



ASSEMBLY/OPERATOR'S MANUAL

PT 2200 PLANTER BAR

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 Planter Bar.

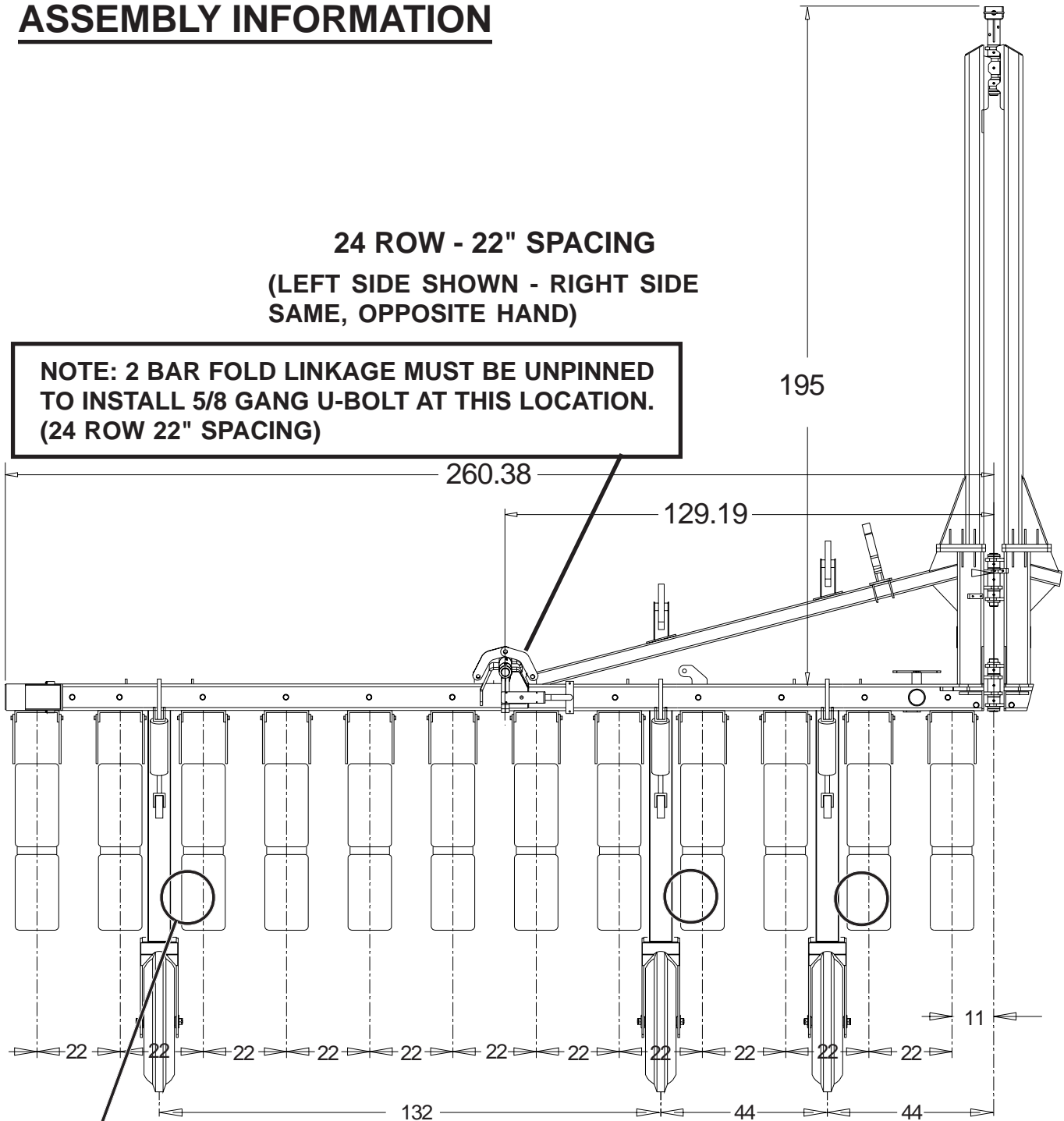
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ASSEMBLY INFORMATION

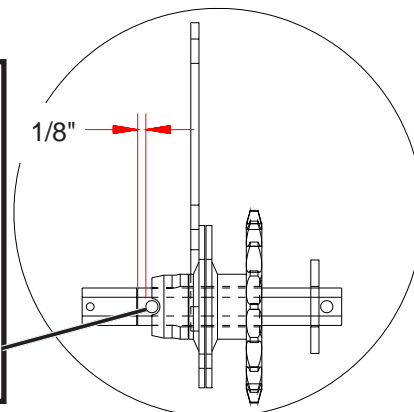
24 ROW - 22" SPACING
(LEFT SIDE SHOWN - RIGHT SIDE
SAME, OPPOSITE HAND)

**NOTE: 2 BAR FOLD LINKAGE MUST BE UNPINNED
TO INSTALL 5/8 GANG U-BOLT AT THIS LOCATION.
(24 ROW 22" SPACING)**

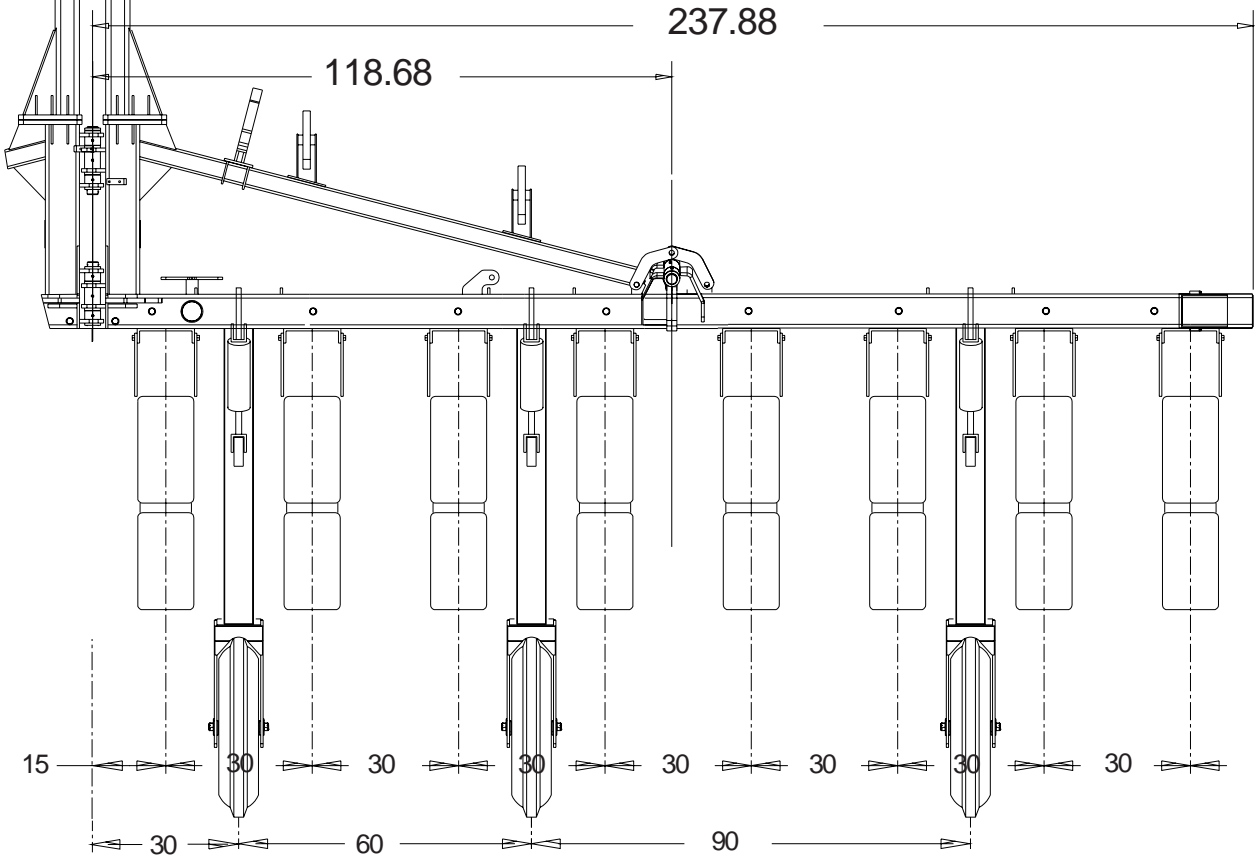


Note: On John Deere planting units w/Chemical Hoppers, the engagement knob must be removed and the shaft will need to be cut off approx. 1/8" from edge of lock out hole for clearance with the wheel and wheel frame. 22" SPACING ONLY (6 places).

A longer roll pin can be used for ease of handling.




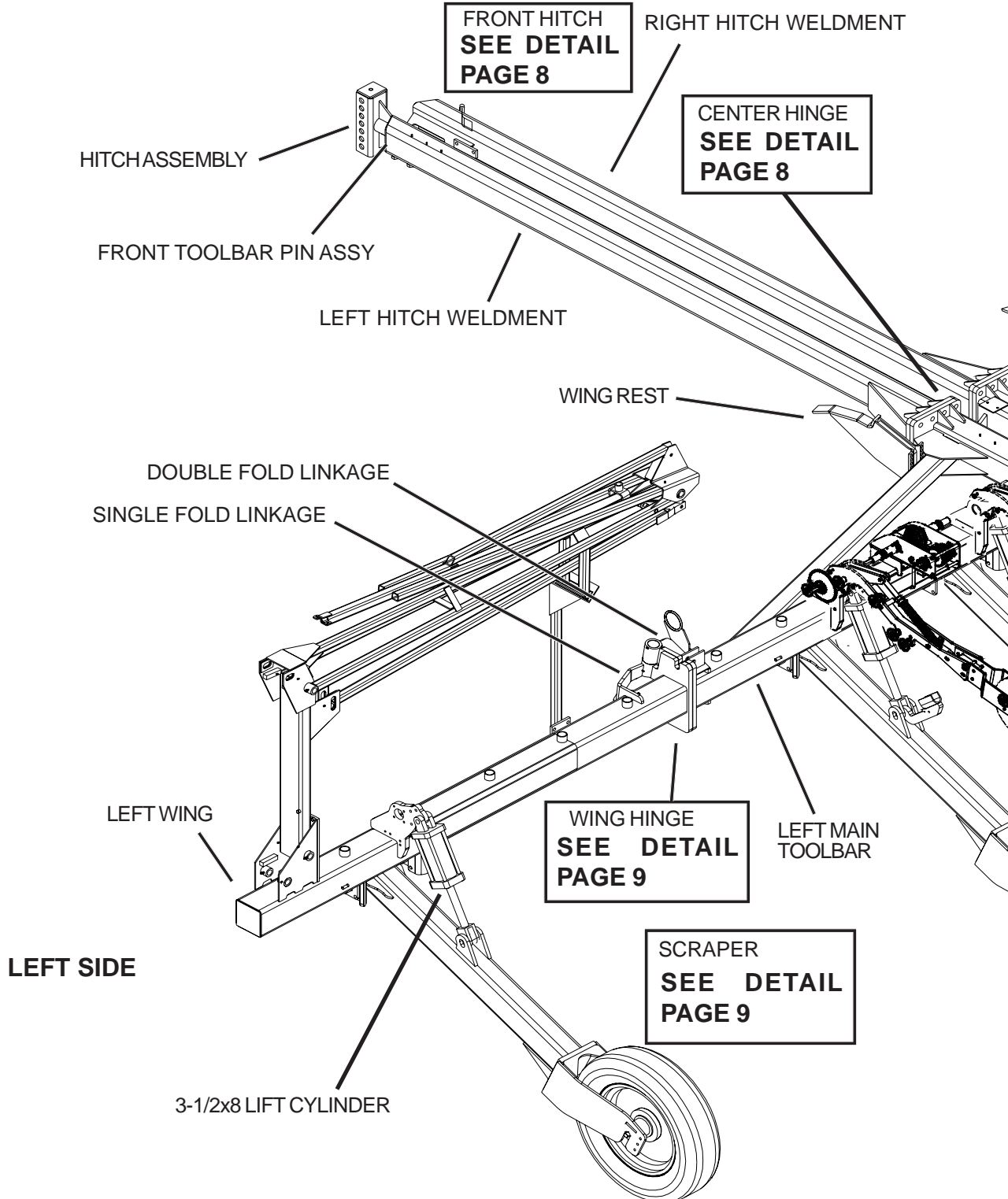
16 ROW - 30" SPACING
(RIGHT SIDE SHOWN - LEFT SIDE
SAME, OPPOSITE HAND)



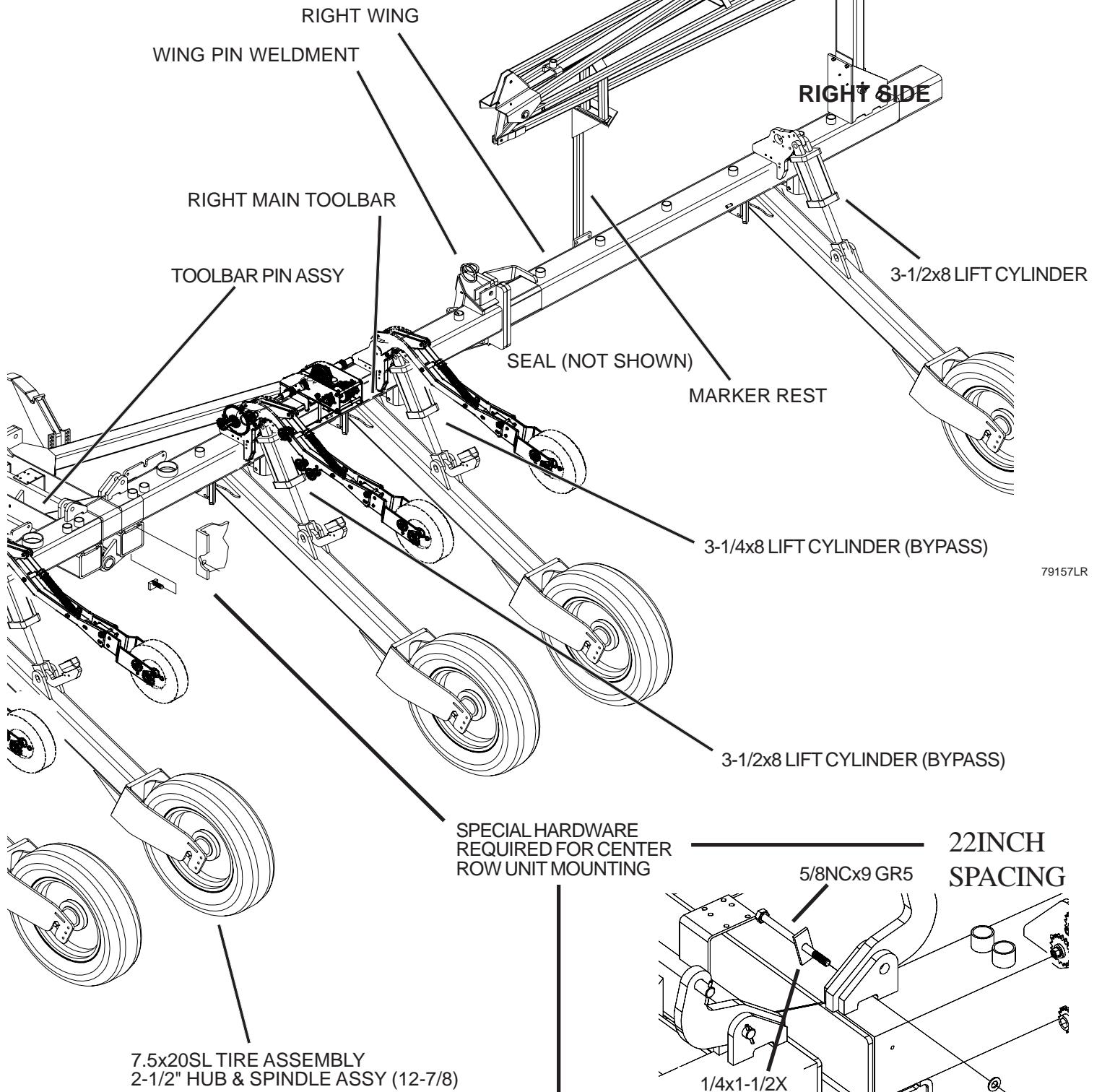
ASSEMBLY INFORMATION

Note: Wil-Rich chain and sprockets are built under ANSI specifications. Other manufactures design chain and sprockets under Metric specifications. This can be a problem if ANSI and Metric are inter-mixed. Excessive wear and part failure can occur.

	<p>WARNING</p> <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;">42503</p>
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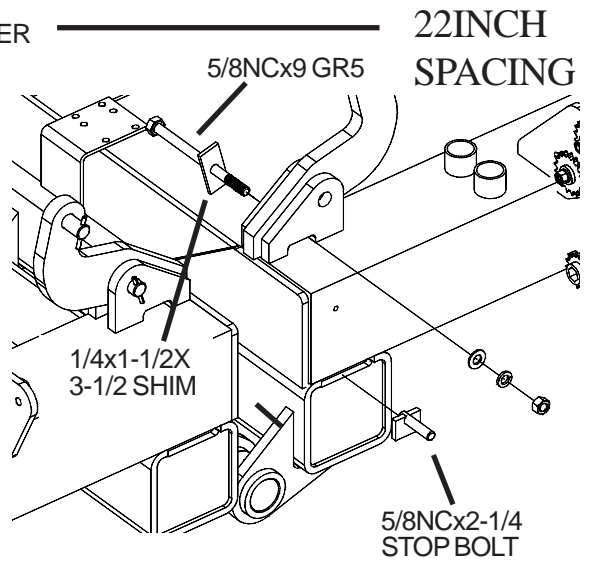


**MARKER
ASSEMBLY
SEE PAGE 15**

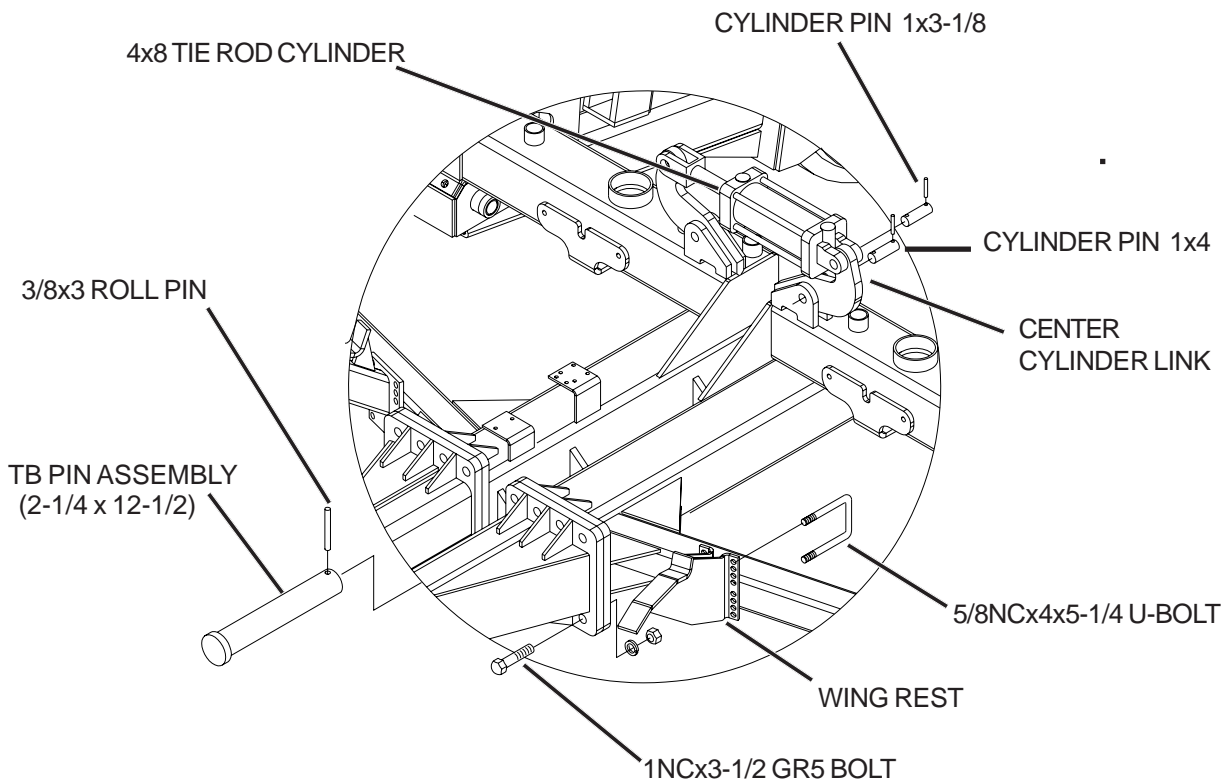
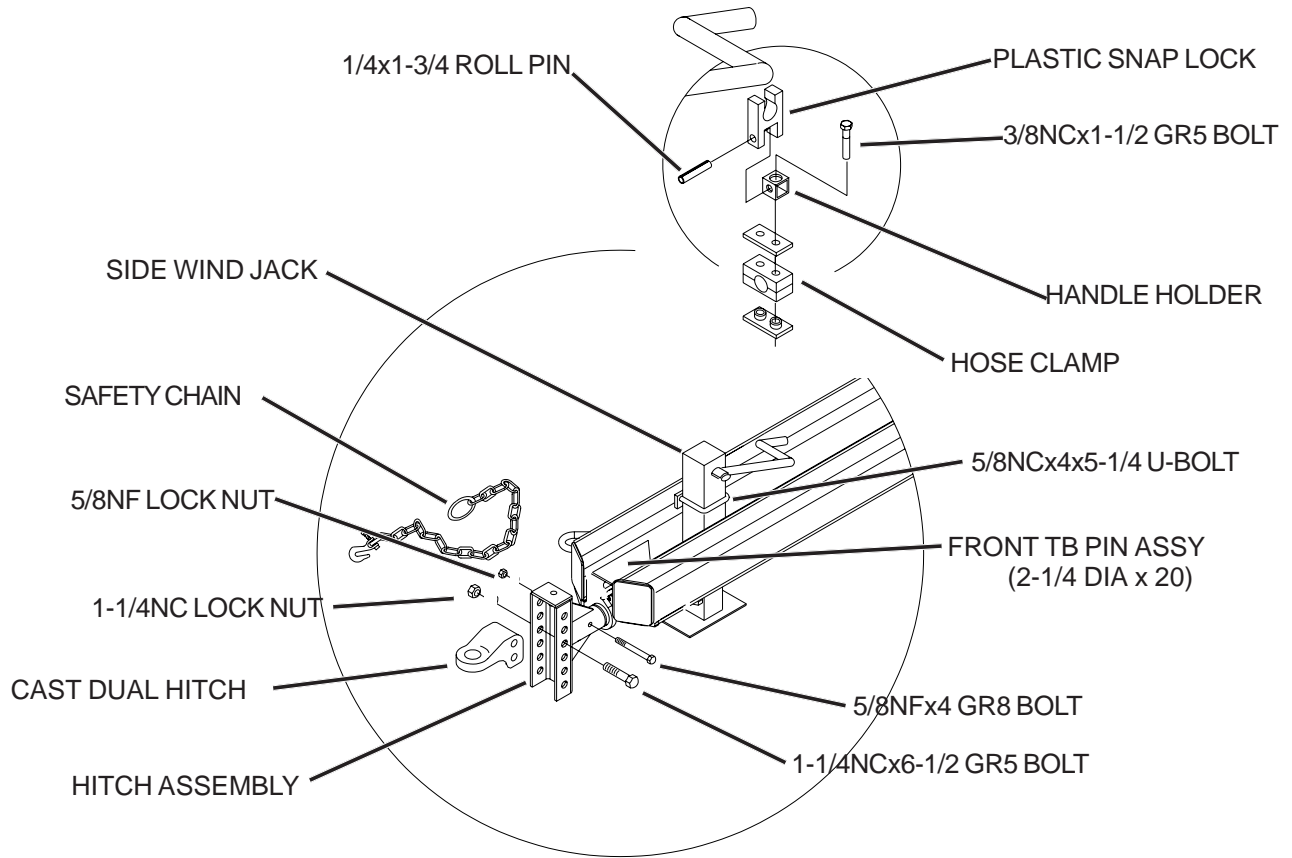


