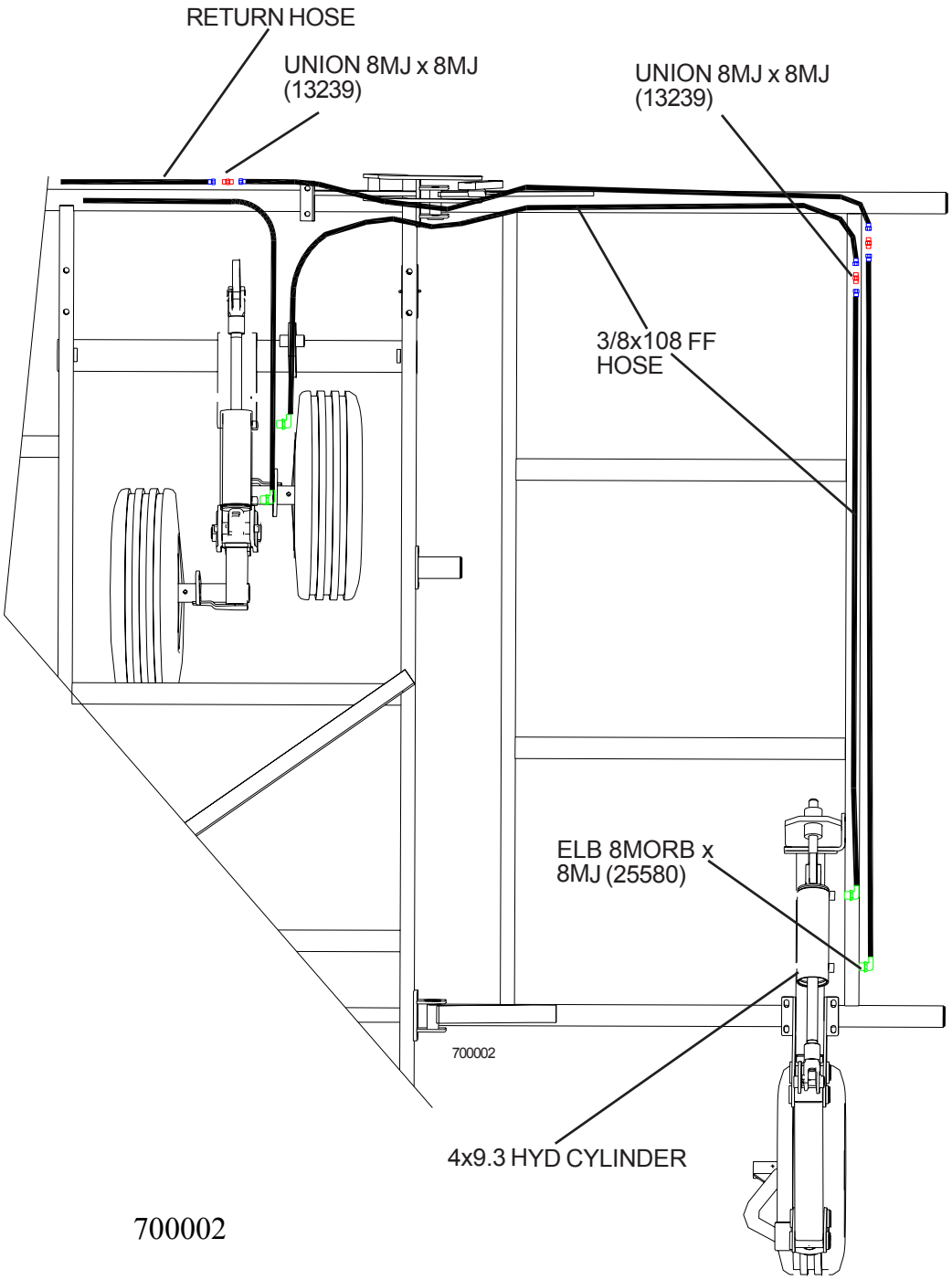


NOTE: SPECIAL WING LIFT LINKS AND WING FOLD STUBS ARE PACKED WITH THE 3' ,5' AND 6 ' WINGS, IF REQUIRED.

Attach Outer Wing Hydraulic Gauge Wheel

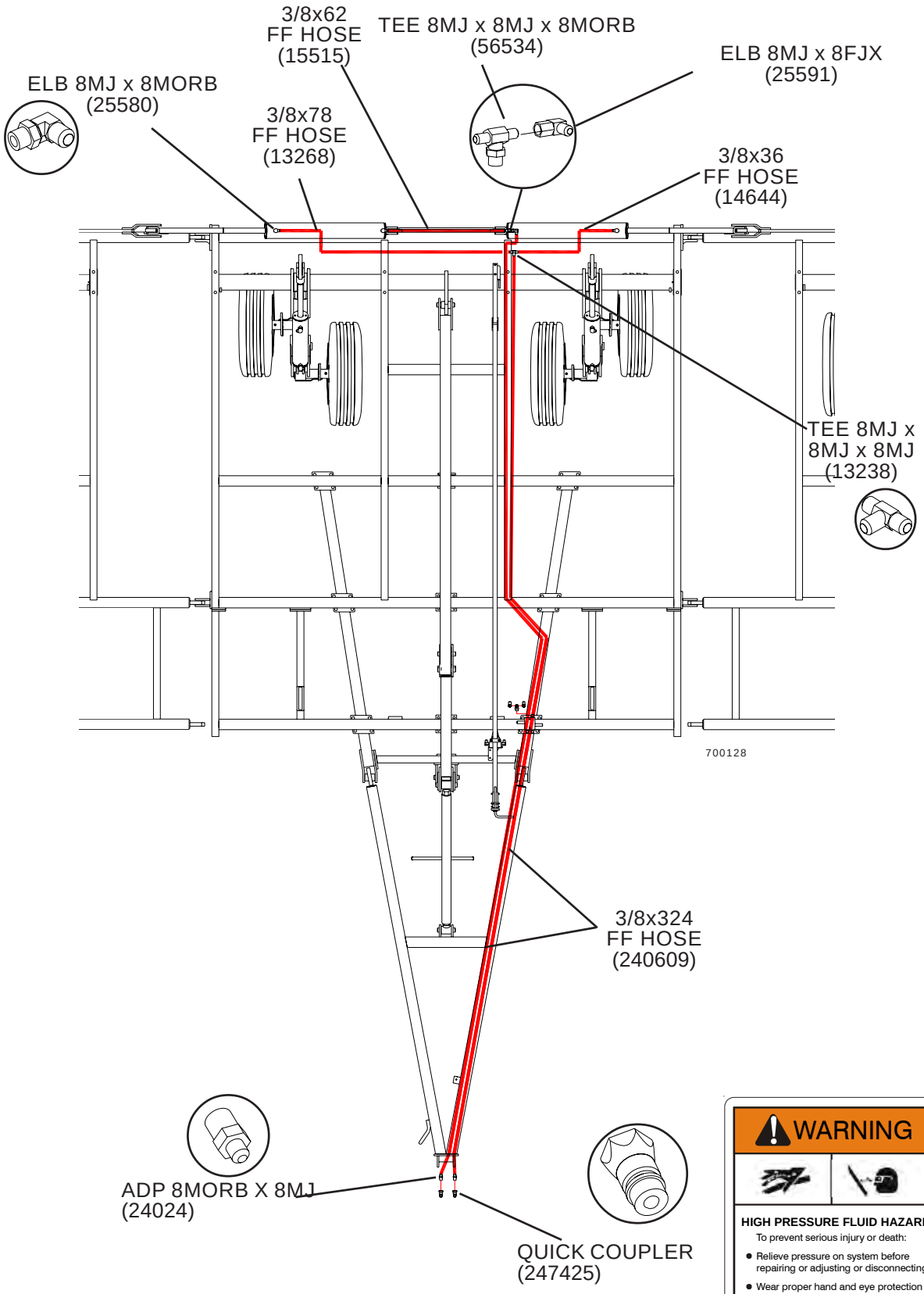


HYDRAULICS-OUTER GAUGE WHEELS

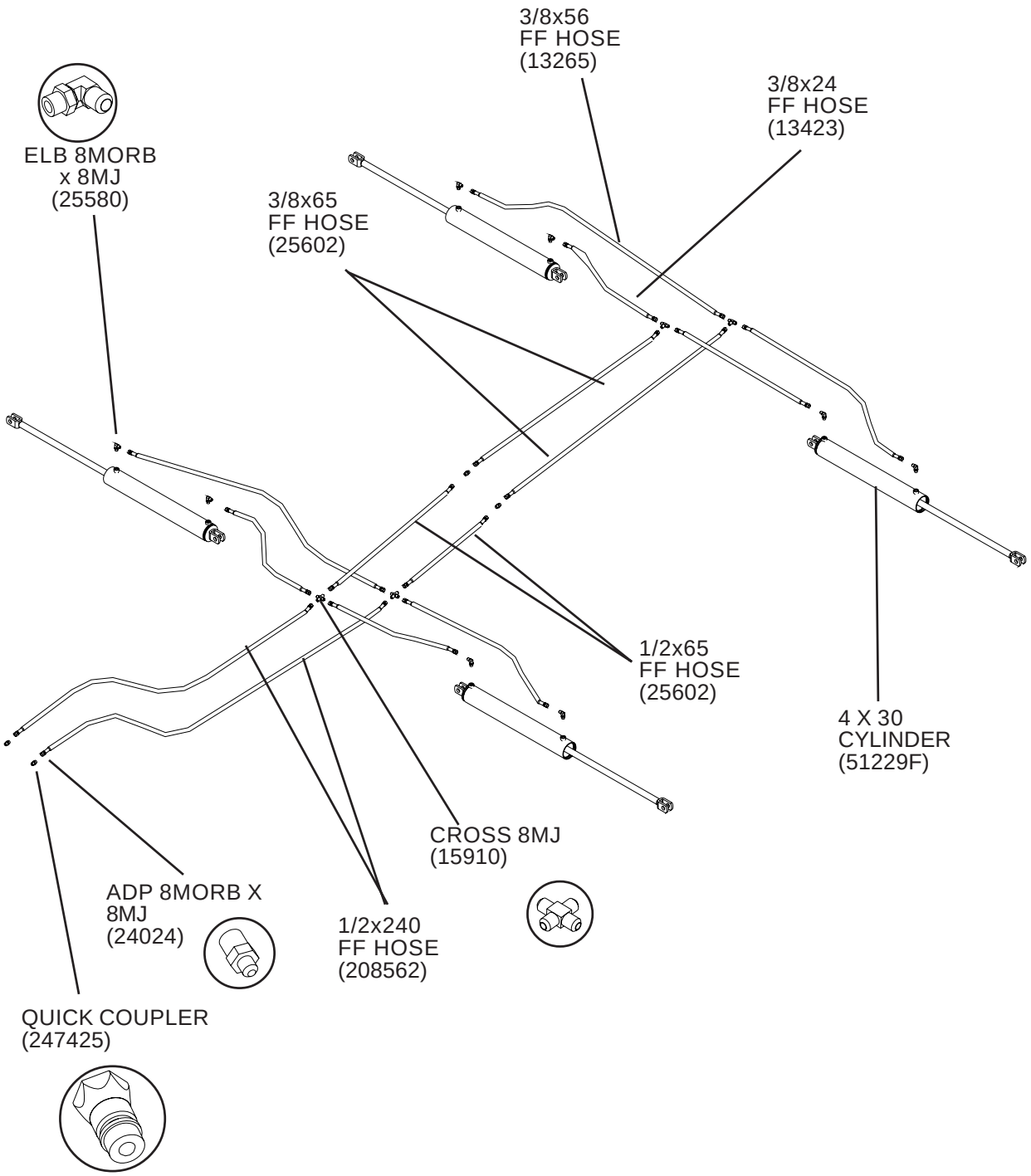


700002

11 Foot 19 & 25
WING FOLD HYDRAULICS



FOLD HYDRAULICS



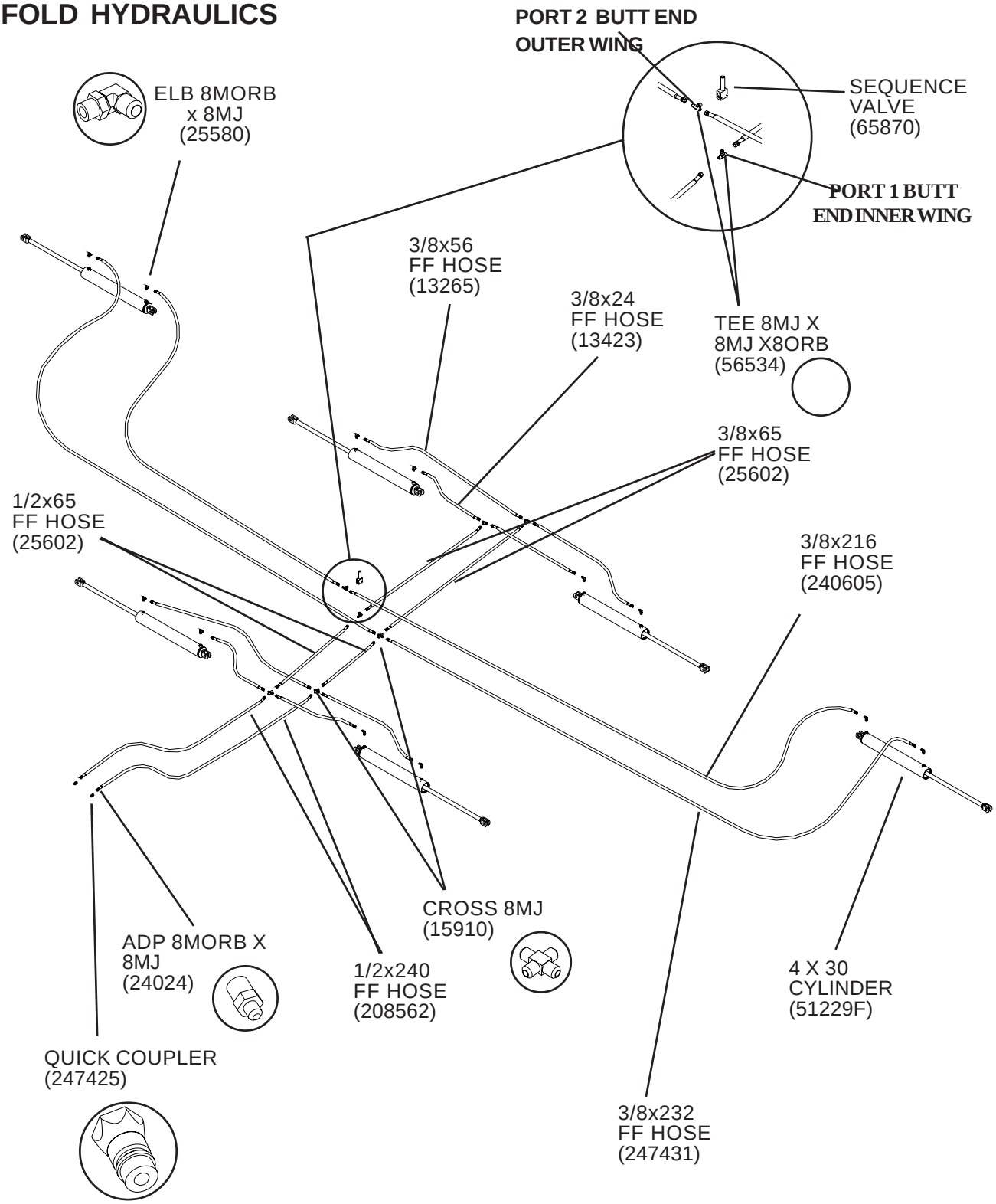
CAUTION

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY AND/OR EQUIPMENT DAMAGE.

- Just before and during operation be sure no one is on or around the implement.
- Before activating the hydraulic system, check hoses for proper connections.
- Before lowering the wings for the first time, make sure the entire system has been charged with oil.
- With wings down always install hydraulic cylinder channel lock(s) for transporting.

11 Foot 30 W/OUTER WINGS

FOLD HYDRAULICS



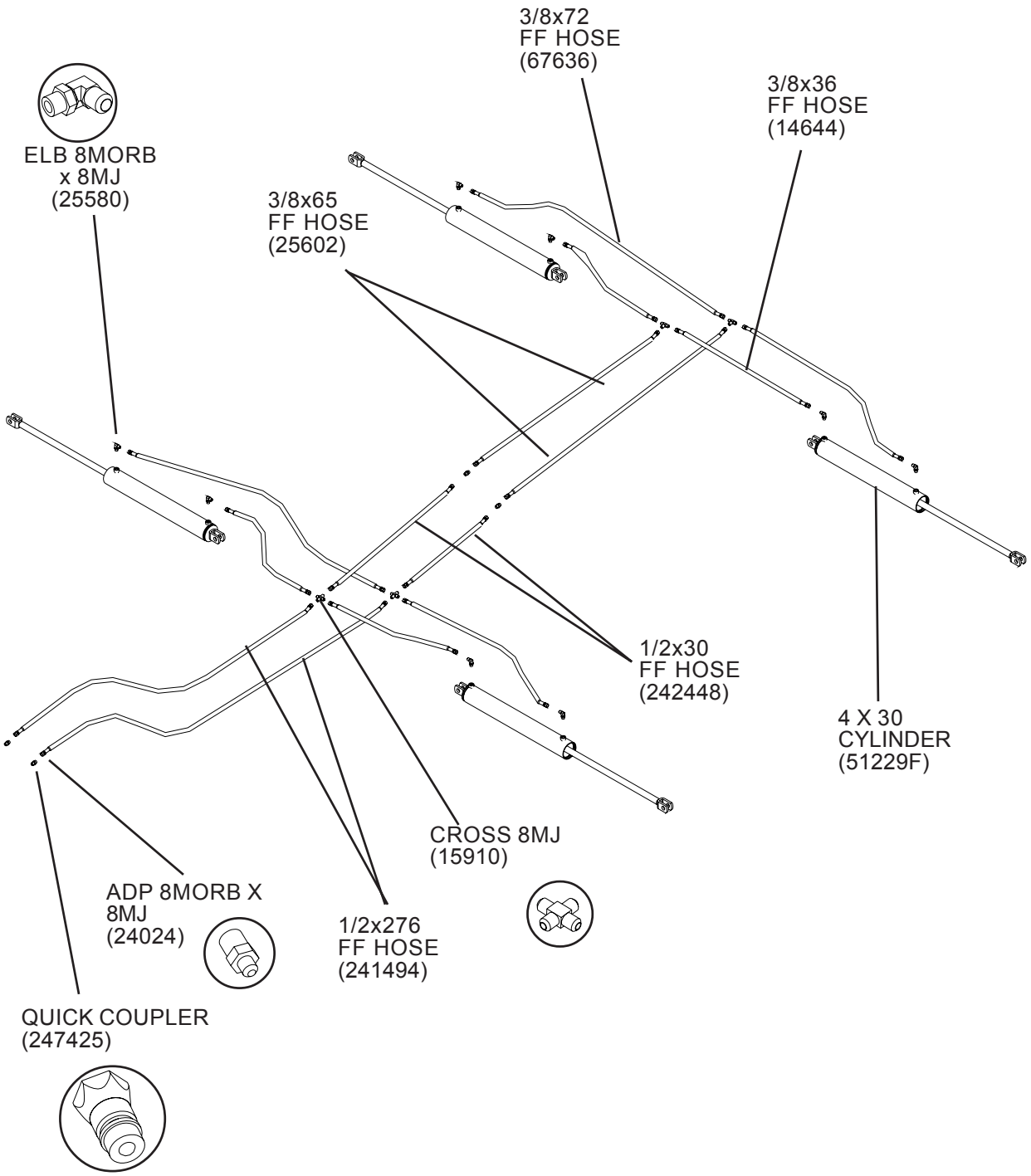
CAUTION

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY AND/OR EQUIPMENT DAMAGE.

- Just before and during operation be sure no one is on or around the implement.
- Before activating the hydraulic system, check hoses for proper connections.
- Before lowering the wings for the first time, make sure the entire system has been charged with oil.
- With wings down always install hydraulic cylinder channel lock(s) for transporting.

