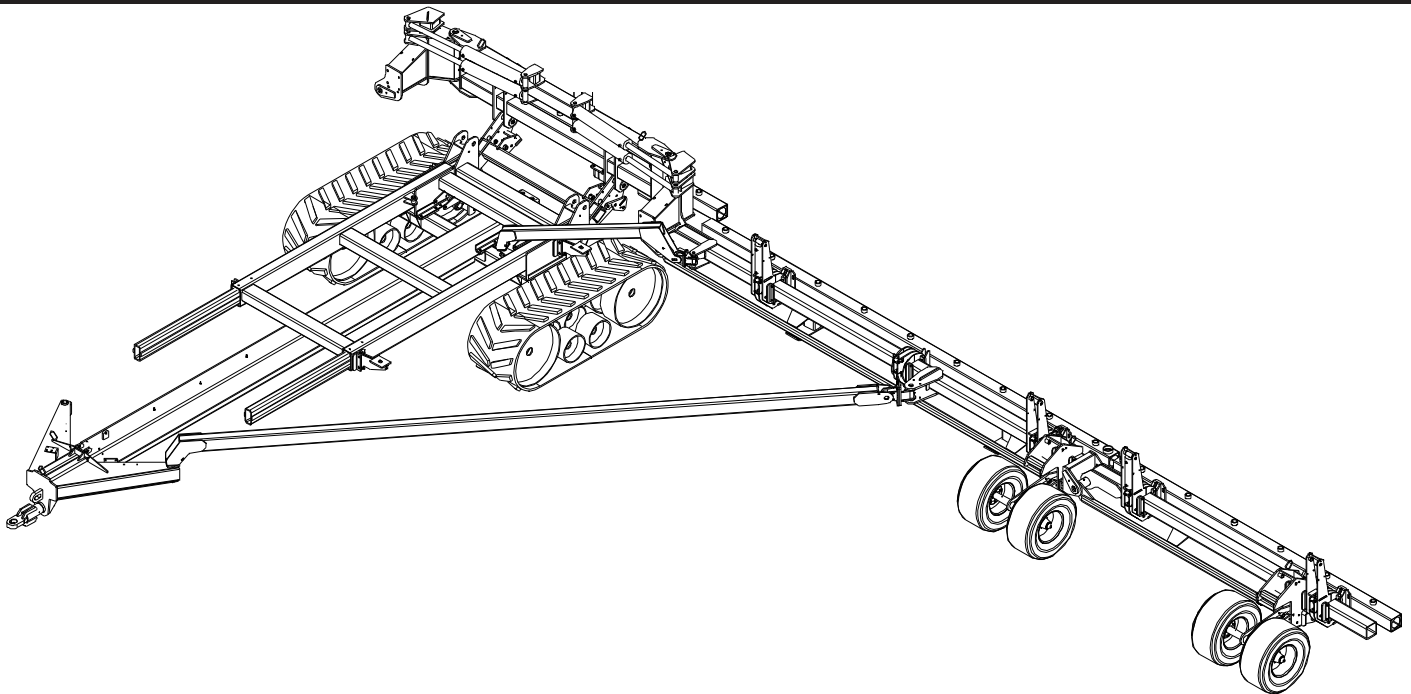




ASSEMBLY MANUAL



90FT FOLDING TOOLBAR & CENTRAL FILL SYSTEM 36 ROW 30''

 **WIL-RICH**

PO Box 1030
Wahpeton, ND 58074
PH (701) 642-2621
Fax (701) 642-3372
www.wil-rich.com

WARRANTY

The only warranty Wil-Rich gives and the only warranty the dealer is authorized to give is as follows:

We warrant products sold by us to be in accordance with our published specifications or those specifications agreed to by us in writing at time of sale. Our obligation and liability under this warranty is expressly limited to repairing, or replacing, at our option, within 12 months after date of retail delivery, any product not meeting the specifications. ***We make no other warranty, express or implied and make no warranty of merchantability or of fitness for any particular purpose.*** Our obligation under the warranty shall not include any transportation charges or costs or installation or any liability for direct, indirect or consequential damage or delay. If requested by us, products or parts for which a warranty claim is made are to be returned transportation prepaid to our factory. Any improper use, operation beyond rated capacity, substitution of parts not approved by us, or any alteration or repair by others in such manner as in our judgment affects the product materially and adversely shall void this warranty. ***No employee or representative is authorized to change this warranty in any way or grant any other warranty.***

Wil-Rich reserves the right to make improvement changes on any of our products without notice.

When warranty limited or not applicable: Warranty on hoses, cylinders, hubs, spindles, engines, valves, pumps or other trade accessories are limited to the warranties made by the respective manufactures of these components. Rubber tires and tubes are warranted directly by the respective tire manufacturer only, and not by Wil-Rich.

Warranty does not apply to any machine or part which has been repaired or altered in any way so as in the our judgment to affect its reliability, or which has been subject to misuse, negligence or accident.

A Warranty Validation and Delivery Report Form must be filled out and received by Wil-Rich to initiate the warranty coverage.

WARRANTY CLAIMS PROCEDURE

1. The warranty form must be returned to Wil-Rich within fifteen (15) working days from the repair date.
2. Parts returned to Wil-Rich without authorization will be refused. The parts must be retained at the dealership for ninety (90) days after the claim has been filed. If the Service Department would like to inspect the parts, a packing slip will be mailed to the dealer. The packing slip must be returned with the parts. The parts must be returned prepaid within thirty (30) days of receiving authorization. After the parts are inspected and warranty is verified, credit for the return freight will be issued to the dealer.
3. Parts that will be scrapped at the dealership will be inspected by a Wil-Rich Sales Representative, District Sales Manager or Service Representative within the ninety (90) day retaining period.

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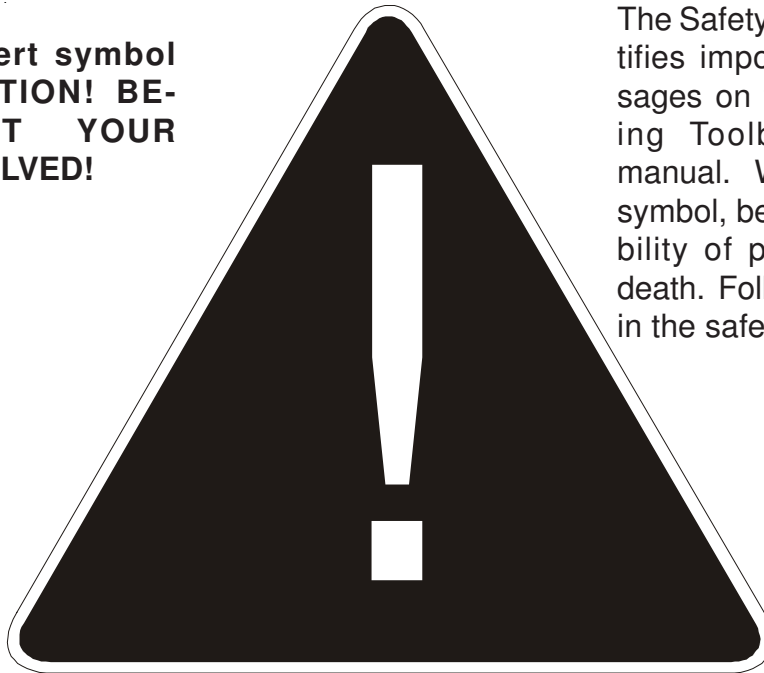
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PERSONAL SAFETY IS IMPORTANT!

ALL PERSONNEL INVOLVED WITH THE ASSEMBLY AND/OR OPERATION OF THIS EQUIPMENT MUST BE INFORMED OF PROPER SAFETY PROCEDURES. OPERATOR'S/ASSEMBLY MANUALS PROVIDE THE NECESSARY INFORMATION. IF THE MANUAL IS LOST FOR A PARTICULAR IMPLEMENT, ORDER A REPLACEMENT AT ONCE. OPERATOR'S AND ASSEMBLY MANUALS ARE AVAILABLE AT NO CHARGE UPON REQUEST.

This Safety Alert symbol means **ATTENTION! BECOME ALERT YOUR SAFETY IS INVOLVED!**



The Safety Alert symbol identifies important safety messages on the Wil-Rich Folding Toolbar and in this manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

3 Big Reasons

Accidents Disable and Kill
Accidents Cost
Accidents Can Be Avoided

SIGNAL WORDS:

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each message has been selected using the following guidelines:

DANGER

An immediate and specific hazard which **WILL** result in severe personal injury or death if the proper precautions are not taken.

WARNING

A specific hazard or unsafe practice which **COULD** result in severe personal injury or death if the proper precautions are not taken

CAUTION

Unsafe practices which **COULD** result in personal injury if proper practices are not taken, or as a reminder of good safety practices.

ADDRESS INQUIRIES TO: WIL-RICH PO BOX 1030
WAHPETON, ND 58074
PH (701) 642-2621 FAX (701) 642-3372

TO THE OWNER

It is the responsibility of the user to read the Operator's Manual and comply with the safe and correct operating procedures as pertains to the operation, lubrication and maintenance of the product according to the information outlined in the Operator's Manual.

If this machine is used by an employee or is loaned or rented, make certain that the operator(s), prior to operating, is instructed in safe and proper use and reviews and understands the Operator's Manual.

The user is responsible for inspecting his/her machine and for having parts repaired or replaced when continued use of this product would cause damage or excessive wear to the other parts. The word **NOTE** is used to convey information that is out of context with the manual text; special information such as specifications, techniques, reference information of supplementary nature.

SERIAL NUMBER

Every implement has a serial number located on the RH side of the main tongue. These serial numbers are consecutively assigned to the implements as they are manufactured. To aid in part ordering, we reference the serial number at the point the change occurred to provide an accurate means of determining the proper parts. See page 27 for location.

WIL-RICH LLC Wahpeton, ND	
Serial Number: <input type="text"/>	
Made in USA	

When in need of parts, always specify the model and serial number. Write this number in the space provided.

MODIFICATIONS

It is the policy of **WIL-RICH** to improve its products whenever possible and practical to do so. We reserve the right to make changes, improvements and modifications at any time without incurring obligation to make such changes, improvements on any equipment sold previously.



THIS SYMBOL USED TO CALL YOUR ATTENTION TO INSTRUCTIONS CONCERNING YOUR PERSONAL SAFETY. BE SURE TO OBSERVE AND FOLLOW THESE INSTRUCTIONS

PREPARATION

Before operating the **WIL-RICH** Folding toolbar, a careful inspection must become routine. A check must be made to ensure that all hardware and fasteners are securely tightened and moving parts properly lubricated.

Remove all wires and/or banding material. The parts have been conveniently arranged on the pallet for ease of assembly.

NOTE: Always wear safety glasses or goggles and be careful when cutting wires and steel bands as they are under tension and will spring back when cut.

Wherever the terms "left" and "right" are used, it must be understood to mean from a position behind and facing the machine.

Lubricate all bearings and moving parts as you proceed and make sure they work freely.

FASTENERS

Loosely install all bolts connecting mating parts before final tightening.

GENERAL INFORMATION

When tightening bolts, they must be torqued to the proper number of foot-pounds as indicated in the table unless specified. It is important that all bolts be kept tight.

On new machines, all nuts and bolts must be rechecked after a few hours of operation.

When replacing a bolt, use only a bolt of the same grade or higher. Except in shear bolt applications, where you must use the same grade bolt.

Bolts with no markings are grade 2

Grade 5 bolts furnished with the machine are identified by three radial lines on the head.

Grade 8 bolts furnished with the machine are identified by six radial lines on the head.




All U-bolts are grade 5.

TIRE INFLATION

The use of proper air pressure is the most important factor in satisfactory performance and maintenance of implement tire. Underinflation will damage the cord body of the tire and cause a series of diagonal breaks in the fabric sidewall area.

If the tire buckles or wrinkles, the air pressure must be increased to the point where the sidewall remains smooth while operating.

Check the air pressure every two or three weeks and do not allow the pressure to drop to a point where buckling or wrinkling of the tire may be possible.

	GRADE 2			GRADE 5			GRADE 8		
									
TORQUE IN FOOT POUNDS									
BOLT DIA	3/8	1/2	5/8	3/4	7/8	1			
HEX HEAD	9/16	3/4	15/16	1-1/8	1-5/16	1-1/2			
UNC GR2	18	45	89	160	252	320			
UNC GR5	30	68	140	240	360	544			
UNC GR8	40	100	196	340	528	792			
UNF GR2	21	51	102	178	272	368			
UNF GR5	32	70	168	264	392	572			
UNF GR8	48	112	216	368	792	840			

TORQUE.EPS

Note: Do not inflate tires beyond the specified tire pressure.

WHEEL BOLTS

It is recommended that all wheel bolts be checked for tightness before using and again after one day of use. Check periodically to be sure the wheel bolts are tight.

LUBRICATION

Make sure the Folding Toolbar is properly lubricated.

HYDRAULICS

Check wing lift and depth control cylinders for proper alignment and operation. On any machine, check that the hydraulic system has been properly charged and purged.

Horsepower requirements will vary depending on the attachment that is bolted to the **WIL-RICH** Folding Toolbar. Four remote cylinder outlets and controls are required.

WHEELS AND TIRES

Dual tractor rear wheels are recommended for use with the Folding Toolbar. See your tractors operator's manual for tire inflation and instructions for wheel ballast where required.

METERING VALVES

The metering valve may be set to provide varying amounts of hydraulic oil flow to the cylinders (see your tractor operator's manual.)

It is recommended the wing fold cylinders run as slow as possible to prevent damage to the implement, persons and property. Turn wing fold hydraulics metering valves to slow position.

FRONT BALLAST

Tractor front end stability is necessary for safe and efficient operation. Therefore, it is important that the proper amount of weight be installed on the front of the tractor as recommended in your tractor operator's manual.



Note: Ballast recommendations provide for adequate transport stability at recommended speeds. Additional front ballast may be required for satisfactory field operation due to sudden or extreme forces on the Folding Toolbar. These forces may occur when removing the Folding Toolbar from the ground and turning at rows end, or during field transport over very rough ground.

TRACTOR REQUIREMENTS

TRANSPORTING

A SMV (Slow Moving Vehicle) emblem **must** be used at all times while traveling on public roads. Maximum transport speed is **15 MPH**.

The wings on the Folding Toolbar must be tilted up 90 ° and folded forward, next wings must be lowered on the transport pads and the wing wheels pulled up off the ground when traveling on public roads. Never depend on your tractor's hydraulic system to carry the weight while transporting.



Note: Use extreme caution when working around overhead power transmission lines.

Reduce speed when cornering and when traveling over rough and/or uneven ground. Drive at a reasonable speed to maintain complete control of the machine at all times.

Comply with your state and local laws governing highway safety when moving machinery on a highway.

BEARING ASSEMBLIES

IMPORTANT: The spindle nuts on the wheel assemblies are preset at the factory.

Road transport and field working will seat the bearings and will require additional adjustment. After 20 hours of machine operation remove the grease cap and check the bearing tightness.

Remove the cotter pin and rotate the tire while tightening the spindle nut. Tighten until the drag on the tire stops the rotation. Locate the cotter pin hole in the spindle and loosen the spindle nut just enough to allow insertion of the cotter pin. Replace cotter pin and grease cap.

SAFETY

INFORMATION

YOU are responsible for SAFE operation and maintenance of your Wil-Rich Folding Toolbar. YOU must ensure that anyone who is going to operate, maintain or work around the Folding Toolbar be familiar with the operating and maintenance procedures and related safety information contained in this manual. This manual will take you step by step through your working day, alerts you to all good safety practices that should be adhered to while operating this equipment.



Remember, YOU are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that EVERYONE operating this equipment is familiar with the recommended operating and maintenance procedures and follows all safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

Folding Toolbar owners must give operating instructions to operators and employees before allowing them to operate the Folding Toolbar, and at least annually thereafter per OSHA regulation 1928.57.

The most important safety device on this equipment is a safe operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow them. All accidents can be avoided.

A person who has not read and understood all operating and safety instructions is not qualified to operate the machine.

An untrained operator exposes themselves and bystanders to possible serious injury or death.

Do not modify the equipment in any way. Unauthorized modifications may impair the function and/or safety and could affect the life of the equipment.

Think SAFETY! Work SAFELY!

GENERAL SAFETY BEFORE OPERATING

Read and understand the operator's manual and all safety signs before operating, maintaining or adjusting the Folding Toolbar.

Review safety related items with all operators annually.

Use extreme care when making adjustments.

When working under or around the machine, always lower the Folding Toolbar to the ground.

After servicing, install and properly secure all shields and guards before operating. Remove all tools, parts, and service equipment from the machine.

Have a first-aid kit available for use should the need arise and know how to use it.

Have a fire extinguisher available for use should the need arise and know how to use it.

Clear the area of people and remove foreign objects from the machine before starting and operating.

Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, and head. Wear suitable ear protection for prolonged exposure to excessive noise.

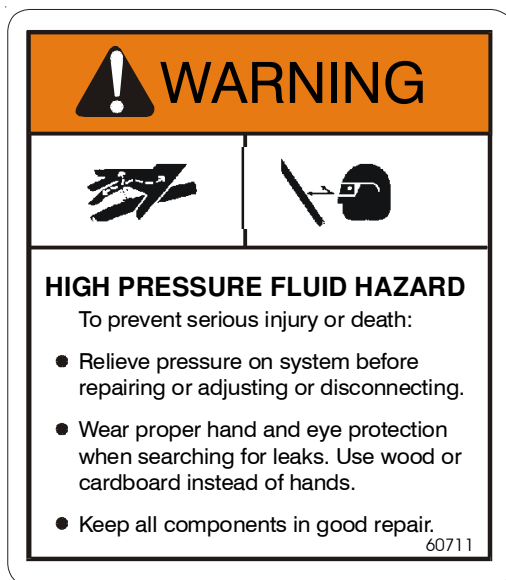
Stop tractor engine, place all controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging. Do not attempt to remove any obstruction while machine is in motion.

HYDRAULIC SAFETY

Always place all tractor hydraulic controls in neutral before dismounting.

Make sure that all components in the hydraulic system are kept in good condition and are clean.

Relieve pressure before working on hydraulic system.



Replace any worn, cut, abraded, flattened or crimped hoses and metal lines.

Before applying pressure to the system, make sure all components are tight and that lines, hoses and couplings are not damaged.

Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tape, clamps or cements. The hydraulic system operates under extremely high-pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.

Wear proper hand and eye protection when searching for high pressure leaks. Use a piece of cardboard as a backstop instead of hands to isolate and identify a leak.

If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.

STORAGE SAFETY

Store unit in an area away from human activity.

Do not permit children to play around the stored unit.

Store in a dry, level area. Support the base with planks if required.

WHEN NOT USING THE FOLDING TOOLBAR ALWAYS INSERT SAFETY PINS AS SHOWN ON PAGE 70.

TIRE SAFETY

Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.

Have a qualified tire dealer or repair service perform required tire maintenance.

TRANSPORT SAFETY

Read and understand ALL the information in the Operator's Manual regarding procedures and SAFETY when moving the Folding Toolbar in the field, yard or on the road.

Check with local authorities regarding transportation on public roads. Obey all applicable laws and regulations.

Always travel at a safe speed. Reduce speed and use caution when making corners or meeting traffic.

Make sure SMV (Slow Moving Vehicle) emblem and all lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic

Use a drawbar pin with provisions for a mechanical retainer.

Attach a safety chain before moving (see safety chain information.)

Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.

Always use hazard warning flashers on tractor when transporting unless prohibited by law.

Do not allow riders.

DETACH TRACTOR IN THE TRANSPORT POSITION ONLY

DO NOT TRANSPORT WITH TANKS FILLED - TANKS MUST BE EMPTY DURING TRANSPORT

**BEFORE ROAD TRANSPORT INSERT SAFETY PINS AS SHOWN ON PAGE 70
MAXIMUM TRANSPORT SPEED IS 15 MPH**

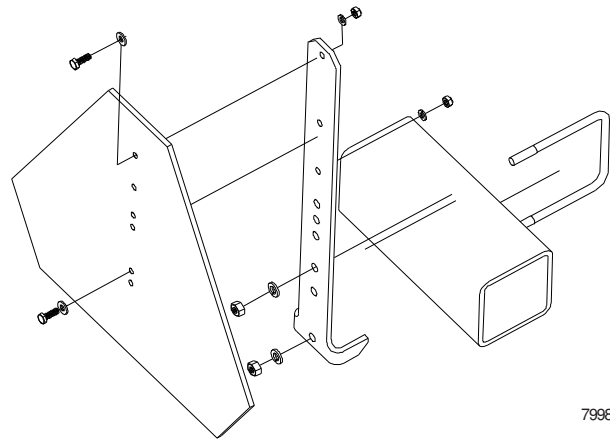
BEFORE TRANSPORTING TOOLBAR REMOVE ALL DEPTH STOP COLLARS FROM LIFT CYLINDERS AND RETRACT HYDRAULIC LIFT CYLINDERS COMPLETELY.

SMV

The SMV emblem is to be secured as near to the rear and centered, or as near to the left center of the implement as possible.

The bracket provided is designed to mount to numerous frame sizes and can be orientated in numerous positions to avoid interference with implement components.

Emblem is to be 2 to 6 feet above the ground measured from the bottom edge of the emblem. SEE BACK OF MANUAL FOR MOUNTING INSTRUCTIONS.

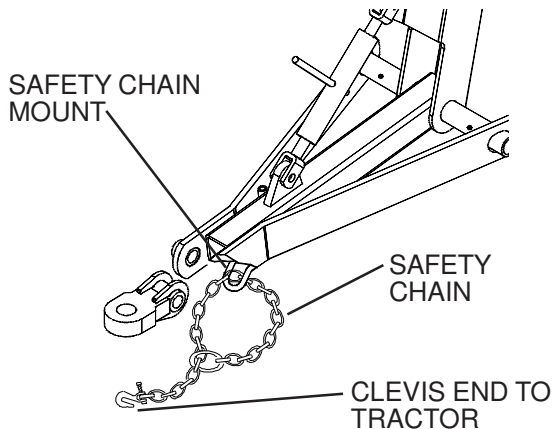


Keep safety decals clean. Replace any safety decals that are damaged, destroyed, missing, painted over or can no longer be read. Replacement safety decals are available through your dealer.

SAFETY DECALS

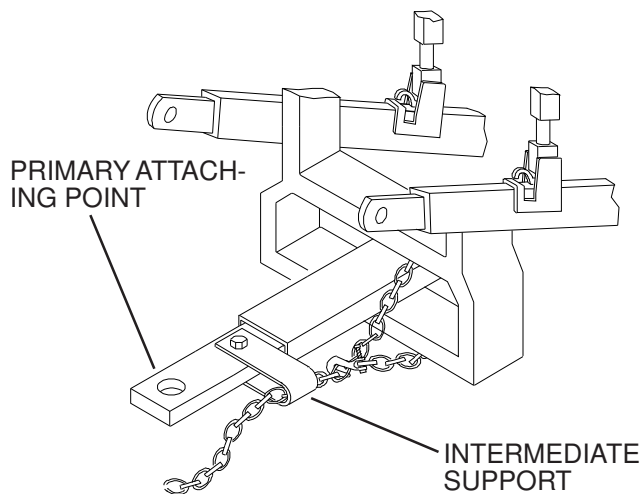
SAFETY CHAINS

The purpose of the safety chain is to provide an auxiliary attaching system to retain the connection between towing and towed machine in the event of separation of the primary attaching system.



The safety chain should be hooked long enough to permit full turns. Unnecessary slack should be taken up.

The intermediate support is to be used if there is more than 6" of unsupported chain on either side of the primary attaching point.



The intermediate support must not be mounted more than 6" from the primary attaching point (see illustration above.)

Safety decals appear at various locations on your machine. These decals are provided for your safety, your family's safety and your employee's safety. Replace any decal that becomes worn, damaged, painted over or difficult to read.

Keep safety decals and signs clean and legible at all times.

Replace safety decals and signs that are missing or have become illegible.

Replaced parts that displayed a safety sign should also display the current sign.

Safety decals or signs are available from your dealer parts department.

How to install Safety Decals:

Be sure that the installation area is clean and dry.

Decide on the exact position before you remove the backing paper.

Remove the smallest portion of the split backing paper.

Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.

Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.

Small air pockets can be pierced with a pin and smoothed out using the piece of decal backing paper.

SIGN-OFF FORM

WIL-RICH follows the general standard specified by the American Society of Agricultural Engineers (ASAE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining the Folding Toolbar must read and understand ALL Safety, Operation, and Maintenance information presented in this manual. Do not operate or allow anyone else to operate this equipment until such information is reviewed. Annually review this information before the season start-up.

Make periodic reviews of SAFETY and OPERATION a standard practice for all your equipment. We feel that an untrained operator is unqualified to operate this machine.

A sign-off sheet is provided for all personnel who will be working with equipment have read and understood the information in the operators manual and have been instructed in the operation of the equipment.

DATE	EMPLOYEE'S SIGNATURE	EMPLOYER'S SIGNATURE

Tire Safety

FIG. 21: Check tires for cuts, bulges, and correct pressure. Replace worn or damaged tires. When tire service is needed, have a qualified tire mechanic service the tire. Tire changing can be very hazardous and must be done by qualified tire mechanic using proper tools and equipment. See the Specifications Section 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 qualified tire mechanic.

Do not weld on the rim when a tire is installed. Welding will 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.

Lower planter to the ground before attempting to remove a wheel for tire repair.



FIG. 21

SAFETY SIGNS

FIG. 22: Side of utility box, (1), (2), (3), (4), (5), (6), (7), (8), and (9).

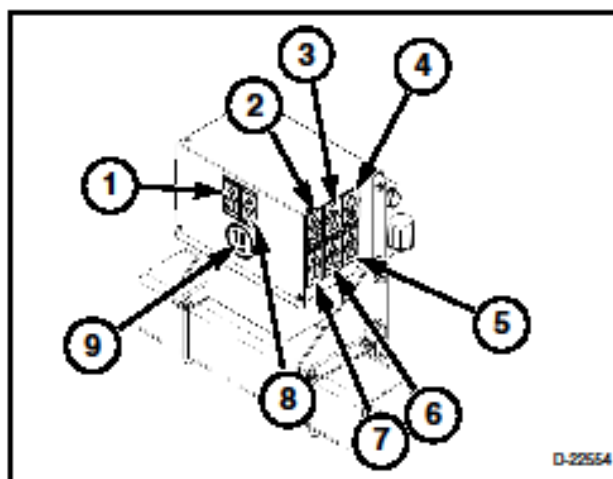


FIG. 22

FIG. 23: Warning sign (1) and (2)

Hazard (A) - Crushing/shearing hazard - fingers and hand.

Avoidance (B) - Stay clear of this area while engine and machine are operating.

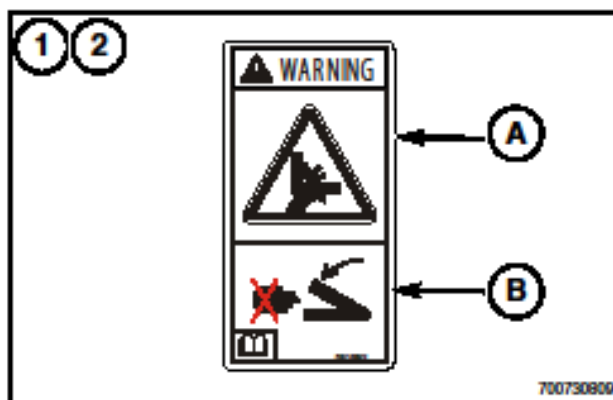


FIG. 23

SAFETY

FIG. 24: Warning sign (3)

Hazard (A) - Chemical injection hazard, lungs - opening the cover.

Avoidance (B) - Refer to the Operator's Manual and the chemical manufacturer's instructions.

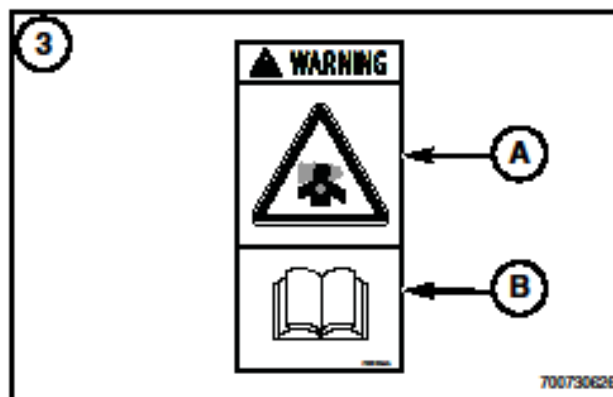


FIG. 24

700730626

FIG. 25: Warning safety sign (4)

Hazard (A) - General safety alert.

Avoidance (B) - Shut off engine, remove key, and make sure all components have stopped rotating before performing maintenance or repair work.

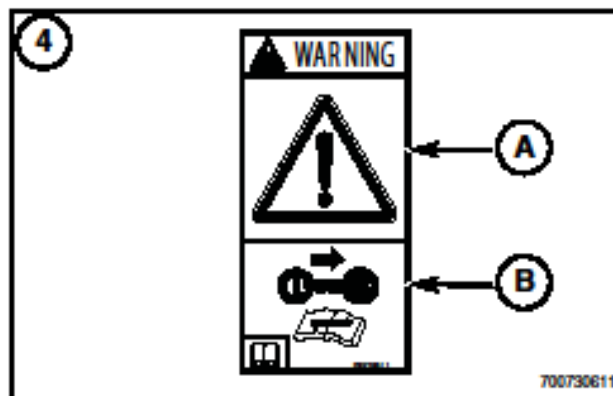


FIG. 25

700730611

FIG. 26: Warning sign (5)

Hazard (A) - Impact hazard from upward movement of implement hitch.

Avoidance (B) - Use caution when unhitching implement. Do not stand above implement hitch.

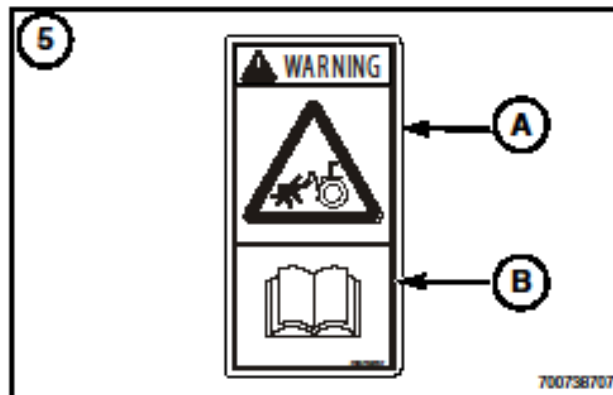


FIG. 26

700738707

FIG. 27: Warning sign (6)

Hazard (A) - Escaping fluid under pressure can penetrate the skin and cause serious injury.

Avoidance (B) - See the maintenance manual for proper servicing procedures. Shut off engine, remove key and relieve pressure before performing maintenance or repair work.

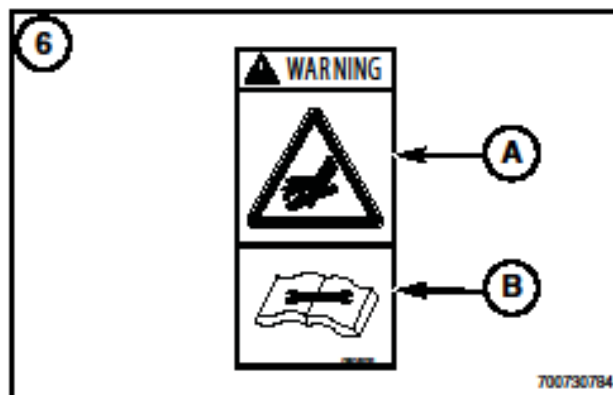


FIG. 27

700730784

FIG. 28: Warning sign (7)

Hazard (A) - General safety alert.

Avoidance (B) - Read and understand the Operator's Manual before operating the machine.

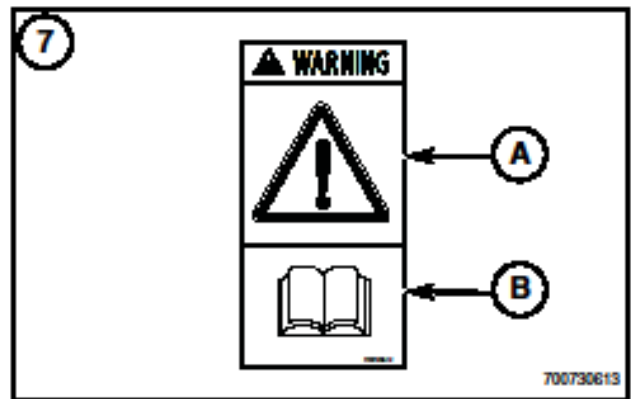


FIG. 28

700730613

FIG. 29: Danger sign (8)

Hazard (A) - Electrical shock/electrocution hazard, markers.

Avoidance (B) - Keep clear of overhead electrical powerlines.

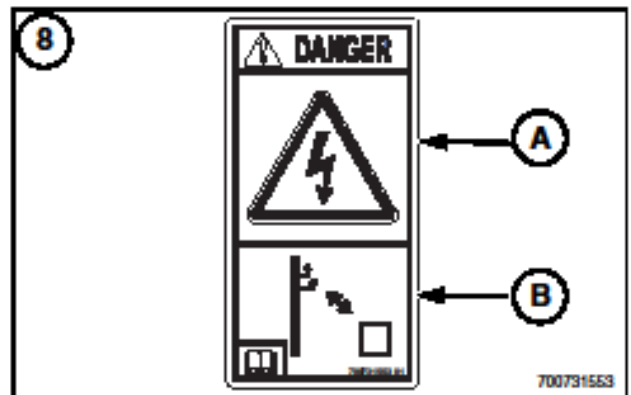


FIG. 29

700731553

FIG. 30: The maximum transport speed of this machine is 15 mph (9).



FIG. 30

700731295

SAFETY

FIG. 31: The air compressor (1) for the pneumatic down pressure is inside the hitch enclosure box.

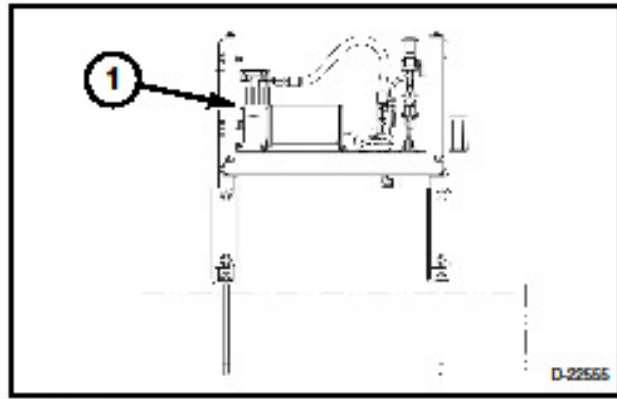


FIG. 31

FIG. 32: Compressor - Warning sign (1)

Hazard (A) - Hand and finger burn hazard - hot surfaces.