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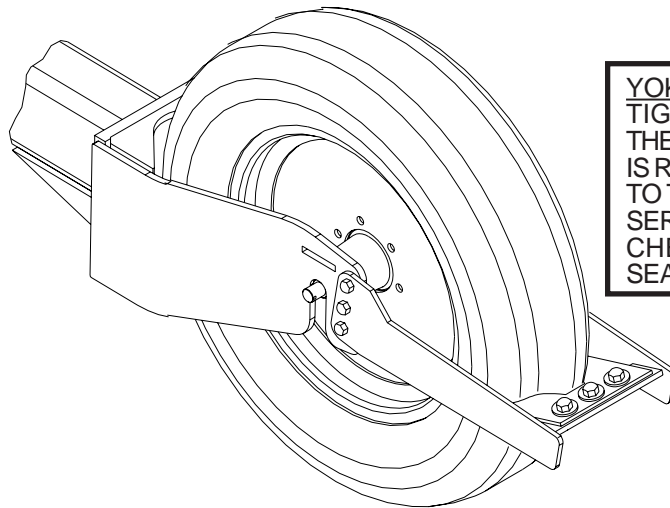
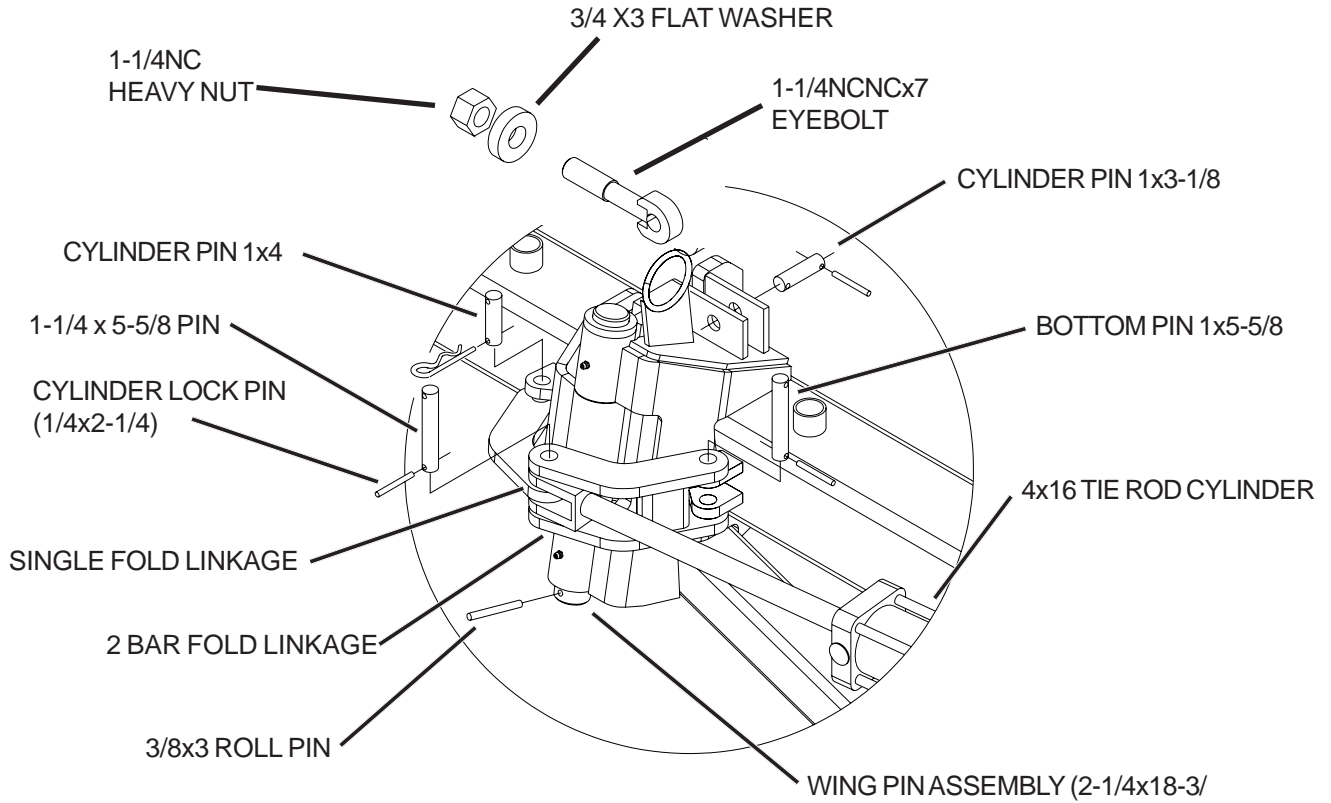
**SPECIAL HARDWARE
REQUIRED FOR CENTER
ROW UNIT MOUNTING**



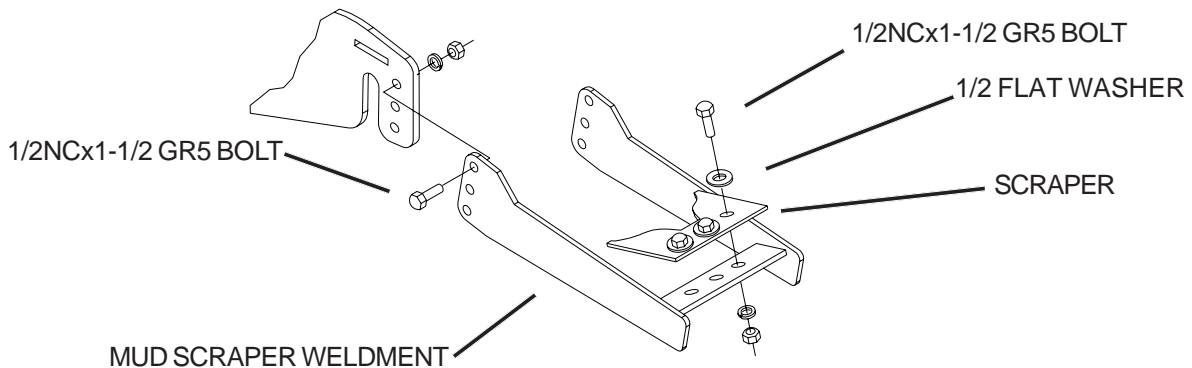
ASSEMBLY INFORMATION - HITCH & CENTER HINGE



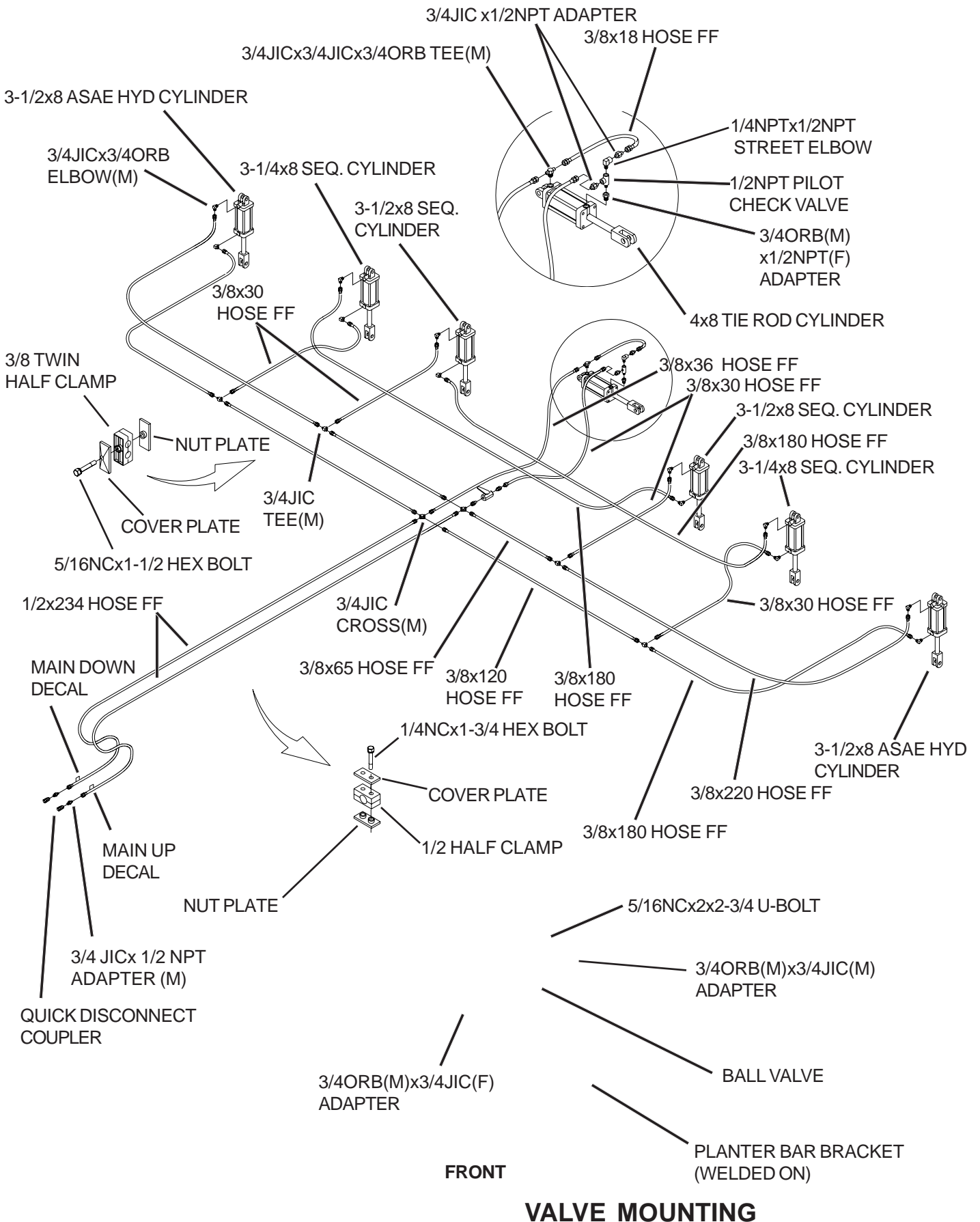
ASSEMBLY INFORMATION - WING HINGE & MUD SCRAPER



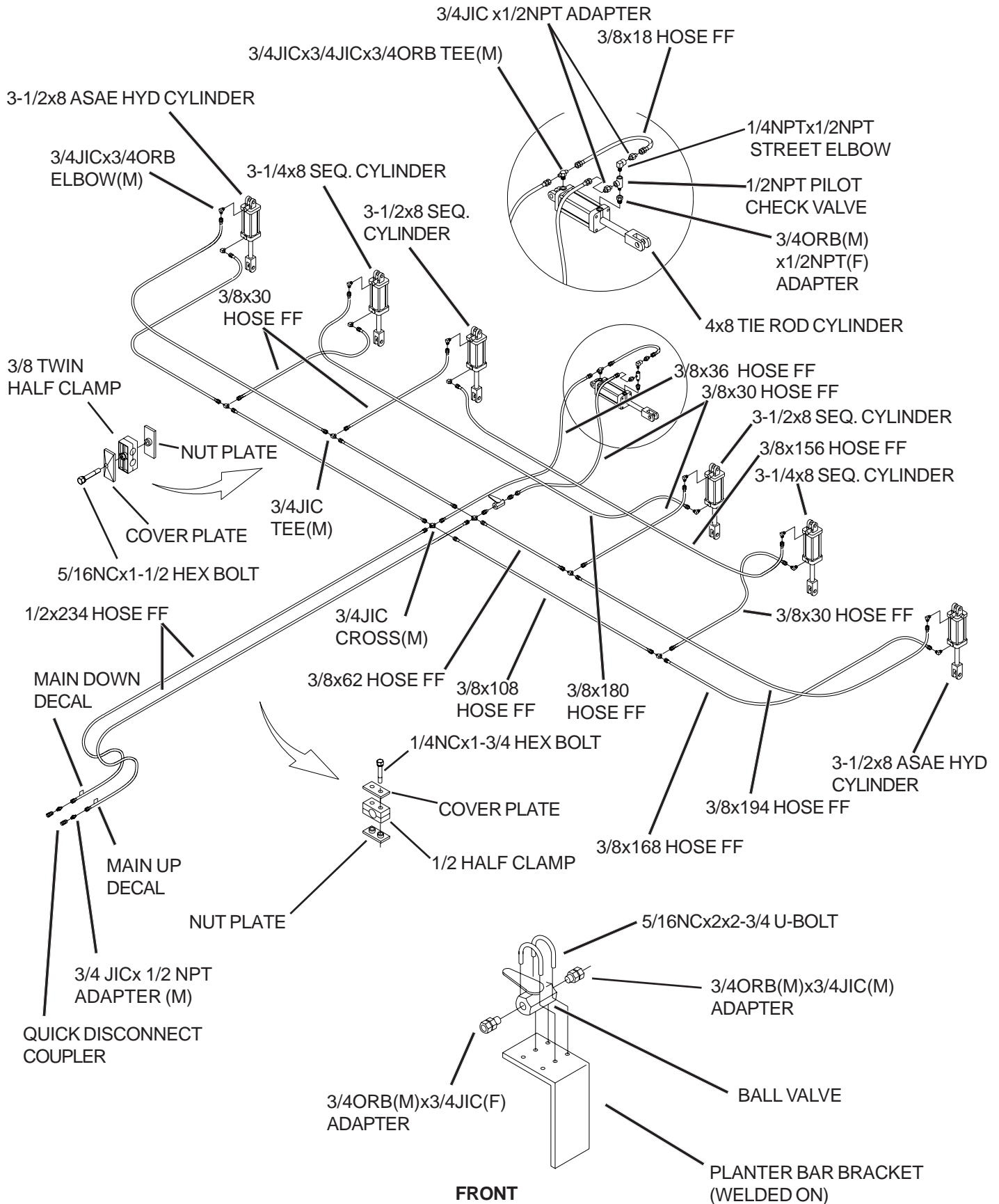
YOKE HUB ASSEMBLY INSTRUCTIONS
 TIGHTEN SLOTTED HEX NUT UNTIL THERE'S A SLIGHT DRAG WHEN THE TIRE IS ROTATED BY HAND. THEN, BACK OFF TO THE CLOSEST CROSS HOLE AND INSERT COTTER PIN.
 CHECK AFTER FIRST DAY USE AND SEASONLY AFTER THAT



LIFT HYDRAULICS (24R22)

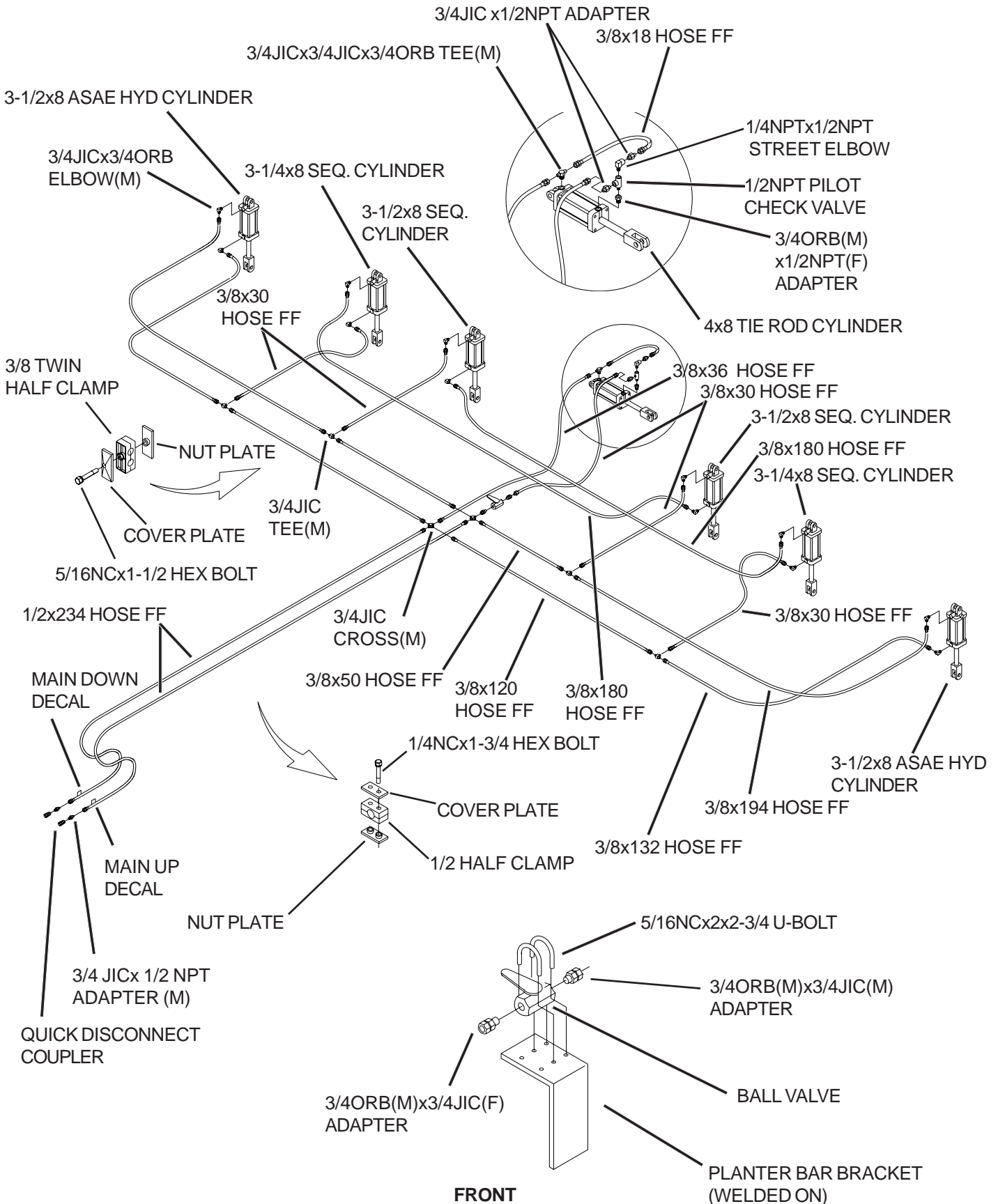


LIFT HYDRAULICS (24R20)



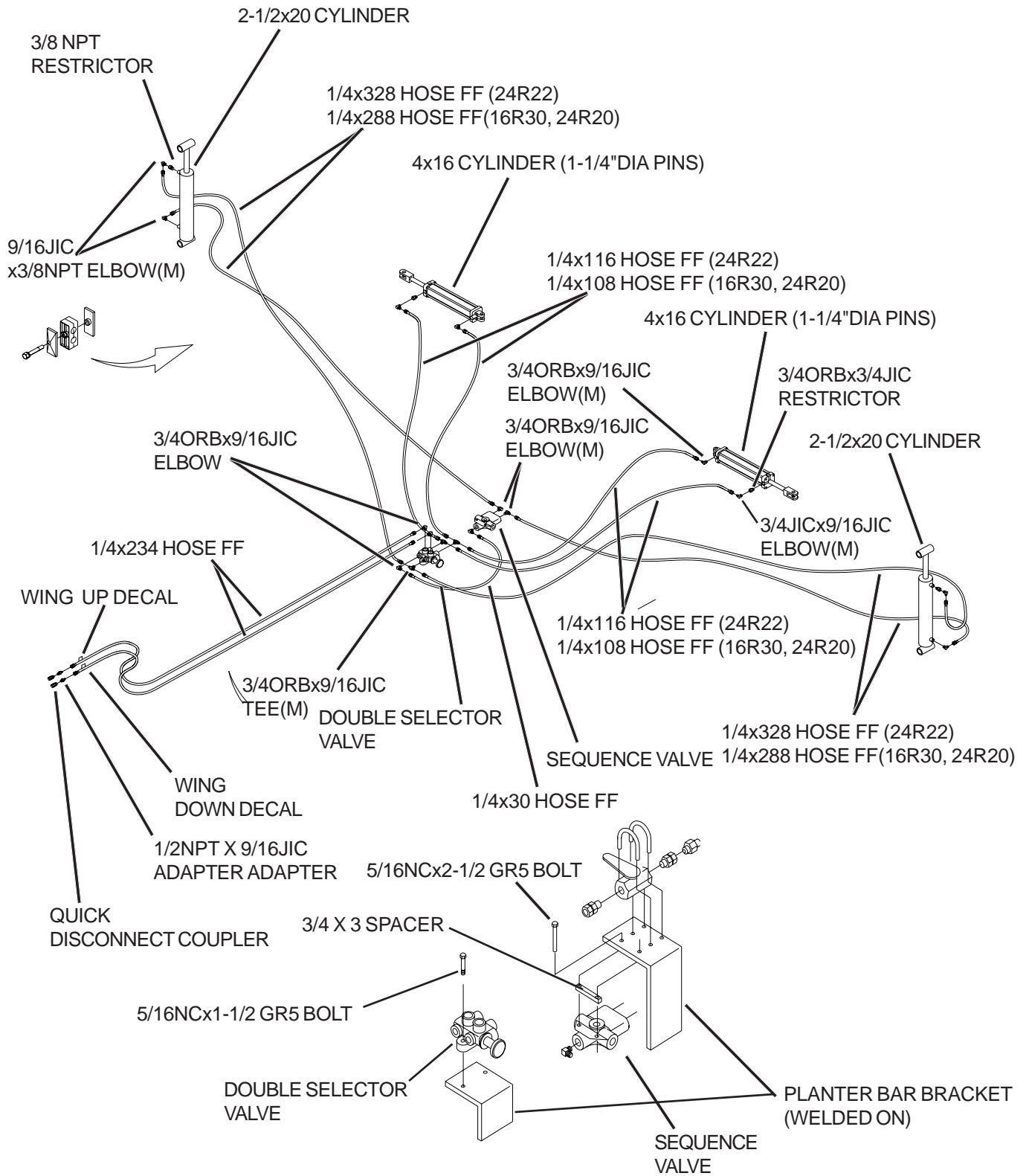
VALVE MOUNTING

LIFT HYDRAULICS (16R30)