13 Foot 32 & 37

FOLD HYDRAULICS



CAUTION

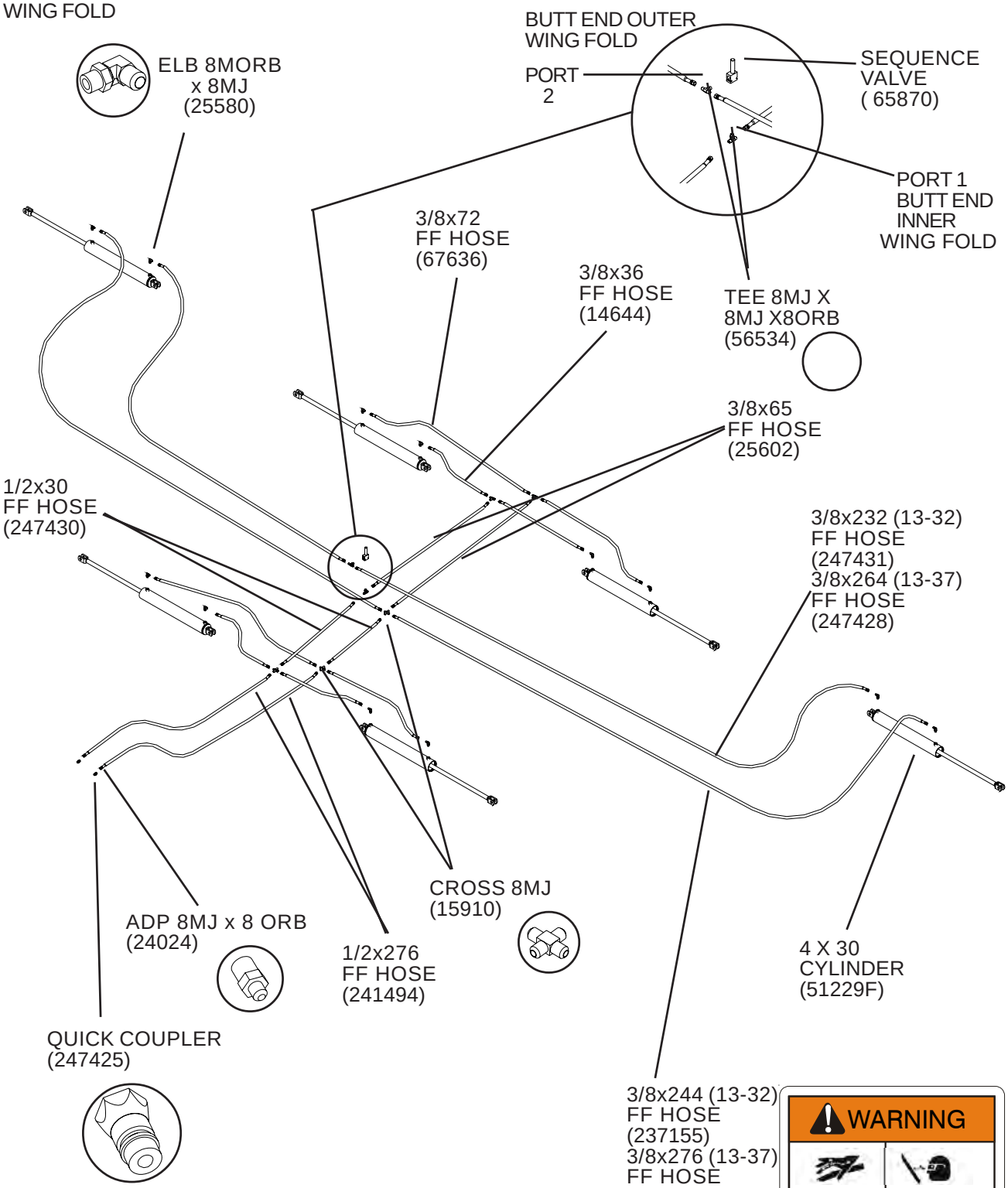
FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY AND/OR EQUIPMENT DAMAGE.

- Just before and during operation be sure no one is on or around the implement.
- Before activating the hydraulic system, check hoses for proper connections.
- Before lowering the wings for the first time, make sure the entire system has been charged with oil.
- With wings down always install hydraulic cylinder channel lock(s) for transporting.

13 Foot 32 & 37 W/OUTER WINGS

FOLD HYDRAULICS

WING FOLD



CAUTION

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY AND/OR EQUIPMENT DAMAGE.

- Just before and during operation be sure no one is on or around the implement.
- Before activating the hydraulic system, check hoses for proper connections.
- Before lowering the wings for the first time, make sure the entire system has been charged with oil.
- With wings down always install hydraulic cylinder channel lock(s) for transporting.

WARNING

HIGH PRESSURE FLUID HAZARD

To prevent serious injury or death:

- Relieve pressure on system before repairing or adjusting or disconnecting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

60711

Initial Assembly and Charging of Lift Systems

All WIL-RICH lift systems should be assembled as noted in the appropriate assembly manual. For best functional results the following steps should be followed.

1) Position the main lift cylinders in the locations and connect the hydraulic circuitry as shown. Attach the base end of all cylinders but do not connect the rod ends. Support the cylinders to allow the rods to extend without machine contact.
2) Most fittings, except the connection tips at the tractor end and some valves, are JIC or O-ring type fitting. JIC and O-ring fitting do not require any type of thread compound to seal properly. **NOTE: Take care to keep all connections, fitting, hose, etc as clean as possible.**
3) Where pipe threads are used a thread-sealing compound should be used. **NOTE: Do not use Teflon type tape on any hydraulic circuitry; use an appropriate liquid compound. If any tape or contaminate enters the system if can clog the bypass hole.**
4) With all connections secured and the cylinders supported to allow rod extension apply pressure to the system.

The main or base cylinder should extend as oil flows into the base of the cylinder. Because there is air in the remaining cylinders and in the connecting hoses the outer cylinders may extend quickly. Just because the cylinders are extended does not mean the system has been purged. Continue to direct oil into the system until all cylinders have extended fully. **NOTE: the cylinders will only bypass when the cylinders are fully extended. By allowing the cylinders to extend without having to lift the unit you allow the cylinders to reach the bypass position.**

Keep in mind that all the oil going to the outer cylinders must be bypassed through the base cylinder bypass hole and subsequent cylinders. This will take some time, in some cases a considerable amount of time. On large unit with multiple wings and lift cylinders it will take longer to charge the system and a large amount of oil will be required. Check that your tractor has sufficient oil capacity; you may need to add oil to your reservoir. Also, because of the of the need to force all the oil though the by-pass holes you will need to have a system pressure of 2500-3000 psi.

Once all cylinders on the unit have been fully extended, retract the cylinders and again extend fully. Hold the cylinders in the extended (bypass) position for a few minutes, retract the cylinders and observe that the cylinders are working in sequence. Attach the cylinder rod ends to the anchor points of the unit. Raise and lower the unit and check to ensure the unit is moving in a level manner.

If the cylinders have been properly bypassed, all cylinders and hoses should be filled with oil with no air in the system. In actuality there will still be some air in the system as it is unlikely all air has been purged from the system. Even with some air in the system the cylinders should move in sequence and lift and control the depth of the unit. If the cylinders don't seem to be bypassing it may indicate that some debris has blocked the bypass hole. Because the hole may be blocked it is critical to maintain clean oil. Protect the complete hydraulic system at all connection points.

Wing Fold System Information

Wil-Rich products use several varying designs to fold implement wings. All utilize a two-way cylinder of varying diameters and strokes. All wing fold cylinders use an integral or in-line restrictor to control the cylinder stroke speed. This restrictor is critical to the safe operation of the unit and use of non-Wil-Rich cylinders is not recommended.

Assembly of the wing fold circuitry and mounting of the fold cylinders is outlined in the appropriate Assembly Manual. It is important to properly charge the wing fold cylinders and circuitry in the assembly process. Mount the base of all wing fold cylinders to their anchor points as noted. Tighten all hoses and fittings per specifications. **Before attaching the rod ends of any wing fold cylinders fully extend and retract all cylinders to ensure that the cylinders are filled with oil.** This can be made easier by supporting the cylinders with some type of blocking. Support so that all cylinder rods can be extended and retracted without machine interference. After the cylinders are fully charged attach the rod end of the cylinders to the appropriate anchor. Pressurize the system and check for proper wing fold.

When folding any winged implement make certain that the wing fold cylinders have been fully retracted. **Any time the unit is to be stored with the wings folded, whether connected to the tractor's hydraulic system or disconnected, it is critical to relieve any pressure from the wing fold circuit. On an older tractor, shutting the tractor down, moving the control lever back and forth before disconnecting the hoses can relieve this pressure. Modern tractors can retain significant pressure in the hydraulic lines and contain this pressure once the lines have been disconnected. Before disconnecting the folding cylinder hydraulic hoses, relieve pressure from the wing-fold hydraulic system by moving the tractor control valve to the float position while the engine is running.**

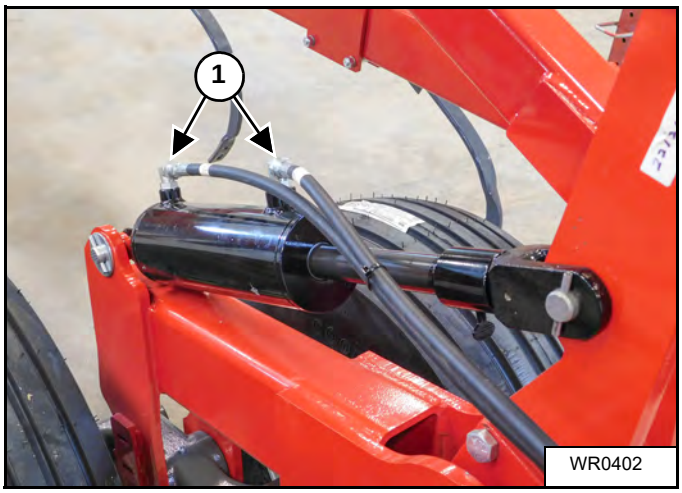
It is critical to relieve the pressure on all wing fold circuits before storing the unit. Failure to do so may allow the wings to extend or unfold unexpectedly.

Hydraulic Assembly (Cont'd)

STEP 78

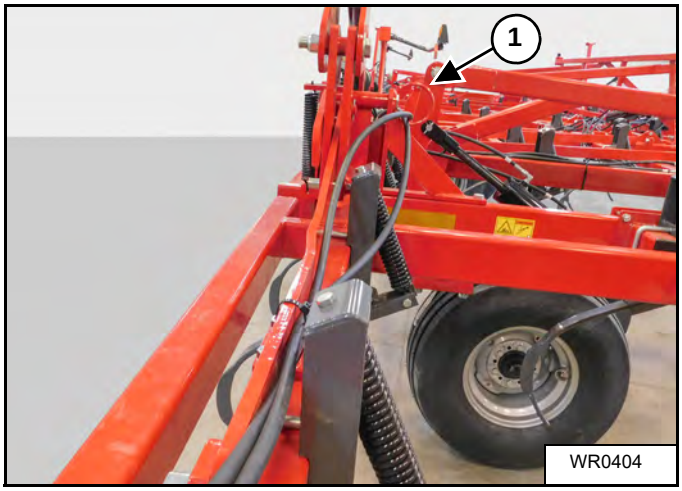
Insert two 25580 8MORB X 8MJ elbow fittings (1) into the depth control cylinders of the outer wings as shown.

Route the hydraulic lines from both cylinders to the back of the outer wing.



STEP 79

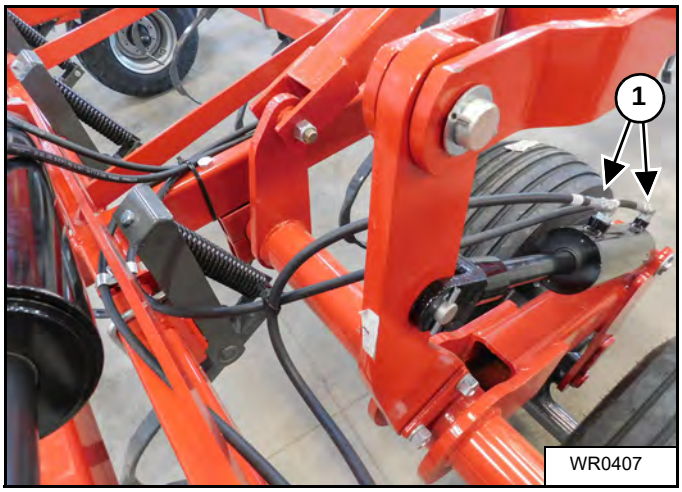
Route the hydraulic lines along the back of the wing to the main frame. Be sure the secure the lines with zip ties and route through the loop (1) on the inner wing hinge.



STEP 80

Insert two 25580 8MRB x 8MJ elbow fittings (1) into the 67688F2 4 x 10 inch depth control cylinders of the inner wing as shown.

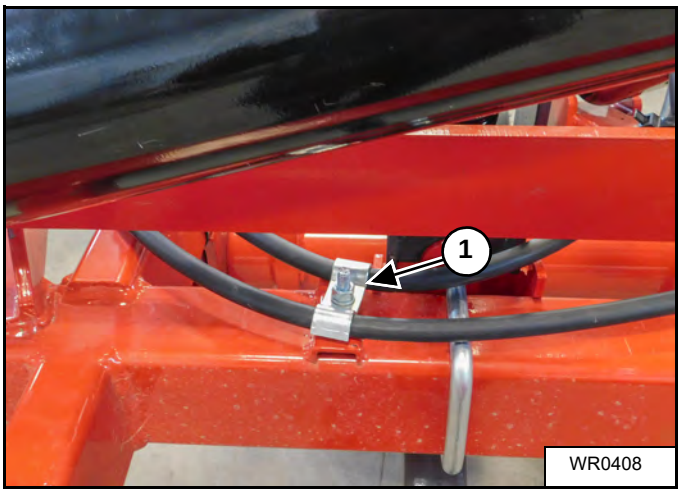
Route one hydraulic line from each depth control cylinder to the back of the inner wing frames.



Hydraulic Assembly (Cont'd)

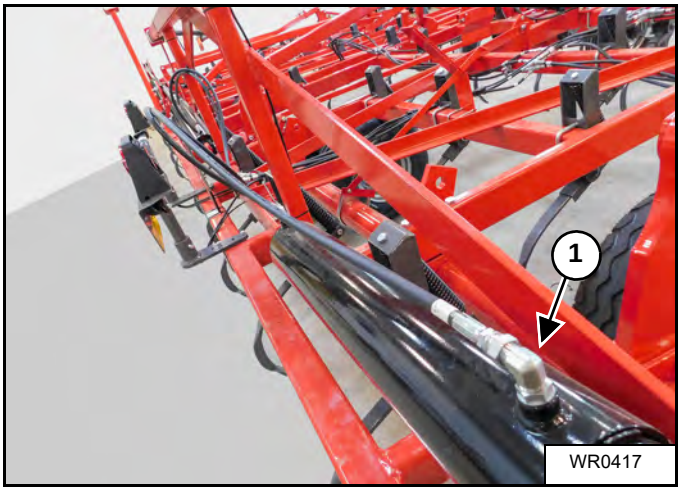
STEP 80

Install the 13215 clamp (1) for the hydraulic lines from the 67688F2 depth control cylinder on the inner wing to the frame using a 89375 3/8 x 1-1/2 inch carriage grade 5 bolt, 88362 lock washer and 88103 nut.



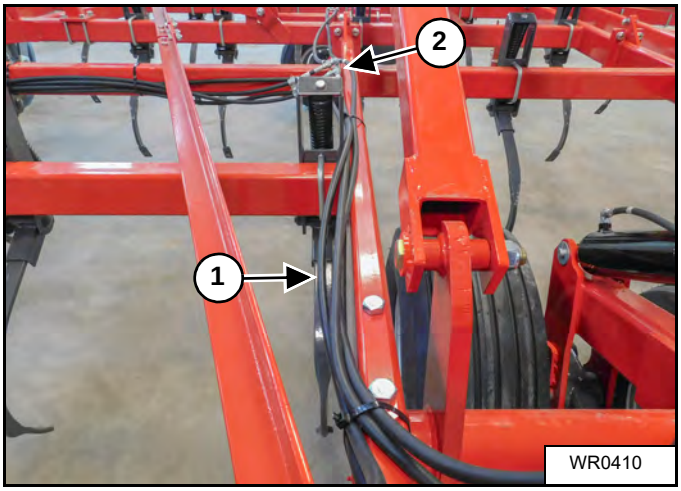
STEP 81

Install a 25580 8MORB x 8MJ elbow fitting (1) into the rod end of the 20966F 5 x 30 inch wing lift cylinder for folding the inner wing as shown.



STEP 82

Route the hydraulic lines (1) from the wing lift cylinder and depth control cylinders along the frame towards the center of the main frame where they will connect to the tee fittings (2).



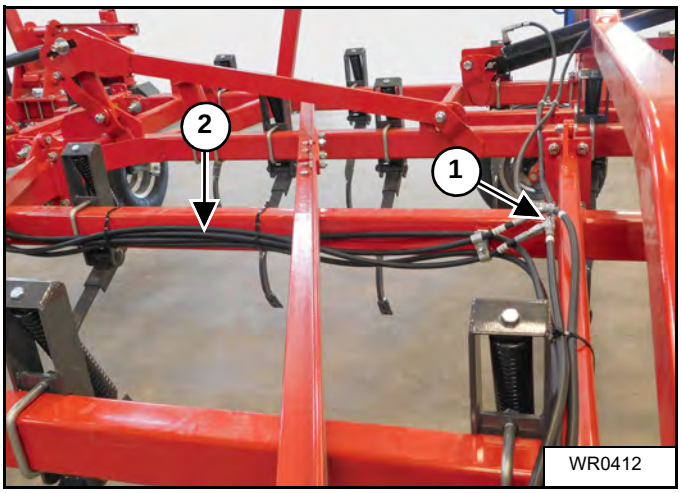
Hydraulic Assembly (Cont'd)

STEP 83

Install the tee fittings (1) on both hydraulic lines from the lift cylinders.

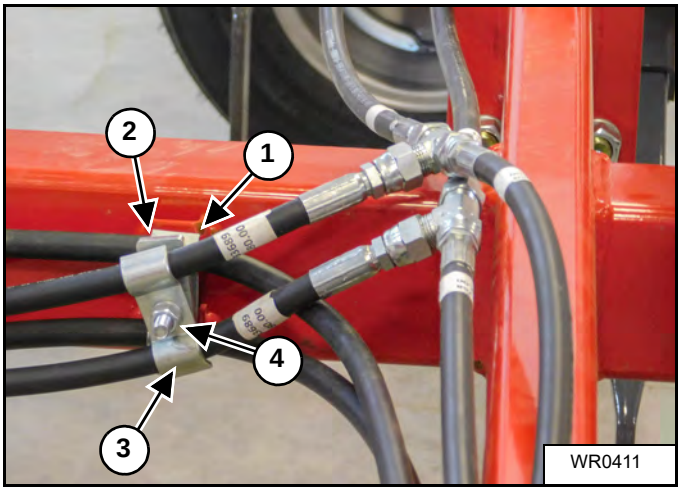
Continue running the depth control lines (2) along the frame towards the main frame.

Attach the two wing lift hydraulic lines to 13238 to tees and route along the depth control lines (2) on the frame.



STEP 84

Secure the depth control lines and then the lift lines using a 89373 3/8 x 2-1/2 inch carriage grade 5 bolt (1), 13215 clamp (2), 88362 lock washer (3) and 88103 nut (4).



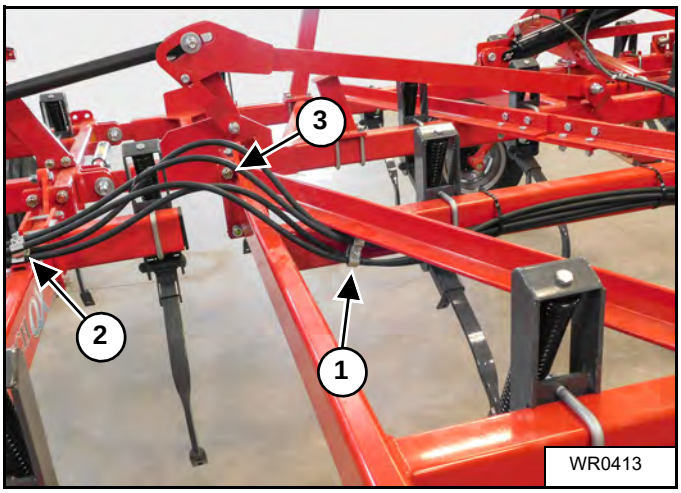
Hydraulic Assembly (Cont'd)

STEP 85

On the inner wing frame secure the depth lines and then the lift lines using a 89473 3/8 x 2-1/2 inch carriage grade 5 bolt, 13215 clamp, 88362 lock washer, 88103 nut, 15543 base plate, a second 13215 clamp, 88362 lock washer and 88103 nut (1).

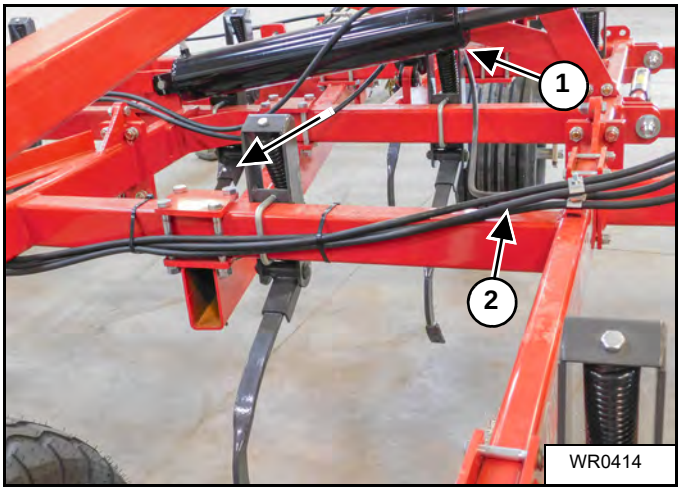
After crossing from the inner wing frame to the main frame secure the depth lines and then the lift lines using a 89473 3/8 x 2-1/2 inch carriage bolt, 13215 clamp, 88362 lock washer, 88103 nut, 15543 base plate, 13215 clamp, 88362 lock washer and 88103 nut (2) as done in Step 122.

IMPORTANT: Be sure to leave approximately 30 inches (91.4 cm) of hose (3) between clamps on the inner wing (1) and the main frame (2).



STEP 86

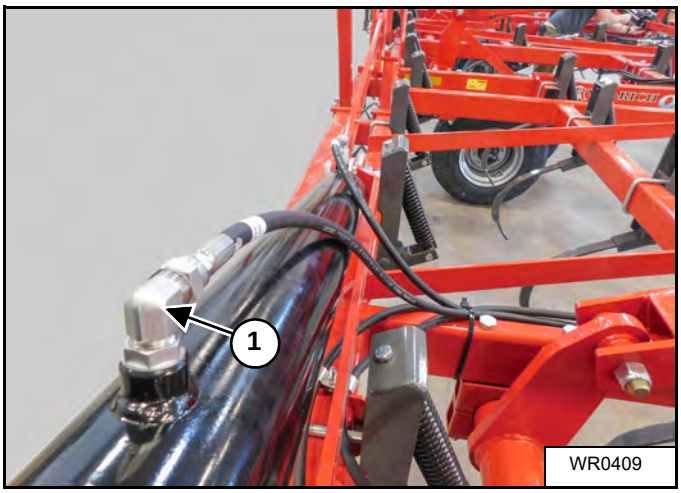
Install one line (1) on the depth control cylinder of the main frame and route the remaining three lines along the main frame (2).



