



OPERATOR'S MANUAL

ASSEMBLY & OPERATING

PT 7722 PULL-TYPE ROW CROP CULTIVATOR



PO Box 1030
Wahpeton, ND 58074
PH (701) 642-2621
Fax (701) 642-3372
Parts Fax (701) 642-3819

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.

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.

WIL-RICH LLC

Wahpeton, ND

Serial

Number:



Made in USA

When in need of parts, always specify the model and serial number. Write this number in the space provided. The serial number plate is on the left main toolbar located on the left side of the lower 7x7.

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.

TRADEMARKS

Other product and company names mentioned herein may be trademarks of their respective owners. The use of these names are for reference only, Wil-Rich uses the names only to aid in distinguishing different setups of the Cultivator Bar.

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Folding Procedure

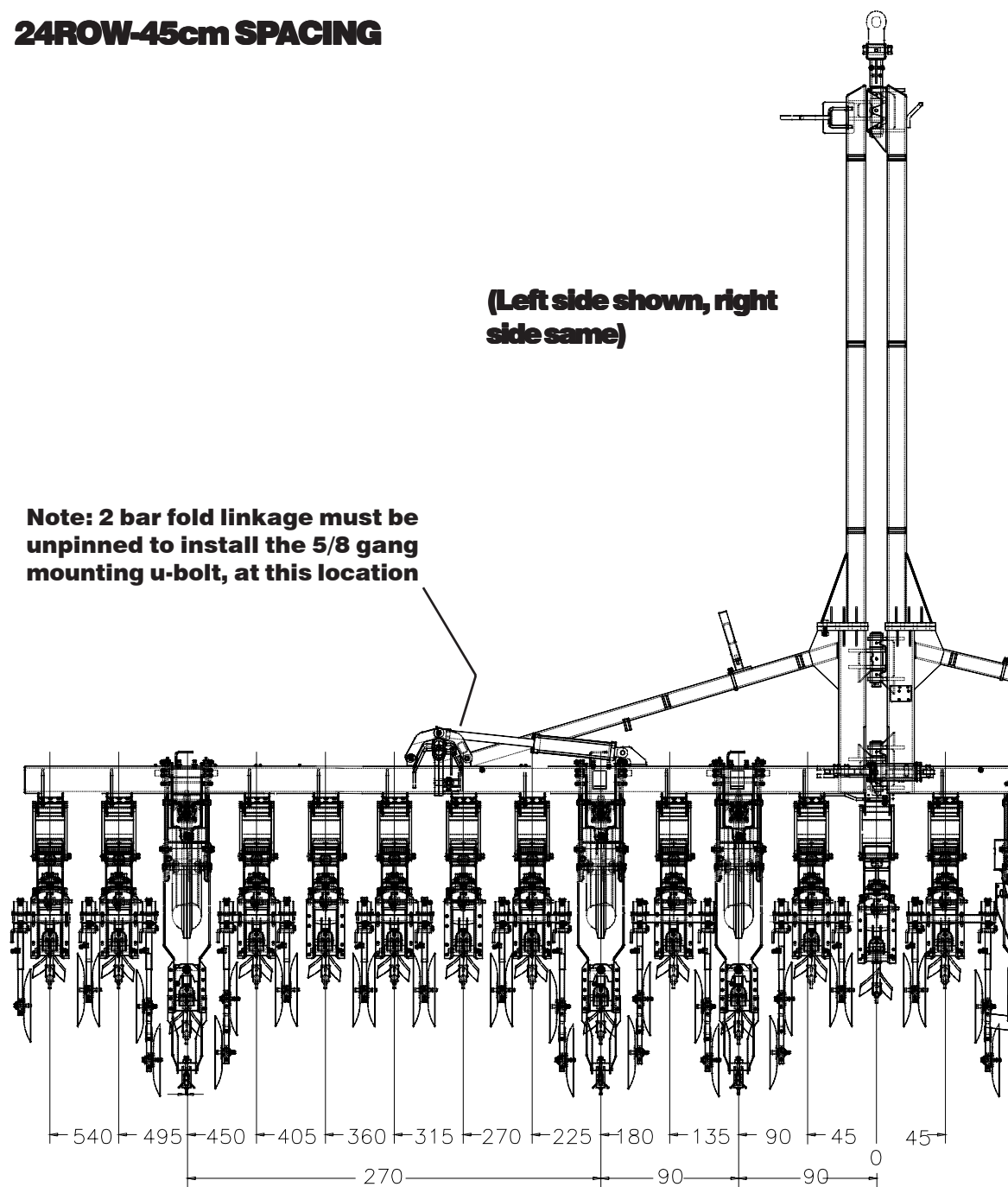
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ASSEMBLY INFORMATION

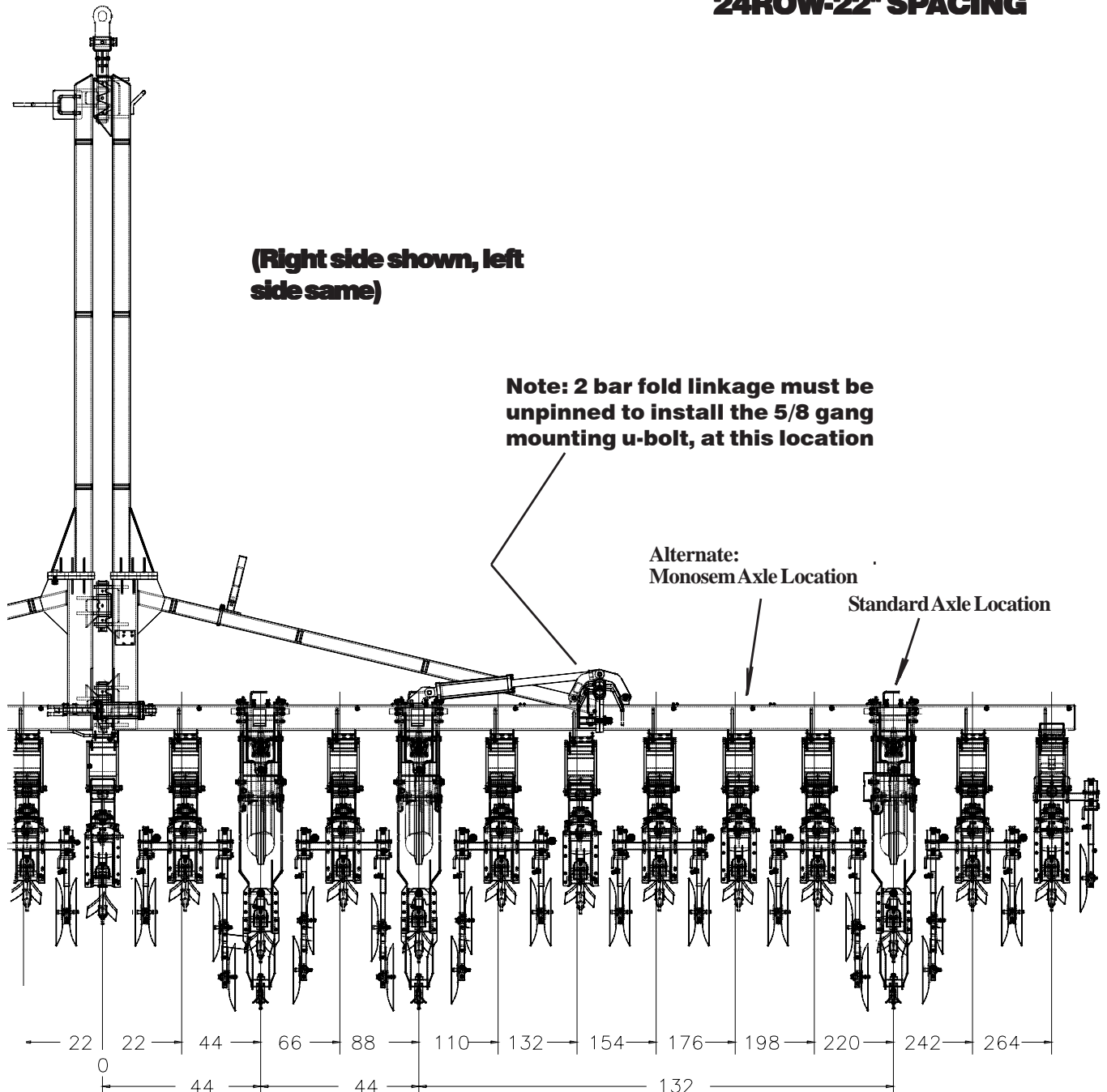
Gang Placement

24ROW-45cm SPACING



dimensions are in centimeters
(cm)

24ROW-22" SPACING

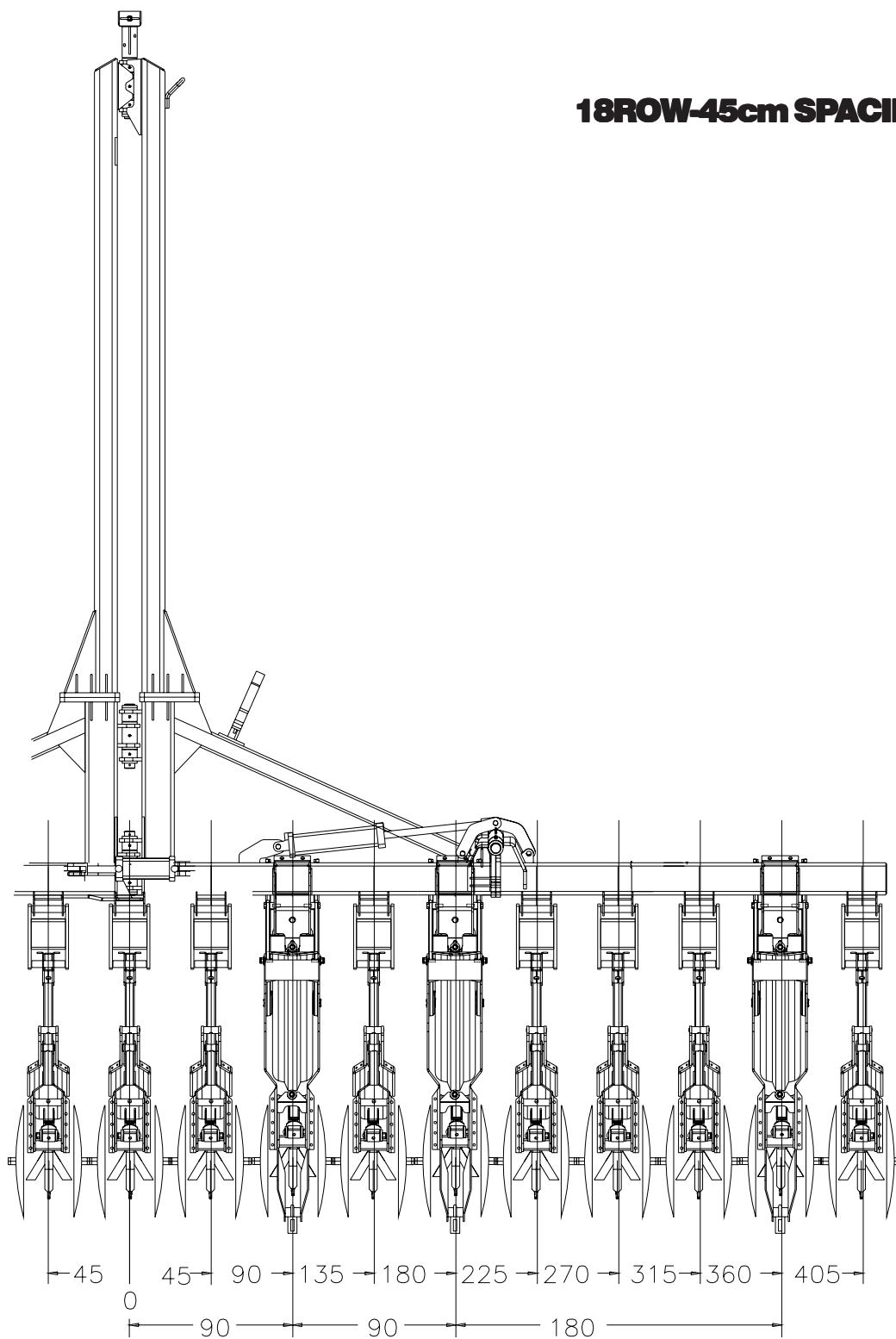


**dimensions are in
inches (") (in)**

ASSEMBLY INFORMATION

Gang Placement

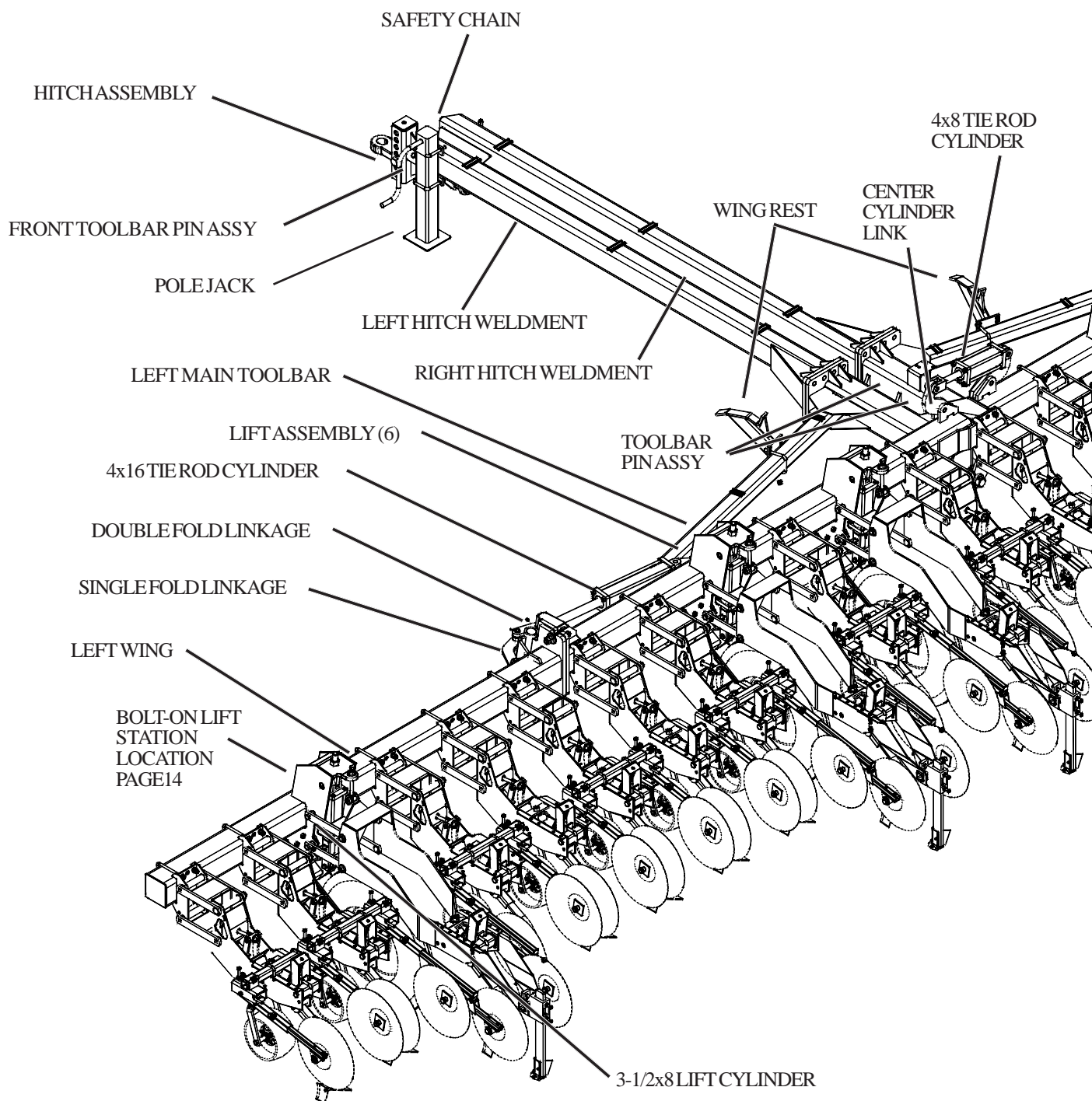
18ROW-45cm SPACING



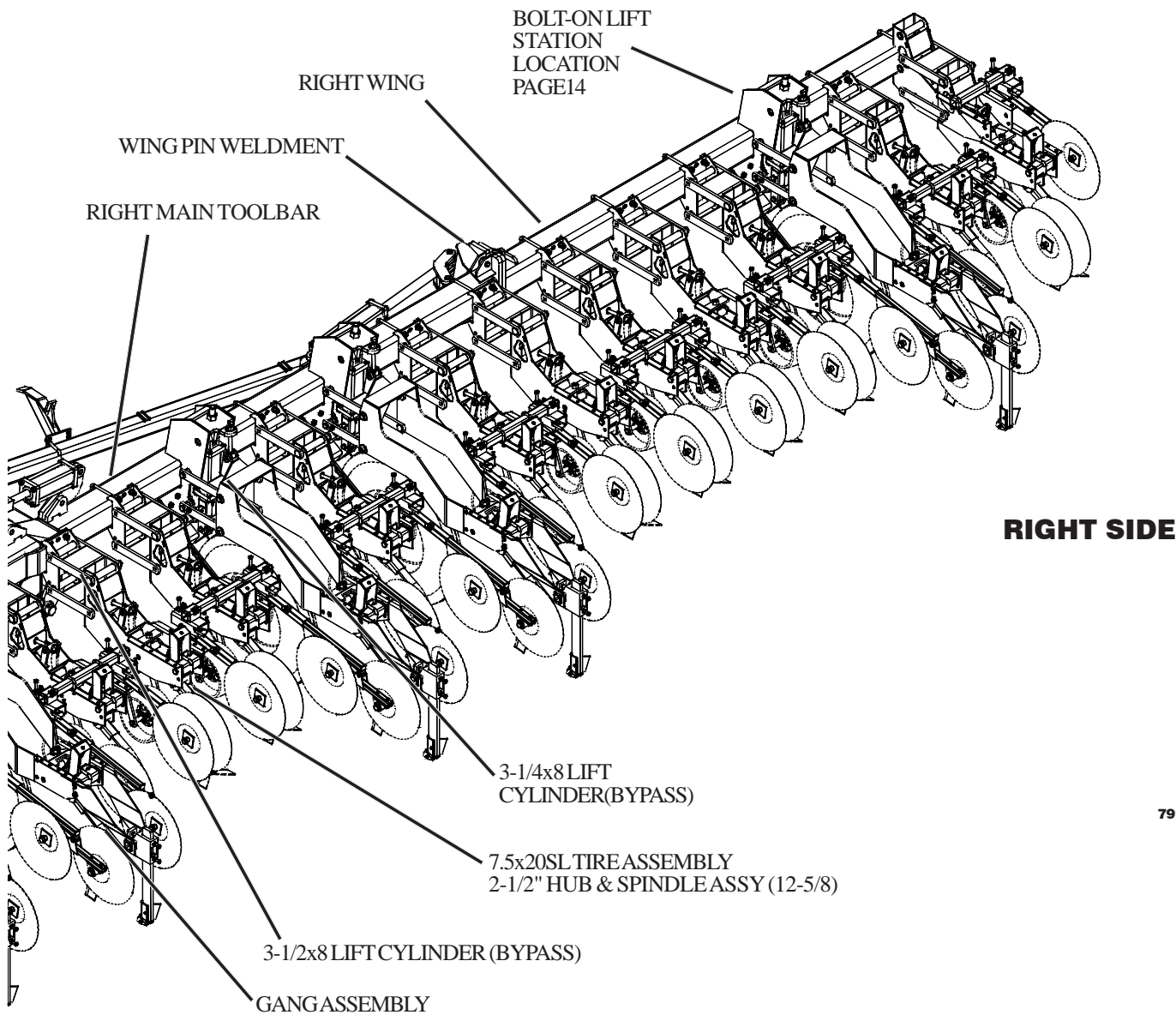
dimensions are in centimeters (cm)

