



OPERATION / ASSEMBLY INSTRUCTIONS

WIL-RICH 357 INLINE RIPPER

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.

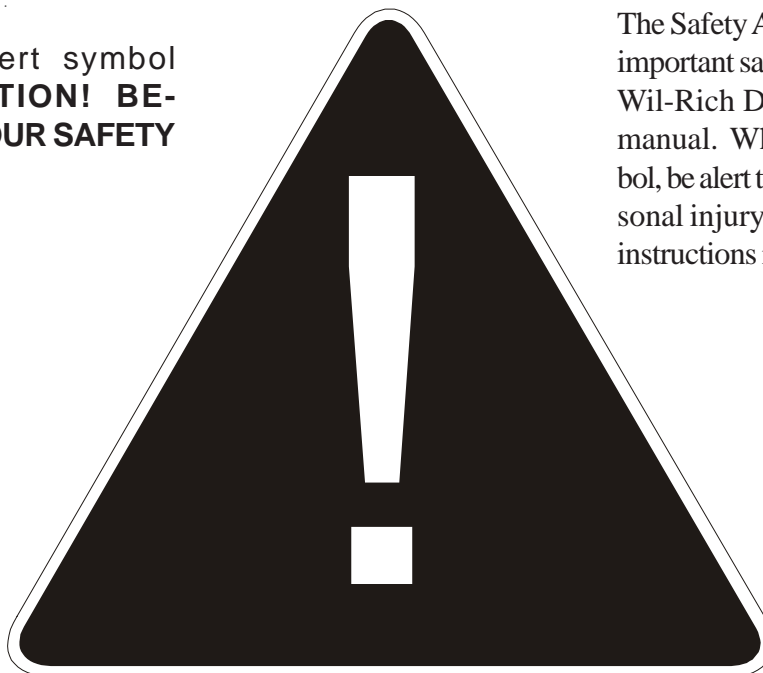
WARRANTY CLAIMS PROCEDURE

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.

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 your Wil-Rich DOT Disk 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

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 this equipment 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 |
|-------------|-----------------------------|-----------------------------|
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TO THE OWNER

The Wil-Rich 357 IR has as standard equipment a clearance lighting package . If your 357 IR is not equipped with this package, it can be ordered by contacting your local dealer or the factory directly.

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: <input type="text"/> | |
| Made in USA | |

When in need of parts, always specify the model and serial number. Write this number in the space provided. The serial number plate is located on the center front of the main frame.

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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.

TO THE OPERATOR

Your Wil-Rich 357 IR was designed to give you years of satisfactory performance. As with any tillage unit this machine was designed to operate within defined capabilities. For best performance and reliability an understanding of this range of operation is important.

This machine is designed to operate at a maximum depth of 20 inches. When operating in previously tilled soil, where top surface is loosened, the points could penetrate deeper. When determining operating depth the condition of the soil surface should be considered.

Operating depth is a decision which each user must make fit into their individual tillage strategy. Research data is limited but it is felt that it is only necessary to till two to three inches below the depth of the hardpan.

The depth of the hardpan can be determined by looking at the cross section of most soils. Another procedure would be to till three to four inches deeper than the field is normally worked during primary tillage. This should give good breakup of the ground although the type of soil, soil moisture content, speed of operation, etc. will affect the breakup.

The reset shank assemblies are designed to hold at working depth until the trip pressure is exceeded. At that point the shank will trip up and back until the shank point pressure is relieved. There are three factors which determine shank load; depth of operation, speed of travel and soil condition. Soil condition refers to moisture content, type of soil, previous tillage operation and the presence of rocks.

The shank point load must exceed approximately 2500lbs. to trip. The trip uses the spring location and design to achieve the trip pressure. Once the shank has tripped only the spring force is available to reset the assembly.

To resist the shank point pressure, in the operating range specified, requires the high trip force noted previously. This high trip force is counter balanced by the operating conditions. However, higher speeds, deeper tillage depths, or tough soil conditions can transfer shock load to the machine and tractor which can eventually lead to component failure.

This is most likely to occur in rocky conditions and being aware of the factors noted previously will add to the reliability and performance of the machine.

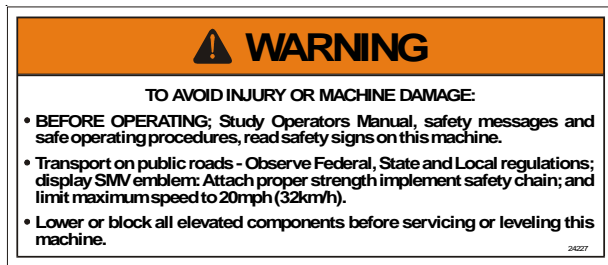
Since the rest of the shank assembly is dependent on the force of the springs it is also affected by the factors noted. In most conditions the springs should move the shank assembly back to working position. If the unit is operating at the high end of any of the areas noted, the shank assembly may hesitate resetting into the ground. This is no different than any other spring reset assembly, as any design can be overpowered.

It should be noted that a shock load is present on resetting, with the same effects as noted above.

Overloading a tillage machine is as inefficient as overloading a tractor.

SAFETY

Safety decals appear at various locations on your machine. The decals are provided for your safety and must be kept clean. Replace any decal that becomes worn, damaged, painted over or otherwise difficult to read. Replacement decals are available through you Wil-Rich dealer.



BEFORE OPERATING

Use extreme care when making adjustments.

When working under or around the machine always lower shanks to the ground. It is not recommended to set points with cast inserts on cement as the impact may break the casting. We recommend setting blocks under the shank to keep points from resting on cement. After servicing, be sure all tools, parts, or service equipment is removed from the machine.

Make sure there is no one near the machine before or during operation.

DURING OPERATION

Reduce speed when cornering on field ends and when operating on or across dead furrows.

Do not attempt to remove any obstruction while the machine is in motion.

Use extreme care when operating close to ditches, fences or on hillsides.

No one other than the operator should ride on the tractor.

Before and during operation be sure no one is on or around the implement. Serious injury can result from improper use.

ON HIGHWAY OPERATION

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

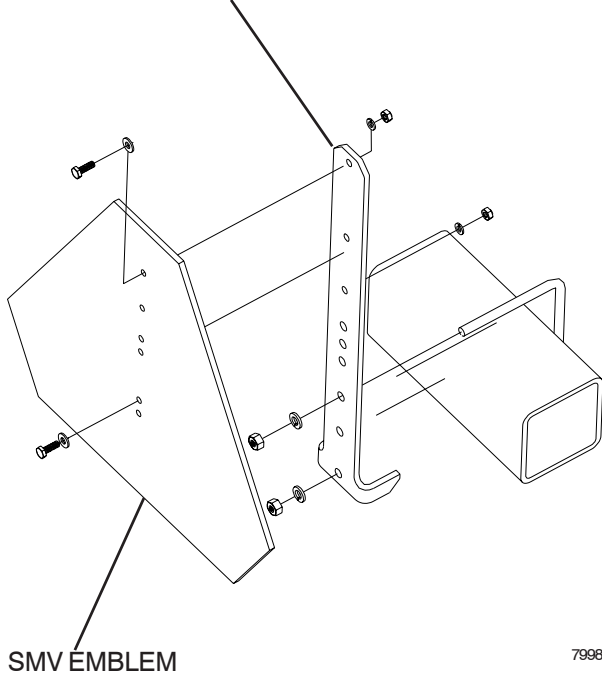
Reduce road speed on corners.

Drive at a responsible speed to maintain complete control of the machine at all times.

An S.M.V. emblem and safety lights must be used at all times while traveling on public roads.

SAFETY

SMV MOUNTING BRACKET



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

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

Emblem is to be 2 to 6 feet above the ground measured from the ground edge of the emblem.

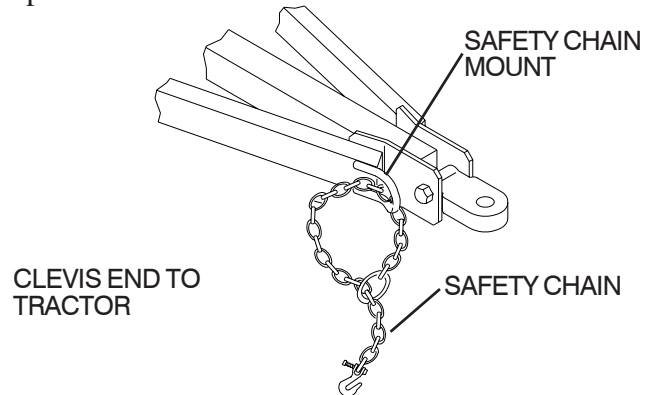
Keep safety decals clean. Replace any safety decals that are damaged, destroyed, missing, painted over or can no longer be read. Replacement safety decals are available through your dealer.

Safety lights see page 11.

Use a drawbar pin with provisions for a mechanical retainer.

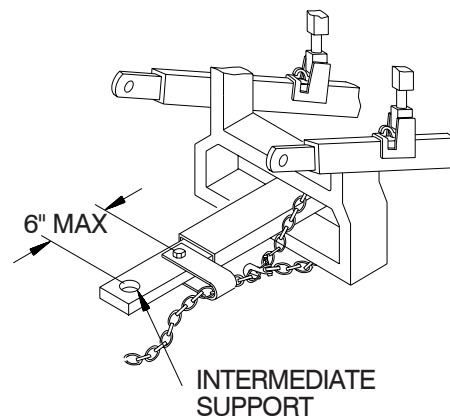
Attach a safety chain before moving.

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



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

The intermediate support should not be mounted more than 6" from the primary attaching point.



The intermediate support is available from your Wil-Rich dealer

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.

Wil-Rich 357 IR come in 3PT and pull type models only, sizes are 4, 5, 6, 7, and 8 shank.

Before using the Wil-Rich 357 IR a careful inspection must become routine. A check must be made to insure that all hardware is securely tight and moving parts are properly lubricated.

Tighten all loose nuts and bolts and replace any bent or broken parts.

LUBRICATION

Make sure the 357 IR is properly lubricated, see maintenance paragraph in each assembly section.

TRACTOR PREPARATION

Refer to the operator's manual furnished with your tractor for recommended adjustments and weight distribution.

Adjust the sway blocks to allow lateral flexibility, when in operation. **NOTE: SWAY MUST BE LOCKED OUT DURING TRANSPORT.**

WHEEL BOLTS

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

BEARING ASSEMBLIES

Bearing assemblies must be checked periodically for looseness. A loose bearing will cause costly damage after a short period of time. Clean and repack hub and spindle bearings once each season.

TIRE INFLATION

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

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

Check the air pressure every two or three weeks and do not allow the pressure to drop below the recommended pressure.

NOTE: DO NOT OVER INFLATE TIRES.

STORAGE

NOTE: If possible store your machine inside.

At the end of the season, clean implement thoroughly to remove any trash, soil or dirty grease which could hold moisture and cause rusting. Repaint any chipped, bare or rusted areas to prevent any further deterioration. Inspect the machine and adjust or replace as required.

See your Wil-Rich dealer for any parts and/or service which may be needed.

Thoroughly lubricate all grease fittings at the end of the season's use and again before the first operation of the next season.

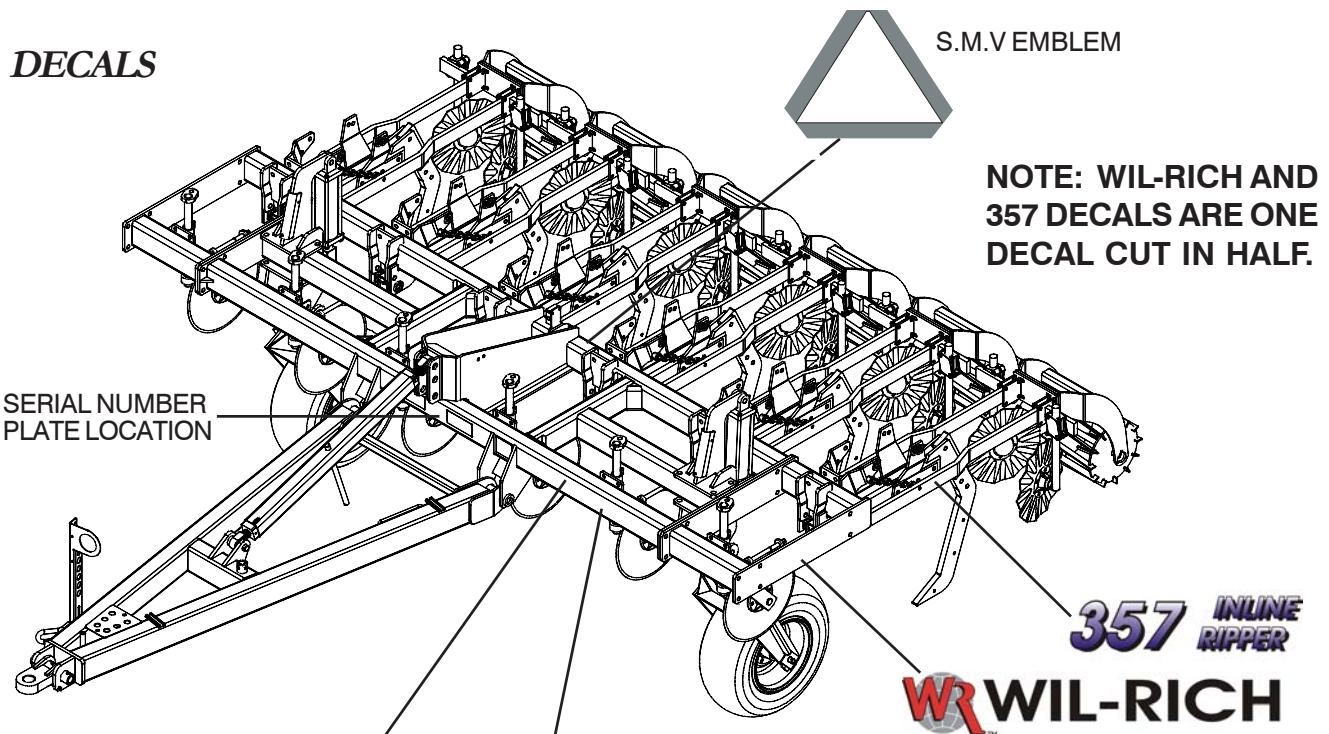
Coat the coulter blades with a good rust preventative. Coat the points with grease and place boards under the points and coulters to prevent components from settling into the ground. Keep direct sunlight off the tires.

Carefully rotate coulters to check for worn or damaged blades, damaged bearings and other parts which may need replacing.

SPECIFICATIONS

| DESCRIPTION | SHANKS | SPACING | FRAME EXTENSIONS | FRAME WIDTH | CUTTING WIDTH | TRANSPORT WIDTH |
|---------------------------------|--------|---------|------------------|-------------|---------------|-----------------|
| 357 IR 4 SHANK 30" | 4 | 30" | NONE | 129-9/16" | 120" | 130" |
| 357 IR 5 SHANK 30" | 5 | 30" | NONE | 129-9/16" | 150" | 130" |
| 357 IR 4-6 SHANK 30" | 6 | 30" | 1'9" (2) | 171-9/16" | 180" | 172" |
| 357 IR 5-7 SHANK 30" | 7 | 30" | 2'8" (2) | 193-9/16" | 210" | 184" |
| 357 IR 8 SHANK 30" | 8 | 30" | NONE | 231-5/16" | 240" | 242" |
| 357 IR 8 SHANK 30" FLAT FOLD | 8 | 30" | NONE | 229" | 240" | 144" |
| 357 IR 12 SHANK 30" | 12 | 30" | NONE | 348-3/4" | 360" | 197" |

DECALS



NOTE: WIL-RICH AND 357 DECALS ARE ONE DECAL CUT IN HALF.

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.

WARNING DECAL

CAUTION

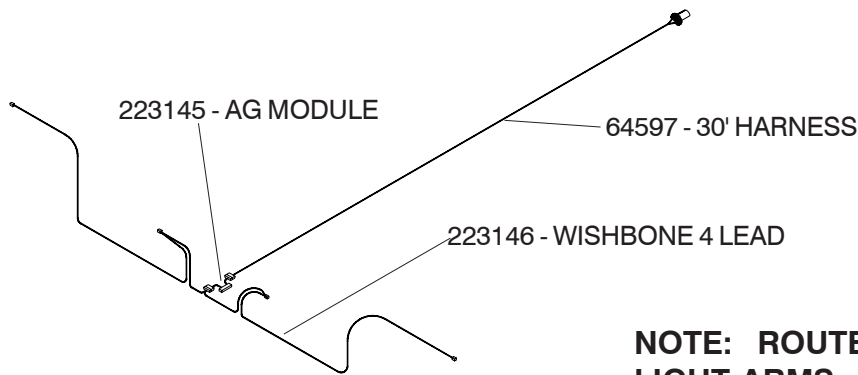
TO AVOID POSSIBLE INJURY:

- 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.