Hydraulic Assembly (Cont'd)

STEP 87

Insert a 25580 8MORB x 8MJ elbow fitting (1) into the rod end port of the wing folding cylinder as shown.

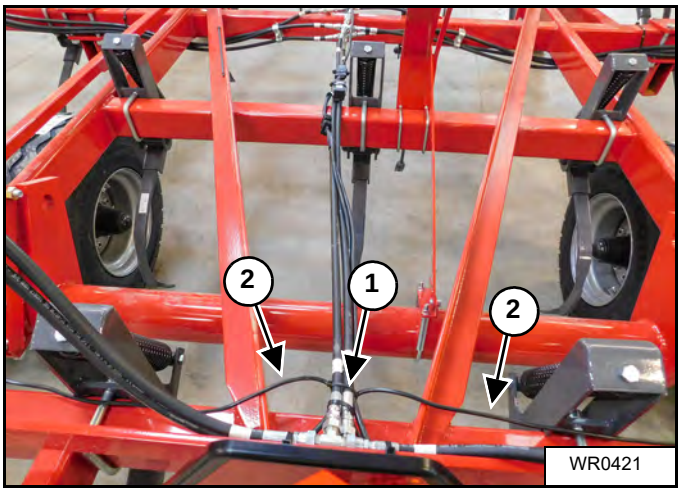


STEP 88

Route the hydraulic lines of the wing lift cylinder looping slightly to the 13238 8MJ tee (1) that connects the two wing fold hydraulics at the center point of the main frame.

STEP 89

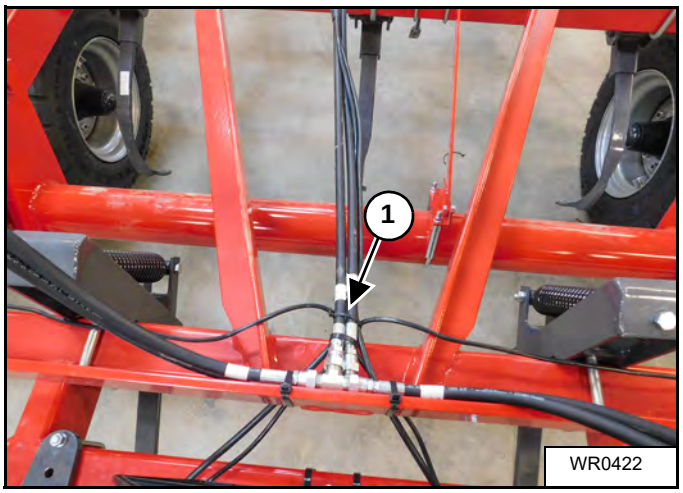
Connect both wing lift hydraulics to the 13238 tee (1) in the center of the main frame. Connect the hoses to the tee along with the wire harnesses (2) from both sets of markers. Run the hoses and harnesses towards the front of the frame as shown.



Hydraulic Assembly (Cont'd)

STEP 90

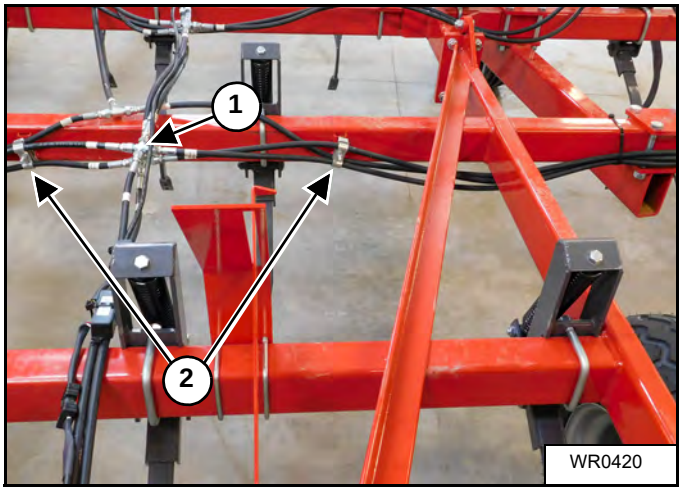
Use clamps and cable ties (1) to secure the hoses and wiring harnesses as needed.



STEP 91

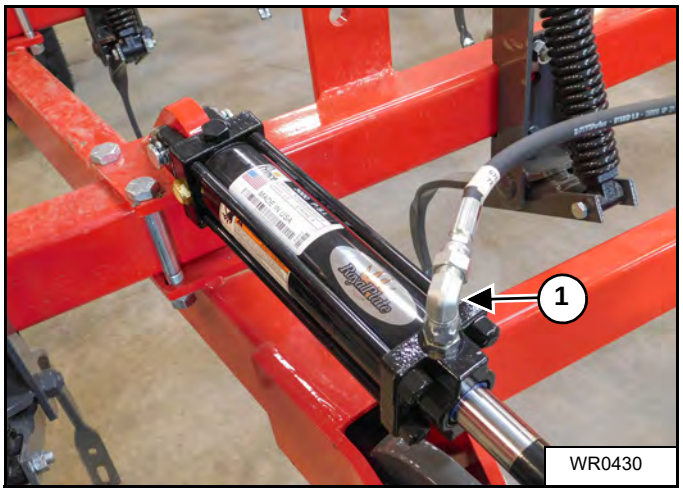
Connect the hoses running from the rear of the main frame and each other wing with 4-way tee fittings (1).

On the right and left sides of the 4-way fittings clamp the lines to the main frame using a 89473 3/8 x 2-1/2 inch bolt, 13215 clamp, 88362 lock washer, 88103 nut, 15543 base plate, 13215 clamp, 88362 lock washer and 88103 nut (2).



STEP 92

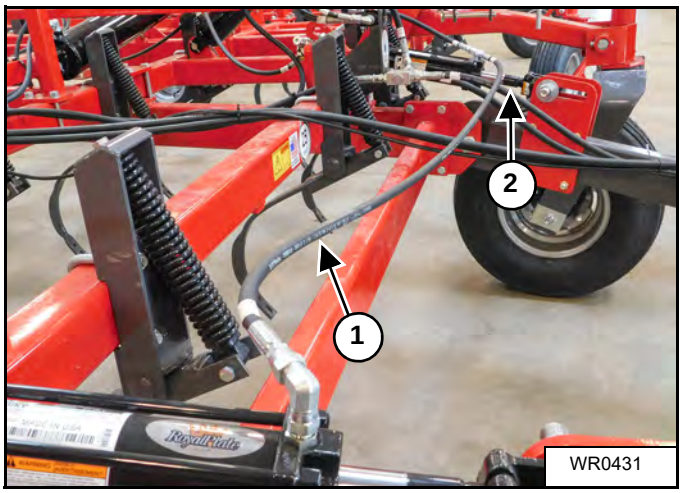
Install a 25580 8MORB x 8 MJ elbow fitting (1) in the single point cylinder in the direction shown.



Hydraulic Assembly (Cont'd)

STEP 93

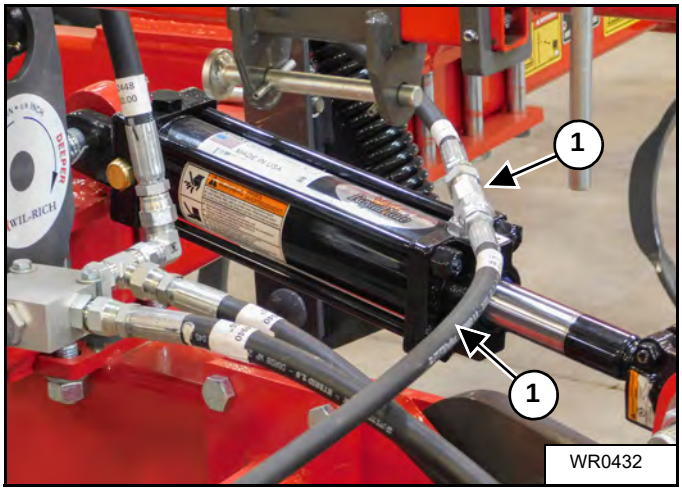
Connect and route the hydraulic hose (1) from the single point cylinder to the other single point cylinder (2).



STEP 94

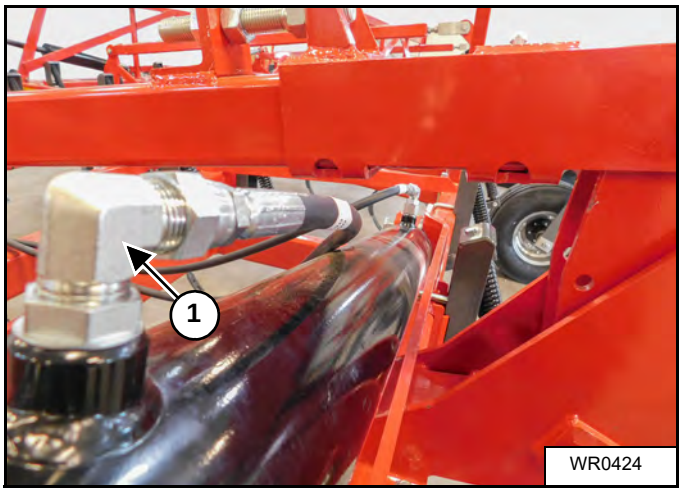
Install a 3-way tee (1) into the single point hydraulic cylinder positioned as shown.

Connect the hose (2) from Step 150 to one port of the 3-way tee (1).



STEP 95

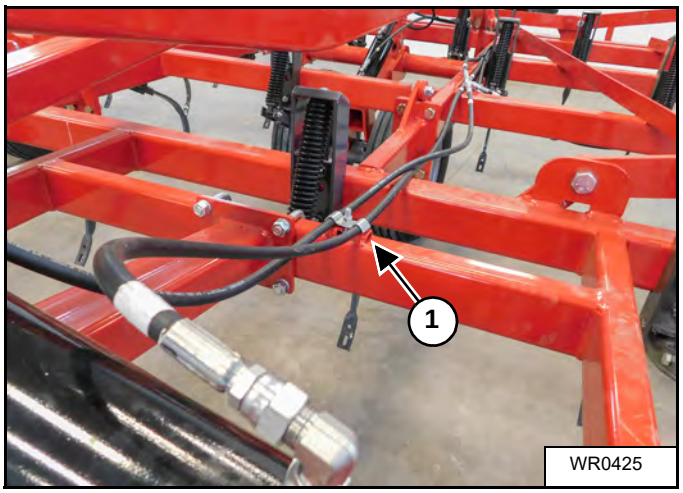
Insert an 25580 8MORB x 8MJ elbow fitting (1) in the rod end port of the outer wing cylinder as shown.



Hydraulic Assembly (Cont'd)

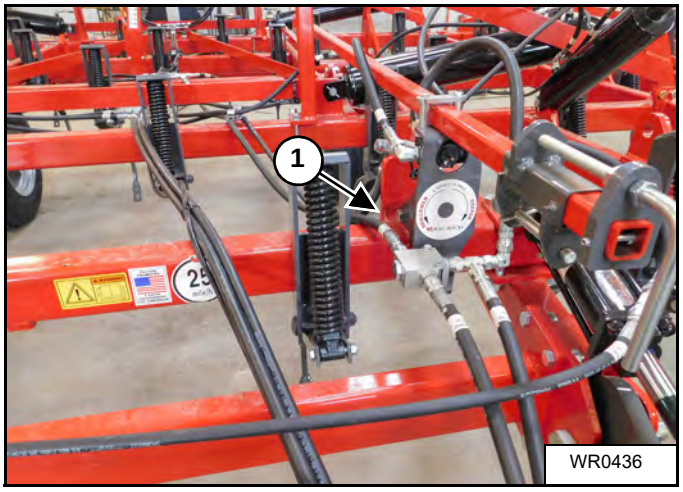
STEP 96

Route the hydraulic lines towards the rear of the frame. Secure the hydraulic lines with a 89375 3/8 x 1-1/2 inch carriage grade 5 bolt, 13215 clamp, 88362 lock washer, and 88103 nut (1).



STEP 97

Follow the diagram (on Page 48) for connecting the hose to the single point valve (1).



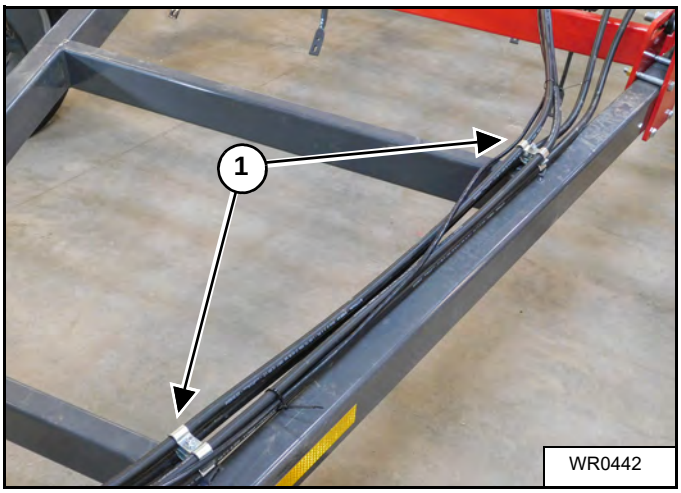
Hydraulic Assembly (Cont'd)

STEP 98

Route all the hydraulic lines along the hitch frame towards the hitch.

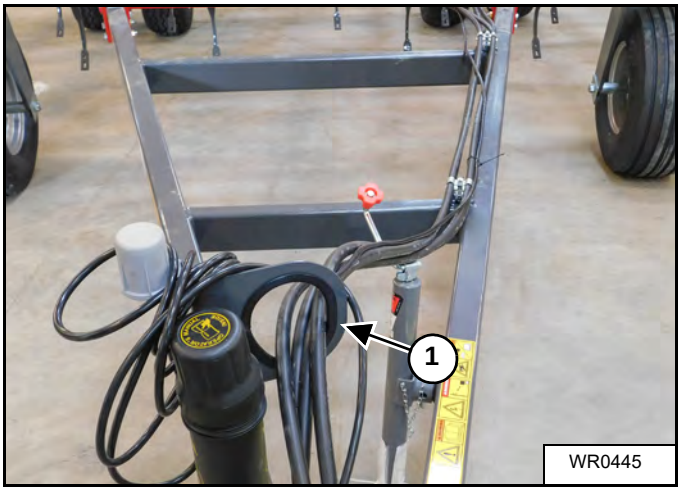
Use a 89473 3/8 x 2-1/2 inch carriage grade 5 bolt, 13215 clamp, 88362 lock washer, 88103 nut, 15543 plate, 13215 clamp, 88362 lock washer and 88103 nut (1) to secure the hoses to the frame.

NOTE: Secure any loose hoses with cable ties as needed.



STEP 99

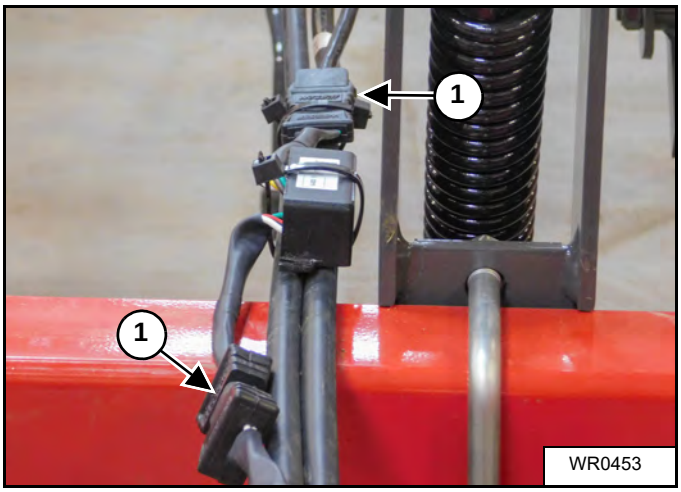
Run the hydraulic lines through the opening (1) in the hose holder as shown.



STEP 100

Connect the wiring harnesses (1) as shown.

NOTE: Use cable ties to secure the harness to the hydraulic hoses running to the hitch.



Hydraulic Assembly (Cont'd)

STEP 101

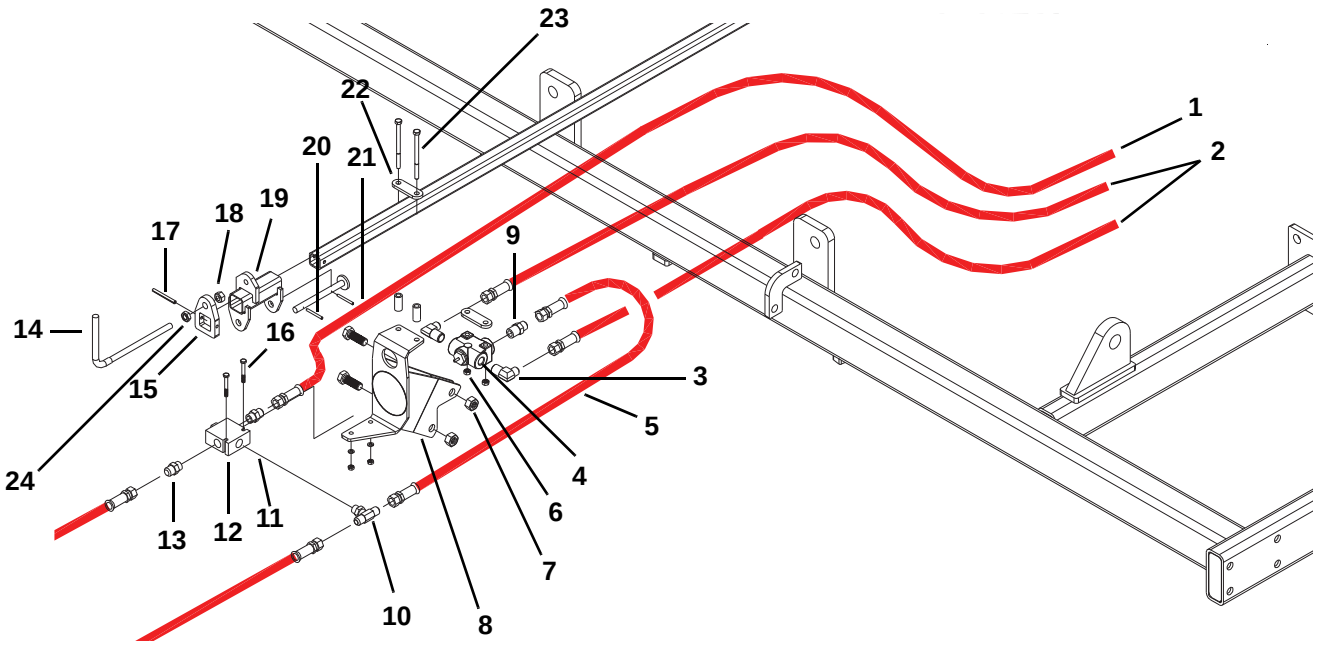
Be sure to keep electrical wire harness straight as it is routed to the hitch, securing it with cable ties to the hydraulic lines.

STEP 102

Use two large cable ties to secure the relief valve (1) to the frame bracket.

3 SECTION CULTIVATOR

Single Point Depth Control

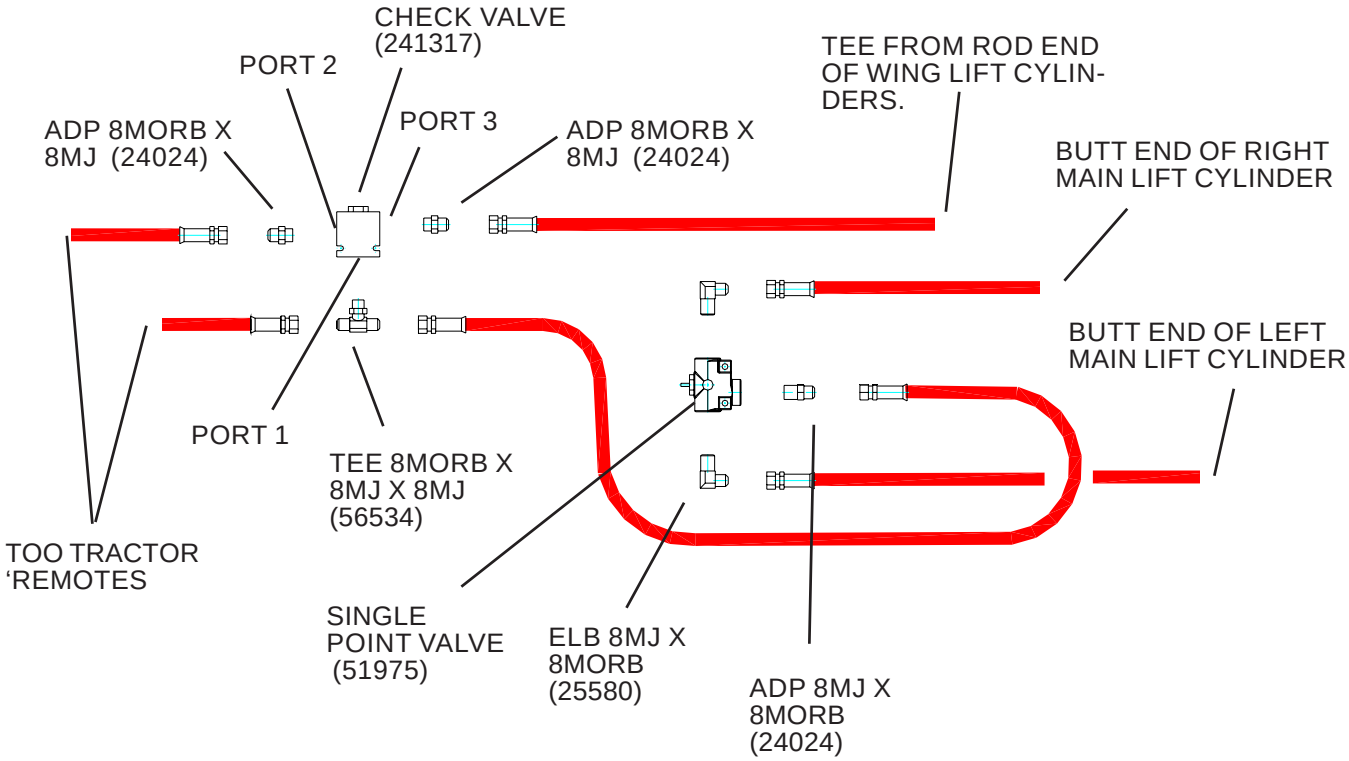


* This single point assembly circuled is used on all 5 section models except for 60 ft.