ASSEMBLY INFORMATION



COMPONENT LAYOUT



LEFT SIDE

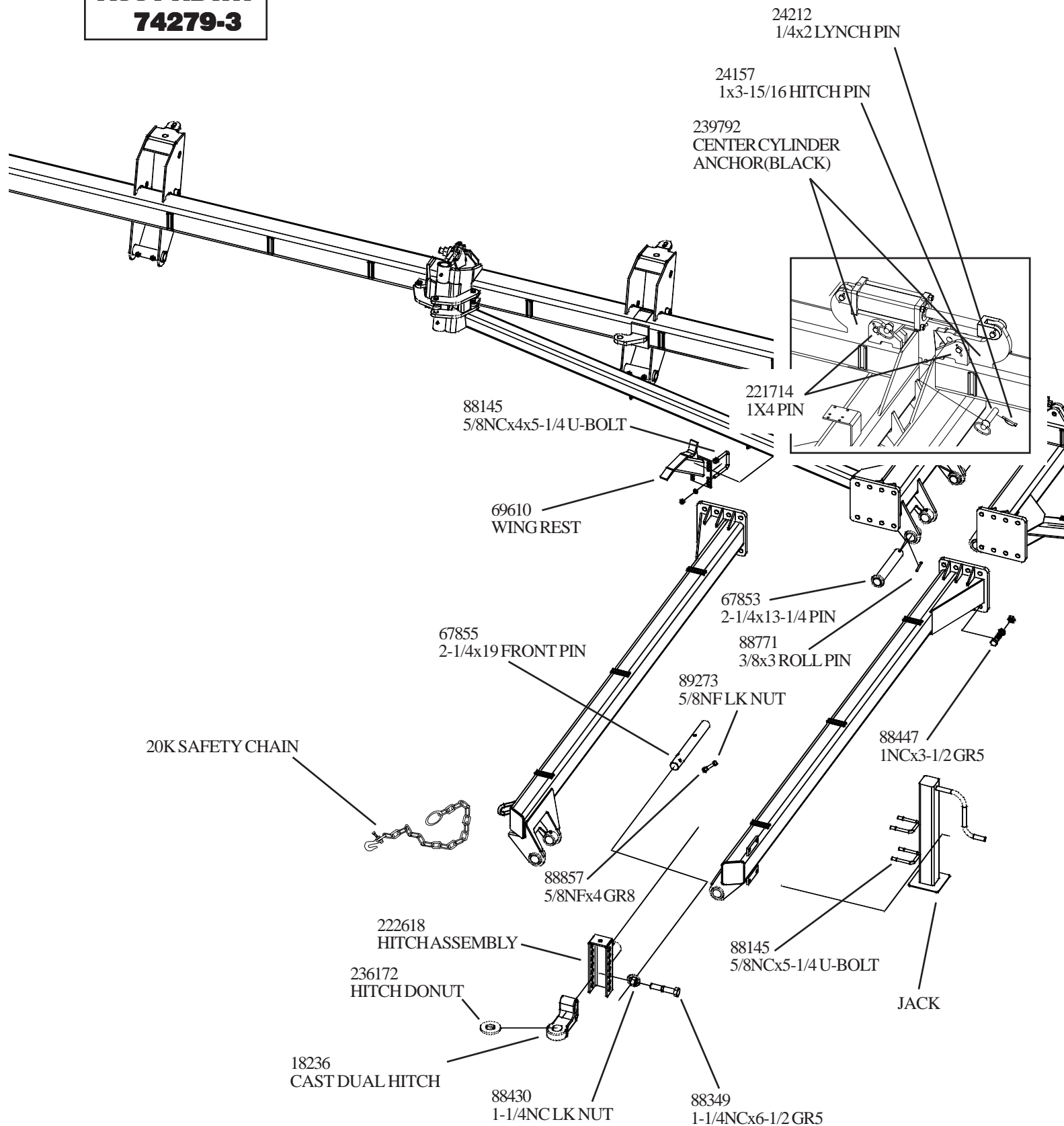


79160

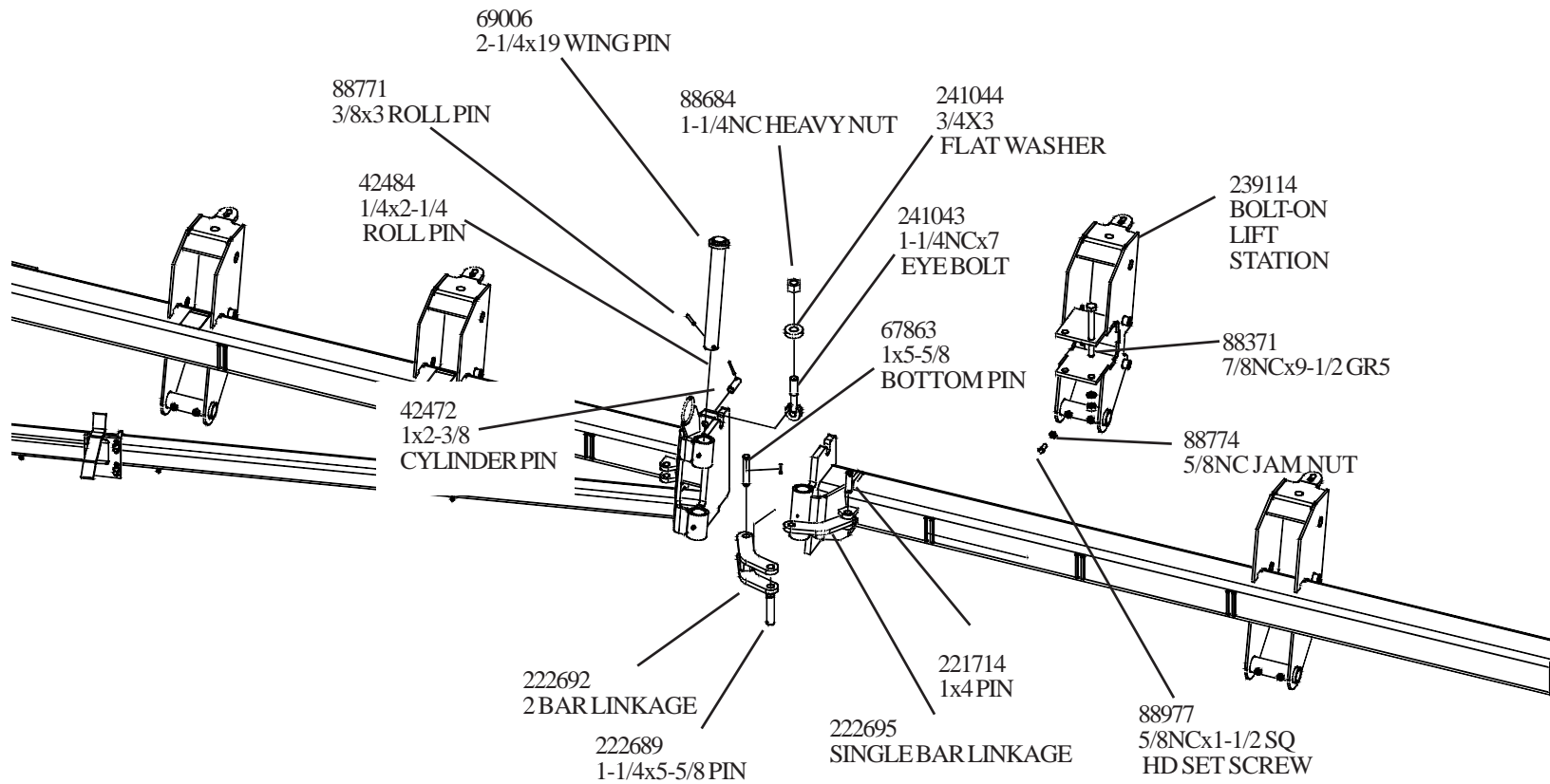
 <p>THINK! Safety First.</p>	<div style="background-color: orange; color: black; padding: 5px; text-align: center;">  WARNING </div> <p>To avoid Injury, Death or Machine Damage:</p> <ul style="list-style-type: none"> • Avoid unsafe operation or maintenance. • Make sure tractor engine is turned off before performing maintenance. • Do not operate or work on this machine without reading and understanding the operator's manual. • If manual is lost, contact your nearest dealer for a new manual. <p style="text-align: right; font-size: small;">62503</p>
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FRAME ASSEMBLY