CAUTION DECAL

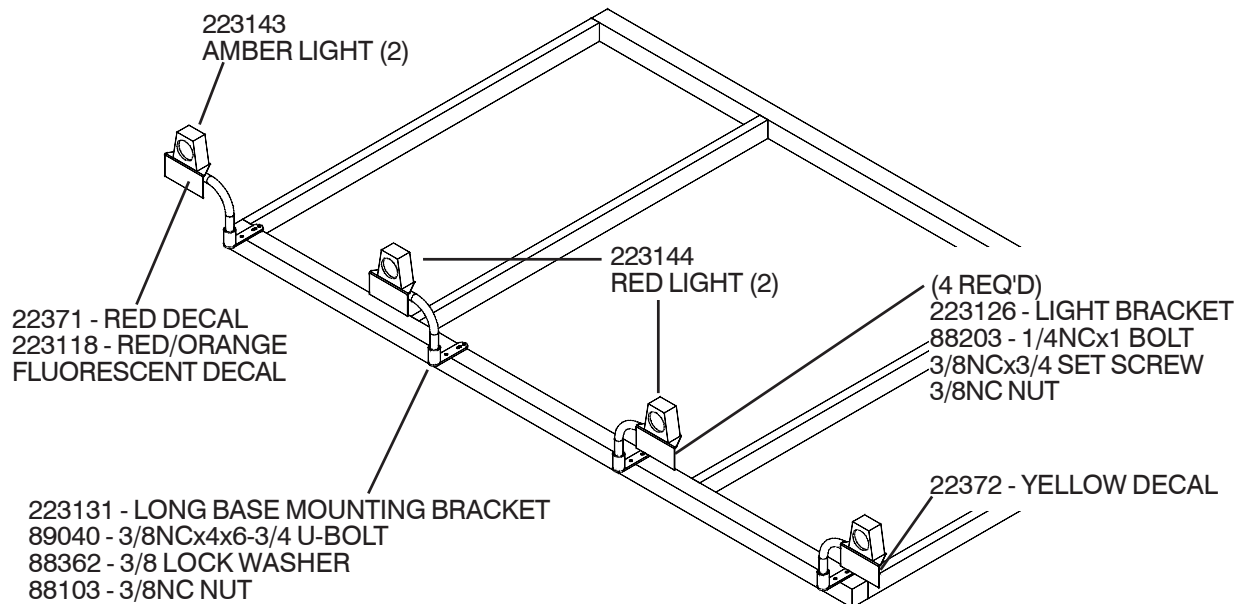
CAUTION: Keep all safety decals and reflectors clean, readable and in good condition. If a decal or reflector cannot be easily read, seen, or has been painted over, replace it immediately. Decals and reflectors may be ordered through your WIL-RICH dealer.

SAFETY LIGHTS

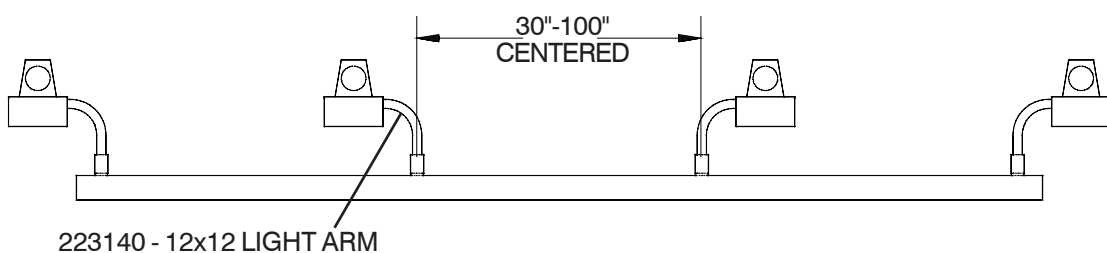


NOTE: ROUTE LIGHT HARNESS THRU LIGHT ARMS.

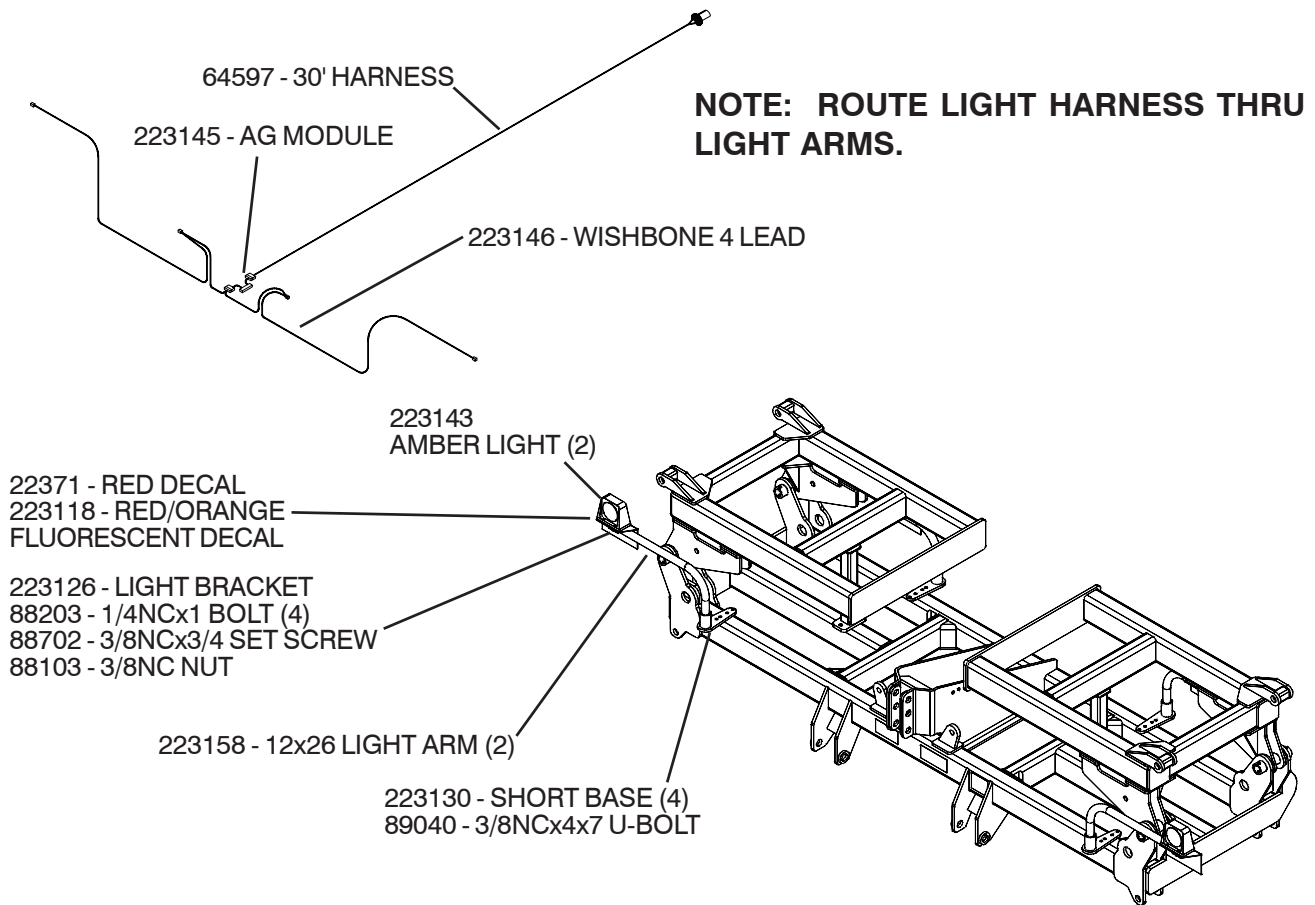
NOTE: MOUNT AMBER LIGHTS AS WIDE AS POSSIBLE. THE AMBER LIGHTS MUST BE MOUNTED NO MORE THAN 16" FROM THE IMPLEMENT EXTREMITIES.



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

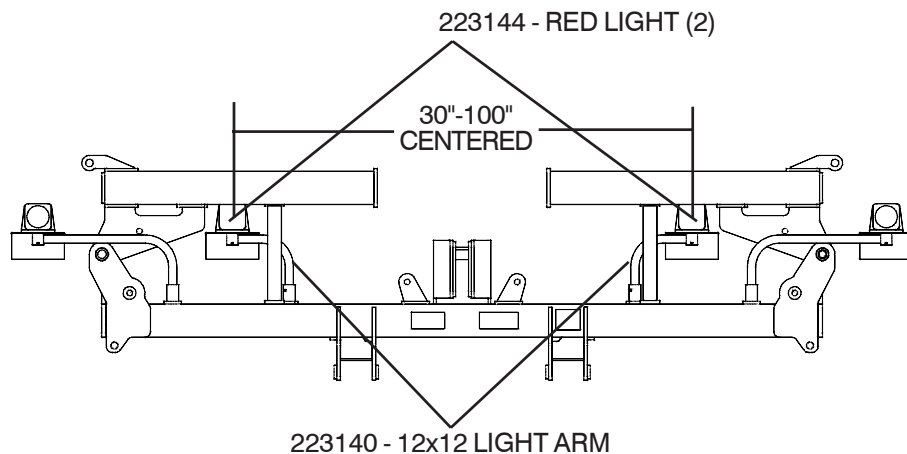


8 SHANK FOLDING SAFETY LIGHTS

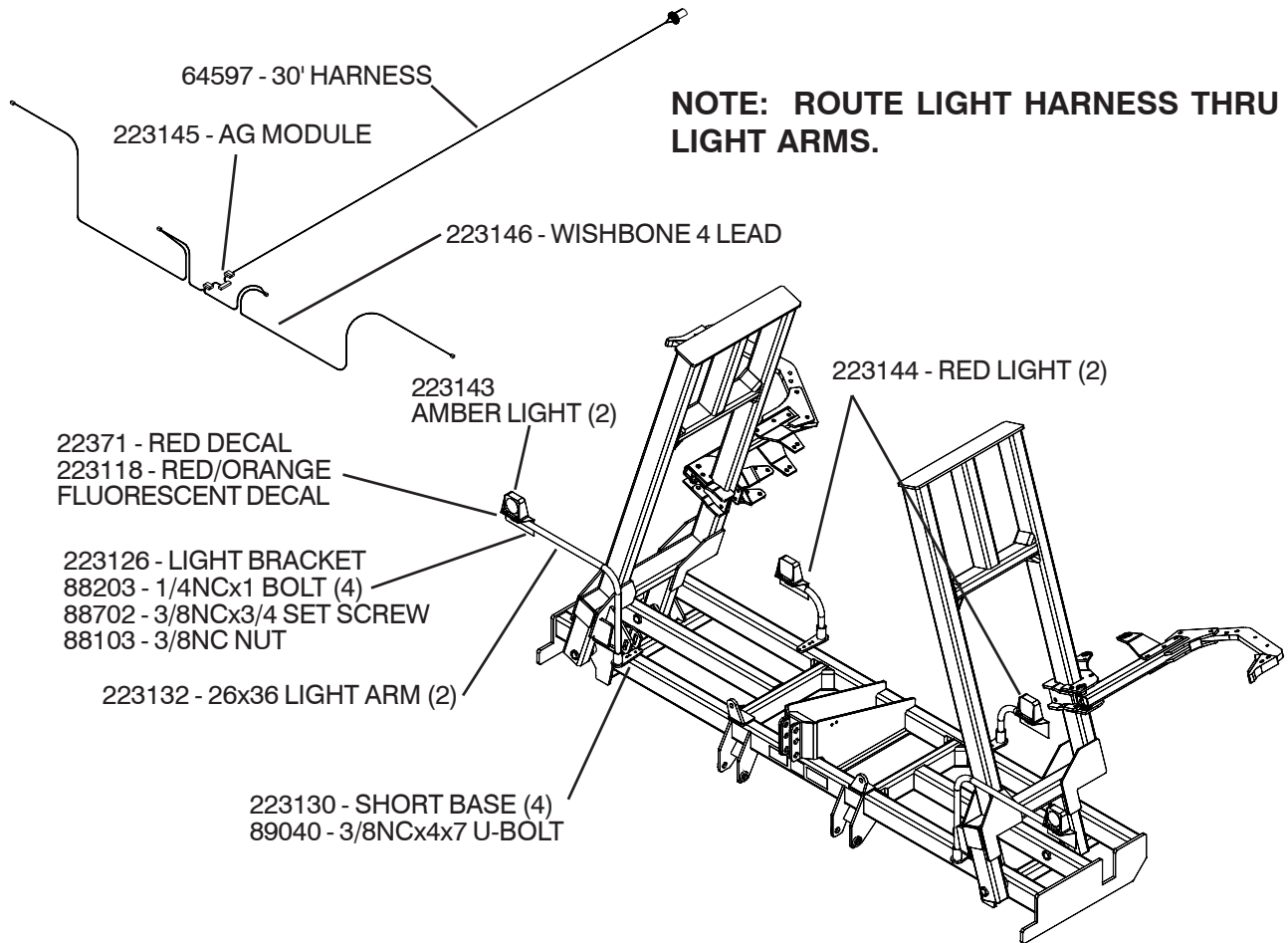


NOTE: MOUNT AMBER LIGHTS AS WIDE AS POSSIBLE. THE AMBER LIGHTS MUST BE MOUNTED NO MORE THAN 16" FROM THE IMPLEMENT EXTREMITIES.

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



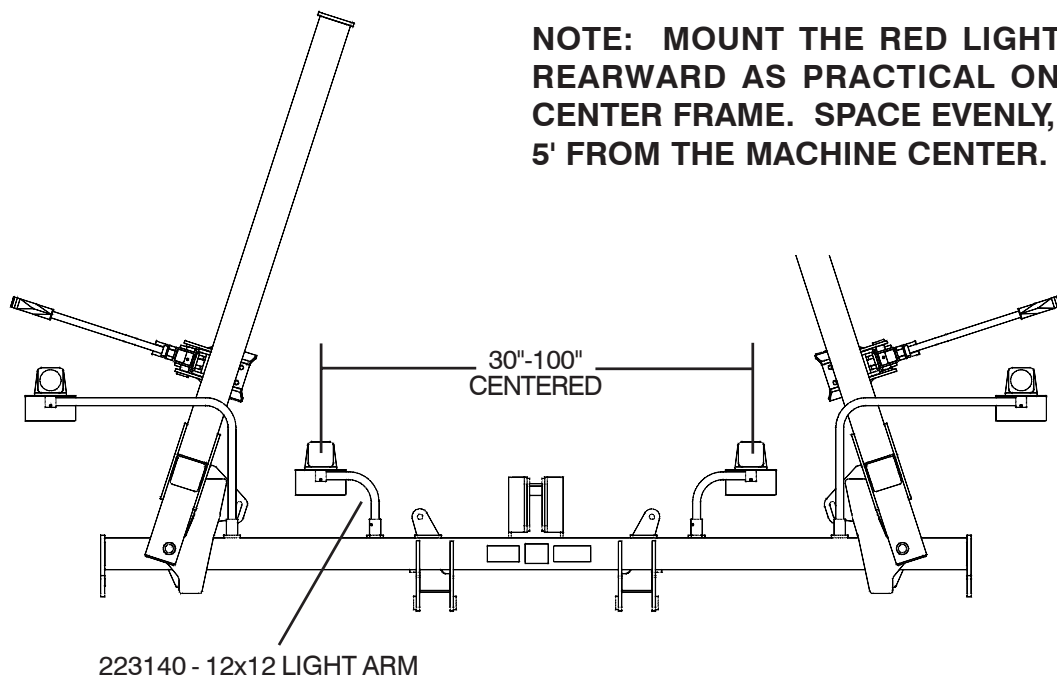
12 SHANK FOLDING SAFETY LIGHTS



NOTE: ROUTE LIGHT HARNESS THRU LIGHT ARMS.

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

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



ASSEMBLY INFORMATION

Remove all wires and arrange the parts conveniently.

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

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

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

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.

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.



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

| | 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 | 15/1 | 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



CAUTION

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

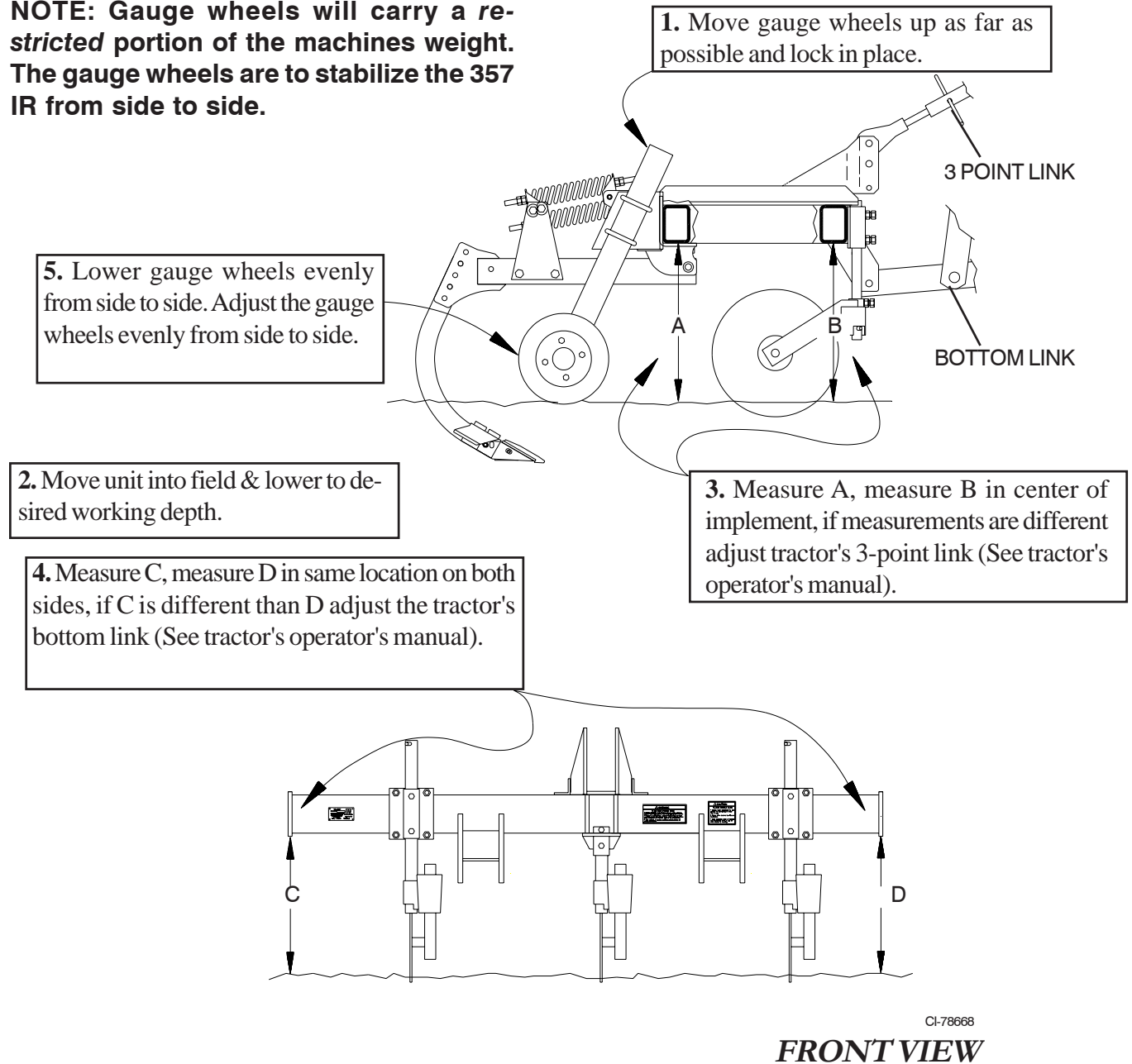
- Just before and during operation be sure no one is on or around the implement.
- Before activating the hydraulic system, check hoses for proper connections.
- Before lowering the wings for the first time, make sure the entire system has been charged with oil.
- With wings down always install hydraulic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

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LEVELING

NOTE: Front to rear leveling is done with tractor control arms. Consult your tractor's operator's manual for specific information.