Avoidance (B) - Stay clear and do not touch hot surfaces.

Read the Operator Manual for safety information and operating instructions before operating the machine.

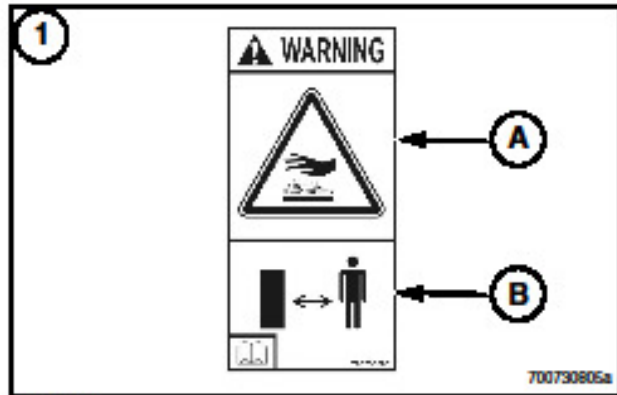


FIG. 32

700730805A

FIG. 33: Compressor - Danger sign (2)

Hazard (A) - Explosion hazard - air compressor contains air under pressure.

Avoidance (B) - Shut off engine, remove key, and relieve pressure before performing maintenance or repair work. See service manual for proper repair procedures.

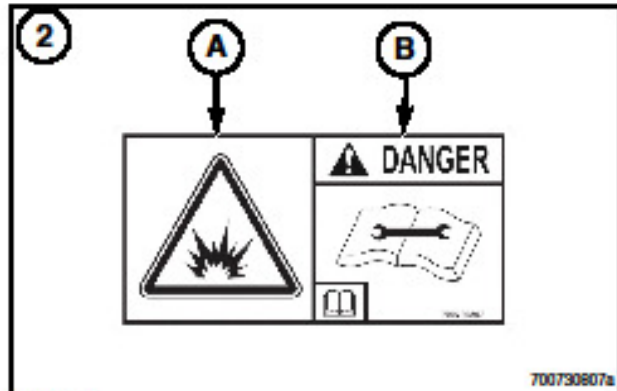


FIG. 33

700730807A

FIG. 34: The hydraulic jack (1)

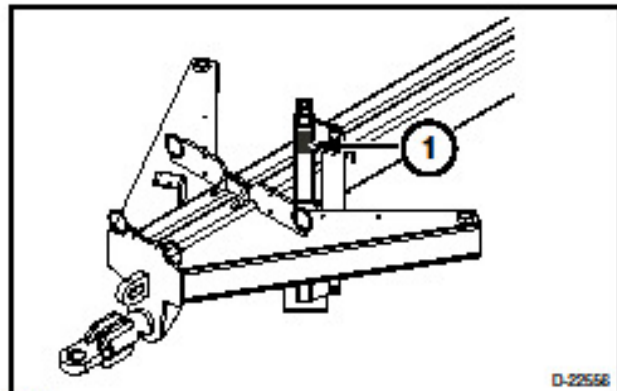


FIG. 34

D-22558

FIG. 35: Warning sign (1)

Hazard (A) - Foot crushing hazard - part may lower without warning.

Avoidance (B) - Stay clear of this area.

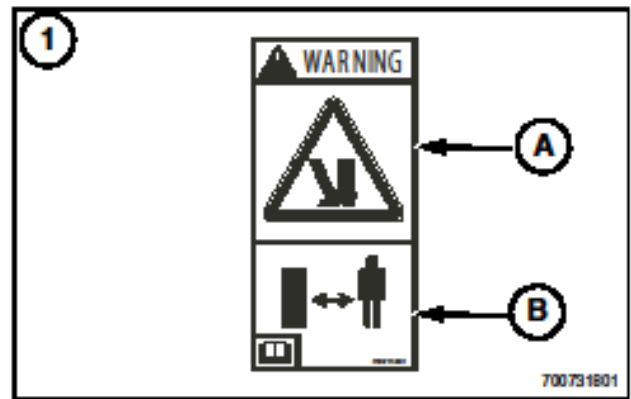


FIG. 35

700731801

SAFETY

FIG. 36: Front frame (1)

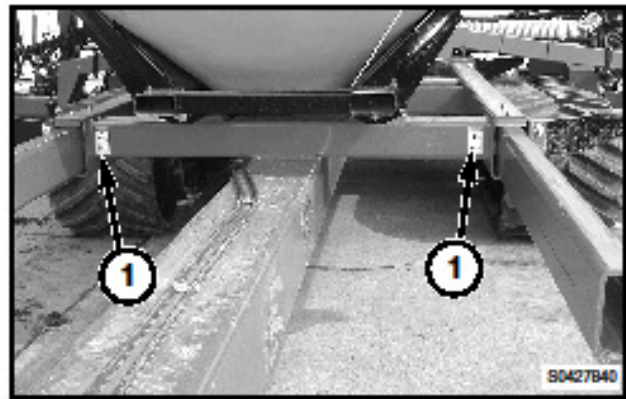


FIG. 36

FIG. 37: Warning sign (1)

Hazard (A) - Crushing/shearing hazard - fingers and hand.

Avoidance (B) - Stay clear of this area while engine and machine are operating.

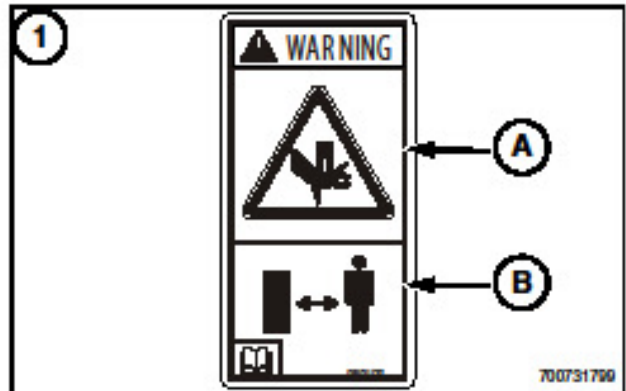


FIG. 37

700731799

FIG. 38: Wing brace, each side, Danger sign (1)

Hazard (A) - Crushing hazard - planter frame movement.

Avoidance (B) - Stay clear of this area while engine and machine are operating.

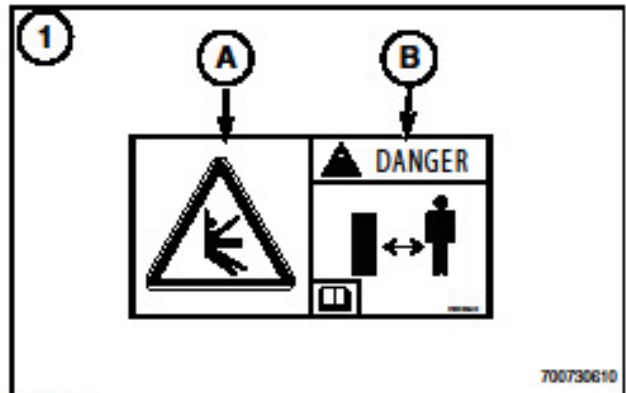


FIG. 38

700730610

FIG. 39: Rear of the frame (1) and (2)

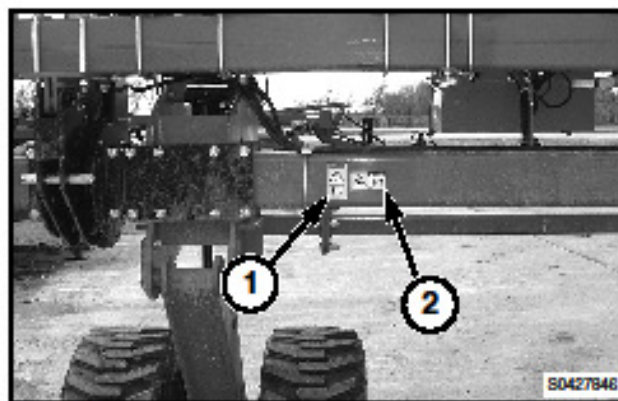


FIG. 39

FIG. 40: Warning sign (1)

Hazard (A) - Crushing hazard - row marker drop.

Avoidance (B) - Stay clear of area around row marker when engine is running.

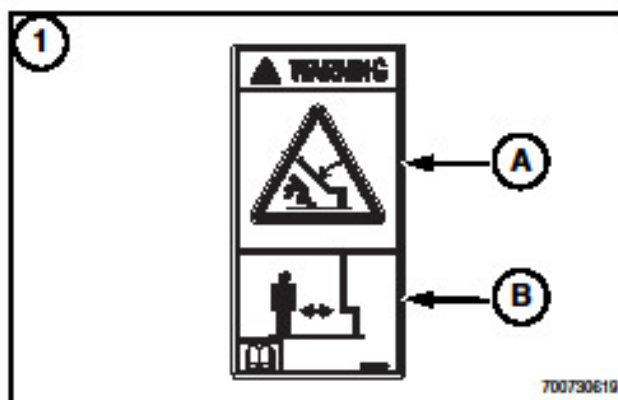


FIG. 40

700730619

FIG. 41: Danger sign (2)

Hazard (A) - Crushing hazard - planter frame movement.

Avoidance (B) - Stay clear of this area while engine and machine are operating.

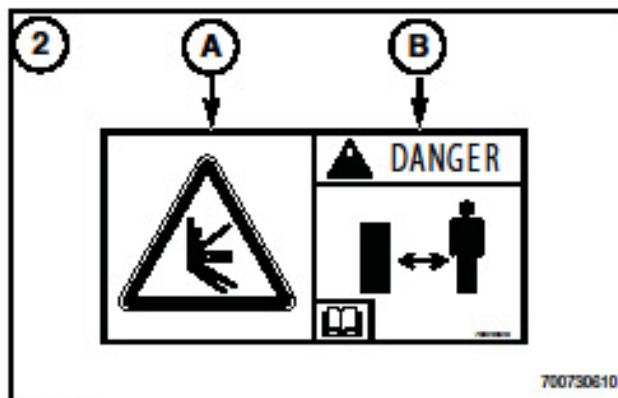


FIG. 41

700730610

SAFETY

FIG. 42: Wheel lift cylinder stops (1)

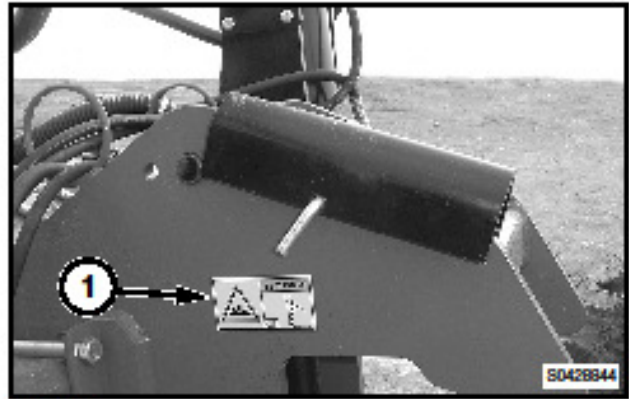


FIG. 42

FIG. 43: Warning sign (1)

Hazard (A) - Crushing hazard, planter frame drop.

Avoidance (B) - Install lift cylinder lockups before working on the machine.

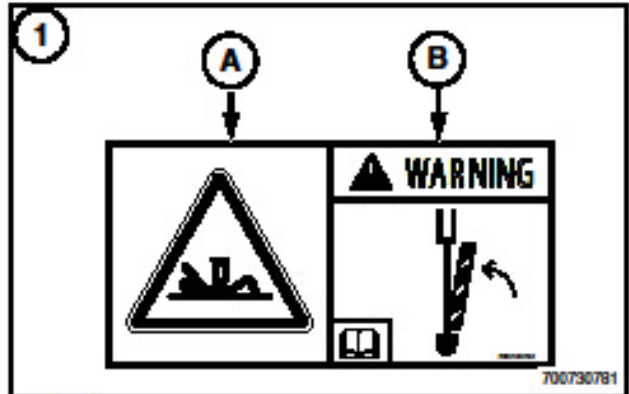


FIG. 43

700730781

FIG. 44: Side panel by the transport pad, both sides, Warning sign (1)

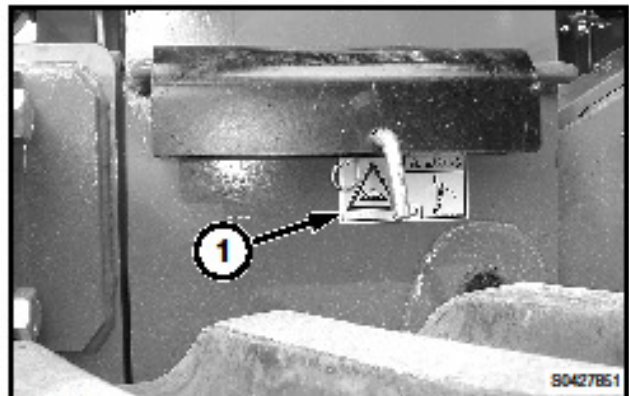


FIG. 44

FIG. 45: Warning sign (1)

Hazard (A) - Crushing hazard, planter frame drop.

Avoidance (B) - Install lift cylinder lockups before working on the machine.

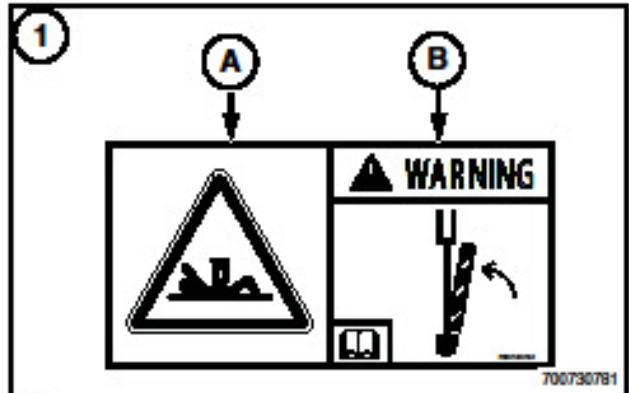


FIG. 45

700730781

FIG. 46: Center section Danger sign (1) and Warning sign (2)- each end

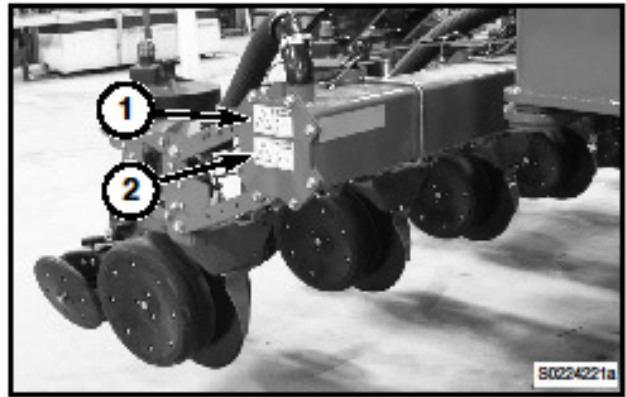


FIG. 46

FIG. 47: Danger sign (1)

Hazard (A) - Crushing hazard - risk of personal injury.

Avoidance (B) - Keep a safe distance from the machine while engine and machine are operating.

Read the Operator Manual for safety information and operating instructions before operating the machine.

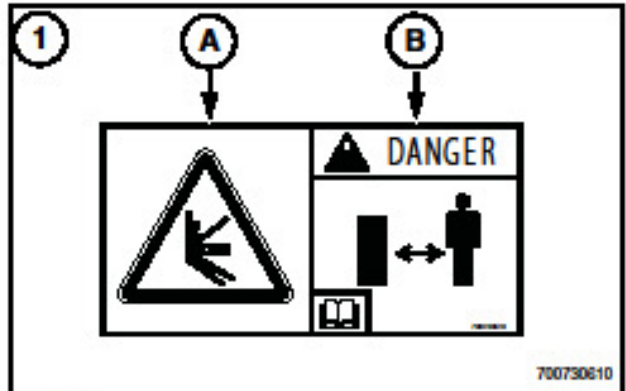


FIG. 47

700730610

700730610

FIG. 48: Warning sign (2)

Hazard (A) - Crushing hazard – Toolbar mounted row units dropping

Avoidance (B) - Stay clear of area around the row units mounted on the toolbar when the engine is running.

Read the Operator Manual for safety information and operating instructions before operating the machine.

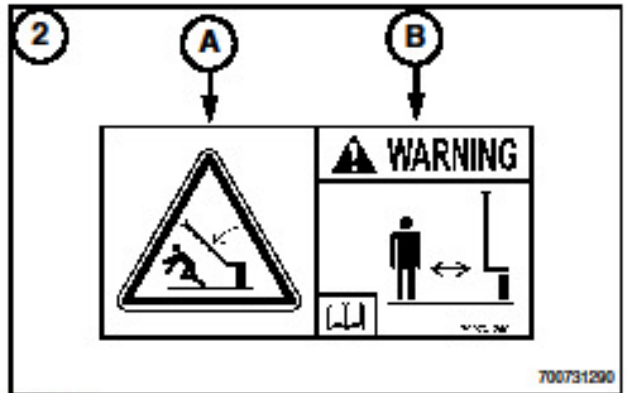


FIG. 48

700731290

700731290

SAFETY

FIG. 49: The back of the central fill hoppers, Warning sign (1)

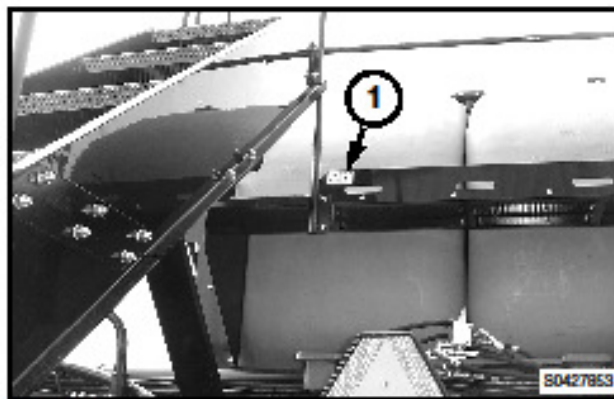


FIG. 49

FIG. 50: Warning sign (1)

Hazard (A) - Falling off hazard.

Avoidance (B) - Do not ride on the machine when it is operating or moving.

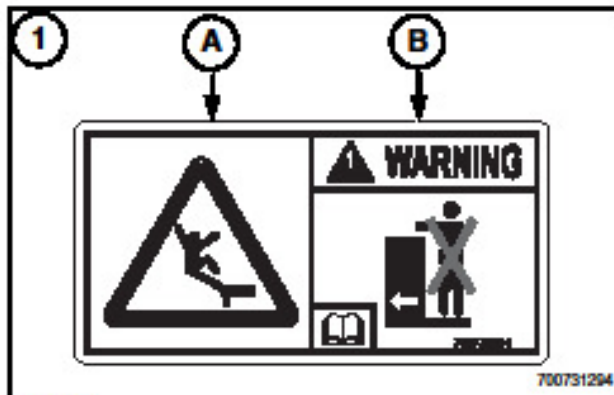


FIG. 50

700731294

FIG. 51: Top of the central fill hoppers, Warning sign (1)

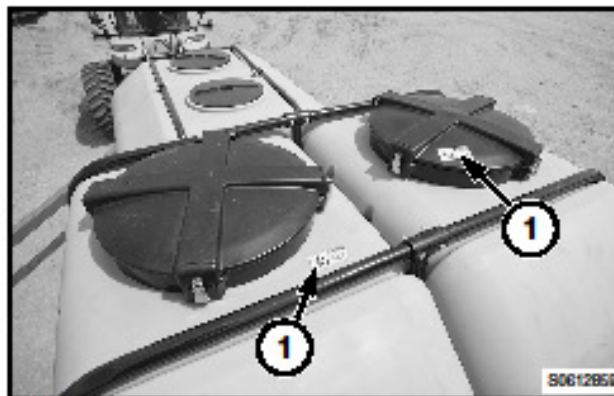


FIG. 51

50612859

FIG. 52: Warning sign (1)

Hazard (A) - Chemical injection hazard, lungs - opening the cover.

Avoidance (B) - Refer to the Operator's Manual and the chemical manufacturer's instructions.

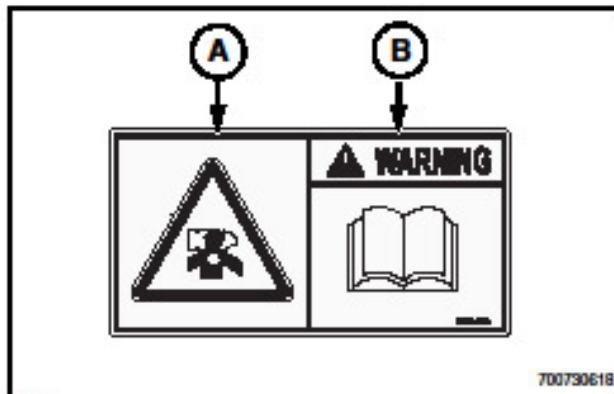


FIG. 52

700730618

FIG. 53: Outer left-hand and right-hand row units, Warning sign (1).

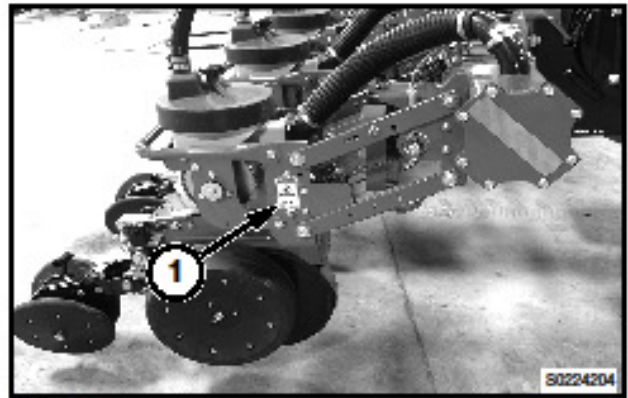


FIG. 53

FIG. 54: Warning sign (1)

Hazard (A) - Crushing/shearing hazard - fingers and hand.

Avoidance (B) - Stay clear of this area while engine and machine are operating.

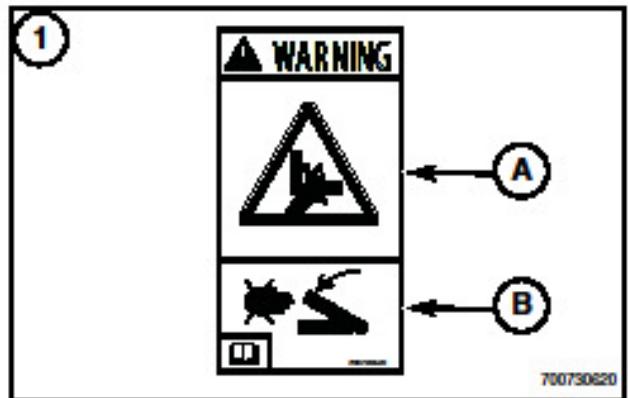


FIG. 54

700730620

FIG. 55: Row Unit Residue Manager, Caution sign (1)

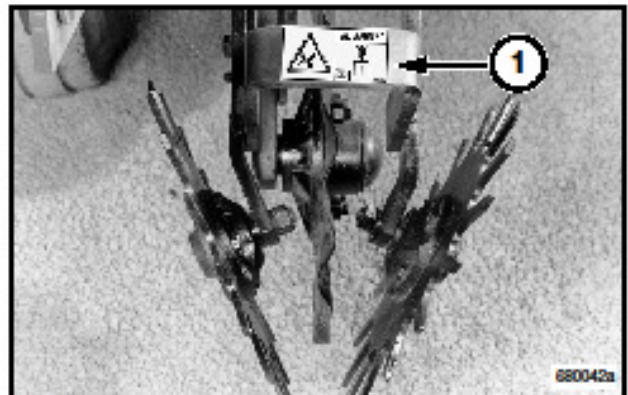


FIG. 55

680042a

FIG. 56: Caution sign (1)

Hazard (A) - Shearing hazard, finger - rotating sharp components.

Avoidance (B) - Do not reach around the shield to make adjustments.

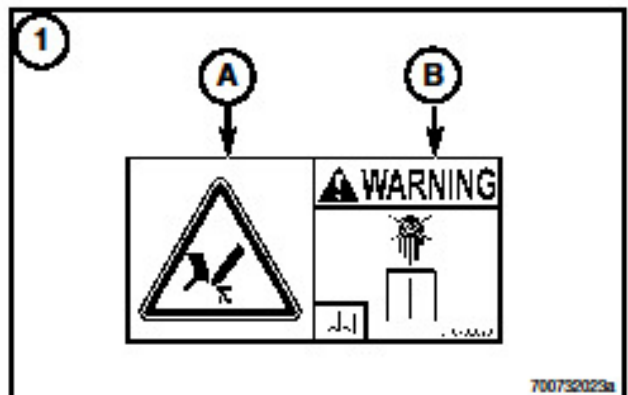


FIG. 56

700732023a

700732023A

SAFETY

LOCKUP DEVICES

Transport pins must be put in place before transporting and storing the planter.

Model 8936-30: Two pins on the right-hand and left-hand inner wing, two on the outer wing. 8 total.

Model 8936-22: Two pins on the right-hand and left-hand wings. 4 total.

Model 8936-20: Two pins on the right-hand and left-hand wings. 4 total.

FIG. 57: Service and maintenance cylinder locks. To lock the row unit toolbar in the raised position, move the transport pin from the storage position (1) to the locked position (2).

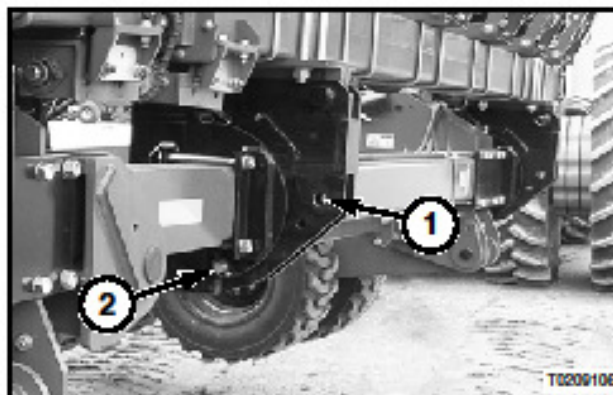


FIG. 57

CYLINDER STOP

FIG. 58: Storage for cylinder stops (1).

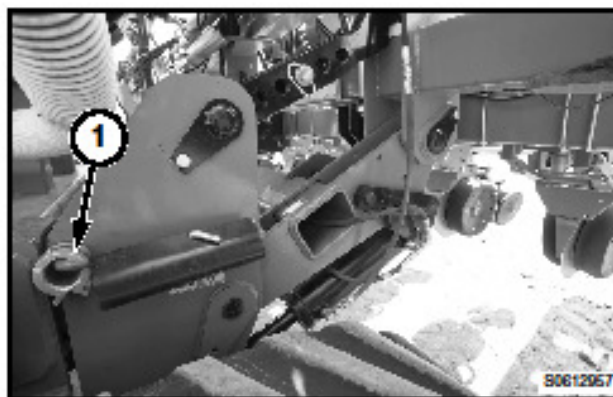


FIG. 58

REFLECTORS

Center Section

FIG. 59: Outer Rows, Center Section

(1) Yellow reflector

NOTE: Reflectors same locations on both sides of planter.



FIG. 59

Toolbar Sections

FIG. 60: Yellow reflector (1)

A yellow reflector on the front outer side of each center section.

NOTE: Reflectors same locations on both sides of planter.

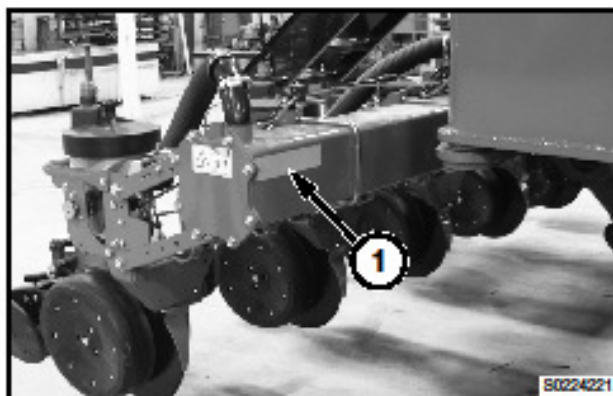


FIG. 60

FIG. 61: Outer left-hand and right-hand row units, yellow reflector (1).

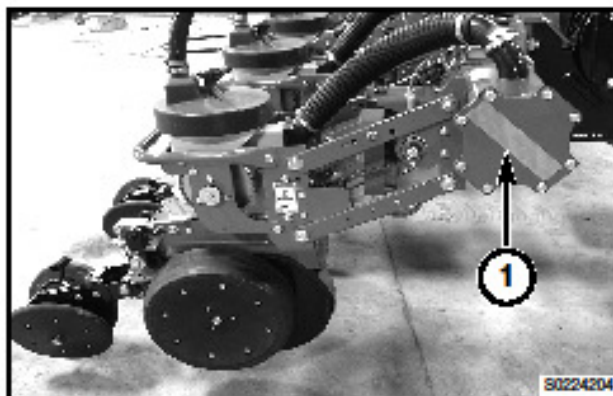


FIG. 61

SAFETY

FIG. 62: The wings, on both sides, yellow reflector (1).

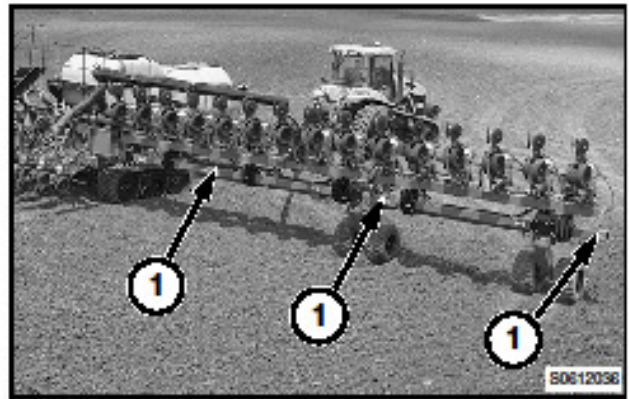


FIG. 62

GENERAL

Model 8936 30-Row Forward Fold Planter with Central Fill System.

8900 Series Forward Fold Planters are designed, built and tested to make sure high quality, maximum strength and long service life. This machine features positive air metering and hydraulic seed drive for accurate seed spacing.

This manual contains information necessary for correct adjustment and operation of your planter. Read this manual carefully.



WARNING: Pictures in this manual can show protective shields and guards opened or removed for illustration purposes. **MAKE SURE ALL SHIELDS AND GUARDS ARE IN PLACE DURING OPERATION.**

This manual must remain with machine when sold.

This manual was prepared from the latest information available at publication time. The Company reserves the right to make changes at any time without notice or obligation.

SERIAL NUMBER PLATE LOCATION

FIG. 1: Row unit toolbar: The serial number plate (1) is located on the left-hand side of the row unit toolbar.

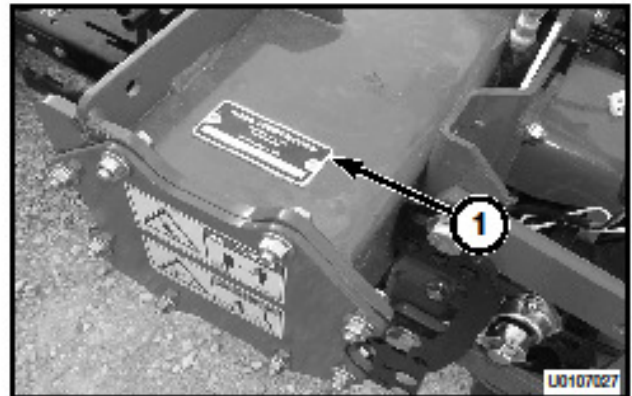


FIG. 1

FIG. 2: Frame: The serial number plate (1) is located on the right-hand side of the main tongue.

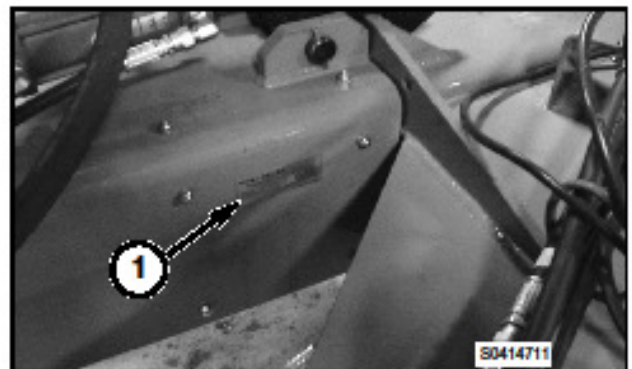


FIG. 2

GENERAL INFORMATION

SERIAL NUMBER DEFINITION (2010 AND UP)

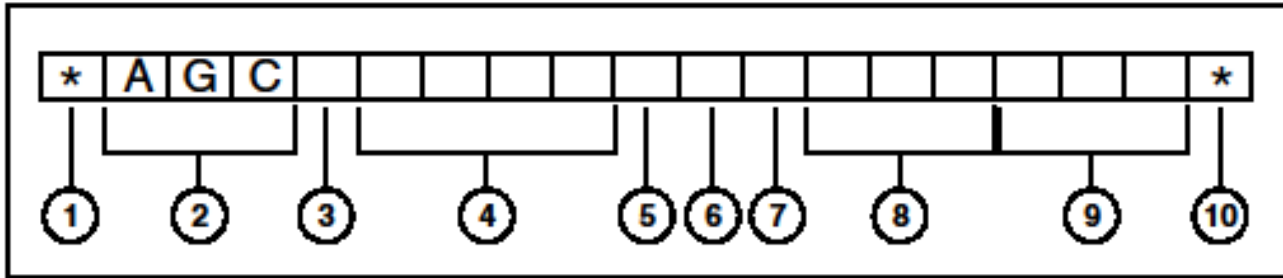


FIG. 3

FIG. 3: Definition of the serial number for model year 2010 and up.

- (1) Beginning symbol
- (2) World Manufacturer Code
- (3) Brand Code
- (4) Model Identifier (Model number)
- (5) Check Letter (0 or used if model identifier is five digits)
- (6) Model Year Code (A=2010, B=2011, C=2012, and on)
- (7) Plant Code
- (8) Family Code
- (9) Unit Number for the Year
- (10) Ending symbol

NOTE: For serial number breaks in this manual, only the information from the model year code and following will be given.

MACHINE IDENTIFICATION

NOTE: Always quote the serial number in any communication to your Dealer.