**ASSY HDWR
74279-3**

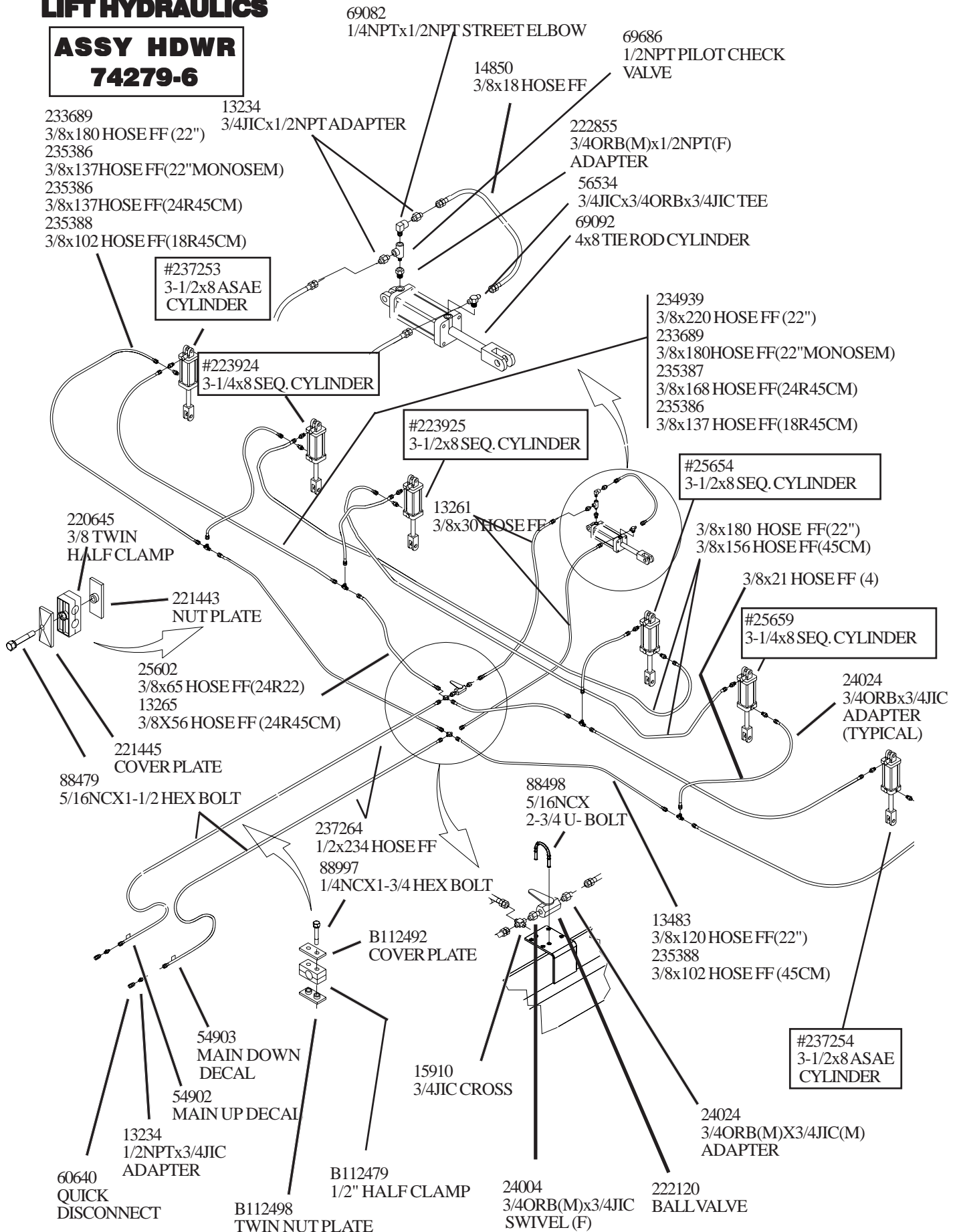


ASSY HDWR **74279-3B**



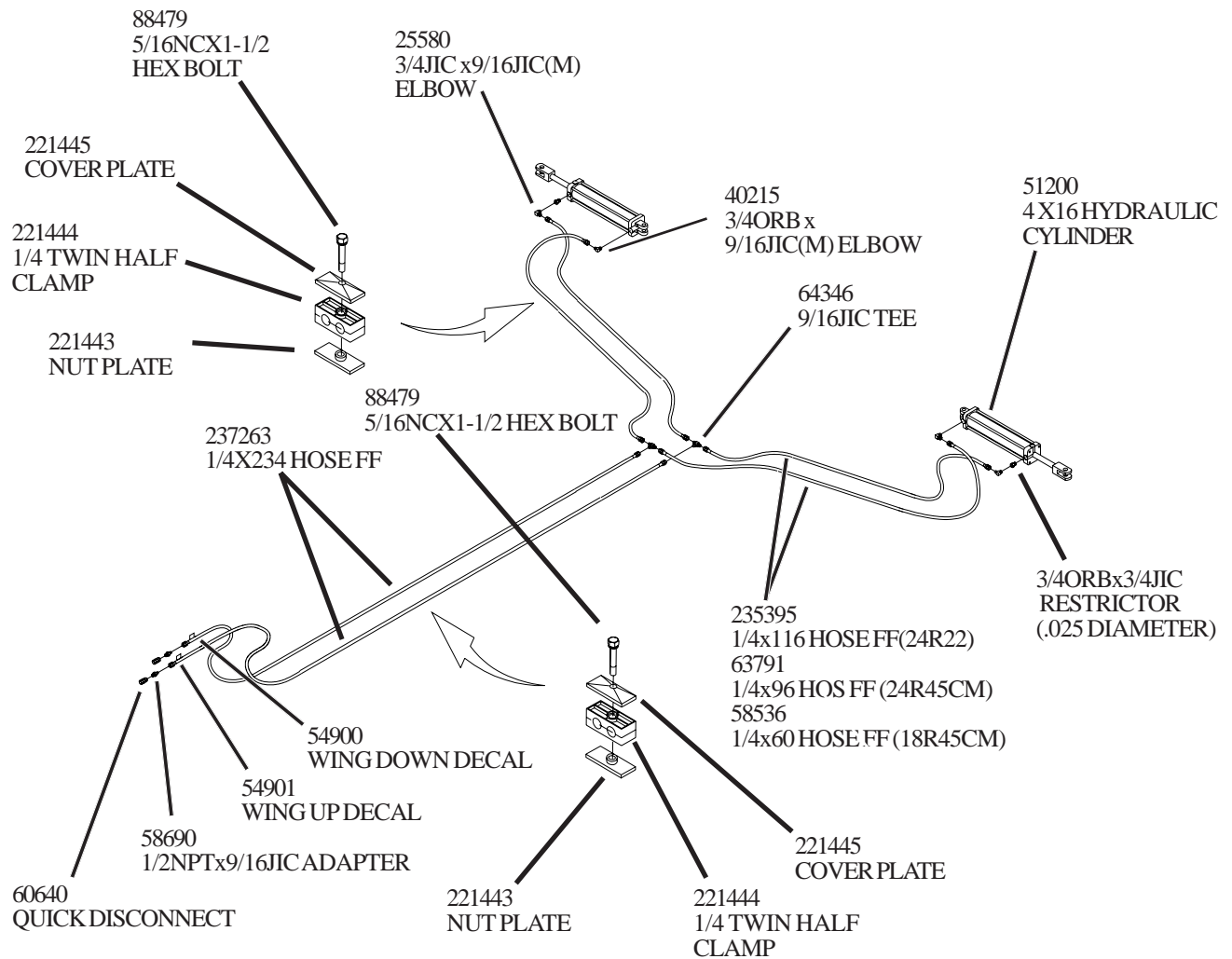
LIFT HYDRAULICS

ASSY HDWR 74279-6



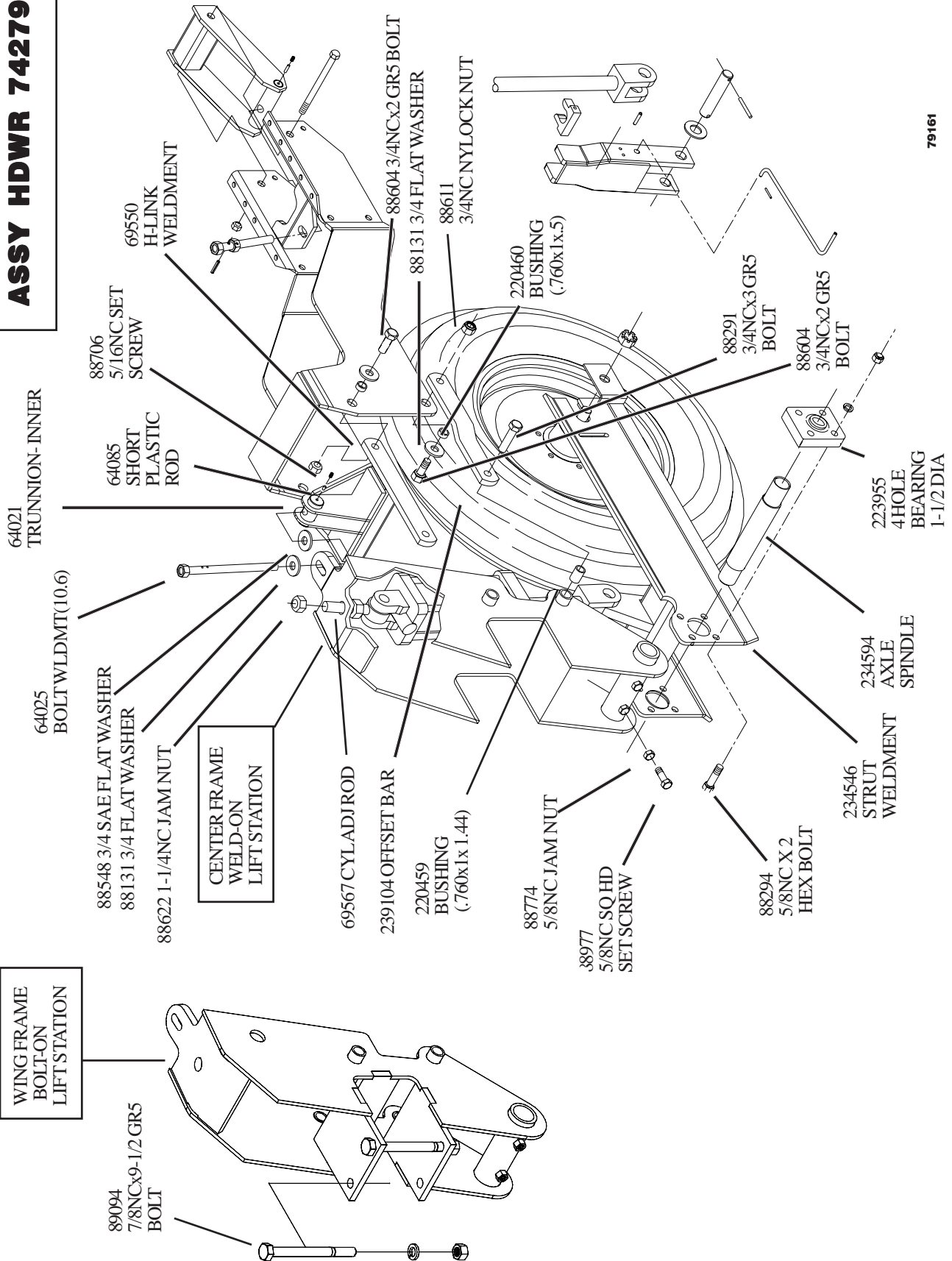
WING FOLD HYDRAULICS

ASSY HDWR 74279-5



LIFT STATION

ASSY HDWR 74279-4



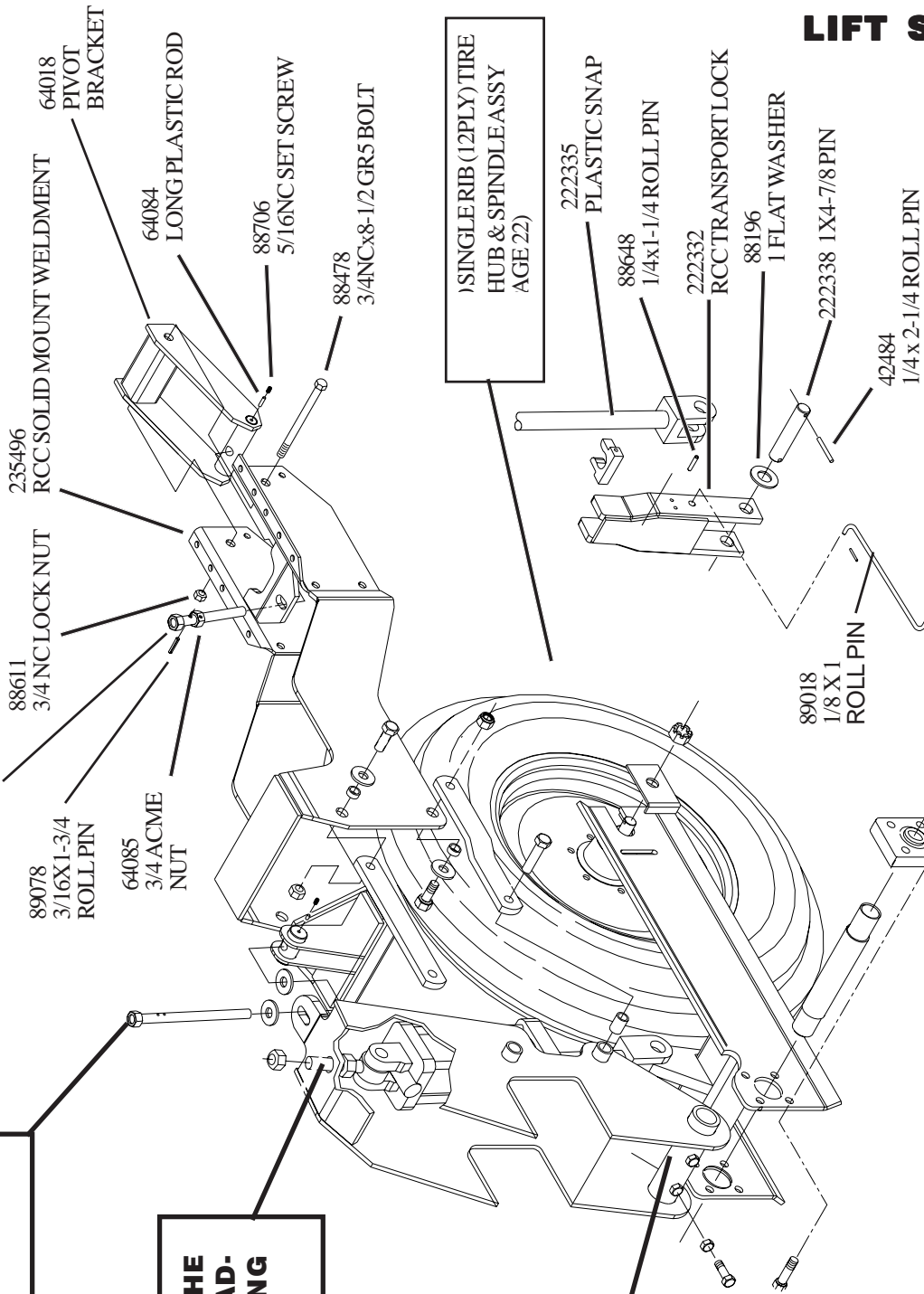
79161

ASSY HDWR 74279-4

234311
BOLT WELDMENT (6.84)

NOTE: DO NOT USE ROLL PINS IN THIS LOCATION, SHANK MUST BE ABLE TO LIFT.

(NOTE: INITIALLY SET IN THE CENTER OF THE THREAD ADJUSTMENT. LOCK SETTING WITH 1-1/4NC JAM NUTS)



1) SINGLE RIB (12PLY) TIRE
HUB & SPINDLE ASSY
(AGE 22)

NOTE: RCC TRANSPORT LOCK MUST REST ON THIS TUBE WHEN COMPLETELY DISENGAGED.

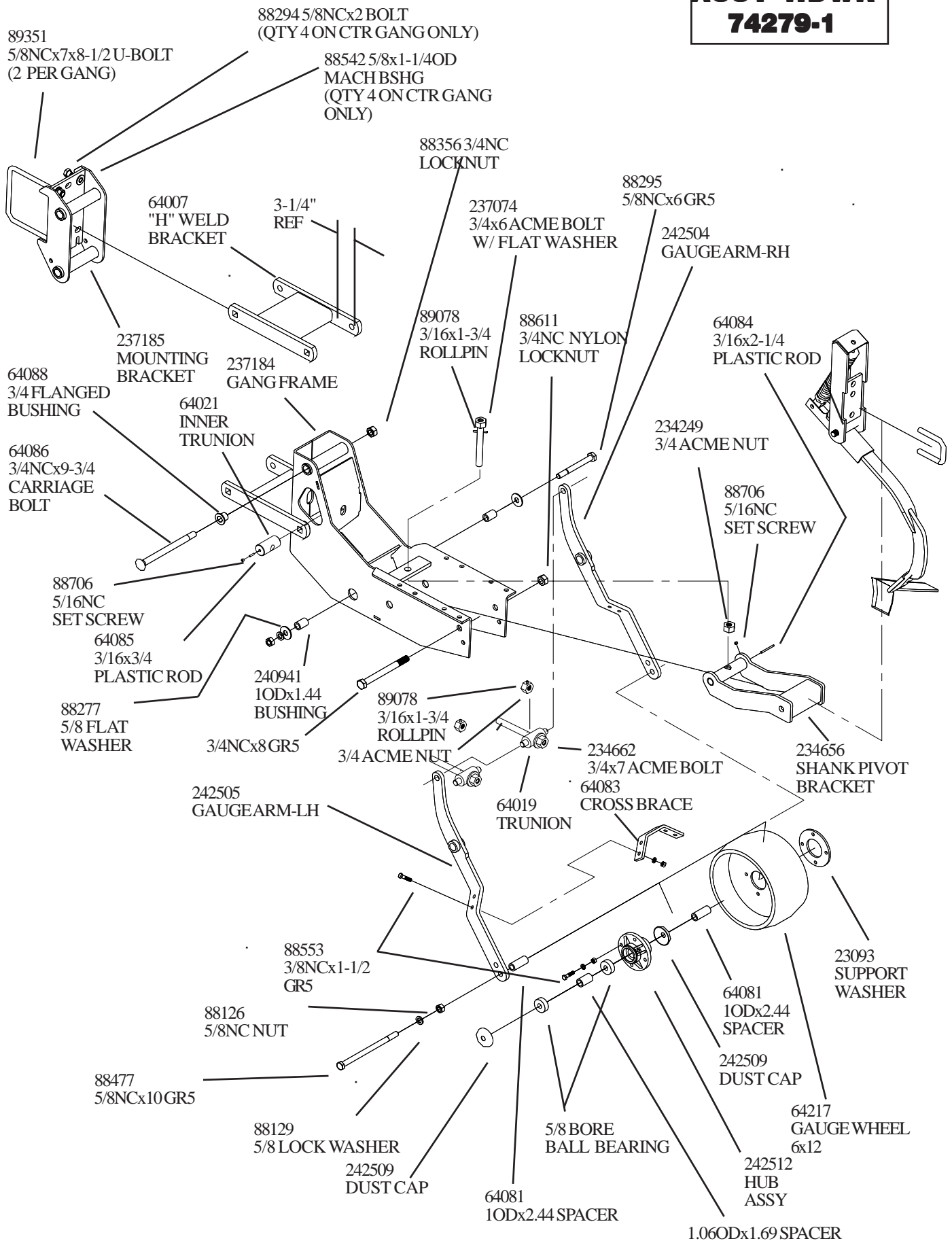
LIFT STATION

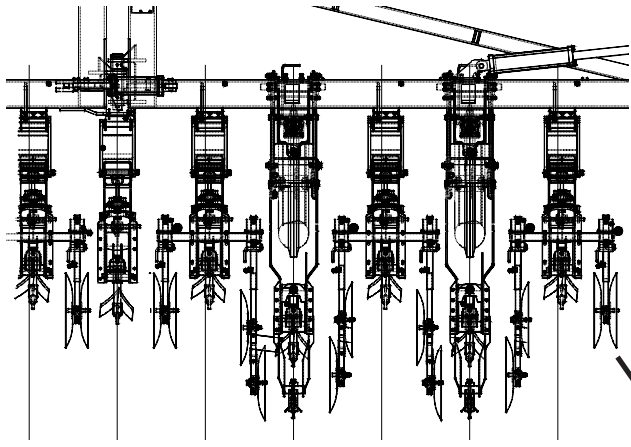
ASSY HDWR 74279-2

79161

CULTIVATOR GANG ASSEMBLY

**ASSY HDWR
74279-1**



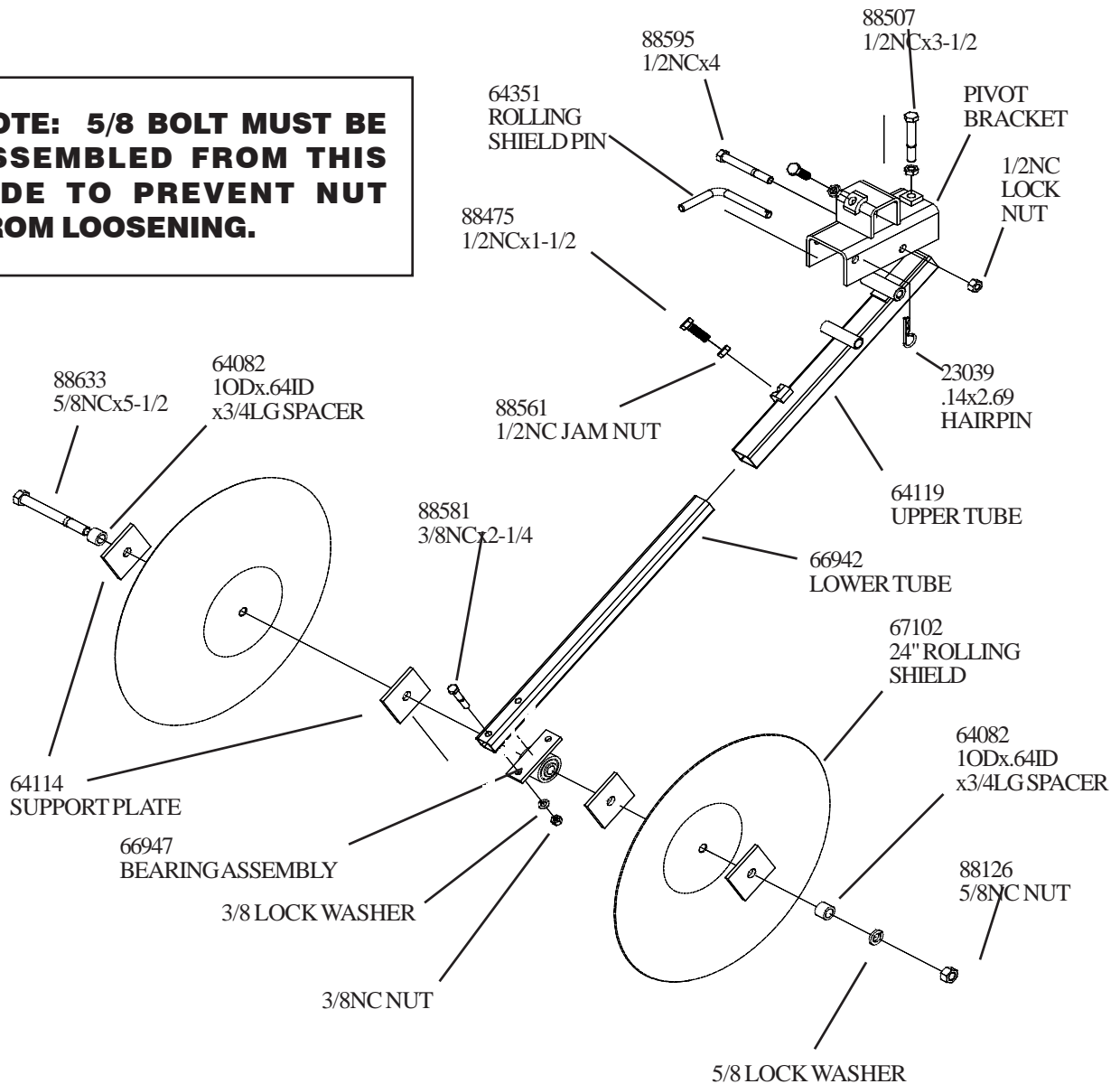


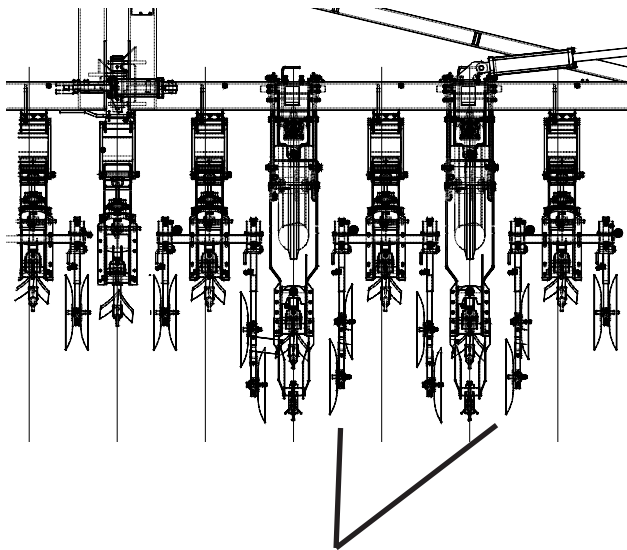
ROLLING SHIELD - SHORT

**ASSY HDWR
74279-7**

ROLLING SHIELD - SHORT

NOTE: 5/8 BOLT MUST BE ASSEMBLED FROM THIS SIDE TO PREVENT NUT FROM LOOSENING.