NOTE: Gauge wheels will carry a *restricted* portion of the machine's weight. The gauge wheels are to stabilize the 357 IR from side to side.



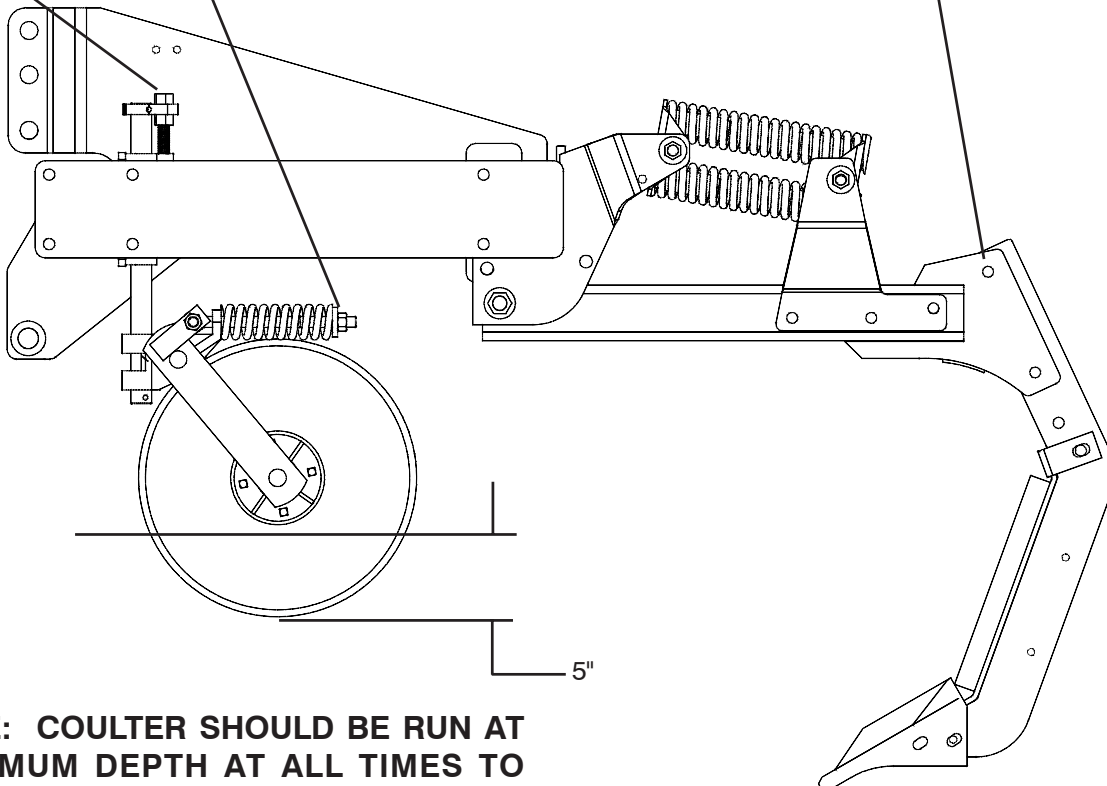
COULTER SETTINGS & SHANK DEPTH

NOTE: The Primary purpose of the coulters is to knock down and cut up trash for easier flow through shanks.

Coulters adjustments are limited to coulters depth and down pressure. At shallower depths coulters may need to be lowered to provide the best cutting action.

Coulters adjustments can be made to move the coulters up and down. This is done by loosening (2) set screws (shown on page 13) and turning the acme bolt.

If coulters blade is running on top of the soil the down pressure needs to be increased. Do this by tightening the adjustment nut.

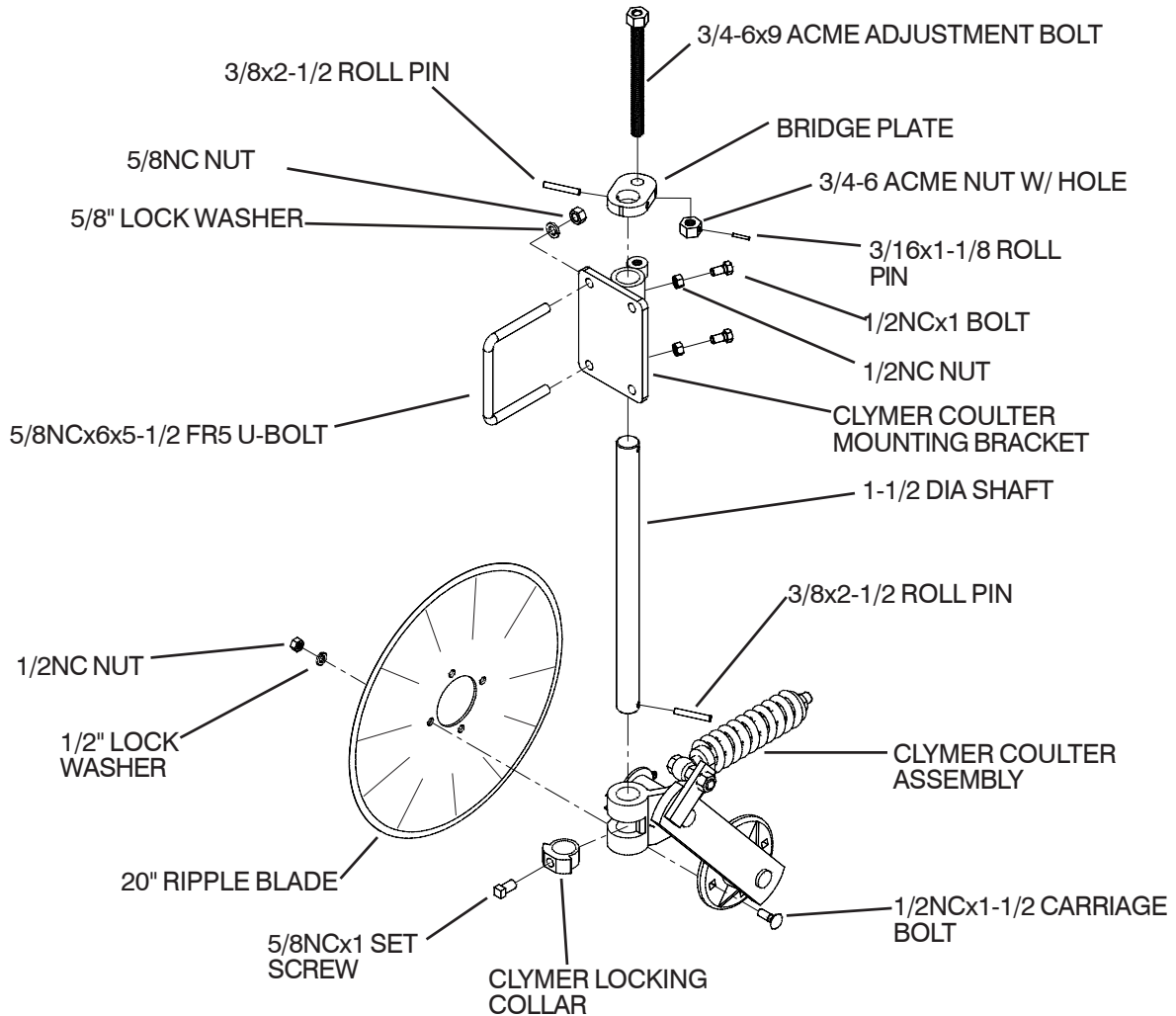


CAUTION: To avoid injury when working on or around coulters blades care must be exercised in handling or tightening bolts near blades.

The only adjustments on the minimum disturbance shank is by removing these two bolts and moving the shank up. The Grade 8 bolt goes in the top holes while the bottom hole has a fully threaded tap Grade 5 bolt. The parabolic shank has no adjustments. When using the minimum disturbance shank when working depth is 16" or less, the shank should be set in the upper position, when the working depth is 17" to 20" the shank should be set in the lower position. This will insure proper coulters depth.

NOTE: COULTERS SHOULD BE RUN AT MAXIMUM DEPTH AT ALL TIMES TO HELP PREVENT WEAR ON SHANKS.

COULTER ASSEMBLY



COULTER ASSEMBLY

- 1.) Mount coulters mounting arm so coulters blade is cutting in line with center line of shank.
- 2.) Turn set collar in coulters housing to center and lock in place, to prevent coulters from riding up during operation.
- 3.) Tighten 1/2NCx1 GR5 bolts in coulters mounting bracket to lock shaft in place, then tighten 1/2NC jam nuts to lock bolts.

FOR PLACEMENT ON UNIT SEE PAGES 36-39.

COULTER MAINTENANCE

Grease coulters daily.

Periodically check the coulters assembly for loose or bent components that will cause excessive wear on parts.

Clean off any dirt or grease that may accumulate on moving parts at regular intervals.



CAUTION: To avoid injury when working on or around coulters blades care must be exercised in handling or tightening bolts near blades.

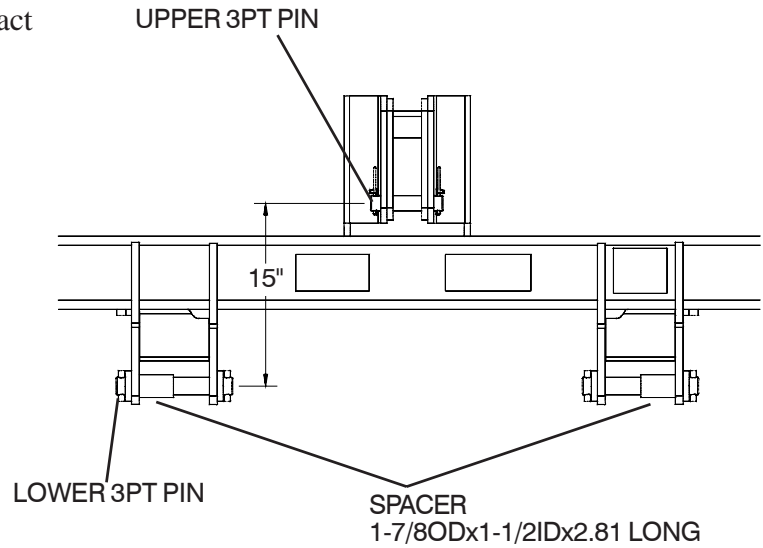
WIL-RICH 357 IR OPERATOR'S MANUAL 74189 6/12

3PT HITCHING CATEGORIES

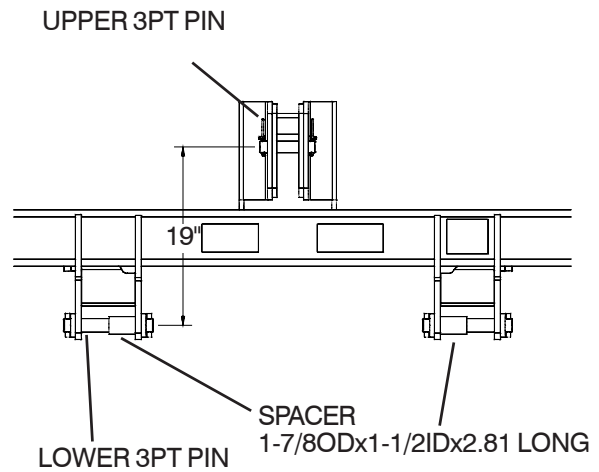
Wil-Rich 357 IR will hitch to a Category II or Category III Quickhitch or Category III Free-Link by using hitch pins and spacers.

Refer to your tractor's operator's manual for exact hitching procedures.

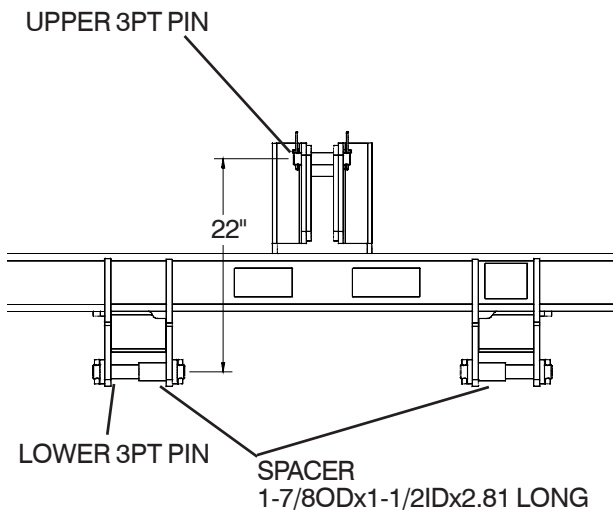
CATEGORY II QUICKHITCH



CATEGORY III QUICKHITCH



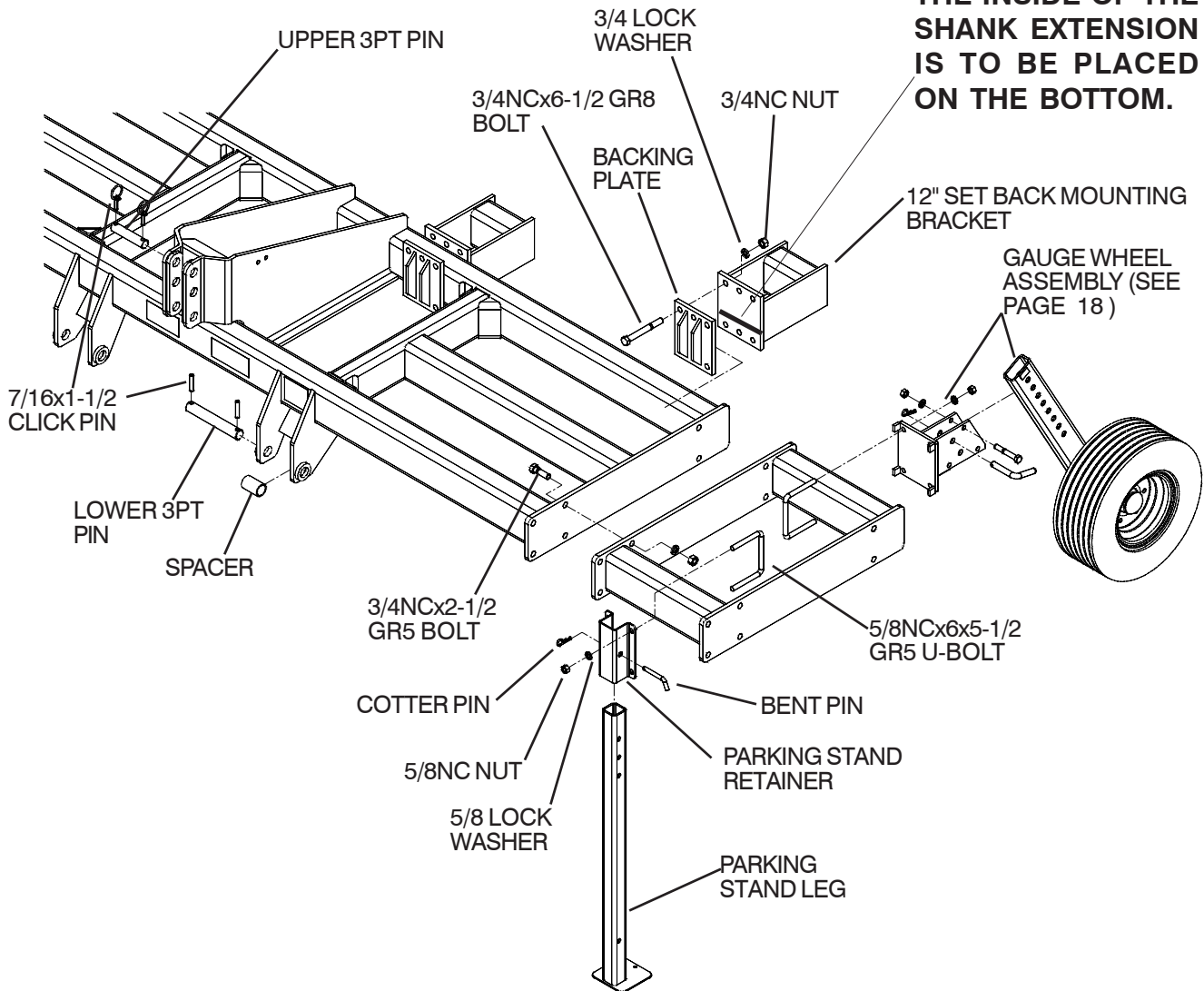
CATEGORY III FREE-LINK



MAIN FRAME 3PT

NOTE: Gauge wheels must be mounted out as far as possible to provide the most stability between the two outer most shanks.