WR0499

Please refer to Maintenance for torque

CHECK VALVE
WITH SINGLE POINT VALVE

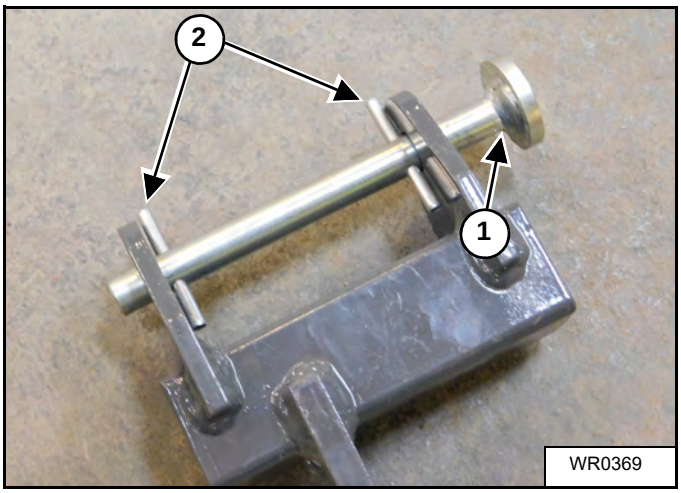


Please refer to Maintenance for torque

Single Point Depth Control (Cont'd)

STEP 61

Insert the 222180 plunger (1) into the slide adjust securing it with two 89078 roll pins (2).

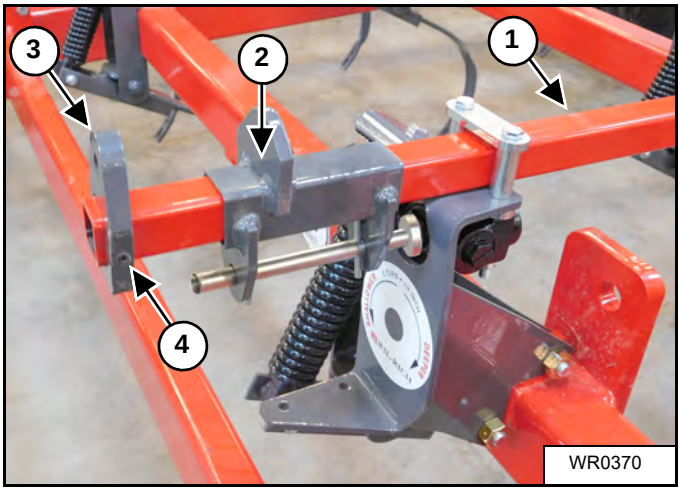


STEP 62

Install the 241488 single point inner tube (1) through the bushings installed in Step 92.

Install the 222111 slide adjust (2) on the adjustment arm (1).

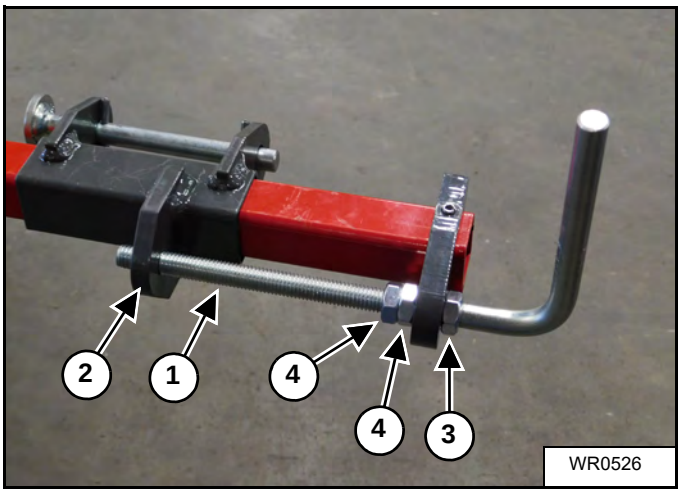
Install the adjustment bracket stop (3) on the adjustment arm with a 1/4 x 2-1/2 inch roll pin (4).



STEP 63

Screw the 222182 adjust crank (1) into the slide bracket (2) using three 88561 nuts (3) as shown.

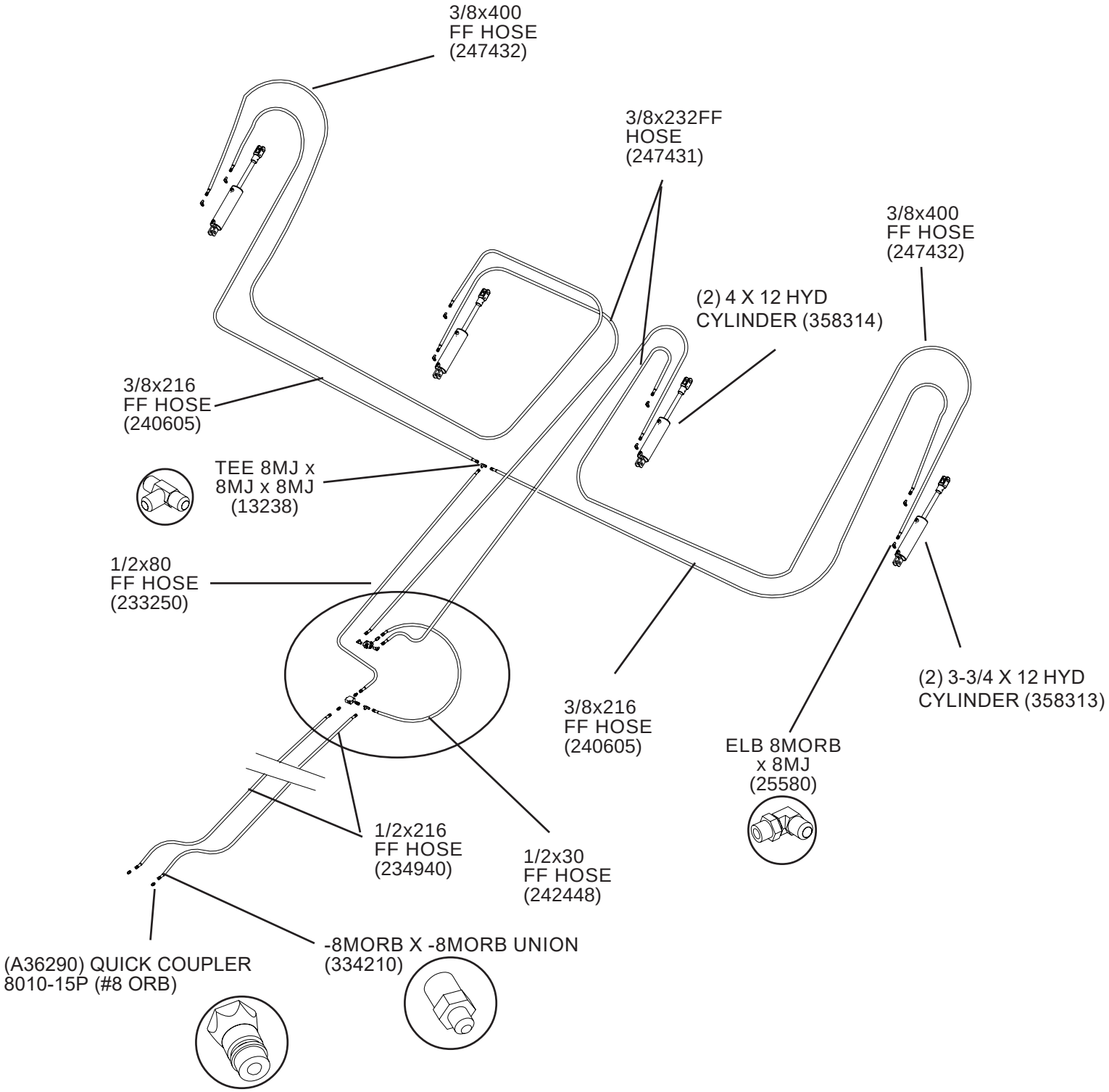
NOTE: Bottom the nut (3) out on the threads. The two inner nuts (4) are positioned forward as shown. The handle must rotate freely when the inner nuts (4) are tightened against each other.



Please refer to Maintenance for torque

-11 Foot 25

DEPTH CONTROL HYDRAULICS

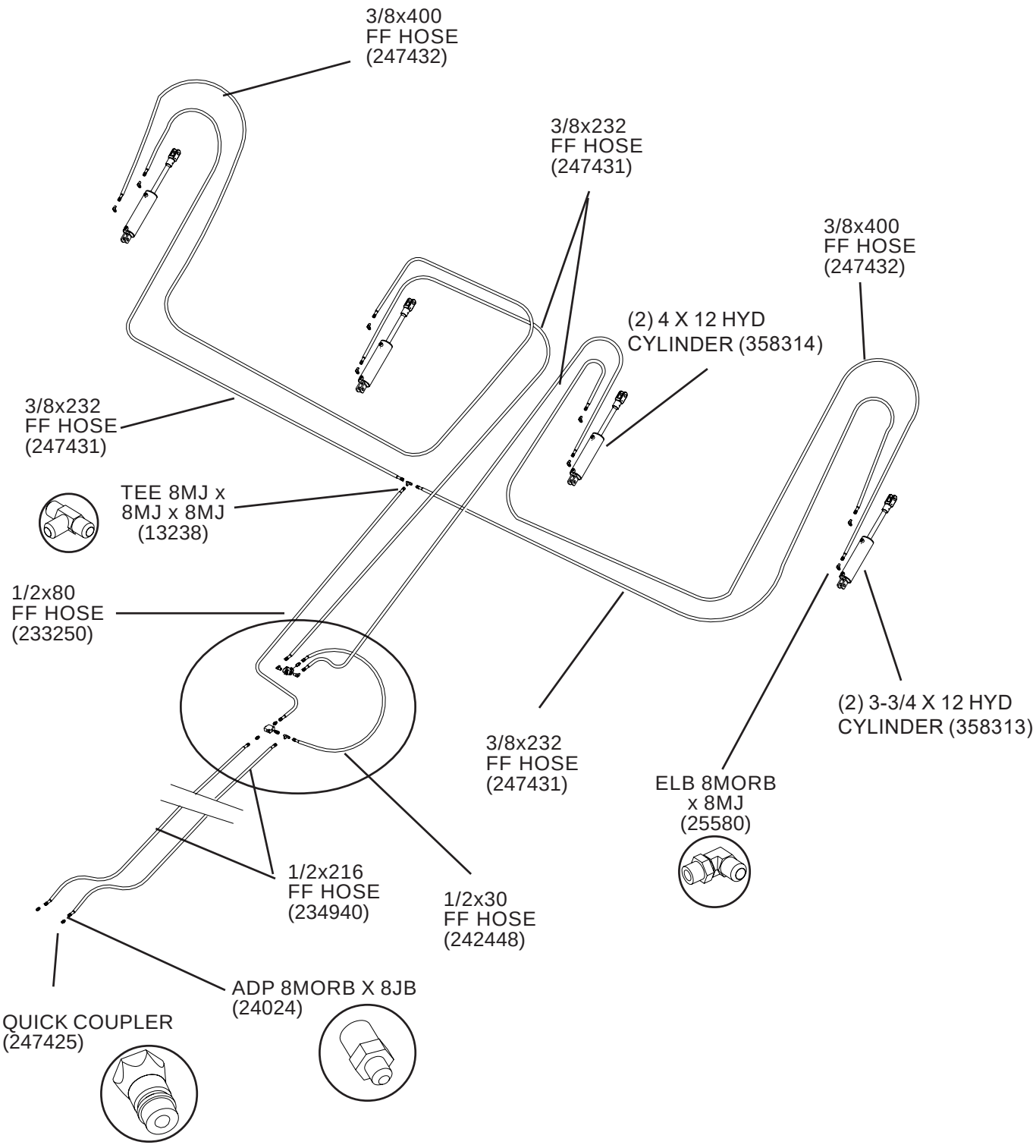


CAUTION

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY AND/OR EQUIPMENT DAMAGE.

- Just before and during operation be sure no one is on or around the implement.
- Before activating the hydraulic system, check hoses for proper connections.
- Before lowering the wings for the first time, make sure the entire system has been charged with oil.
- With wings down always install hydraulic cylinder channel lock(s) for transporting.

DEPTH CONTROL HYDRAULICS



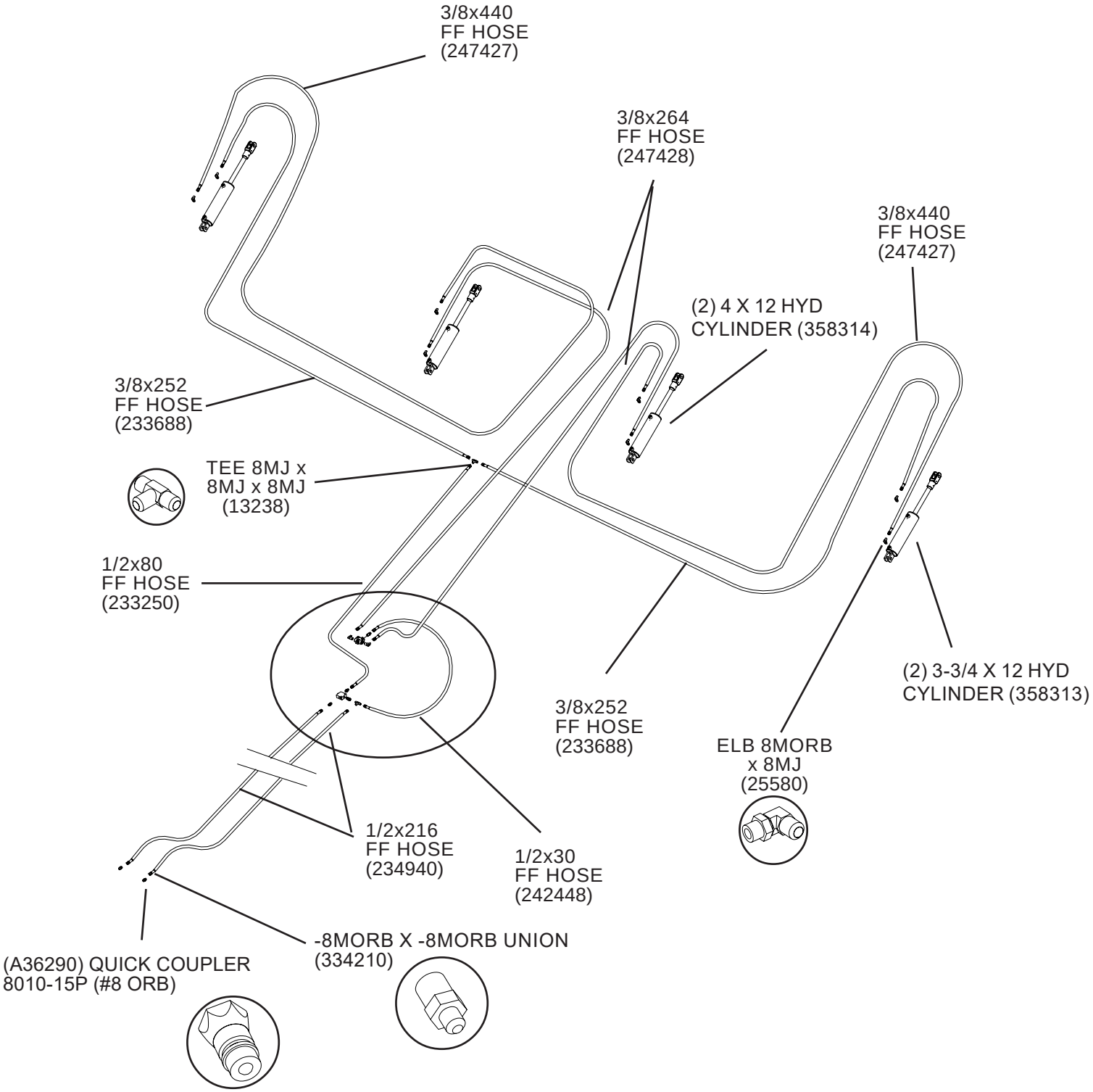
CAUTION

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY AND/OR EQUIPMENT DAMAGE.

- Just before and during operation be sure no one is on or around the implement.
- Before activating the hydraulic system, check hoses for proper connections.
- Before lowering the wings for the first time, make sure the entire system has been charged with oil.
- With wings down always install hydraulic cylinder channel lock(s) for transporting.

-13 Foot 32

DEPTH CONTROL HYDRAULICS

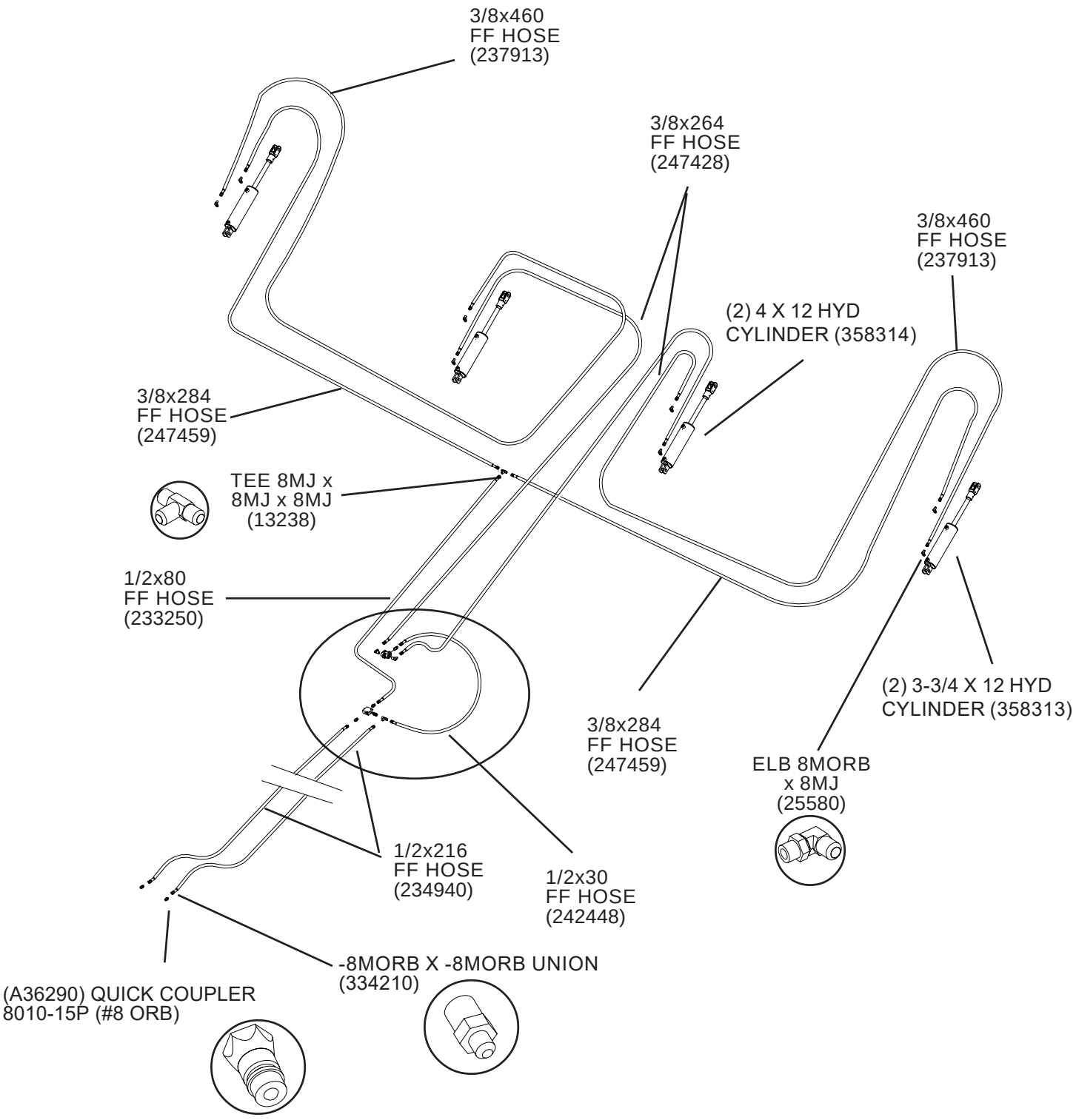


CAUTION

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY AND/OR EQUIPMENT DAMAGE.

- Just before and during operation be sure no one is on or around the implement.
- Before activating the hydraulic system, check hoses for proper connections.
- Before lowering the wings for the first time, make sure the entire system has been charged with oil.
- With wings down always install hydraulic cylinder channel lock(s) for transporting.