Machine Model No.: _____

Machine Serial No.: _____

Date of Delivery: _____

Dealer Name and Address: _____

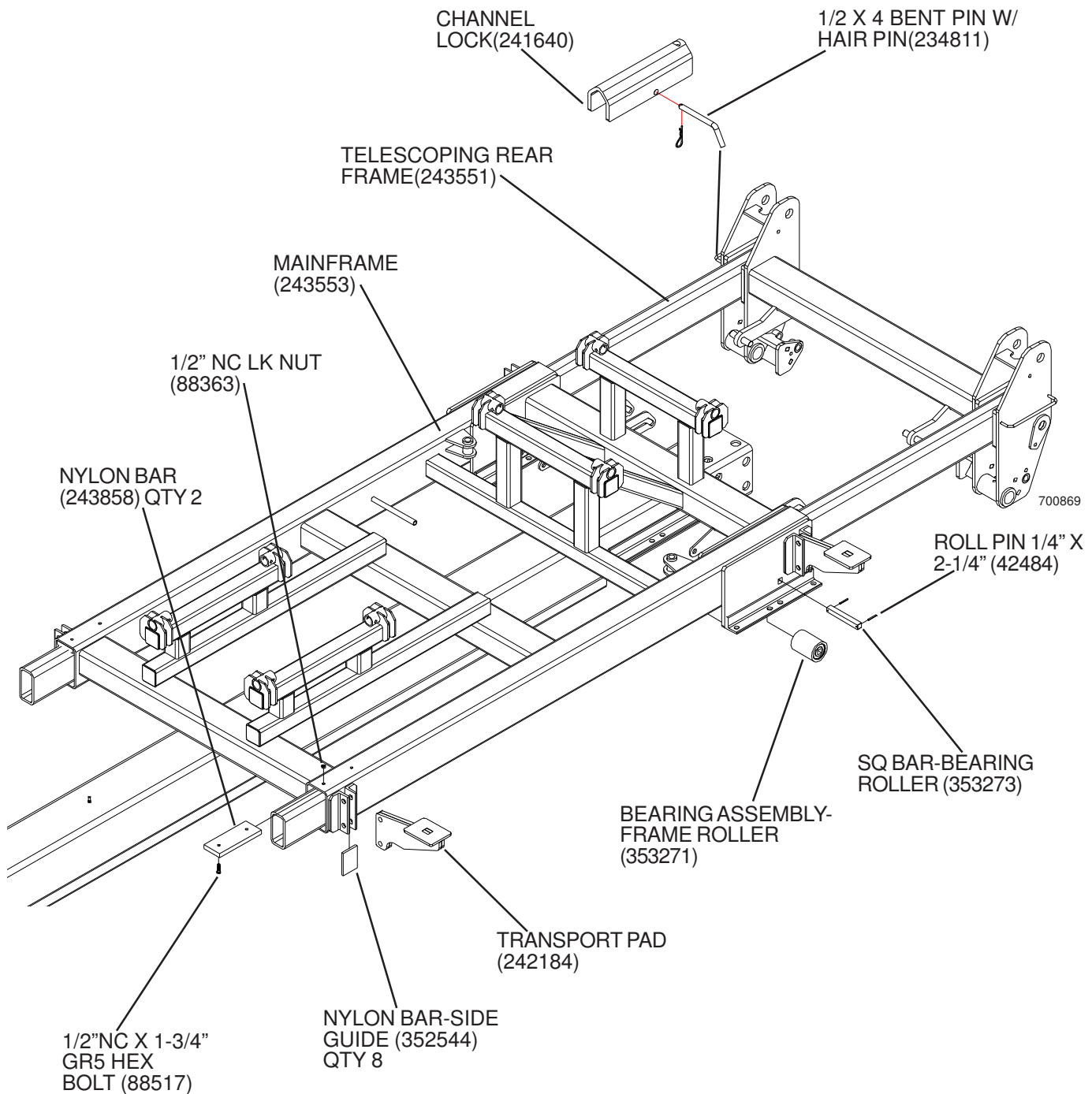
Dealer's Telephone No.: _____

Dealer's Fax No.: _____

ASSEMBLY SEQUENCE

- 1.) LH & RH TRACK ASSEMBLIES INTO MAIN AXLE (TREAD RUNS BACKWARDS & TURNBUCKLES FACE FRONT)
- 2.) MAINFRAME & AXLE
- 3.) SLIDE TONGUE INTO MAINFRAME
- 4.) ASSEMBLE FRONT END COMPONENTS
 - A.) HYD JACK
 - B.) TONGUE LATCH
 - C.) SWIVEL HITCH
 - D.) PARTS BOOK TUBE
 - E.) SAFETY CHAIN
- 5.) LOWER LIFT ARM
- 6.) MAIN LIFT CYLINDERS & FLOATING LINK (CENTER SECTION)
- 7.) CENTER SECTION & TOP LINK ARMS
- 8.) MAIN HINGES & FOLD CYLINDERS
- 9.) LH & RH WING TUBES
- 10.) TOWERS & BEARING ASSEMBLIES (TILTING MECHANISM)
- 11.) WING WHEEL ASSEMBLIES (TREAD RUNS BACKWARDS)
- 12.) BRACE ARMS
- 13.) HYDRAULIC HOSES
- 14.) LIGHTS, SMV & DECALS

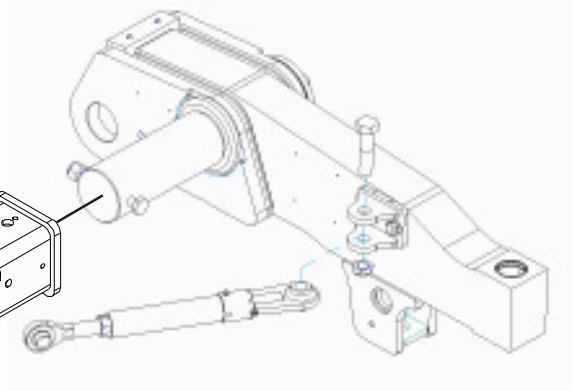
MAINFRAME & TELESCOPING REAR FRAME



INSERT NYLON PADS INTO MAINFRAME(352544) APPLY A SMALL AMOUNT OF GREASE TO CENTER OF PAD TO HOLD IN PLACE UNTIL REAR FRAME IS IN PLACE. ASSEMBLE AND BOLT IN PLACE ALL ITEMS SHOWN BEFORE INSERTING REAR FRAME.

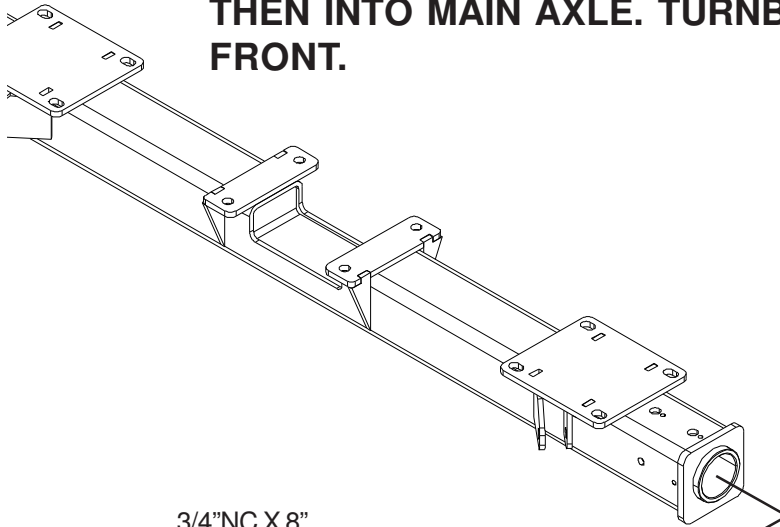
AXLE & TRACKS

MAIN AXLE
120" CENTERS (354431)
110" CENTERS (354433)



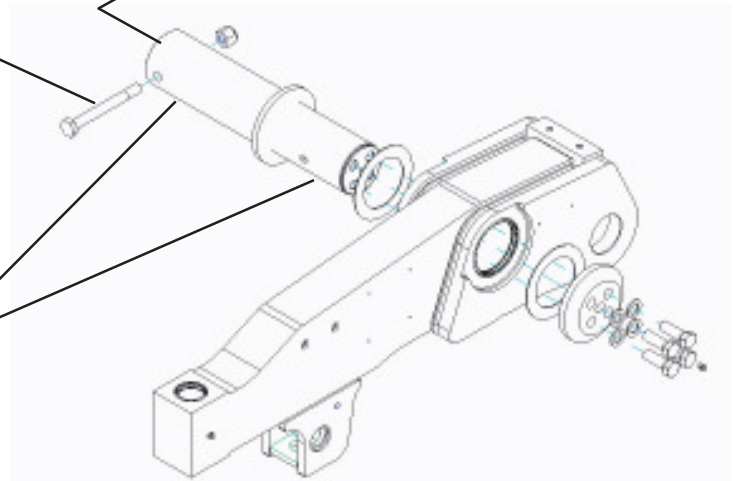
NEW AXLE 2014

ASSEMBLE AXLE PINS INTO TRACK CARRIAGE FIRST AND THEN INTO MAIN AXLE. TURNBUCKLES FACE THE FRONT.

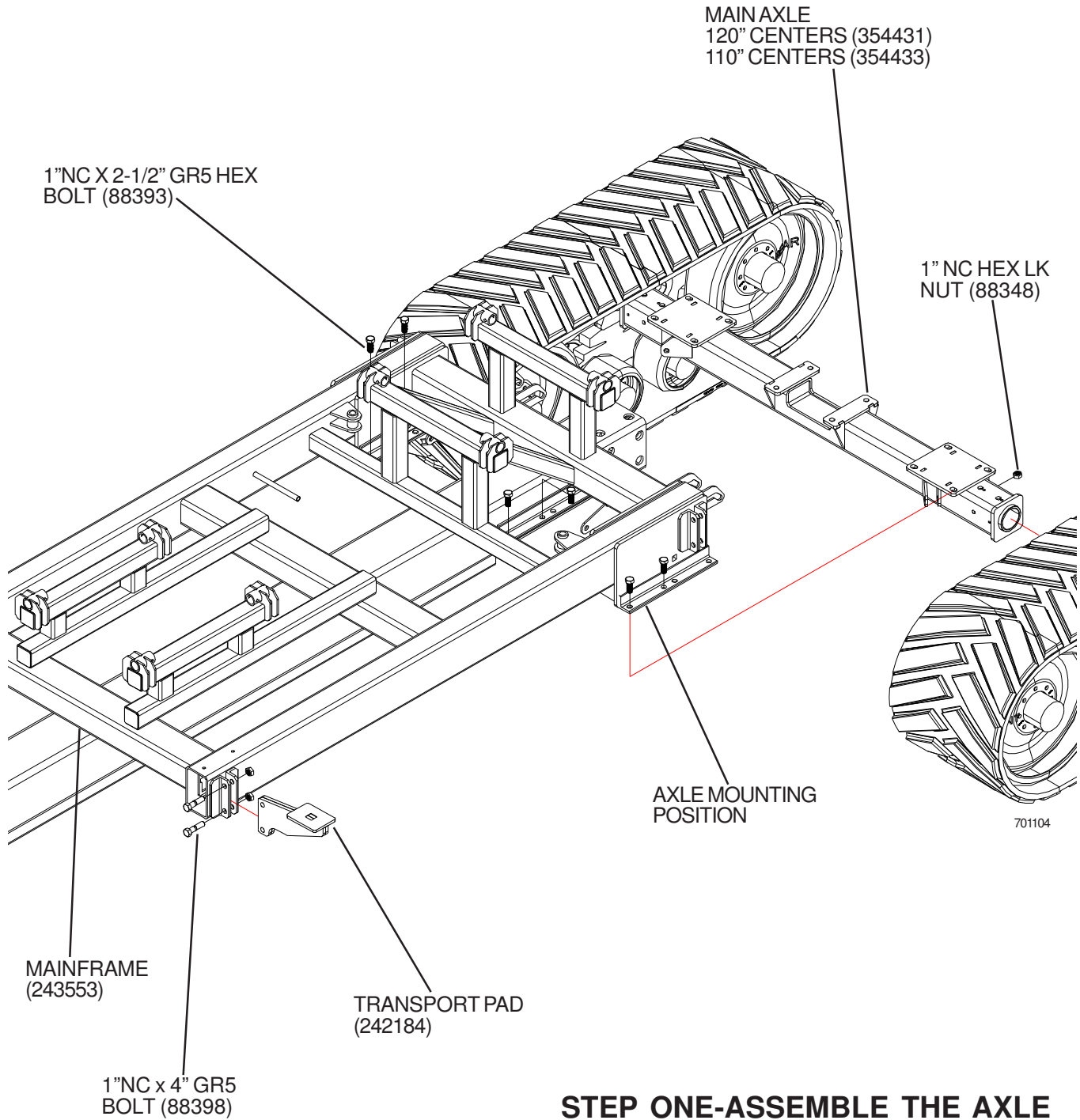


3/4"NC X 8"
GR8 HEX BOLT
(89408)

GREASE THIS SURFACE



AXLE & TRANSPORT PAD

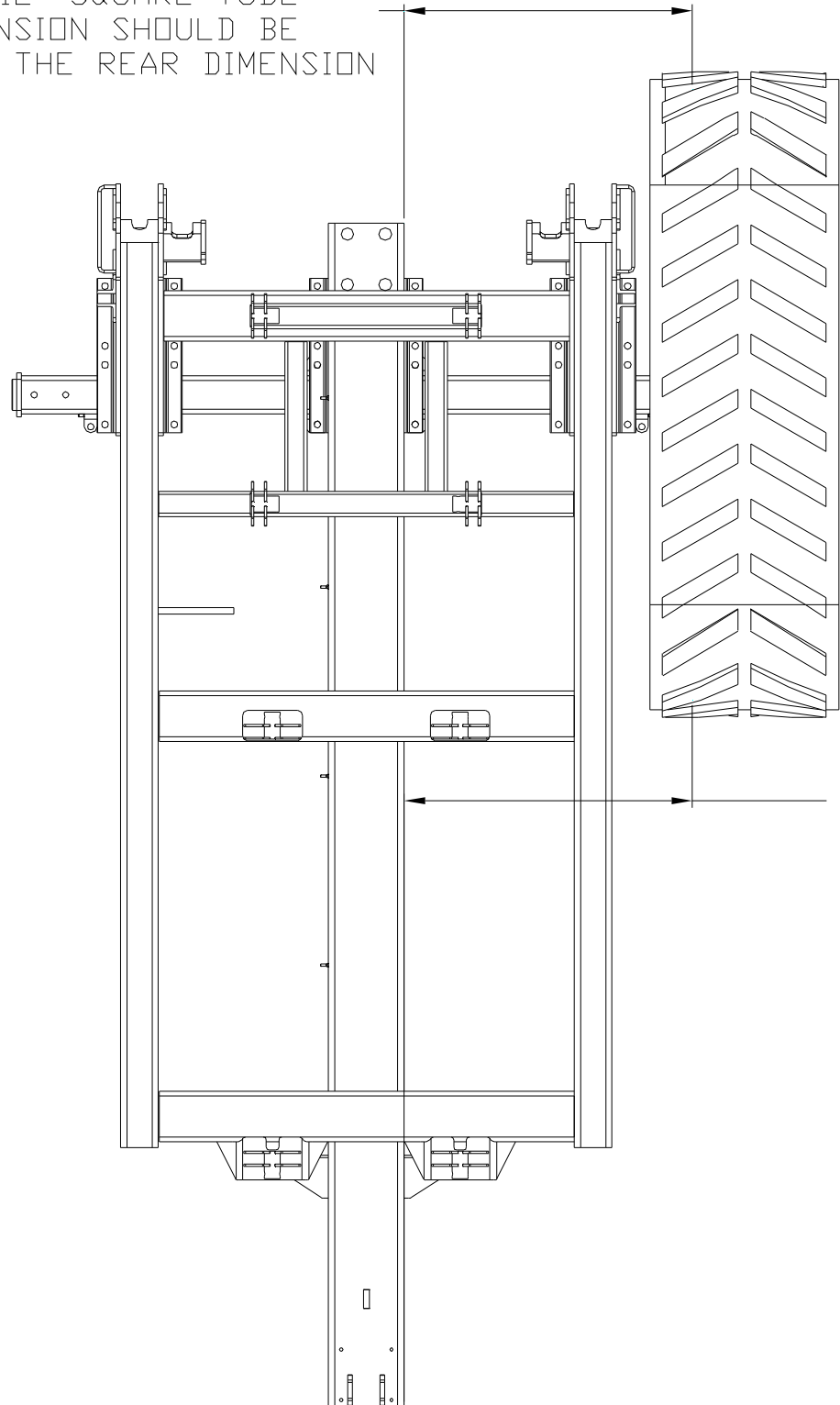


STEP ONE-ASSEMBLE THE AXLE BETWEEN EACH TRACK ASSEMBLY USING THE 4-1/2" DIA PINS.

STEP TWO-SET THE MAINFRAME ON TOP OF THE AXLE.

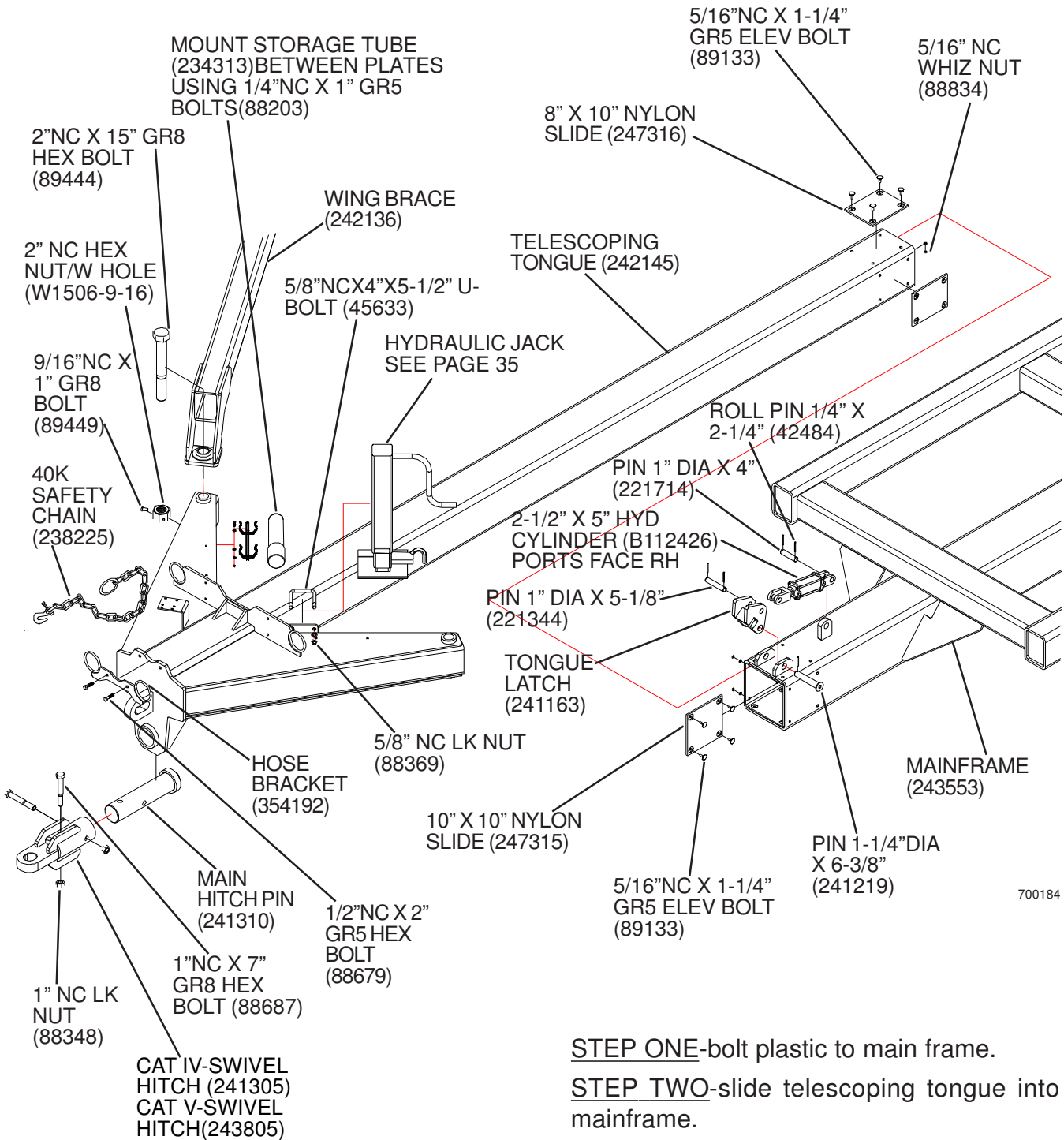
RUBBER TRACK CARRIAGE SYSTEM

DIMENSION FROM INSIDE RIM
CENTER TO 12" SQUARE TUBE
FRONT DIMENSION SHOULD BE
1/8" MORE THAN THE REAR DIMENSION



700204

TELESCOPING TONGUE



700184

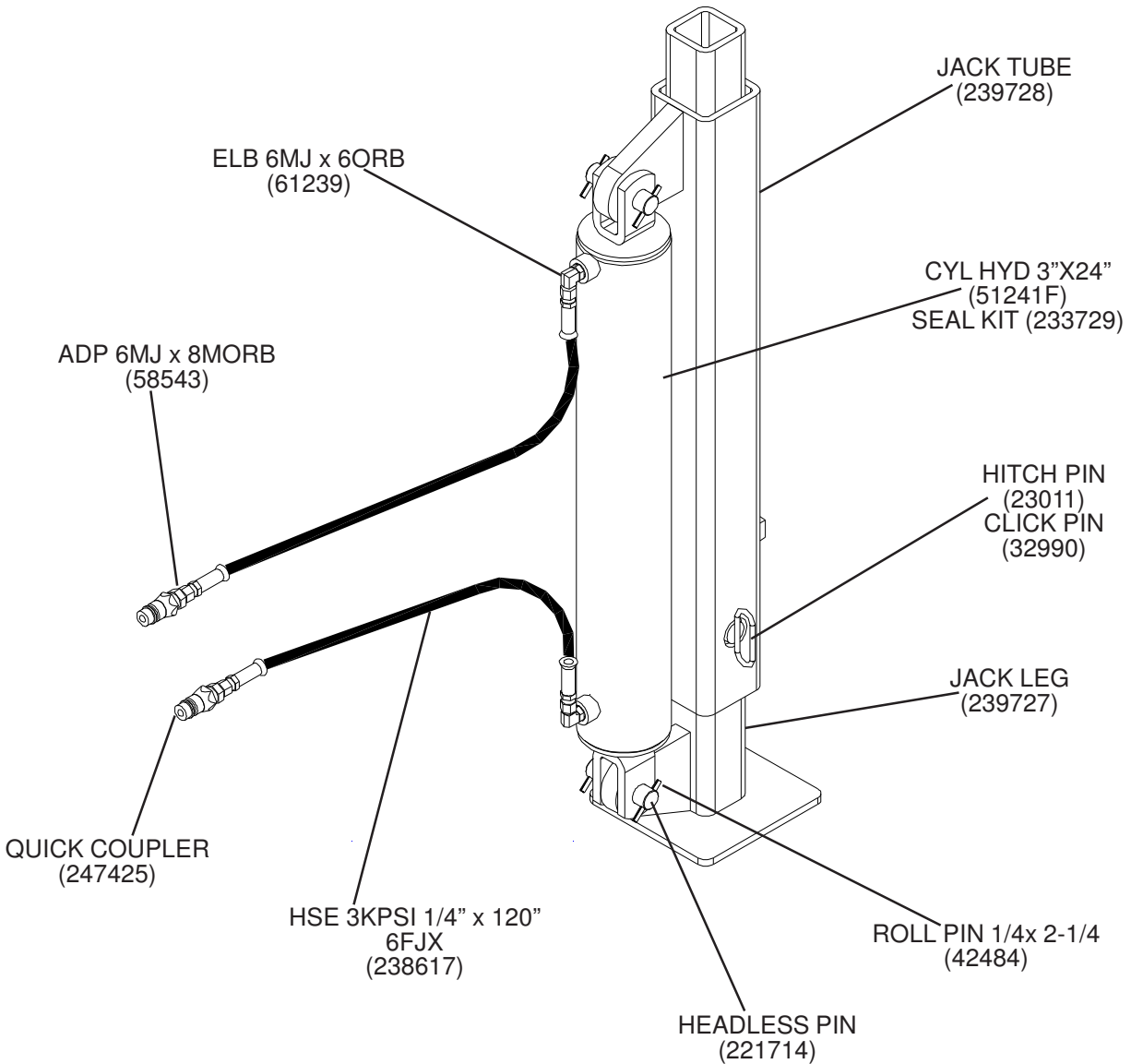
**2-1/2" X 5" HYD CYLINDER (B112426)
PORTS FACE RH & CLEVIS BOLT MUST
BE ON TOP**

STEP ONE-bolt plastic to main frame.

STEP TWO-slide telescoping tongue into mainframe.

STEP THREE-bolt plastic to telescoping tongue using the large holes at the rear of the main frame.

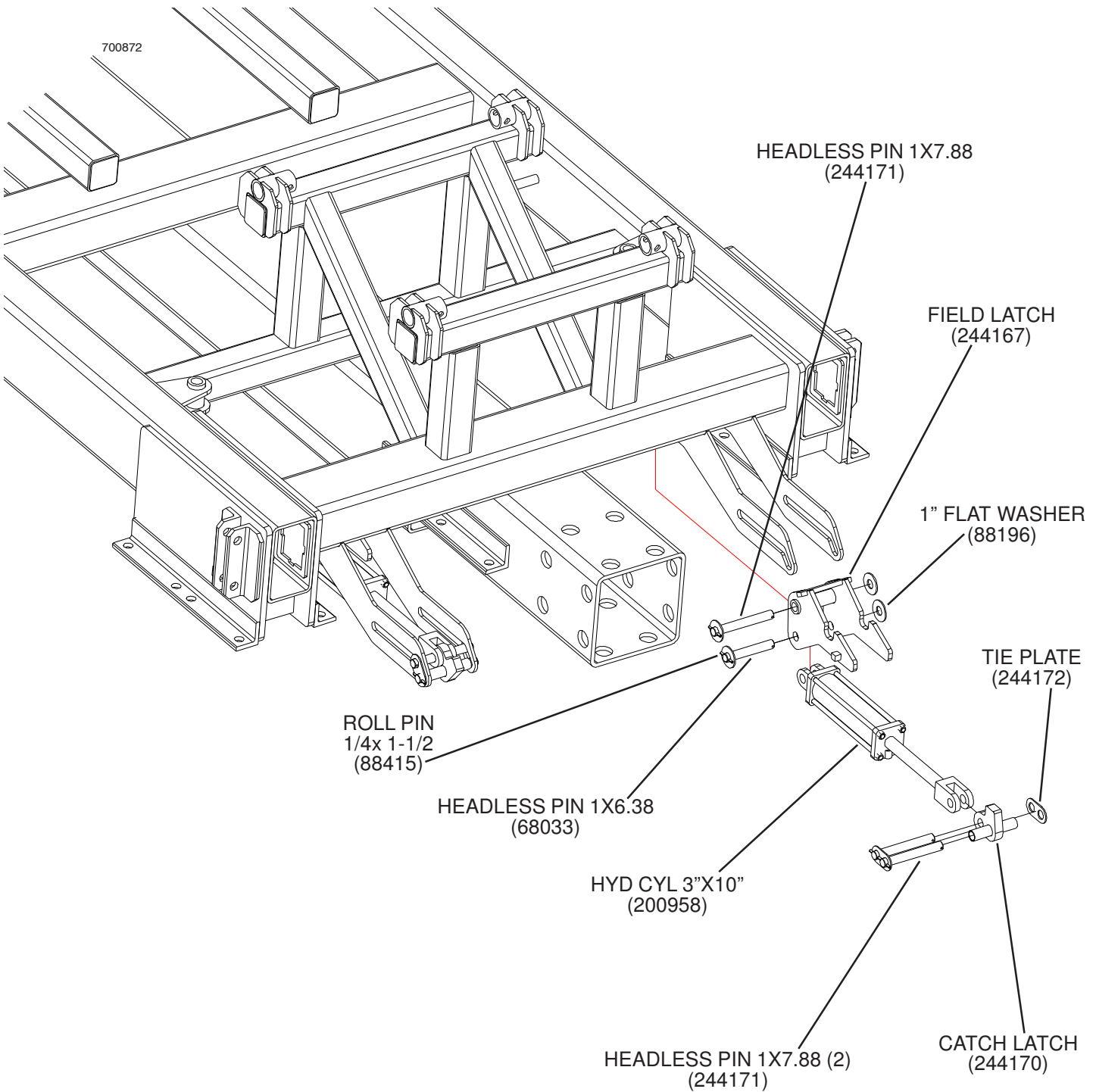
HYDRAULIC JACK



WARNING

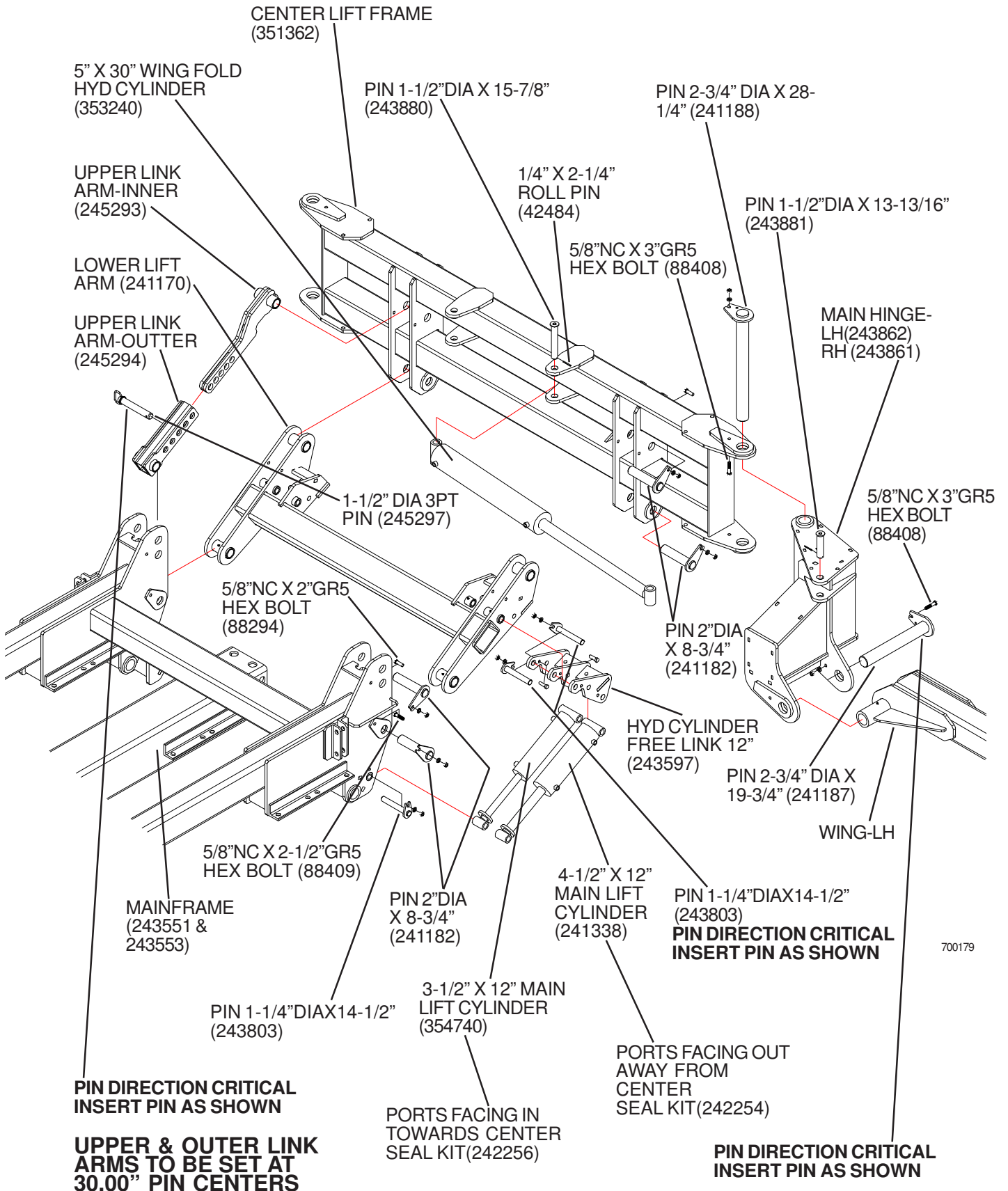
JACK MUST BE PINNED IN THE UPPER OR LOWER POSITION AT ALL TIMES. IT SHOULD ONLY BE UNPINNED WHEN USING THE JACK FOR ATTACHING TO A TRACTOR OR SERIOUS INJURY OR DEATH MAY RESULT.

LATCH-REAR TELESCOPING FRAME



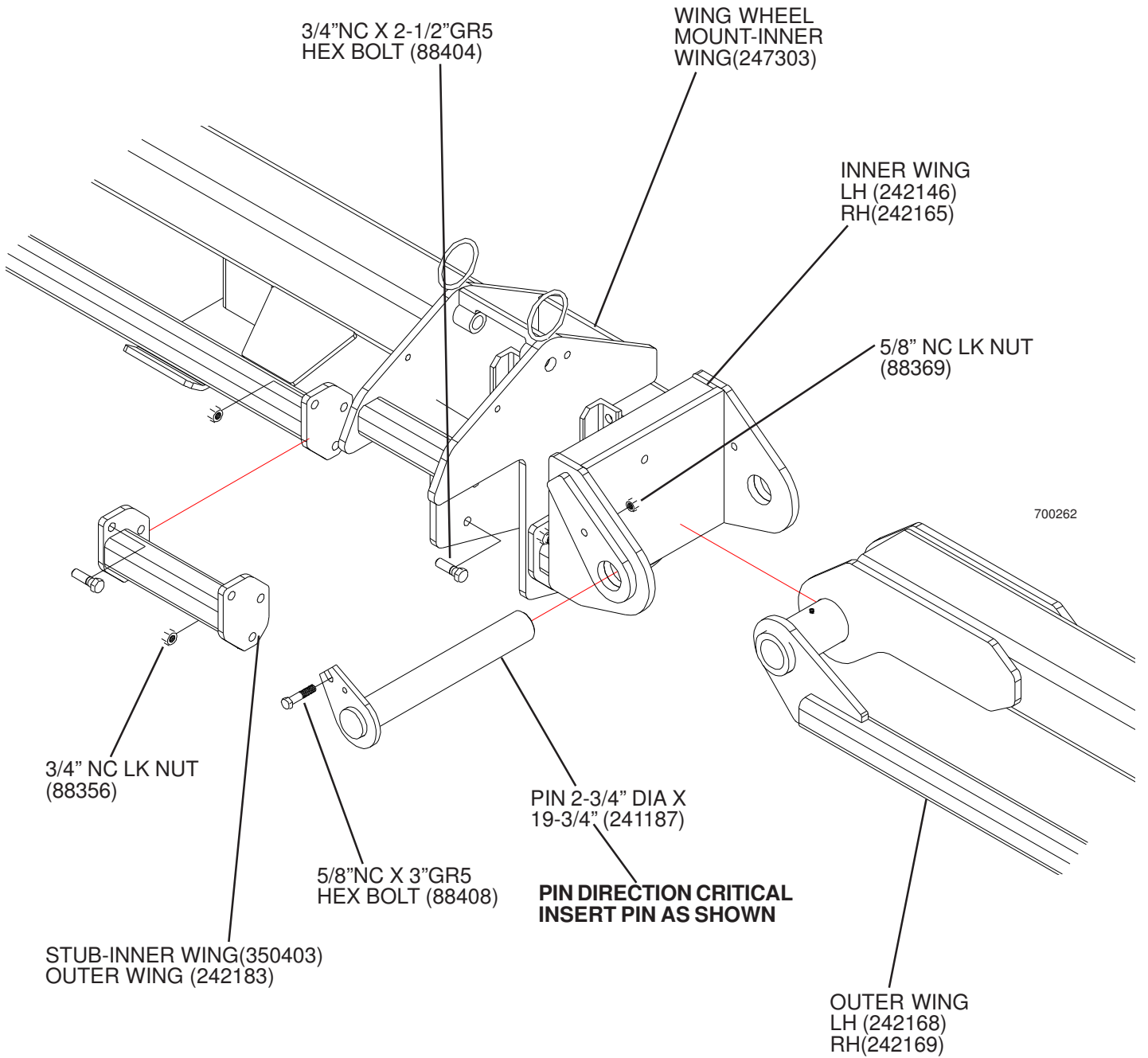
MOUNT HYDRAULIC CYLINDER WITH BUTT END FACING FORWARD AND PORTS FACING DOWN. ASSEMBLE AND PLACE HYDRAULIC FITTINGS AND HOSES ON TOP OF 12" SQ TUBE DIRECTLY UNDER THE SEED TANKS.