NOTE: THE BAR WELDED ACROSS THE INSIDE OF THE SHANK EXTENSION IS TO BE PLACED ON THE BOTTOM.



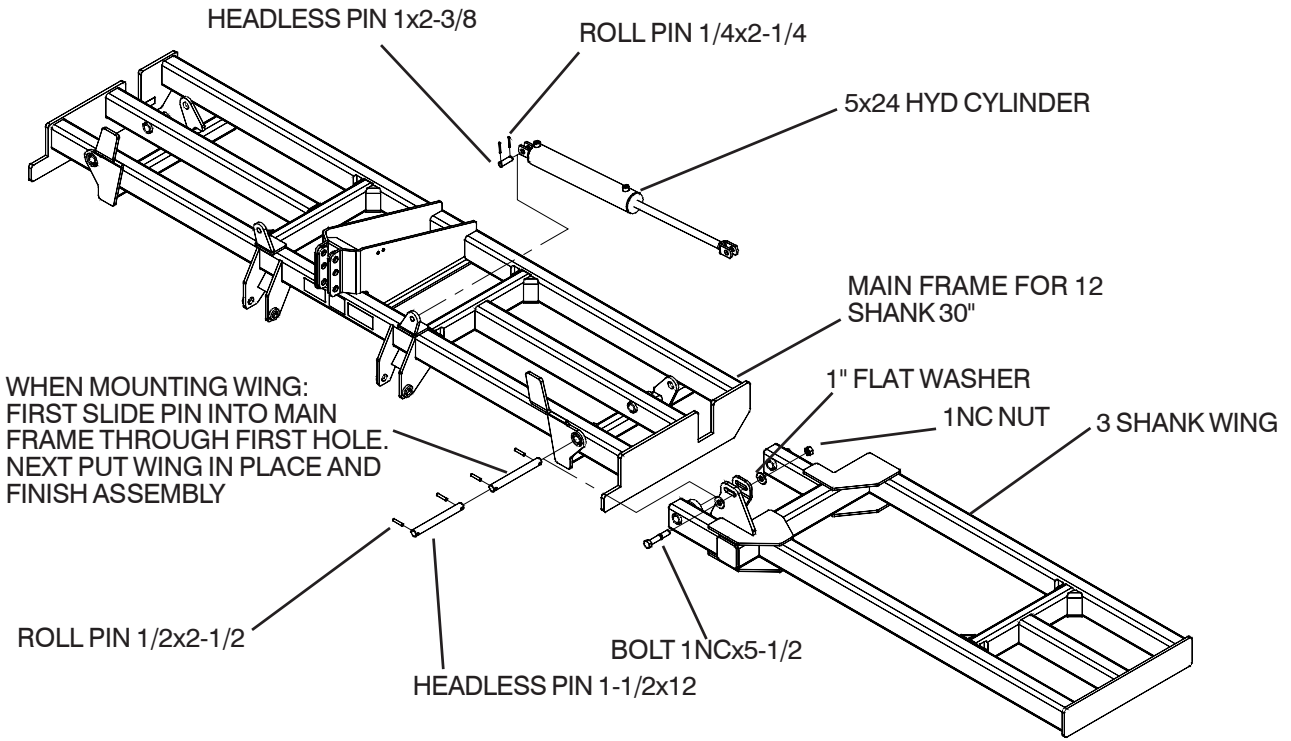
MAIN FRAME MAINTENANCE

Periodic checks must be made to assure that all nuts and bolts remain securely tightened. Loose hardware is easily bent or lost and can cause excessive wear on parts. Replace any bent or broken bolts as soon as they are discovered.

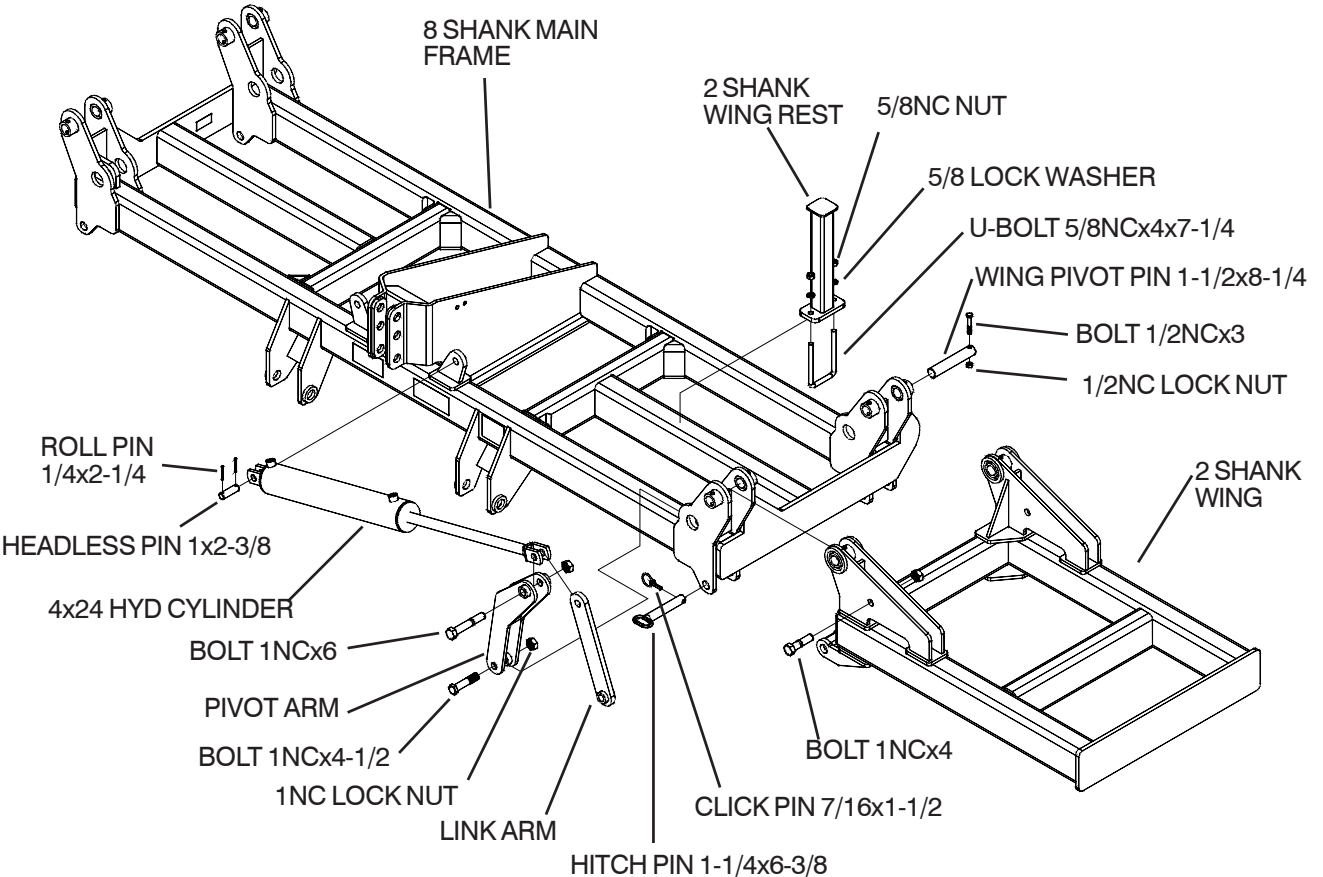
Clean off any dirt or grease that may accumulate on moving parts at regular intervals. This will prevent any abrasive action which could cause excess or premature wear. Thoroughly inspect the implement for loose or broken parts and adjust or replace as necessary.

It is important that the implement be regularly lubricated as recommended to obtain the most efficient operation. Proper lubrication helps prevent down time due to excessive wear and increases machine life.

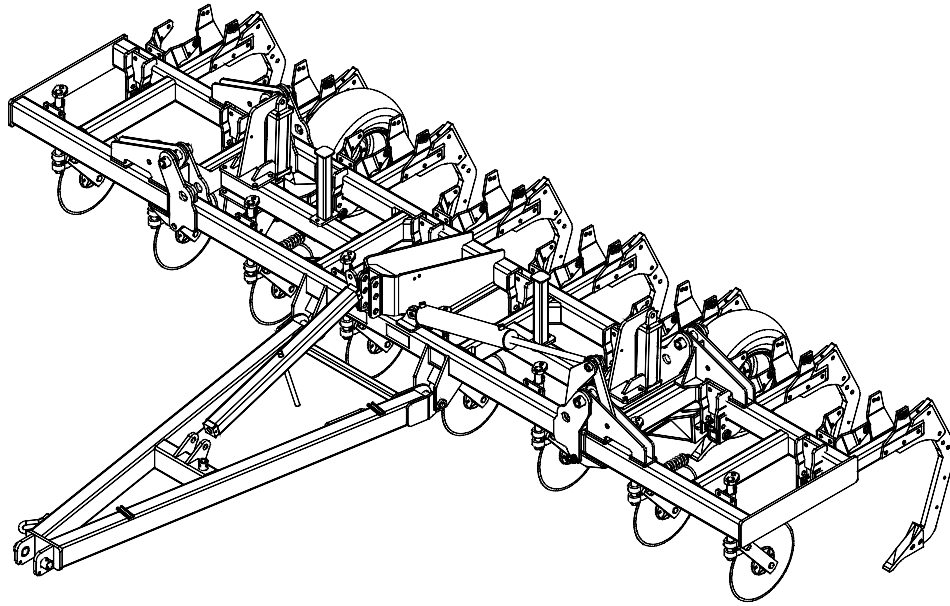
FOLDING WING 12 SHANK



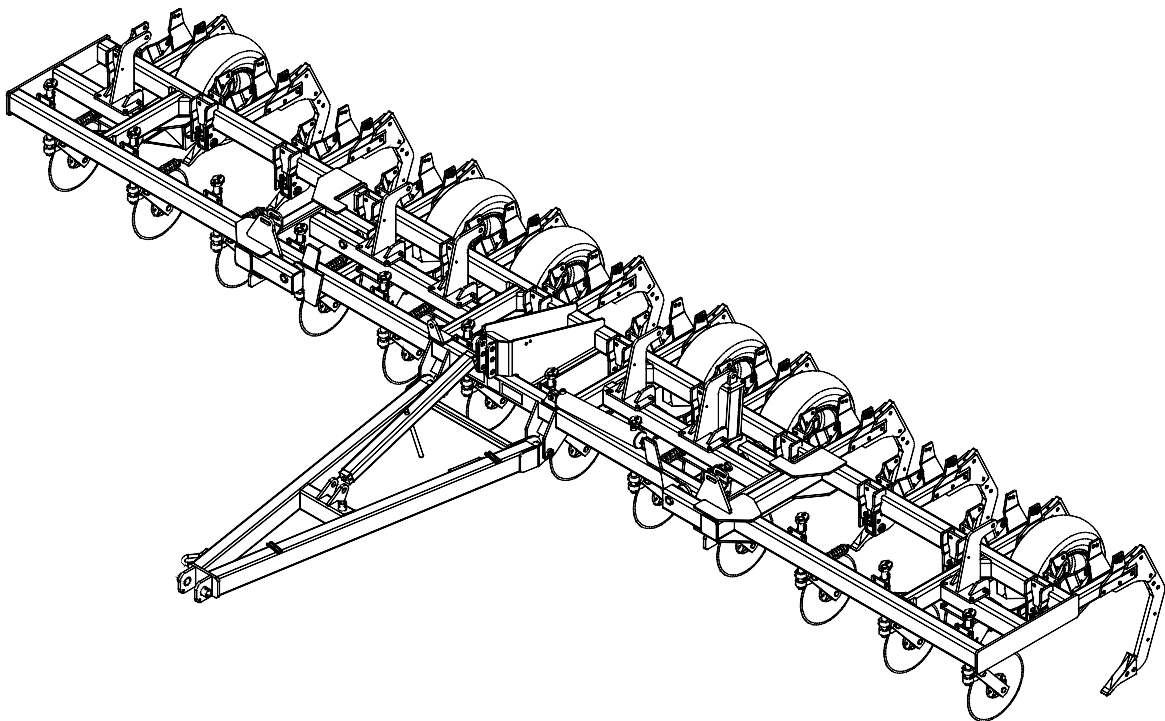
MAIN FRAME & WING 8 SHANK 30"



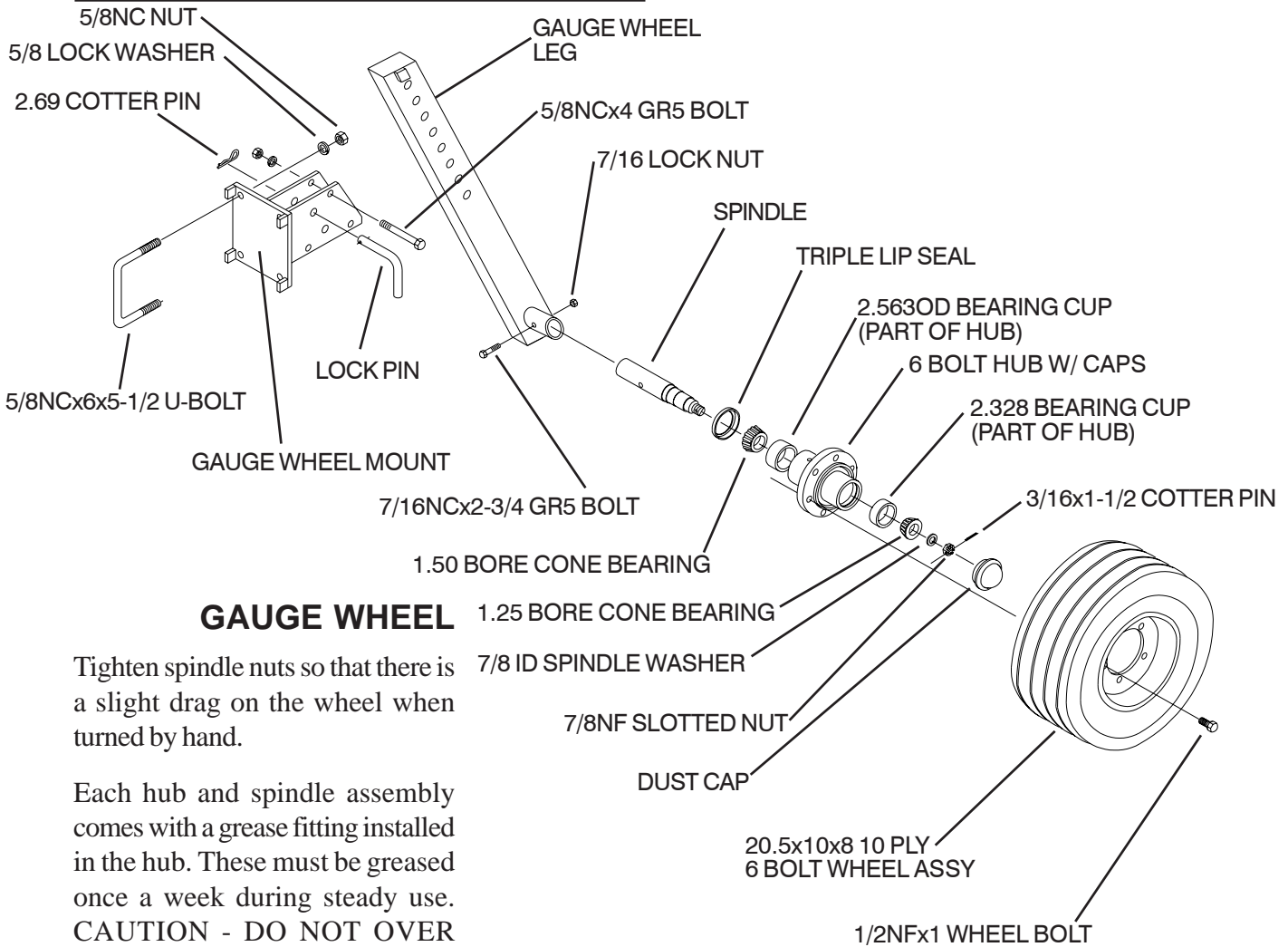
8 SHANK FLAT FOLD



12 SHANK FOLDING



GAUGE WHEEL ASSEMBLY



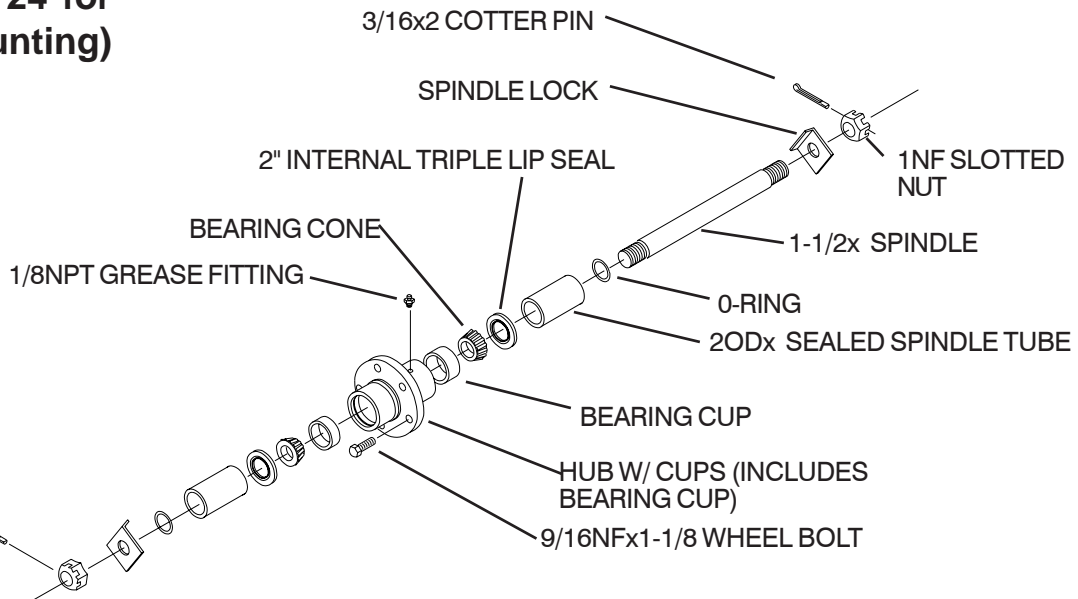
GAUGE WHEEL

Tighten spindle nuts so that there is a slight drag on the wheel when turned by hand.