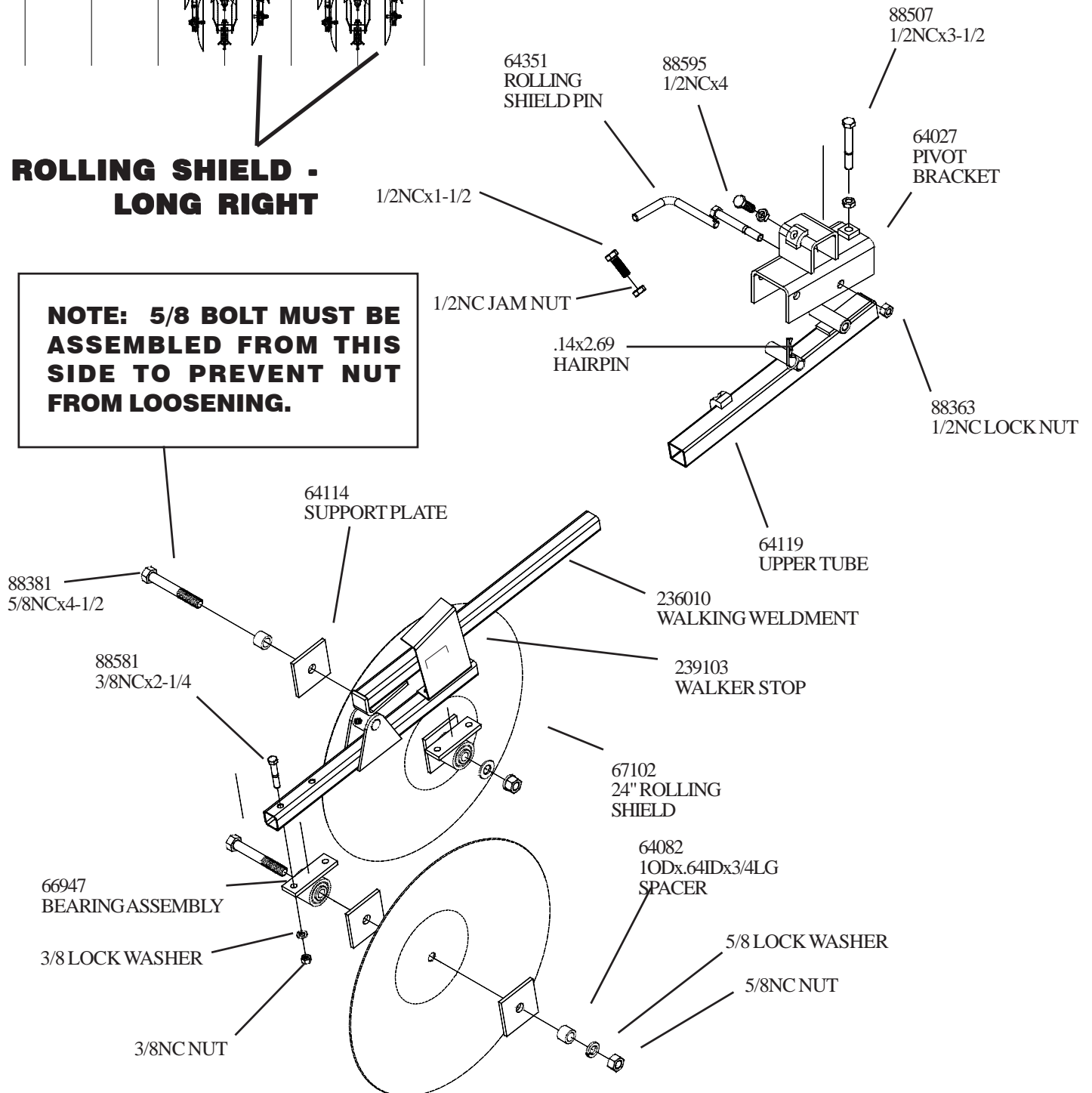


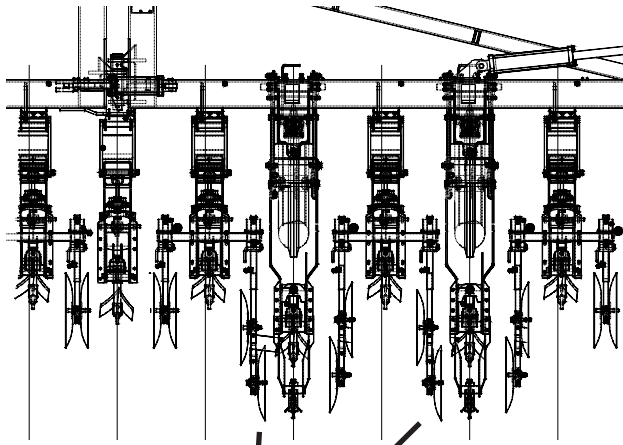
ROLLING SHIELD - LONG RIGHT

**ASSY HDWR
74279-8**

ROLLING SHIELD - LONG RIGHT

**NOTE: 5/8 BOLT MUST BE
ASSEMBLED FROM THIS
SIDE TO PREVENT NUT
FROM LOOSENING.**



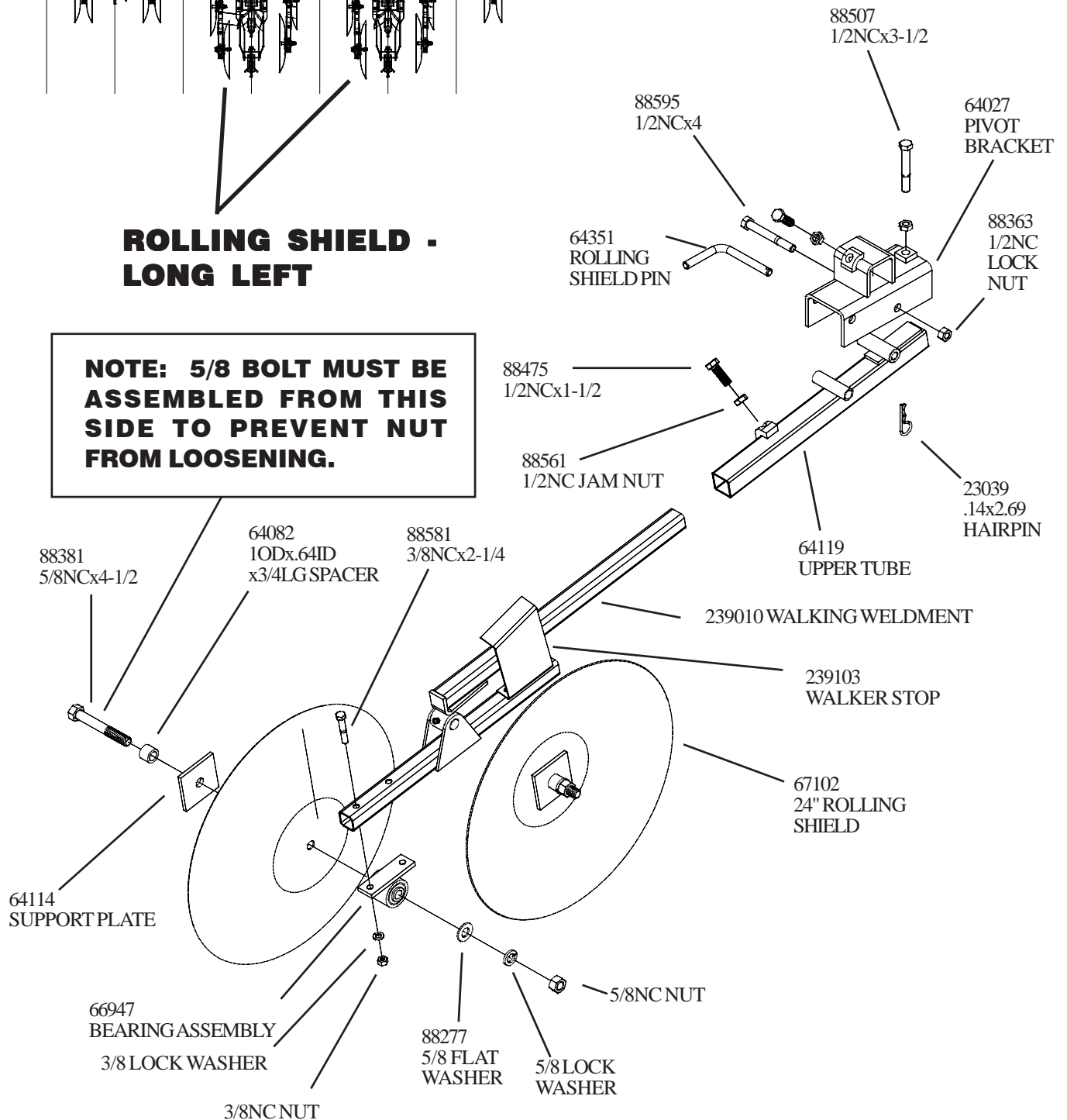


ROLLING SHIELD - LONG LEFT

**ASSY HDWR
74279-9**

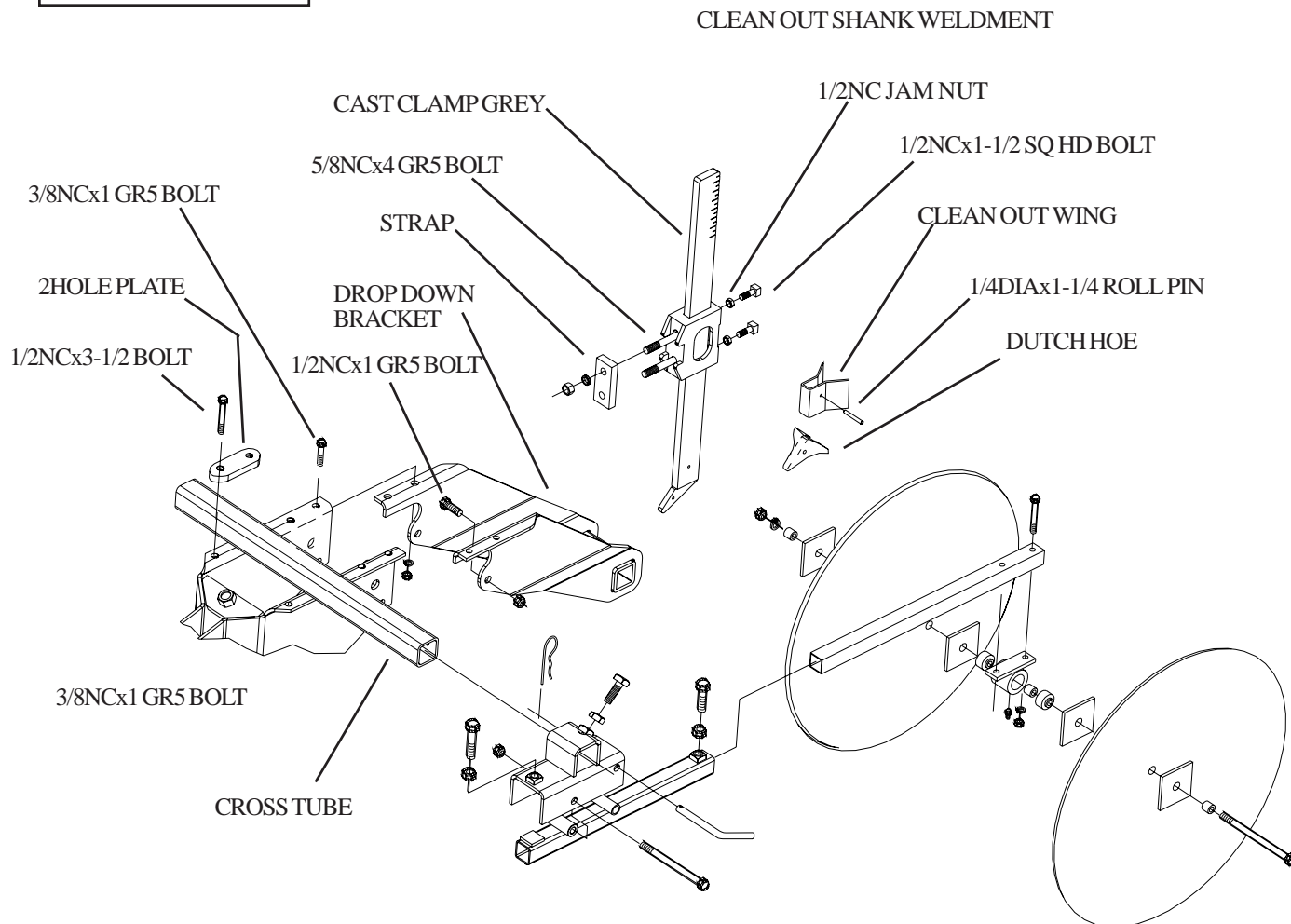
ROLLING SHIELD - LONG LEFT

**NOTE: 5/8 BOLT MUST BE
ASSEMBLED FROM THIS
SIDE TO PREVENT NUT
FROM LOOSENING.**



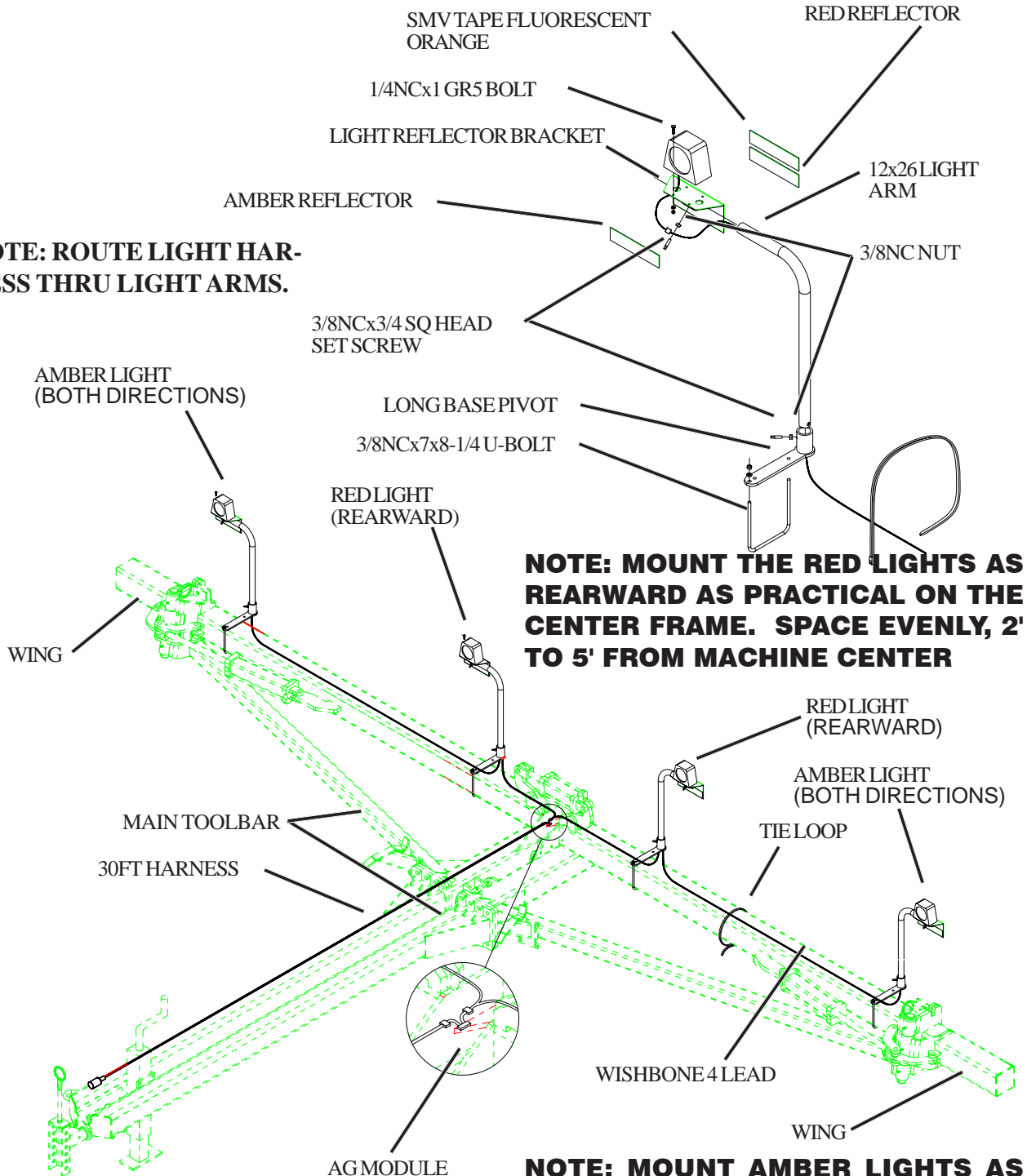
ROLLING SHIELD & CLEAN OUT MOUNT

**ASSY HDWR
74279-10**



SAFETY LIGHT ASSEMBLY

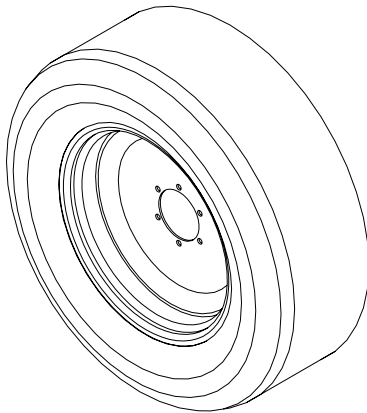
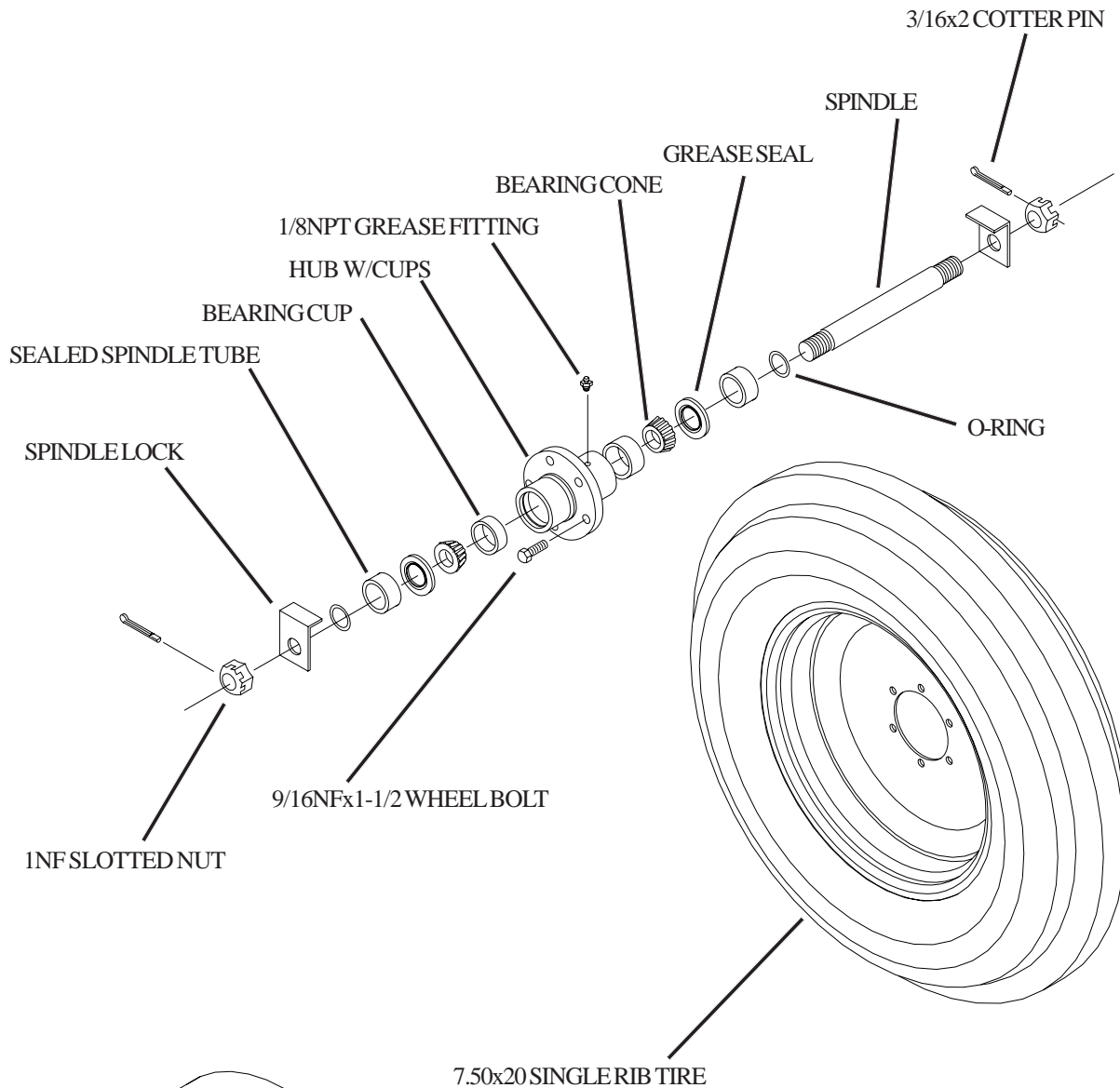
NOTE: ROUTE LIGHT HARNESS THRU LIGHT ARMS.



NOTE: MOUNT THE RED LIGHTS AS REARWARD AS PRACTICAL ON THE CENTER FRAME. SPACE EVENLY, 2' TO 5' FROM MACHINE CENTER

NOTE: MOUNT AMBER LIGHTS AS WIDE AS POSSIBLE. THE AMBER LIGHTS MUST BE MOUNTED NO MORE THAN 16" FROM IMPLEMENT EXTREMITIES.

2-1/2" HUB & SPINDLE W/7.50x20 SL TIRE ASSY



Tire pressure should be checked regularly and maintained as follows:

7.50x20 SL (12PLY) Tire Assy - 72 PSI

**Note: MAXIMUM SPEED for
7.50x20 Single Rib Tire is 20 M.P.H.**

NOTE: When lengthy road travel is necessary, truck tires can be used on the inside center frame for longer tire wear life.

OPERATION

GENERAL INFORMATION

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.

Loosely install all bolts connecting mating parts before final tightening.

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 re-checked 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.

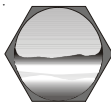




CAUTION

TO AVOID POSSIBLE INJURY:

- Always lower implement to the ground for servicing or when not in use.
- Never allow anyone to ride on implement.
- Keep everyone clear of tractor and implement while in use or while tractor is running.

31926

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	1-5/1	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

Bolts with no markings are grade 2

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

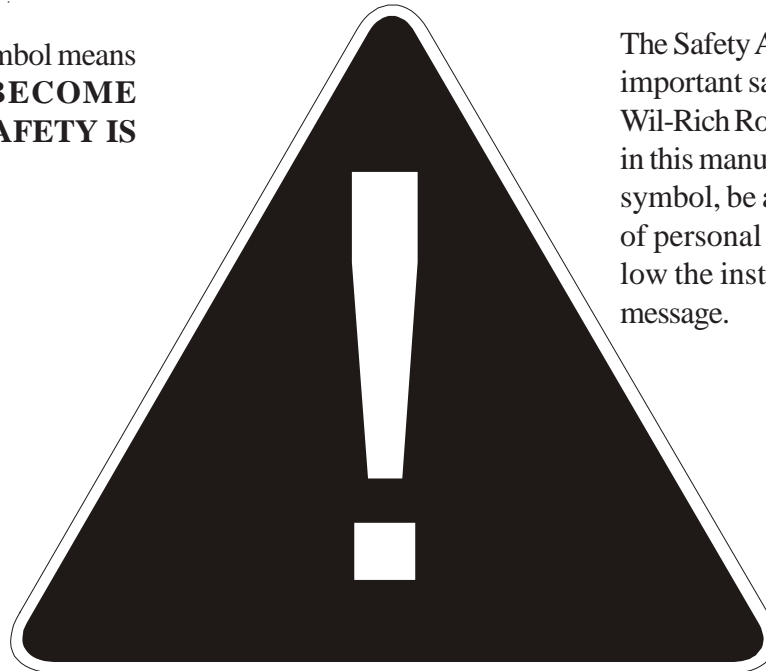
Grade 8 bolts furnished with the machine are identified by six radial lines on the head.

All U-bolts are grade 5.

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 Row Crop Cultivator 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

SAFETY

YOU are responsible for SAFE operation and maintenance of your Wil-Rich Cultivator Bar. You must ensure that you and anyone else who is going to operate, maintain or work around the Cultivator Bar 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.

PT 7722 owners must give operating instructions to operators and employees before allowing them to operate the Cultivator Bar, 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

Read and understand the operator's manual and all safety signs before operating, maintaining or adjusting the PT 7722.

Install and properly secure all shields and guards before operating.

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, hearing and head.

Do not allow riders.

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.

Review safety related items with all operators annually

**WARNING**

TO AVOID INJURY OR MACHINE DAMAGE:

- **BEFORE OPERATING:** Study Operators Manual, safety messages and safe operating procedures, read safety signs on this machine.
- **Transport on public roads -** Observe Federal, State and Local regulations; display SMV emblem; Attach proper strength implement safety chain; and limit maximum speed to 20mph (32km/h).
- **Lower or block all elevated components before servicing or leveling this machine.**

24227

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.

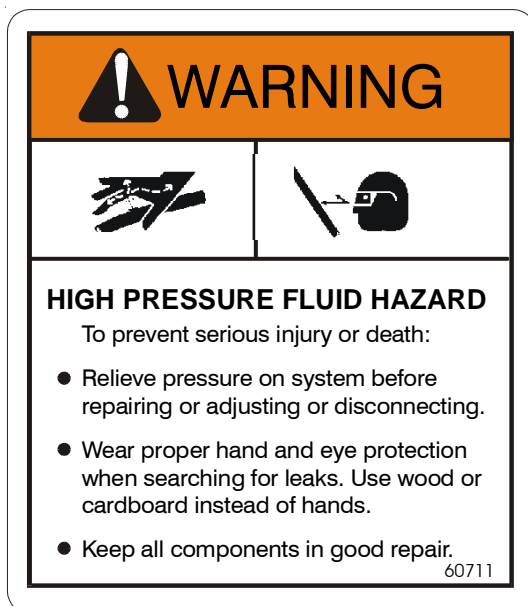
Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tape, clamps or cements. The hydraulic system operates under extremely high-pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.

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.

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

Think SAFETY! Work SAFELY!



TRANSPORT SAFETY

Read and understand ALL the information in the Operator's Manual regarding procedures and SAFETY when moving Cultivator Bar 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. 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.

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.

Do not exceed 20 mph during transport.

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.

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.

WHEEL BOLTS

It is recommended that all wheel bolts be checked for tightness before using and again after one day of use. Paint or rust can work out causing the wheel to become loose. Check periodically to be sure the wheel bolts are tight.

SAFETY DECALS

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 PT 7722 Cultivator Bar must read and understand ALL Safety, Operation, and Maintenance information presented in this manual.

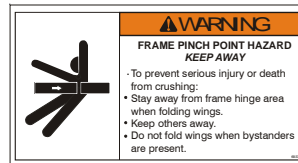
Do not operate or allow anyone else to operate this equipment until such information is reviewed. Annually review this information before the season start-up.

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.

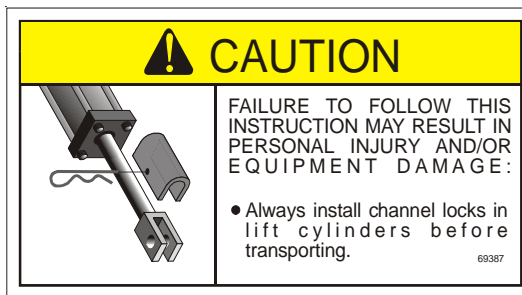
A sign-off sheet is provided for all personnel who will be working with equipment have read and understood the information in the operators Manual and have been instructed in the operation of the equipment.

Date	Employee's Signature	Employer's Signature

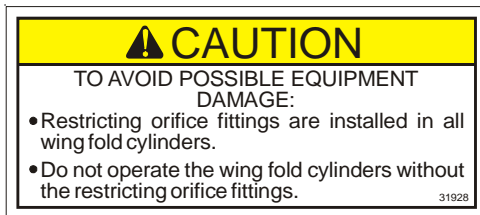
SAFETY DECAL LOCATIONS



69374 CRUSHING DECAL



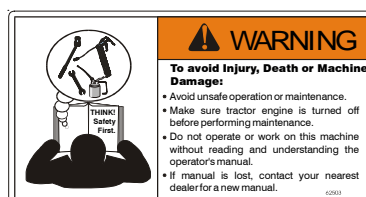
69387 CHANNEL LOCK DECAL



31928 CAUTION DECAL



31942 CAUTION DECAL



62503 SERVICE DECAL



62558 HIGH PRESSURE FLUID

NON-SAFETY DECALS

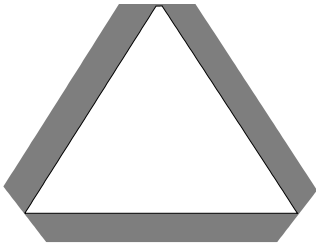


PT-7722

65342 WIL-RICH DECAL (3-5/8x23-7/8)

69561 PT 7722 DECAL

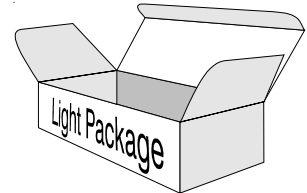
Location for decals are marked with ✱, decals placed on back of toolbar are cut and placed between gangs.



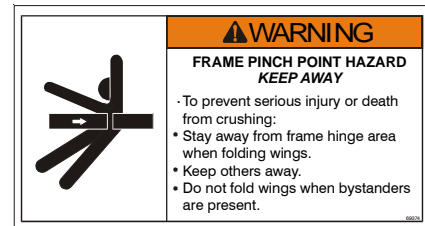
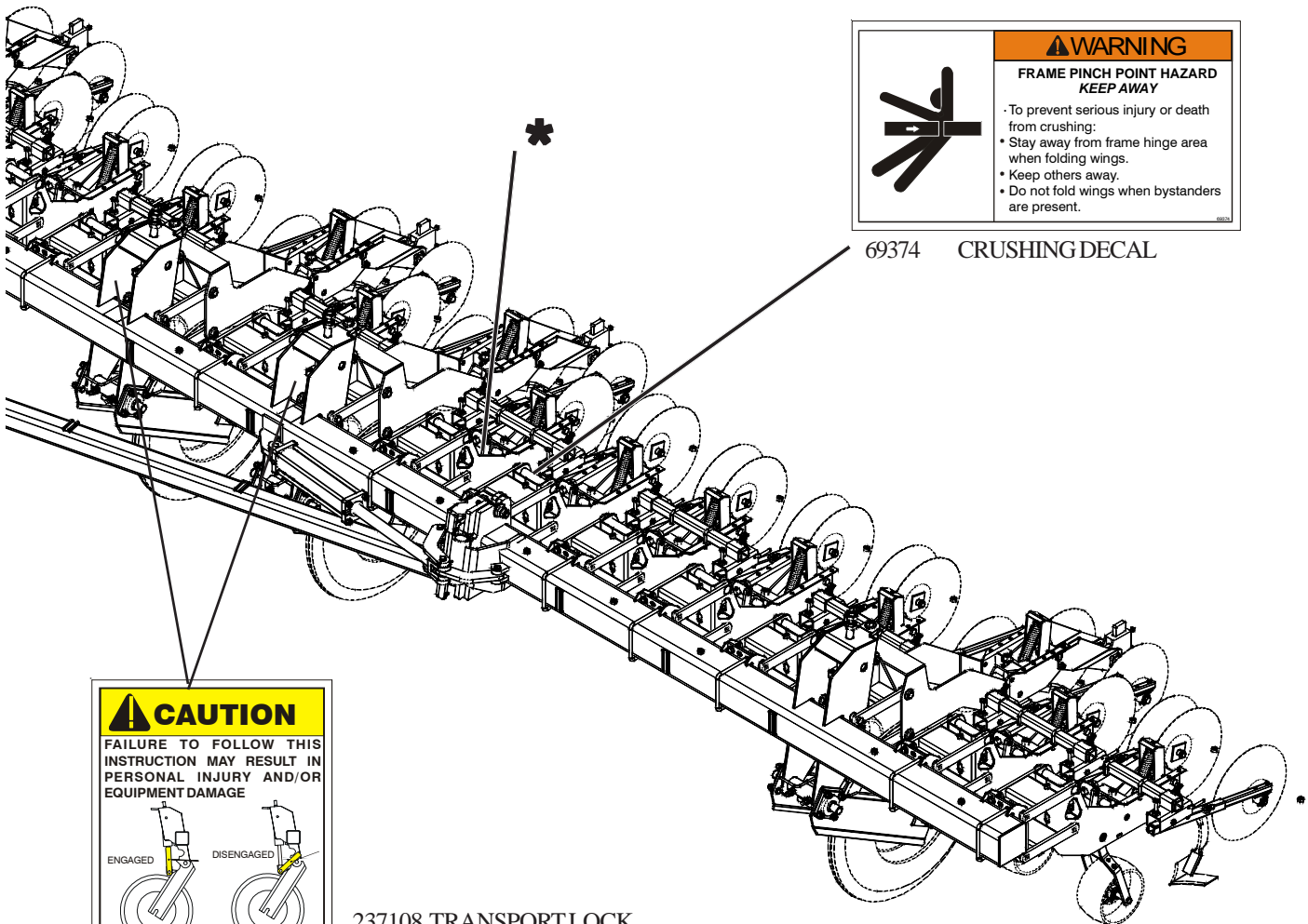
41345 SMV KIT



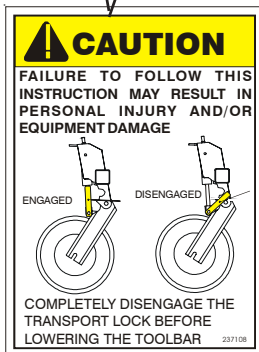
62557 GREASE FITTING DECAL
(SEE LUBRICATION PAGE)



223165 CLEARANCE
LIGHT PACKAGE
(SEE PAGE 21 FOR
ASSEMBLY)



69374 CRUSHING DECAL



237108 TRANSPORT LOCK
DECAL

TIRE PRESSURE

Tire pressure should be checked regularly and maintained as follows:

7.5x20 SL (12PLY) Tire Assy - 72 PSI

Note: MAXIMUM SPEED for 7.50x20 Single Rib Tire is 20 M.P.H.