CENTER LIFT FRAME & MAIN HINGE

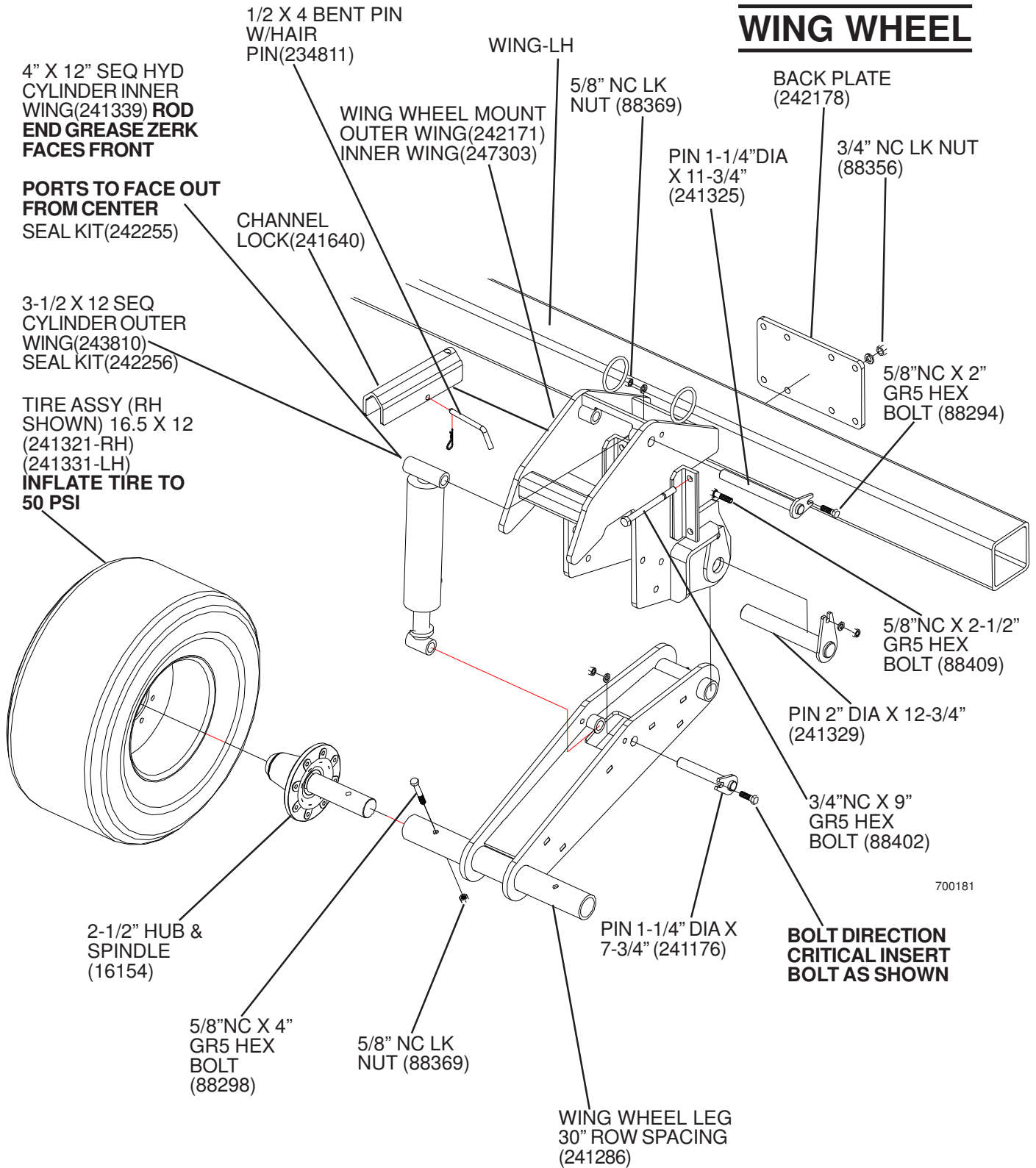


DEPTH STOP COLLARS SHOULD BE USED ON ALL LIFT CYLINDERS.

OUTER WING HINGE



WING WHEEL

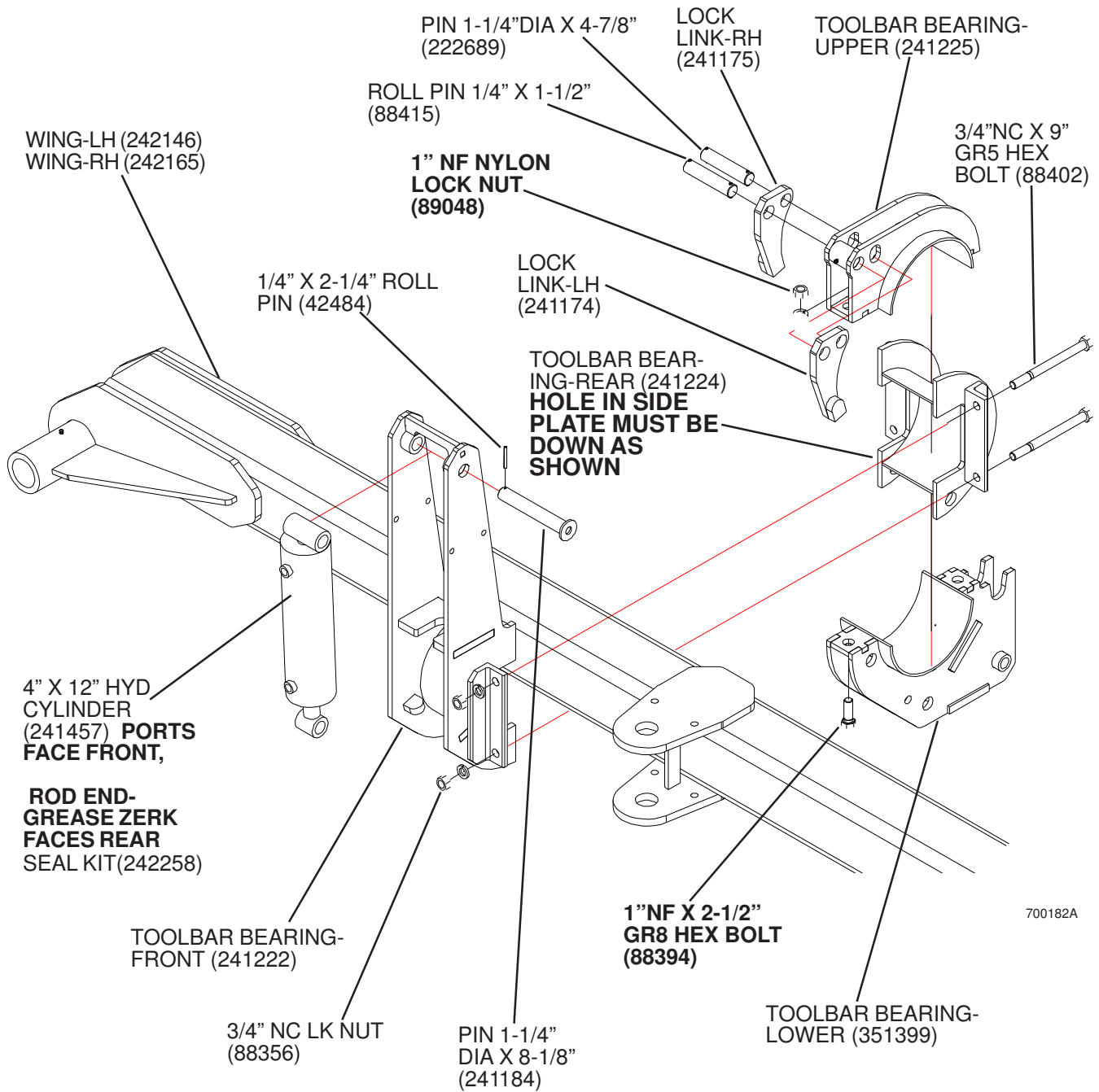


700181

PIN (241325) TO BE INSERTED FROM THE OPPOSITE SIDE AS ITEM 241222 SEE PAGE 78

DEPTH STOP COLLARS SHOULD BE USED ON ALL LIFT CYLINDERS.

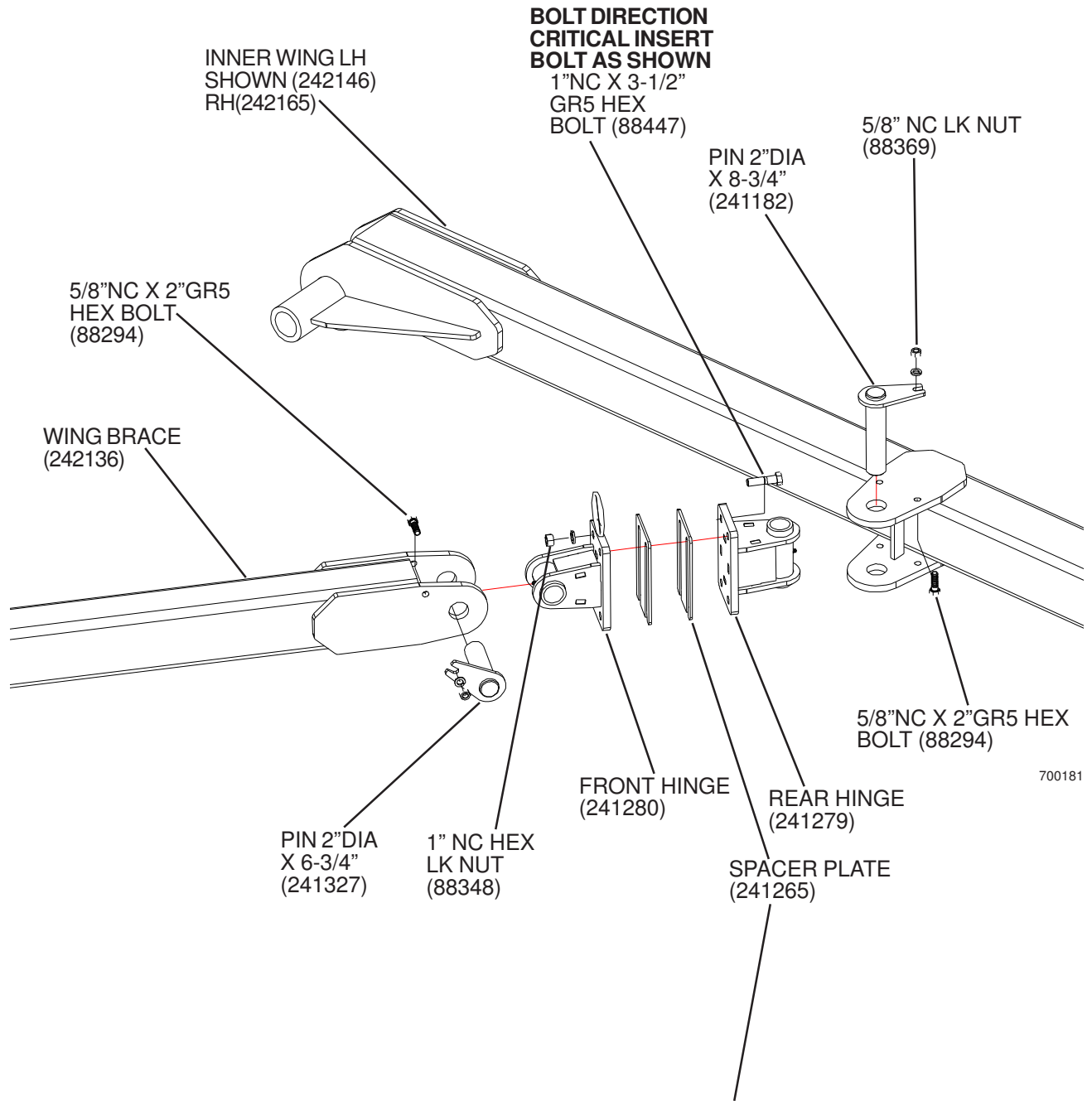
BEARING W/TILT CYLINDER



BEFORE TIGHTENING 88394 GREASE ITEMS 241225 & 351399

SEE PAGES 78 FOR BEARING LOCATIONS

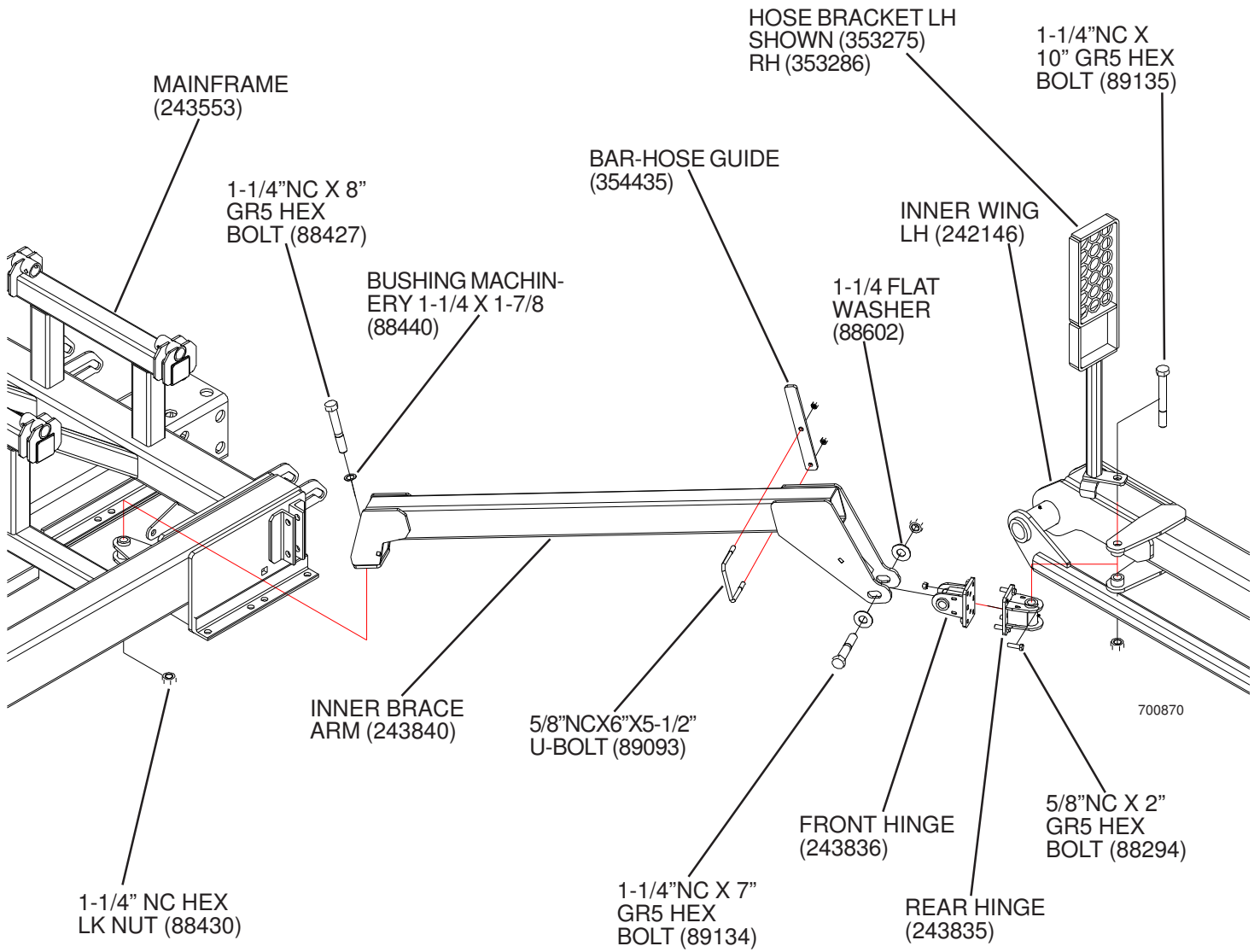
OUTER BRACE ARM & KNUCKLE



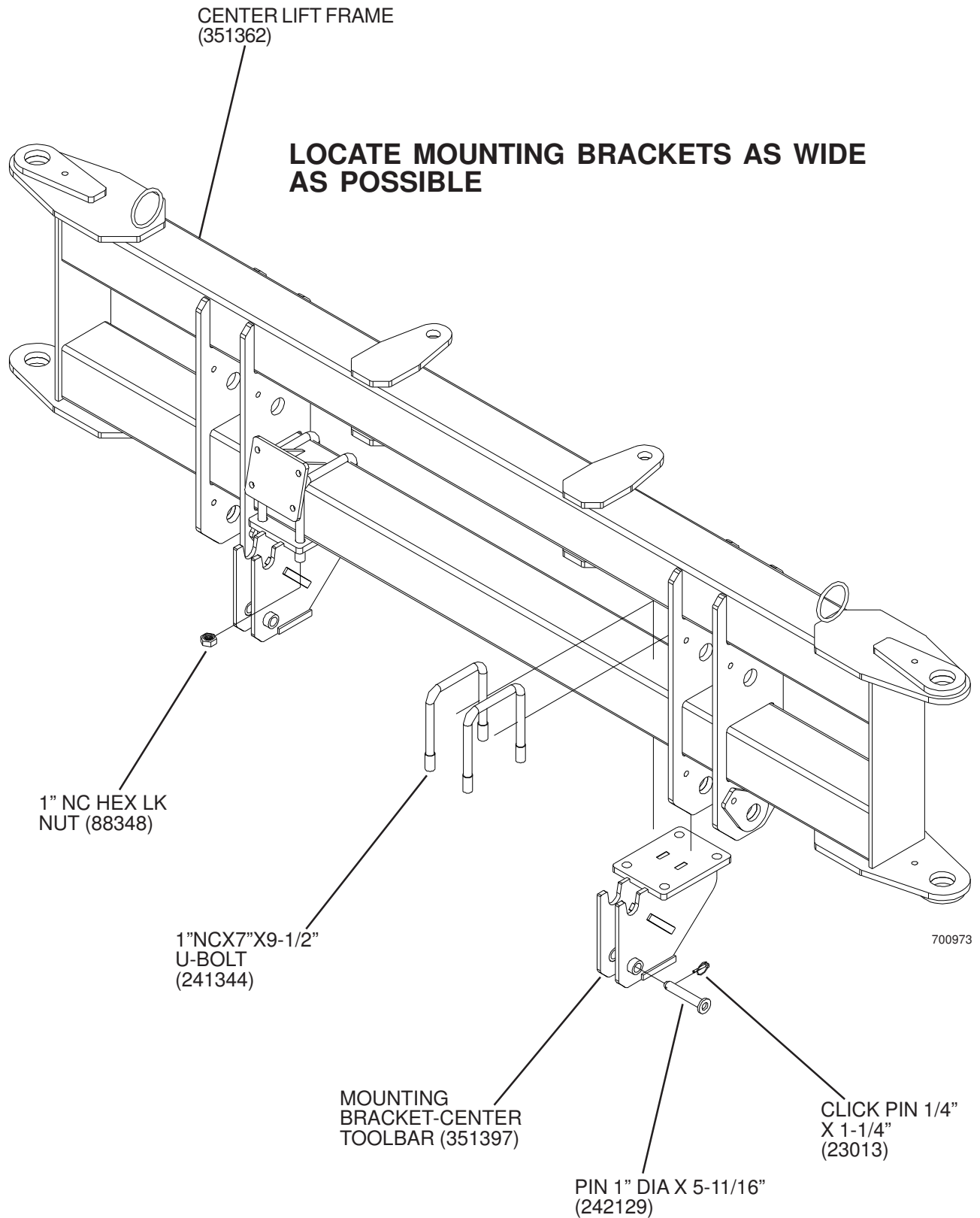
700181

Spacer plates are used to straighten wings from front to back (parallel with center section.)

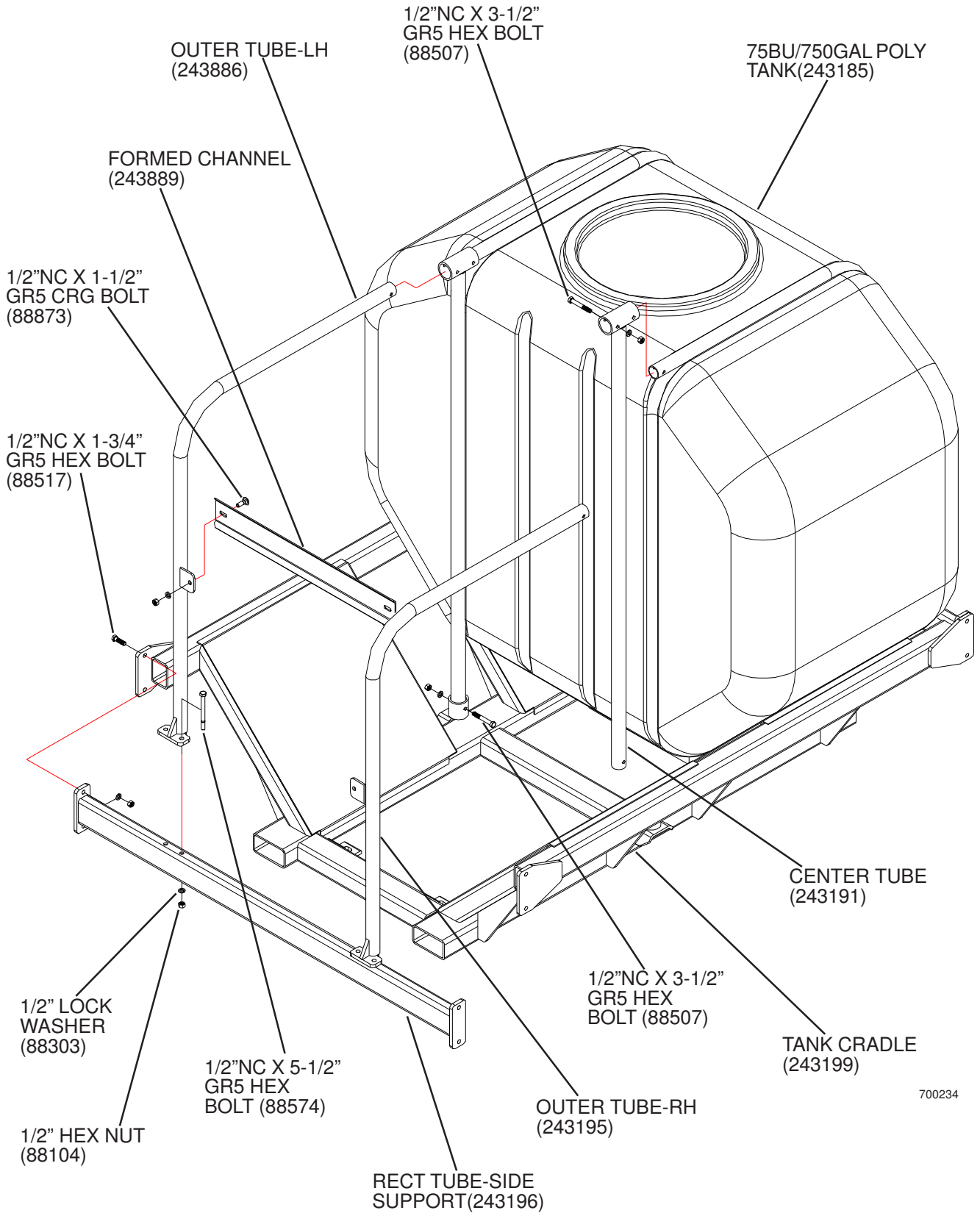
INNER BRACE ARM & KNUCKLE



CENTER SECTION-TOOLBAR MOUNT

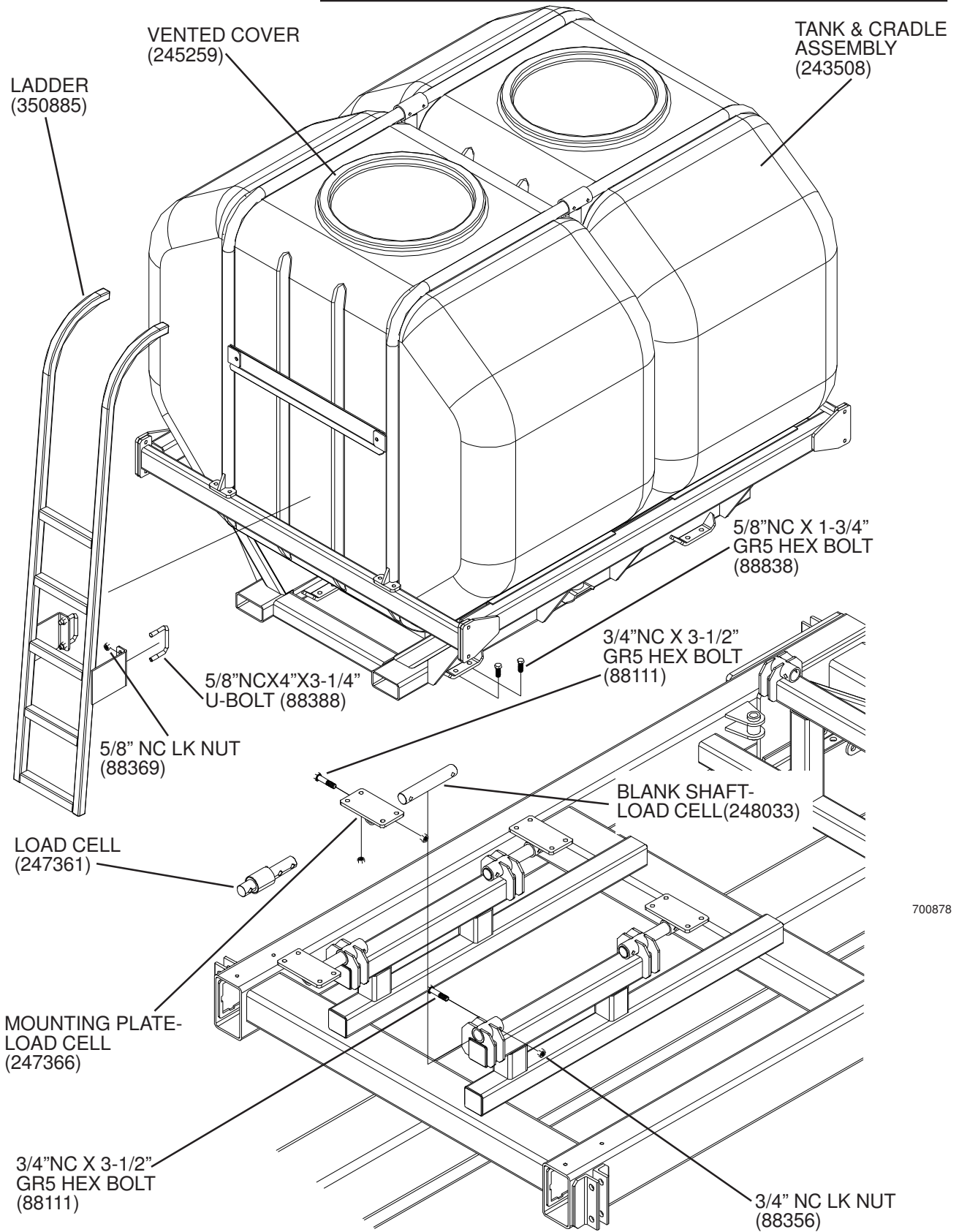


75BU/750GAL TANK & CRADLE



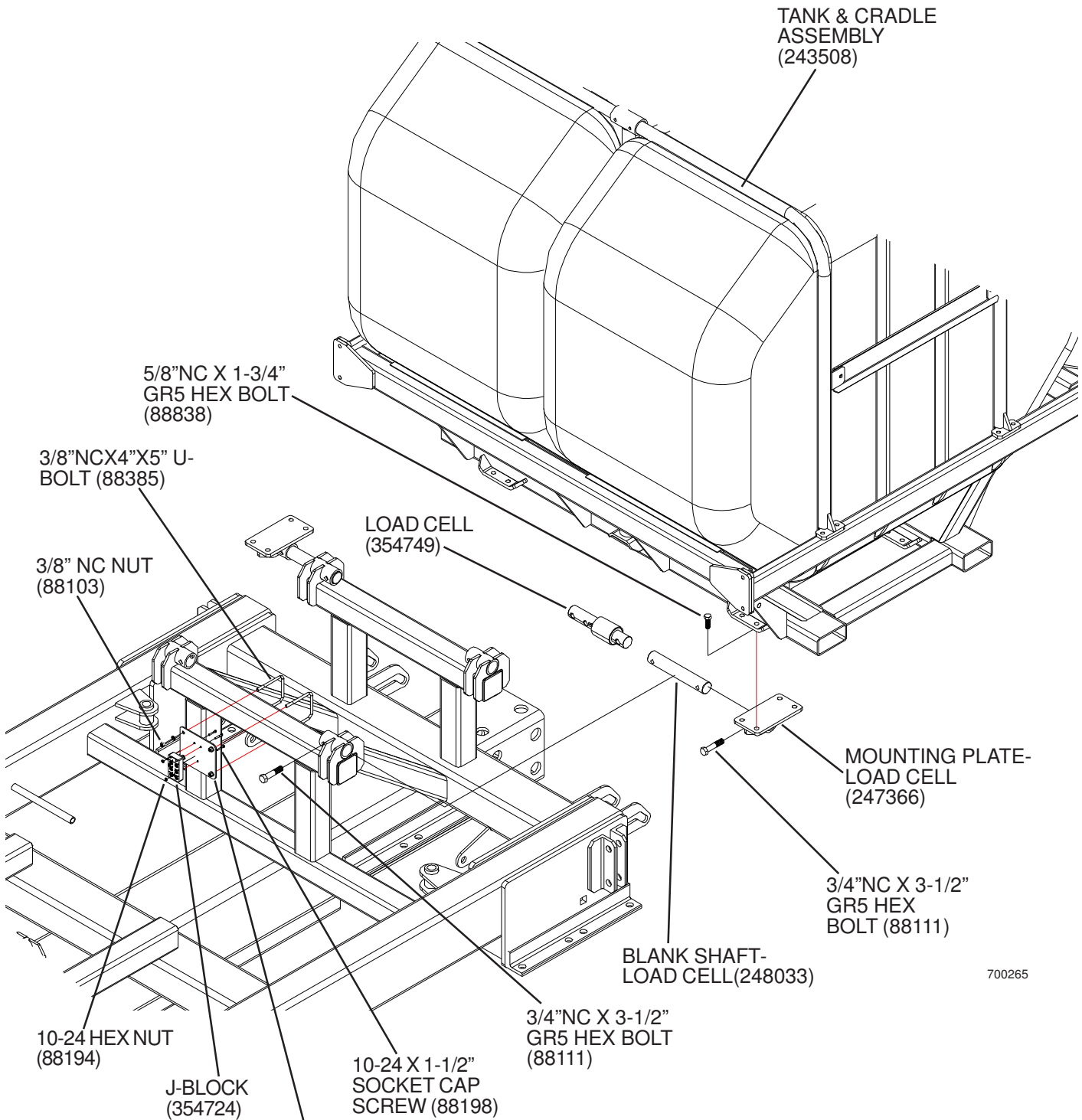
700234

FRONT CRADLE MOUNT (OPTIONAL)