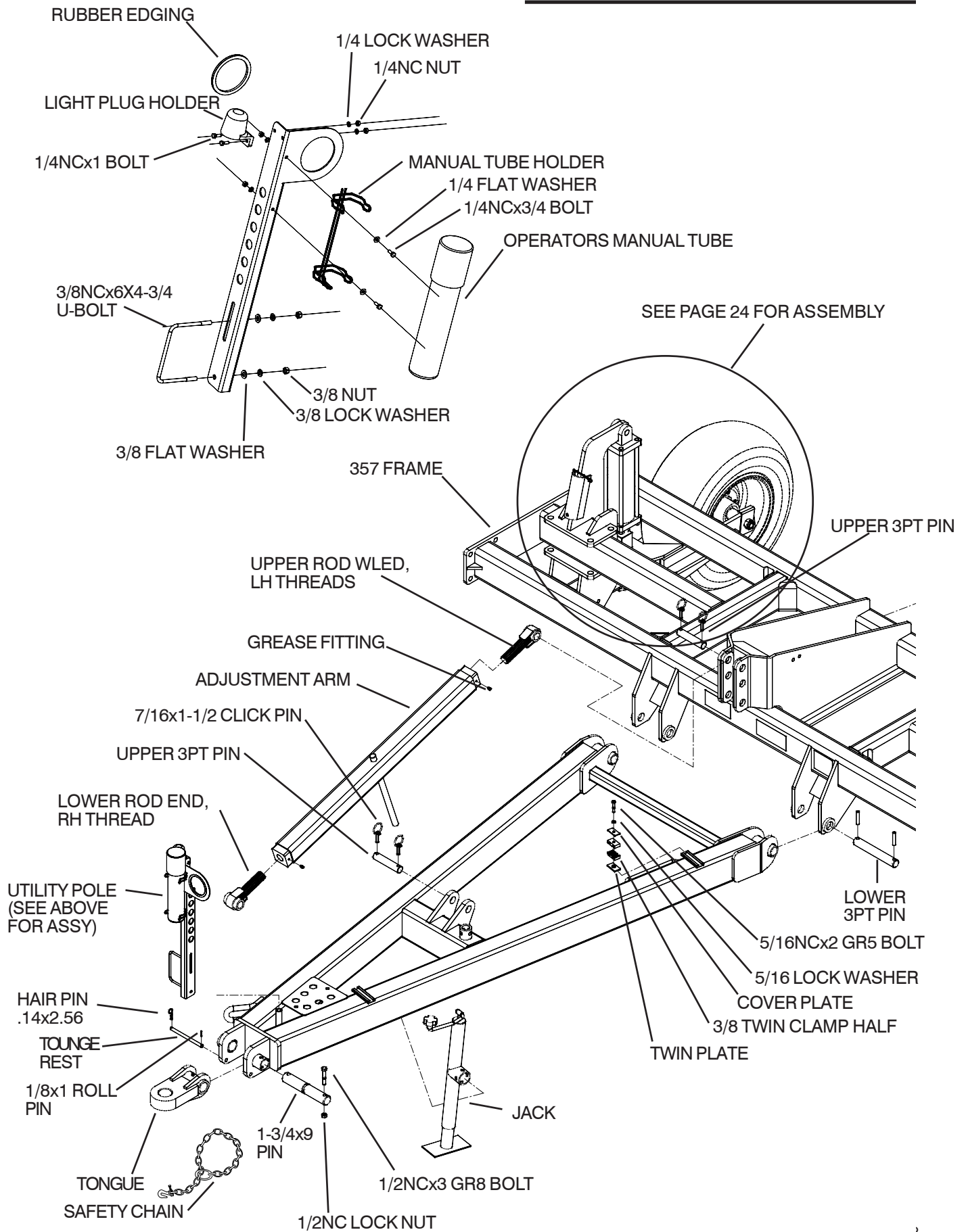
Each hub and spindle assembly comes with a grease fitting installed in the hub. These must be greased once a week during steady use. CAUTION - DO NOT OVER GREASE.

YOKE HUB ASSEMBLY

(See page 24 for wheel mounting)



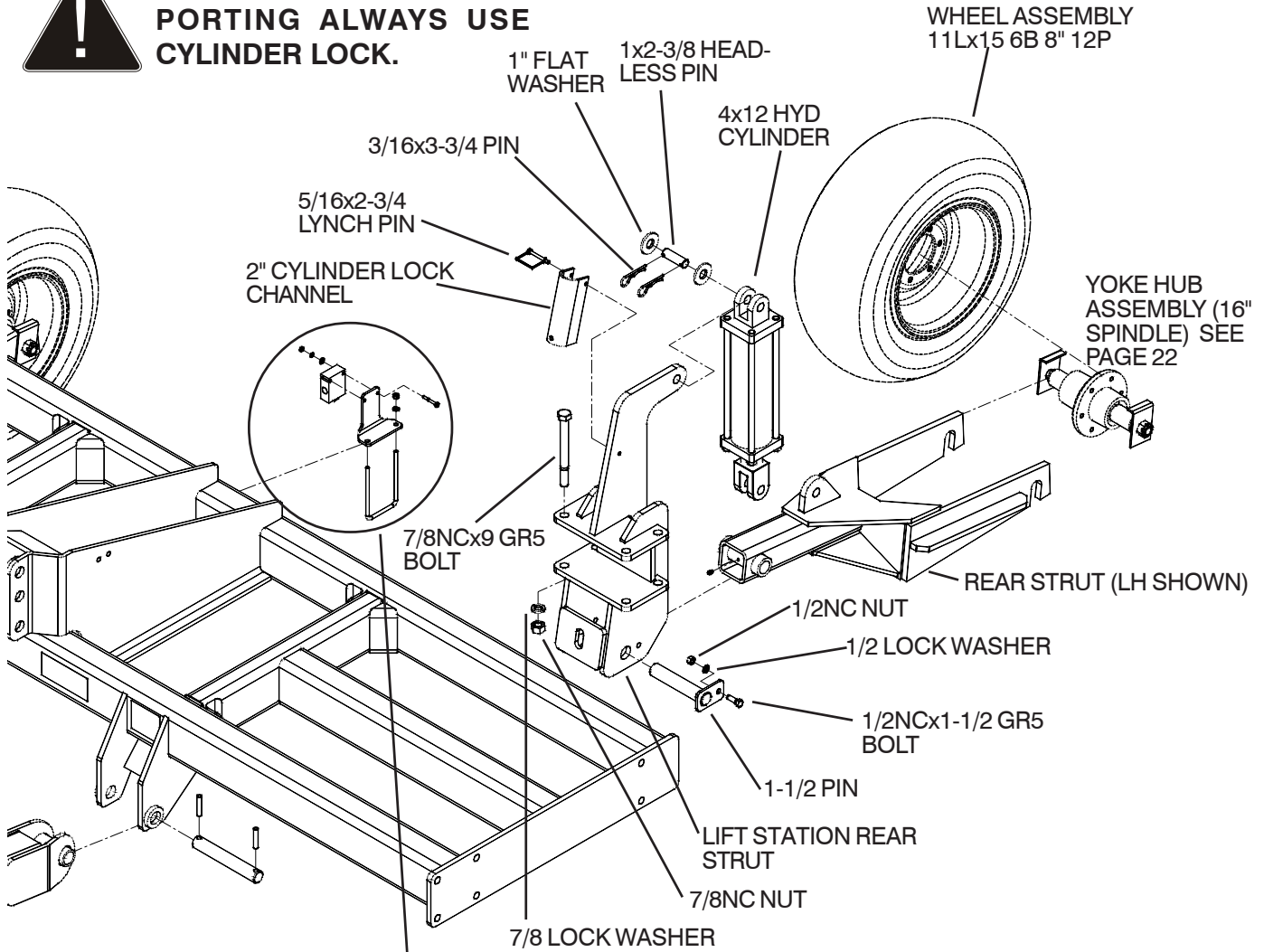
MAIN FRAME PULL TYPE



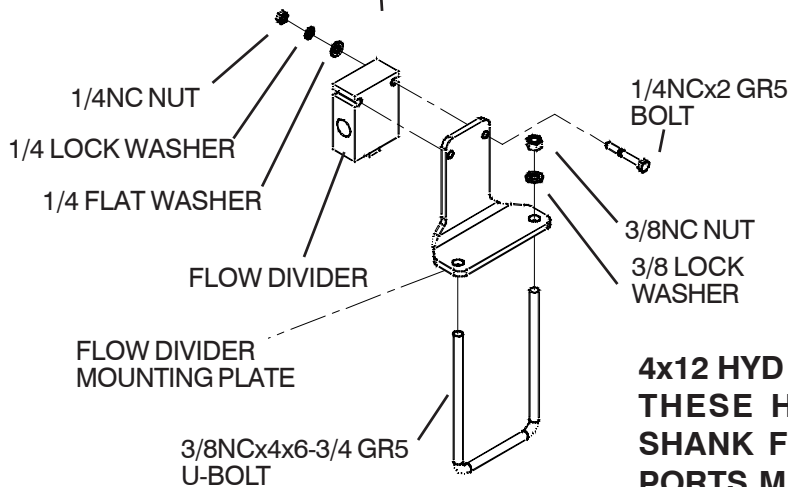
LIFT STATION ASSEMBLY



WARNING - WHEN TRANSPORTING ALWAYS USE CYLINDER LOCK.

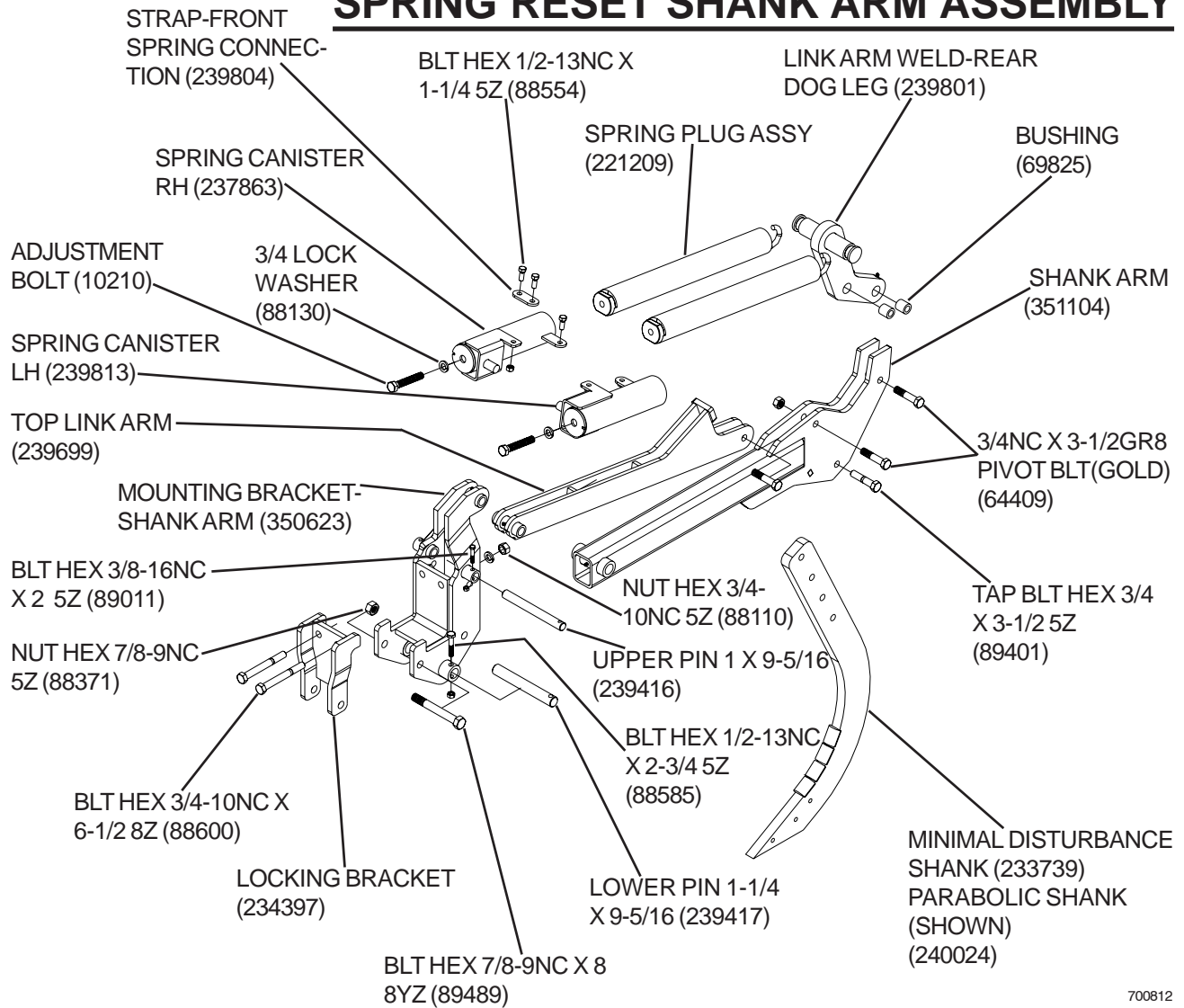


NOTE: THIS ASSEMBLY MUST BE BOLTED TO THE MAIN FRAME ONLY. THIS CAN NOT BE BOLTED TO FRAME EXTENSIONS!



4x12 HYD CYLINDER - WHEN ASSEMBLING THESE HYDRAULIC CYLINDERS ON 8 SHANK FOLDING UNITS, THE CYLINDER PORTS MUST BE ROTATED 90° SO PORTS FACE INWARD TOWARDS THE CENTER OF THE UNIT FOR CLEARANCE.

SPRING RESET SHANK ARM ASSEMBLY



700812

NOTE: A 3/4NFx3-1/2 GR8 Fine Thread Bolt is used to attach shank to frame in the upper attaching position and a 3/4NCx3-1/2 GR5 Coarse Thread Tap Bolt is used in the lower attaching position. DO NOT INTERCHANGE! The 3/4NCx3-1/2 GR5 Bolt is used as a shear bolt.

SHANK MOUNTING

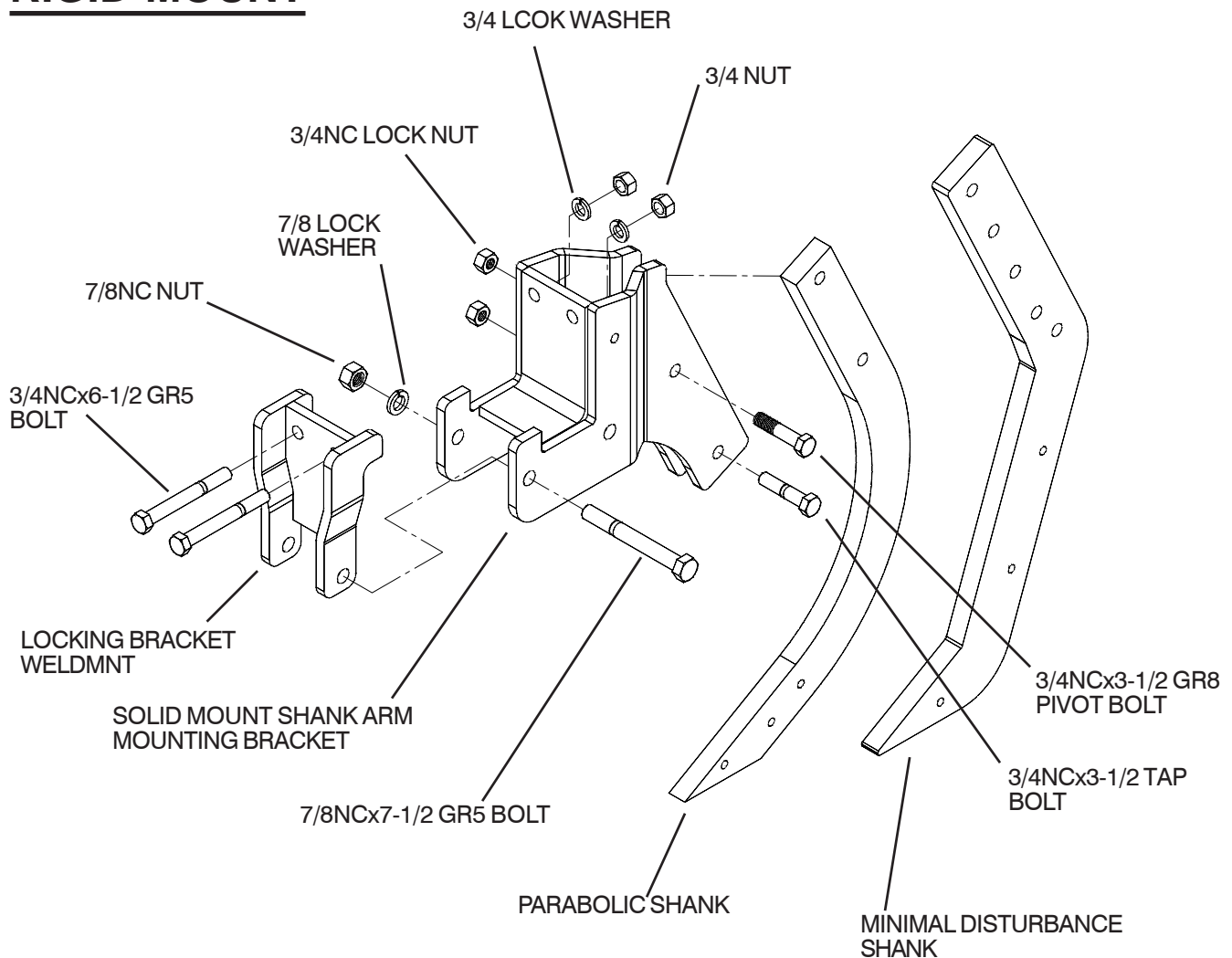
- 1.) For ease of installation attach Locking Bracket to Shank Assembly with 7/8NCx8 Bolt first, then slide Shank Assembly on to 357 IR frame and flip the Locking Bracket over tube and insert 3/4NCx6-1/2 Bolts. (Shank should then hang by itself).
- 2.) When proper location of shank assembly is reached, tighten 3/4NCx6-1/2 Bolts securely. (Torque to 240 Foot Pounds).