VALVE MOUNTING

WING FOLD AND MARKER HYDRAULICS



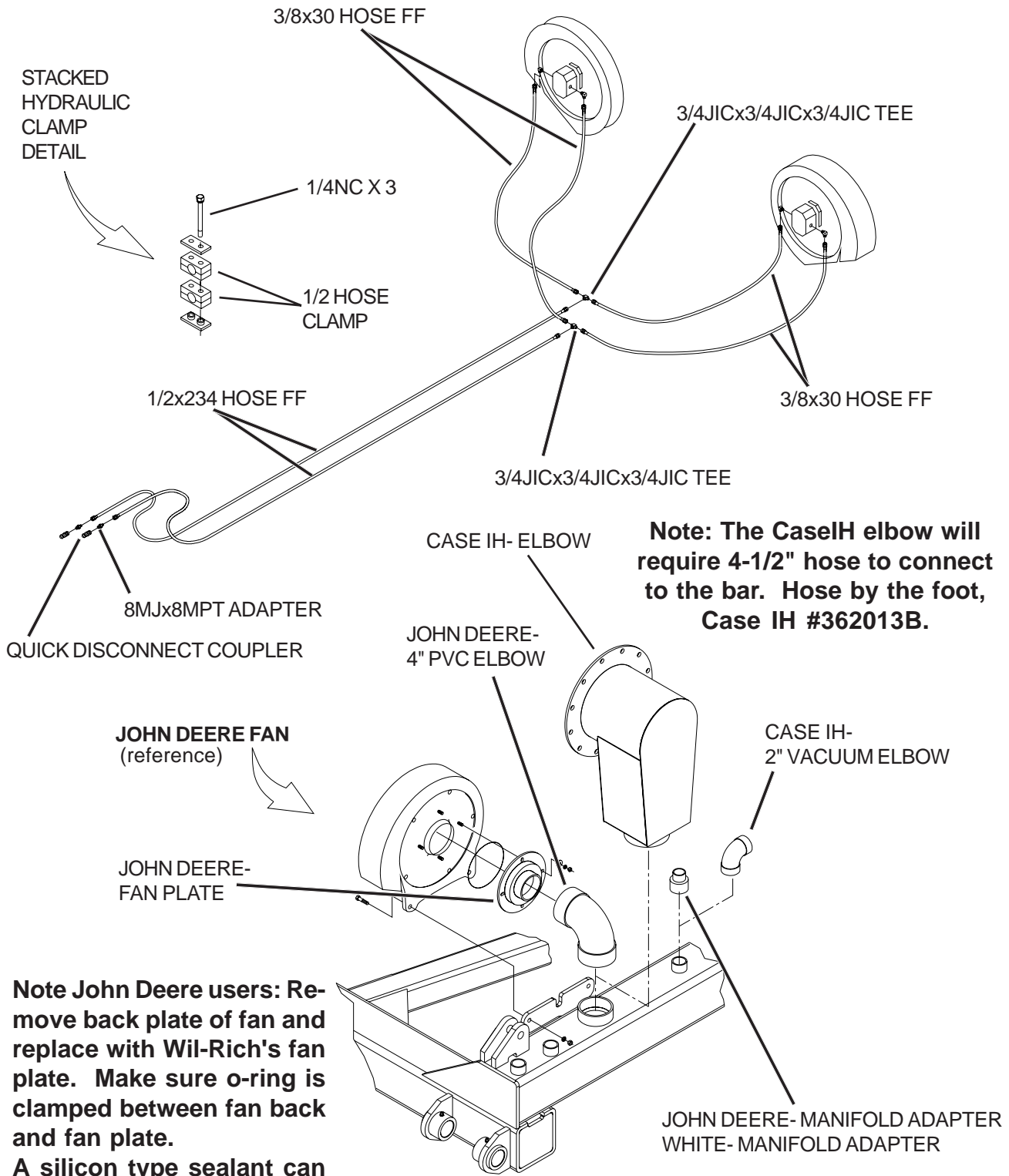
FRONT

VALVE MOUNTING

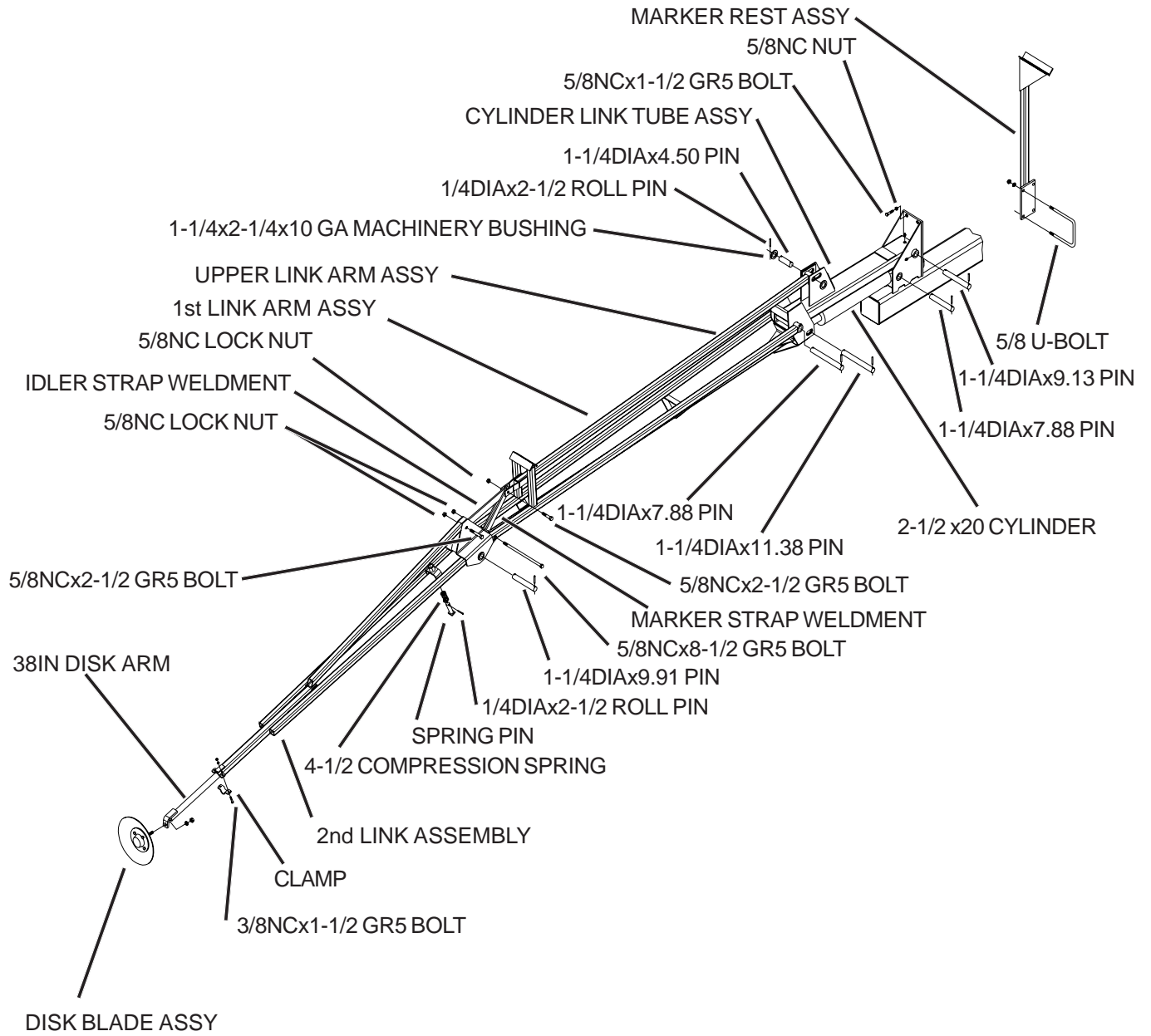
D

BLOWER HYDRAULICS - fan not supplied

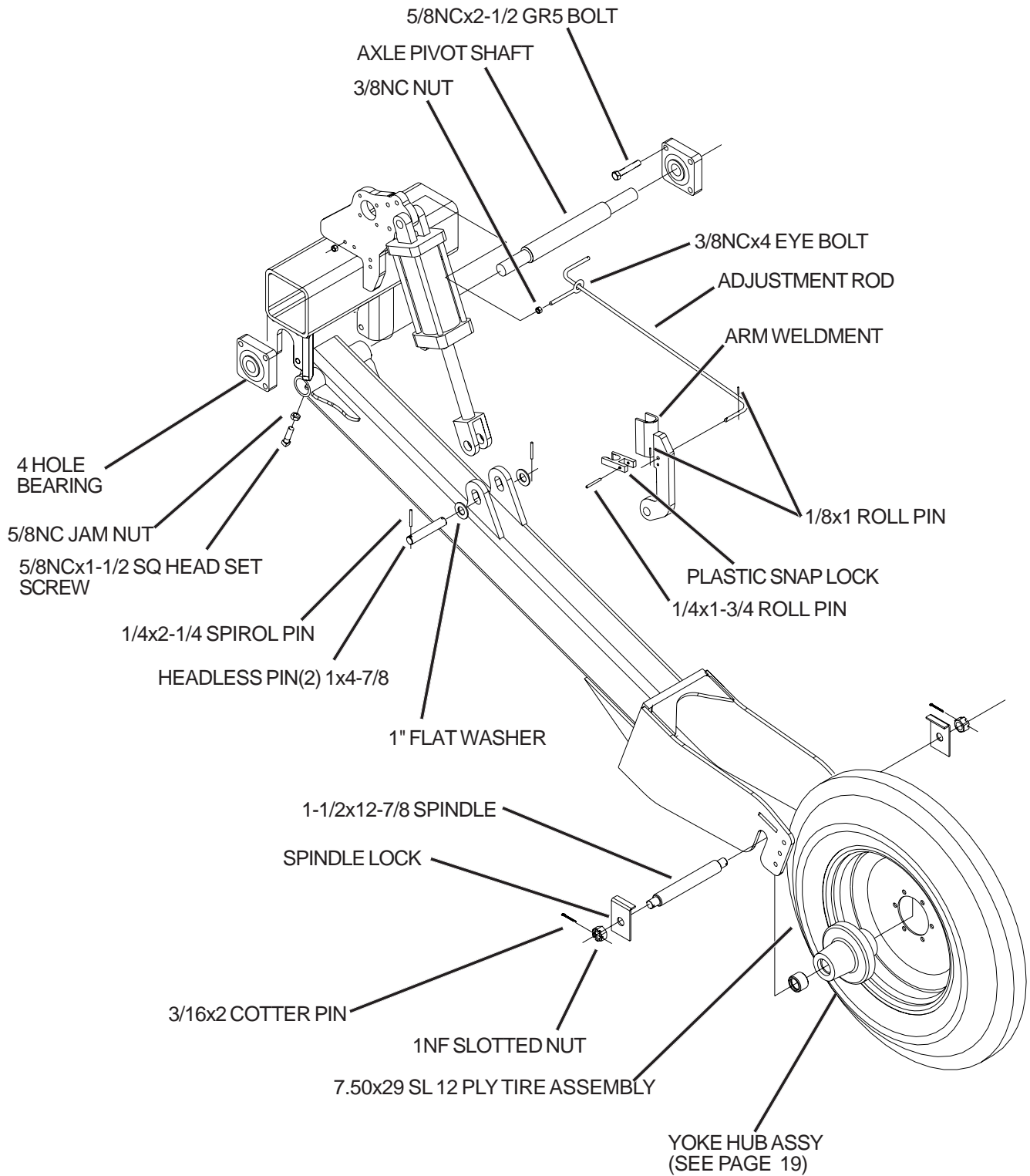
Note: Some fan manufacturers require a flow direction valve in hydraulic line. (not supplied)



Note John Deere users: Remove back plate of fan and replace with Wil-Rich's fan plate. Make sure o-ring is clamped between fan back and fan plate. A silicon type sealant can be used on all joints if deemed necessary.

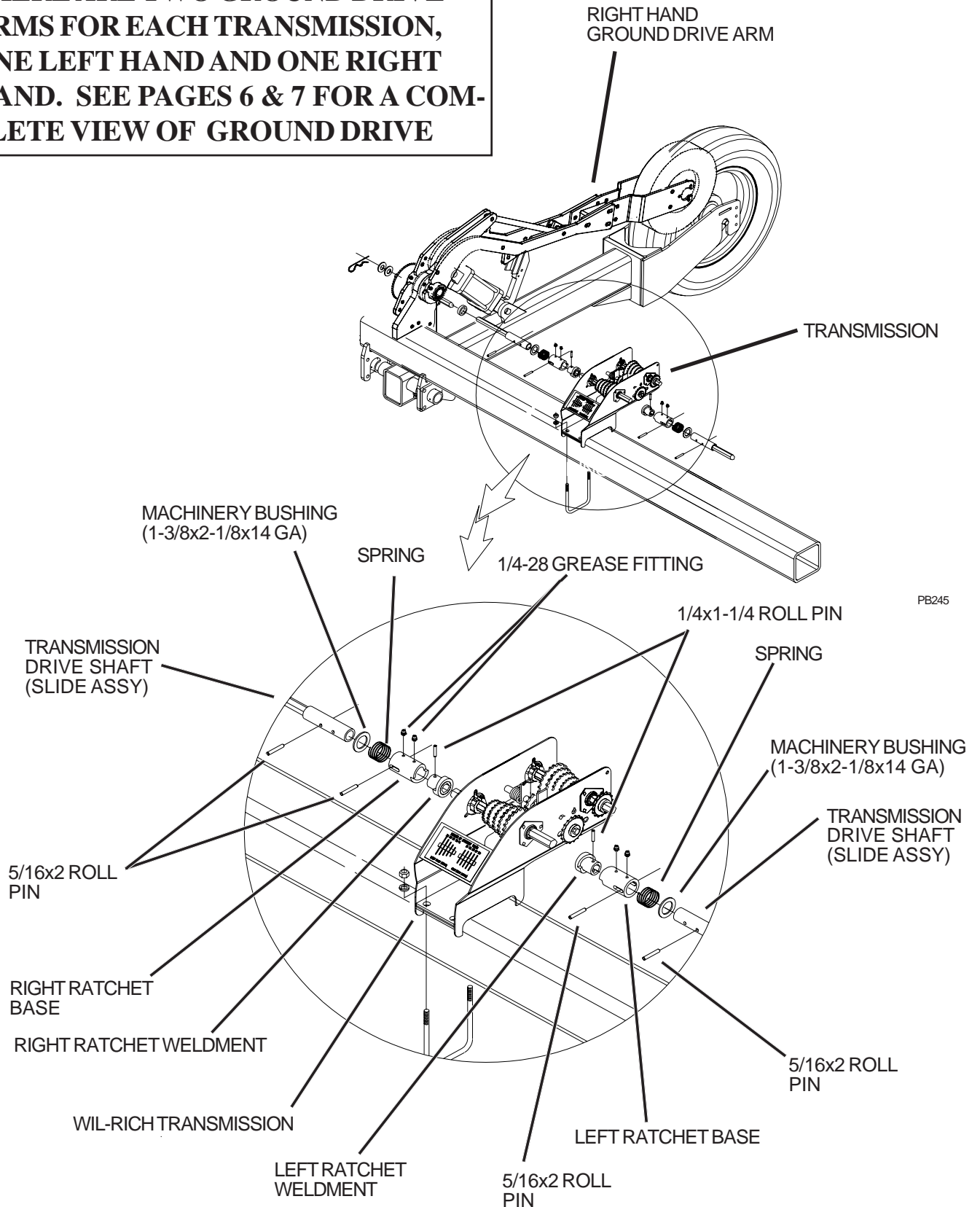


LIFT ASSEMBLY

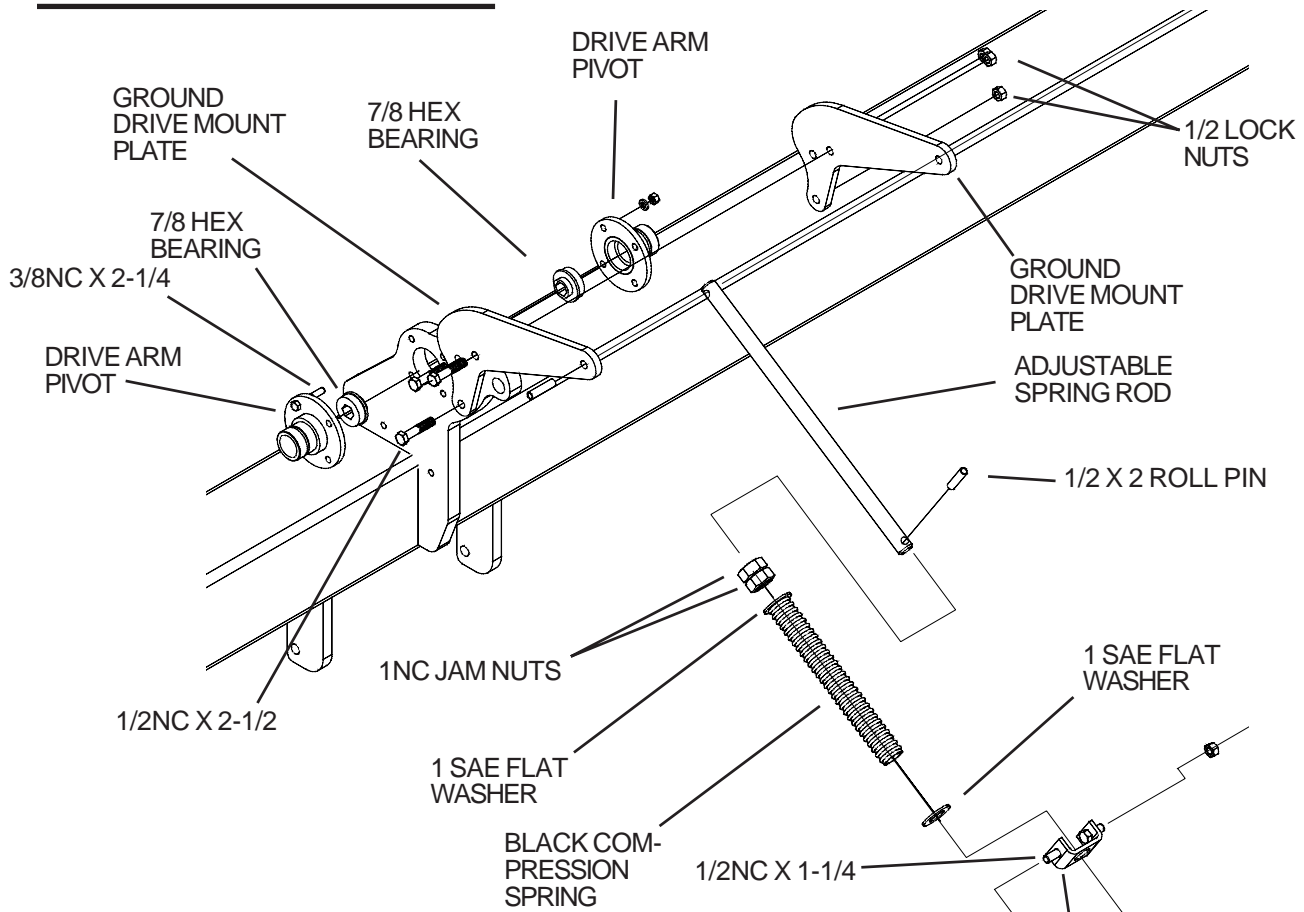


RATCHET DRIVE ASSEMBLY

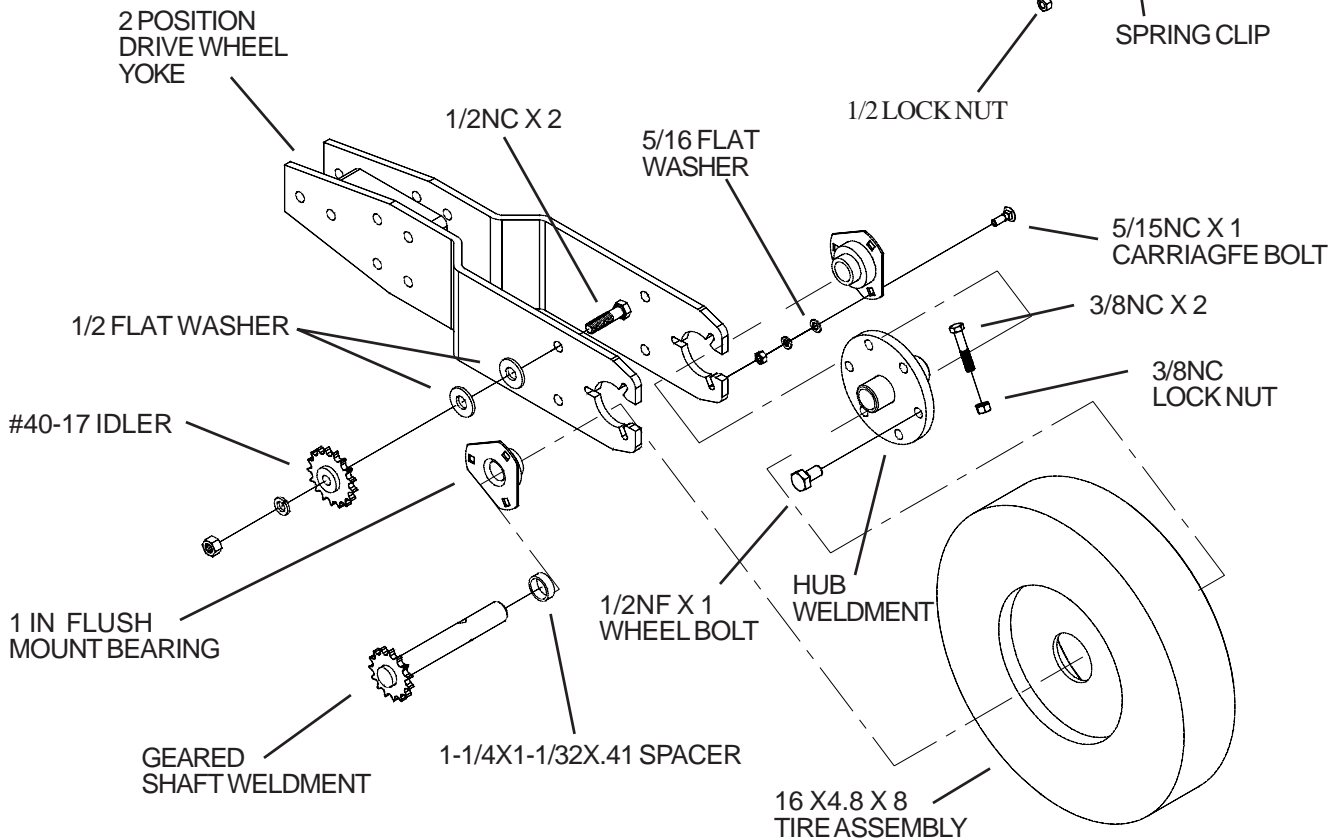
THERE ARE TWO GROUND DRIVE ARMS FOR EACH TRANSMISSION, ONE LEFT HAND AND ONE RIGHT HAND. SEE PAGES 6 & 7 FOR A COMPLETE VIEW OF GROUND DRIVE