700878

REAR CRADLE MOUNT & SCALE

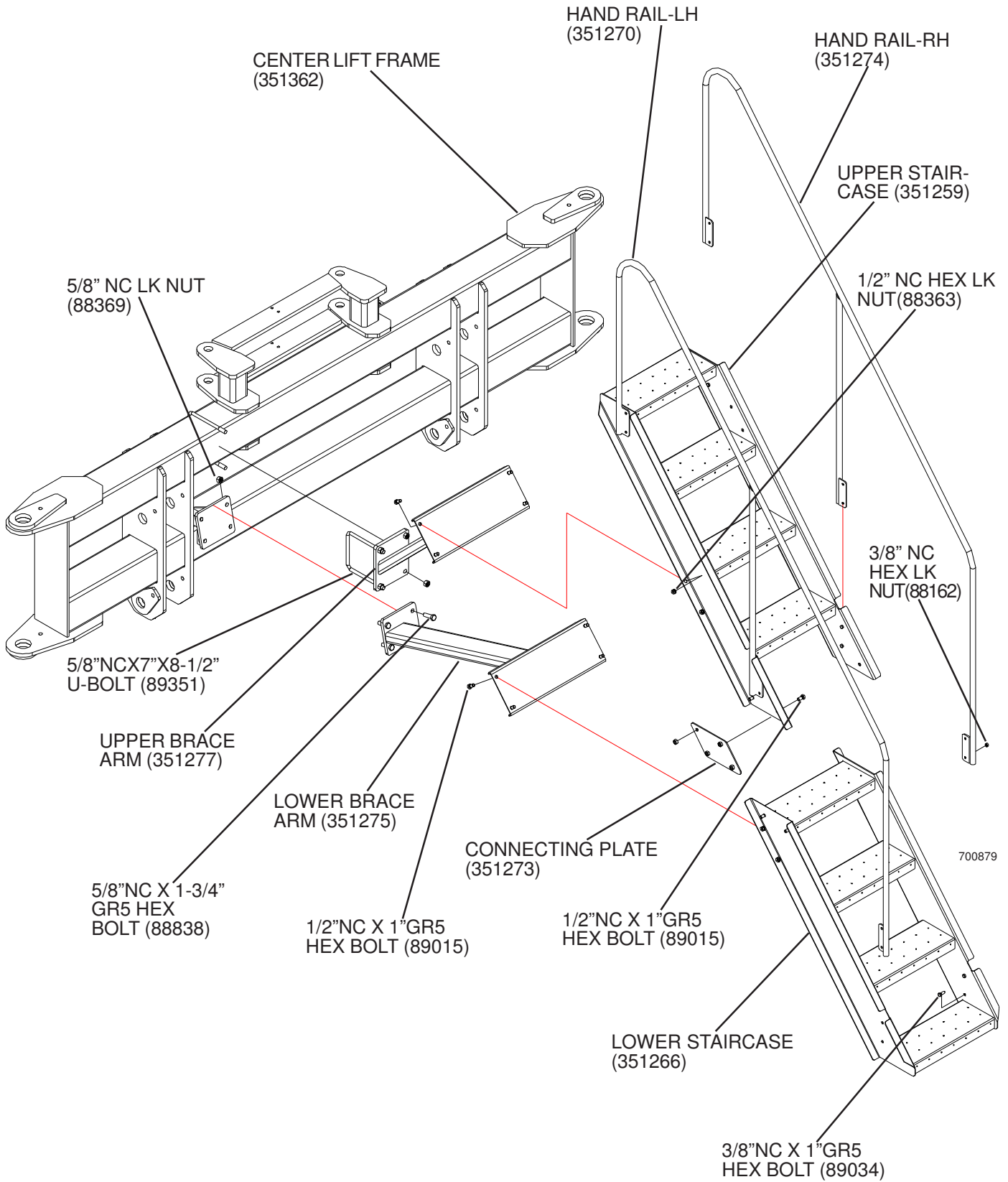


700265

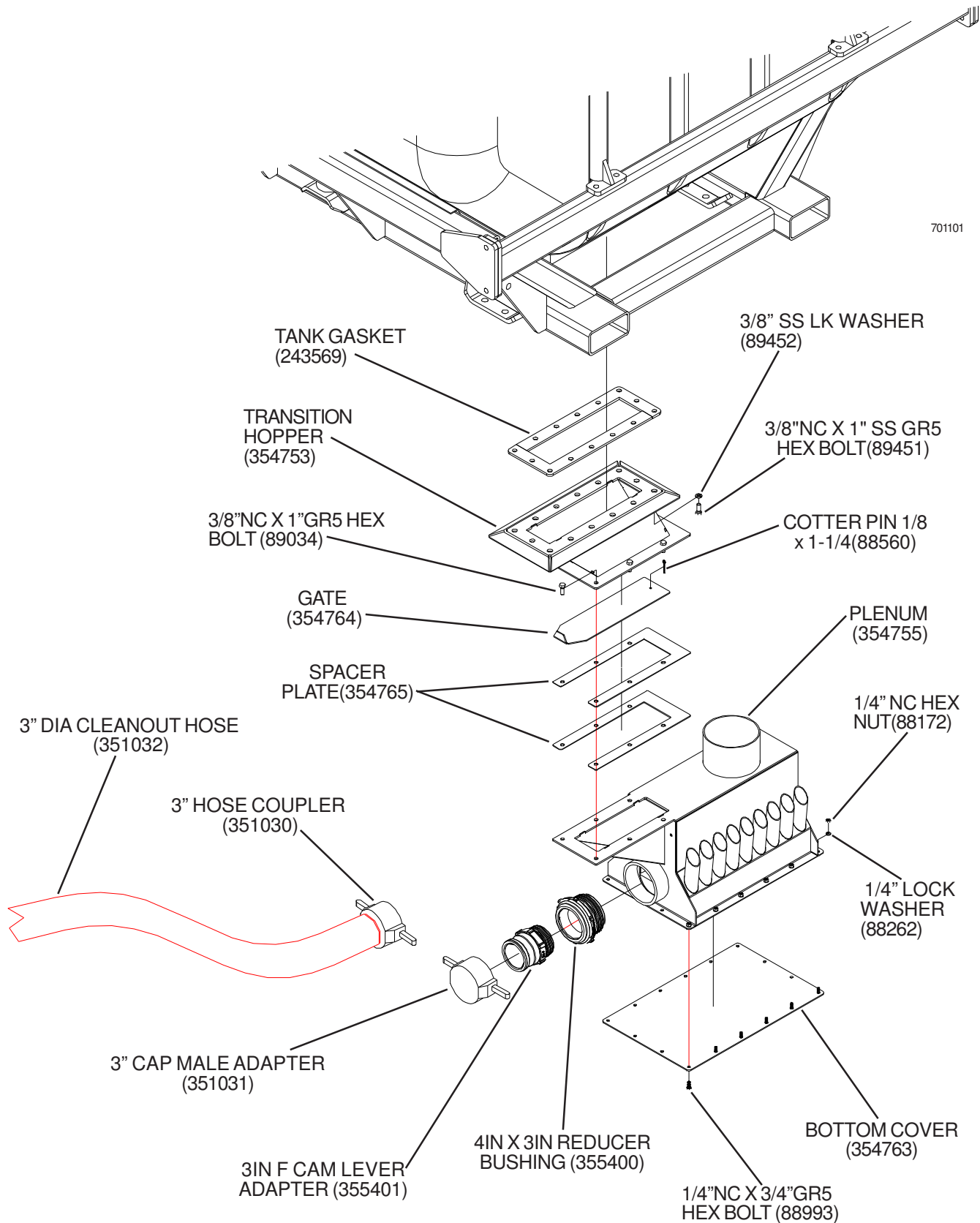
PLATE J-BLOCK MOUNT(351353)
 MOUNT J-BLOCK TO THIS PLATE.
 ROUTE MAIN WIRE HARNESS INSIDE
 OF RH INNER BRACE ARM THEN
 INSIDE OF RH OUTER BRACE ARM UP
 TO FRONT HITCH. PART NUMBERS
 INCLUDE 354747 50FT CABLE AND
 354748 21FT CABLE.

COMPONENTS THAT ARE
 MOUNTED IN THE TRACTOR CAB
 INCLUDE: GT-400 INDICATOR
 BOX(247396) AND 6FT POWER
 CABLE(247398).

REAR STAIRCASE

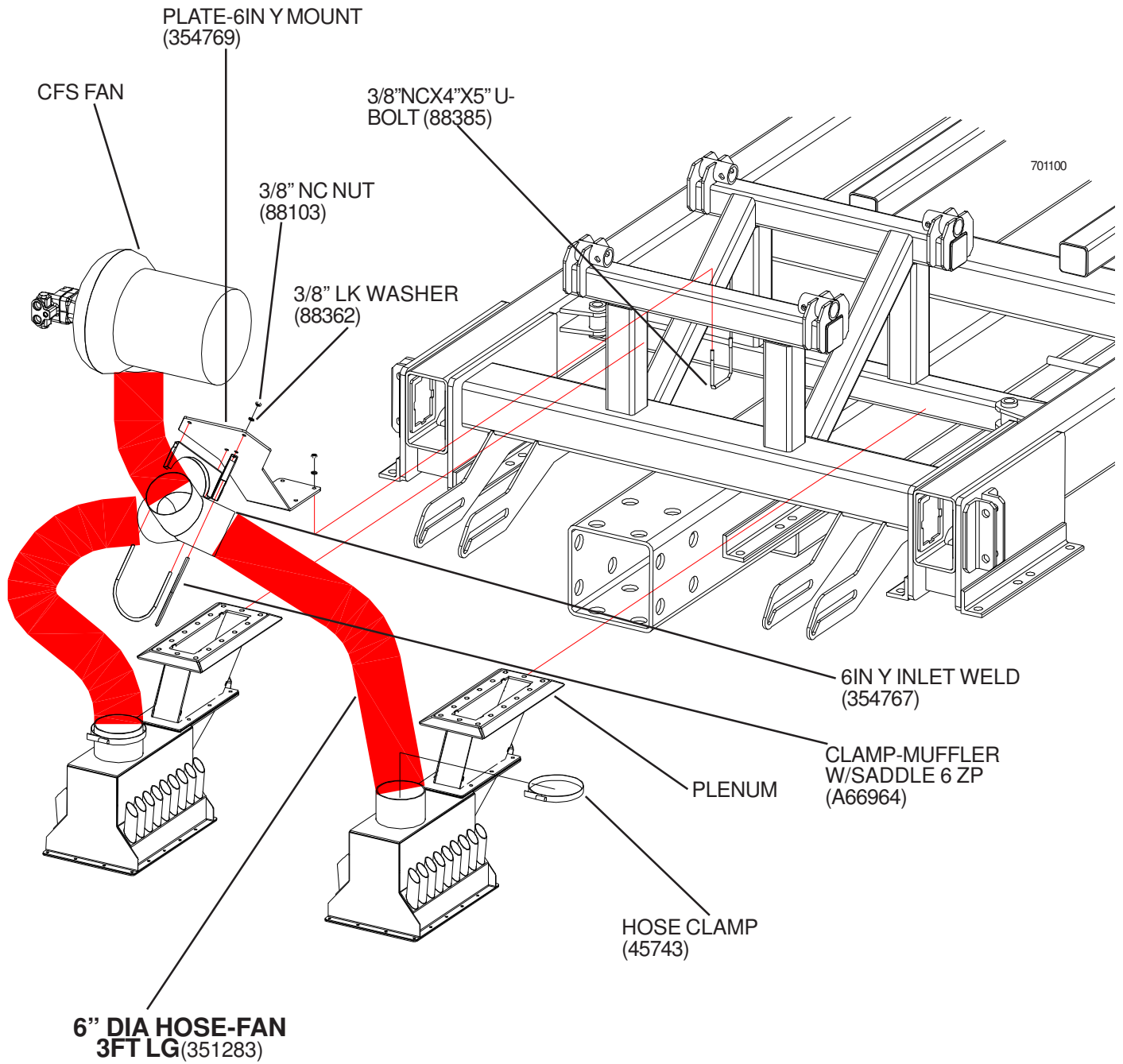


PLENUM & CLEANOUT HOSE



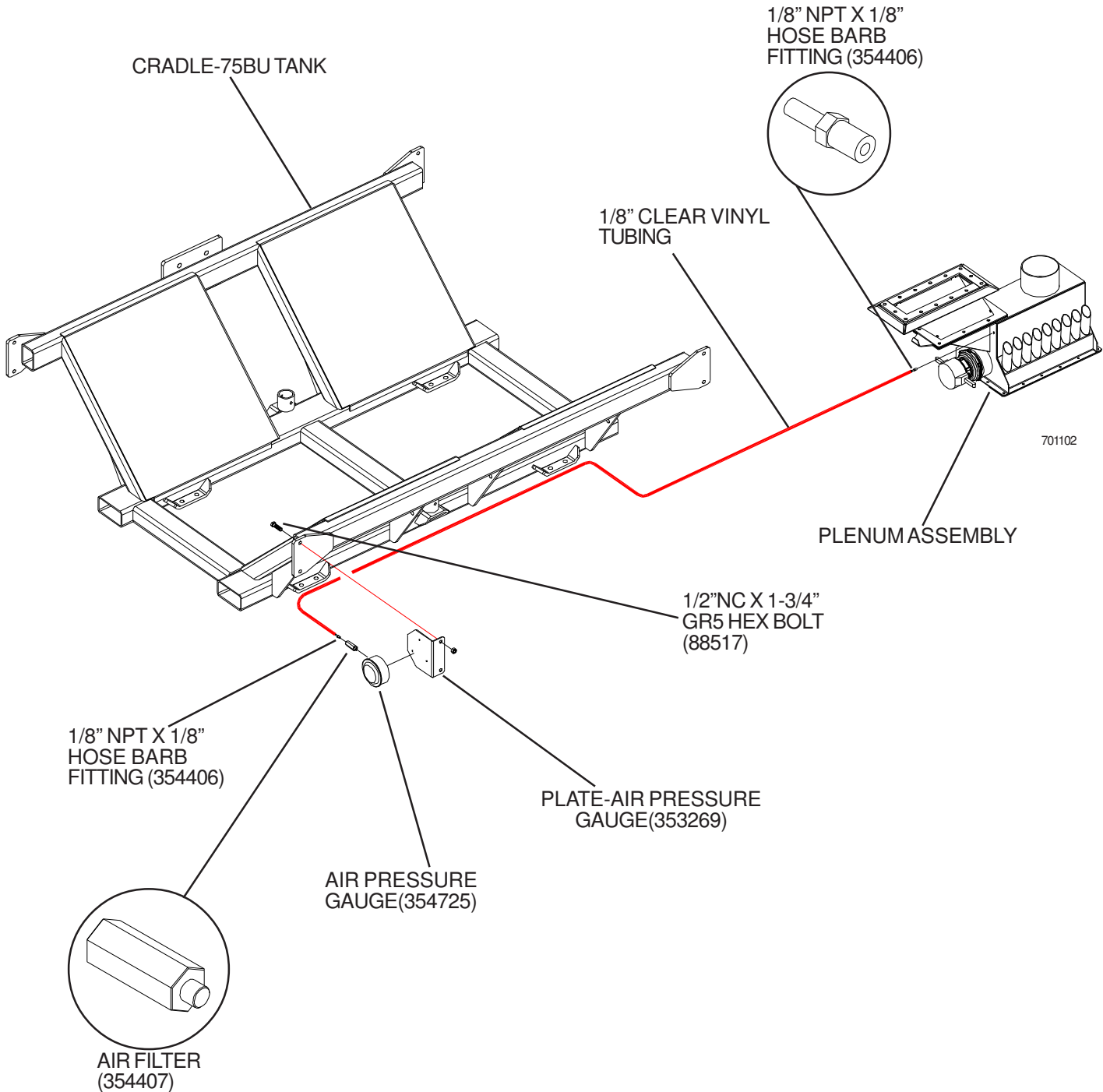
CUT A RECTANGLE HOLE IN BOTTOM OF POLY TANK BETWEEN THE INSERTS(3-1/2" X 13-3/4"). ASSEMBLE PLENUM AS SHOWN.

SPLITTER TUBE & INLET HOSE



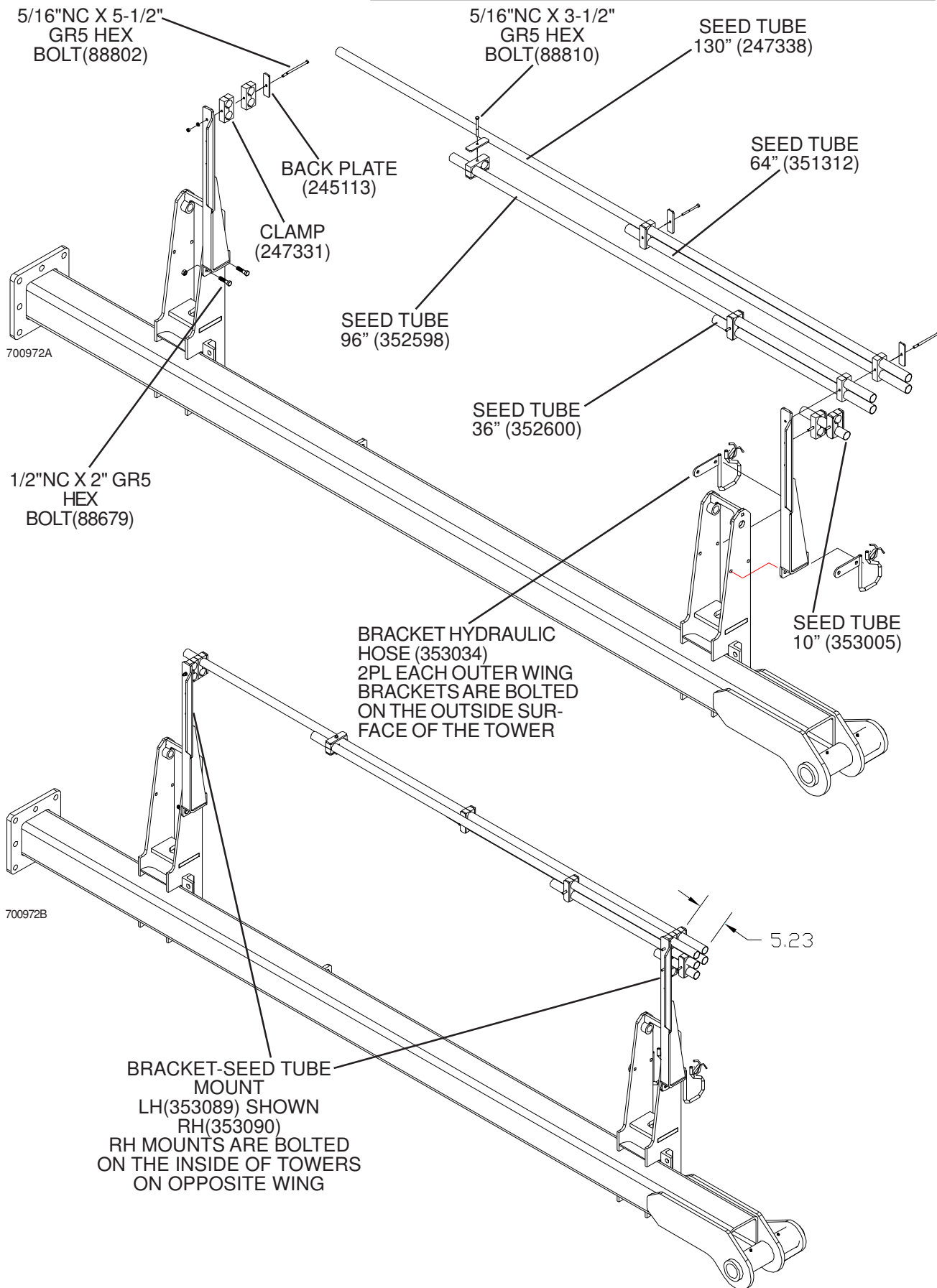
CUT 3 HOSES THAT ARE 3FT LONG EACH. FASTEN WITH HOSE CLAMPS ON EACH END.

AIR PRESSURE GAUGE-CFS SYSTEM

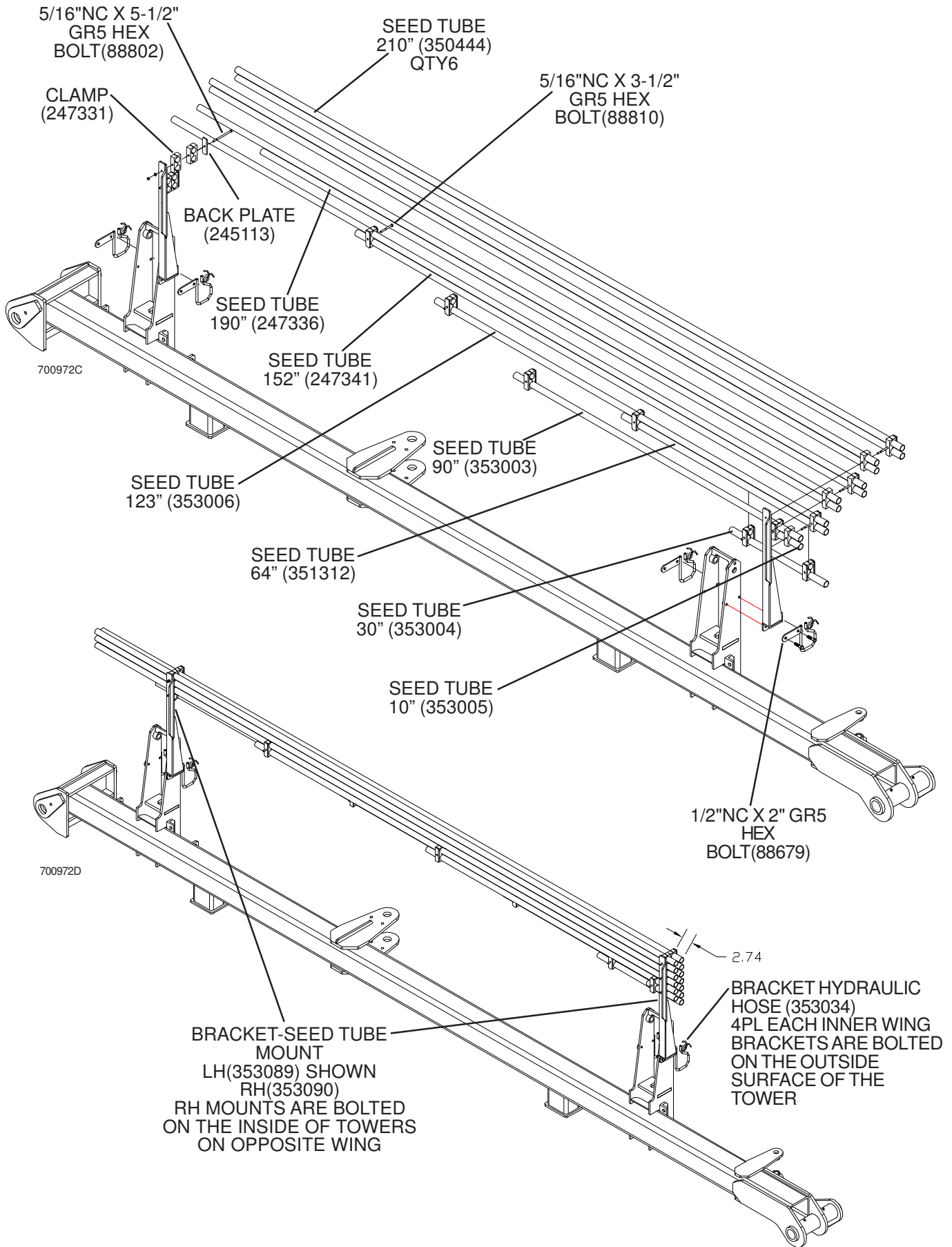


MOUNT AIR PRESSURE GAUGE ON THE FRONT LH CORNER OF THE LIQUID FERTILIZER TANK CRADLE. MOUNT GAUGE TO MOUNTING PLATE USING (3) 6-32 MACHINE SCREWS PROVIDED WITH GAUGE. ASSEMBLE AIR FILTER AND BRASS FITTINGS AS SHOWN ABOVE. ROUTE 1/8" CLEAR VINYL TUBING IN AREAS WHERE IT IS PROTECTED.

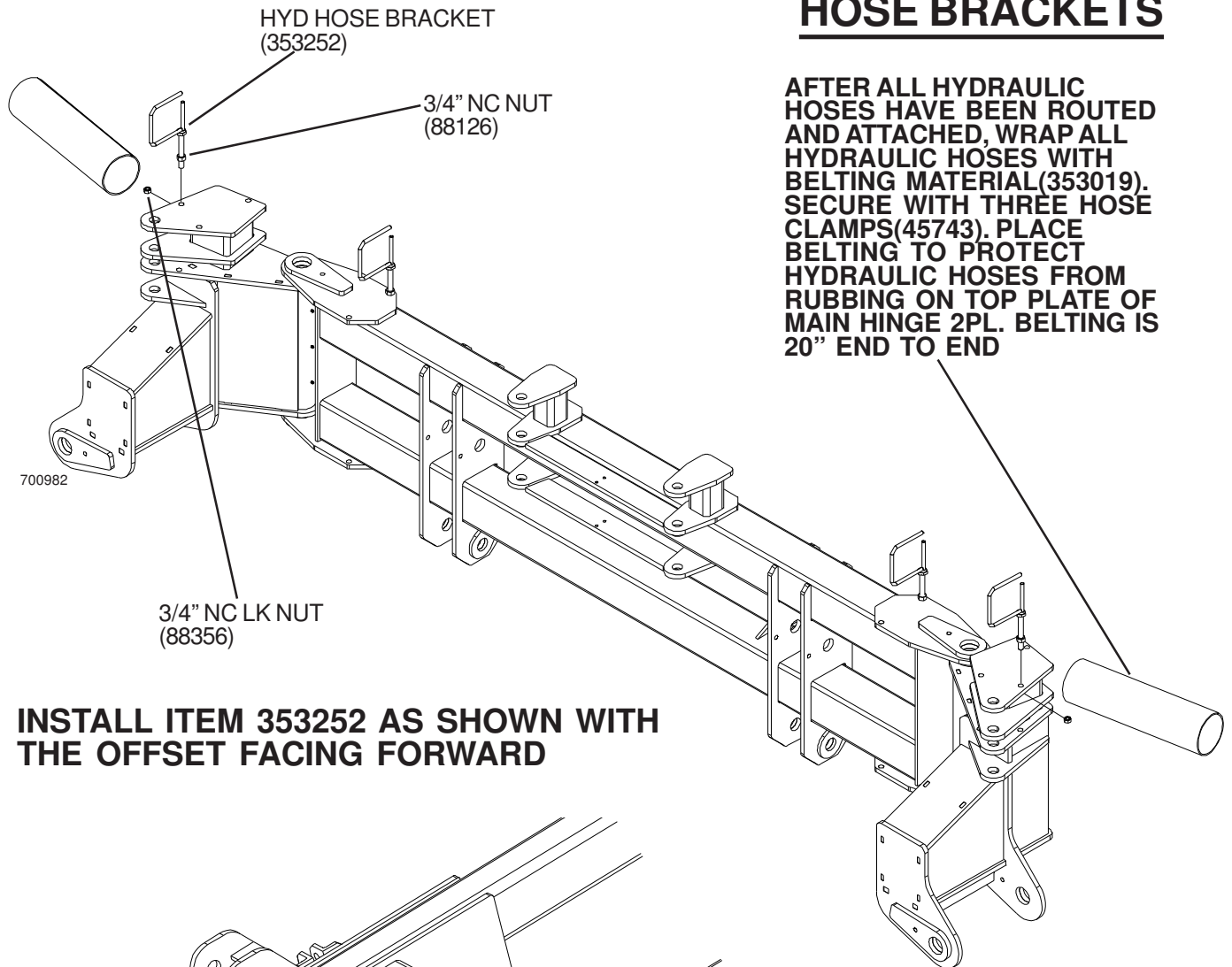
SEED TUBES 36R30 OUTER WING



SEED TUBES 36R30 INNER WING

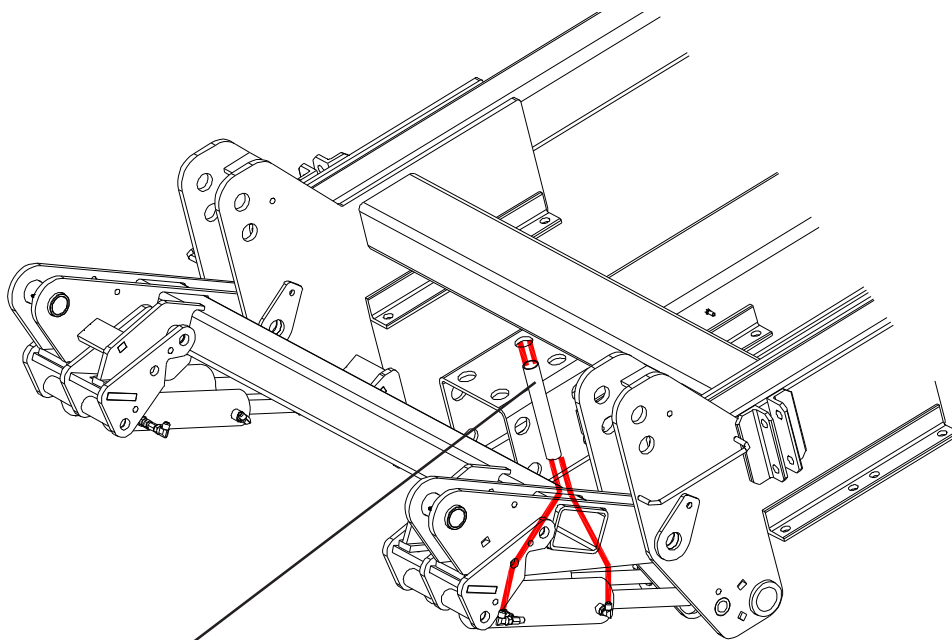


HOSE BRACKETS



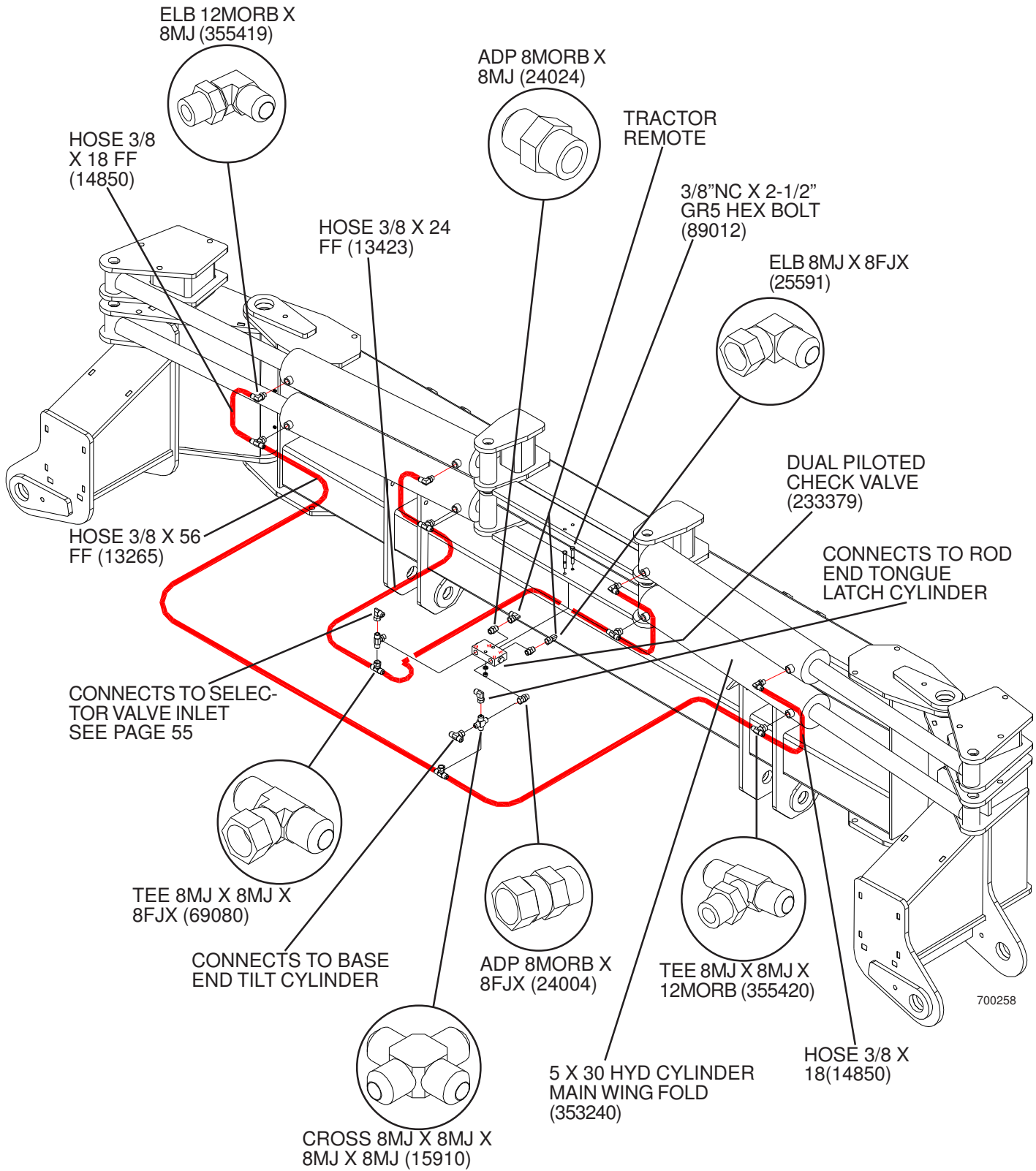
AFTER ALL HYDRAULIC HOSES HAVE BEEN ROUTED AND ATTACHED, WRAP ALL HYDRAULIC HOSES WITH BELTING MATERIAL(353019). SECURE WITH THREE HOSE CLAMPS(45743). PLACE BELTING TO PROTECT HYDRAULIC HOSES FROM RUBBING ON TOP PLATE OF MAIN HINGE 2PL. BELTING IS 20" END TO END

INSTALL ITEM 353252 AS SHOWN WITH THE OFFSET FACING FORWARD

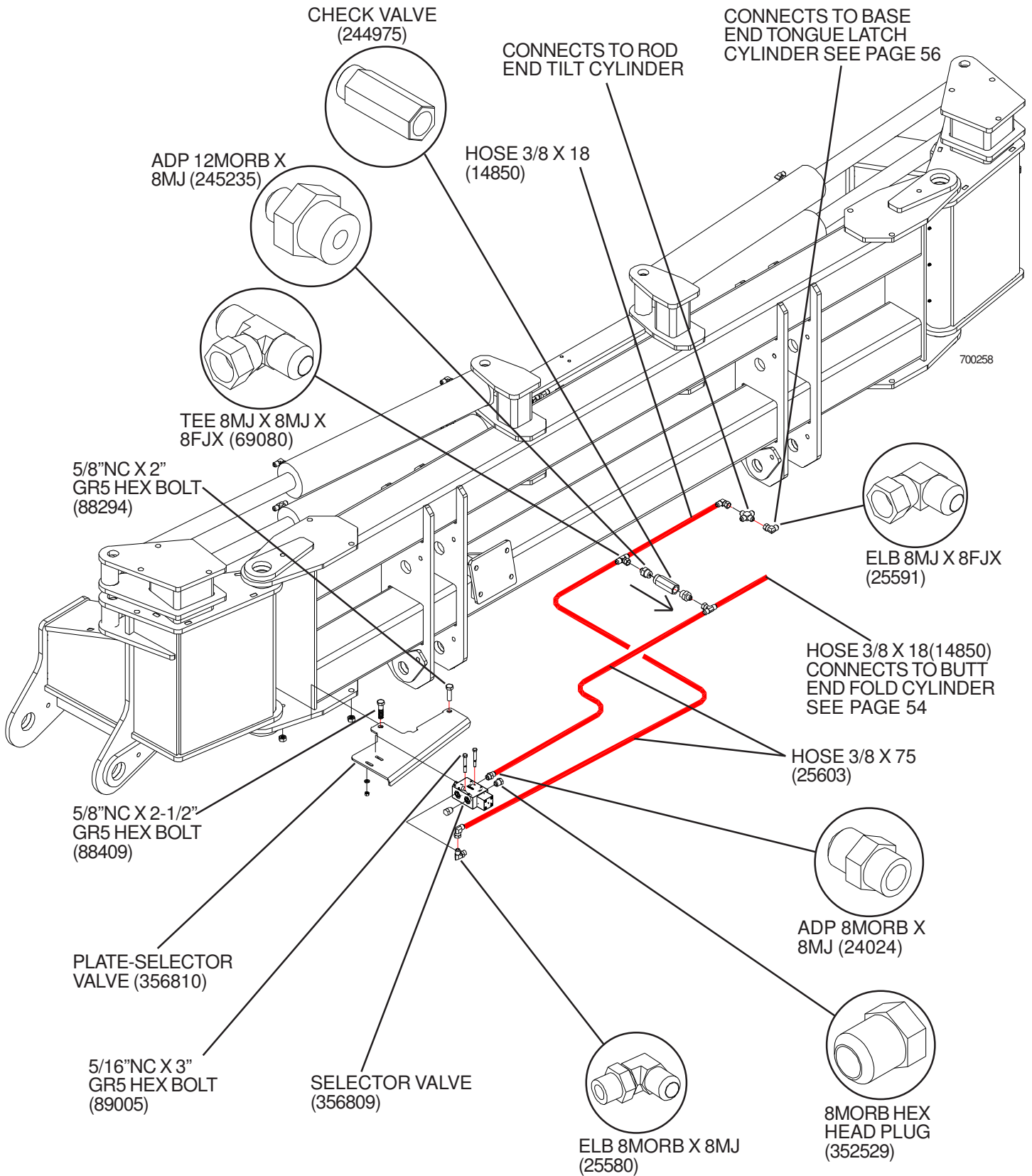


CUT A 16 INCH LONG PIECE OF HOSE FROM THE 1-1/2 DIA SEED TUBE HOSE. CUT IT THE LONG WAY AND OPEN THE 1-1/2 DIA HOSE AND WRAP IT AROUND BOTH HYDRAULIC HOSES AS SHOWN. MAKE SURE IT IS PLACED PROPERLY TO PREVENT ANY RUBBING FROM THE LOWER LIFT ARM. ATTACH A HOSE CLAMP ON BOTH ENDS TO PREVENT THE HOSE WRAP FROM SLIDING AND OPENING.