DEPTH CONTROL HYDRAULICS

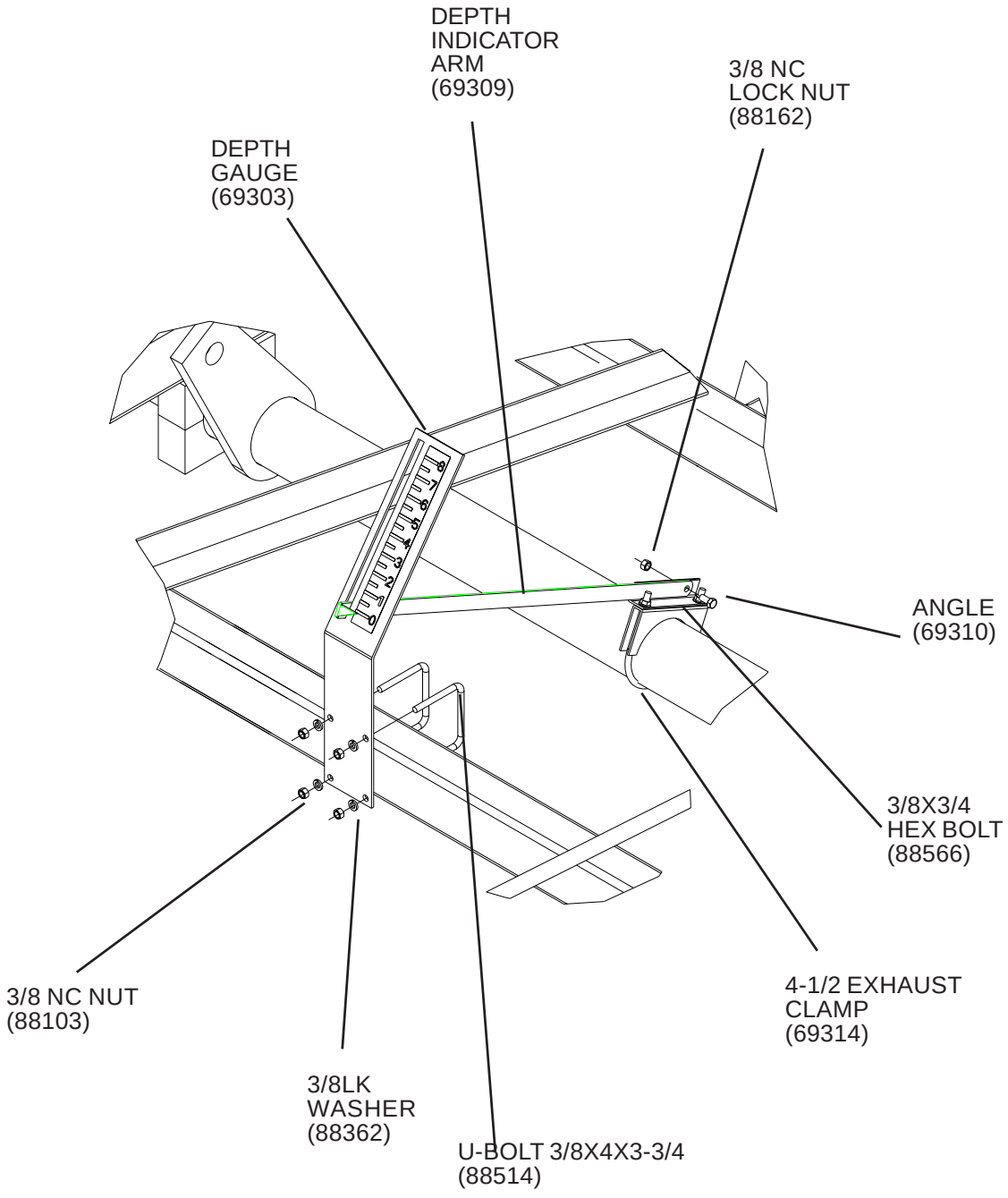


CAUTION

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY AND/OR EQUIPMENT DAMAGE.

- Just before and during operation be sure no one is on or around the implement.
- Before activating the hydraulic system, check hoses for proper connections.
- Before lowering the wings for the first time, make sure the entire system has been charged with oil.
- With wings down always install hydraulic cylinder channel lock(s) for transporting.

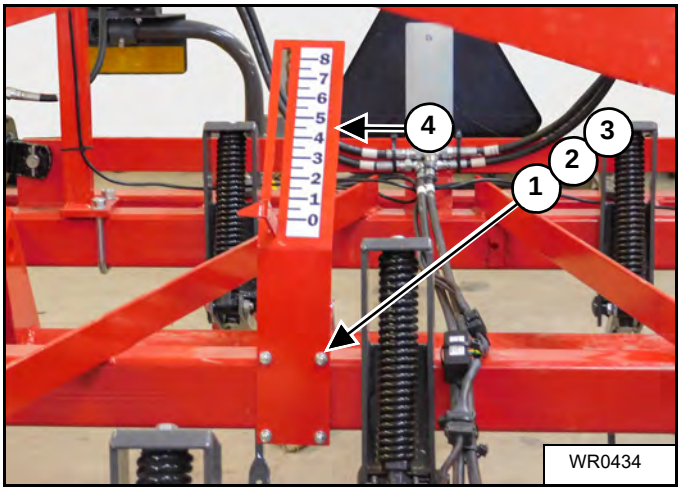
DEPTH INDICATOR



Depth Gauge Assembly

STEP 65

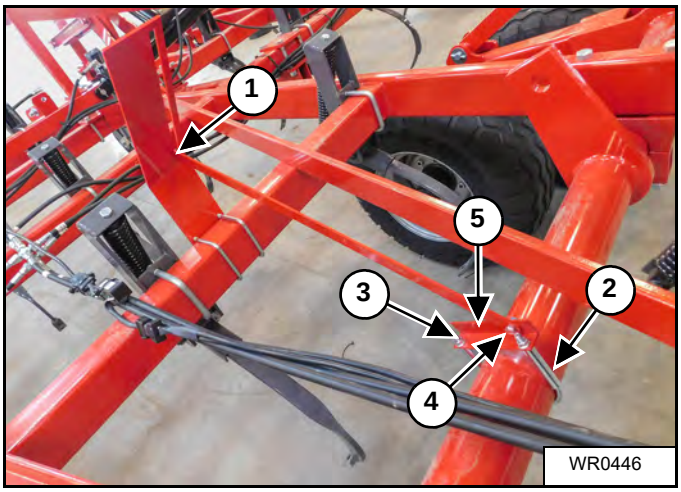
Use two 88514 3/8 x 4 x 3-3/4 inch U-bolts (1), four 88362 lock washers (2) and two 88103 nuts (3) to secure the 69303 depth gauge (4) to the frame.



STEP 66

Install the 69309 depth indicator arm through the depth gauge slot (1).

Use a 69314 4-1/2 inch exhaust clamp (2), two flange nuts (3), a 88566 3/8 x 3/4 grade 5 bolt (4), a 88162 nylon locknut and bracket (5) to install the depth indicator arm to the axle as shown.



Safety Light Assembly

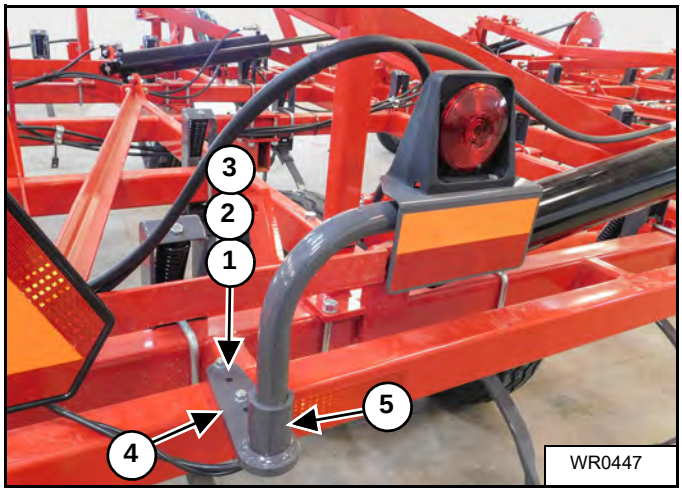
STEP 71

Use a 89347 1/2 x 3-1/4 inch U-bolt (1), two 88362 lock washers (2) and 88103 two nuts (3) to install the 223130 short base pivot to the frame (4).

Insert 223140 12 x 12 inch light arm into the short base pivot (5). Install a 88702 square head set screw and 88103 3/8 nut to secure the light arm.

NOTE: Any attachments to the rear tool bars must be installed before the safety lights can be installed.

NOTE: Each 223130 short base pivot must be a minimum of 15 inches (38.1 cm) from the center of the frame to a maximum of 50 inches (127 cm).



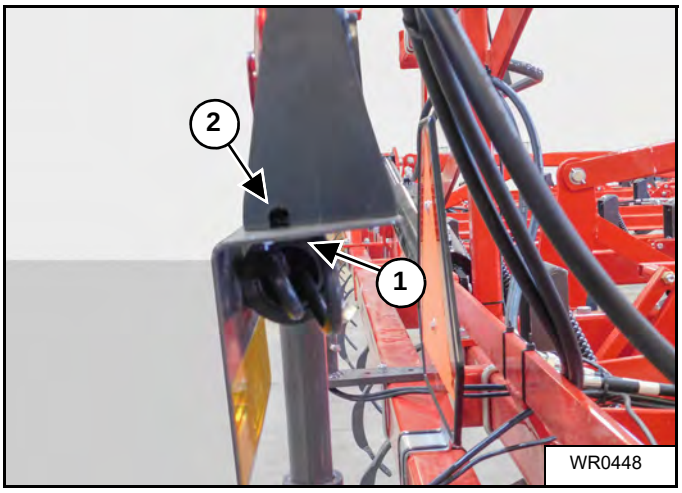
STEP 72

Secure the 223126 light / reflector bracket to the offset light arm with a 88702 3/8 x 3/4 inch square head set screw (1) and 88103 nut.

Use two 88203 1/4 x 1 grade 5 inch bolts (2) and two 88172 nuts to secure the red light to 223126 light / reflector bracket.

NOTE: Be sure to route wiring inside the offset light arm.

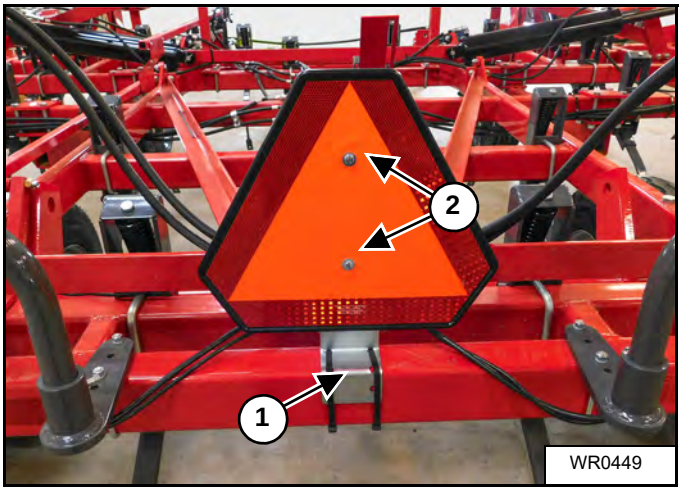
Repeat Steps 127 and 128 for the opposite side light.



STEP 73

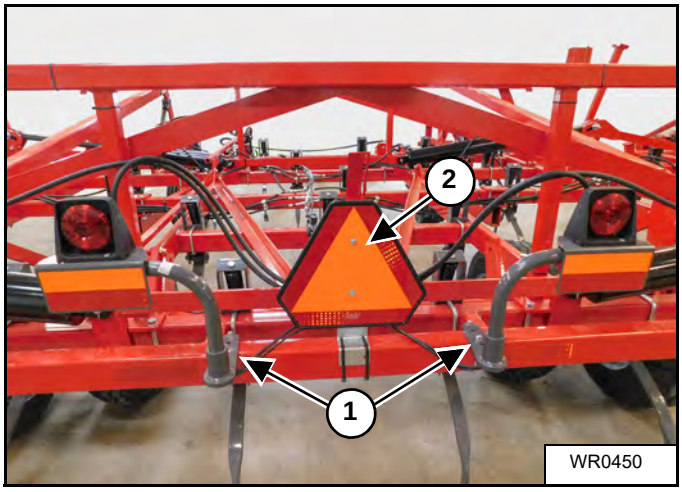
Use two zip ties to secure the 41359 reflector bracket (1) to the wing rest.

Secure the 30651 SMV reflector to the bracket with two 88993 1/4 x 3/4 grade 5 bolts (2), two 88261 flat washers, two 88262 lock washers and two 88172 nuts.



Safety Light Assembly (Cont'd)

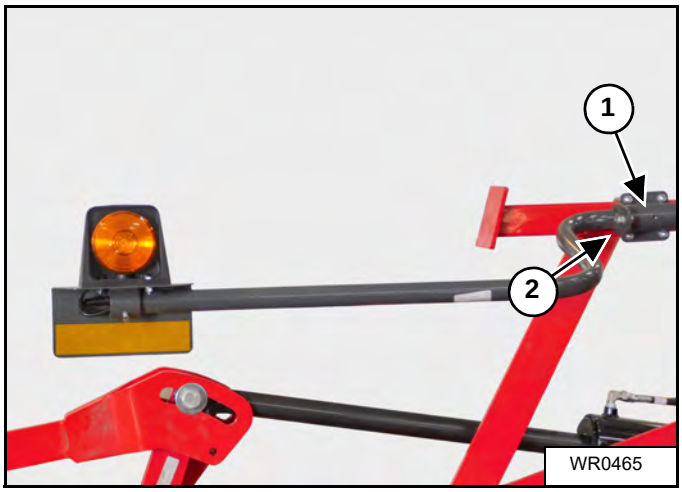
NOTE: Be sure to secure both lights offset arms inside the frame crossmember a minimum of 15 and a maximum of 50 inches (76 to 254 cm) from the center of the rear frame with the reflector (2) centered between the two arms (1).



STEP 74

Use two 88386 3/8 x 2-1/2 x 3-1/4 inch U-bolts (1) and four 88162 locknuts to secure the 240237 pivot plate to the upper crossmember of the rear wing rest.

Use a 88702 3/8 x 3/4 square head set screw (2) to secure the 223121 48 inch offset light arm to the pivot plate in the bottom hole.



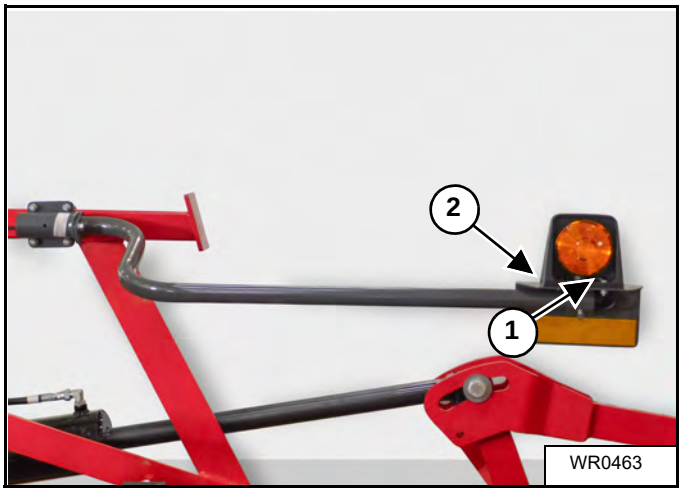
STEP 75

Secure the light / reflector bracket to the offset light arm with a 88702 3/8 x 3/4 square head set screw (1) and 88103 nut.

Use two 88203 1/4 x 1 inch grade 5 bolts (2) and two 88172 nuts to secure the 223143 amber light to the 223126 light / reflector bracket.

NOTE: Be sure to route wiring inside the offset light arm.

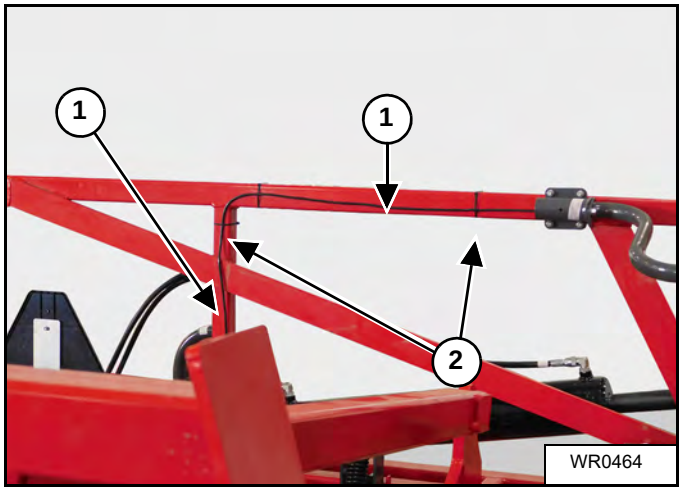
Repeat Steps 130 and 131 for the other side light.



Safety Light Assembly (Cont'd)

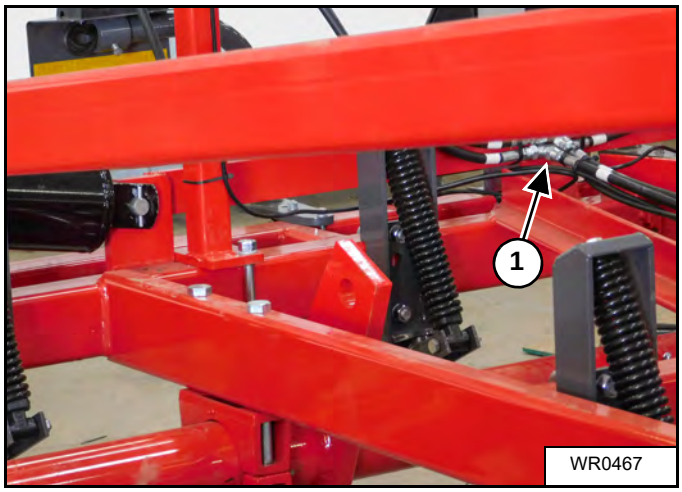
STEP 76

Route the wiring (1) for the 223143 amber lights along the rear wing rest as shown and secure to the wing rest with tie wraps (2) as needed to maintain a clean straight line.



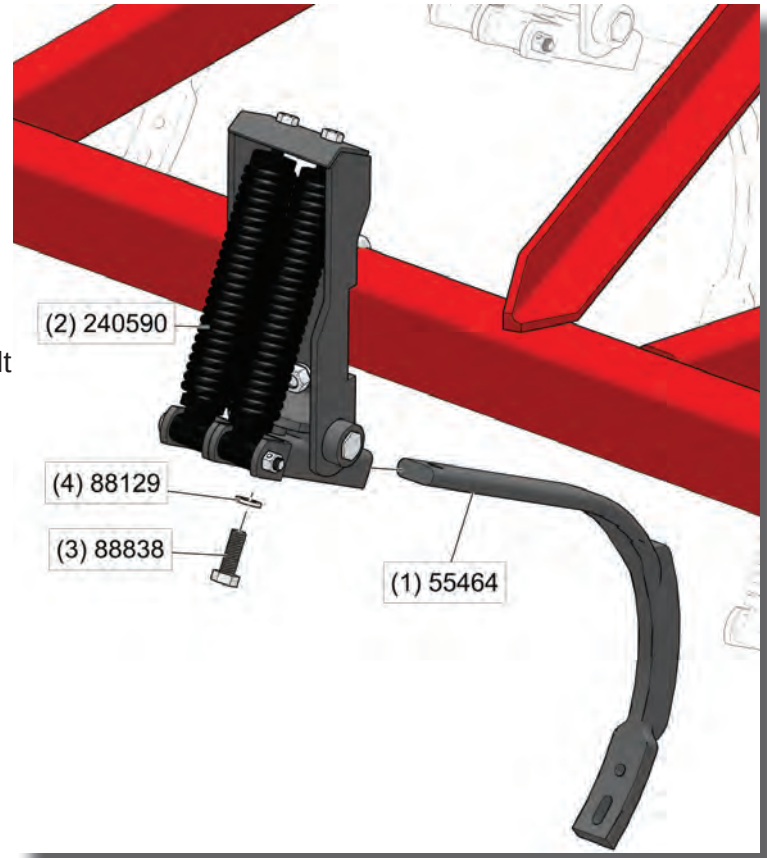
STEP 77

Route the wires from the 223143 amber safety lights to the center (1) of the main frame where the hydraulic lines and 223144 red safety light wiring intersect.



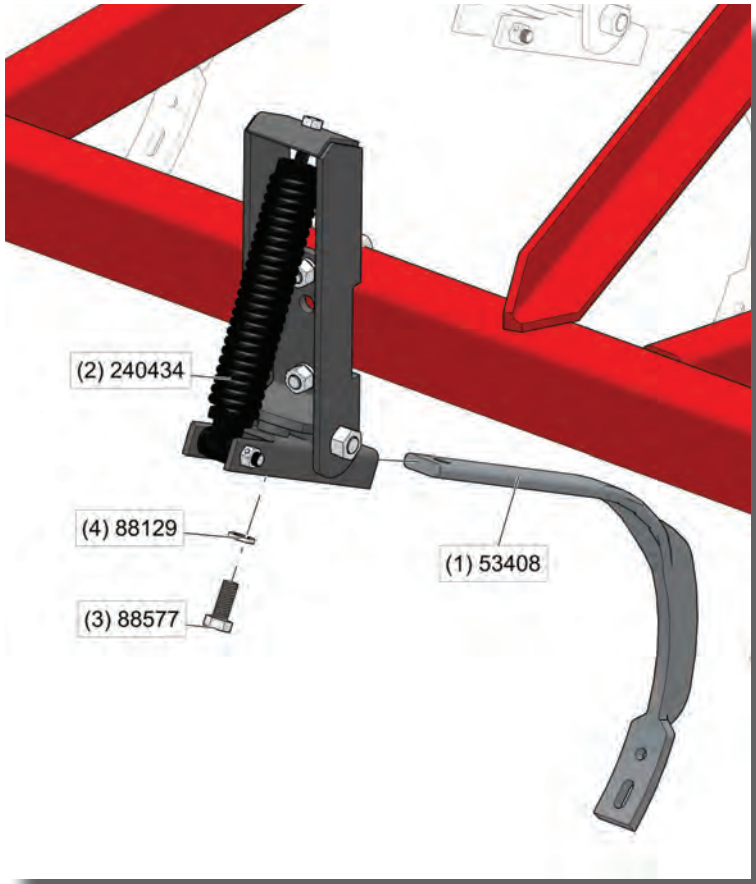
TWIN SPRING SHANK ASSEMBLY

Attach shank (1) to each assembled twin spring assemblies (2) using 5/8-11NC x 1-3/4 grade 5 bolt (3) and lock washer 5/8” (4).