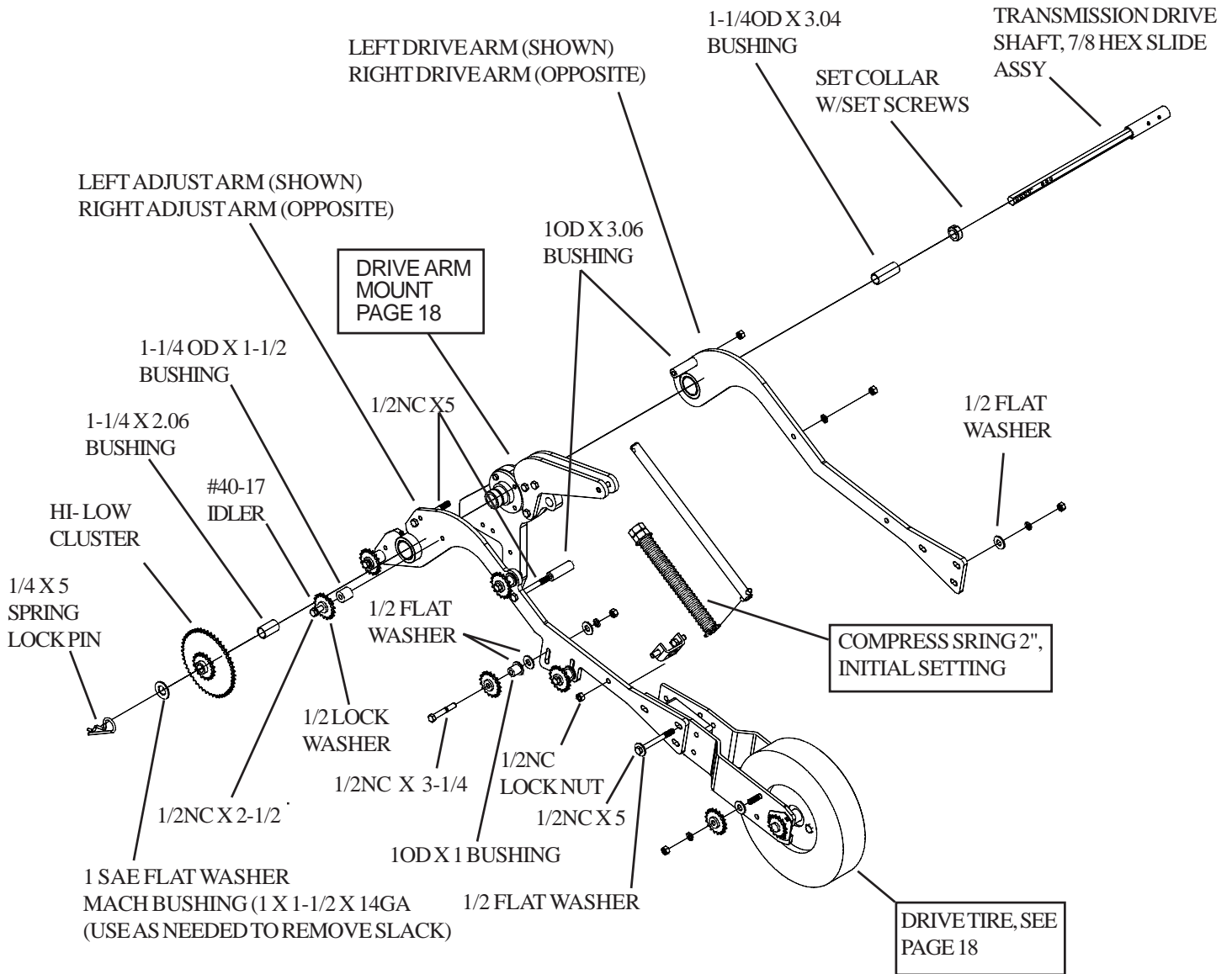
DRIVE ARM MOUNT



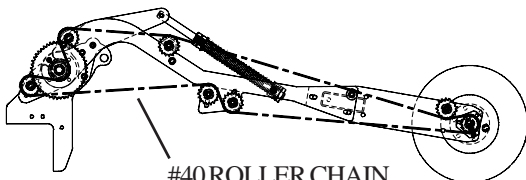
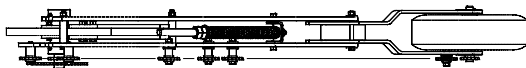
DRIVE TIRE



GROUND DRIVE ARM ASSEMBLY

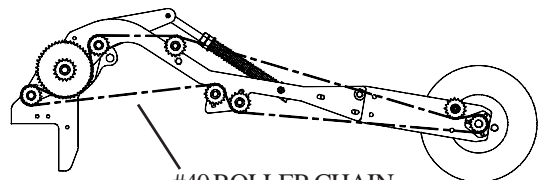
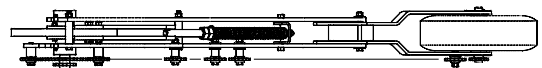


HIGH RANGE SETUP



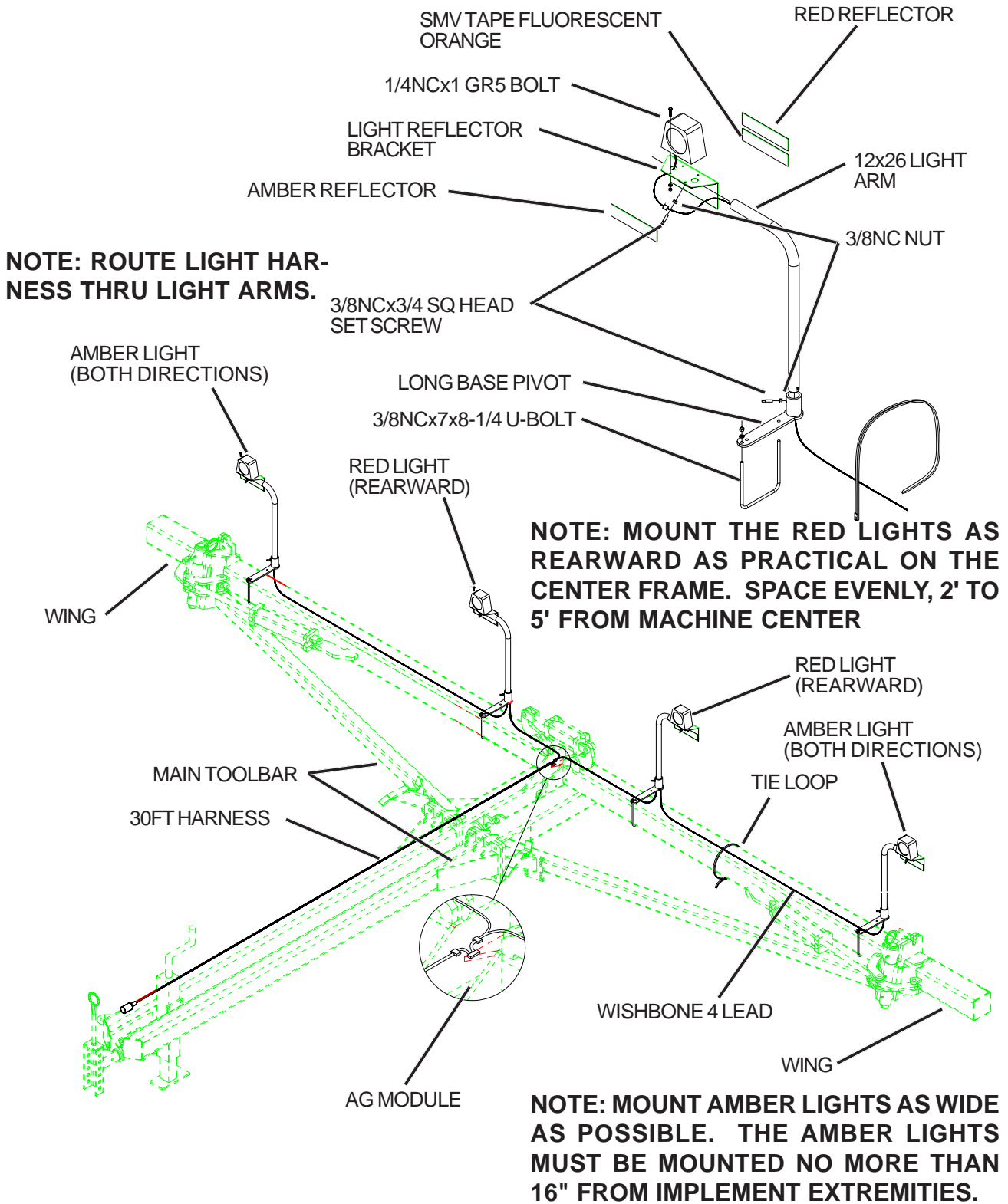
#40 ROLLER CHAIN
137 INCH P/N: 239184

LOW RANGE SETUP



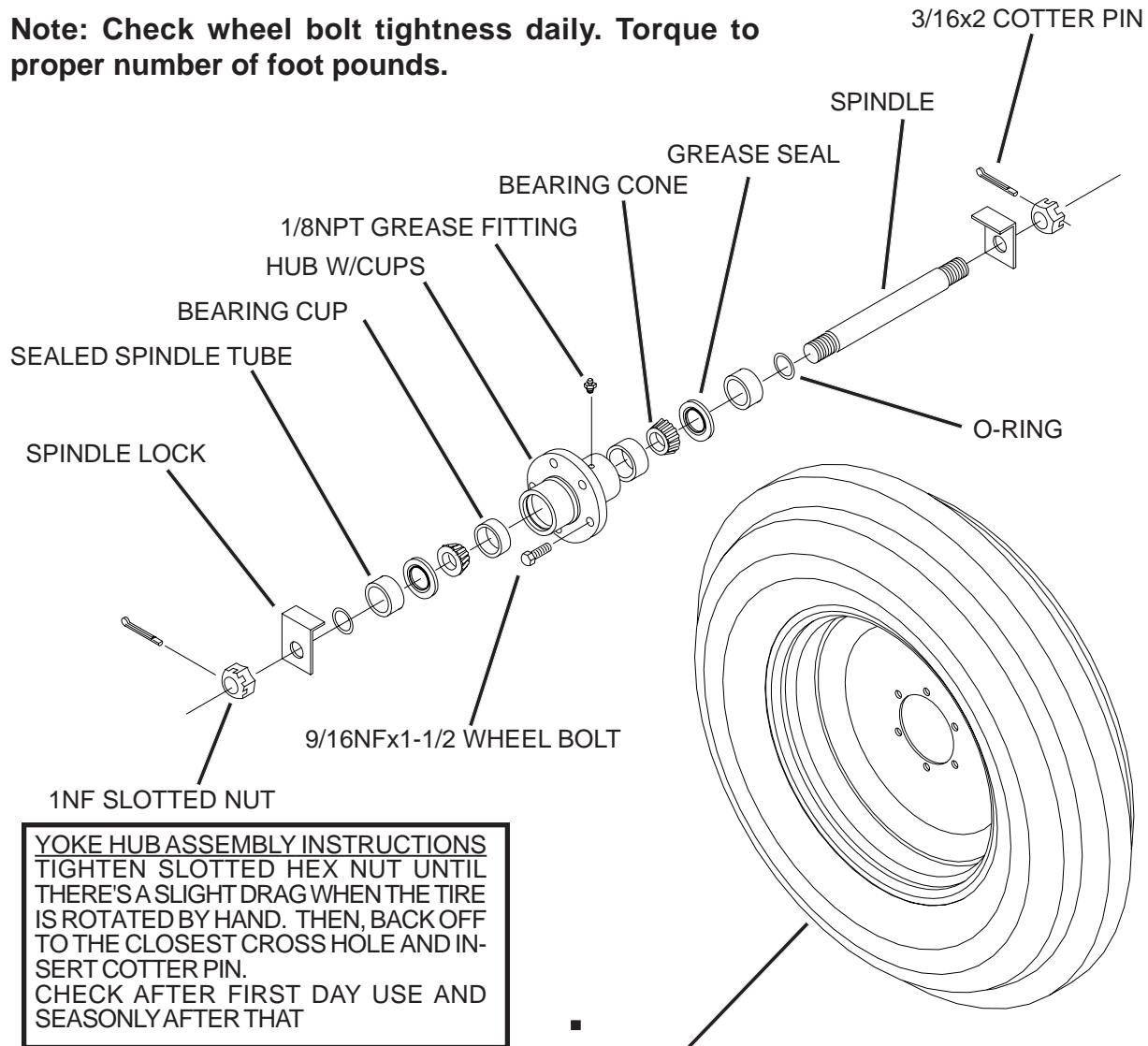
#40 ROLLER CHAIN
137 INCH P/N: 239184

SAFETY LIGHT ASSEMBLY



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

Note: Check wheel bolt tightness daily. Torque to proper number of foot pounds.



7.50x20 SINGLE RIB TIRE
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.**

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.

	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

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.

REQUIREMENTS

Wil-Rich will supply:

- Planter Bar
- Markers
- Hydraulics for bar components (including Blower hydraulics)

Options:

- Mechanical Ground Drive
- Transmission
- Manifold Adapters
- Transmission Mount - 2

Purchaser will supply:

- Planting Units w/accessories
- Vacuum Gauges
- Transmission - 2
- Vacuum Blower - 2
- Vacuum Hoses (25 for 24 row)
(17 for 16 row)
- Hinge Drive couplers (7/8 Hex) 4 - 2/Hinge
- Monitoring equipment
- 7/8 Hex shaft for Seed Drive
(4 pieces at approx. 130" each)

CAUTION

TO AVOID POSSIBLE INJURY:

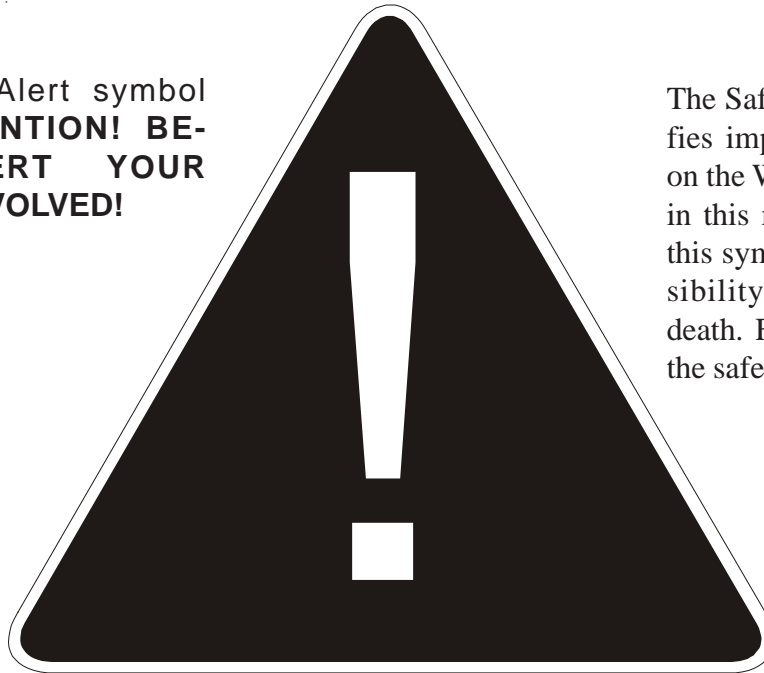
- **Always lower implement to the ground for servicing or when not in use.**
- **Never allow anyone to ride on implement.**
- **Keep everyone clear of tractor and implement while in use or while tractor is running.**

31926

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 Planter Bar 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 Planter Bar. You must ensure that you and anyone else who is going to operate, maintain or work around the Planter 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 2200 owners must give operating instructions to operators and employees before allowing them to operate the Planter 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 2200.

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.	
<small>24227</small>	

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.

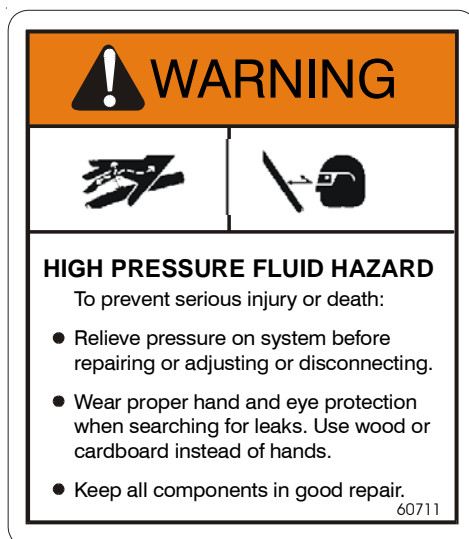
Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tape, clamps or cements. The hydraulic system operates under extremely high-pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.

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 Planter 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.

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 2200 Planter 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.

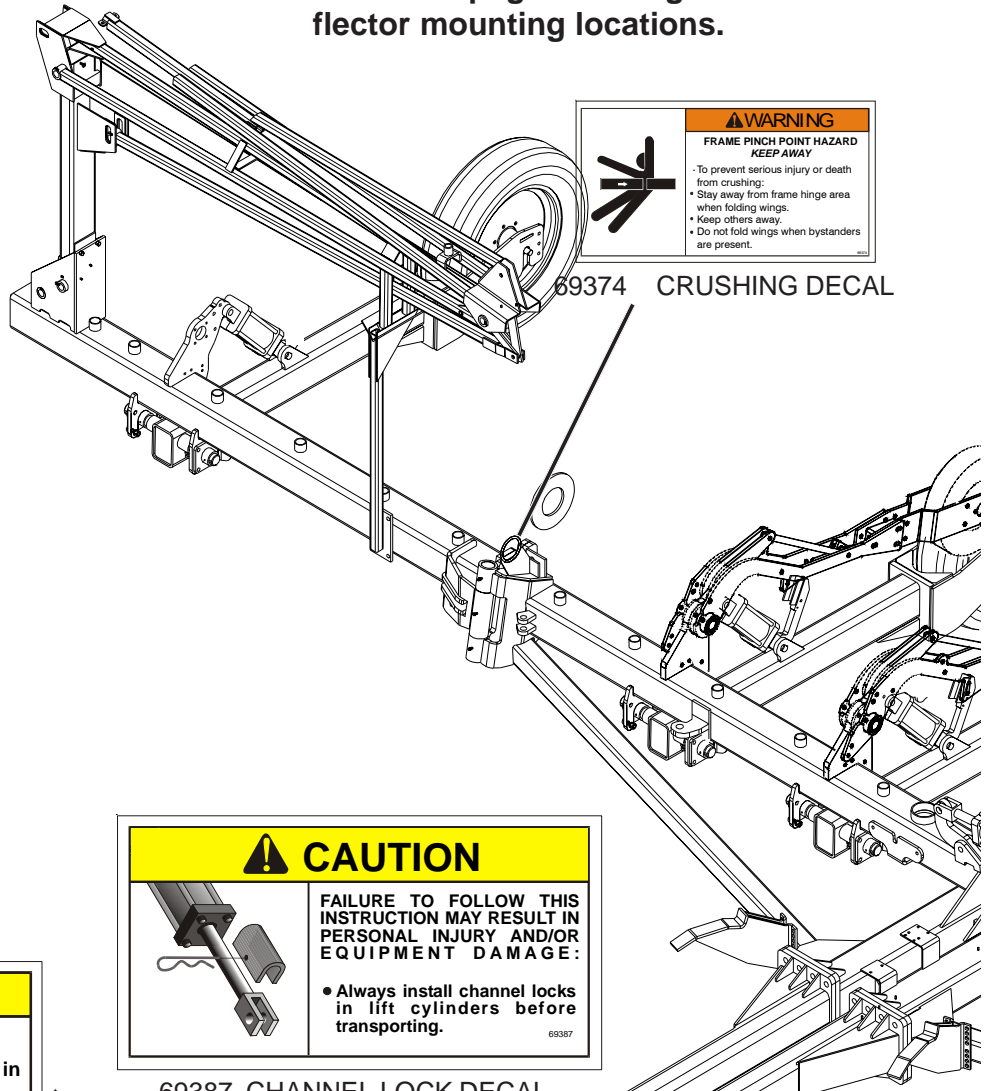
Make periodic reviews of SAFETY and OPERATION a standard practice for all your equipment. We feel that an untrained operator is unqualified to operate this machine.

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

Note: See page 20 for lights and reflector mounting locations.



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.

69374 CRUSHING DECAL

CAUTION

FAILURE TO FOLLOW THIS INSTRUCTION MAY RESULT IN PERSONAL INJURY AND/OR EQUIPMENT DAMAGE:

- Always install channel locks in lift cylinders before transporting.

69387 CHANNEL LOCK DECAL

CAUTION

TO AVOID POSSIBLE EQUIPMENT DAMAGE:

- Restricting orifice fittings are installed in all wing fold cylinders.
- Do not operate the wing fold cylinders without the restricting orifice fittings.

31928 CAUTION DECAL

DANGER

CRUSHING HAZARD

To prevent serious injury or death:

- Do not stand between implement and moving tractor.
- Stop tractor engine and set park brake before installing pins.

222802 CRUSHING DECAL

DANGER

ELECTROCUTION HAZARD

To prevent serious injury or death:

- Stay away from power lines when transporting, extending or folding implement.
- Electrocution can occur without contacting power lines.

222801 ELECTROCUTION DECAL

CAUTION

TO AVOID POSSIBLE INJURY:

- Do not use hydraulic cylinders until all trapped air has been removed from system.

31942 CAUTION DECAL

WARNING

To avoid Injury, Death or Machine Damage:

- 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.

62503 SERVICE DECAL

WARNING

HIGH PRESSURE FLUID HAZARD

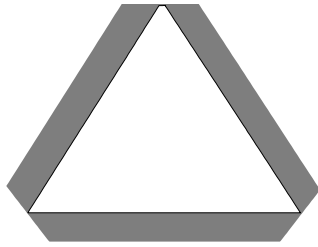
To prevent serious injury or death:

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

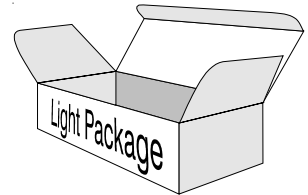
62558 HIGH PRESSURE FLUID



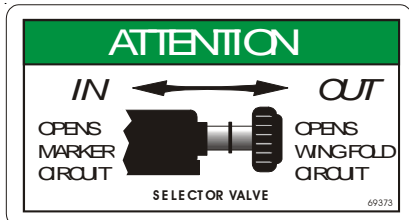
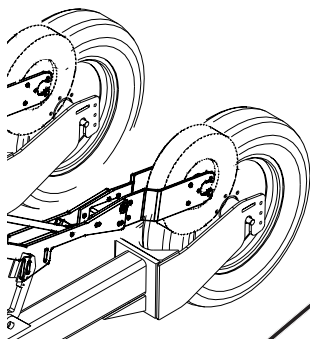
62557 GREASE FITTING DECAL
(SEE LUBRICATION PAGE)



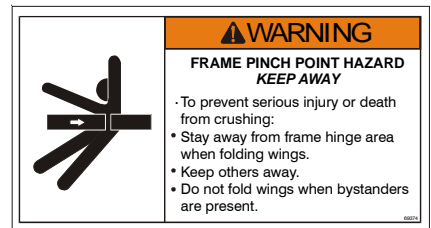
41345 SMV KIT



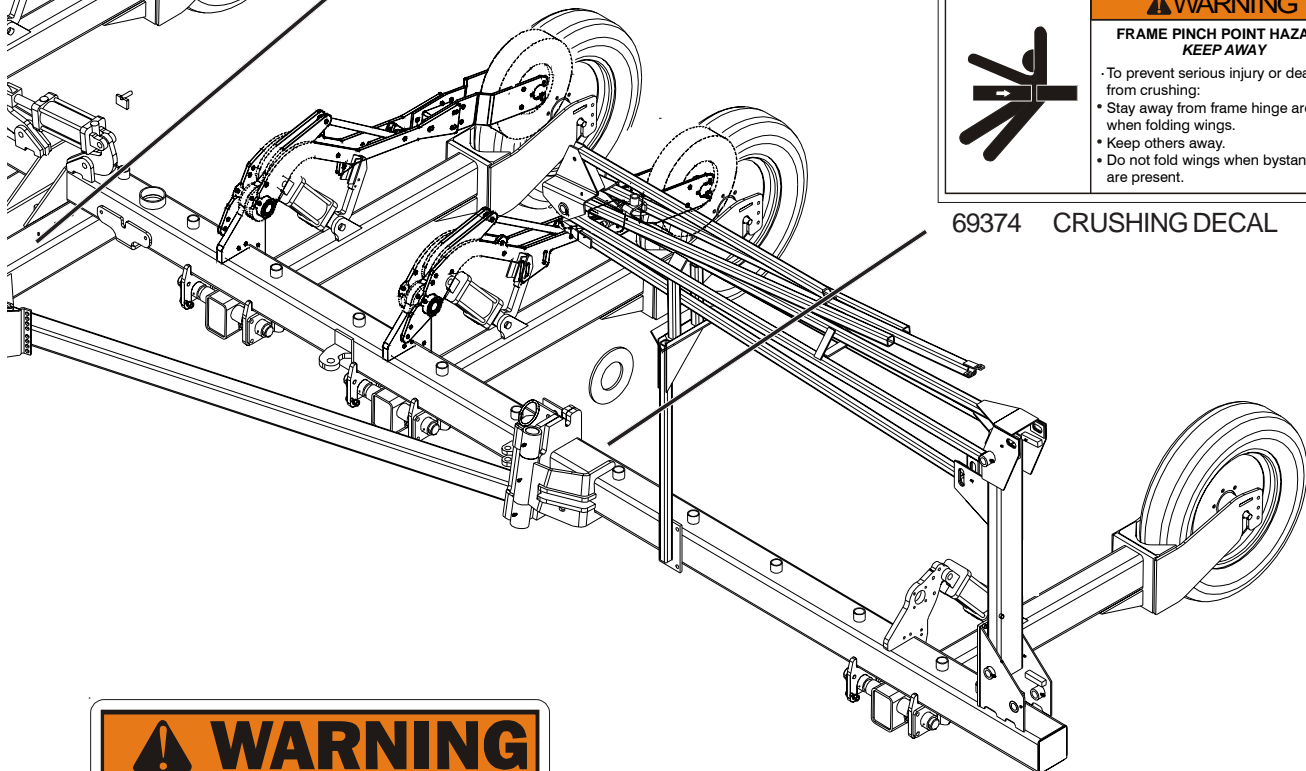
223165 CLEARANCE
LIGHT PACKAGE
(SEE PAGE 20 FOR
ASSEMBLY)



69373 CIRCUIT CHANGE DECAL



69374 CRUSHING DECAL



221480 SPEED DECAL

TIRE PRESSURE

Tire pressure should be checked regularly and maintained as follows:

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

4.8x8x16 Tire Assy - 90 PSI

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

TRANSMISSION ADJUSTMENT

See your Planting units Operation Manual.