HYDRAULICS-CENTER TILT & FOLD SYSTEM

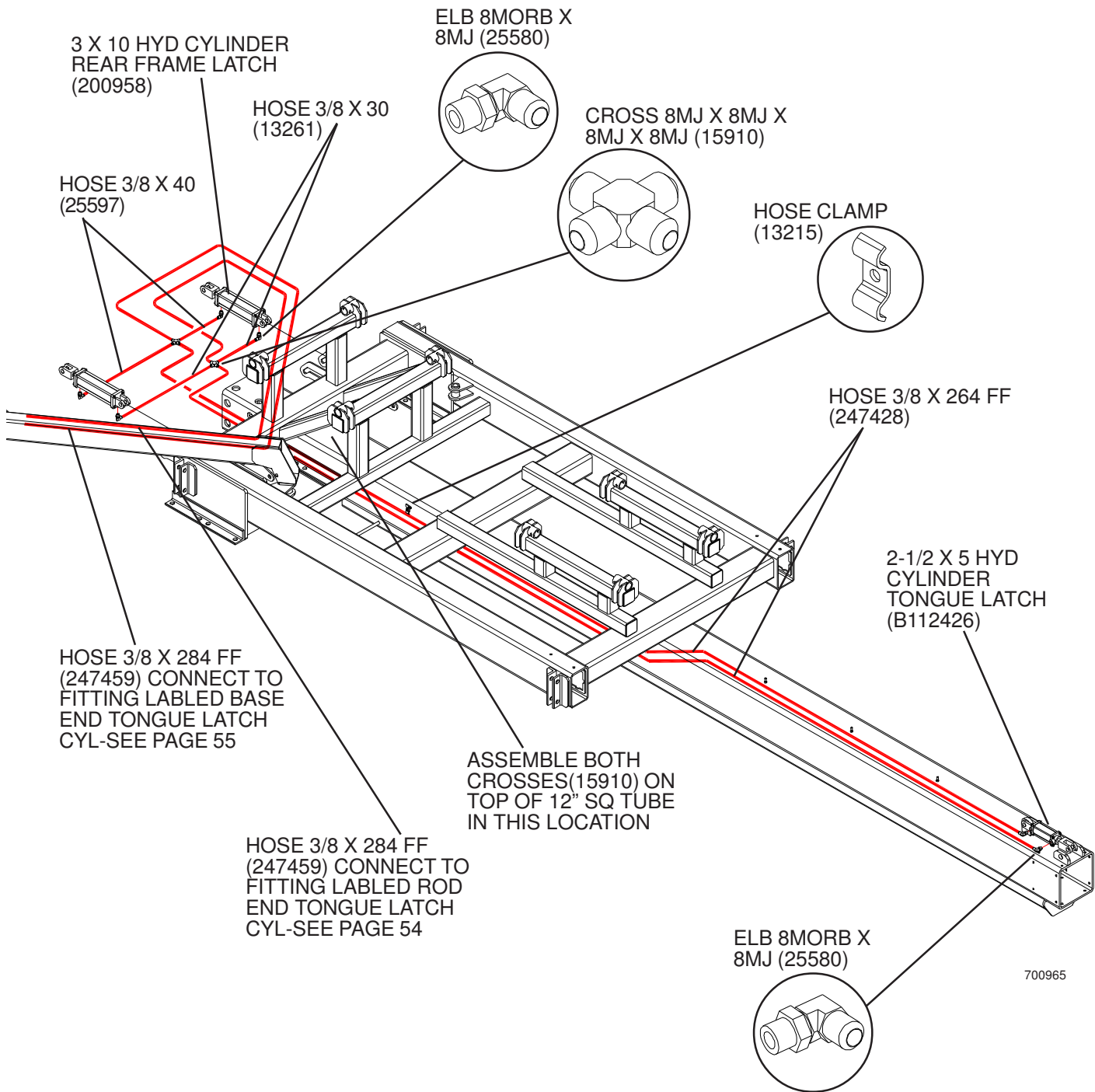


HYDRAULICS-CENTER TILT & FOLD SYSTEM



MAKE SURE SELECTOR VALVE(356809) IS ADJUSTED PROPERLY BEFORE FIELD OPERATION. FAILURE TO ADJUST SELECTOR VALVE WILL CAUSE CATASTROPHIC FAILURE TO REAR LATCH SYSTEM SHOWN ON PAGE 36.

HYDRAULICS-MAINFRAME TILT & FOLD



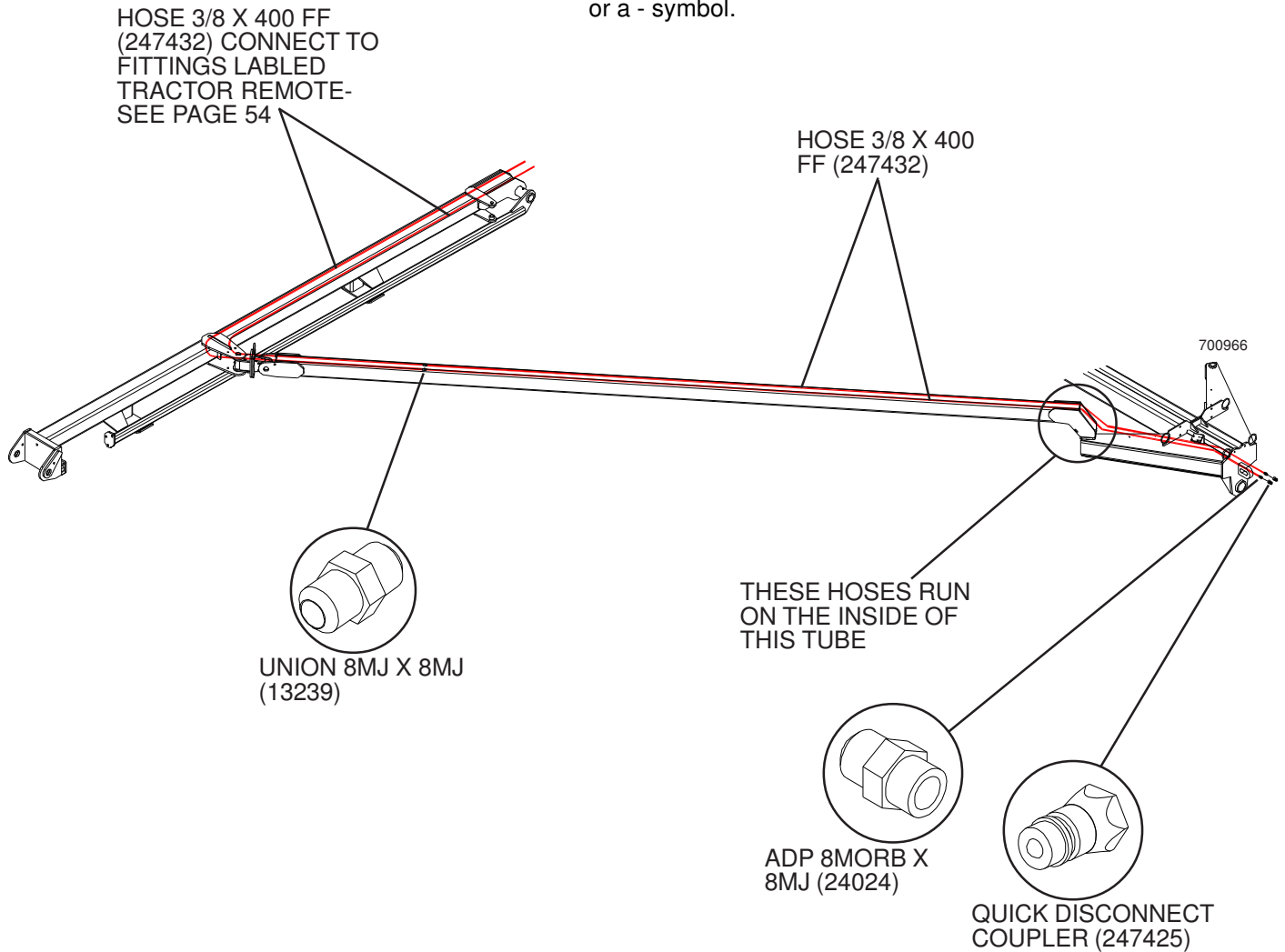
MOUNT HYDRAULIC CYLINDER WITH BUTT END FACING FORWARD AND PORTS FACING DOWN. ASSEMBLE AND PLACE HYDRAULIC FITTINGS AND HOSES ON TOP OF 12" SQ TUBE.

HYDRAULICS-TILT & FOLD

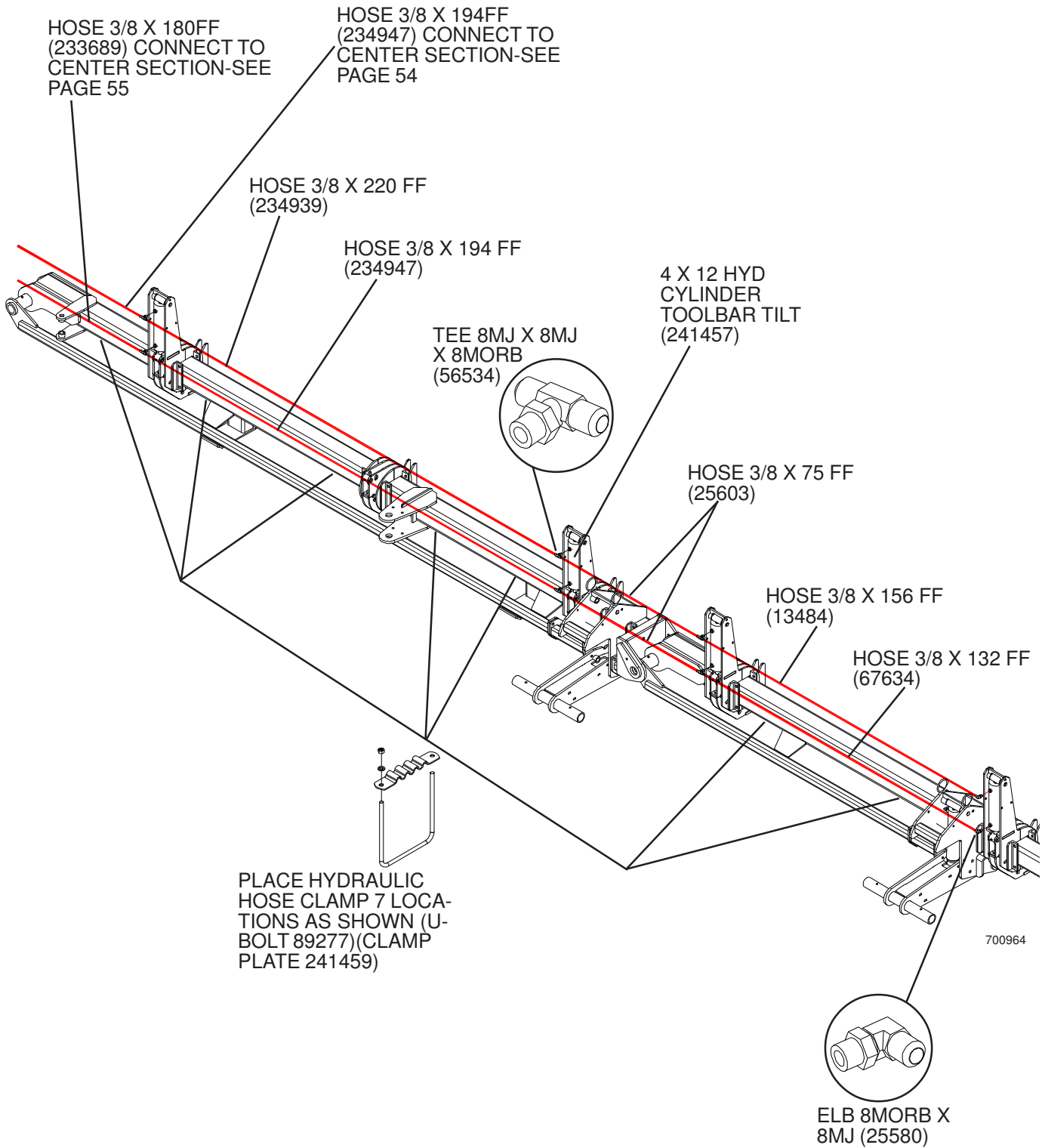
Tractor Remote Hydraulic Connections for the Tilt and Fold:

Connect the 3/8 inch hydraulic hose labeled Fold Pressure to the tractor outlet showing an extended cylinder or a + symbol.

Connect the 3/8 inch hydraulic hose labeled Fold Return to the tractor outlet showing the retracted cylinder or a - symbol.



HYDRAULICS-LH & RH WINGS TILT & FOLD



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.
- 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 it can clog the bypass hole.**
- 4) With all connections secured and the cylinders supported to allow rod extension apply pressure to the system.

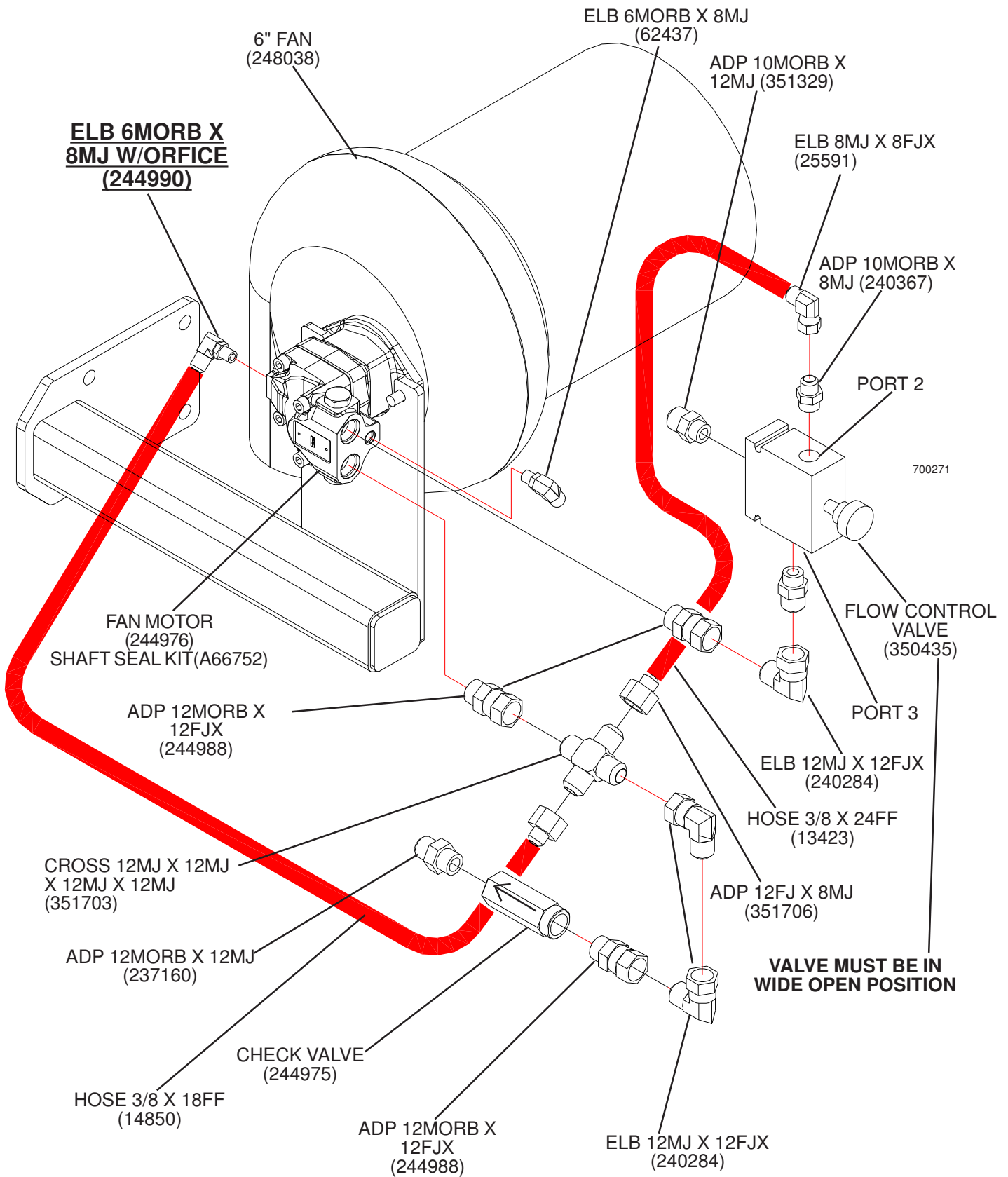
The main or base cylinder should extend as oil flows into the base of the cylinder. Because there is air in the remaining cylinders and in the connecting hoses the outer cylinders may extend quickly. Just because the cylinders are extended does not mean the system has been purged. Continue to direct oil into the system until all cylinders have extended fully. **NOTE: the cylinders will only bypass when the cylinders are fully extended.**

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 need to force all the oil through the by-pass holes you will need to have a system pressure of 2500-3000 psi.

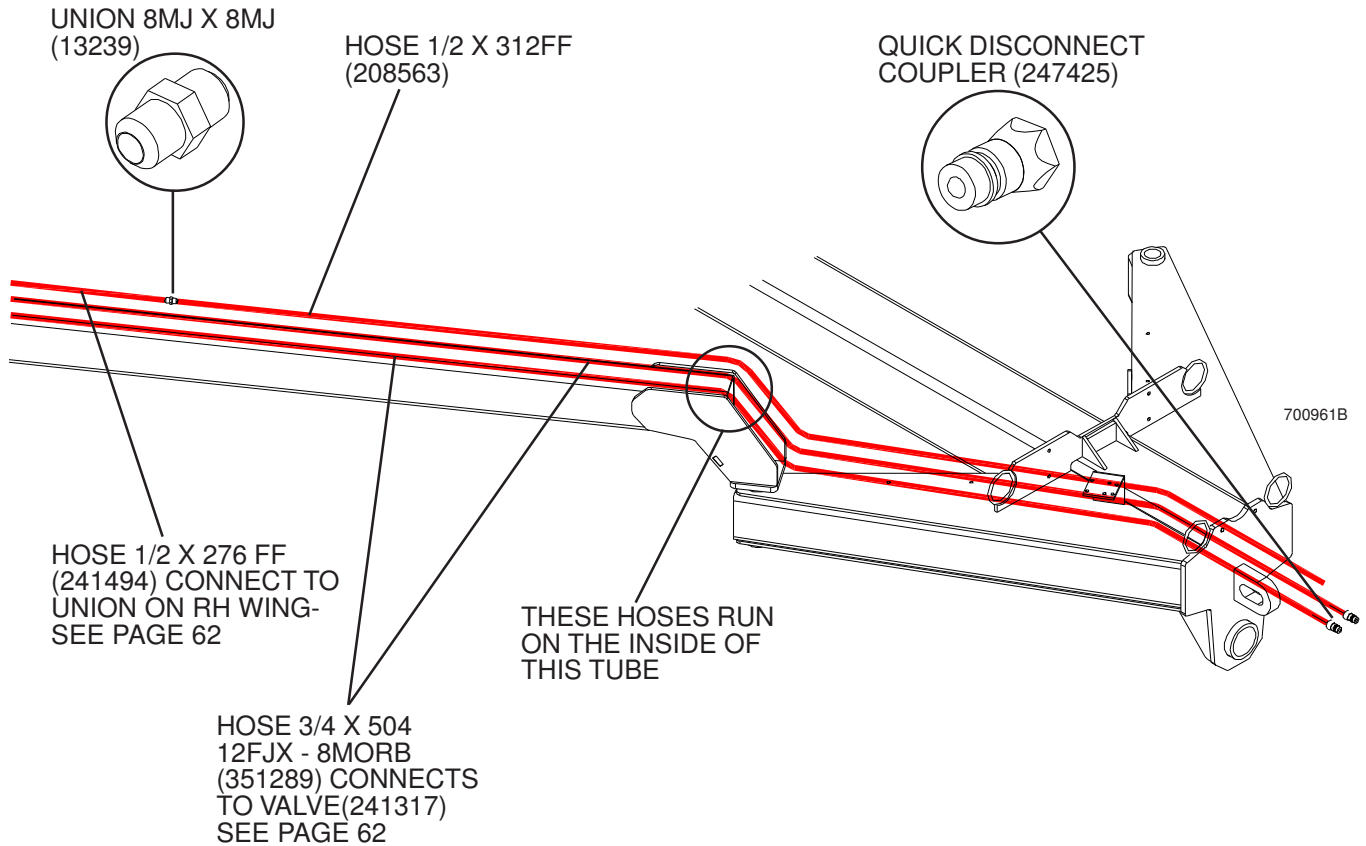
Once all cylinders on the unit have been fully extended, retract the cylinders and again extend fully. Hold the cylinders in the extended (bypass) position for a few minutes, retract the cylinders and observe that the cylinders are working in sequence. Raise and lower the unit and check to ensure the 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.

HYDRAULICS-CENTRAL FILL FAN



HYDRAULICS-BRACE ARM MAIN LIFT



Tractor Remote Hydraulic Connections for the Lift/lower and Central Fill Fan:

Connect the 1/2 inch hydraulic hose labeled Fan Case Drain hose to the tractor zero pressure return. The case drain must have zero back pressure. This hydraulic hose drains excess oil from the fan motor.

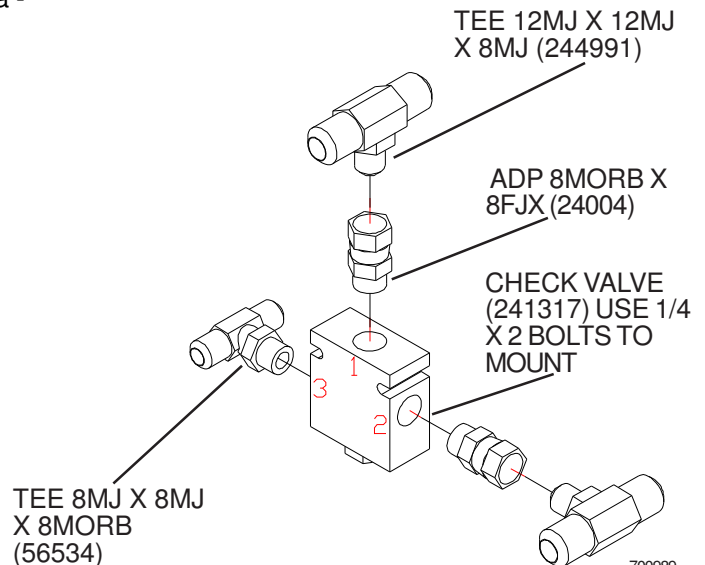
Connect the 3/4 inch hydraulic hose labeled Lift Pressure to the tractor outlet showing an extended cylinder or a + symbol.

Connect the 3/4 inch hydraulic hose labeled Lift Return to the tractor outlet showing the retracting cylinder or a - symbol.

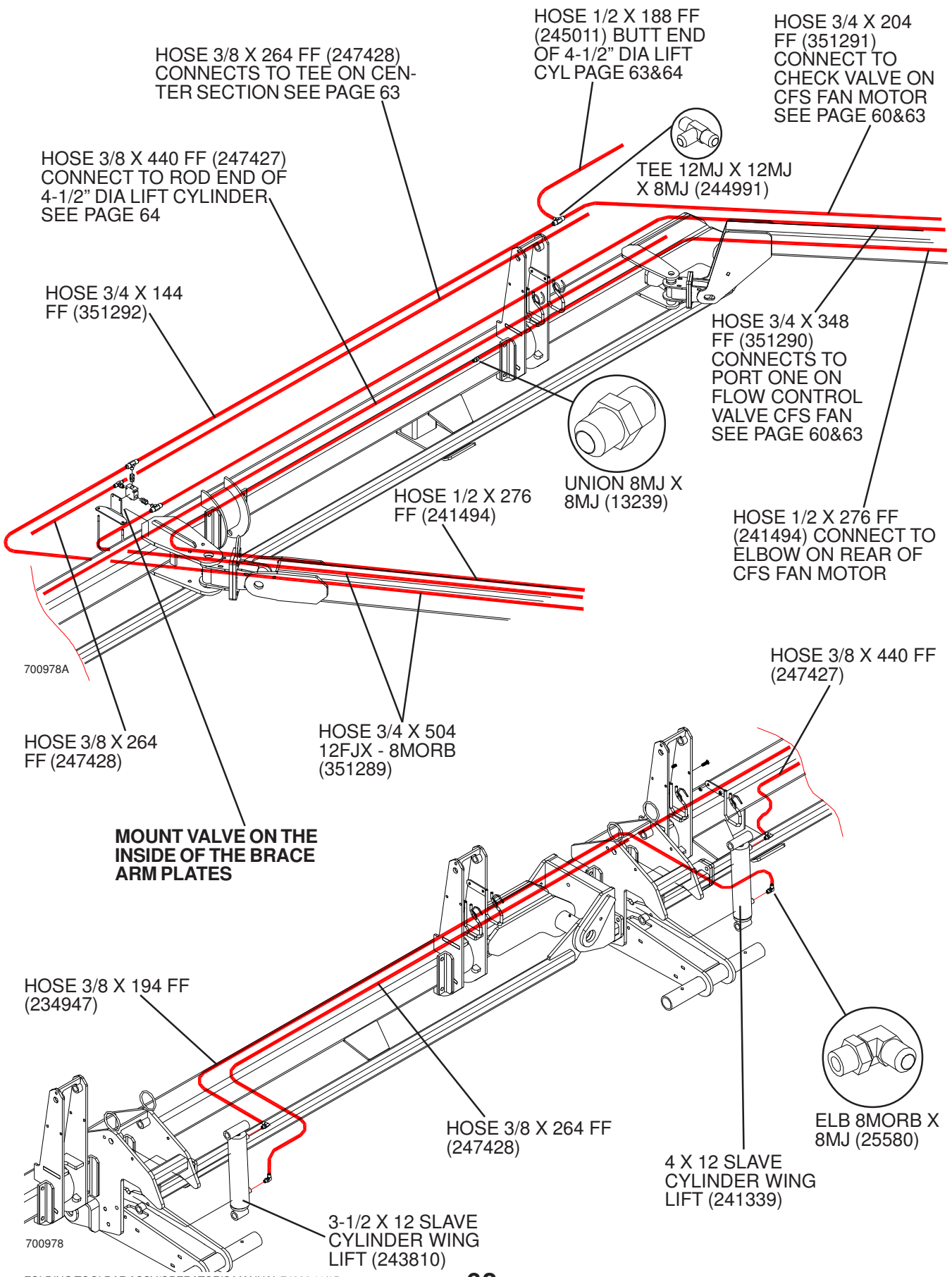
NOTE: Machine Damage Risk:

Make sure the Fan Case Drain hose is connected first, prior to the pressure and return hoses being connected.

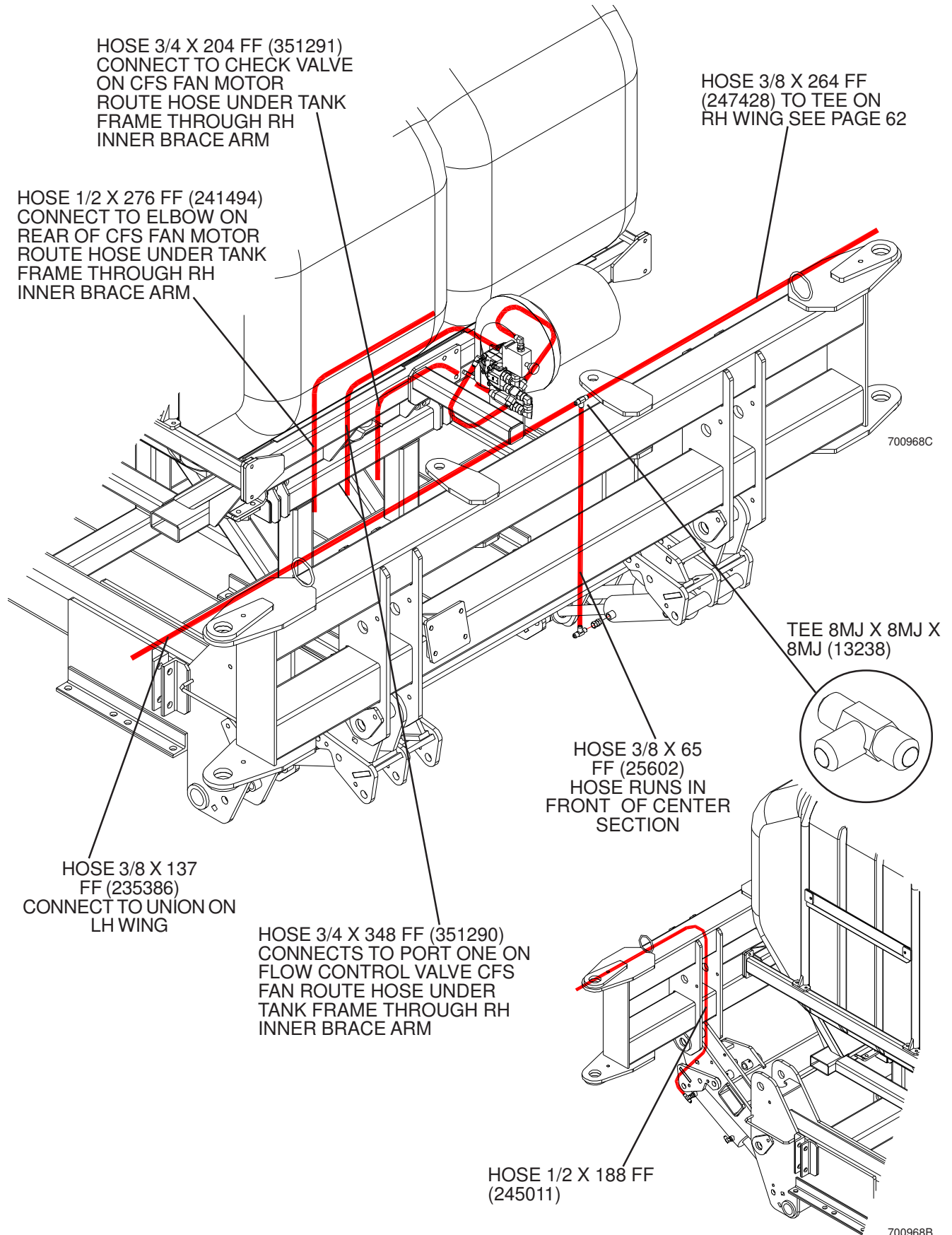
Make sure the Fan Case Drain hose is disconnected last, to prevent damage to the fan motor.