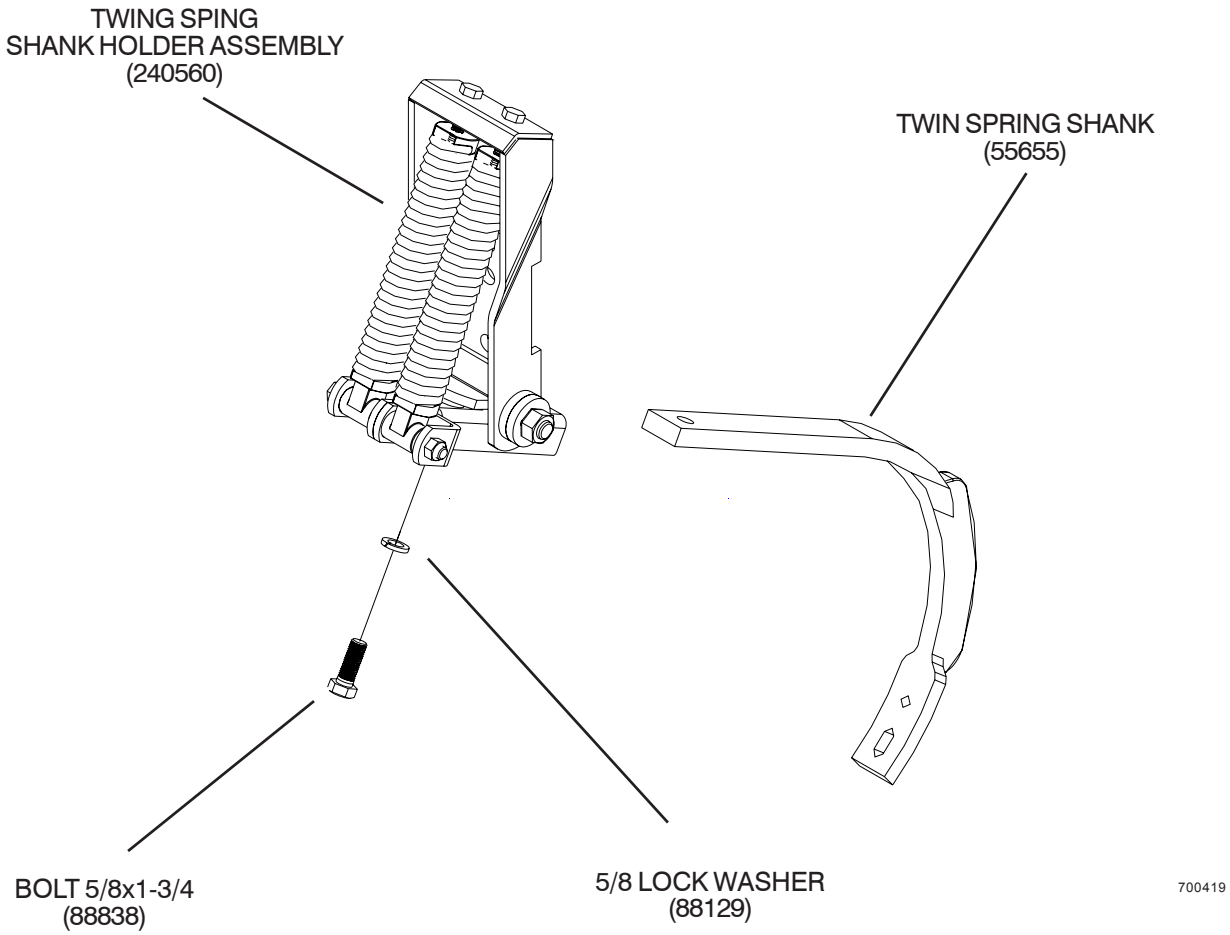


SINGLE SPRING SHANK ASSEMBLY

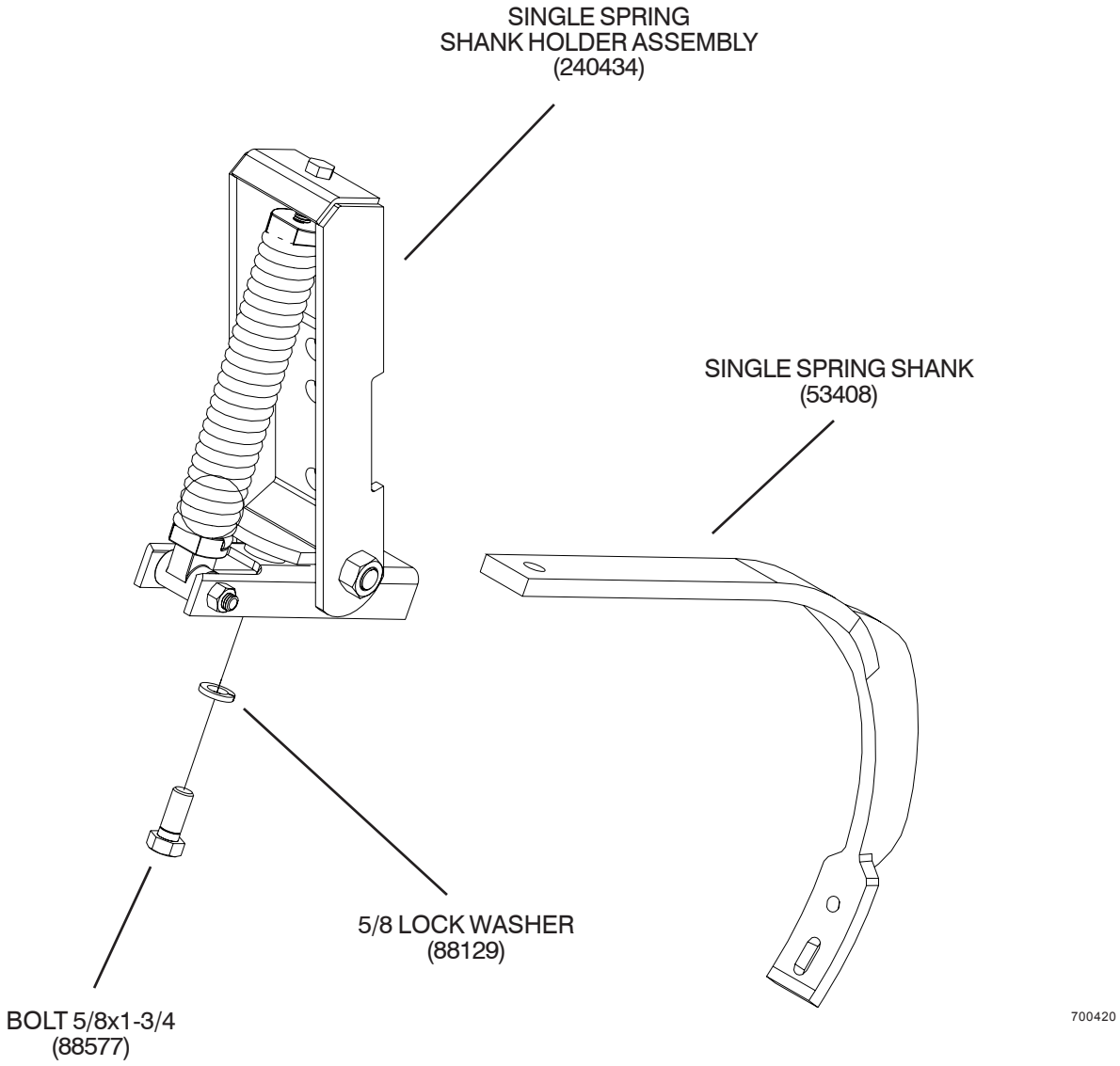
Attach shank (1) to each assembled single spring assemblies (2) using 5/8 x 1-1/2 grade 5 bolt (3) and lock washer 5/8” (4).



TWIN SPRING SHANK ASSEMBLY



SINGLE SPRING SHANK ASSEMBLY



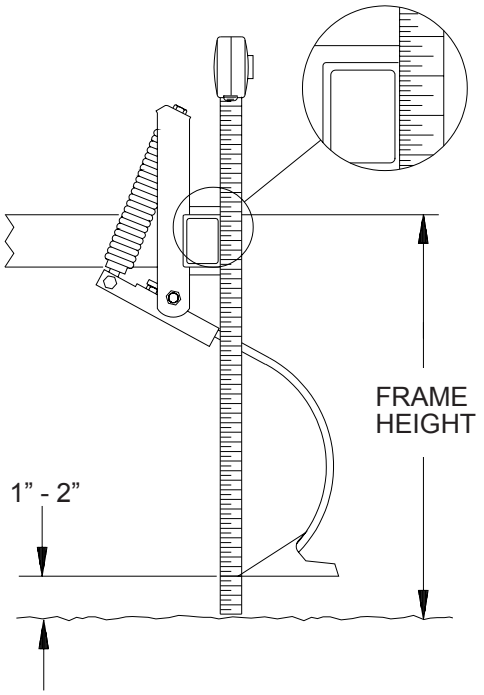


Fig. 11 Shank Settings

PRELIMINARY SETTINGS

Proper preliminary and field settings will require the use of a measuring device. Once the unit has been properly assembled and hitched to the tractor, ***make certain the hydraulic system as been charged.***

Position the unit on a level area of ground and unfold the wings, ***checking to ensure that there are no people or obstruction in the path of the wings.***

NOTE: Cycle the main lift hydraulic system a number of times to remove air from the circuit. Holding the hydraulic lever in the "RAISE" position for a 1-2 minute period should remove unwanted air.

Remove the stop collars from all cylinders and turn the screw stop collars up to the clevis end of the cylinders. Lower the unit so that the main frame front shovels are 1"–2" above the ground. Measure the frame height from the ground to the top of the front main frame tube. Compare this to the distance from the ground to the top of the rear tube on the rear bar of the main frame. See Fig 11.

Level Main Frame - Front to Rear

Front to rear main frame level is adjusted by changing the setting of the clevis adjust rod above the main lift cylinder. See Fig 7. Loosen the jam nut and turn the threaded clevis adjust rod out of the main mast tube. By increasing the length of the mast tube you will lower the rear of the main frame. To raise the rear of the main frame the main mast tube will need to be shortened, turn the clevis adjust rod into the mast tube. **NOTE: If the clevis adjust rod is difficult to turn, lower the unit to the ground to remove the weight from the linkage.**

Repeat this procedure on both sides of the main frame, checking to ensure that the main adjust tubes are the same relative length. Retighten the jam nuts on the clevis adjust rods when the final settings are reached.

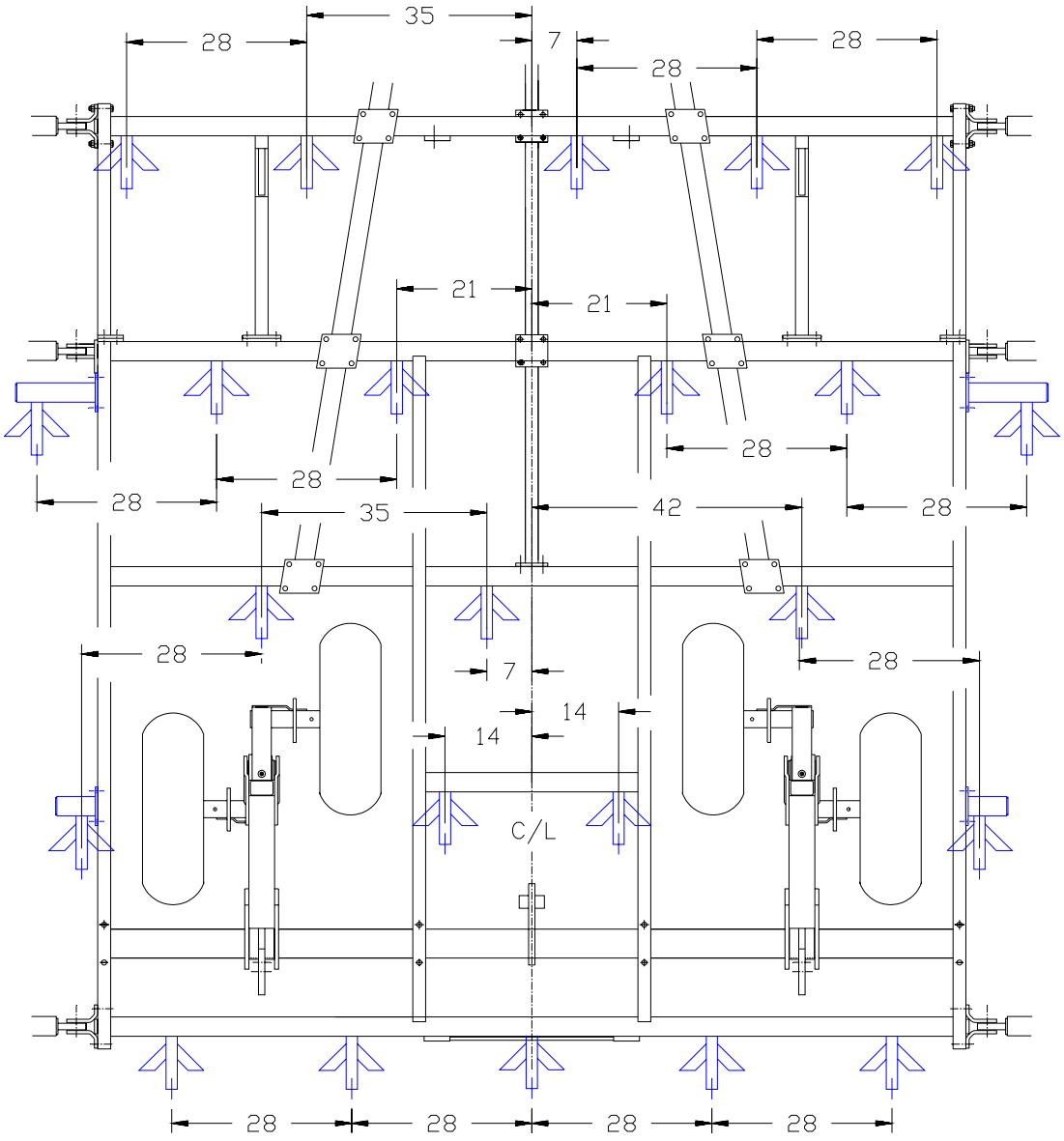
Level Wing Frame – Front to Rear & Side to Side

Depending on the size of the main wing and type or weight of any rear attachments you will need to adjust the front to rear level of the wings. In some situations either the front gauge wheel or rear axle can hold the wing at a set depth. For setting purposes, loosen the nuts at the gage tube adjust bracket at the front of the wing tube and the jam nut on the adjuster rod. See Fig 8. Measure the distance from the ground to top of the rear tube at the outer rear corner of the wing. Compare this to the distance set at the rear of the main frame. If the rear of the wing needs to be raised, turn the adjust rod (9.5) into the wing tube. If the rear of the wing needs to be lowered, turn the adjust rod out. When the rear distance on the wing matches the main frame you can tighten the adjuster rod nut.

Measure the distance from the ground to the top of the front tube at the outer front corner of the wing. Again compare this to the distance measurement of the front tube of the main frame. To raise the front of the wing, lengthen the adjust rod at the gage tube adjust bracket. This will increase the length of the wing tube/adjust bracket assembly and raise the front corner of the wing. Conversely, shorten or decrease the adjust rod setting to lower the front corner of the wing.

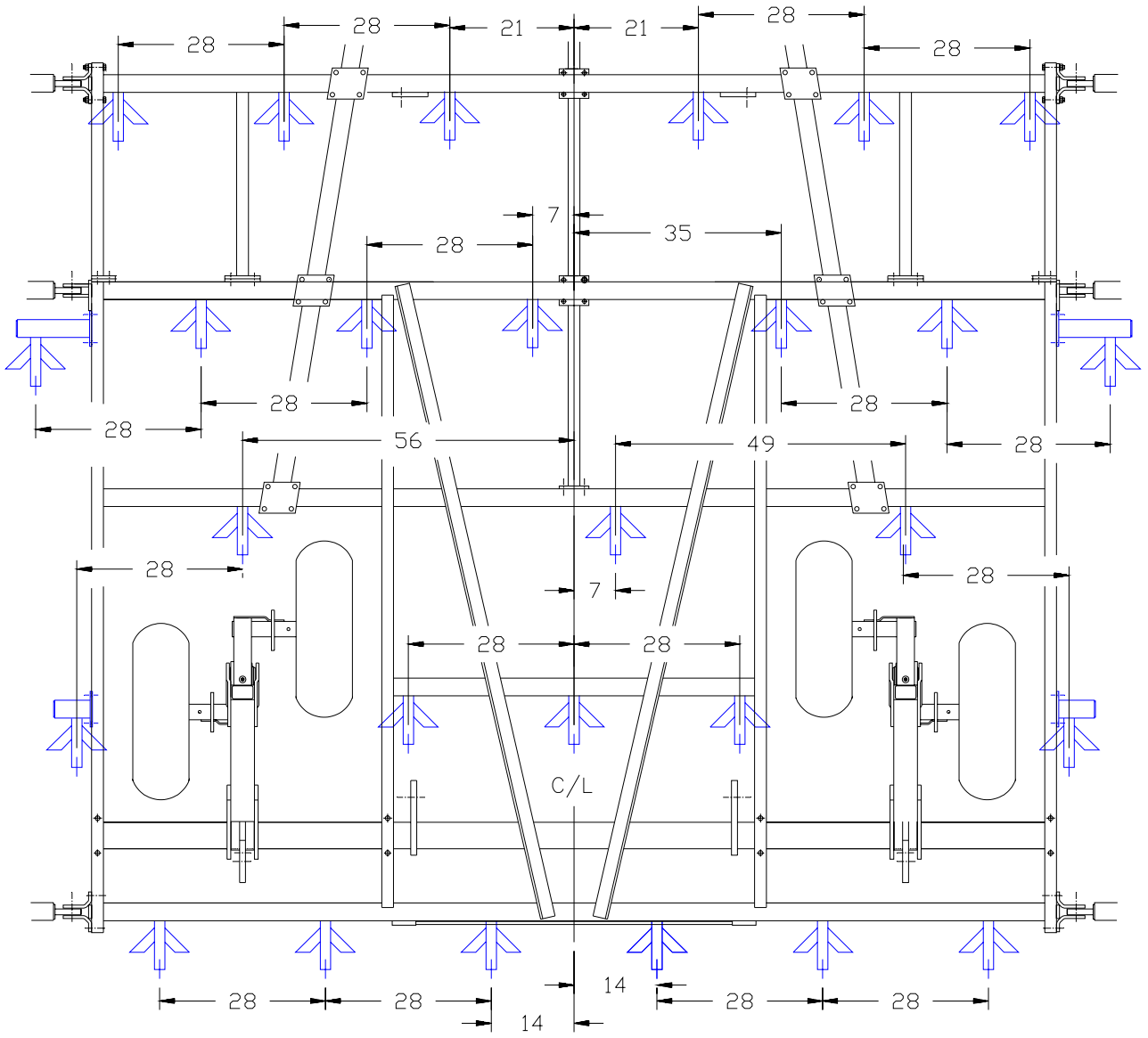
Follow the same process to adjust the other wing. This procedure should set both the front to rear and side to side level of the unit.