SHANK MAINTENANCE

Grease daily when operating with moderate to heavy tripping and every other day with light tripping.

Clean off any dirt or grease that may accumulate on moving parts at regular intervals. This will prevent any abrasive action which could cause excess or premature wear. Thoroughly inspect the shank assembly for loose or broken parts and adjust or replace as necessary.

RIGID MOUNT



SHANK MOUNTING

- 1.) For ease of installation attach Locking Bracket to Shank Assembly with 7/8NCx7-1/2 Bolt first, then slide Shank Assembly on to 357 IR frame and flip the Locking Bracket over tube and insert 3/4NCx6-1/2 Bolts. (Shank should then hang by itself).
- 2.) When proper location of shank assembly is reached, tighten 3/4NCx6-1/2 Bolts securely. (Torque to 240 Foot Pounds).

NOTE: A 3/4NFx3-1/2 GR8 Fine Thread Bolt is used to attach shank to frame in the upper attaching position and a 3/4NCx3-1/2 GR5 Coarse Thread Tap Bolt is used in the lower attaching position. *DO NOT INTERCHANGE!* The 3/4NCx3-1/2 GR5 Bolt is used as a shear bolt.

SHANK MAINTENANCE

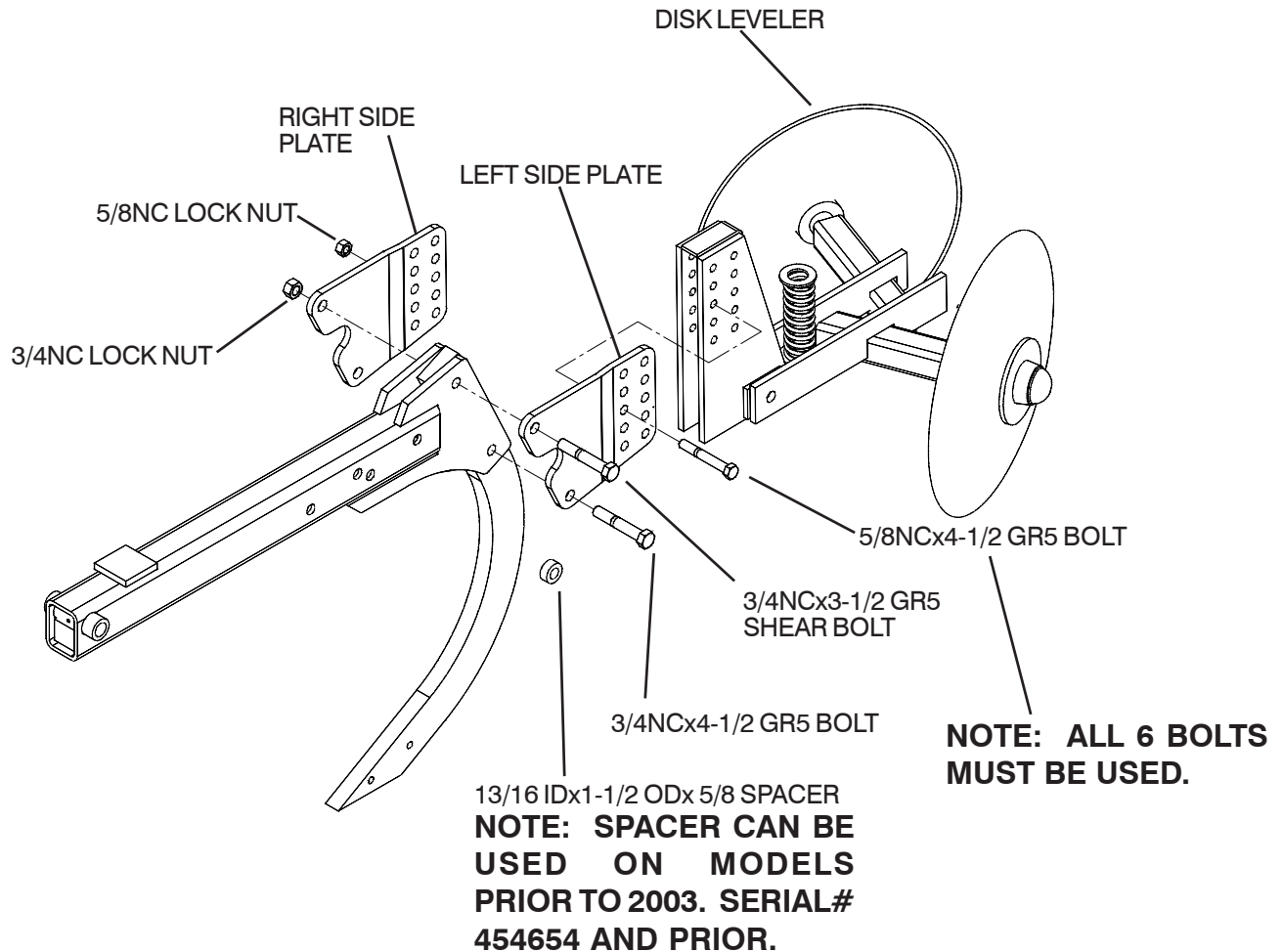
Grease daily when operating with moderate to heavy tripping and every other day with light tripping.

Clean off any dirt or grease that may accumulate on moving parts at regular intervals. This will prevent any abrasive action which could cause excess or premature wear. Thoroughly inspect the shank assembly for loose or broken parts and adjust or replace as necessary.

DISK LEVELER PARABOLIC SHANK ONLY

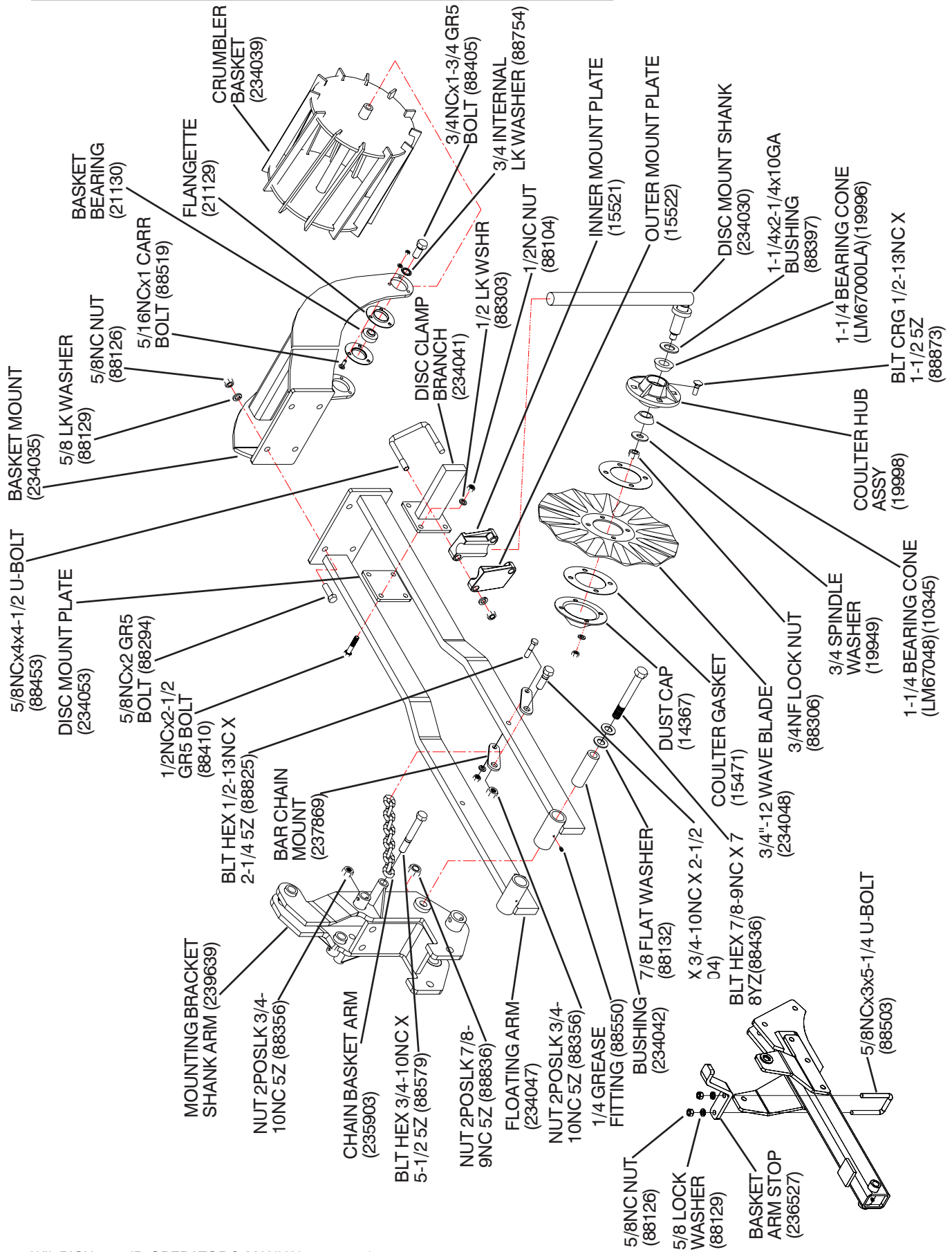
The right and left side plates must be mounted to the shank as shown. This arrangement assures that the disk hiller will raise with the shank, if the shear bolt breaks.

Set the disk blades to run 2-3 inches in the ground.



NOTE: SET DEPTH OF SHANK 4-10 INCHES BELOW THE BOTTOM OF THE DISK HILLER.

ROW SEALER FOR SLOT TILL GANG



STEP 1

Bolt the floating arm weld to shank arm mounting bracket using bushings, flat washers, 7/8NCx7 bolt and 7/8NC lock nut.

STEP 2

Bolt on the basket arm chains using mounting plate, 3/4NCx5-1/2 bolts (2), 1/2NCx2-1/4 bolts (2), 3/4NCx2-1/2 bolts (2), with lock nuts.

STEP 3

Bolt on branch welds (2) using 1/2NCx2-1/2 bolts (8) and disc mount plate. Leave a 2 or 3 inch gap between the rear plate of the floating arm and the branch weld. Use this as a starting point.

STEP 4

Mount 2 cast half clamps (inner mount plate & outer mount plate) using 5/8NCx4x4-1/2 U-bolt, lock washers and nuts. Leave nuts loose. From center of the cast clamps to outer end of branch weld should be 3-1/2 to 4 inches. Use this as a starting point.

STEP 5

Slide disc assembly in to half clamps. The distance from top of disc shaft to top of half clamp should be 4 inches. Use as a starting point. Turn disc at a slight angle, front of disc pointing out some so it throws the soil in. A wood block can be used to hold disc assembly while tightening U-bolts.

STEP 6

Bolt on crumbler basket assembly using 5/8NCx2 bolts (4).

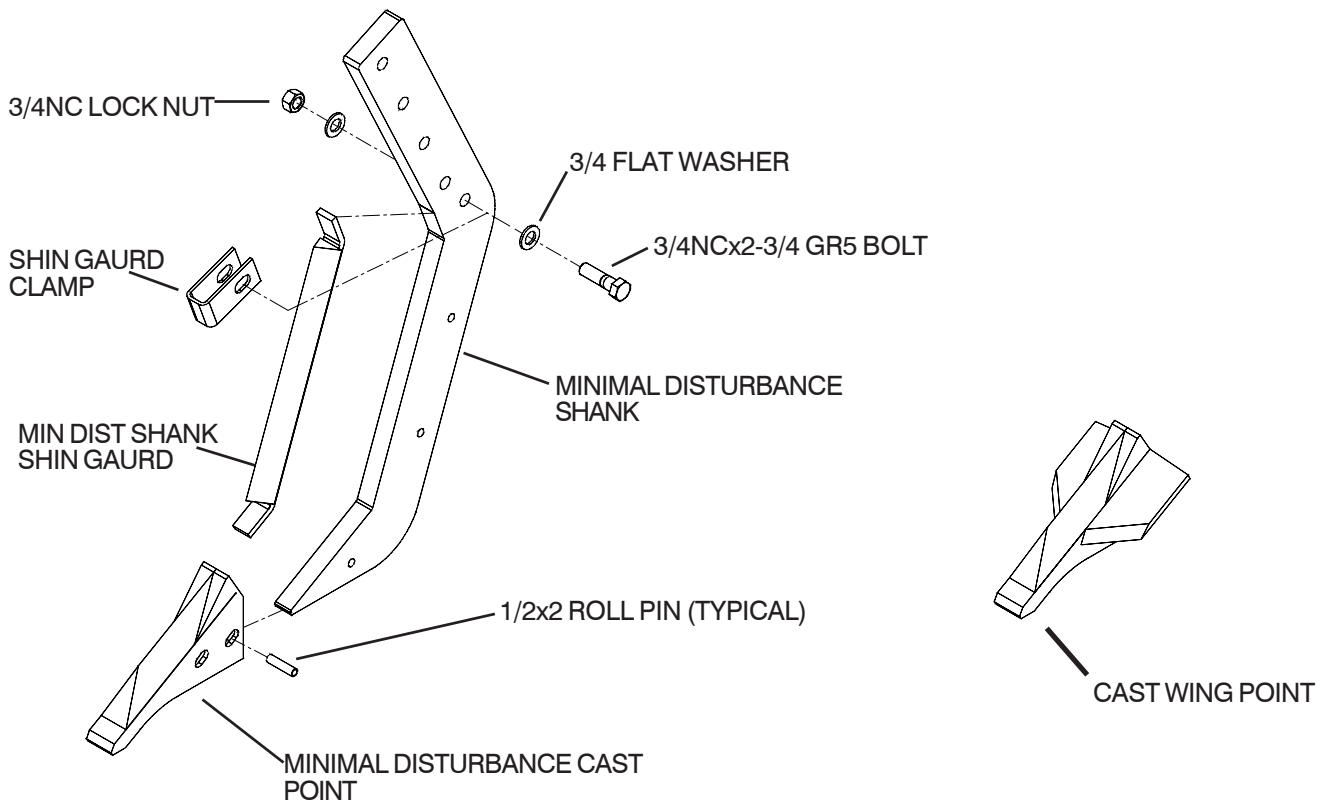
BASKET ARM STOP IS BOLTED ON SHANK ASSEMBLYS THAT ARE BOLT ONTO THE WINGS ONLY. THIS CONTROLS THE MOTION OF THE BASKET ARMS WHEN UNIT IS BEING FOLDED.

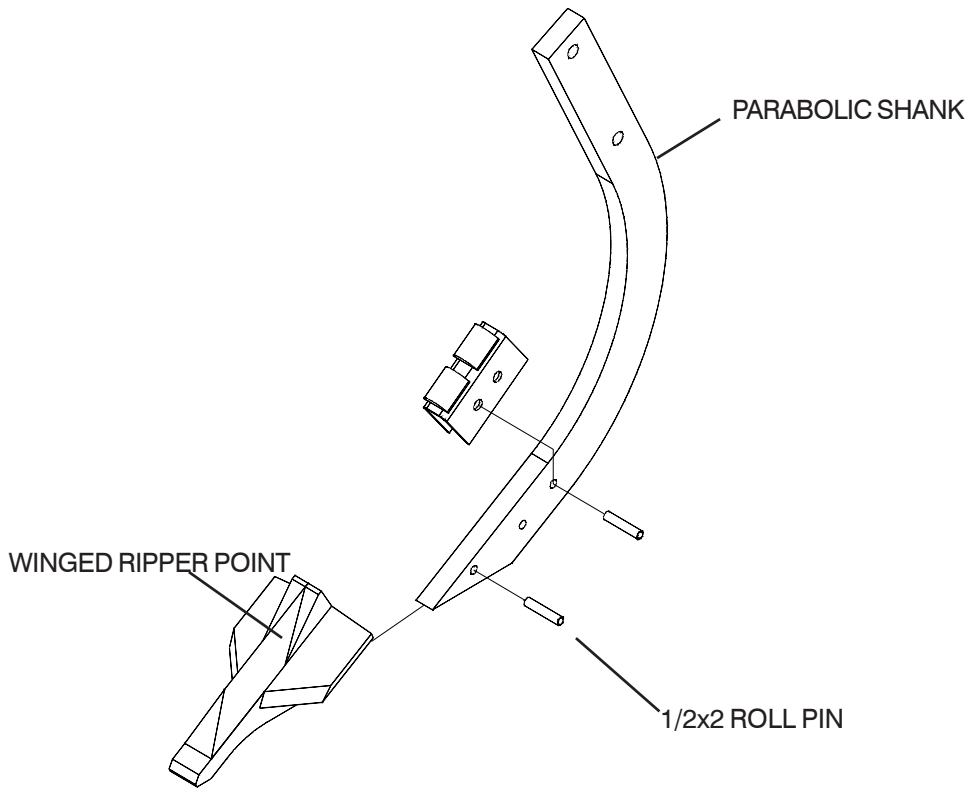
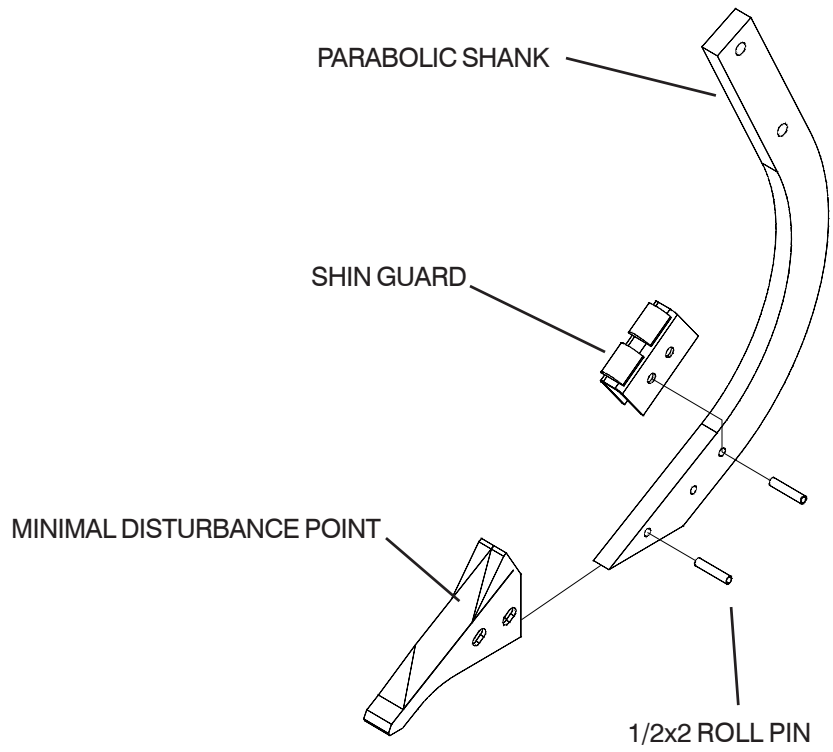
POINTS

The 357 IR points are held to the shank by a 1/2x2" roll pin. To Remove the point use a punch to drive out the roll pin and slip the point off the shank. Replace point and drive roll pin in place. If the roll pin seems loose replace with a new pin or risk the loss of the ripper point.