TOOLBAR PREPARATION

For initial preparation of the cultivator, lubricate the toolbar and cultivator gang units as outlined in the lubrication section of this manual. Make sure all tires are properly inflated

TRACTOR PREPARATION

Consult your dealer for information on the minimum tractor horse power requirements and tractor capability. Tractor requirements will vary with cultivator options, tillage and terrain. Your tractor may require a hitch support to carry the weight of the toolbar. The front hitch weight at the drawbar is approximately 5500lbs.

CULTIVATOR ATTACHMENT TO TRACTOR

Adjust the tractor drawbar so it is 17" to 22" (Optimum Setting 22") above the ground. Make sure the drawbar is in a stationary position.

Raise or lower the toolbar hitch clevis to match the drawbar height of the tractor (see Leveling Procedure). Back the tractor to the toolbar and connect with a hitch pin. Lower toolbar onto drawbar with jack. Make sure the hitch pin is secured with a locking pin or cotter pin.

Clean off all hose ends to remove any dirt before connecting to the tractor. Connect the hydraulic hoses to the tractor port in sequence which is both familiar and comfortable to the operator.

Raise the jack to the storage position.

Using the hydraulics, lower the toolbar to the cultivating position and check the level of the toolbar front to back and side to side. If the hitch height is too low or too high, disconnect the toolbar and adjust the clevis up or down as necessary.

LEVELING THE TOOLBAR

For proper operation of the toolbar and cultivating units, it is important that the unit operate level.

Unless the tractor drawbar is adjustable for height, the fore and aft level adjustment must be maintained by the position of the hitch clevis. Holes in the hitch bracket allow the clevis to be raised or lowered. When installing clevis mounting bolts, tighten to proper torque settings (See Page 24).

With the toolbar lowered to operating depth and center 4x8 Tie Rod Cylinder extended, the gang H-arms should run at approximately 5° down, check to be sure the frame is level front to back and side to side. Recheck toolbar in the field.

Wil-Rich includes an adjustment eyebolt on top of each cylinder for height adjustment of each lift cylinder.

Note: The single rib tire will sink into the soil, depending on soil conditions a height adjustment may need to be made from field to field.

It is important for the toolbar to operate level laterally. Tire pressure must be maintained at pressures specified.

TOOL BAR Leveling Procedure

1. Set toolbar on hard level surface at its lowest position. Check tire pressure (72lbs).

Center 4x8 Tie Rod Cylinder must be extended before leveling.

Note: If the cultivator is being setup on a shop floor, the toolbar will set 2" to 4" higher than in the field, depending on soil conditions.

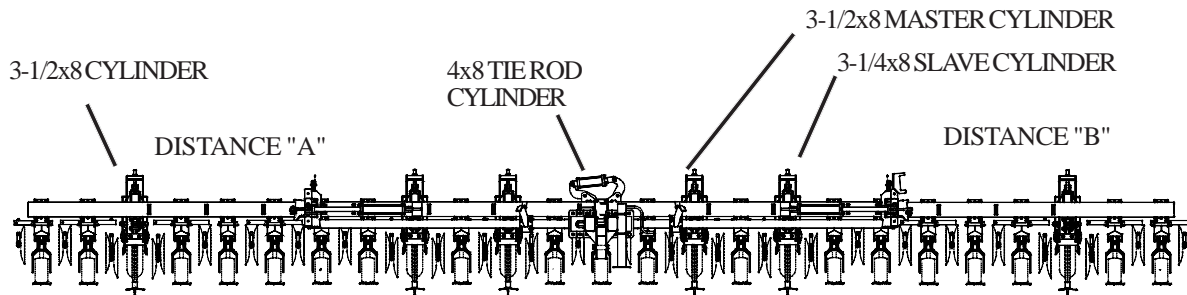
2. Set distance A & B to be the same height. if different:

A.) Check tire pressure.

B.) Check cylinder adjust rod setting. Make minor adjustments to raise or lower (see lift station page 14-15) the frame.

C.) Initial setting - Raise lift station shank to same height as retracted lift station tire. See illustration below.

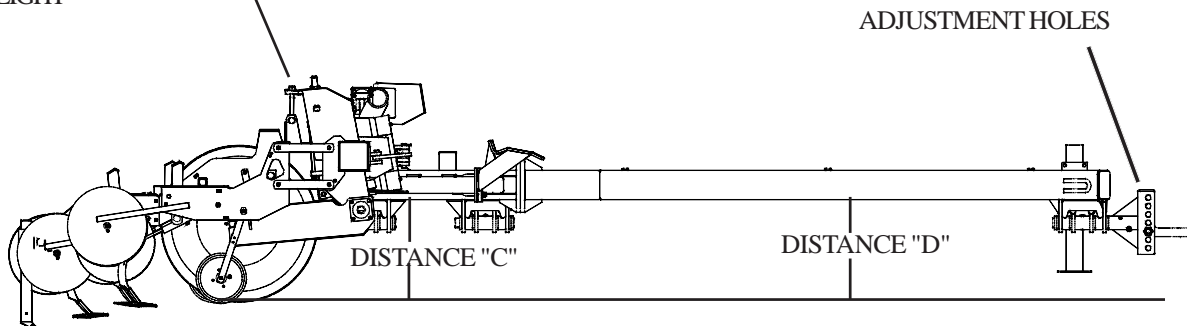
Note: when 3-1/2x8 Master Cylinders stop, slave bypass cylinders will stop.



Note: Shank assemblies used in Lift Stations should run approximately 2" lower than standard shank assemblies, due to soil compression by the single rib tire.

3. Set distance C & D to the same height. Check distance C & D, if distance is different adjust hitch clevis by moving up or down in the adjustment holes at front of hitch until level.

INITIAL SETTING - RAISE SHANK ASSEMBLY TO EQUAL RETRACTED TIRE HEIGHT



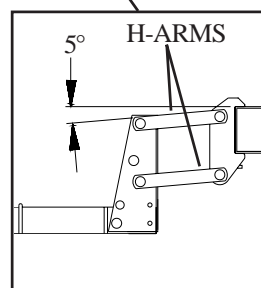
Note: With 6" to 8" of travel in the cultivator gang units, all the distances above can be approximate.

GANG ADJUSTMENTS

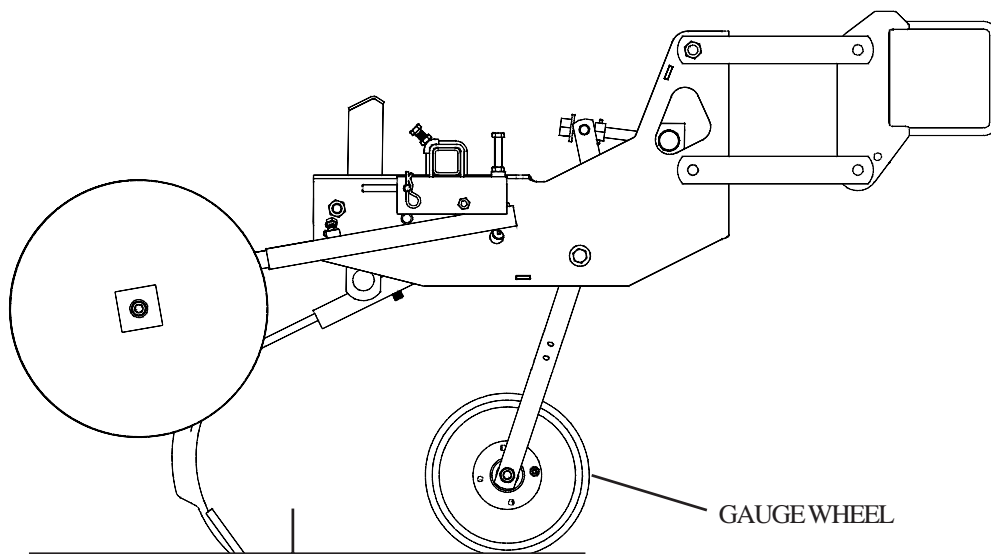
Note: Gauge wheels carry a restricted portion of the machines weight. The gauge wheels stabilize the Row Crop from side to side and maintain a working depth for the individual gangs.

1. With tractor setting on a level surface, lower cultivator bar to it's working position.

2. Optimal toolbar height is reached; when H-Arms are 5° downward in working position.



78995C



3. Set depth of SWEEP to approximately 1" to 2".

LINKAGE BOLT
SHANK ADJUSTMENT

MOVING THE SHANK ADJUSTMENT DOWN WILL DECREASE WORKING DEPTH.

78995D

Shank Adjustment

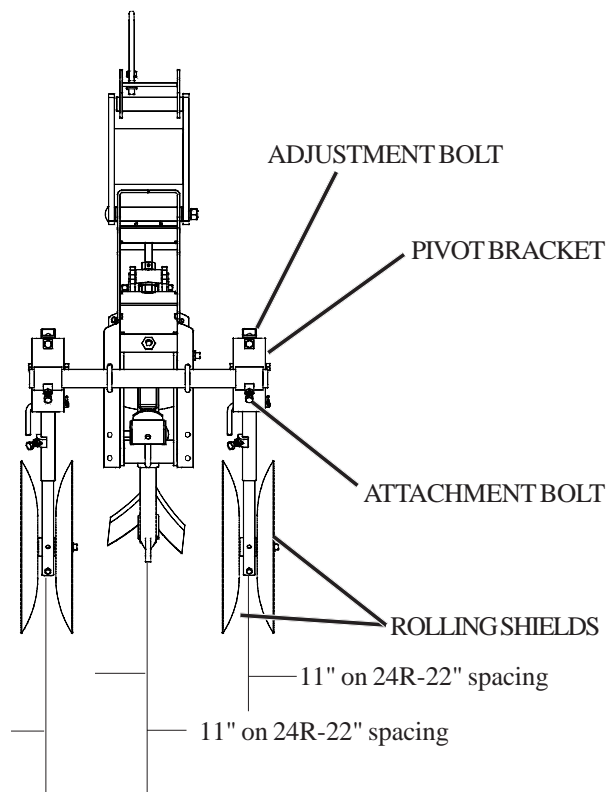
Adjust angle of shank by turning the linkage bolt. Turning the linkage bolt down will give the shank a more aggressive angle of attack, but will also make the shank run shallower. Adjust all shanks evenly to prevent tracking problems.

NOTE: DO NOT Adjust shank to a point where the shovel would point up. This will cause cultivator to skid on surface and possibly damage cultivator.

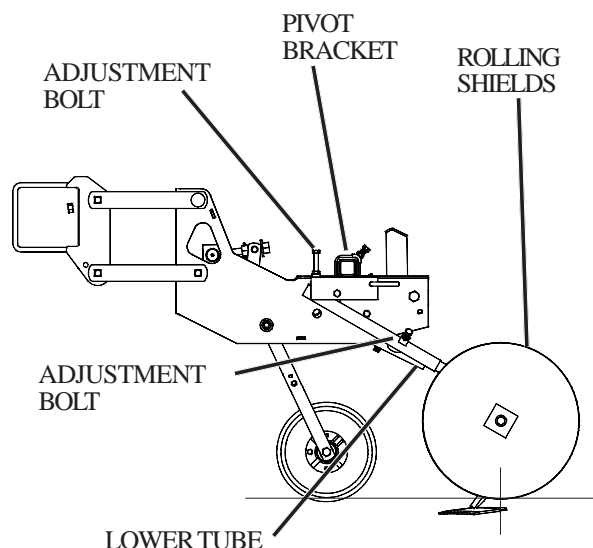
Rolling Shields

The rolling shield depth should be set to where the shields just touch the ground.

The front to back measurement should be set to where the dirt is not being thrown onto the plant. Adjust the lower tube length for correct adjustment.



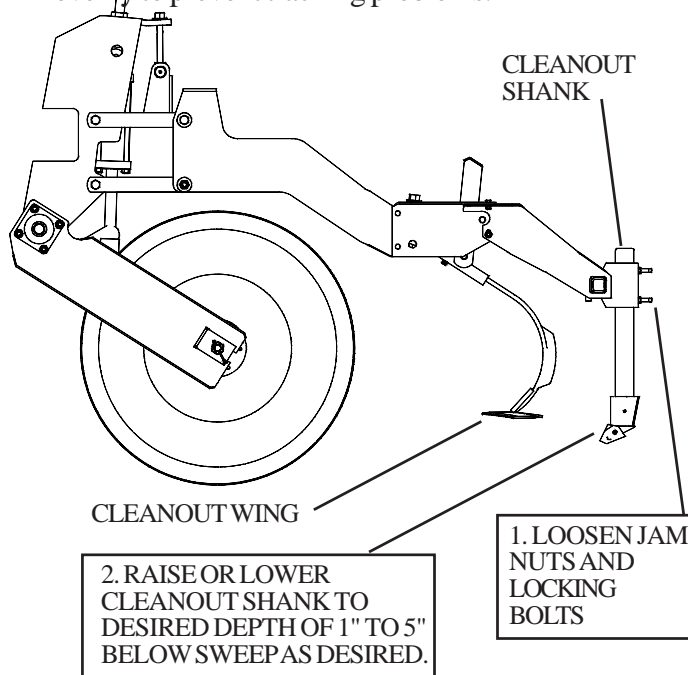
Note: The rolling shields can be spaced further apart to accommodate plant growth. Spacers are SET on the outside of shields from factory



Row Guide Cleanout

The row guide cleanouts sole use is to reopen the furrow for next time you cultivate.

Place the clean out points in line with the guide wheels. Adjust the depth to where the top of cleanout wing is just above ground surface. Adjust row guides evenly to prevent tracking problems.



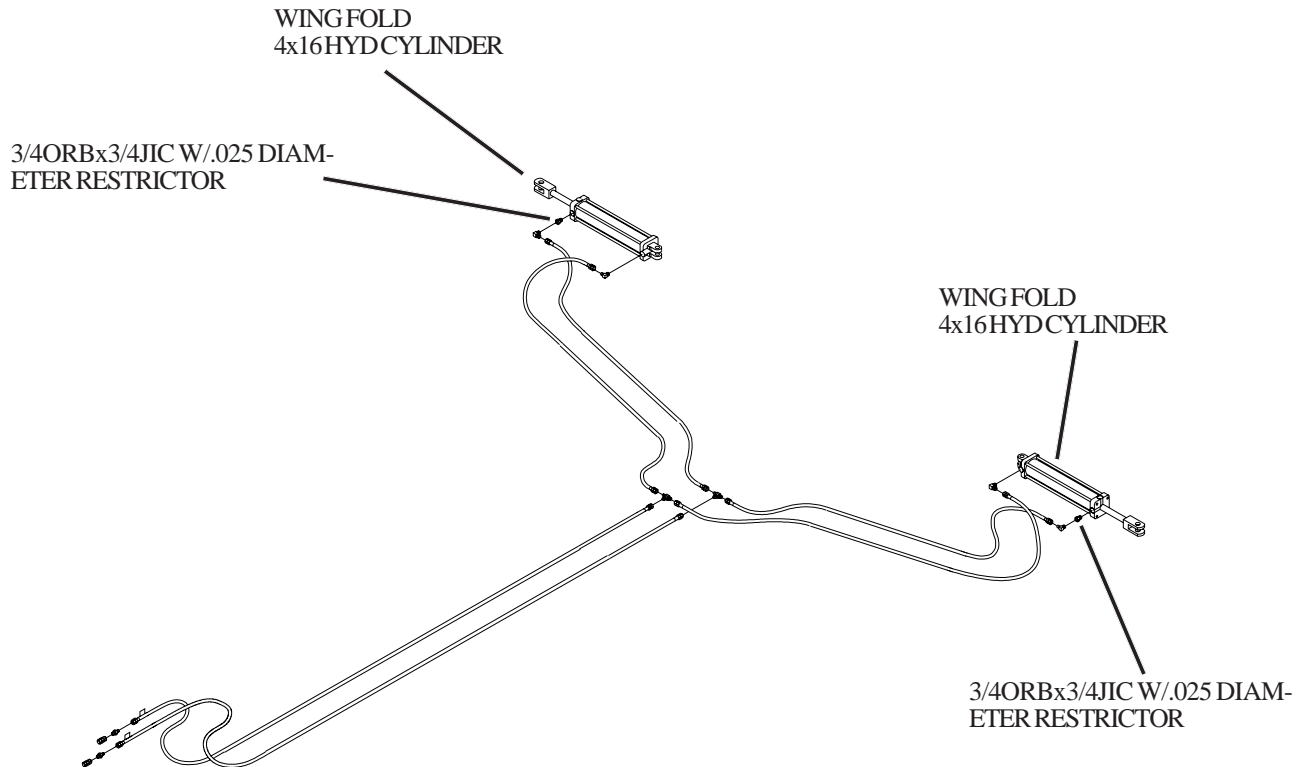
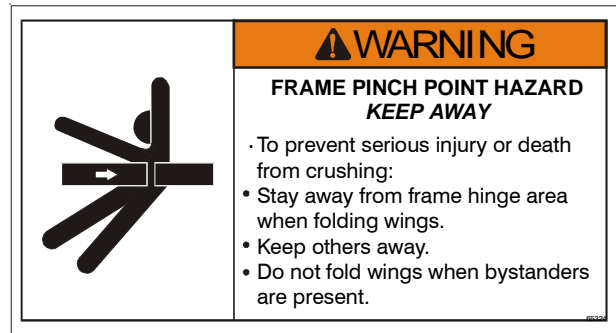
3. RETIGHTEN HARDWARE

HYDRAULICS

WING FOLD CIRCUITRY

Wil-Rich toolbars use hydraulic cylinders to fold the wings for road transport.

Wing fold cylinders have in a .025 diameter restrictor in the rod end cylinder port. This allows the wings to fold at a slow rate and prevents the wing from swinging too fast.