11’MAIN FRAME



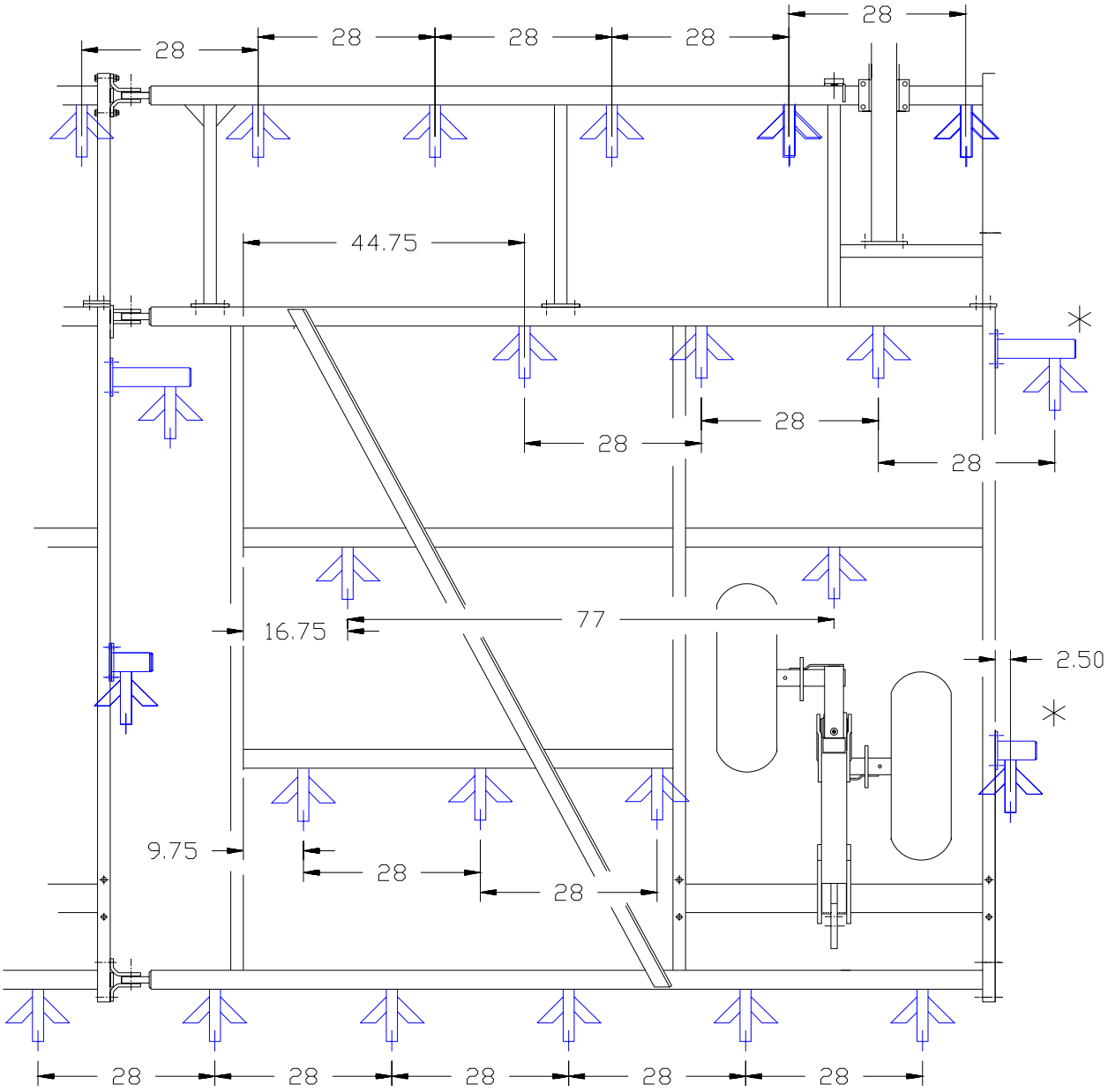
79115-11.PLT

13’ MAIN FRAME



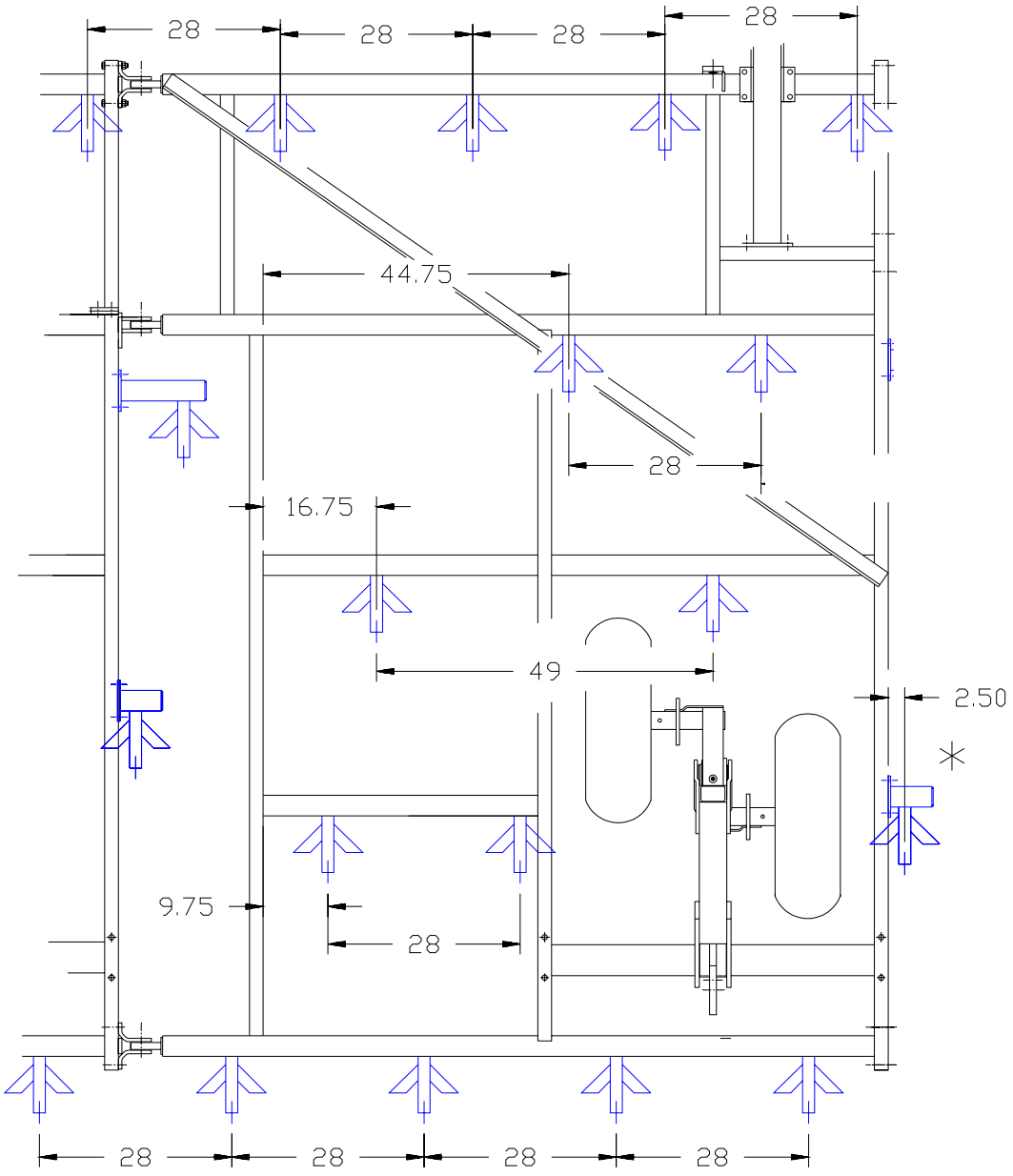
79115-13.PLT

11’8” WING

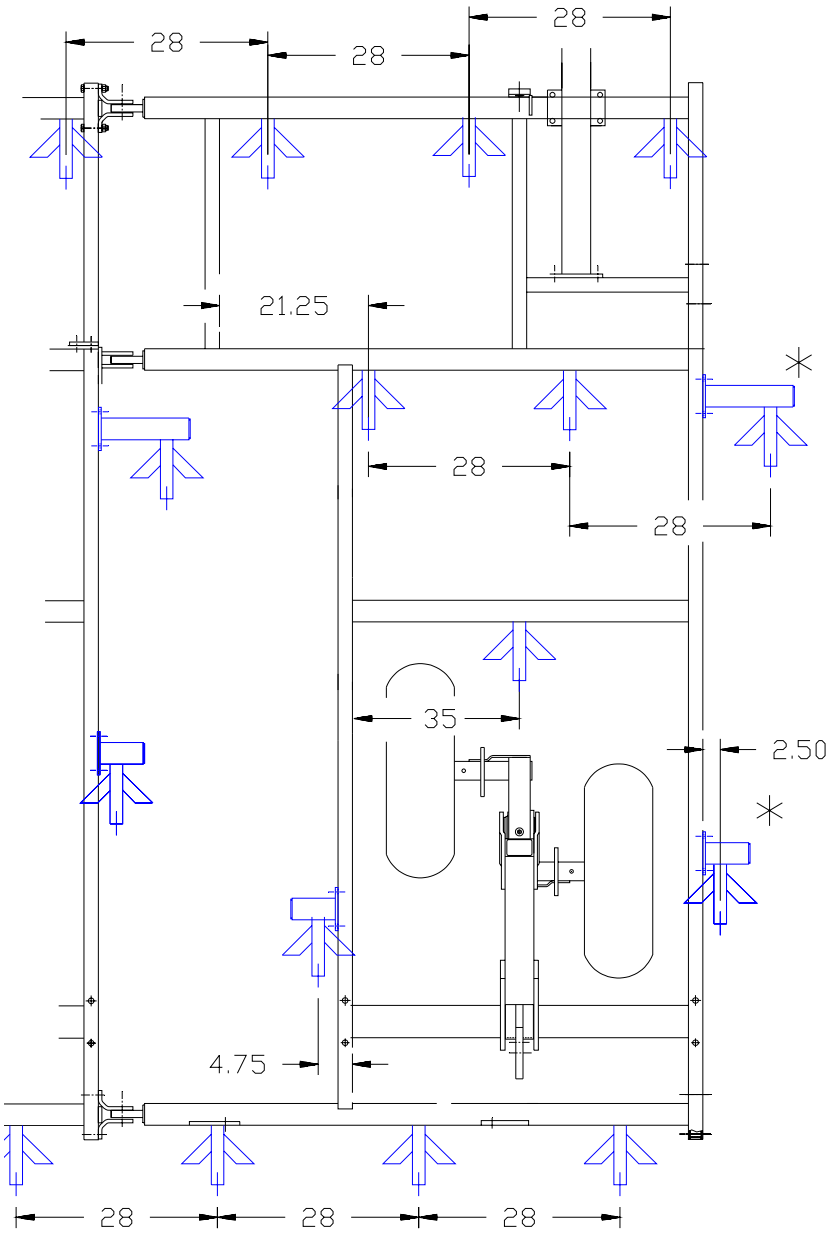


79115W11.PLT

9’4” INNER WING



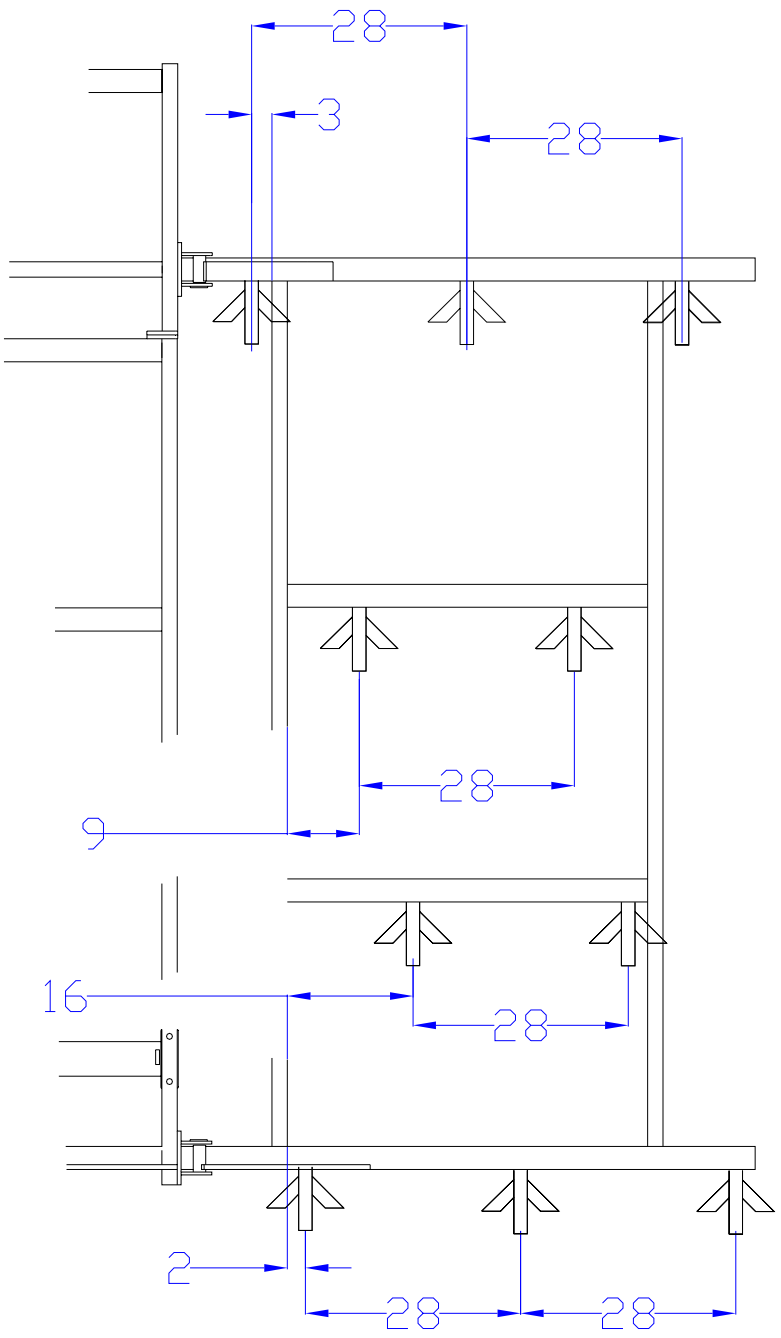
79115-9.PLT



79115-7.PLT

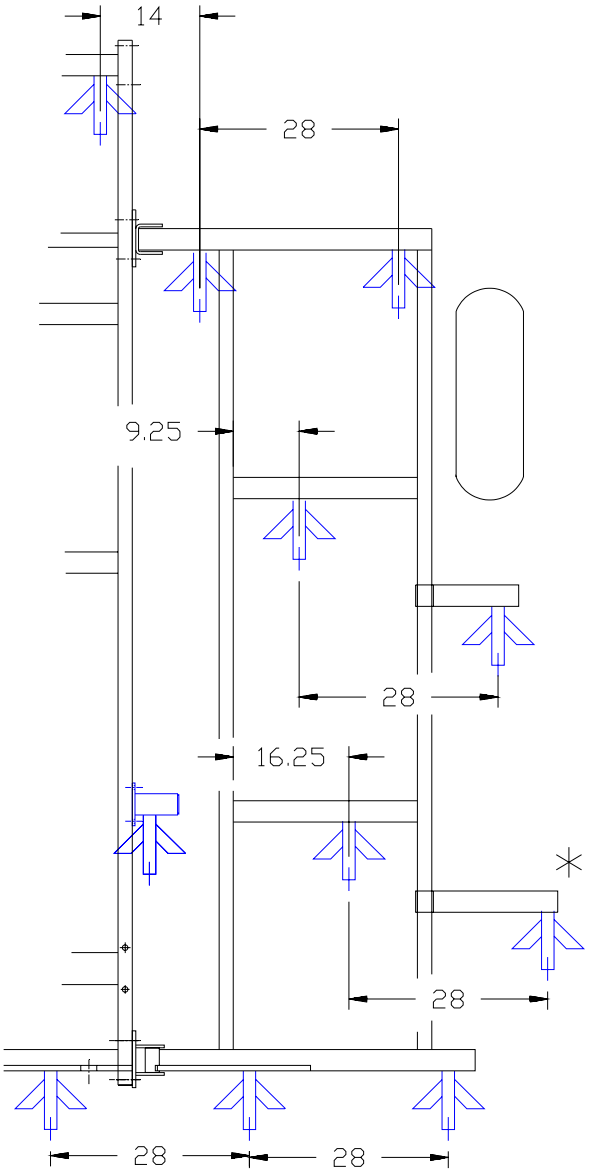
(*) SHANKS NOT IN BASE WING

6’ OUTER WING



6FT OUTER WING SHANK PLACEMENT

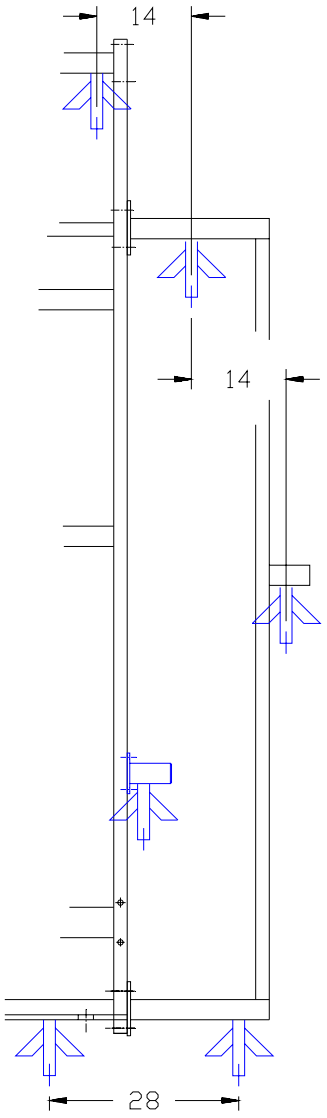
5’ OUTER WING



79115-5.PLT

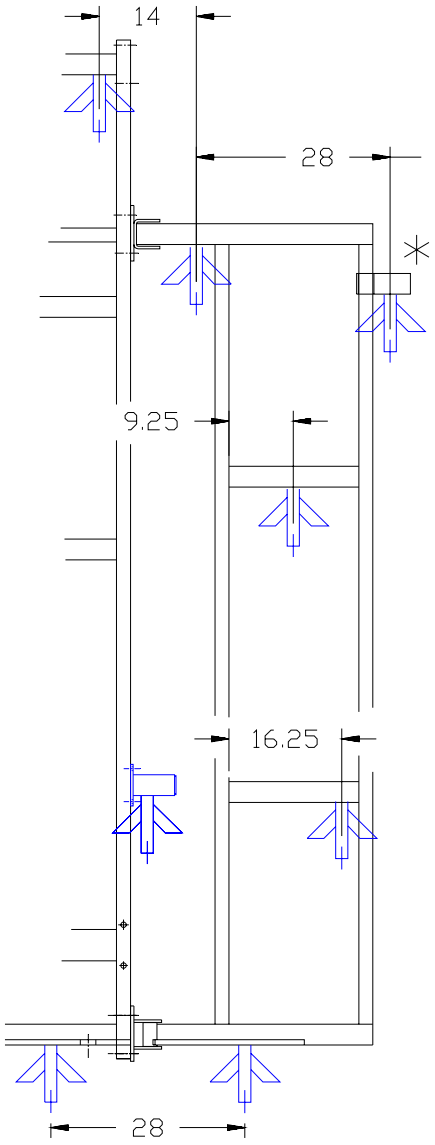
(*) SHANKS NOT IN BASE WING

2' OUTER RIGID STUB



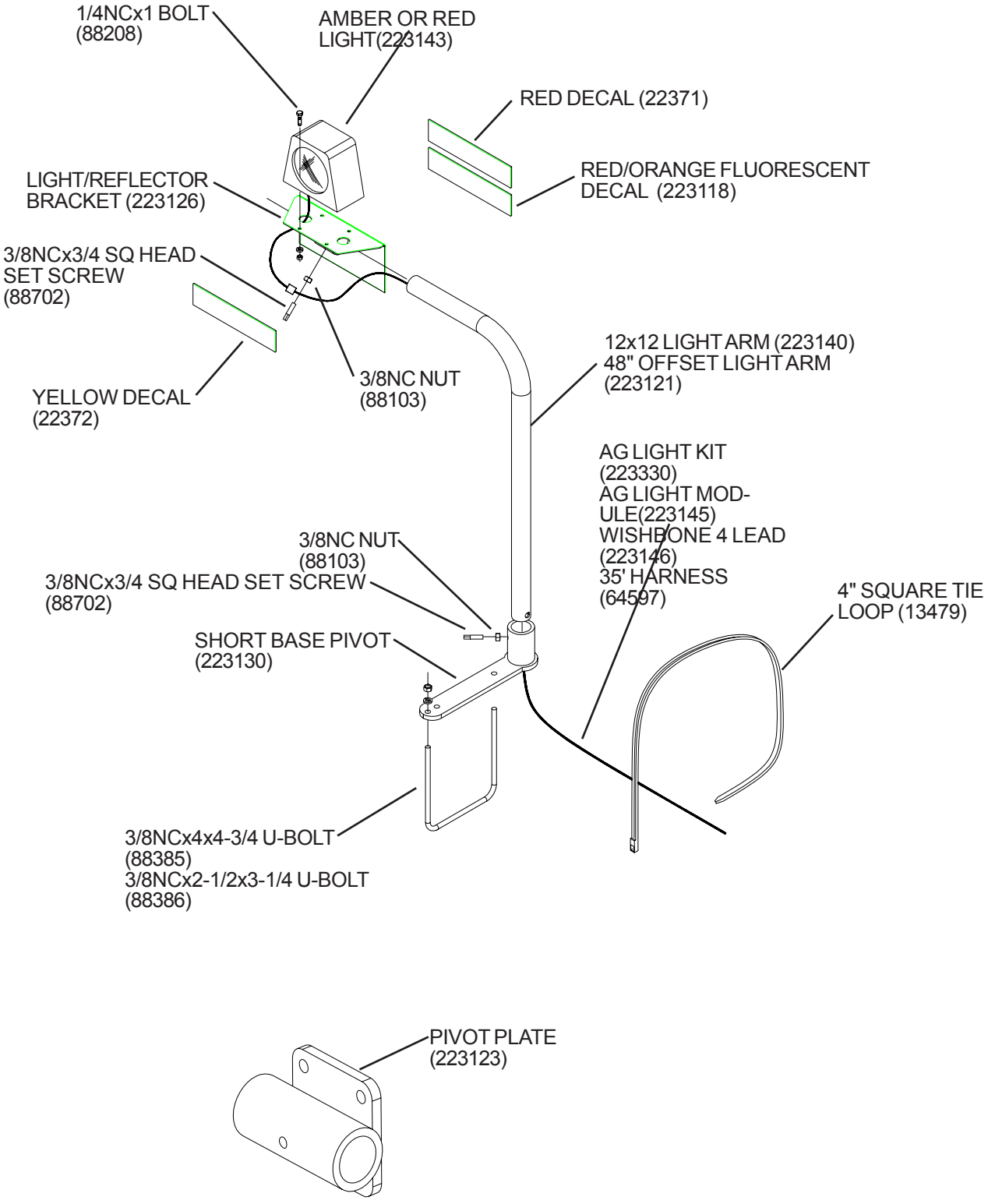
(*) SHANKS NOT IN BASE WING

3' OUTER WING



79115-3.PLT

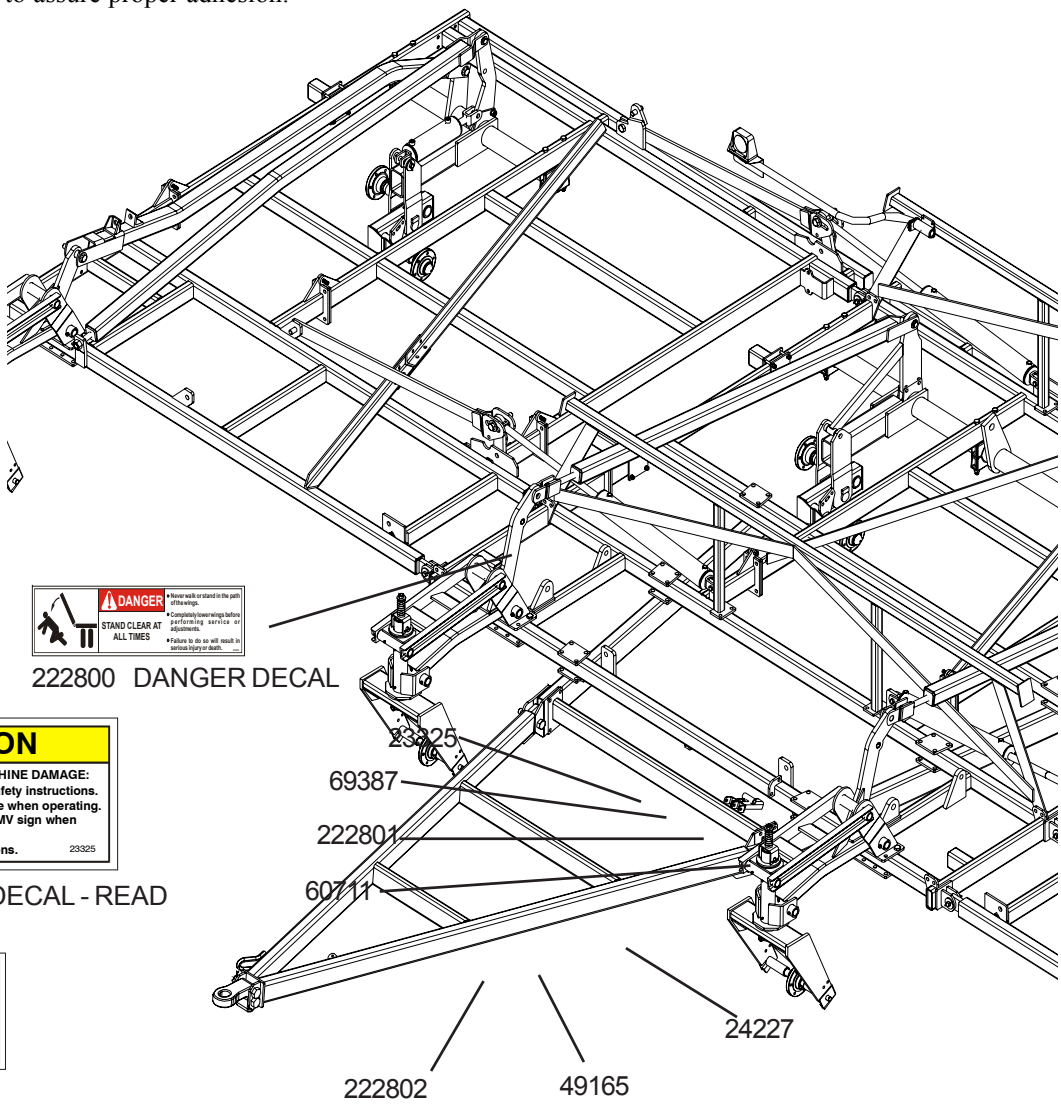
(*) SHANKS NOT IN BASE WING


1/4NCx1 BOLT (88208)
AMBER OR RED LIGHT(223143)
RED DECAL (22371)
RED/ORANGE FLUORESCENT DECAL (223118)
LIGHT/REFLECTOR BRACKET (223126)
3/8NCx3/4 SQ HEAD SET SCREW (88702)
YELLOW DECAL (22372)
3/8NC NUT (88103)
12x12 LIGHT ARM (223140)
48" OFFSET LIGHT ARM (223121)
AG LIGHT KIT (223330)
AG LIGHT MOD-ULE(223145)
WISHBONE 4 LEAD (223146)
35' HARNESS (64597)
3/8NC NUT (88103)
3/8NCx3/4 SQ HEAD SET SCREW (88702)
4" SQUARE TIE LOOP (13479)
SHORT BASE PIVOT (223130)
3/8NCx4x4-3/4 U-BOLT (88385)
3/8NCx2-1/2x3-1/4 U-BOLT (88386)
PIVOT PLATE (223123)

SAFETY DECAL PLACEMENT

NOTE:

Thoroughly clean areas were decals are to be applied before applying decals to assure proper adhesion.



222800 DANGER DECAL

CAUTION

TO AVOID INJURY AND/OR MACHINE DAMAGE:
- Refer to Operator's Manual for safety instructions.
- Do not stand or climb on machine when operating.
- Use clean hazard flashers and SMV sign when transporting.
- Observe highway traffic regulations.

23325

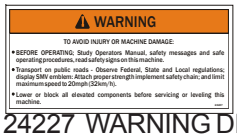
23325 CAUTION DECAL - READ

69387 WARNING DECAL-OPERATING

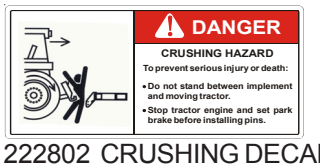
WINGS UP	WINGS DOWN	MAIN UP	MAIN DOWN
WINGS UP	WINGS DOWN	MAIN UP	MAIN DOWN
WINGS UP	WINGS DOWN	MAIN UP	MAIN DOWN
WINGS UP	WINGS DOWN	MAIN UP	MAIN DOWN
WINGS UP	WINGS DOWN	MAIN UP	MAIN DOWN
WINGS UP	WINGS DOWN	MAIN UP	MAIN DOWN

54900 WINGS UP DECAL
54901 WINGS DOWN DECAL
54902 MAIN UP DECAL
54903 MAIN DOWN DECAL

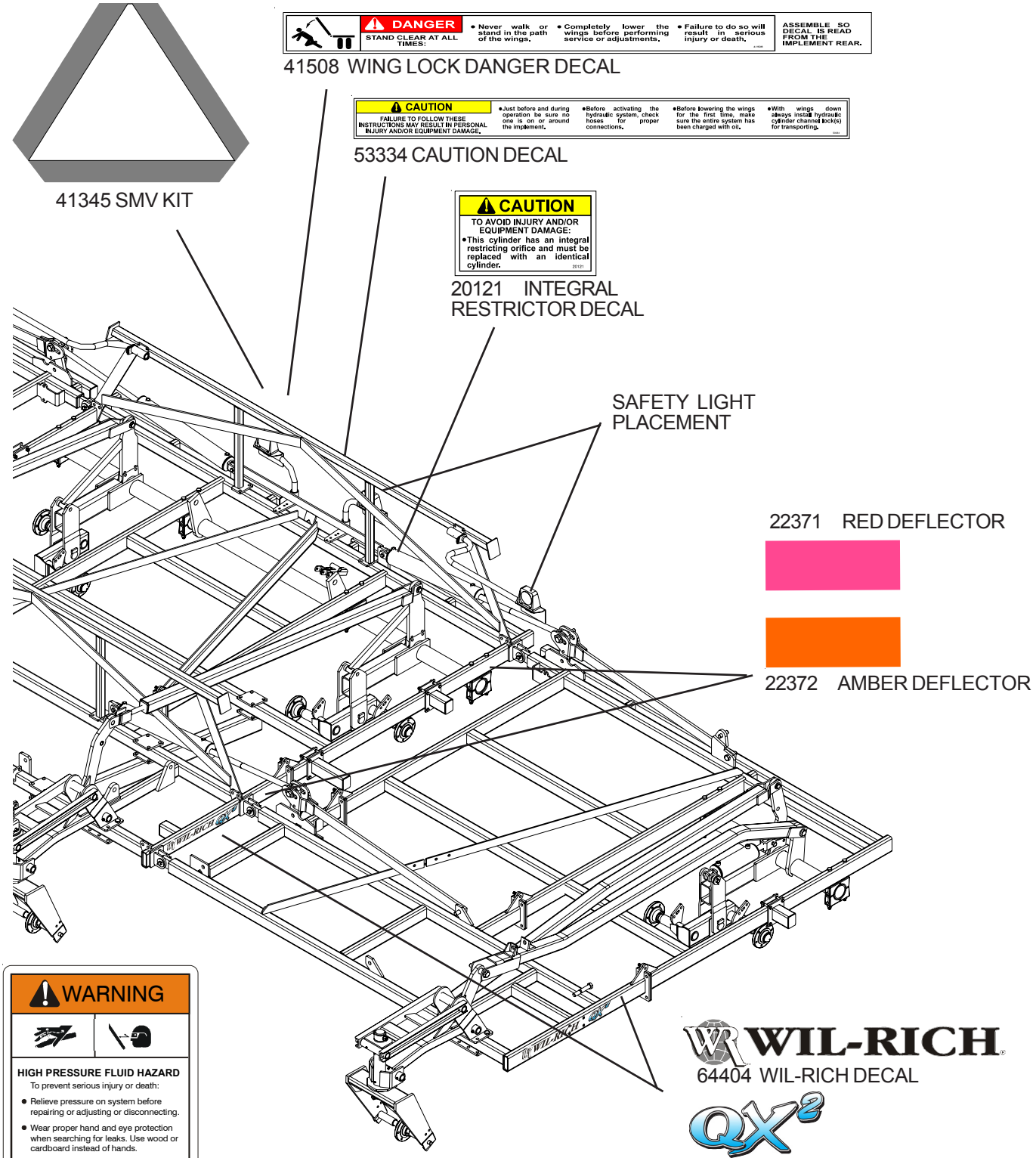
222801 ELECTROCUTION DECAL