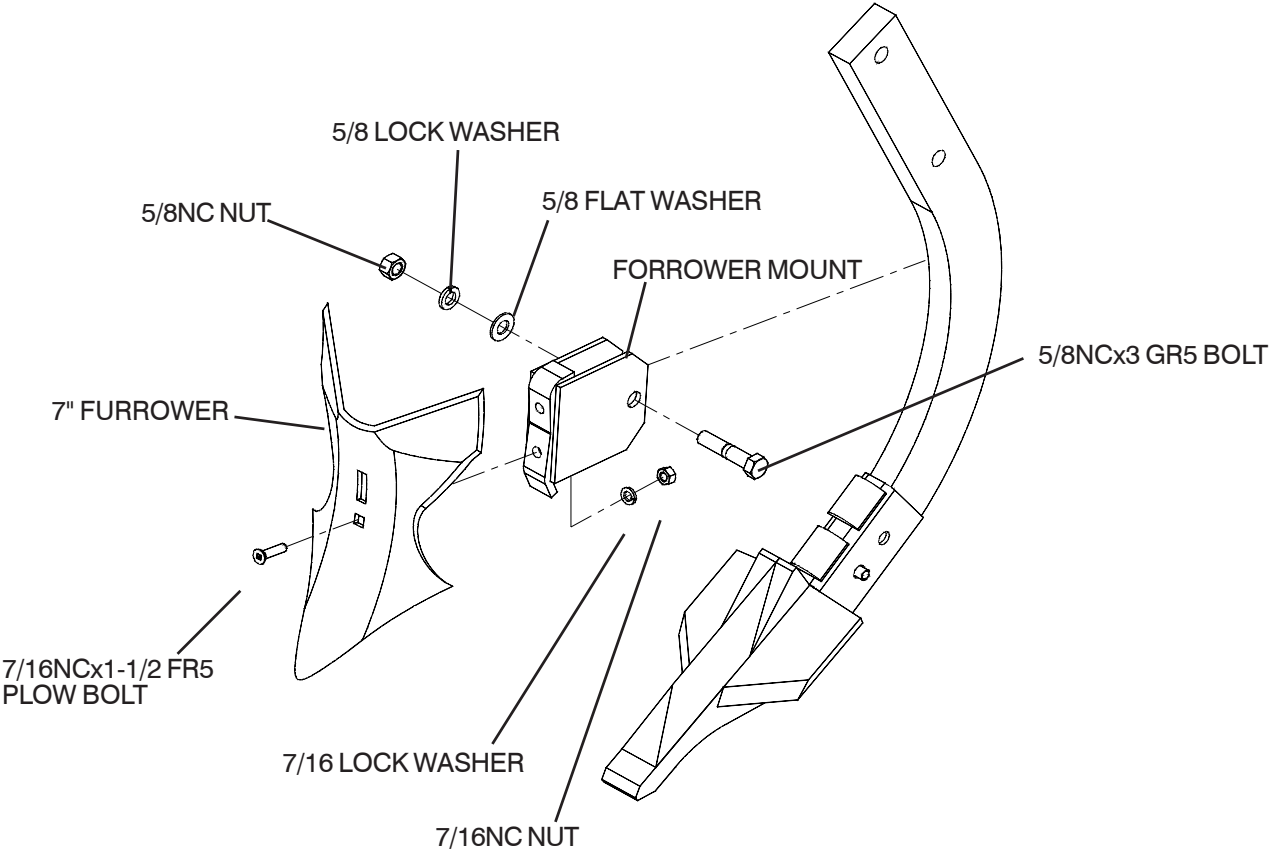
POINT MAINTENANCE

Soil types greatly effect the point life. Check points daily for wear, damage and loose mounting hardware.

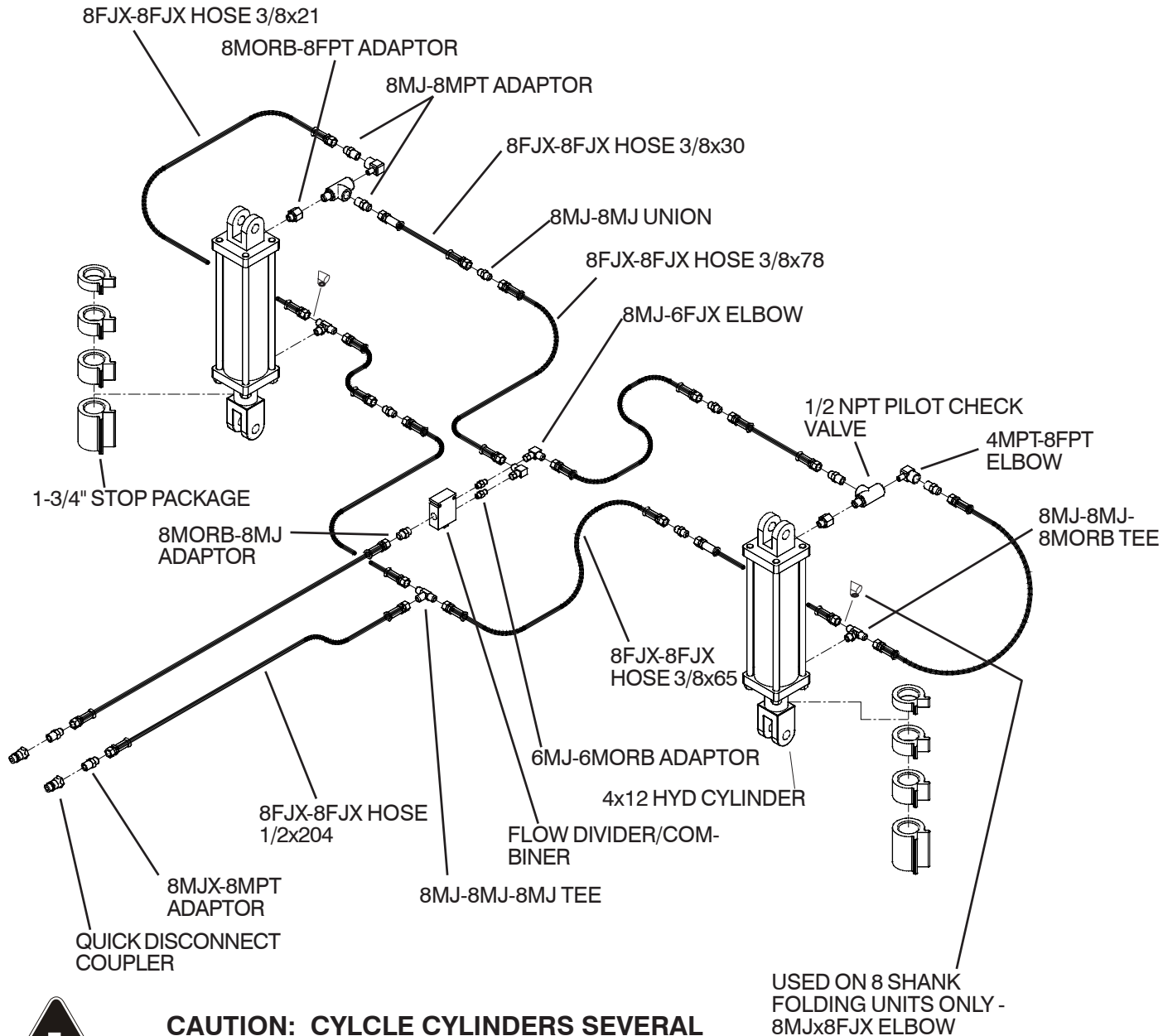




FURROW ASSEMBLY



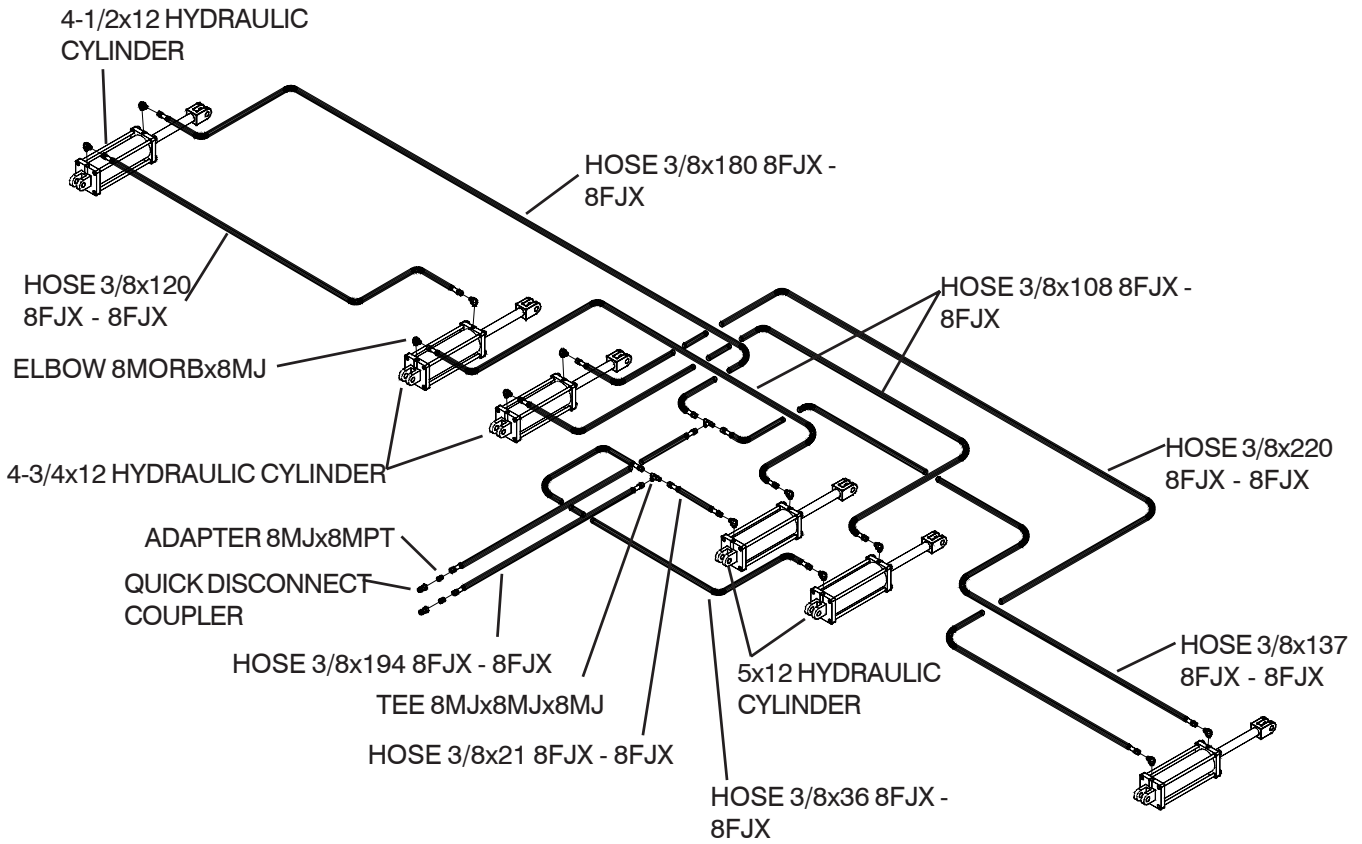
LIFT HYDRAULICS (6,7, & 8 SHANK 30")



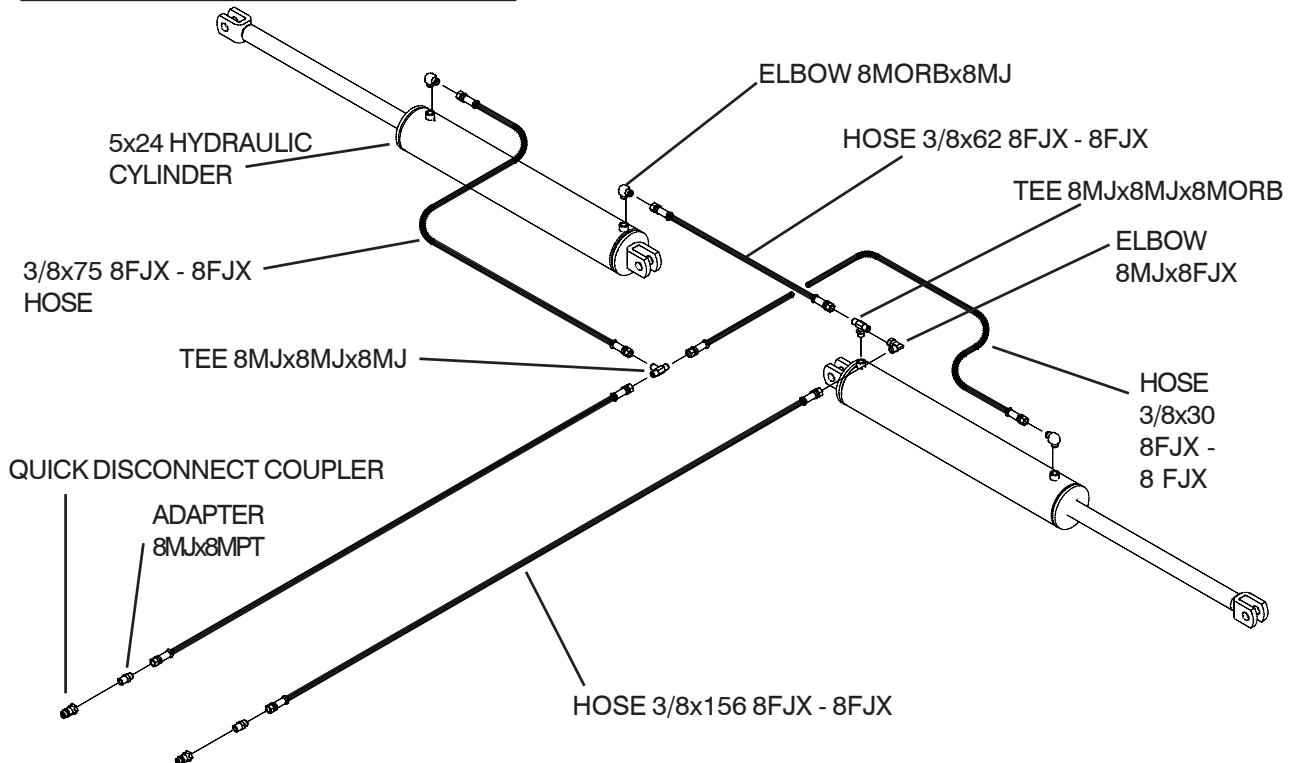
CAUTION: CYCLE CYLINDERS SEVERAL TIME BEFORE LOWERING UNIT ON WHEELS. THIS MUST BE DONE TO PURGE ALL AIR OUT OF THE SYSTEM.

4x12 HYD CYLINDER - WHEN ASSEMBLING THESE HYDRAULIC CYLINDERS ON 8 SHANK FOLDING UNITS, THE CYLINDER PORTS MUST BE ROTATED 90° SO PORTS FACE INWARD TOWARDS THE CENTER OF THE UNIT FOR CLEARANCE.