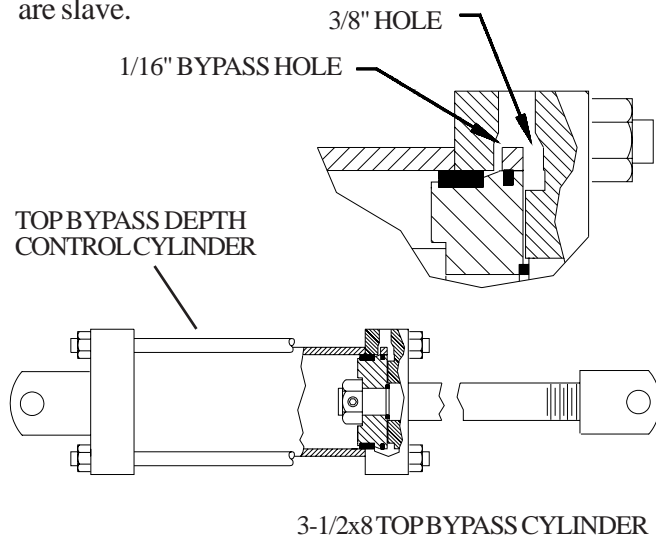


LIFT CONTROL CIRCUITRY

The cultivator lift system consists of 6 cylinders, 4 on the center frame and 1 each wing.

The lift cylinders on the main frame are hooked in series. Each cylinder is a top bypass cylinder and when fully extended will pass oil by the piston into the next cylinder, charging the system.

The center cylinders supply oil to the outside cylinders on the main frame. For this reason they are referred to as the master and the outside cylinders are slave.

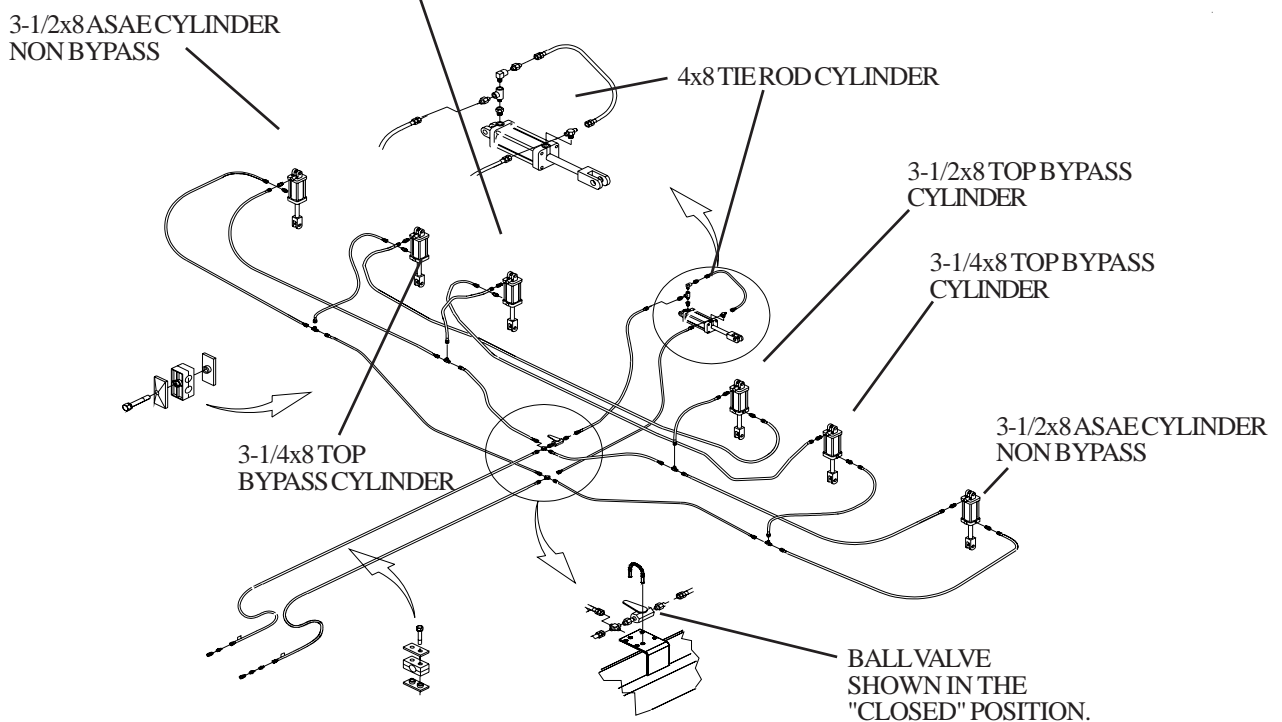


Note: To more equally distribute the center frame load. The inside & outside cylinders from opposite sides of the center frame are hooked in series.

The wing cylinder is hooked in parallel with the main frame and is NOT a bypass cylinder. The wing lift cylinders will extend & retract independent from the center frame.

This bypass condition will exist when the implement is raised to maximum ground clearance. At this time oil will pass through the 1/16" dia bypass hole and go on to the next cylinder.

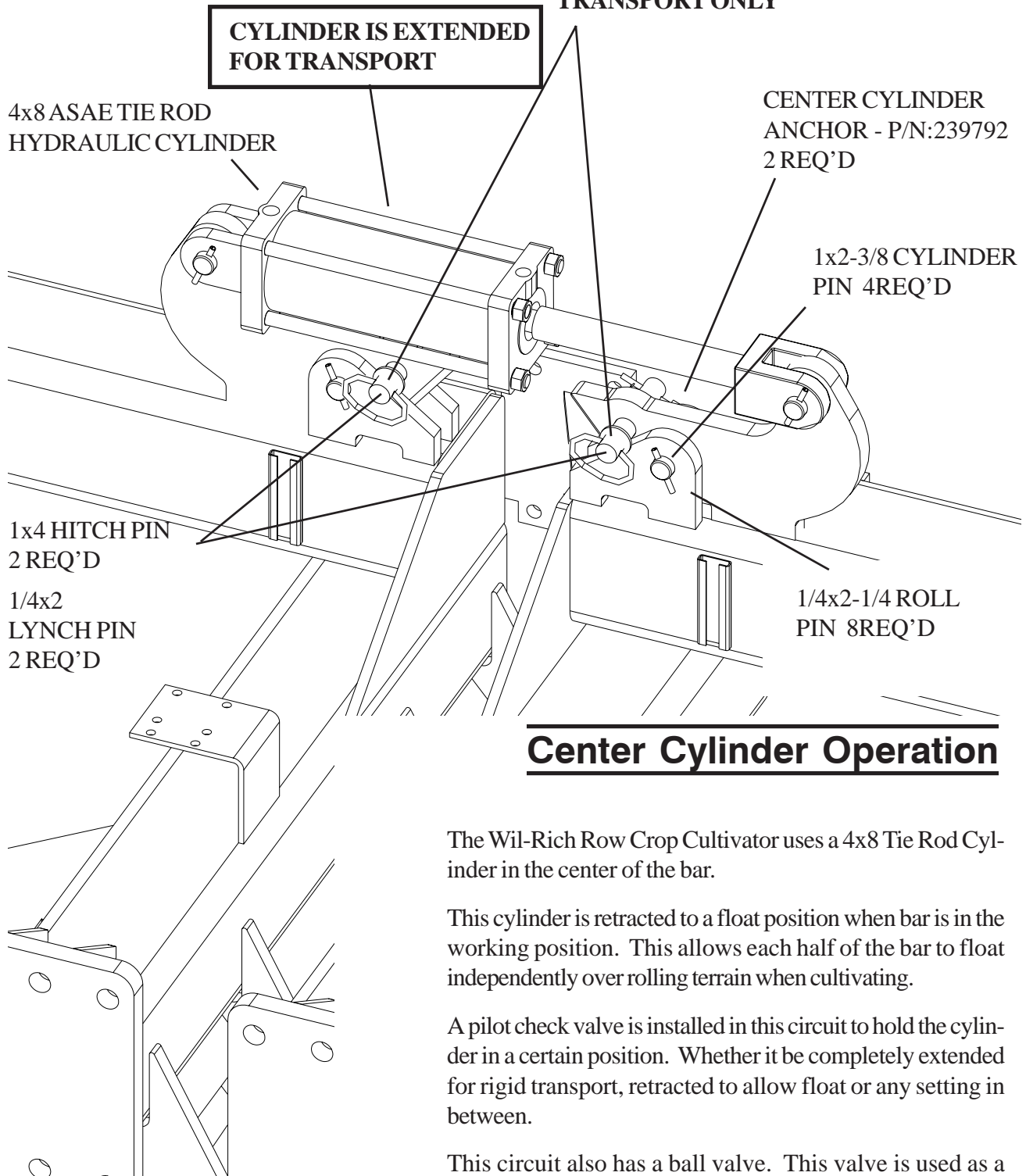
Note: This system requires periodic synchronizing. The tractor valve is held in the raised position until the entire implement is raised and any air that may be in the lines has been expelled.



Note: Cultivator bar operation requires that the center cylinder is extended before the lift cylinders are extended to raise the implement.

Center Cylinder Operation

NOTE: 1x4 HITCH PINS ARE INSTALLED FOR FOLDING AND TRANSPORT ONLY



Center Cylinder Operation

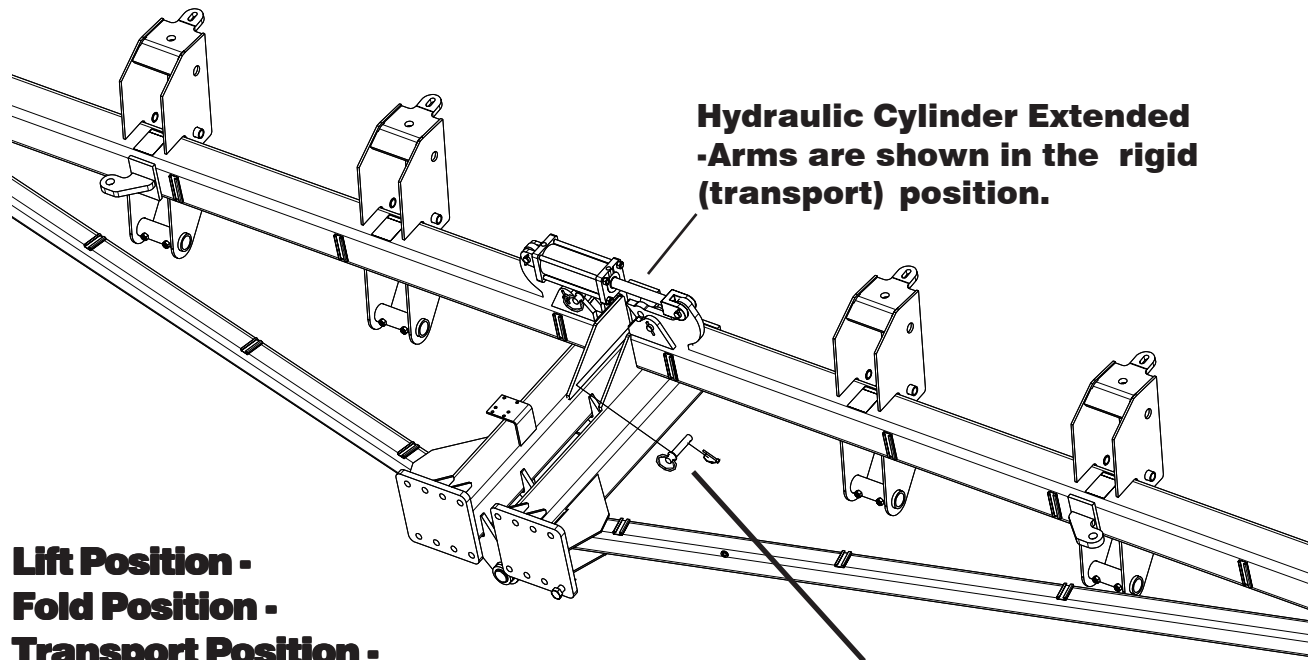
The Wil-Rich Row Crop Cultivator uses a 4x8 Tie Rod Cylinder in the center of the bar.

This cylinder is retracted to a float position when bar is in the working position. This allows each half of the bar to float independently over rolling terrain when cultivating.

A pilot check valve is installed in this circuit to hold the cylinder in a certain position. Whether it be completely extended for rigid transport, retracted to allow float or any setting in between.

This circuit also has a ball valve. This valve is used as a positive means to lock-in a particular cylinder length. Closing this valve makes further adjustment impossible.

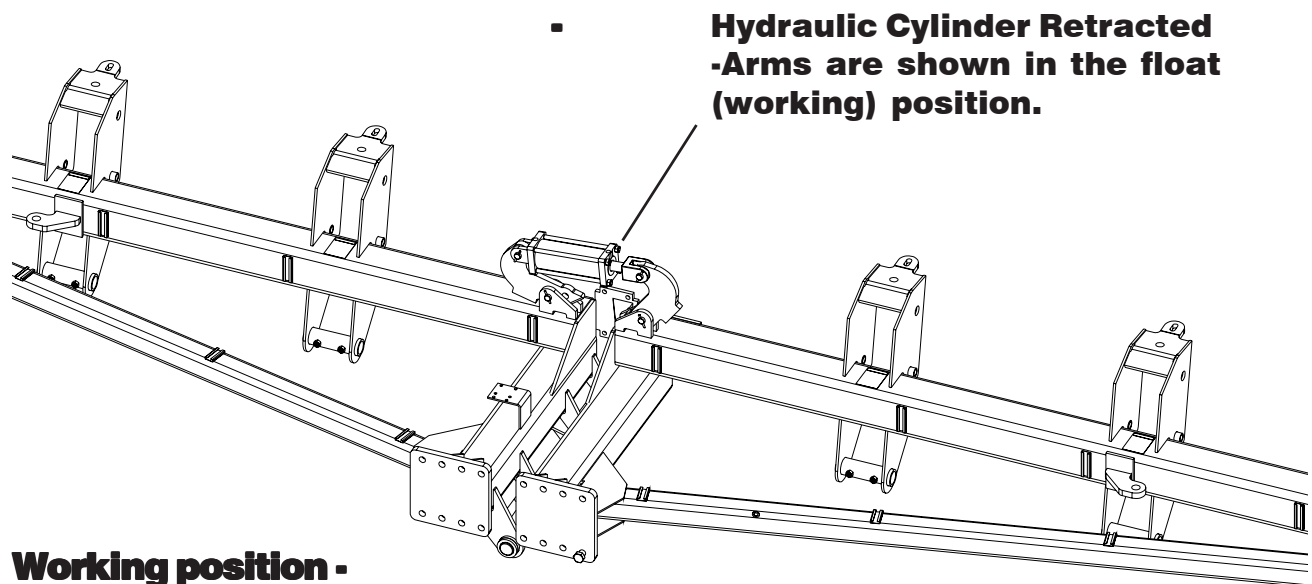
Center Cylinder Operation



Hydraulic Cylinder Extended
-Arms are shown in the rigid (transport) position.

Lift Position -
Fold Position -
Transport Position -

NOTE: 1x 4 HITCH PINS ARE
INSTALLED FOR FOLDING AND
TRANSPORT ONLY



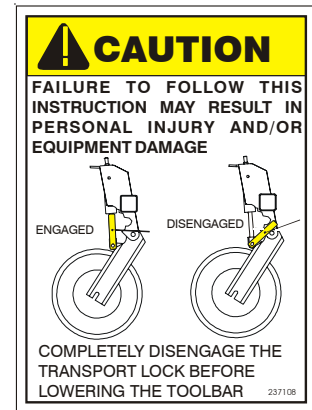
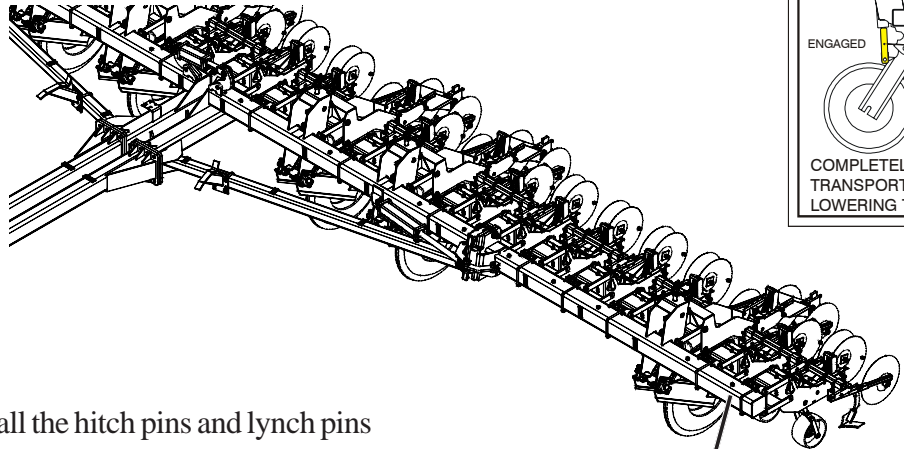
Hydraulic Cylinder Retracted
-Arms are shown in the float (working) position.

Working position -

FOLDING PROCEDURE

WING FOLD

1. Place cultivator on a level surface.

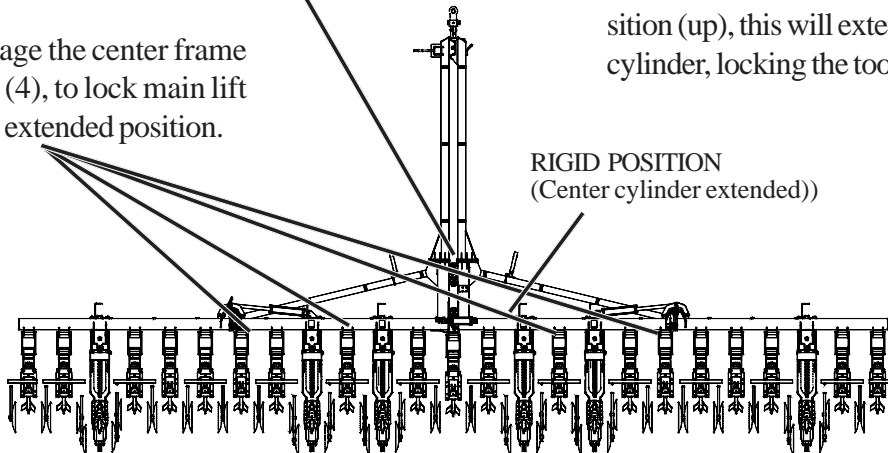


3. Install the hitch pins and lynch pins before folding (see page 38).

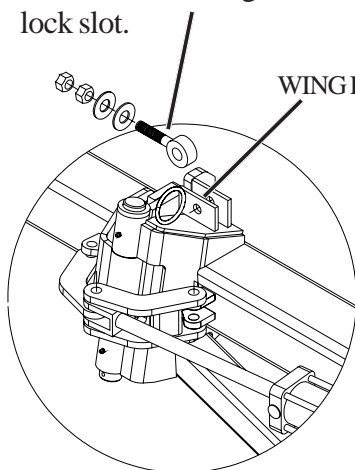
4. Flip and engage the center frame transport locks (4), to lock main lift cylinders in the extended position.