SOWING DISTANCES

See your Planting units Operation Manual.

OPERATING SPEED

See your Planting units Operation Manual.

PLANTER PREPARATION

For initial preparation of the planter, lubricate the planter bar and planter units as outlined in the lubrication section of this manual and as outlined in the planter units manual. Make sure all tires are properly inflated, and all chains have the proper tension, alignment and lubrication.

TRACTOR PREPARATION

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

PLANTER ATTACHMENT TO TRACTOR

Adjust the tractor drawbar so it is 15" to 20" above the ground. Make sure the drawbar is in a stationary position.

Raise or lower the planter bar hitch clevis to match the drawbar height of the tractor (see Leveling Procedure). Back the tractor to the planter and connect with a hitch pin. Lower planter bar 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 planter to the planting position and check the level of the planter front to back and side to side. If the hitch height is too low or too high, disconnect the planter and adjust the clevis in an up or down position as necessary.

LEVELING THE PLANTER

For proper operation of the planter and planting 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.

With the planter lowered to proper operating depth and the center 4x8 Tie Rod Cylinder extended (John Deere recommends parallel arms should be parallel with ground), check to be sure the frame is level fore and aft (front to back and side to side). Recheck once planter is in the field.

Wil-Rich includes a package of stop collars 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 planter to operate level laterally. Tire pressure must be maintained at pressures specified.

The Wil-Rich Planter bar leveling will depend on the type and model of planting unit you are using. Most manufactures require the parallel arms of the planting unit to run parallel with the ground. Check your planting units operation manual for this specification.

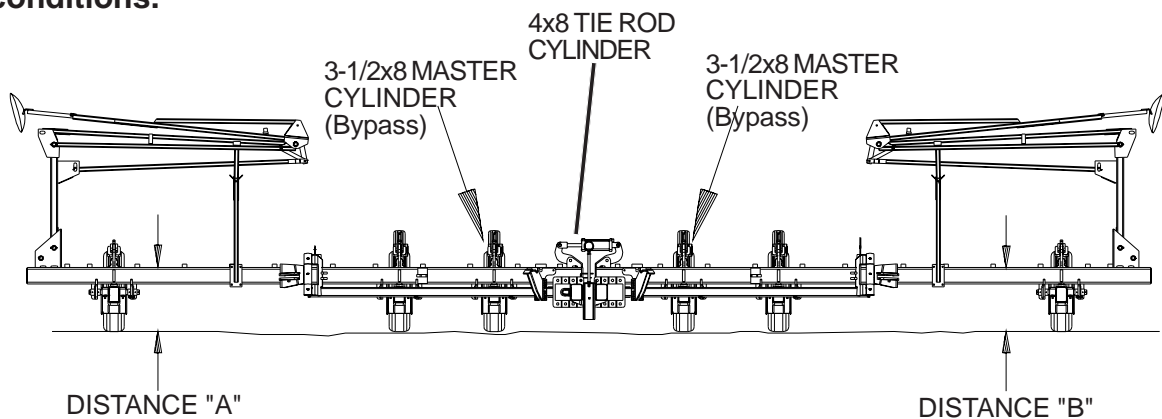
Leveling Procedure

1. Set planter bar on hard level surface at its lowest position. Center 4x8 Tie Rod Cylinder must be extended before leveling.

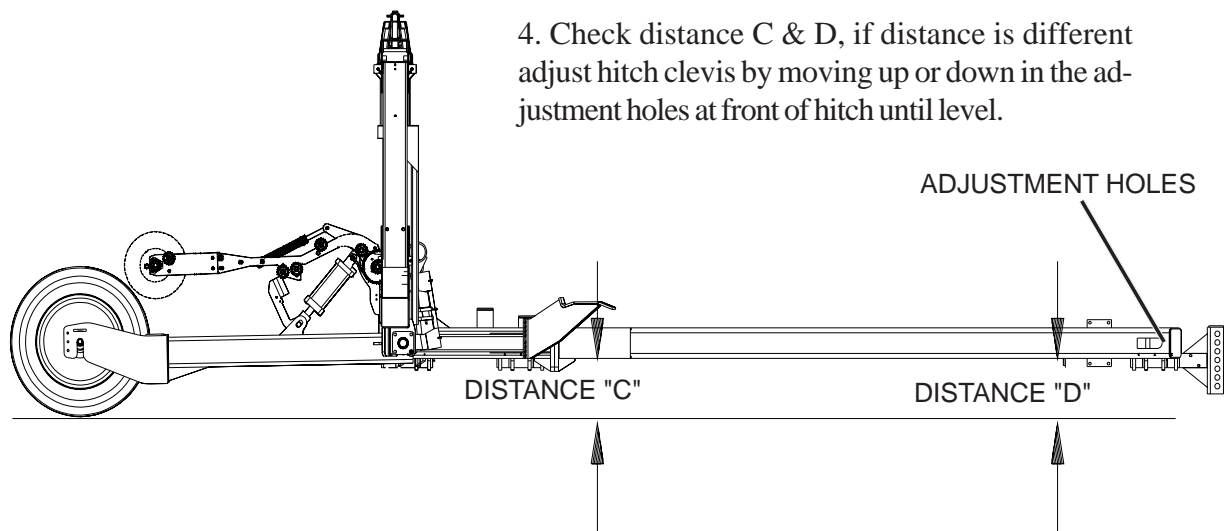
Note: If planter bar is being setup on a shop floor, the bar will set 2" to 4" higher than in the field, depending on soil conditions.

2. Set distance A & B to the same height. If different; check tire pressure (72lbs) or add stop collars.

3. When height is obtained put stop collars in all cylinders to prevent settling. All cylinders must be set the same



4. 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.



Note: With 6" to 8" of travel (4" up & 4" down) in the various types of planting units, all the distance above can be approximate.


WING FOLD CIRCUITRY

Wil-Rich planter bars use a hydraulic cylinder to fold the wing for road transport.

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

The wing fold and markers share a hydraulic circuit. The selector valve handle on the middle of the main frame must be pulled out to activate the wing fold circuit.

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.

ATTENTION

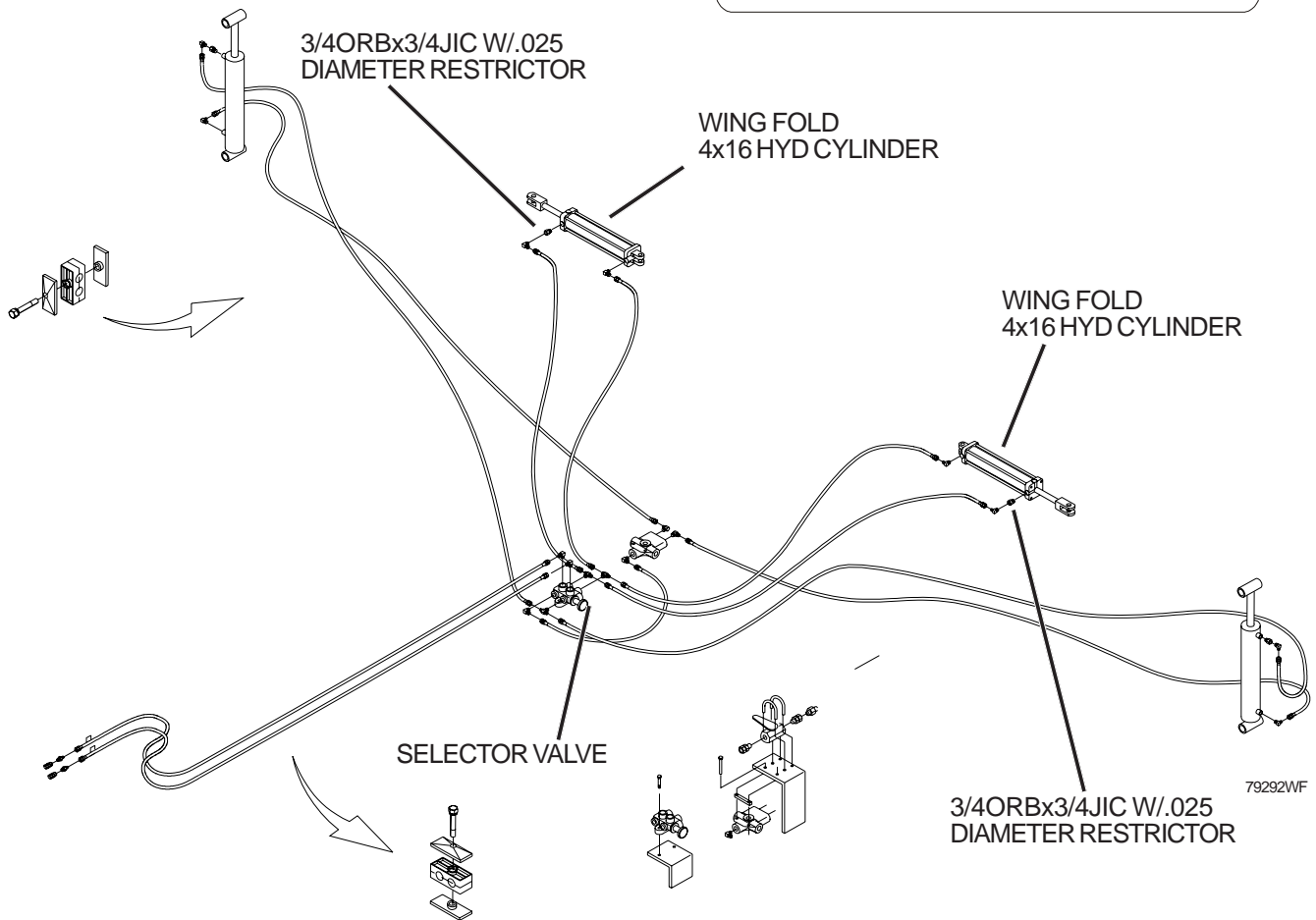
IN ← → *OUT*



OPENS MARKER CIRCUIT OPENS WING FOLD CIRCUIT

SELECTOR VALVE

69373



LIFT CONTROL CIRCUITRY

The Planter Bar 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.

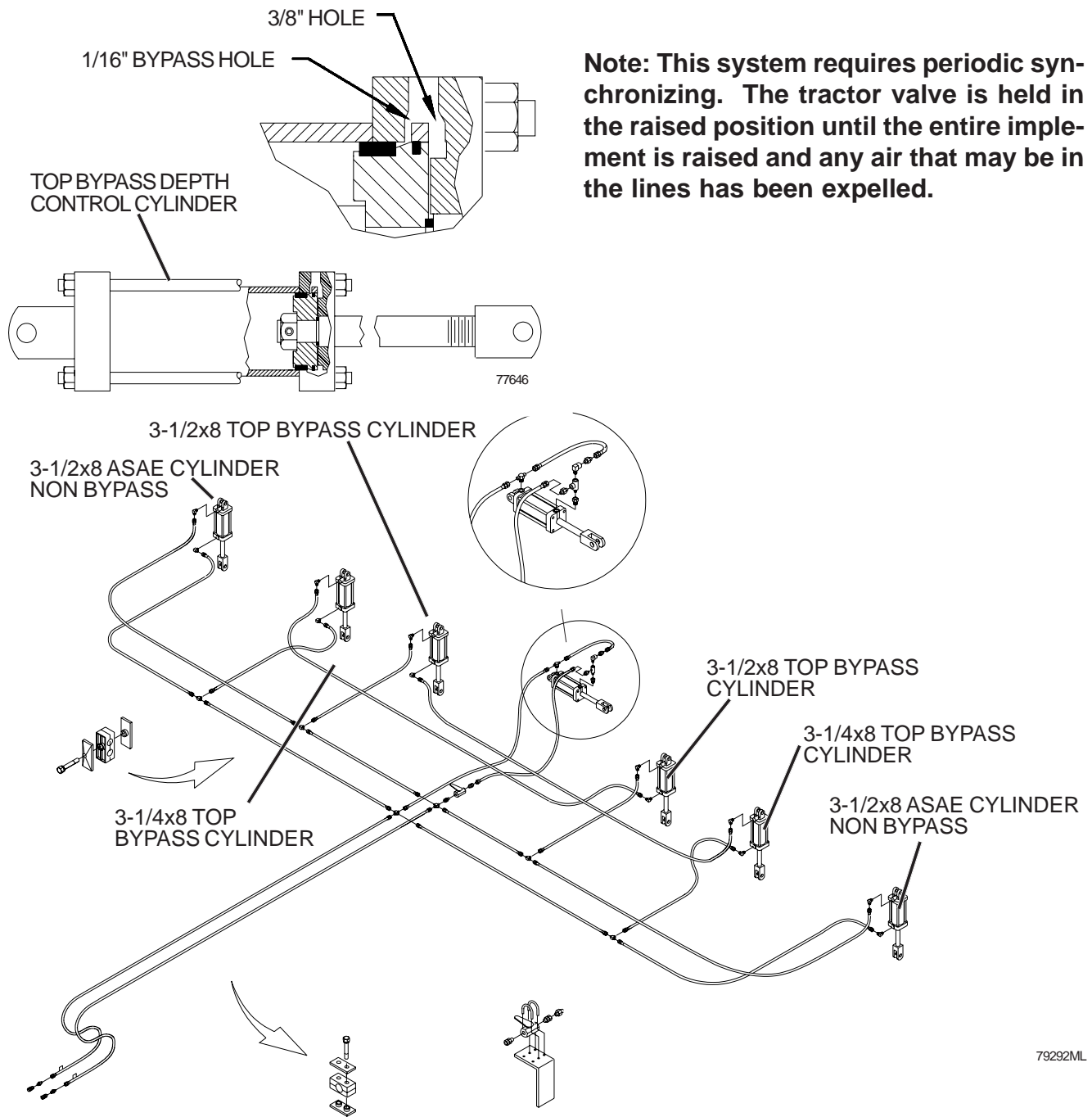
The center cylinders supply oil to the outside cylinders on the main frame. For this reason they are referred to as the master and the outside cylinders are slave.

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.



79292ML

LIFT CONTROL CIRCUITRY

Center Cylinder Operation

The Wil-Rich Planter Bar uses a 4x8 Tie Rod Cylinder in the center of the bar.

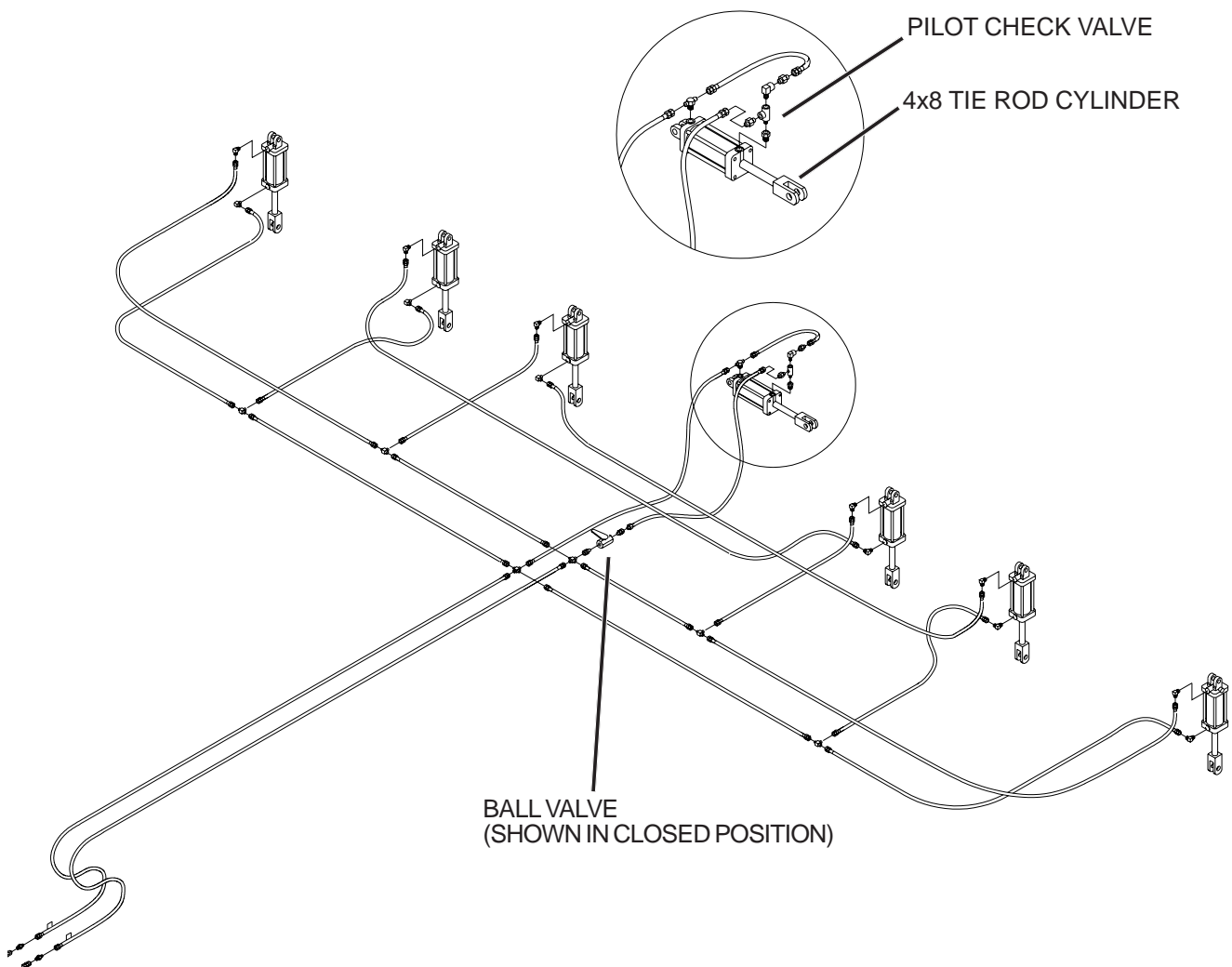
This cylinder is extended to a float position when bar is in the working position. This allows each half of the bar to float independently over rolling terrain when cultivating.

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

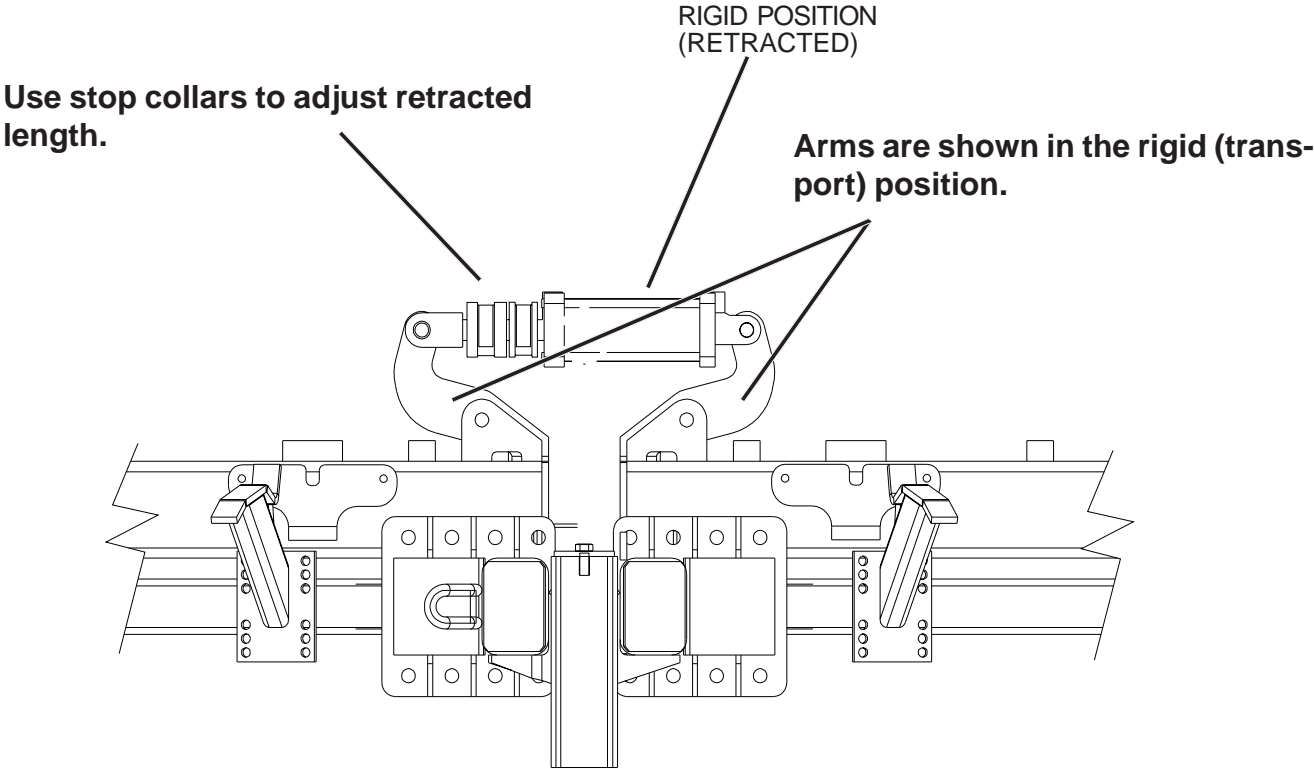
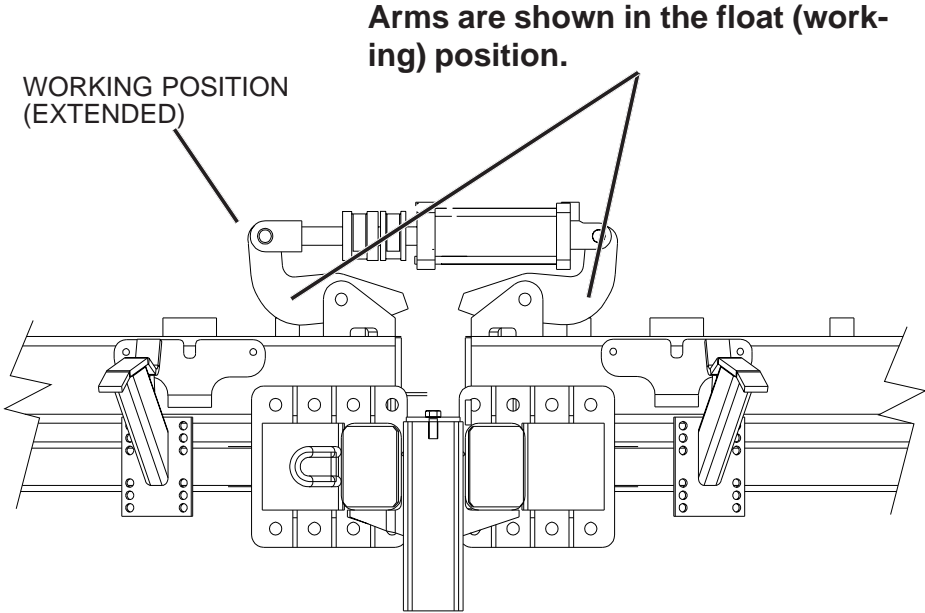
This circuit also has a ball valve. This valve is used as a positive means to lock-in a particular cylinder length. Closing this valve makes further adjustment impossible.