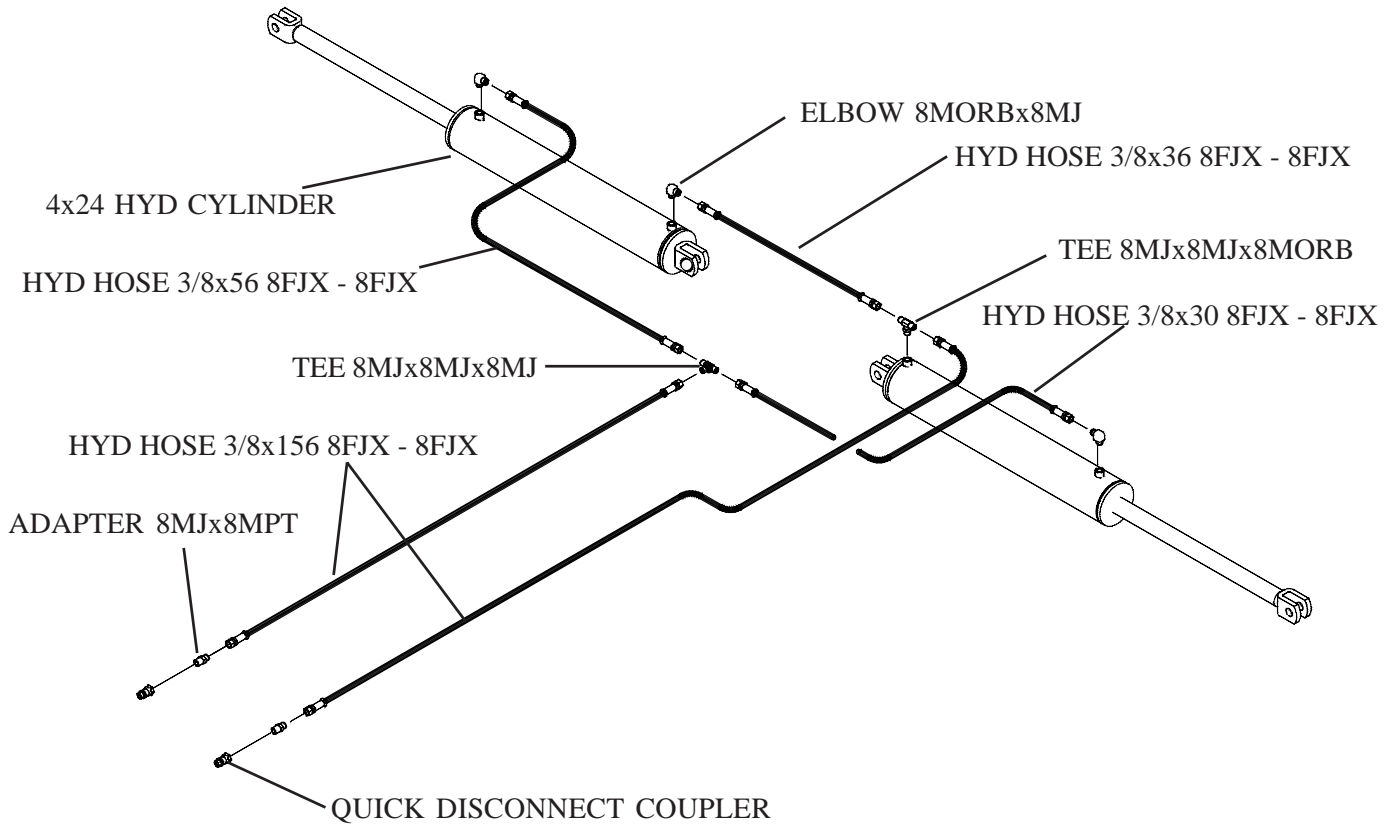
12 SHANK MAIN LIFT HYDRAULICS



12 SHANK HYD FOLD



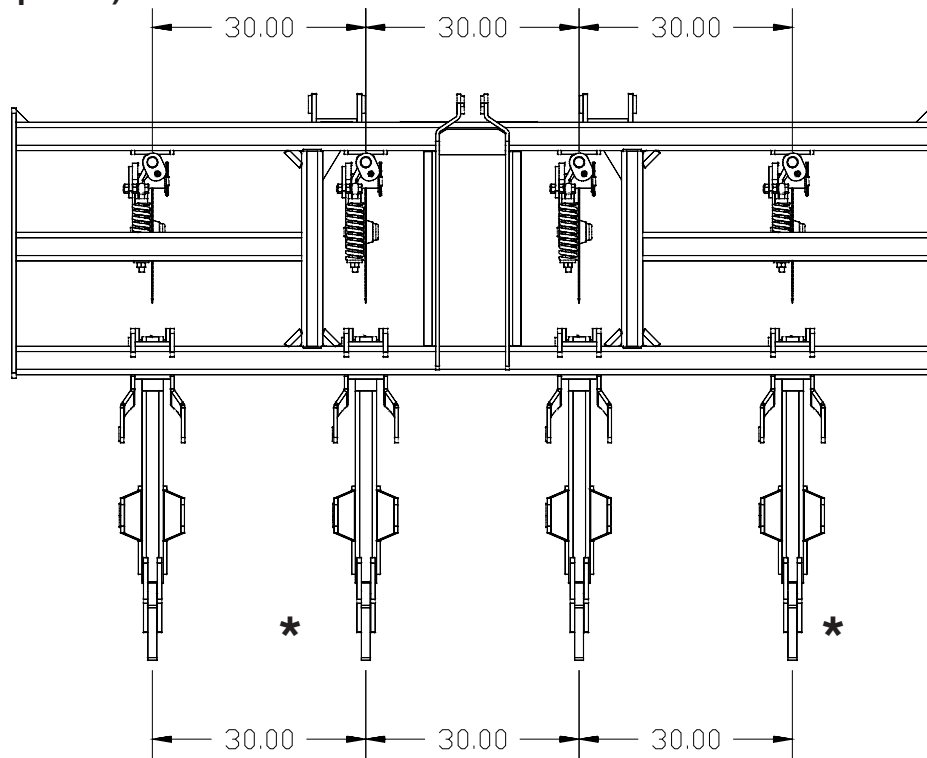
8 SHANK HYD FOLD



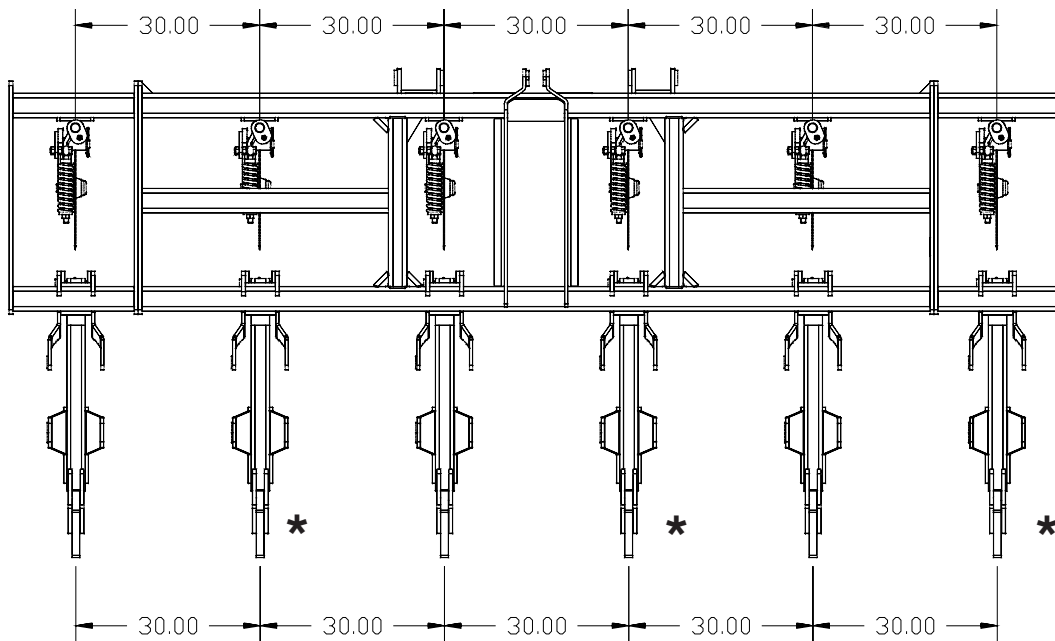
SHANK AND COULTER PLACEMENTS

NOTE: (*) Shank extensions can be used in heavy trash conditions to stagger shank pattern. (Optional equipment).

**4 SHANK 357 IR
(129.56" MAIN FRAME)**



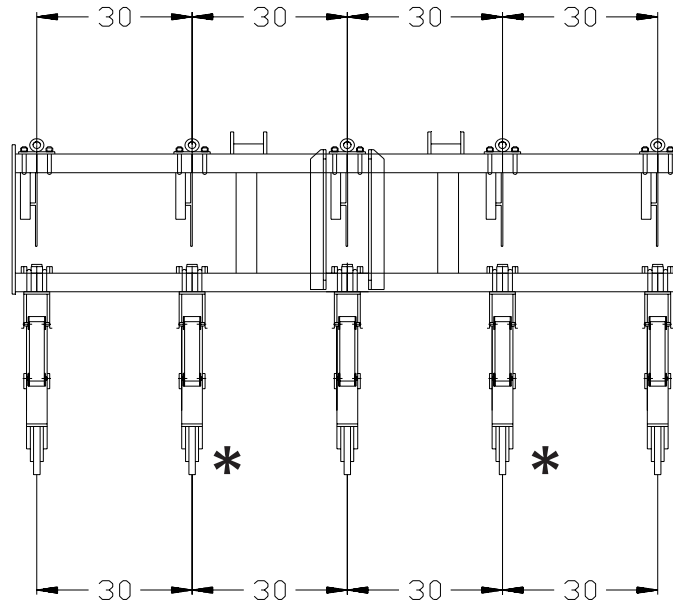
**6 SHANK 357 IR
(129.56" MAIN FRAME)**



SHANK AND COULTER PLACEMENTS

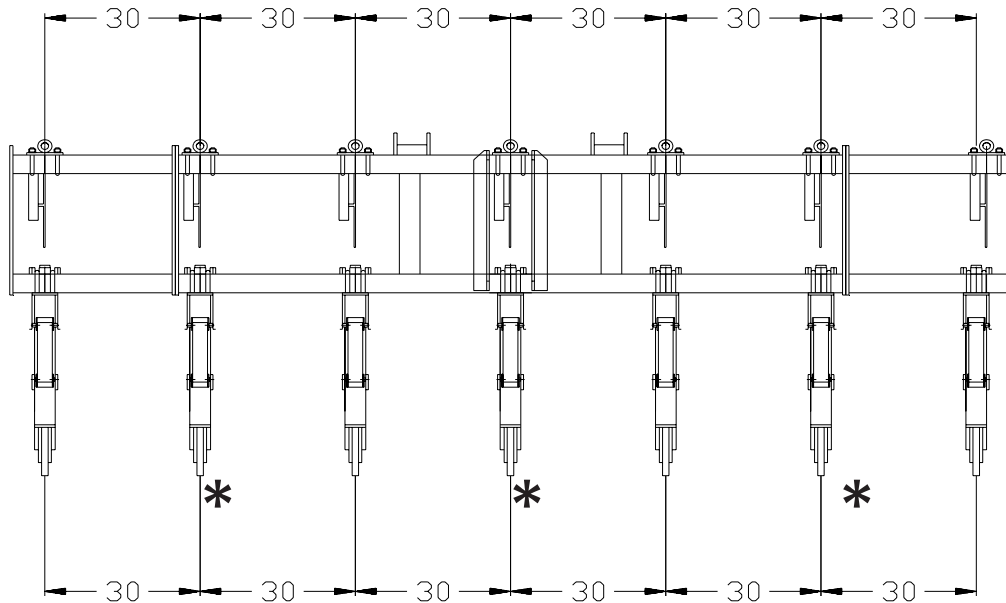
5 SHANK 357 IR (129.56" MAIN FRAME)

NOTE: (*) Shank extensions can be used in heavy trash conditions to stagger shank pattern. (Optional equipment).



78662B

7 SHANK 357 IR (129.56" MAIN FRAME)



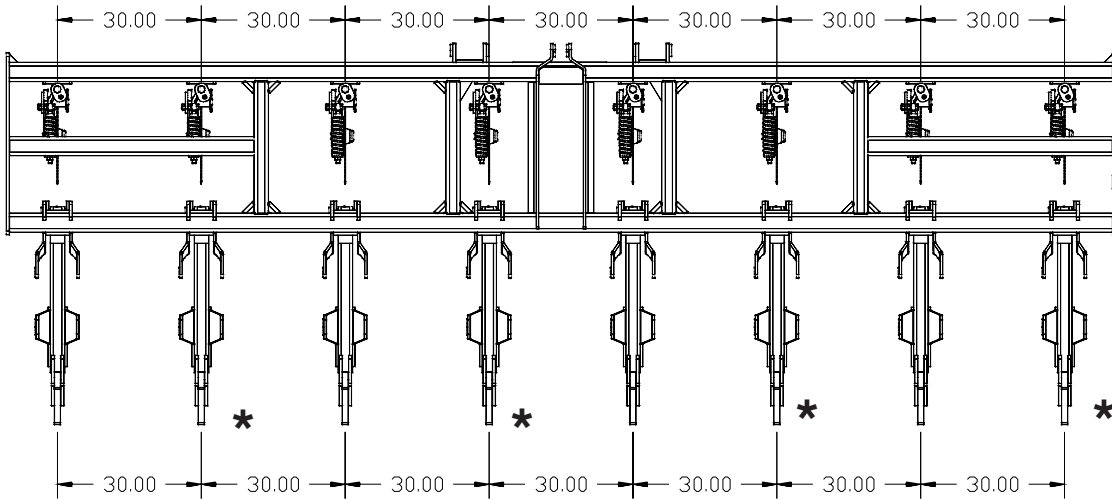
78662C

WIL-RICH 357 IR OPERATOR'S MANUAL 74189 6/12

SHANK AND COULTER PLACEMENTS

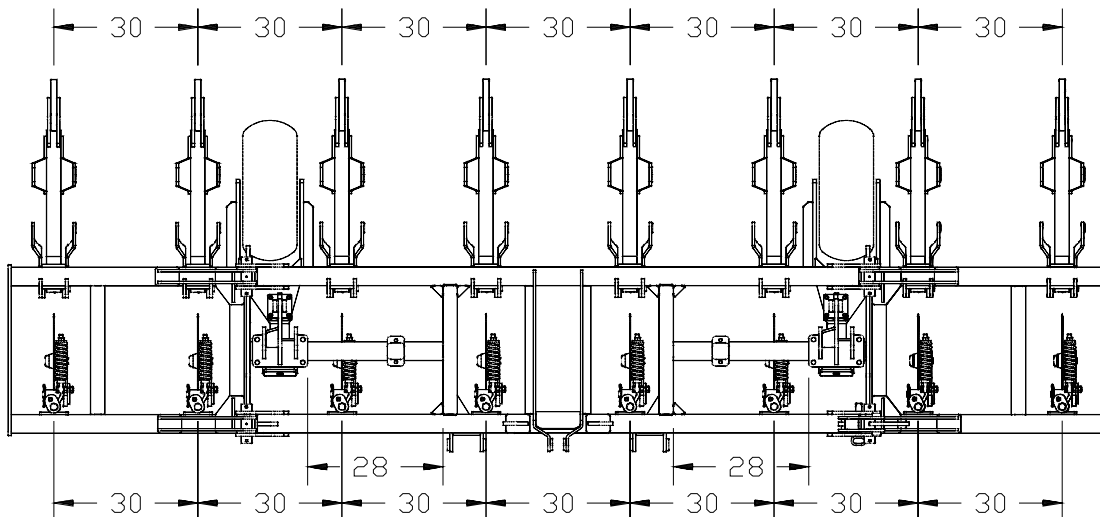
8 SHANK 357 IR (231.56" MAIN FRAME)

NOTE: (*) Shank extensions can be used in heavy trash conditions to stagger shank pattern. (Optional equipment).

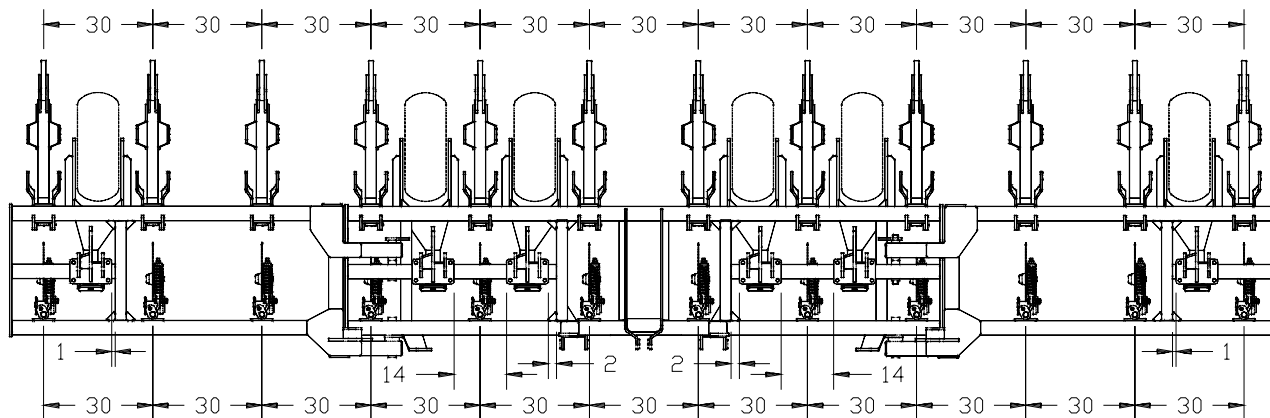


SHANK AND COULTER PLACEMENTS

8 SHANK 357 IR FOLDING



12 SHANK 357 IR FOLDING



TROUBLESHOOTING

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|-------------------------------|--|--|
| Unit will not go into ground. | Incorrect leveling of machine when at operating depth. Worn points. | See leveling, page 15. Replace point. |
| Shanks will not reset. | Not enough spring pressure. | Use optional front hole settings for spring assembly. See page 26. |
| Shearing shear bolts. | Working speed too fast. Too much spring pressure. | Slow down. Use optional front hole settings for spring assembly. See page 26. |
| Breaking points. | Working speed too fast. | Slow Down. |
| Unit bouncing side to side. | Too much weight on 3PT. | Lower gauge wheels. See page 22. |