2. Raise tool bar to the transport position (up), this will extend the center cylinder, locking the toolbar rigid..

RIGID POSITION
(Center cylinder extended))



5. Loosen nut on wing lock eyebolt and rotate 180 degrees out of wing lock slot.



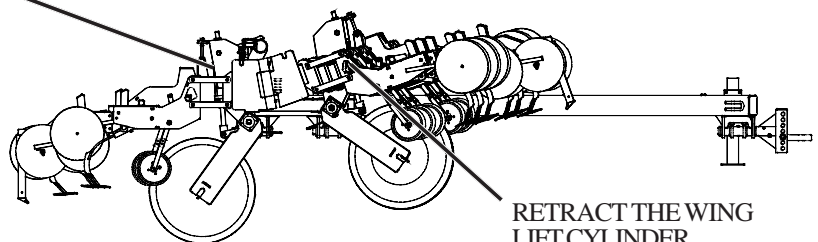
WING LOCK SLOT

CENTER FRAME
LIFT CYLINDER
EXTENDED AND
TRANSPORT
LOCKS IN-
STALLED

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6. Lower the bar slightly, this will tighten the transport locks against the main lift cylinders.

7. Continue to retract the lift cylinders. With the center frame locked up, the wing lift cylinders will retract. This will raise the wing tires off the ground, permitting folding without dragging the tire in the ground.



RETRACT THE WING
LIFT CYLINDER,
BEFORE FOLDING OR
UNFOLDING


WING SHOWN FOLDED

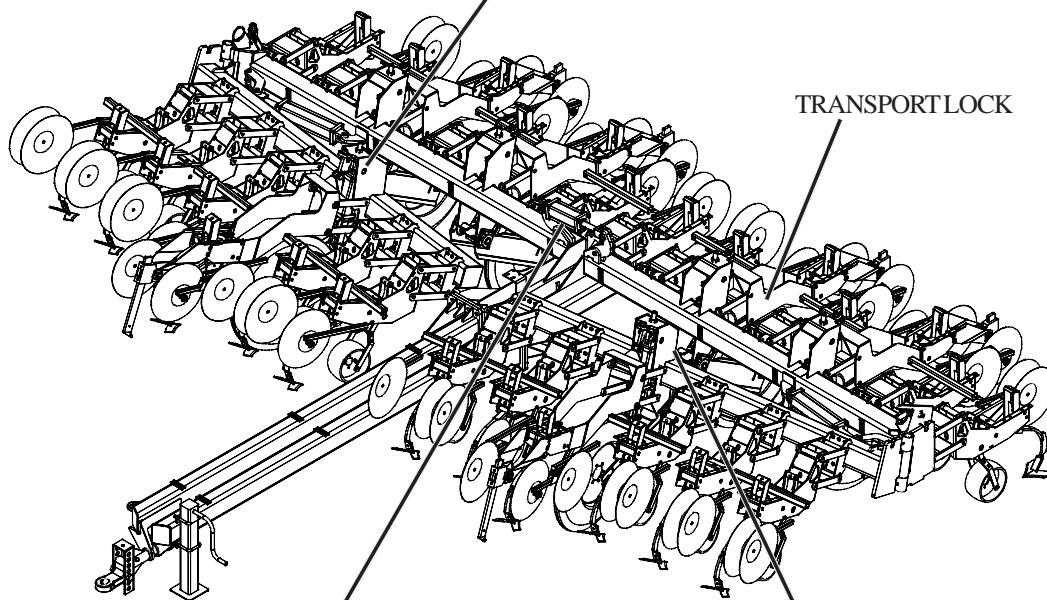
8. The wings will droop some when the tire is raised from the ground. The center cylinder can be retracted slightly to level out the toolbar. Now, close the ball valve to lock this setting(see page 37).

Note: Check Wing Rest heights after bolting Row Crop Gangs to Bar. Adjustments may be required.

8. Move hydraulic lever to fold the wings into transport position. Fold wing slowly to avoid sudden swings.

DO NOT stand in path of wing.

	⚠ WARNING
	<p style="text-align: center;">FRAME PINCH POINT HAZARD KEEP AWAY</p> <ul style="list-style-type: none"> • To prevent serious injury or death from crushing: • Stay away from frame hinge area when folding wings. • Keep others away. • Do not fold wings when bystanders are present.



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Note: When hydraulic lever is moved to lift toolbar the center pivot cylinder will extend to lock both halves of the bar rigid.

Note: Wing cylinders should be in the retracted position, when folding wing.

WING UNFOLD



1. With the toolbar up in transport position, move hydraulic lever in tractor to unfold the wings into the working position. Unfold wing slowly to avoid sudden swings.

DO NOT stand in path of wing.

2. After unfolding, raise toolbar. Fully extend the lift cylinders.

TRANSPORT LOCK

TRANSPORT LOCK

Note: Wing cylinders should be in the retracted position, when unfolding wing.

3. Disengage transport channel locks in center (4) lift cylinders.



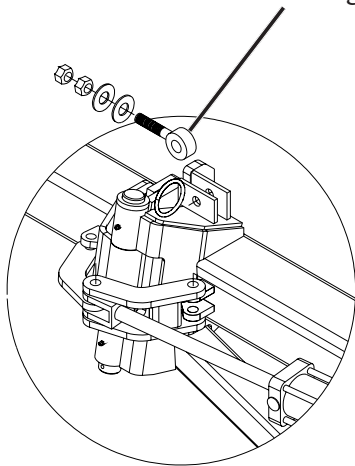
WARNING

FRAME PINCH POINT HAZARD KEEP AWAY

- To prevent serious injury or death from crushing:
- Stay away from frame hinge area when folding wings.
- Keep others away.
- Do not fold wings when bystanders are present.

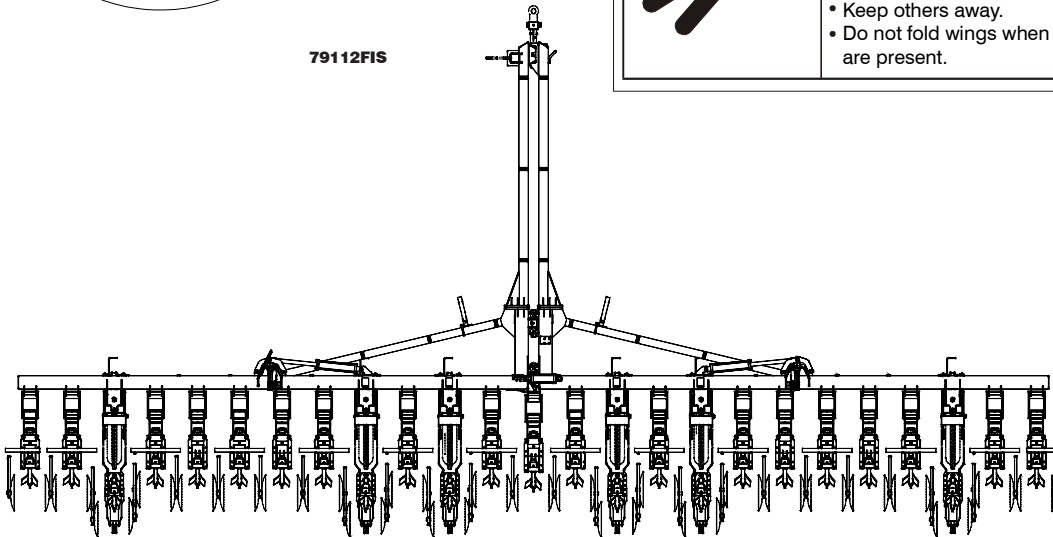
4. Lower tool bar to working position (down).

5. Rotate wing lock eyebolt 180 degrees into wing lock slot and tighten nut.



7. Cultivate

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	WARNING
	<p style="text-align: center;">FRAME PINCH POINT HAZARD KEEP AWAY</p> <ul style="list-style-type: none"> • To prevent serious injury or death from crushing: • Stay away from frame hinge area when folding wings. • Keep others away. • Do not fold wings when bystanders are present.

LUBRICATION

Note: Lubricate all lift stations as shown.

Grease - Use an SAE multipurpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multipurpose lithium based grease.

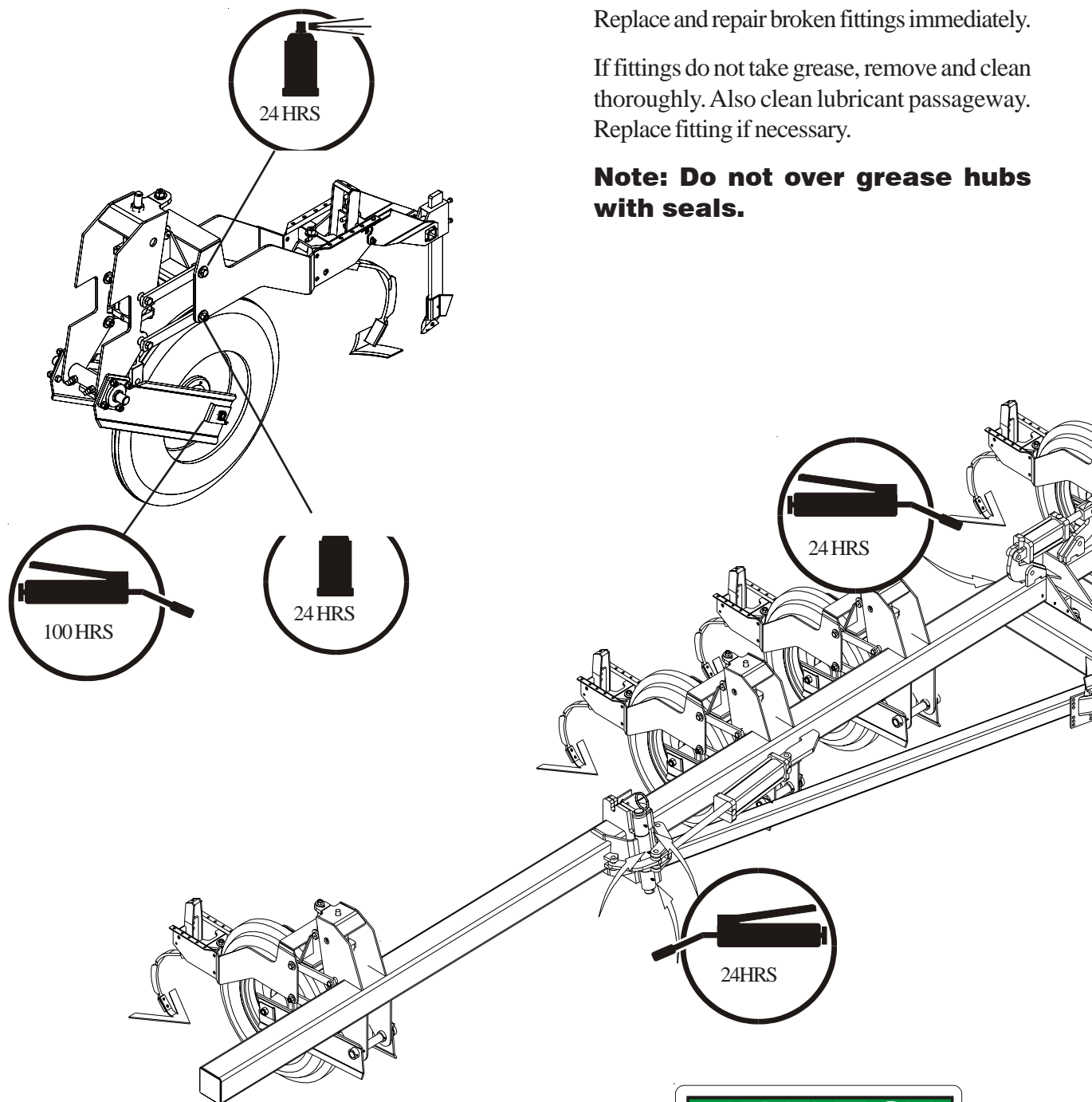
Use a hand held grease gun for all greasing.

Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.

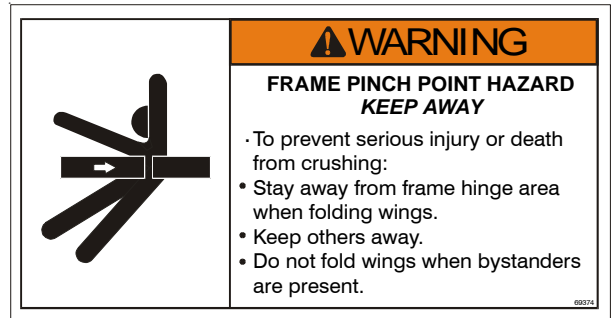
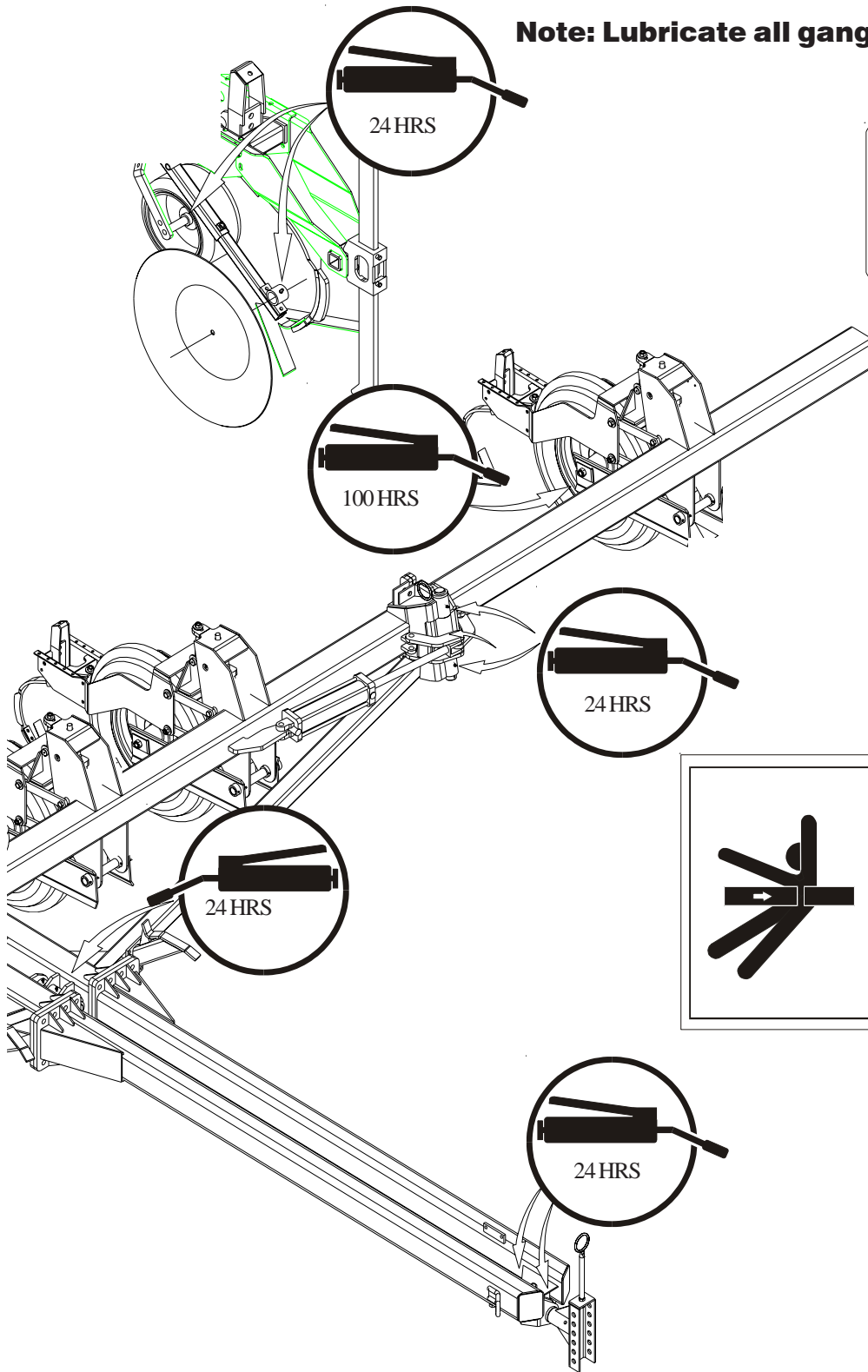
Replace and repair broken fittings immediately.

If fittings do not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.

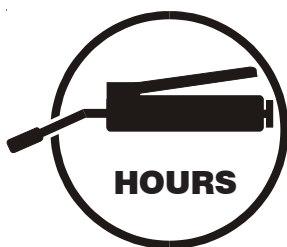
Note: Do not over grease hubs with seals.



Note: Lubricate all gangs as shown.



79160LFT



Lubricate with grease at hourly interval indicated on symbol.



Lubricate with Graphite spray at hourly interval indicated on symbol.