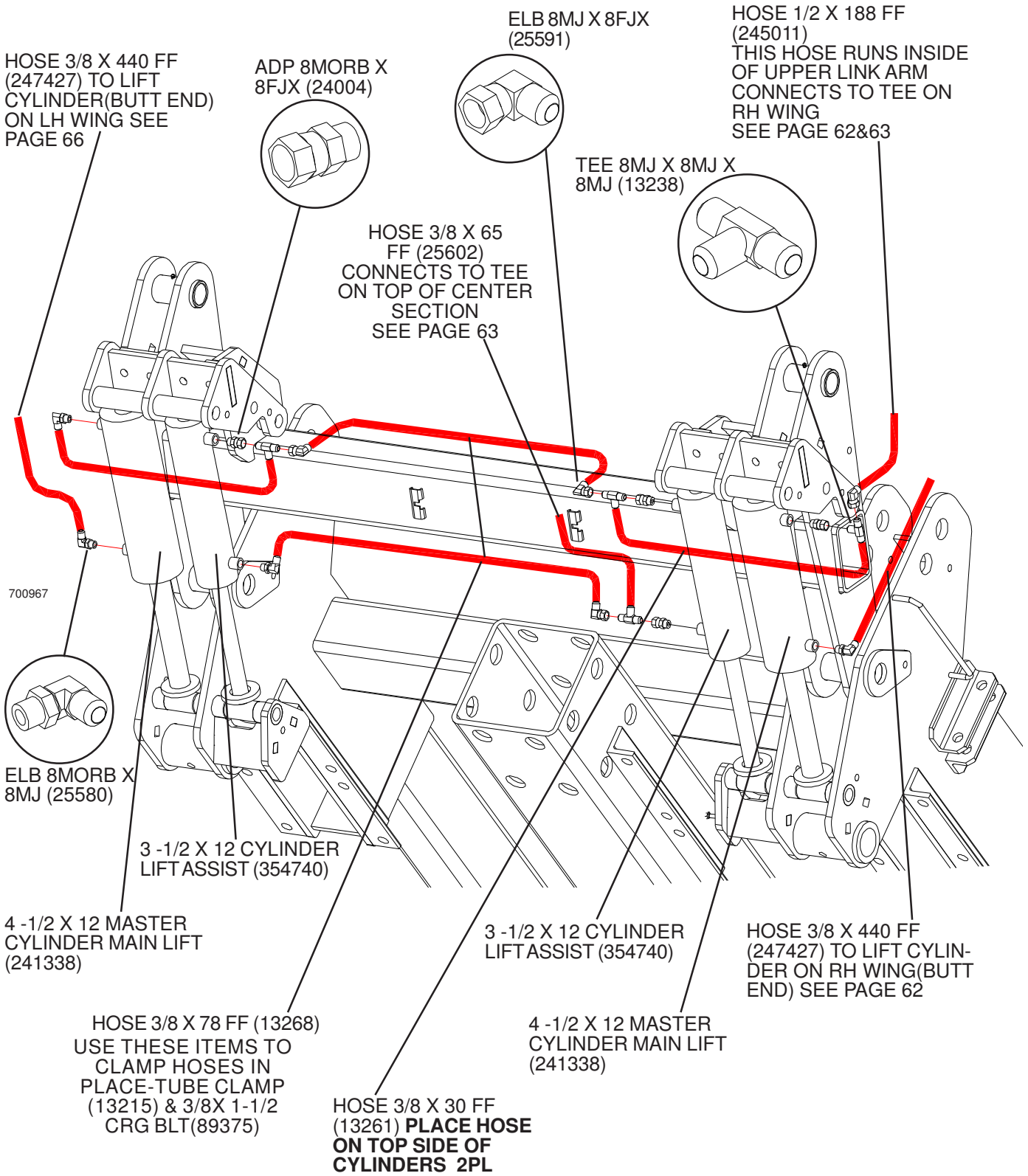
HYDRAULICS-RH WING MAIN LIFT



HYDRAULICS-CENTER SECTION MAIN LIFT

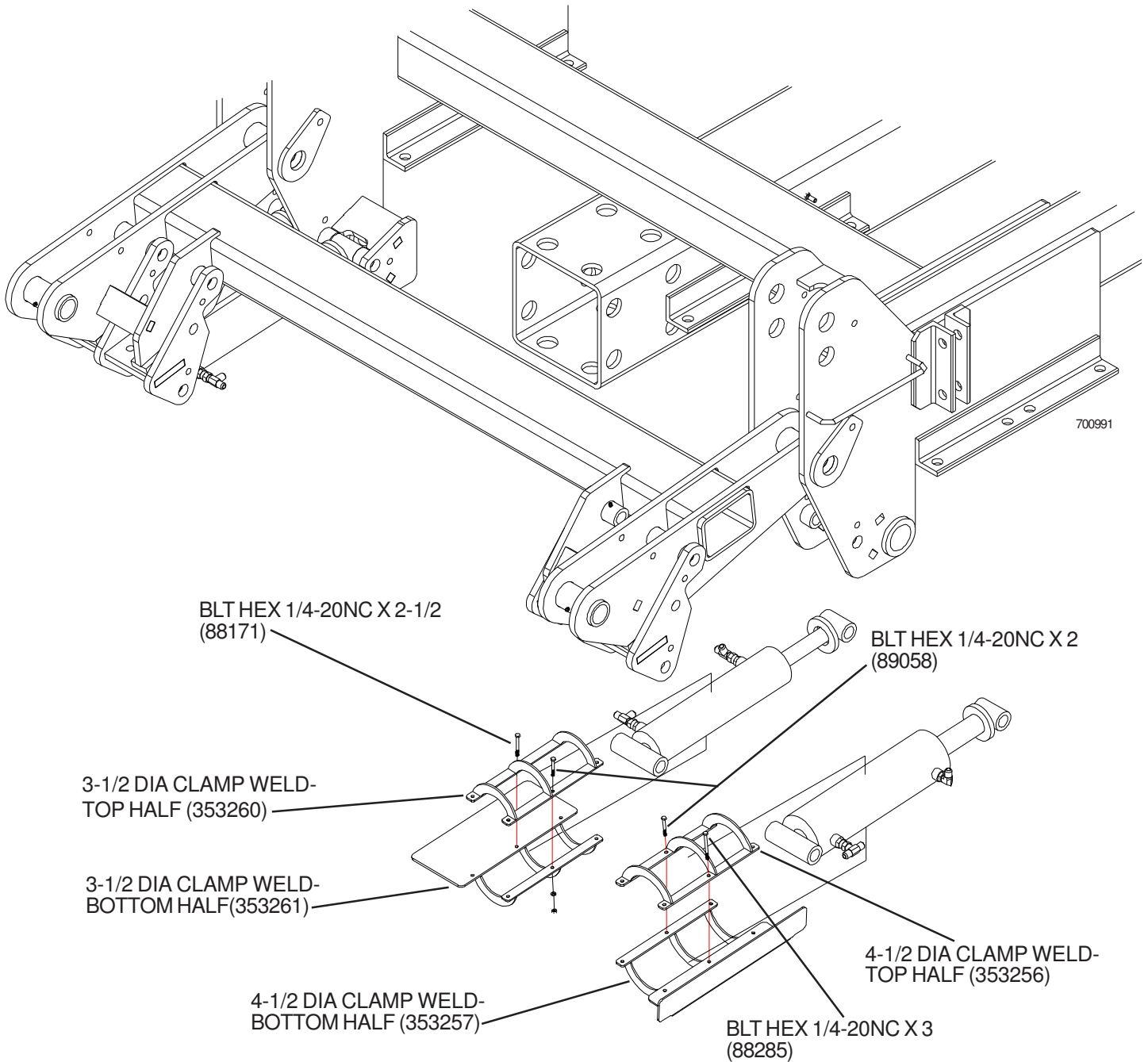


HYDRAULICS-CENTER SECTION MAIN LIFT



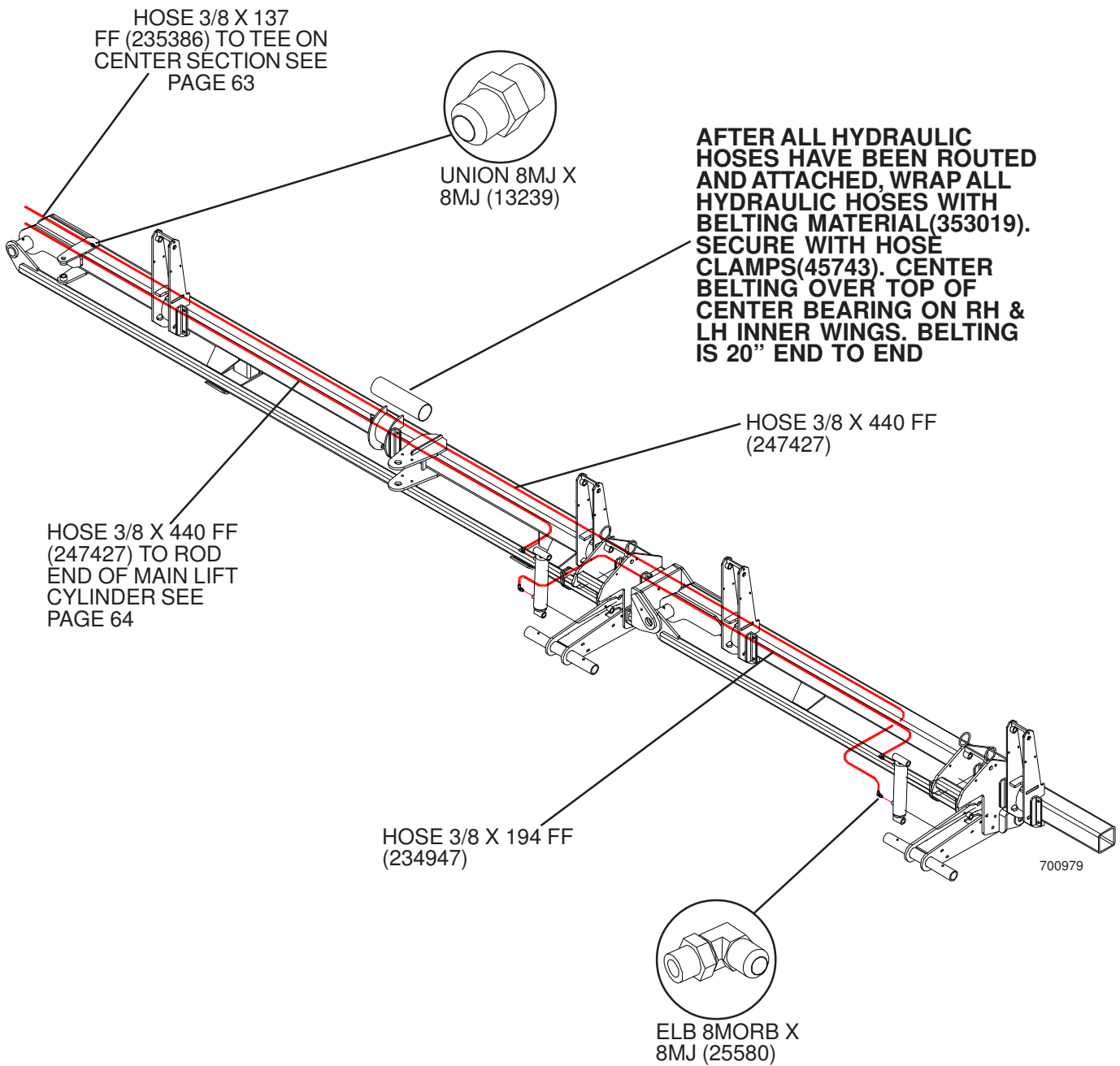
DEPTH STOP COLLARS SHOULD BE USED ON ALL LIFT CYLINDERS.

HYDRAULIC CYLINDER GUARDS

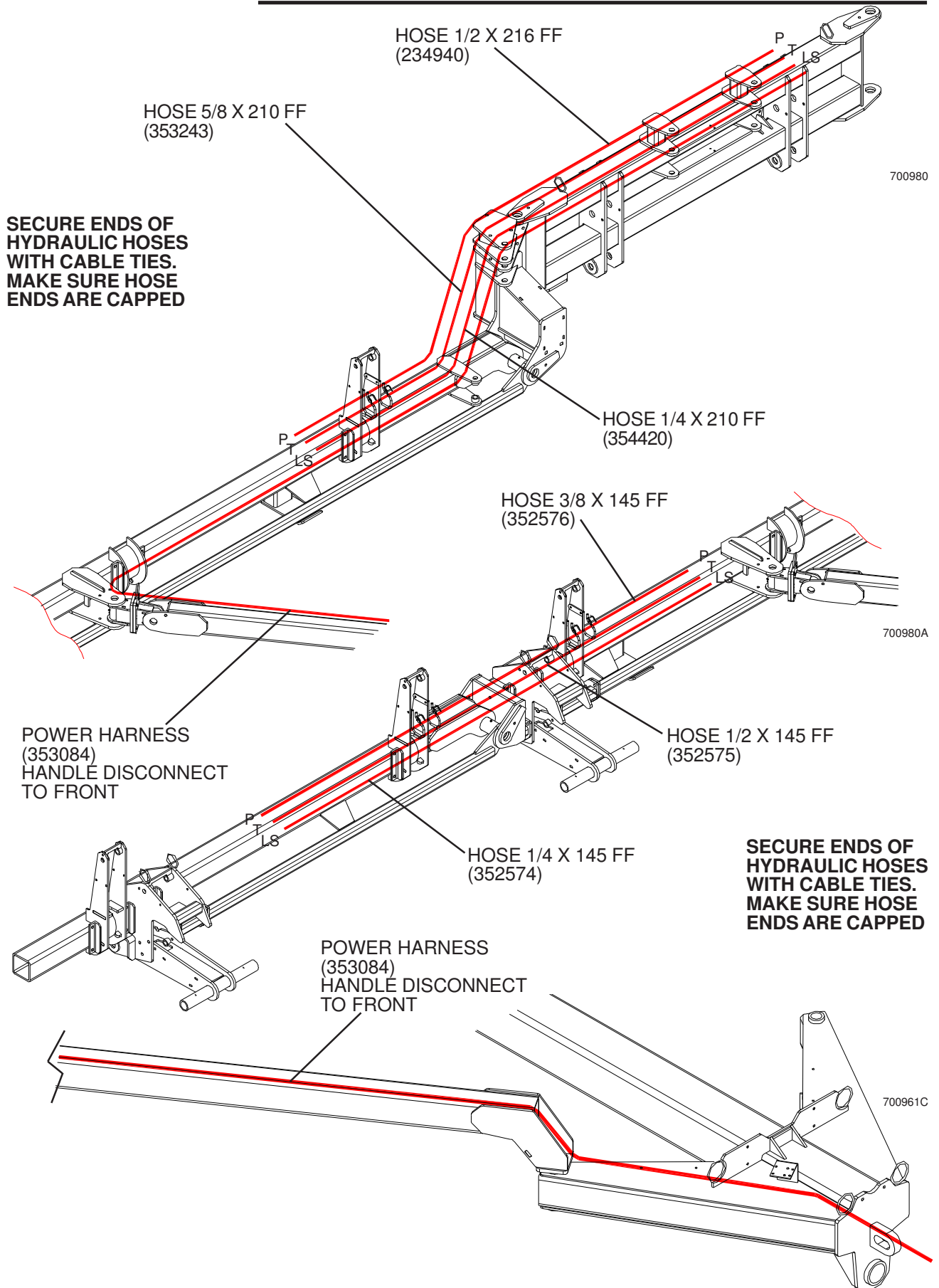


ASSEMBLE CLAMPS USING HARDWARE AS INDICATED. BOLTS ALL RUN IN BETWEEN THE PORTS ON HYDRAULIC CYLINDERS. RH SIDE SHOWN ASSEMBLE LH SIDE OPPOSITE.

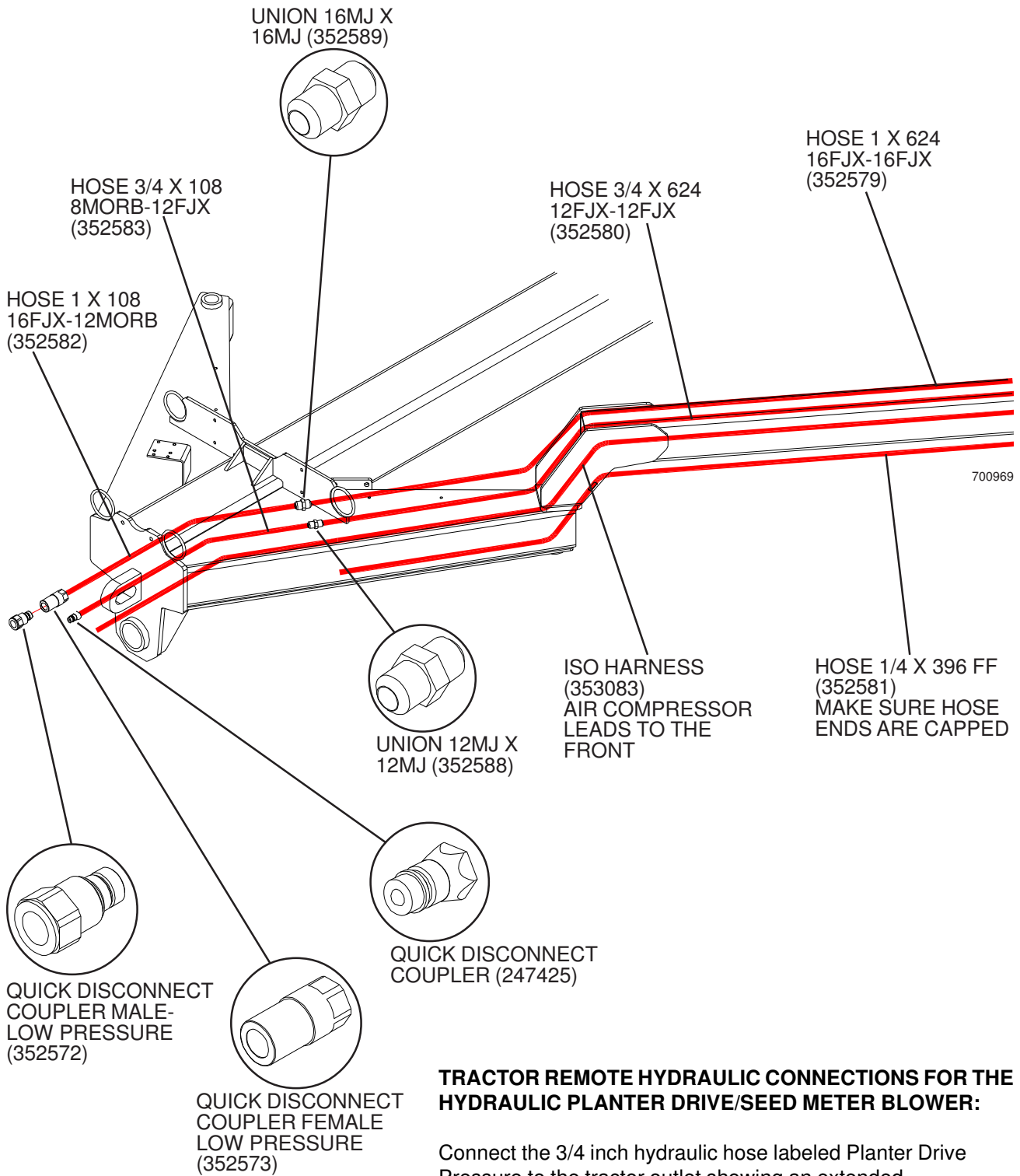
HYDRAULICS-LH WING MAIN LIFT



HYDRAULICS RH SIDE-ROW UNIT DRIVE



HYDRAULICS LH SIDE-ROW UNIT DRIVE

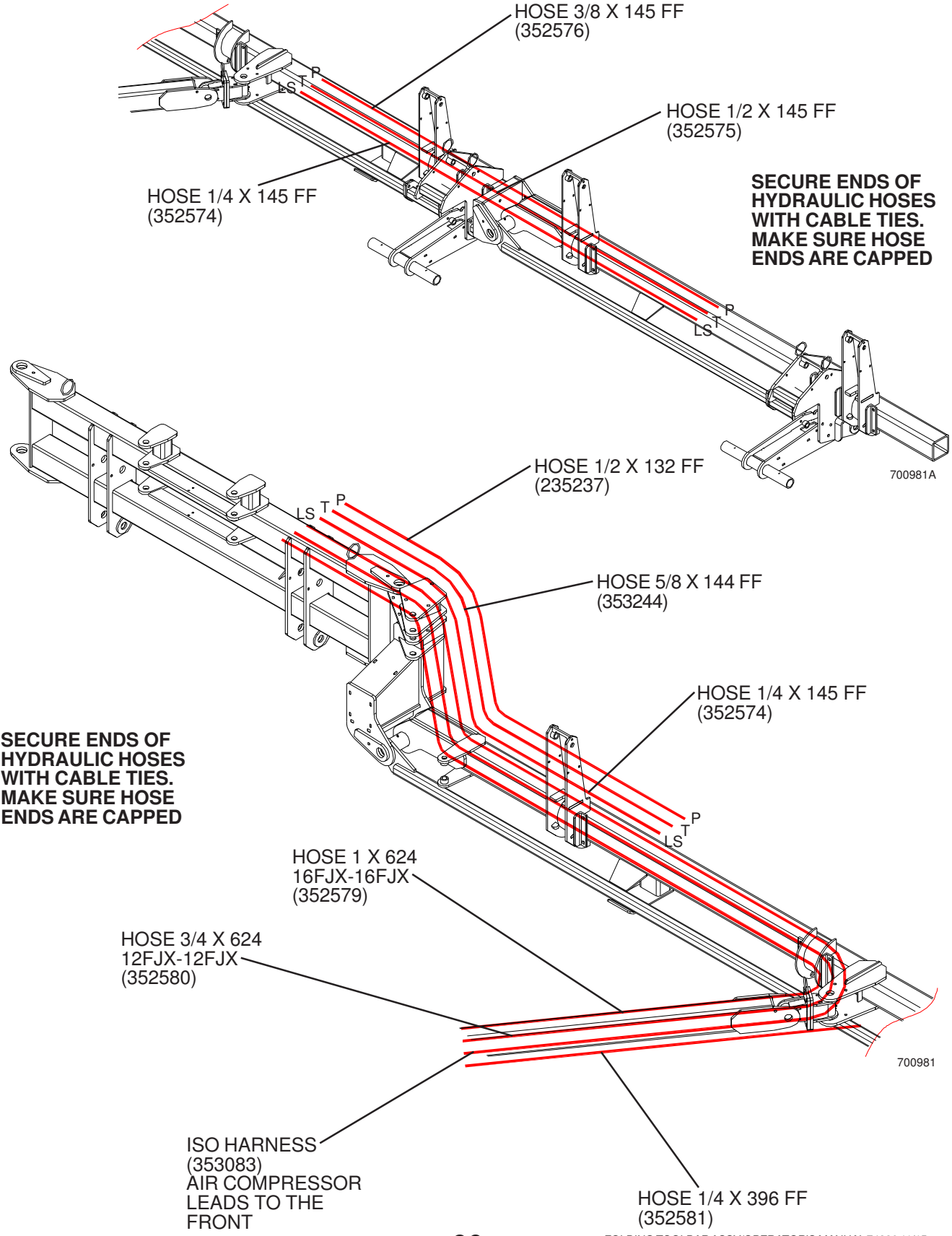


TRACTOR REMOTE HYDRAULIC CONNECTIONS FOR THE HYDRAULIC PLANTER DRIVE/SEED METER BLOWER:

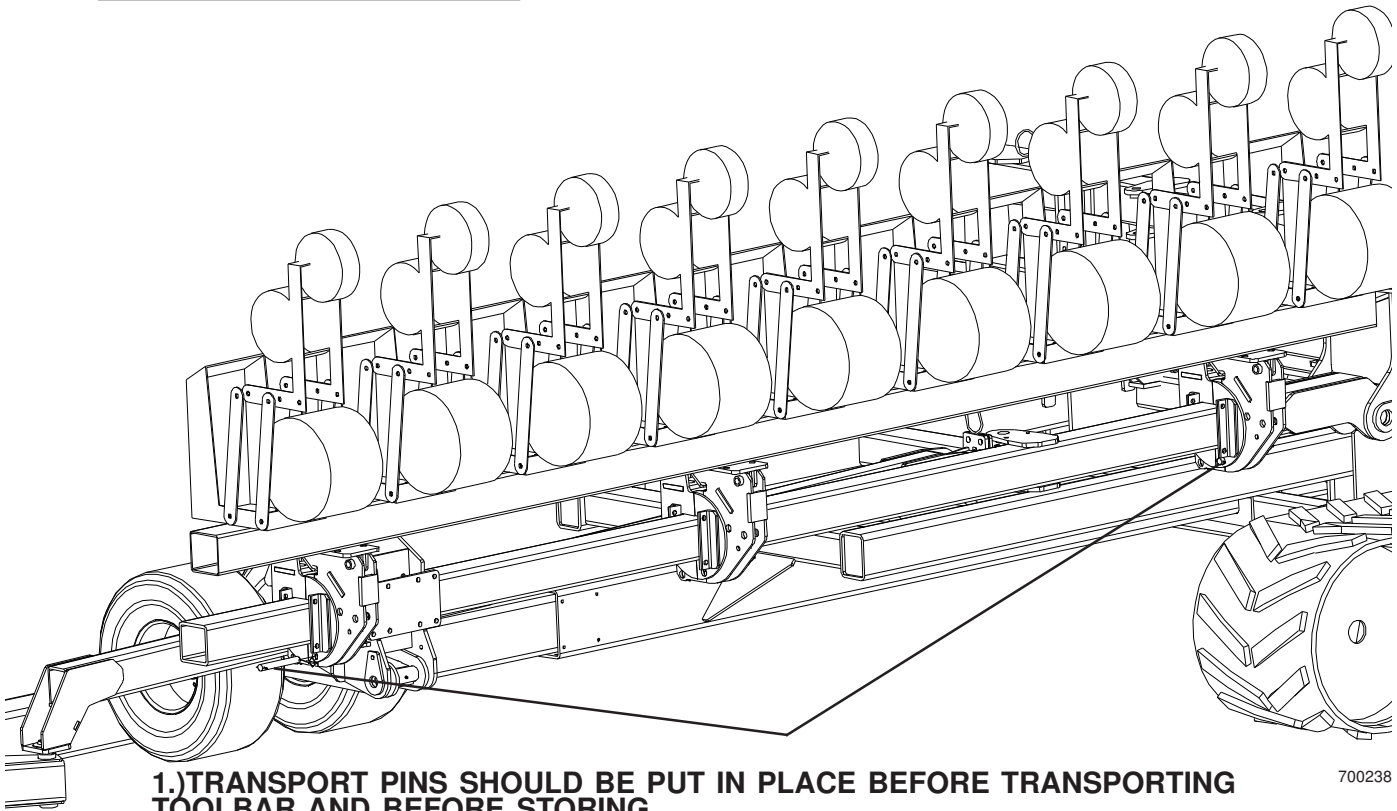
Connect the 3/4 inch hydraulic hose labeled Planter Drive Pressure to the tractor outlet showing an extended cylinder or a + symbol.

Connect the 1 inch hydraulic hose labeled Planter Drive Return to the tractor outlet showing the retracting cylinder or a - symbol.

HYDRAULICS LH SIDE-ROW UNIT DRIVE



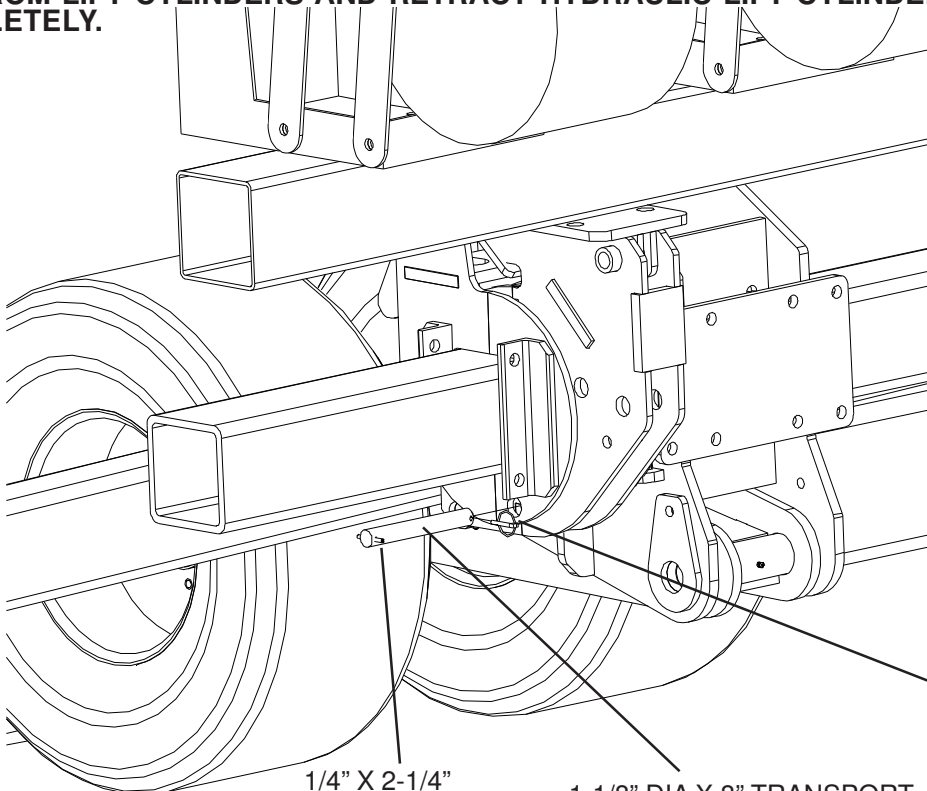
TRANSPORT PINS



700238

1.) TRANSPORT PINS SHOULD BE PUT IN PLACE BEFORE TRANSPORTING TOOLBAR AND BEFORE STORING TWO PINS ON THE RH & LH INNER WINGS & OUTER WINGS(8TOTAL)

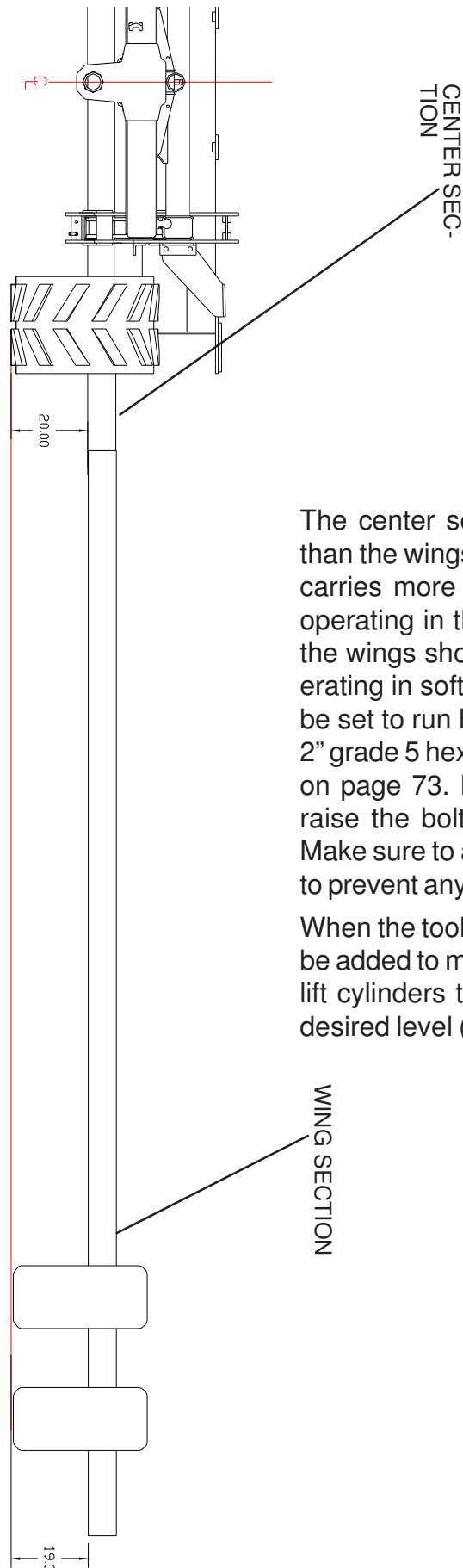
2.) BEFORE TRANSPORTING TOOLBAR REMOVE ALL DEPTH STOP COLLARS FROM LIFT CYLINDERS AND RETRACT HYDRAULIC LIFT CYLINDERS COMPLETELY.



1/4" X 2-1/4"
ROLL PIN
(42484)

1-1/8" DIA X 8" TRANSPORT
PIN(243811)

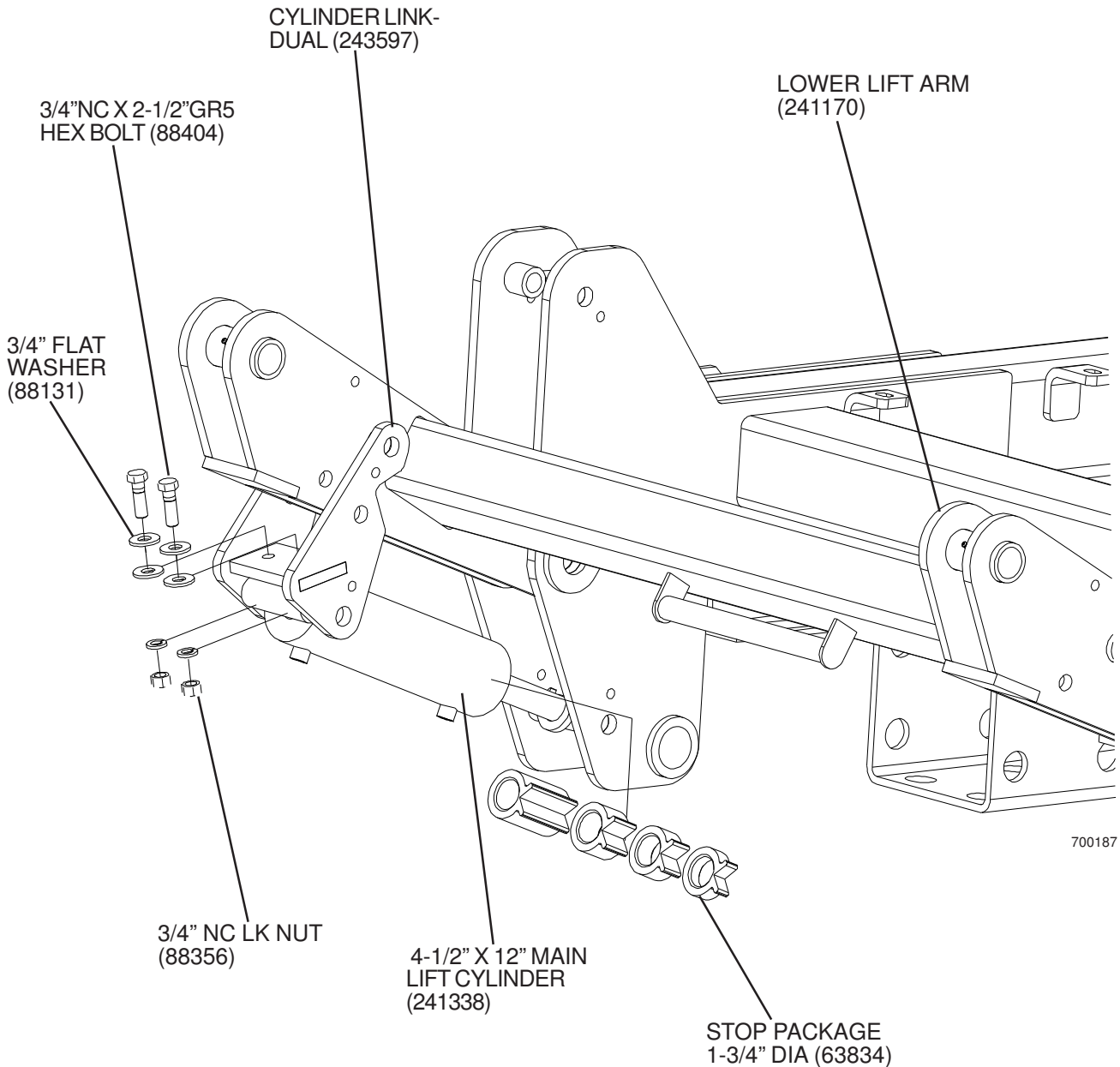
CLICK PIN 1/4" X
1-1/4" (23013)



The center section is set to run 1" higher than the wings as shown. The center section carries more weight than the wings. When operating in the field the center section and the wings should all run level. If you are operating in soft ground the center section can be set to run higher by adding (4) 3/4" x 2-1/2" grade 5 hex bolts in the link arms as shown on page 73. Flat washers can be added to raise the bolts higher or lower as desired. Make sure to add this hardware to both sides to prevent any twisting on the lift arms.

When the toolbar is set level-stop collars can be added to main lift cylinders and to the wing lift cylinders to set the toolbar height to the desired level (see page 73).