This cylinder is retracted to lock the bar rigid when raising for transport or turning at row ends.

Note: Planter Bar operation requires that the center cylinder retracts before the lift cylinders are extended to raise the implement.

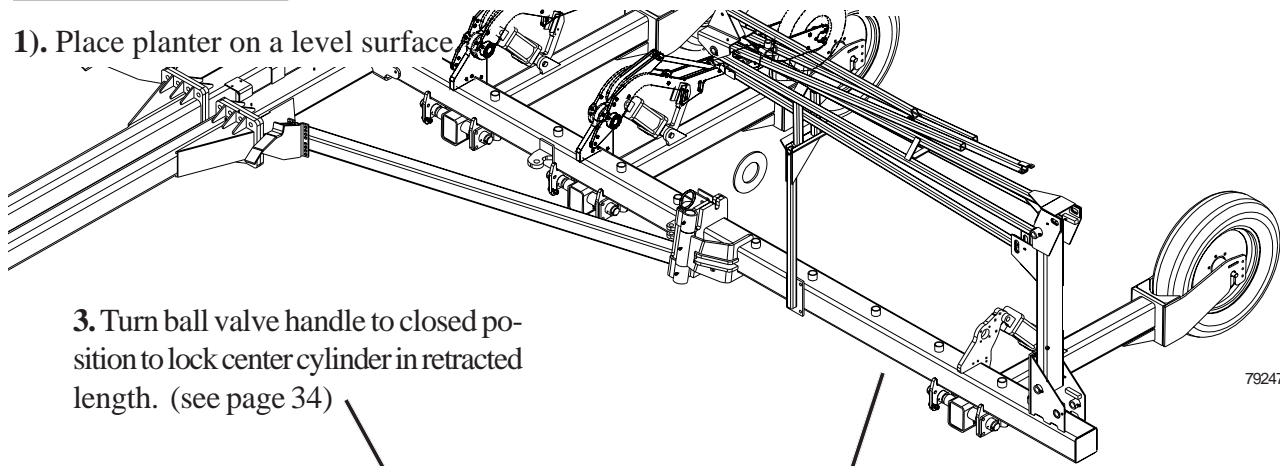


Center Cylinder Operation



WING FOLD

1). Place planter on a level surface



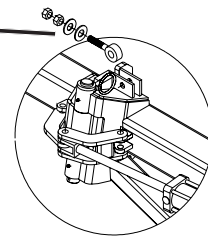
79247

3. Turn ball valve handle to closed position to lock center cylinder in retracted length. (see page 34)

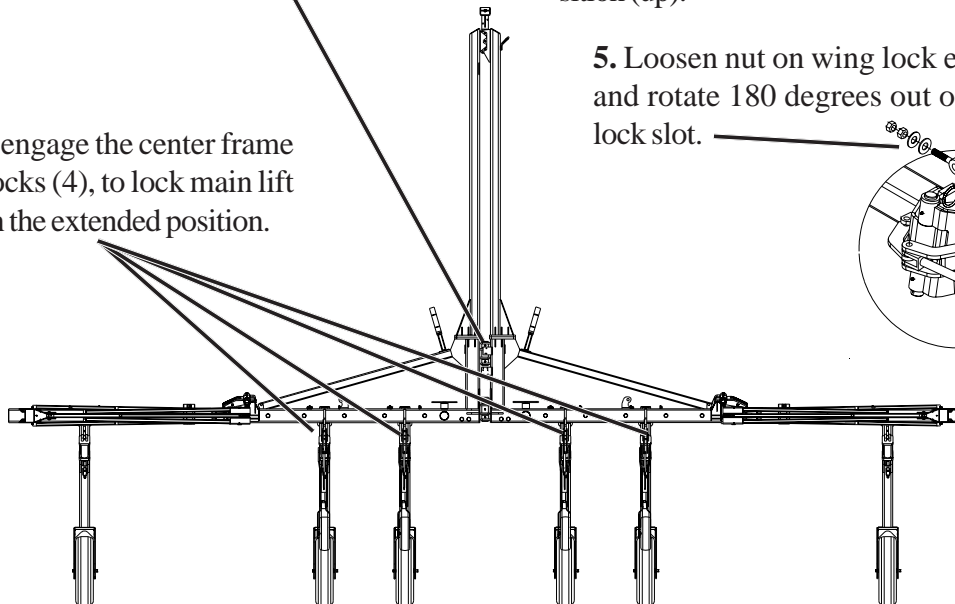
2. Raise tool bar to the transport position (up).

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

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



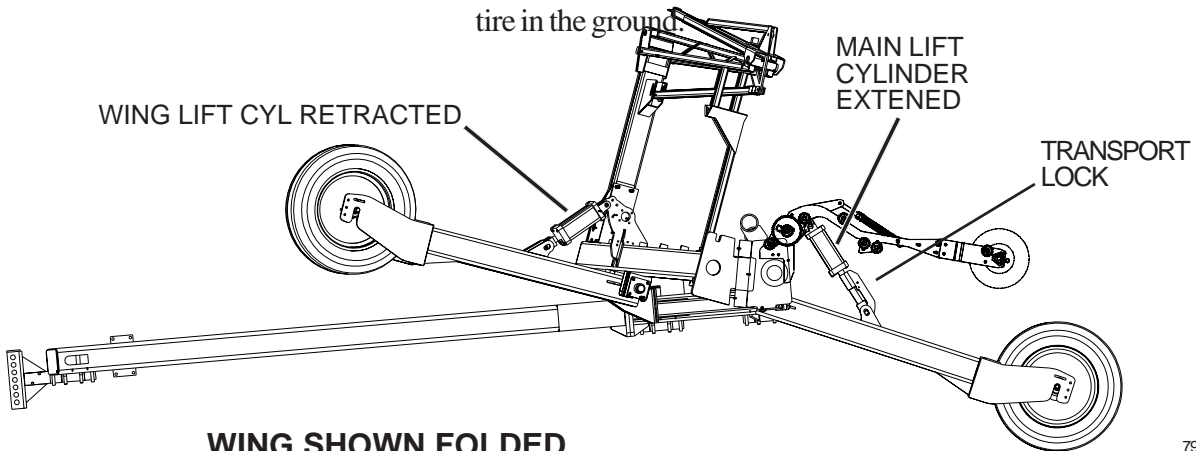
79112FIS



79249

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 with out dragging the tire in the ground.




WING SHOWN FOLDED

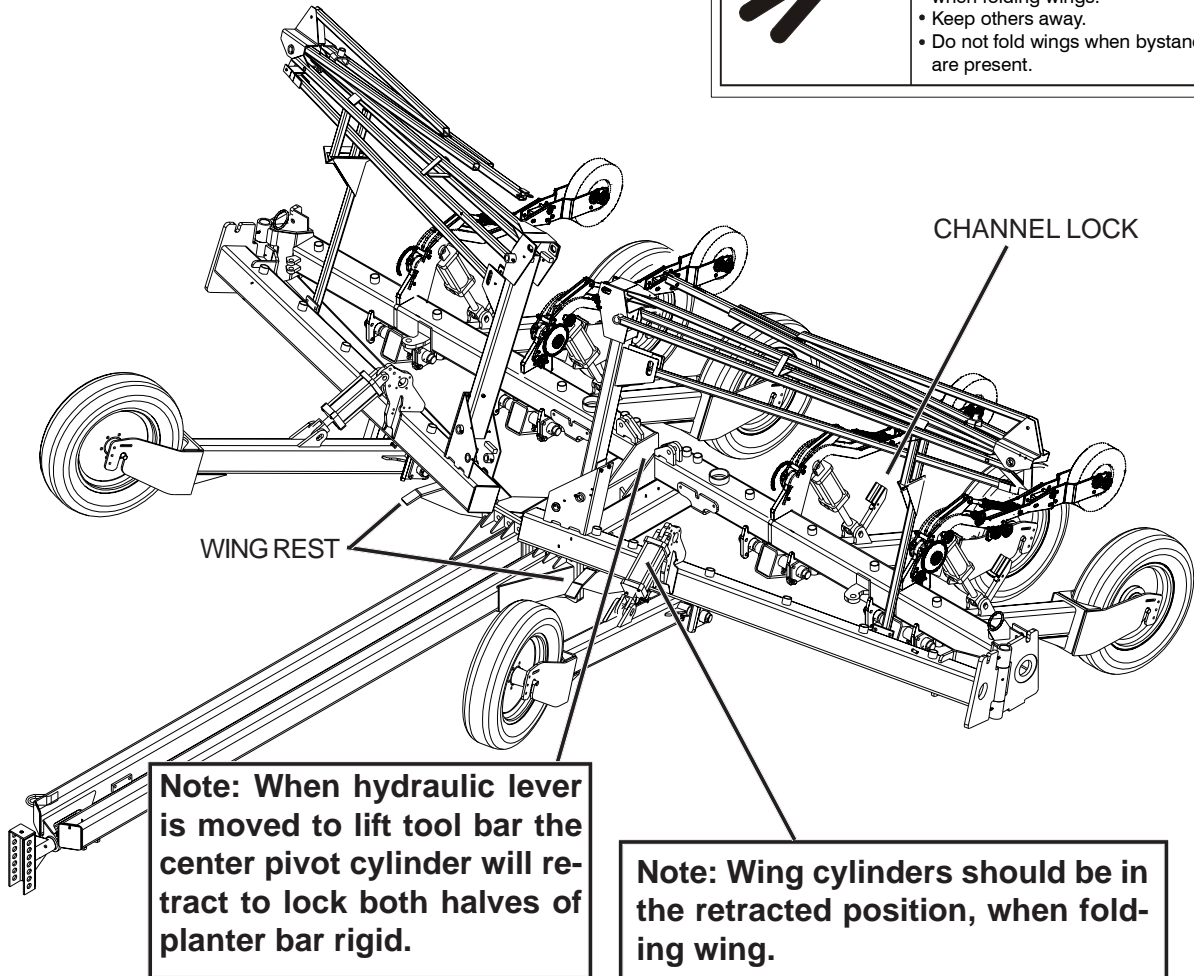
79249

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

Note: Check Wing Rest heights after bolting Planting Units to Planter Bar and filling with seed. Adjustments may be required.

DO NOT stand in path of wing.

	⚠ WARNING
	<p style="text-align: center; font-weight: bold;">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.



79157FLI

WING UNFOLD

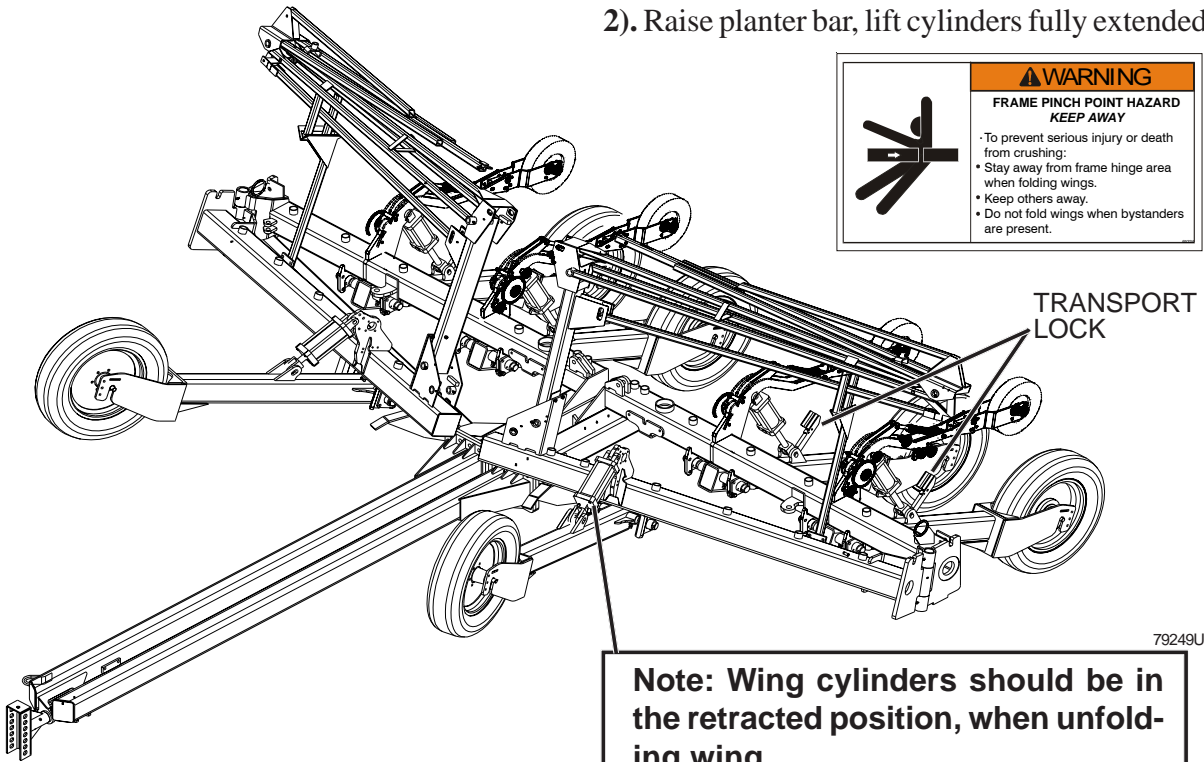


1). With the bar up in transport position, move hydraulic lever in tractor to unfold the wings into the working position. Unfold wing slowly to avoid sudden swings.

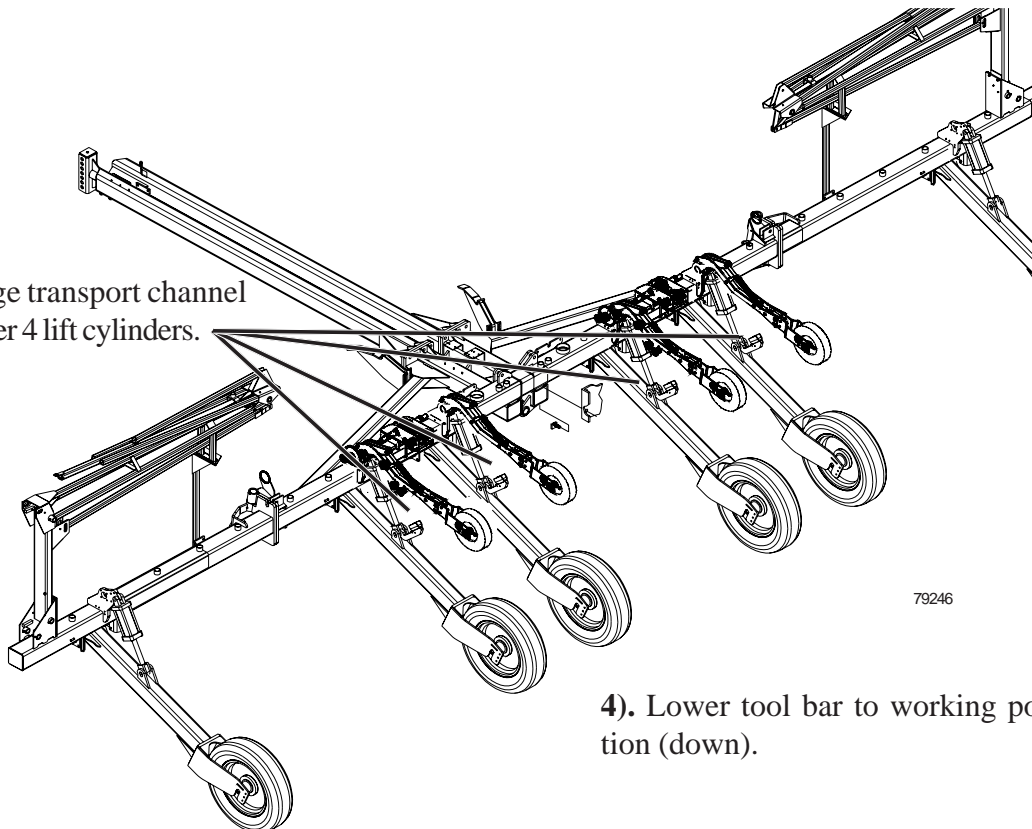
DO NOT stand in path of wing.

2). Raise planter bar, lift cylinders fully extended.

	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.

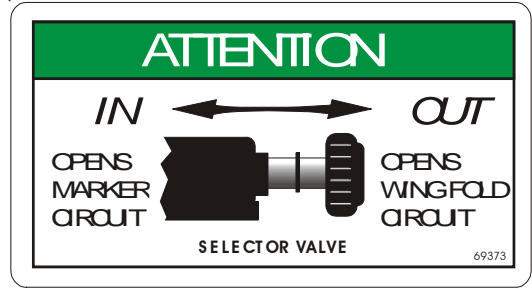
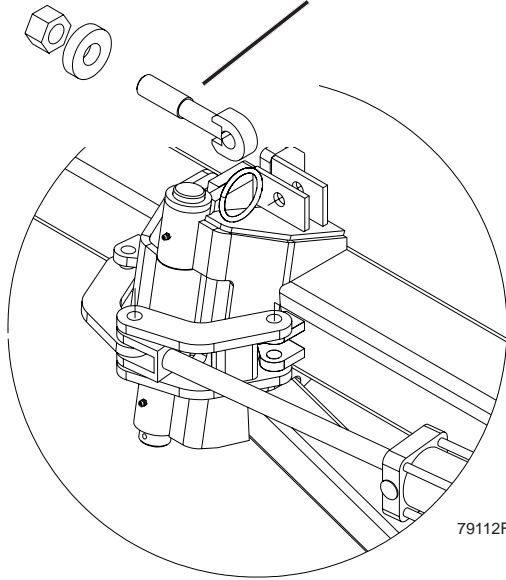


3). Disengage transport channel locks in center 4 lift cylinders.

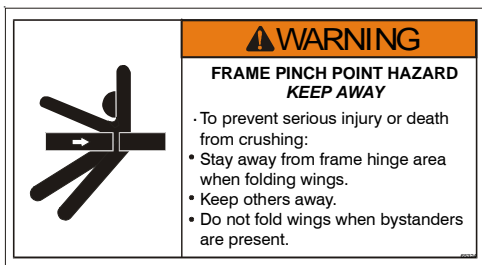
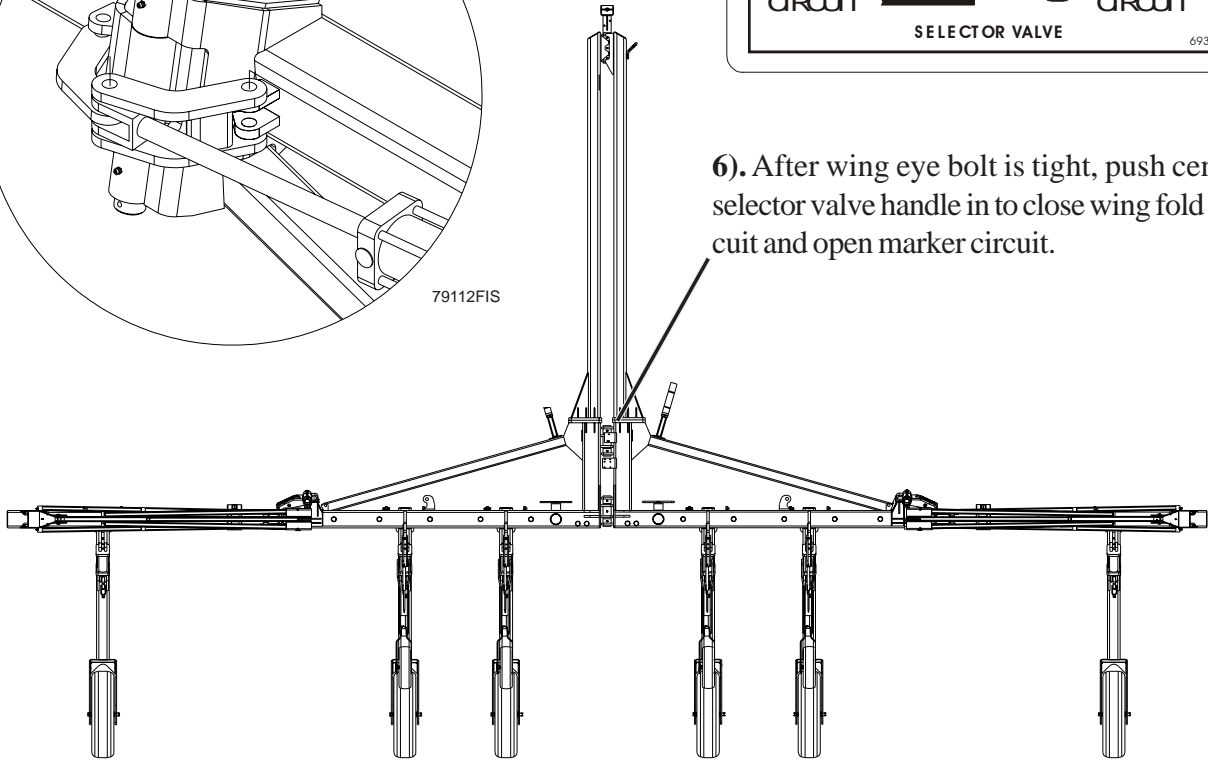


4). Lower tool bar to working position (down).

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

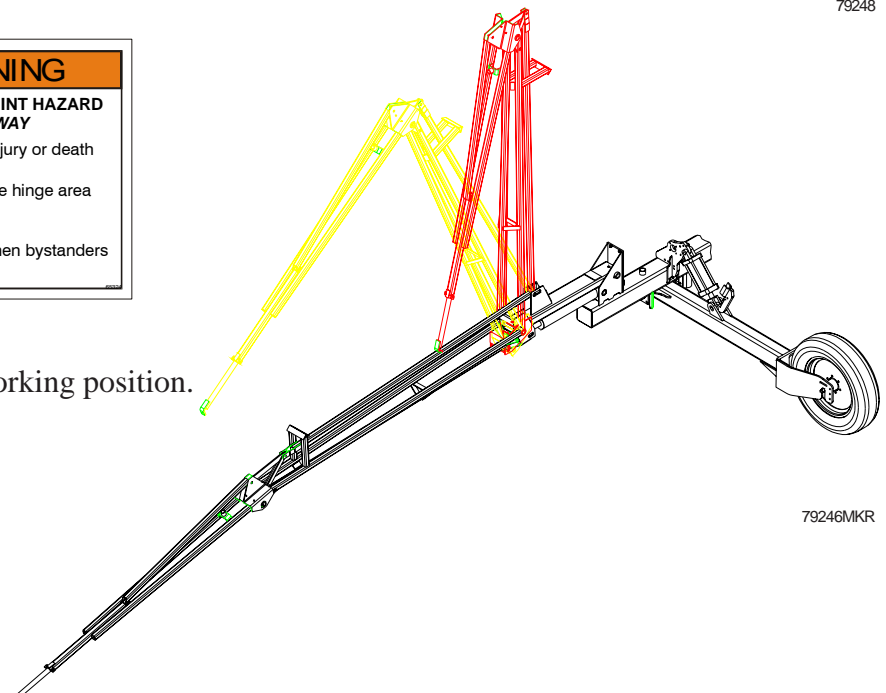


6). After wing eye bolt is tight, push center selector valve handle in to close wing fold circuit and open marker circuit.



7). Unfold markers to their working position.