24227 WARNING DECAL-OPERATING



222802 CRUSHING DECAL



41508 WING LOCK DANGER DECAL

53334 CAUTION DECAL

41345 SMV KIT

20121 INTEGRAL RESTRICTOR DECAL

SAFETY LIGHT PLACEMENT

22371 RED DEFLECTOR

22372 AMBER DEFLECTOR

64404 WIL-RICH DECAL

242815 QX² DECAL

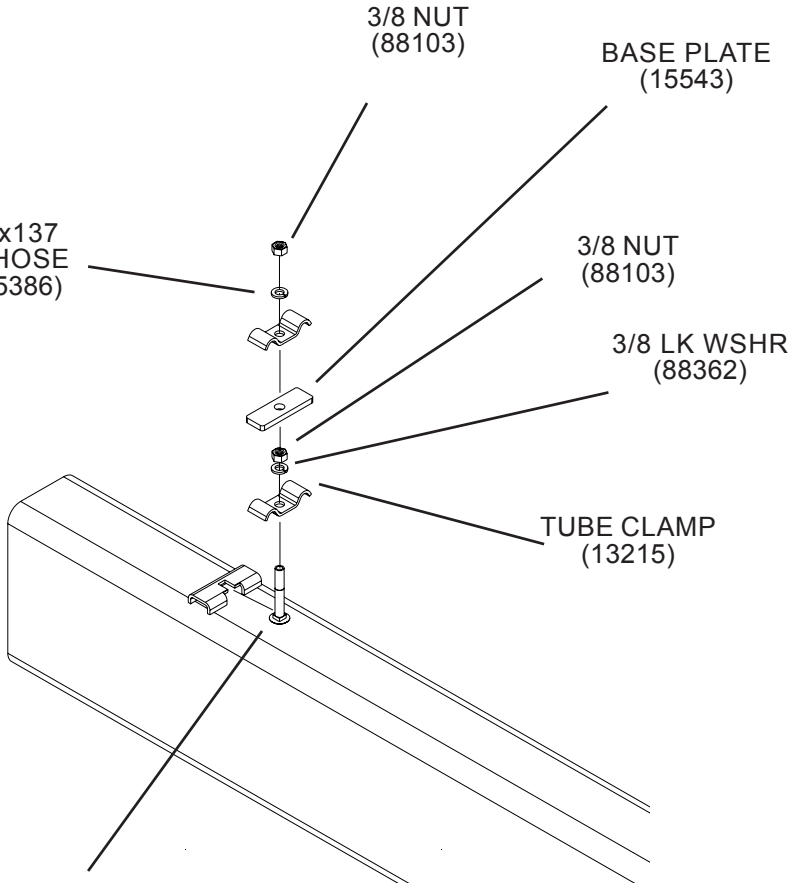
242816 XL² DECAL

60711 HIGH PRESSURE FLUID HAZARD

CAUTION
FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY AND/OR EQUIPMENT DAMAGE.
• Just before and during operation be sure no one is on or around the implement.
• Before activating the hydraulic system, check hoses for proper connections.
• Before lowering the wings for the first time, make sure the entire system has been charged with oil.
• With wings down always install hydraulic cylinder channel lock(s) for transporting.

49165 CAUTION DECAL

HOSE CLAMP ASSEMBLY

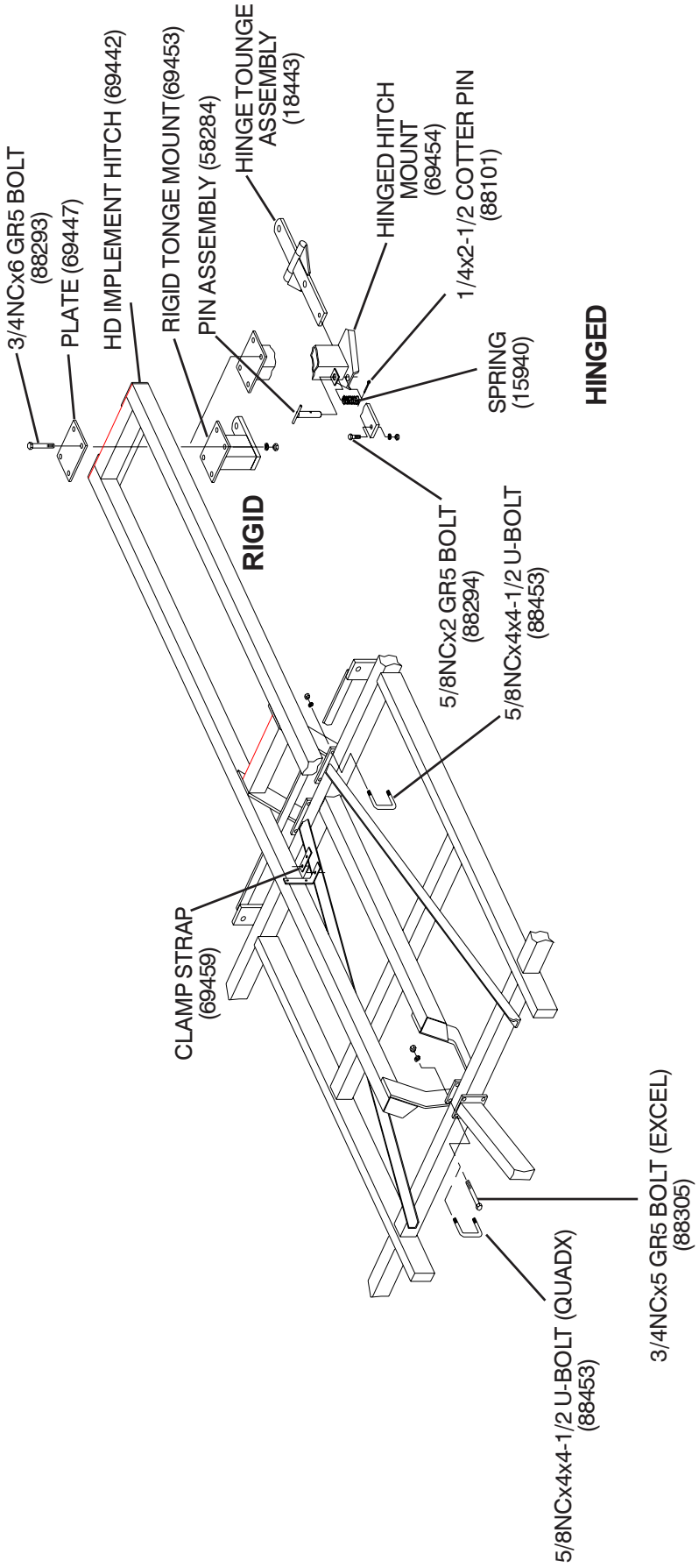


3/8x1-1/2 CRG BLT
(89375) SINGLE STACK

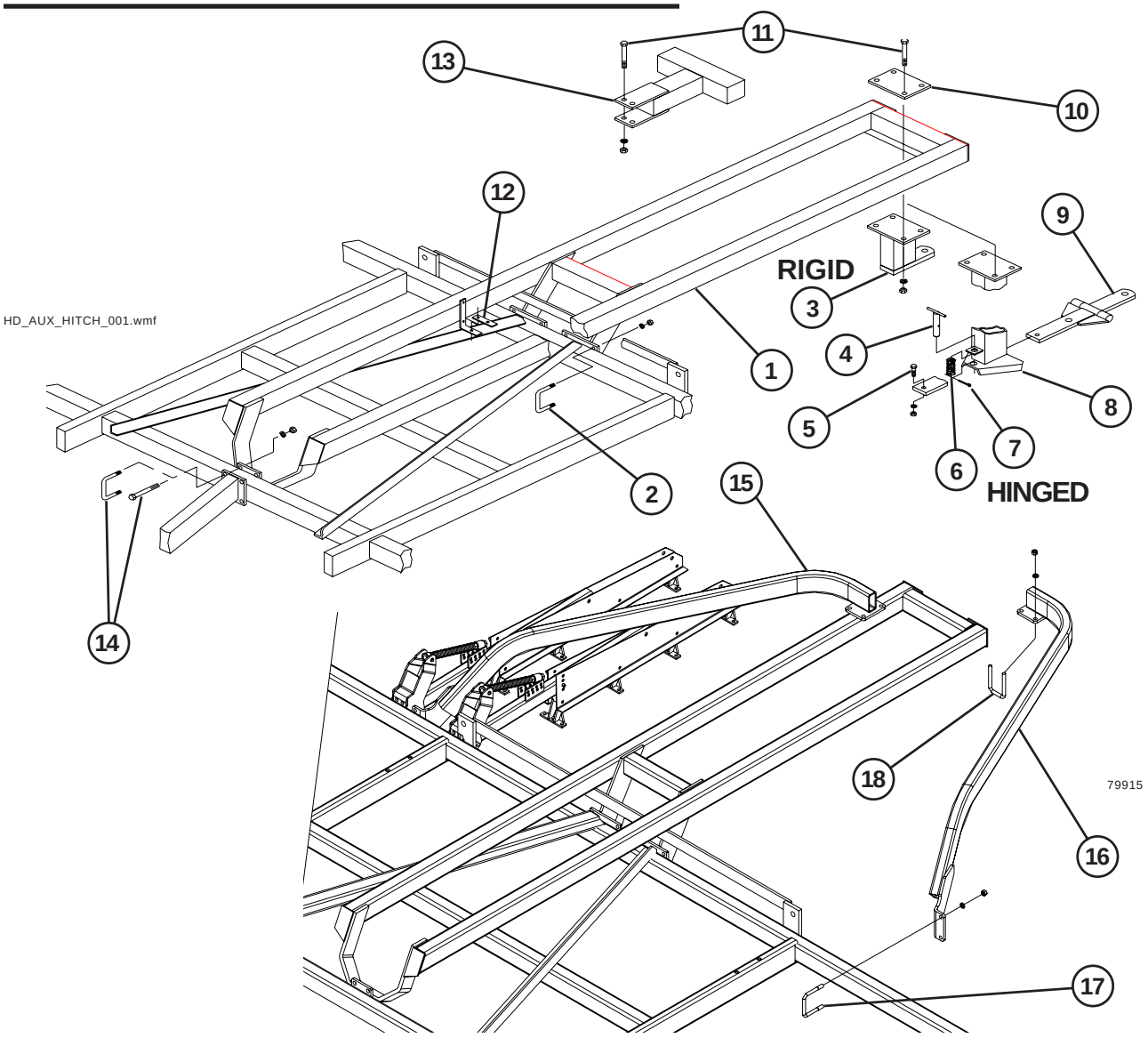
3/8x2-1/2 CRG BLT
(89473) DOUBLE STACK

3/8x3-1/2 CRG BLT
(89475) TRIPPLE STACK

OPTIONAL - HD AUXILIARY HITCH



HD REAR HITCH & BRACE ARMS



ITEM	PART NO.	DESCRIPTION
	69455	REAR HITCH W/HINGED TOUNGE (INCLUDES ITEMS 1,2,4-11)
	69456	REAR HITCH W/RIGID TOUNGE (INCLUDES ITEMS 1,2,3,10 & 11)
	233522	REAR HITCH BRACE ARMS (INCLUDES ITEMS 15,16,17 & 18)
1	69442	HD IMPLEMENT HITCH
2	88453	5/8"NCX4"X4-1/2"U-BOLT
3	69453	RIGID TOUNGE MOUNT
4	58284	PIN ASSEMBLY 1"X2-27/32"
5	88294	5/8"NCx2" GR5 BOLT
6	15940	SPRING
7	88101	1/4"X2-1/2" COTTER PIN
8	69454	HINGED HITCH MOUNT
9	18443	HINGED TOUNGE ASSEMBLY
10	69447	PLATE
11	88293	3/4"NCX6" GR5 BOLT
12	69459	CLAMP STRAP
13	222493	HD HITCH EXTENSION
14	88305	3/4"NCX5" GR5 BOLT(EXCEL)
	88453	5/8"NCX4"X4-1/2"U-BOLT(QUAD X)

ITEM	PART NO.	DESCRIPTION
15	233520	RIGHT BRACE ARM
16	233521	LEFT BRACE ARM
17	88453	5/8"NCX4"X4-1/2"U-BOLT
18	88503	5/8"NCx3"x5-1/4" U-BOLT

Standard Nuts and Lock Washers

88172	1/4NC Nut	88262	1/4 Lock Washer
88103	3/8NC Nut	88362	3/8 Lock Washer
88104	1/2NC Nut	88303	1/2 Lock Washer
88126	5/8NC Nut	88129	5/8 Lock Washer
88110	3/4NC Nut	88130	3/4 Lock Washer
88371	7/8NC Nut	88341	7/8 Lock Washer

Note: Standard nuts and lock washers are not called out. Anything other than standard will be called out.