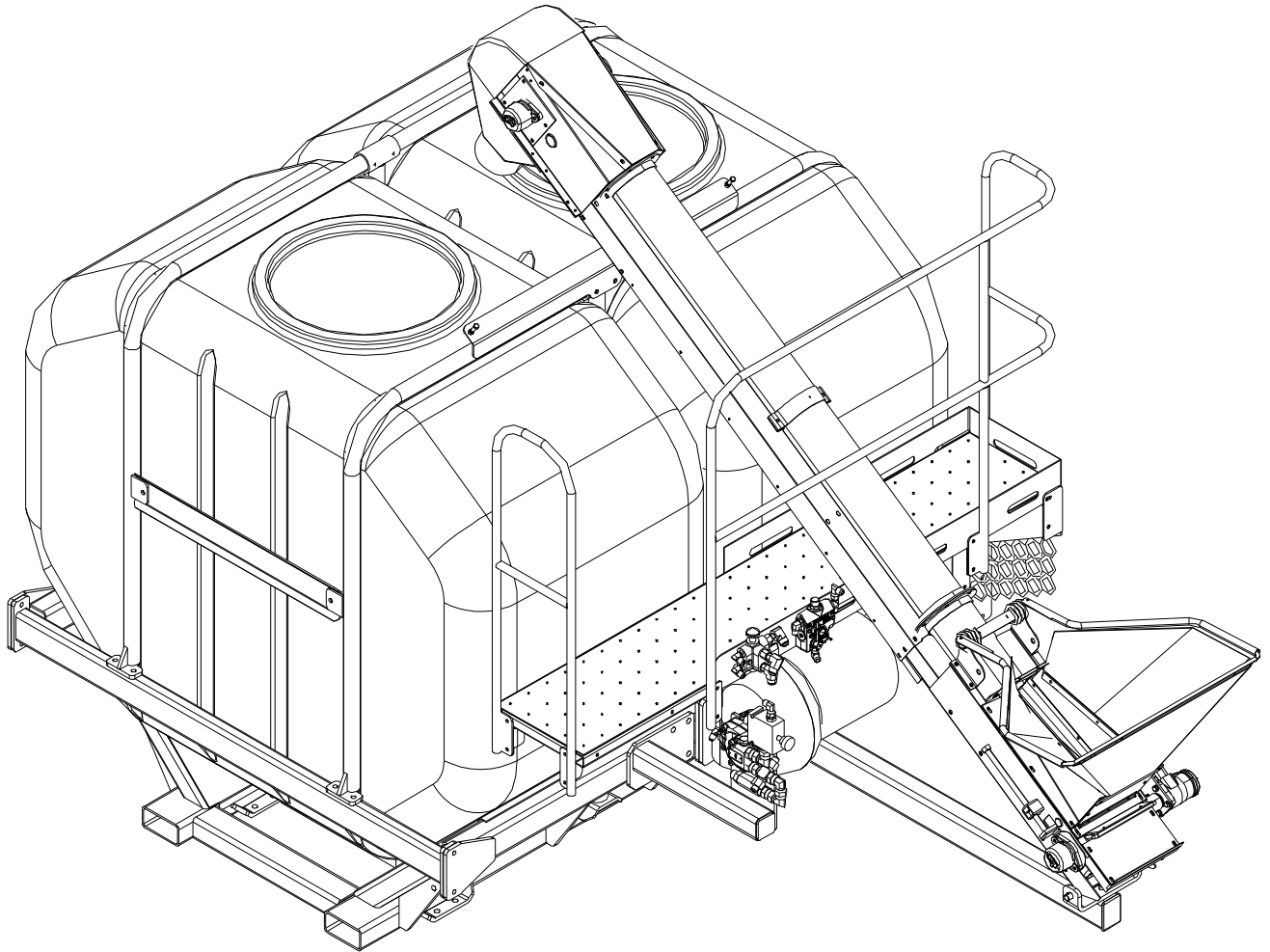
LEVELING



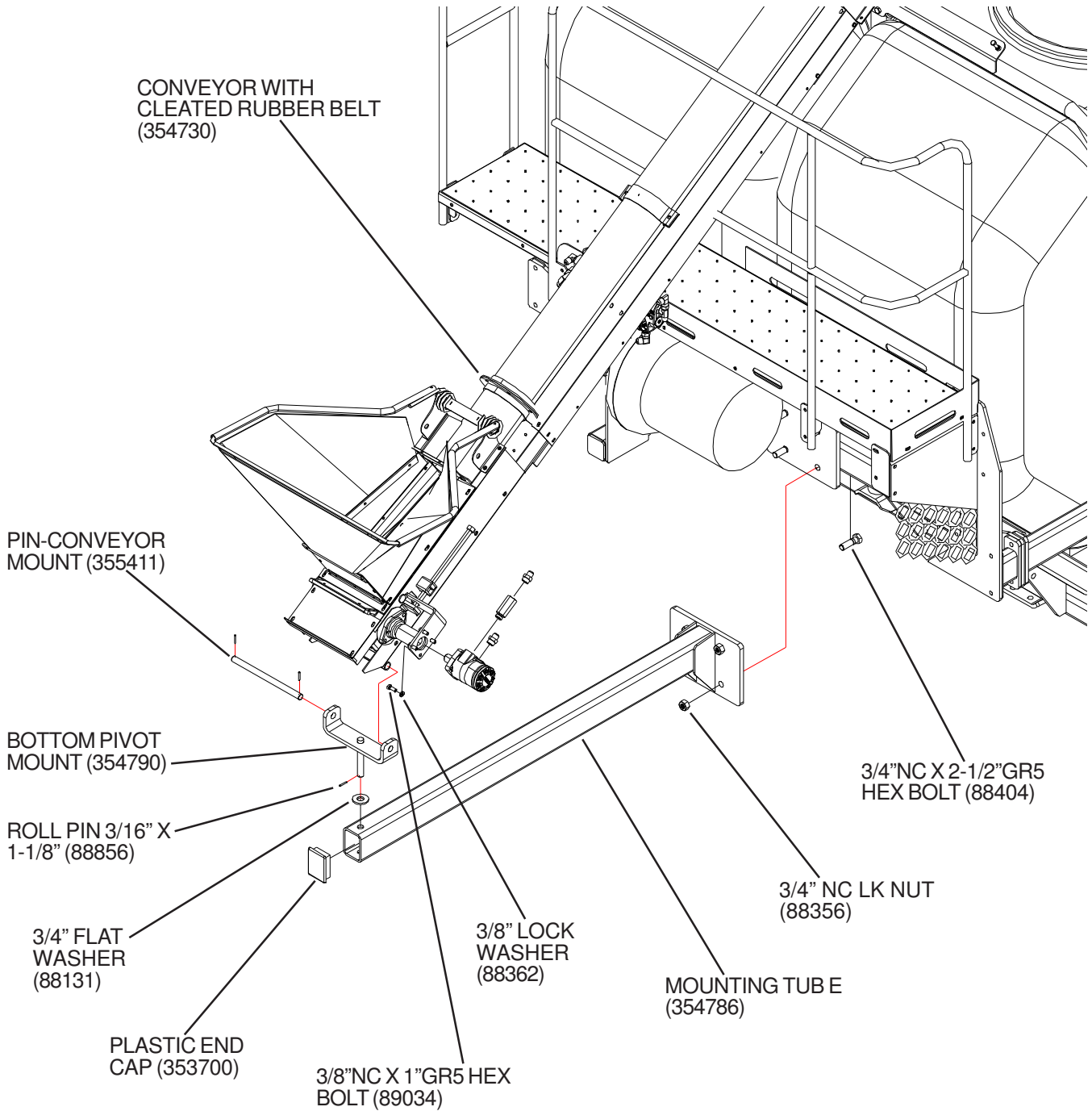
DEPTH STOP COLLARS SHOULD BE USED ON ALL LIFT CYLINDERS.

BEFORE TRANSPORTING TOOLBAR REMOVE ALL DEPTH STOP COLLARS FROM LIFT CYLINDERS AND RETRACT HYDRAULIC LIFT CYLINDERS COMPLETELY. THE BEST WAY TO DO THIS IS TO TILT TOOLBARS UP 90° AND FORWARD FOLD WINGS. BEFORE RETRACTING LIFT CYLINDERS REMOVE ALL DEPTH STOP COLLARS.

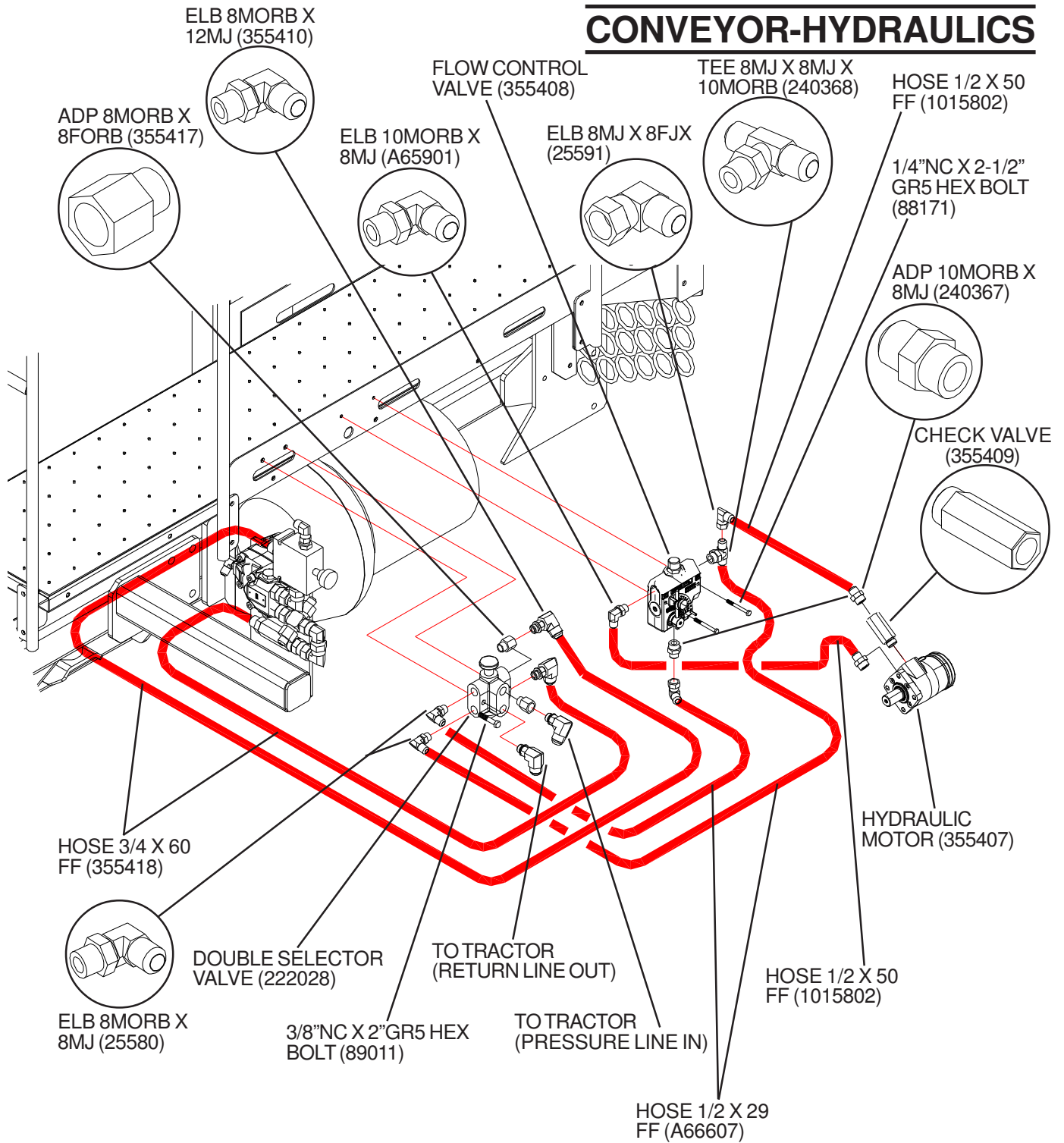
BELT CONVEYOR (OPTIONAL)



CONVEYOR-MAIN MOUNT



CONVEYOR-HYDRAULICS



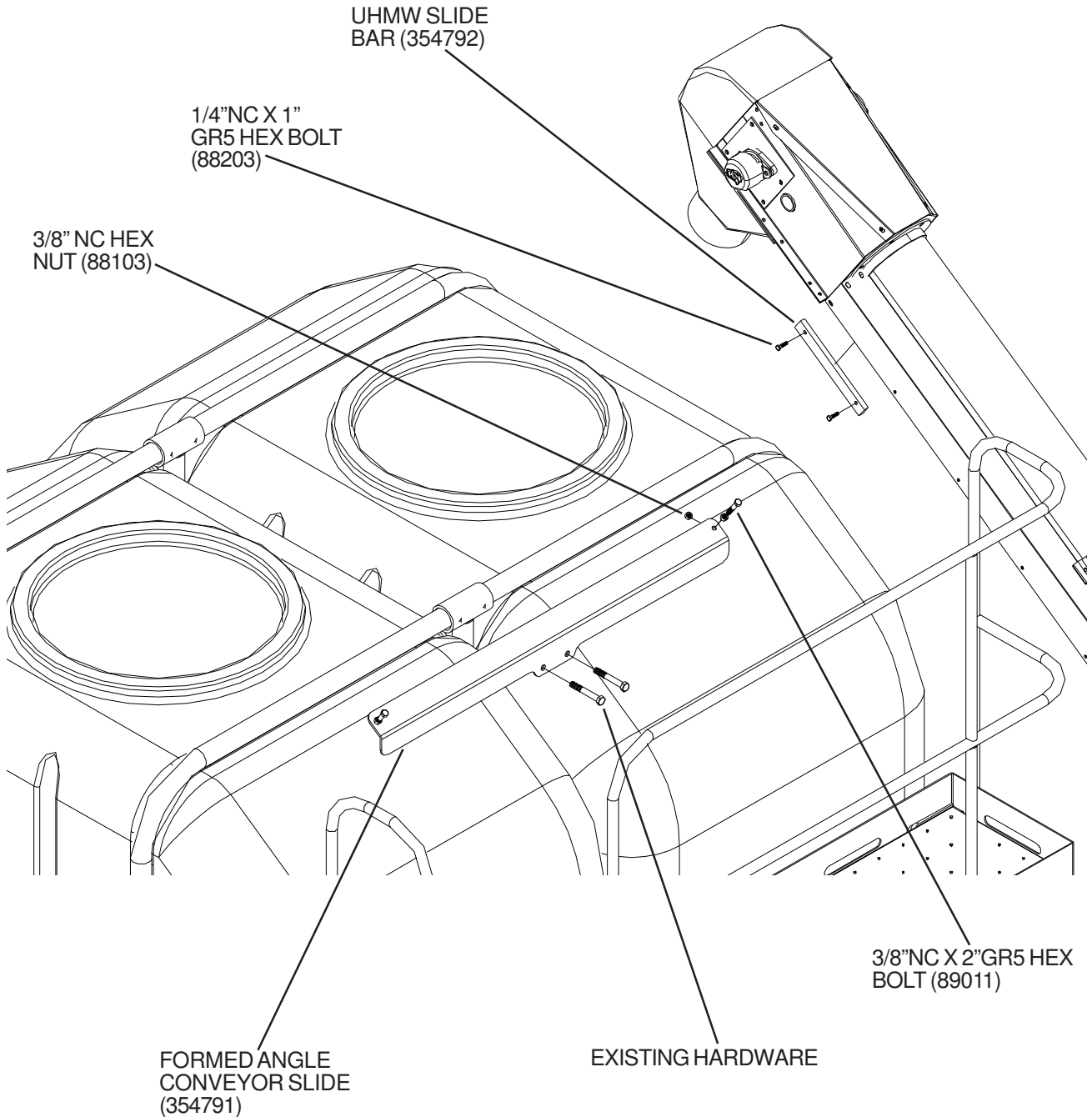
SELECTOR VALVE POSITION:

DOWN - CFS FAN

UP - CONVEYOR

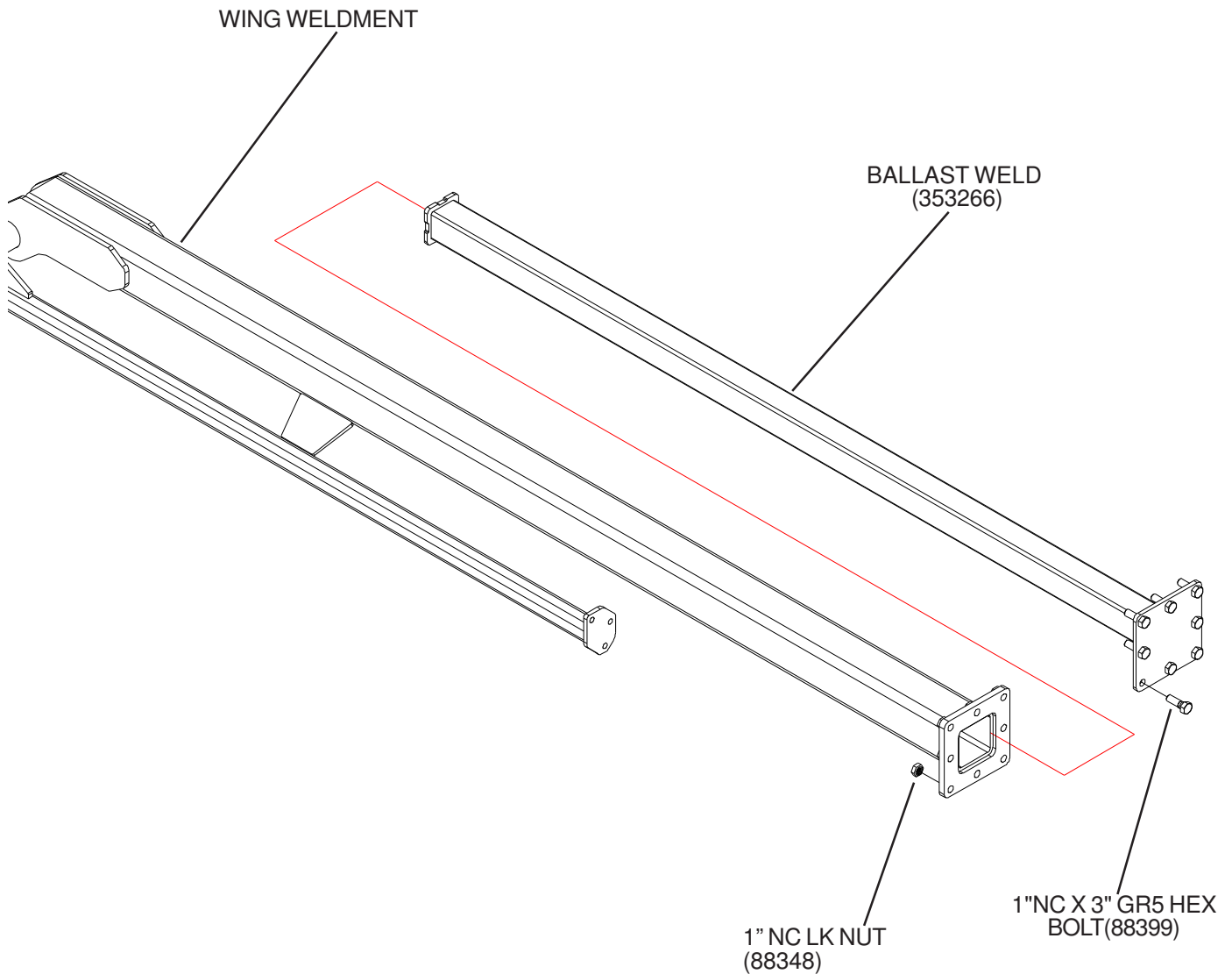
CONVEYOR-TOP SLIDE

MOUNT UHMW BAR(354792) ON THE INSIDE OF THE CONVEYOR FLANGE ON BOTH SIDES.



USE EXISTING HARDWARE TO MOUNT FORMED ANGLE(354791) IN PLACE.

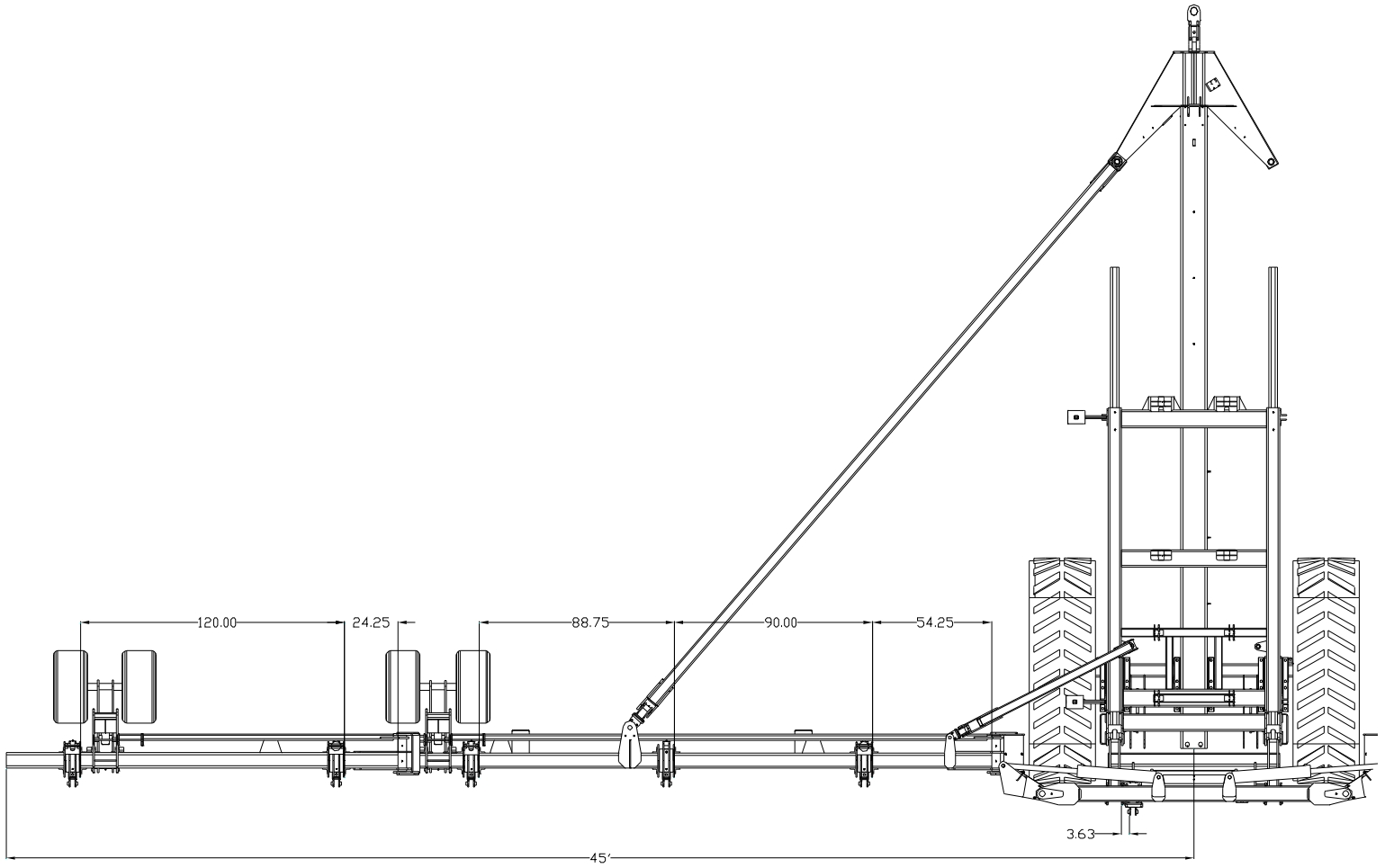
WEIGHT BALANCE KIT (OPTIONAL)



INSERT BALLAST IN END OF WING TUBES(LH & RH) AND SECURE WITH HARDWARE SHOWN. USE CAUTION WHEN TRANSPORTING TOOLBAR AS THIS ADDITIONAL WEIGHT WILL ADD TO VERTICAL LOAD ON DRAWBAR.

ASSEMBLY INFORMATION

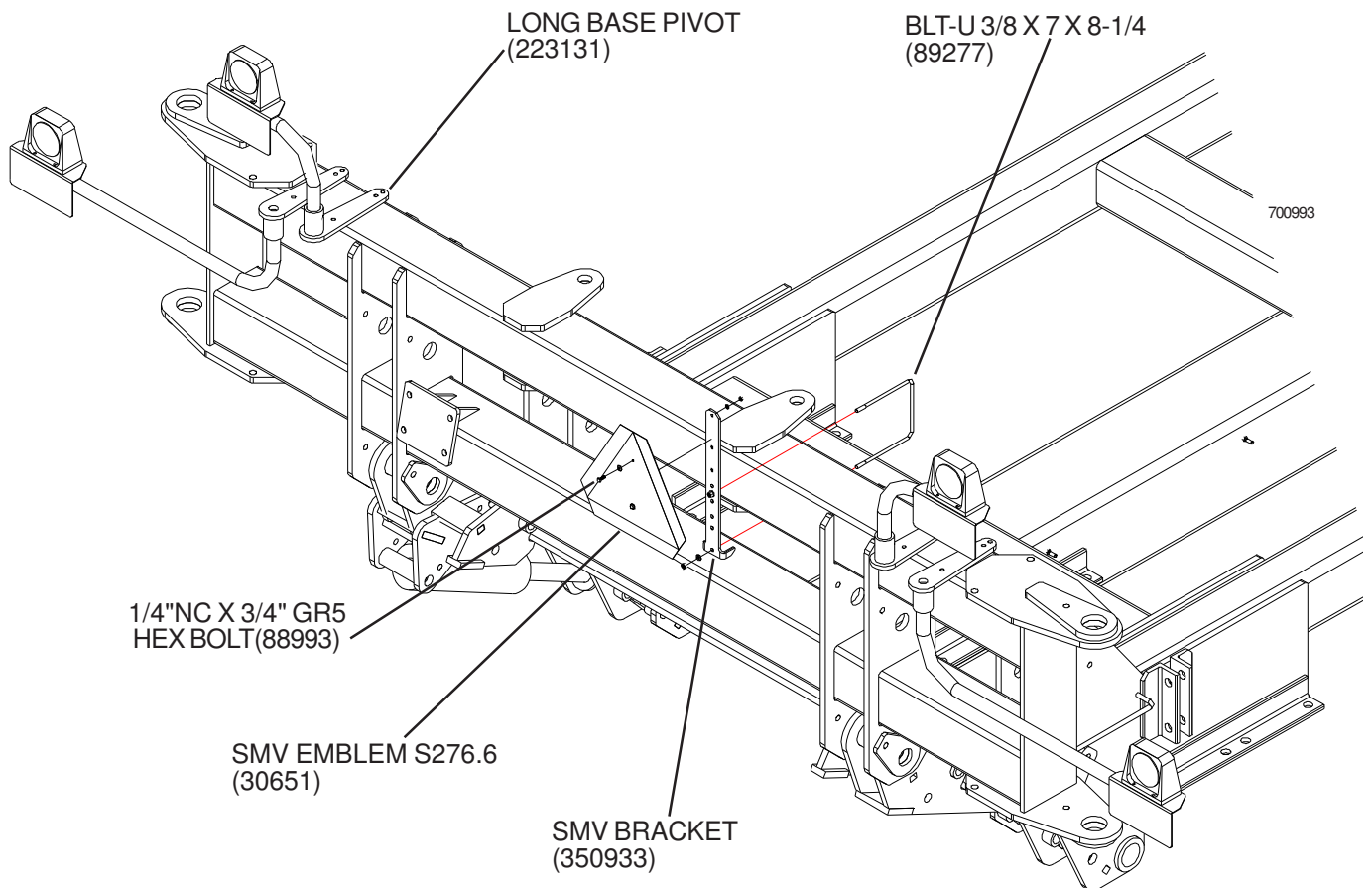
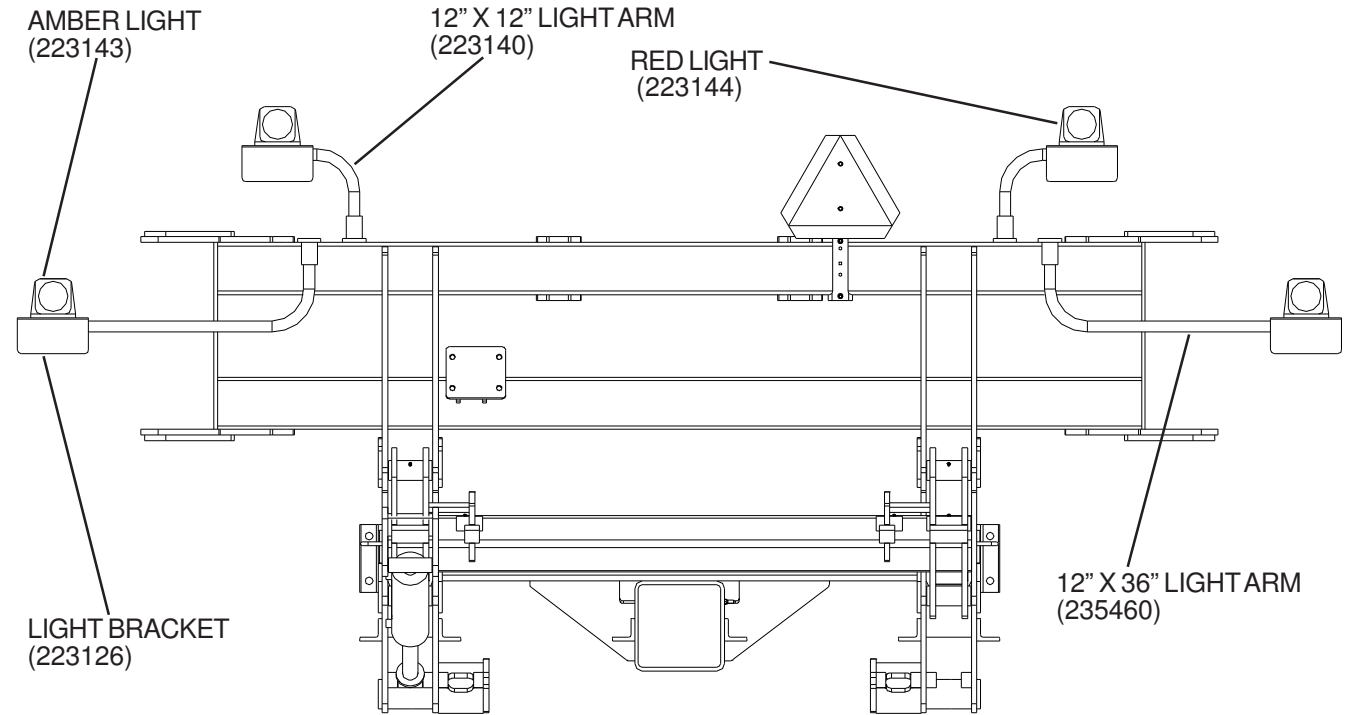
36 ROW 30" SPACING 90FT



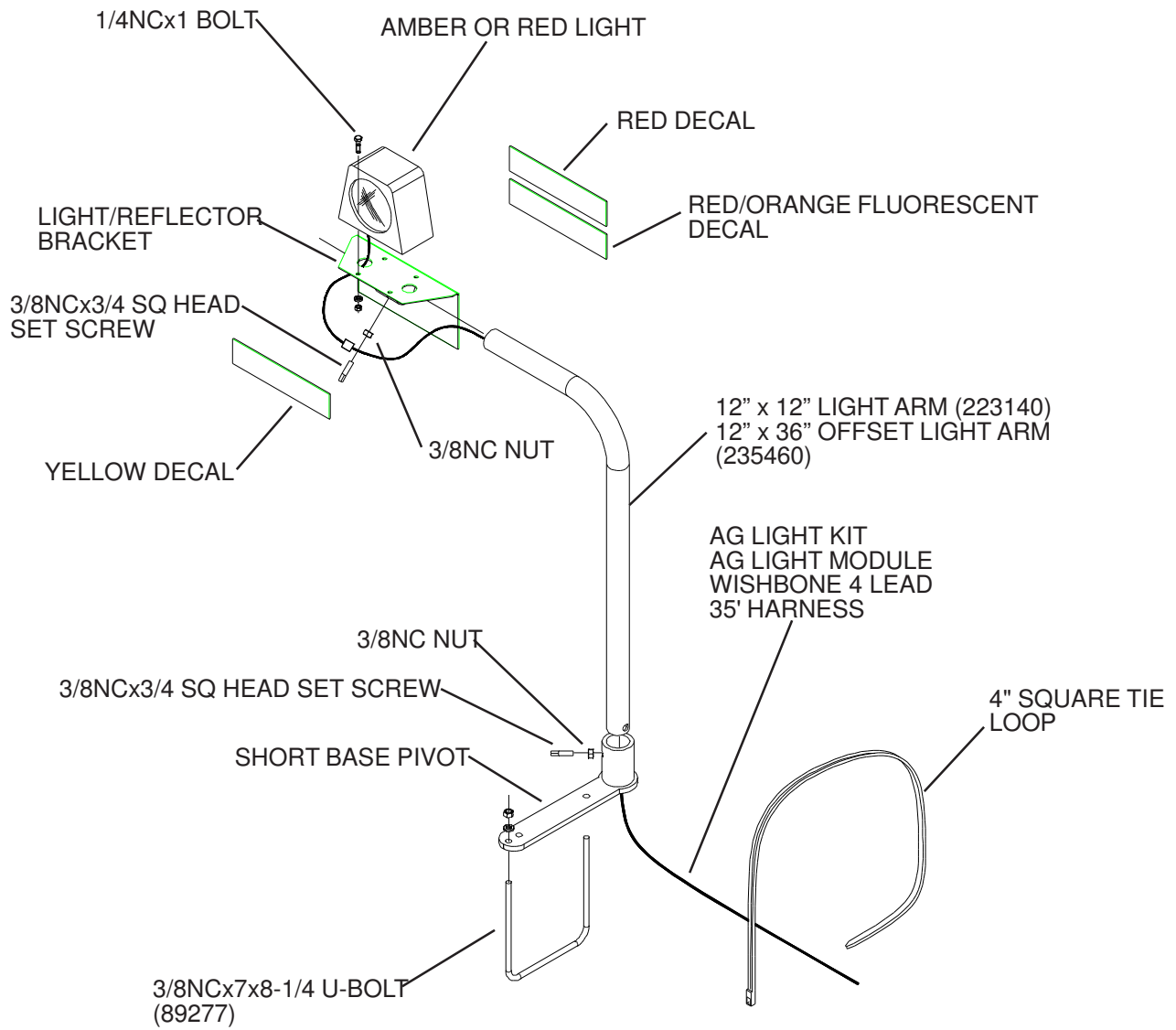
700874

BEARING LOCATION DIMENSIONS START FROM THE END OF THE 7" SQ TUBE

LIGHT PLACEMENT



LIGHTS



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