8). Plant.



MARKER

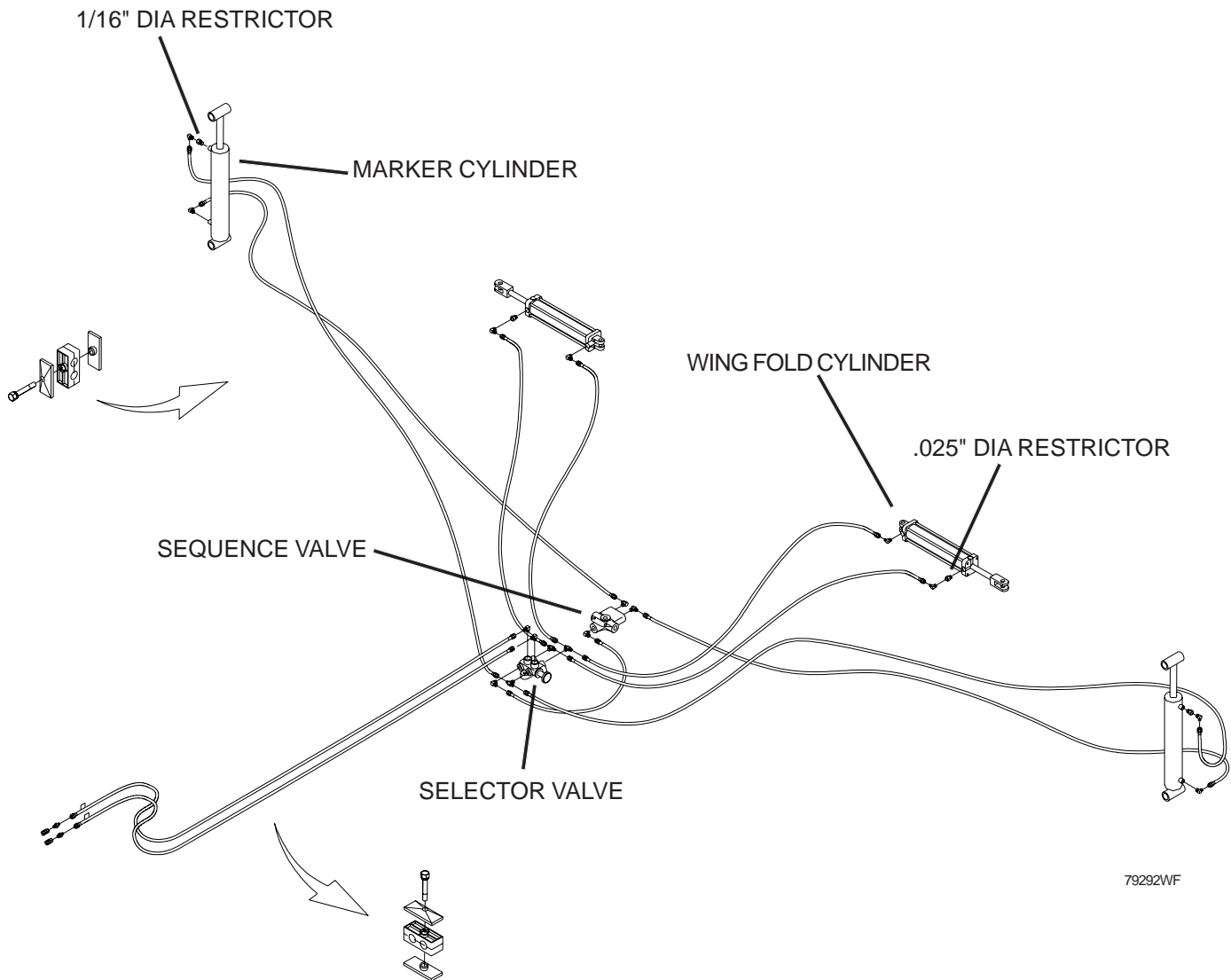
MARKER CIRCUIT

The marker circuit and the wing fold circuit are separated by a flow selector valve. The handle must be pushed in to open the marker circuit.

The Wil-Rich planter bar uses a dual valve hydraulic system. This means every time a marker is raised, the sequencing valve will direct the flow to lower the opposite marker once the raising marker is in place.

The sequence valve has a built in restrictor to slow down hydraulic flow (speed) and a 1/16" dia. restrictor in the rod end of each marker cylinder. This 1/16" dia. restrictor (cylinder) can be changed if marker does not move slow or fast enough for your application.

Flow controls are set at the factory at a speed which will not be dangerous and/or damage the marker assembly.



MARKER ADJUSTMENT

OPERATING

Both markers can be used at the same time if desired. To do this, lower the marker that has been selected. Move the tractor control lever to the raise position and immediately return it to the lower position. This will shift the marker control valve and the remaining marker will be lowered. This is useful in planting when striking out in a field.

SETTING LENGTH

To determine the correct length to set the marker assemblies, multiply the number of rows by the row spacing in inches. This provides the total planting width. Adjust the marker extension so the distance from the marker blade to the center line of the planter is equal to the total planting width previously obtained.

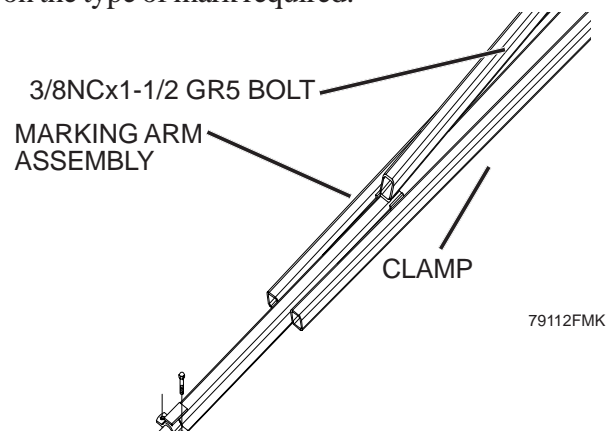
Both the planter and the marker assembly should be lowered to the ground when measurements are taken. The measurement should be taken from a point where the blade contacts the ground.

The marker length is figured as follows: Number of rows (24) x Row spacing inches (22) = 528 " between planter center and marker blade.

Adjust right and left marker assemblies equally and securely tighten clamping bolts.

Note: If you change the working height of the planter bar, the marker may need to be adjusted.

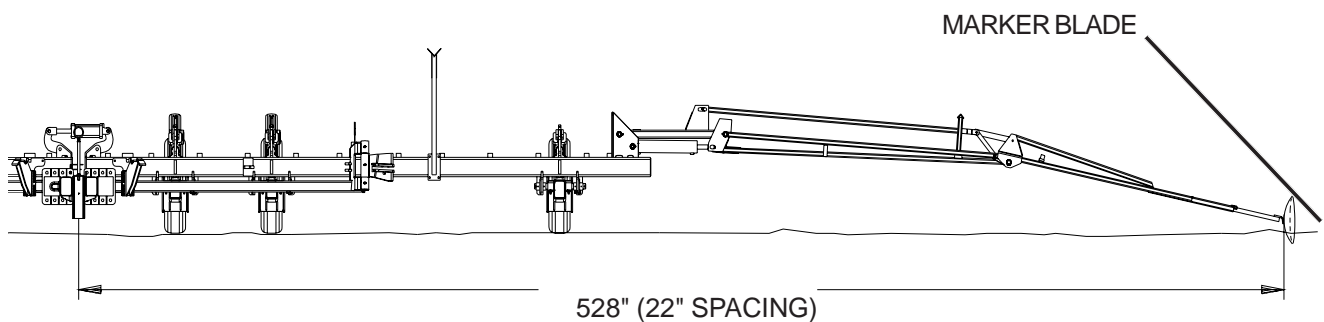
The marker blade is installed so the convex side of the blade is outward to throw dirt away from the disk hub. The marking arm assembly is angled to make the blade more or less aggressive depending on the type of mark required.



To adjust the angle loosen the marking arm assembly bolts and rotate tube and blade to the desired angle.

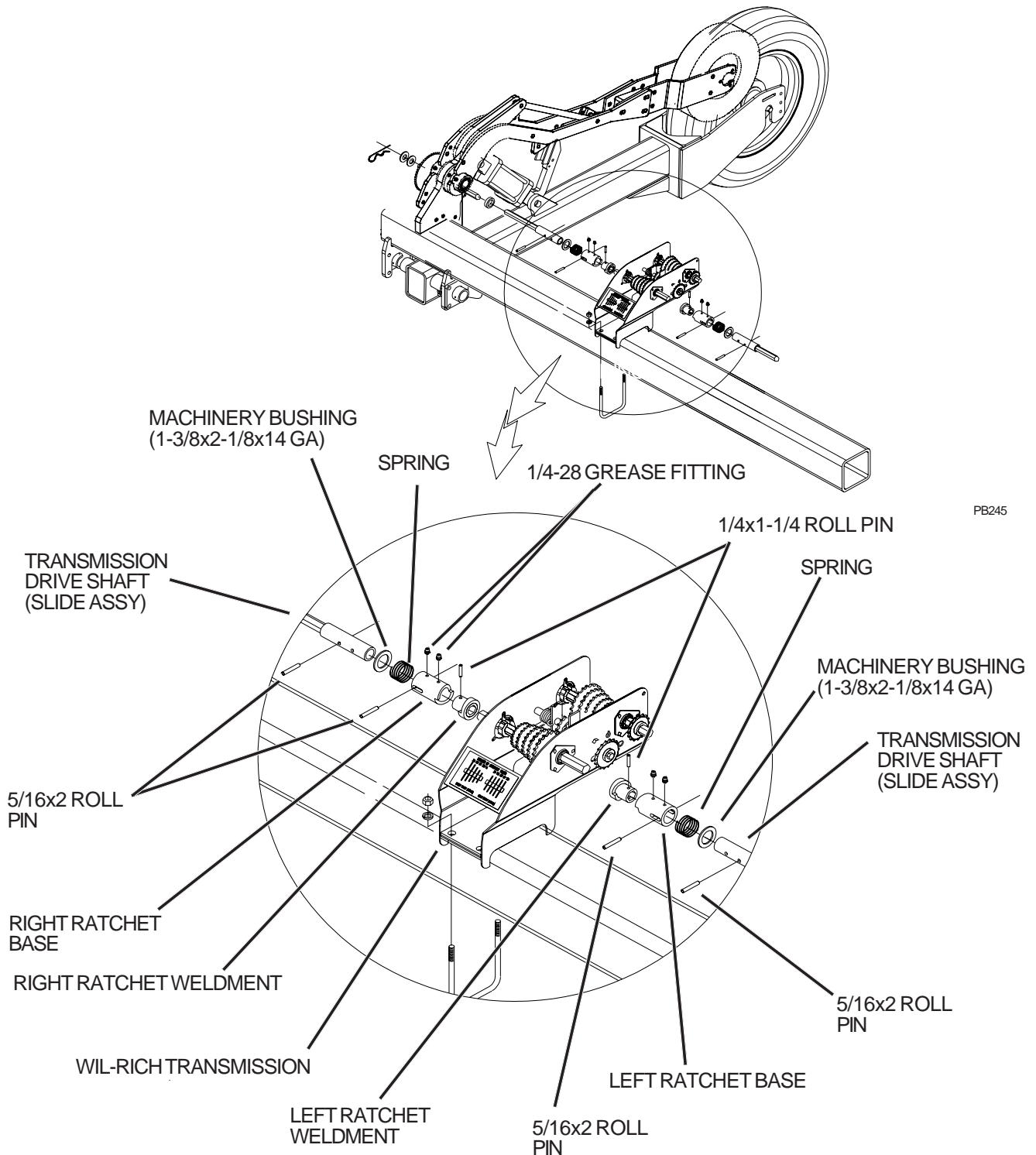
Retighten bolts to specified torque.

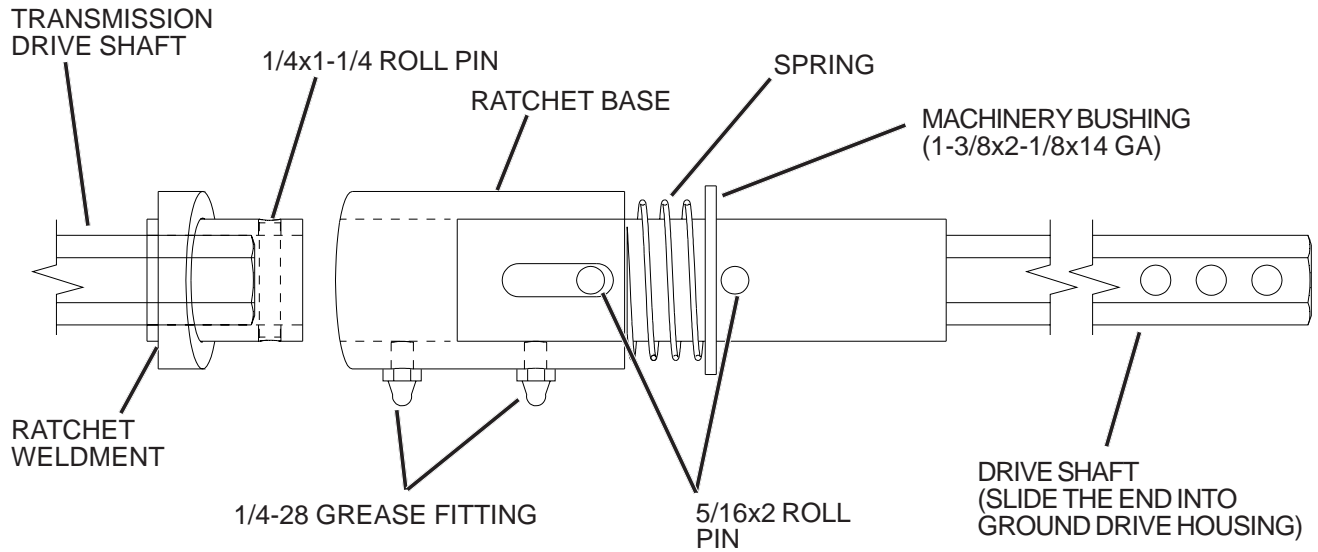
Note: Setting the marker blade to an aggressive angle will increase stress to the entire marker assembly and shorten bearing and blade life.



79248

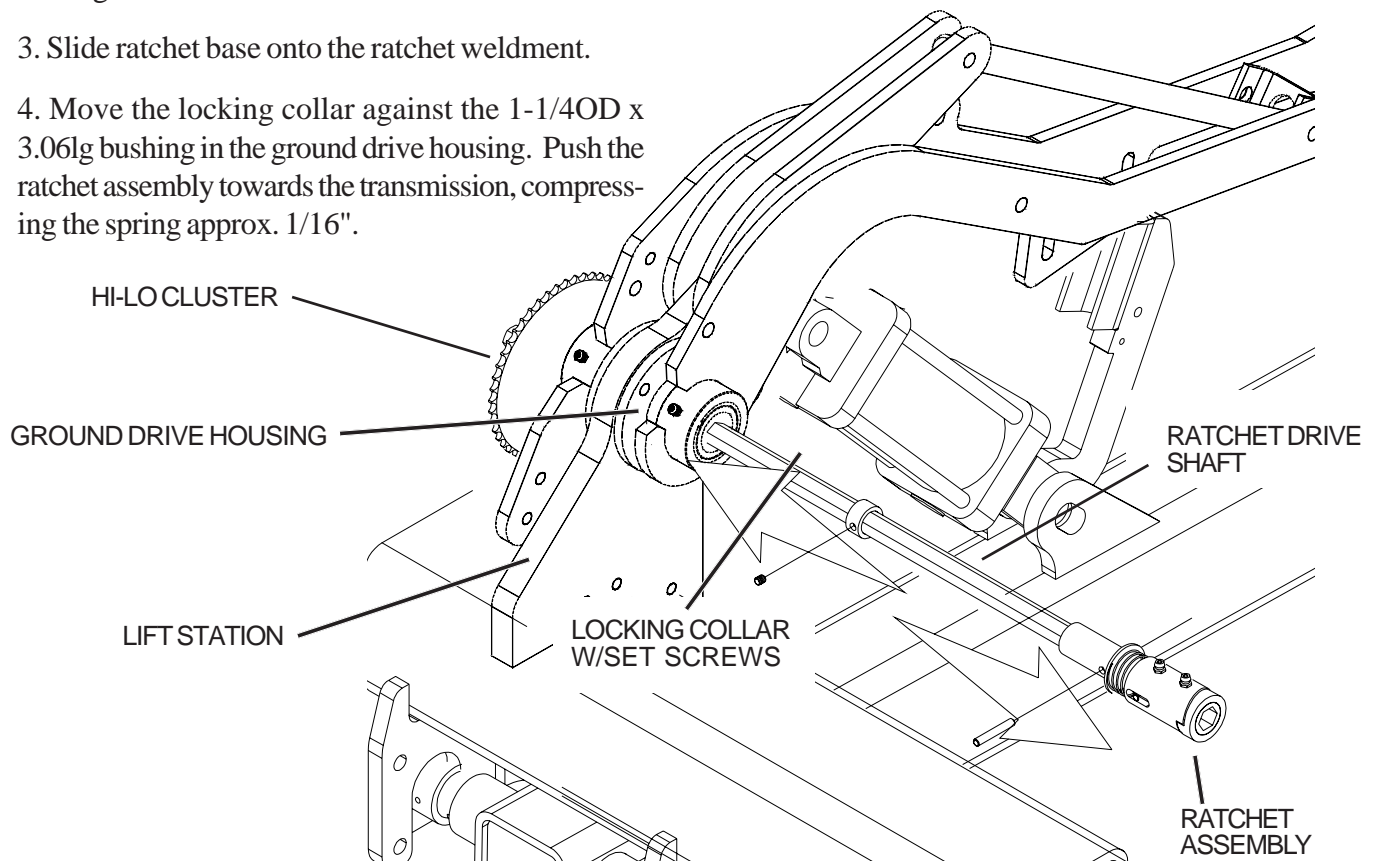
RATCHET DRIVE ASSEMBLY





RATCHET ASSEMBLY

1. Ratchet weldment must be slid onto transmission drive shaft until it bottoms out against 1/4x1-1/4 roll pin.
2. Insert ratchet drive shaft through the ground drive housing.
3. Slide ratchet base onto the ratchet weldment.
4. Move the locking collar against the 1-1/4OD x 3.06lg bushing in the ground drive housing. Push the ratchet assembly towards the transmission, compressing the spring approx. 1/16".
5. Tighten the set screws in the locking collar to hold this setting.
6. Repeat procedure on other side.



GROUND DRIVE

The ground drive wheel is held in contact with the lift wheel by a 1.12 ID x 12" coil spring. The down pressure is adjustable. Compress the spring to 10" for an initial setting and lock with the (2) 1NC jam nuts. See illustration page 45.

The ground drive gear configuration is approximate to the rate charts in the Operation Manual for the John Deere planting units.

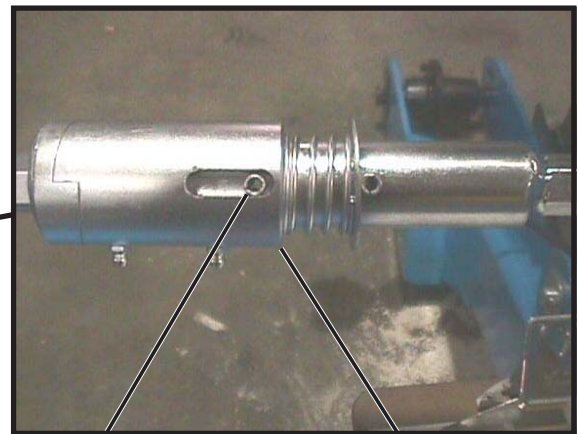
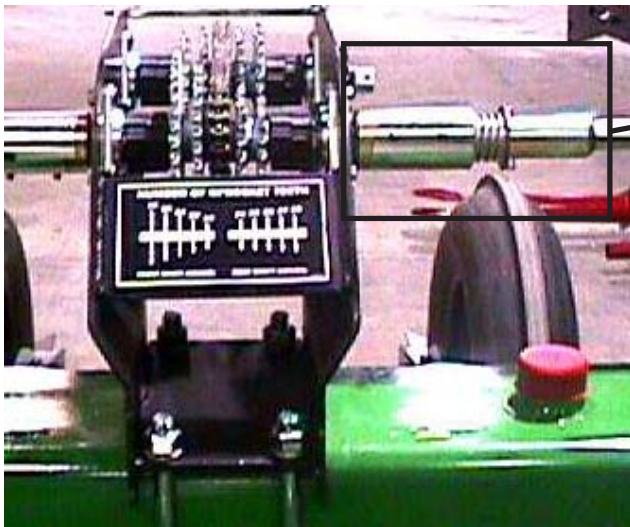
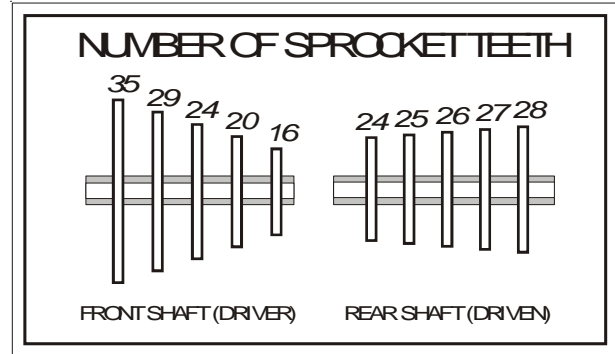
Note: Seed population must be checked in the field to insure accuracy. See checking Seed Population in the appropriate Operation Manual.

When changing the hi-lo cluster, the (2) #40-17 idlers on each side must be relocated. (See page 45).

The drive line is protected by a 5/16x2 shear roll pin (page 42) and a spring loaded ratchet that will prevent the transmission from turning backwards. If excessive load should cause the pin to shear, it is important to determine where binding has occurred before replacing the pin.

Turn the shaft by hand, checking for misalignment and for the possibility of seized parts. When the shaft can be turned by hand (with aid of a wrench) replace the shear pins with the same size and type. To prevent future binding or breakage of components, check drive line alignment and keep parts well lubricated.

TRANSMISSION DECAL

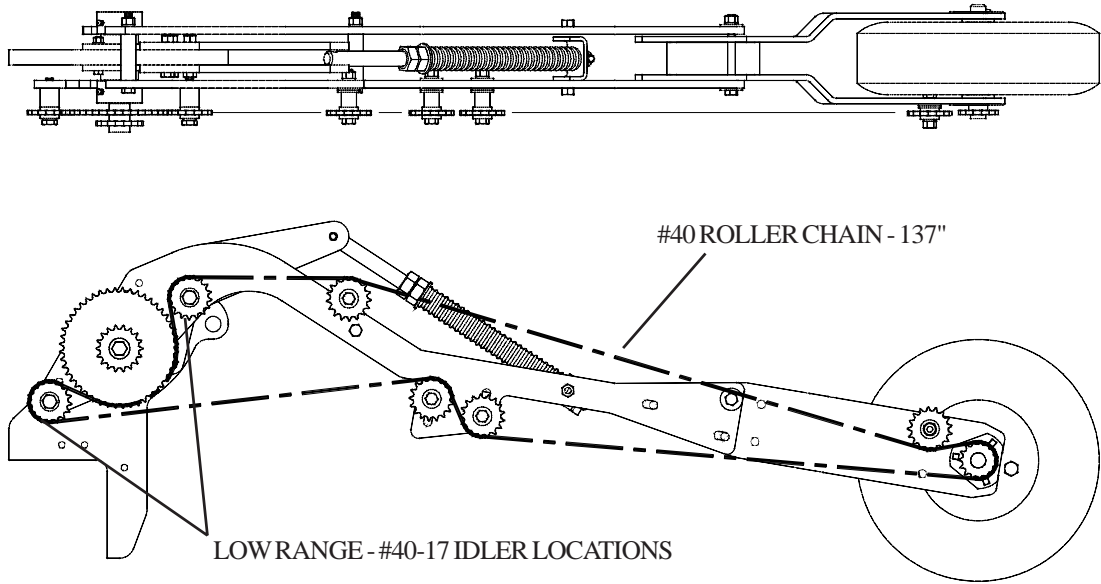


5/16x2 SHEAR ROLL PIN

SPRING LOADED RATCHET

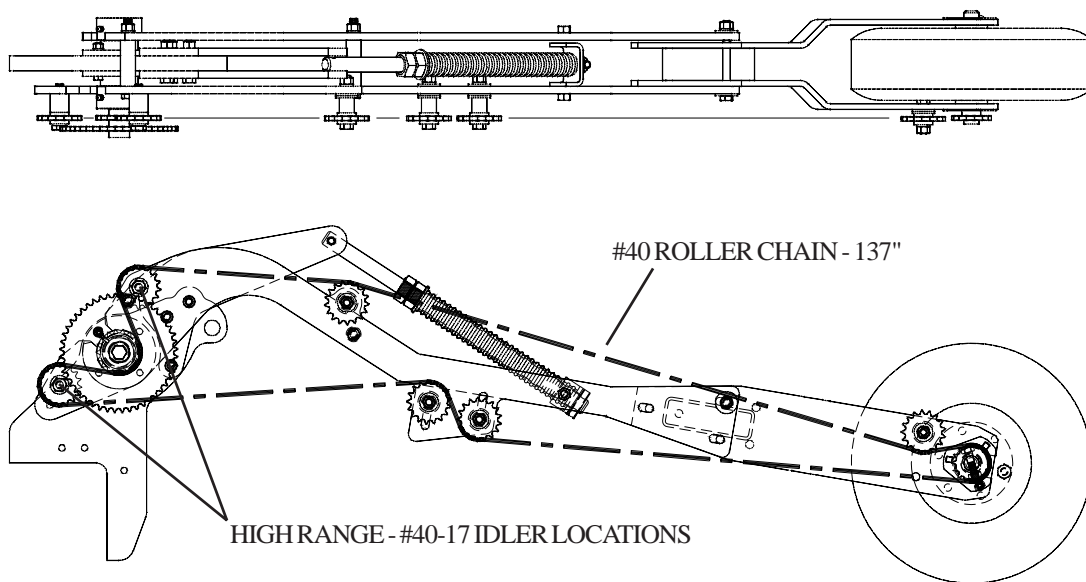
LOW RANGE SETUP

LEFT SIDE ARM SHOWN



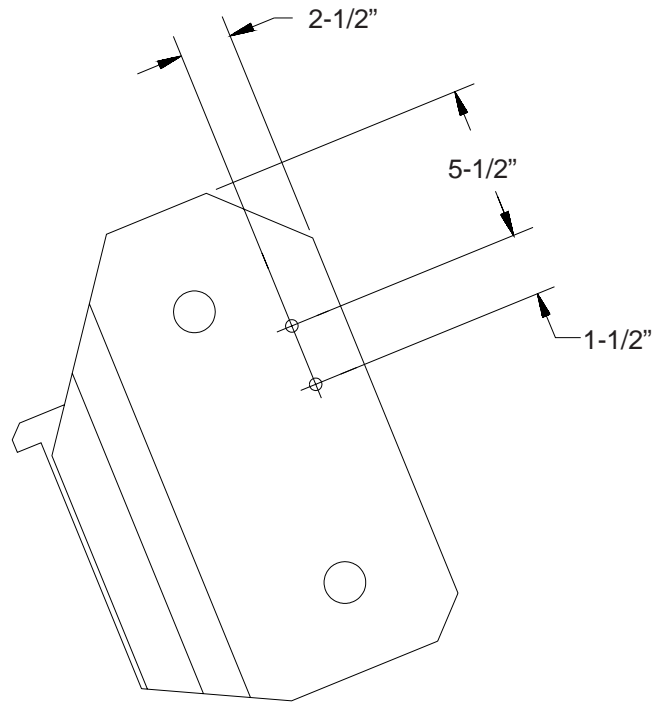
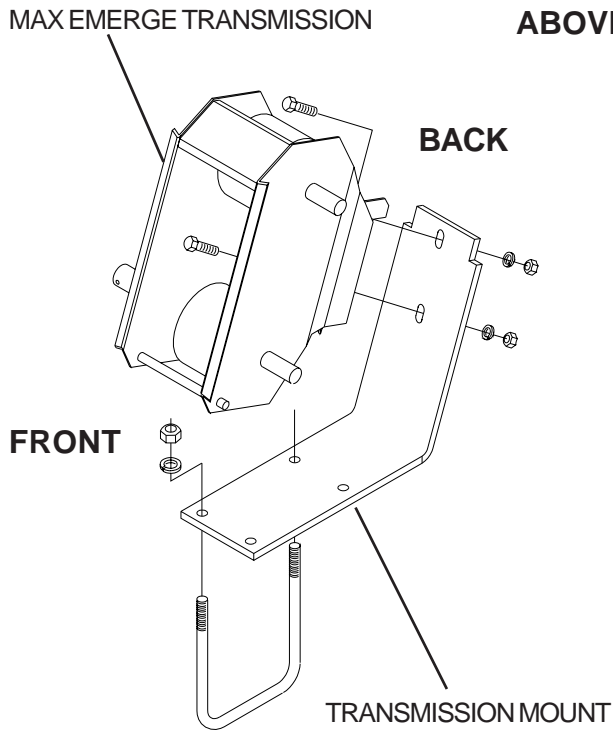
HIGH RANGE SETUP

LEFT SIDE ARM SHOWN



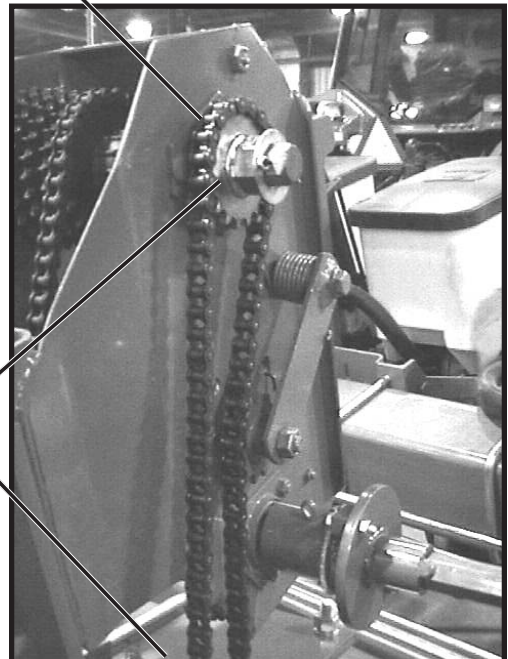
TRANSMISSION MOUNT (For John Deere Max Emerge)

NOTE: CHAIN TIGHTNER MUST BE RELOCATED TO DIMENSIONS SHOWN BELOW. A 7/16 DIA HOLE IS DRILLED IN 2 PLACES. THE LOWER HOLE LOCATES THE TIGHTENER ARM AND THE HOLE ABOVE IS FOR THE SPRING ANCHOR.



17 TOOTH SPROCKET ASSY (JOHN DEERE)
COMES WITH TRANSMISSION. ASSEMBLER MUST PURCHASE
SECOND 17 TOOTH SPROCKET ASSY FROM JOHN DEERE.

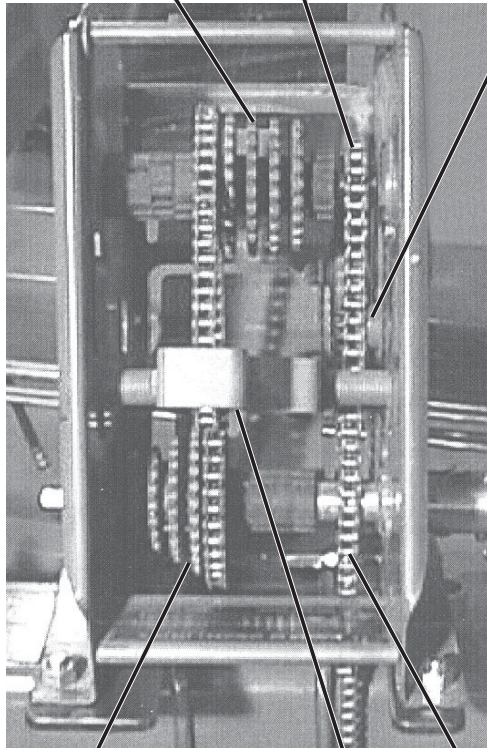
Note: The same sprocket assembly must be used on the hex drive shaft below.



TRANSMISSION MOUNT (For John Deere 7300)

16 TOOTH SPROCKET ASSY
DRIVEN SPROCKET CLUSTER

DRIVE CHAIN TIGHTENER



1. Remove drive clusters.

2. Place the drive sprocket cluster that was on top to the bottom and move the driven sprocket cluster that was on the bottom to the top.

Note: When moving sprocket clusters, take the Hi-Low cluster out and replace it with a 16 tooth sprocket assy.

Note: The drive sprocket hex shaft will need to align with the drive shafts coming out of the lift stations.

Note: Transmission may need to be shimmed up to align with lift station drive.

3. Align 16 tooth sprocket assy on planting unit hex shaft drive with the 16 tooth sprocket assy on top shaft of transmission.

4. Route the drive chain as shown in figure below.

Note: Chain tightener for sprocket clusters may need to be moved out to clear drive chain.

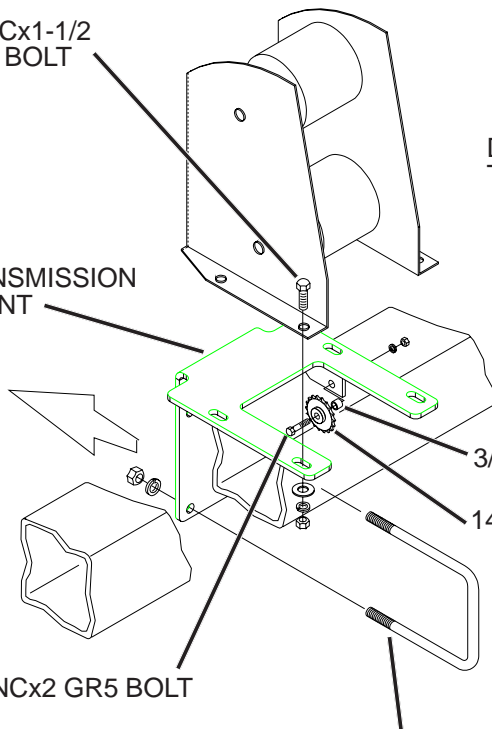
DRIVE CHAIN
CHAIN TIGHTENER (SPROCKET CLUSTERS)
DRIVE CLUSTER

5/8NCx1-1/2 GR5 BOLT

TRANSMISSION MOUNT

1/2NCx2 GR5 BOLT

5/8NCx7x8-1/2 U-BOLT



16 TOOTH SPROCKET ASSY

DRIVE CHAIN TIGHTENER

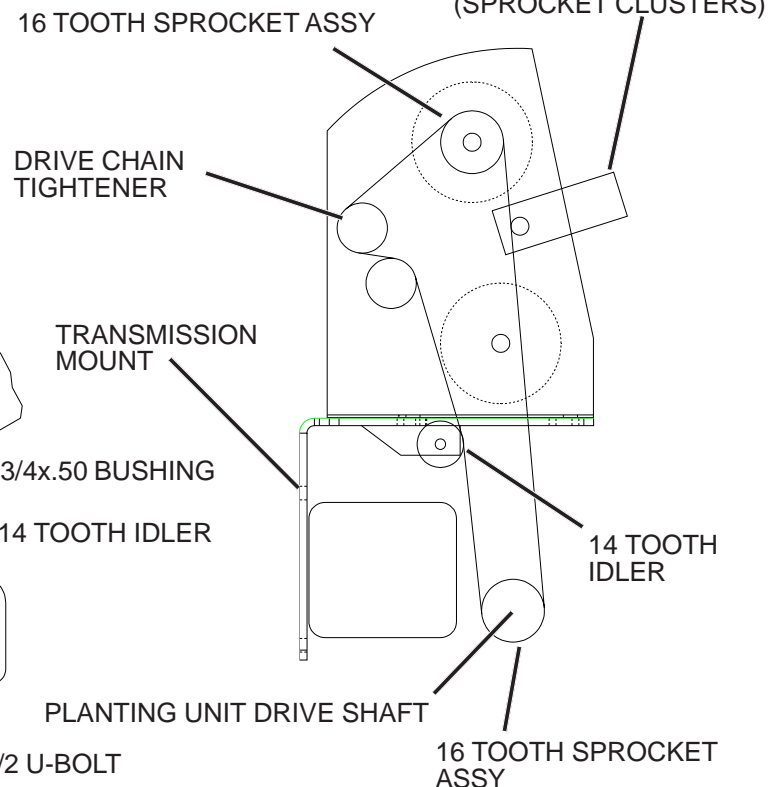
TRANSMISSION MOUNT

PLANTING UNIT DRIVE SHAFT

CHAIN TIGHTENER (SPROCKET CLUSTERS)

14 TOOTH IDLER

16 TOOTH SPROCKET ASSY



LUBRICATION

The most effective roller chain lubrication routine varies, depending on the environmental conditions and/or condition of the chain. The goal is to maintain complete freedom at every chain link joint.

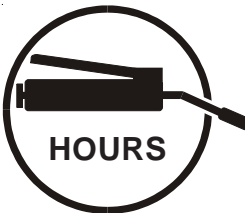

Lubricate all planter roller chains (planting units and ground drive, if equipped) with a multipurpose Spray Lube, at intervals sufficient to maintain free chain movement.

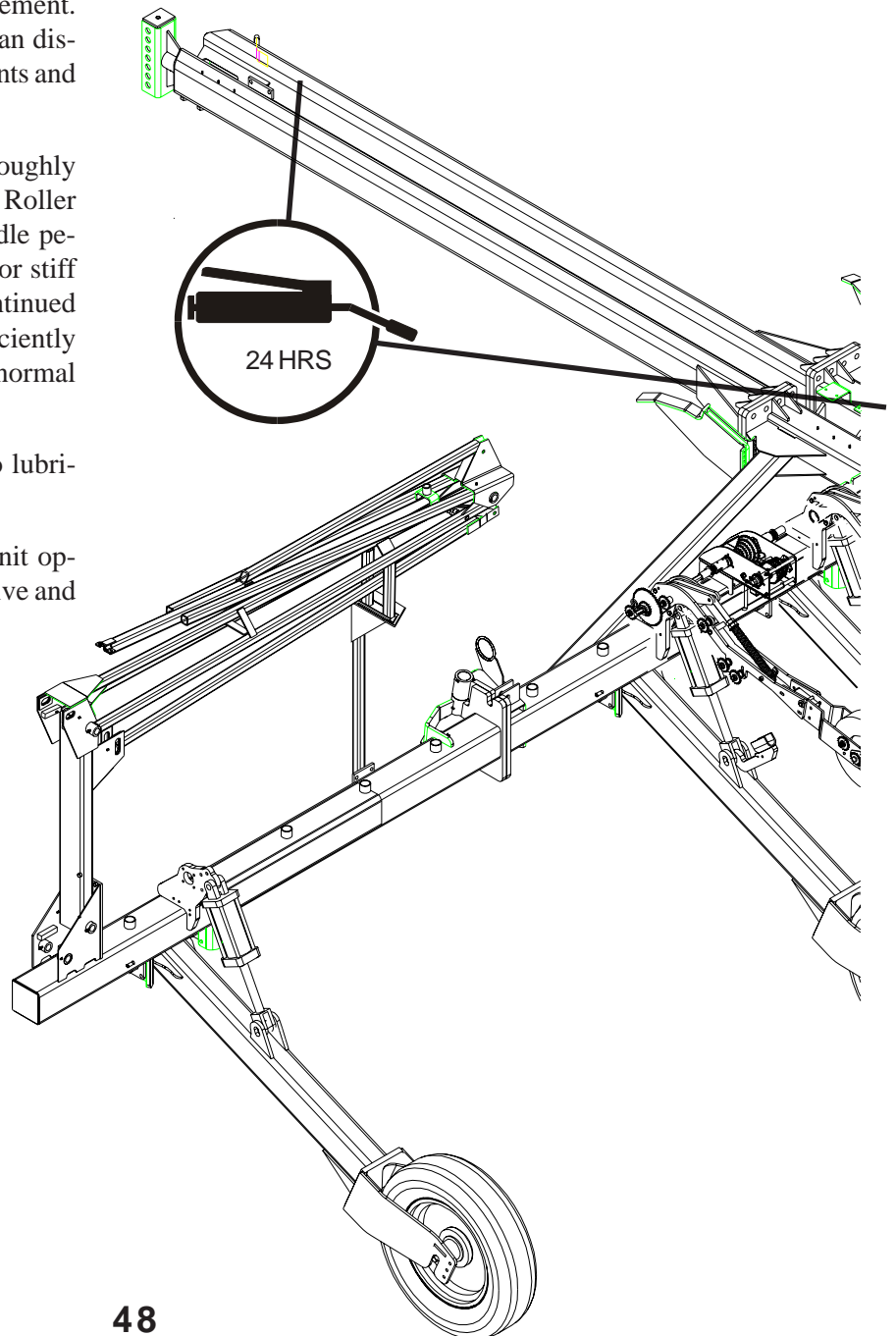
When roller chains remain unused for several days, moisture in the air will accumulate on the chain, causing the chain to rust. This can and will become serious enough in time to cause the chain joints to become stiff, restricting their normal free movement. While very difficult to detect, this stiffness can disturb the smooth rotation of metering components and cause deterioration in performance.

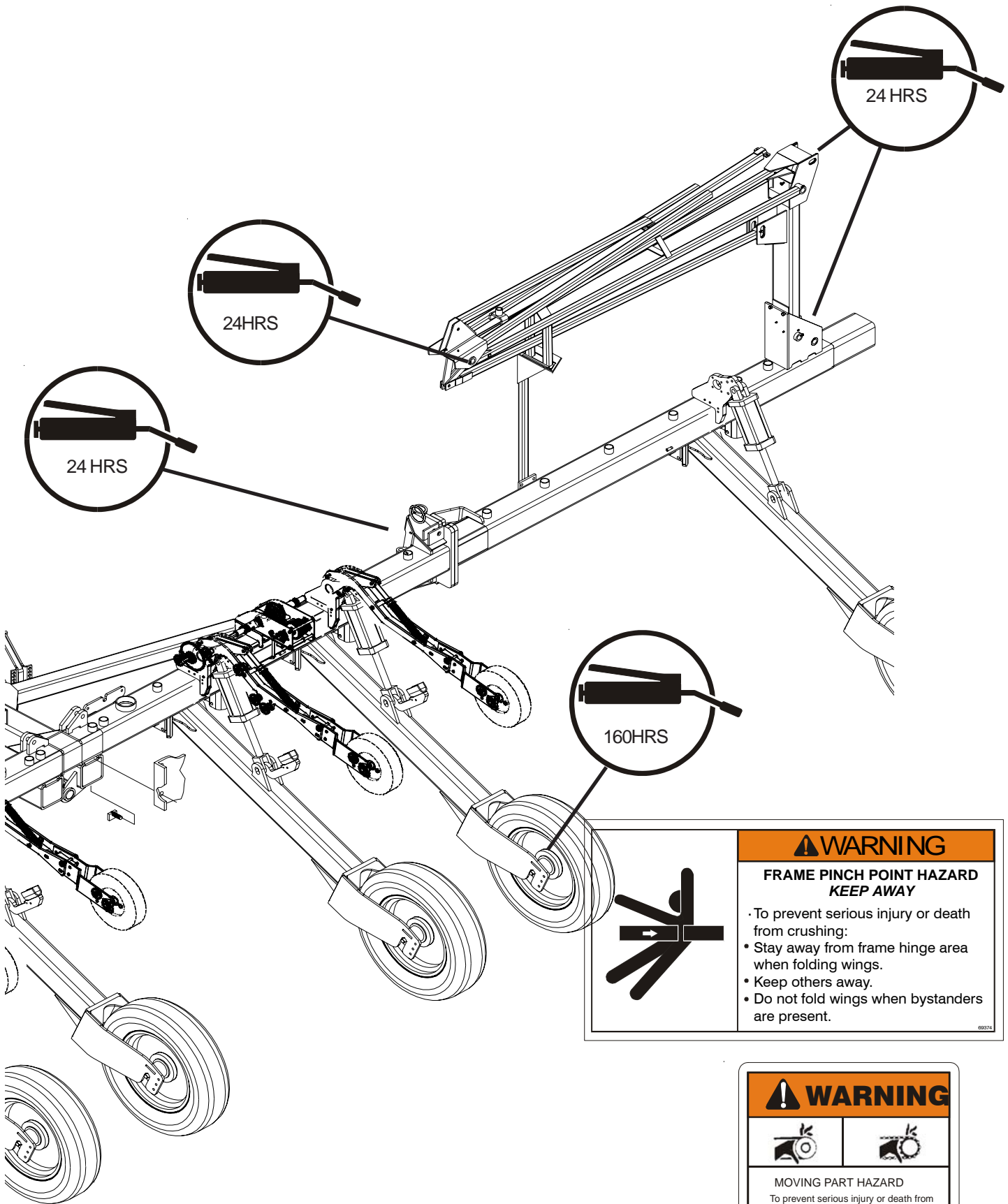
If the planter is not used for several days, thoroughly lubricate the chains with a good Multipurpose Roller Chain Spray Lube, at the beginning of the idle period. If the roller chains have become rusty or stiff during the idle period, lubricate prior to continued usage and operate or "work" the chains sufficiently to ensure all chain joints move freely before normal planter operation is resumed.

In adverse conditions it may be necessary to lubricate the sprockets daily.

See your lubrication section in the planter unit operators manual for proper care of the meter drive and pesticide drives.

	Lubricate with grease at hourly interval indicated on symbol.
	Lubricate with a Multi-Purpose spray at hourly interval indicated on symbol.

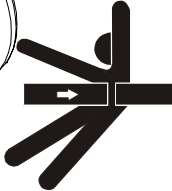




⚠ WARNING
FRAME PINCH POINT HAZARD
KEEP AWAY

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.



60974

⚠ WARNING

MOVING PART HAZARD

To prevent serious injury or death from moving parts:

- Close and secure guards and shields before starting.
- Keep hand, feet, hair and clothing away from moving parts.
- Disconnect and lockout power source before adjusting or servicing.
- Do not stand or climb on machine when operating.

60708

LUBRICATION

GROUND DRIVE

The most effective roller chain lubrication routine varies, depending on the environmental conditions and/or condition of the chain. The goal is to maintain complete freedom at every chain link joint.

Lubricate all planter roller chains with a multipurpose Spray Lube, at intervals sufficient to maintain free chain movement.

When roller chains remain unused for several days, moisture in the air will accumulate on the chain, causing the chain to rust. This can and will become serious enough in time to cause the chain joints to become stiff, restricting their normal free movement. While very difficult to detect, this stiffness can disturb the smooth rotation of metering components and cause deterioration in performance.

If the planter is not used for several days, thoroughly lubricate the chains with a good Multipurpose Spray Lube, at the beginning of the idle period. If the roller chains have become rusty or stiff during the idle period, lubricate prior to continued usage and operate or "work" the chains sufficiently to ensure all chain joints move freely before normal planter operation is resumed.

In adverse conditions it may be necessary to lubricate the sprockets daily.

Note: Do not use chain lube or any other heavy petroleum base lubricant that may cause a build up of dust or dirt in the sprocket teeth.

