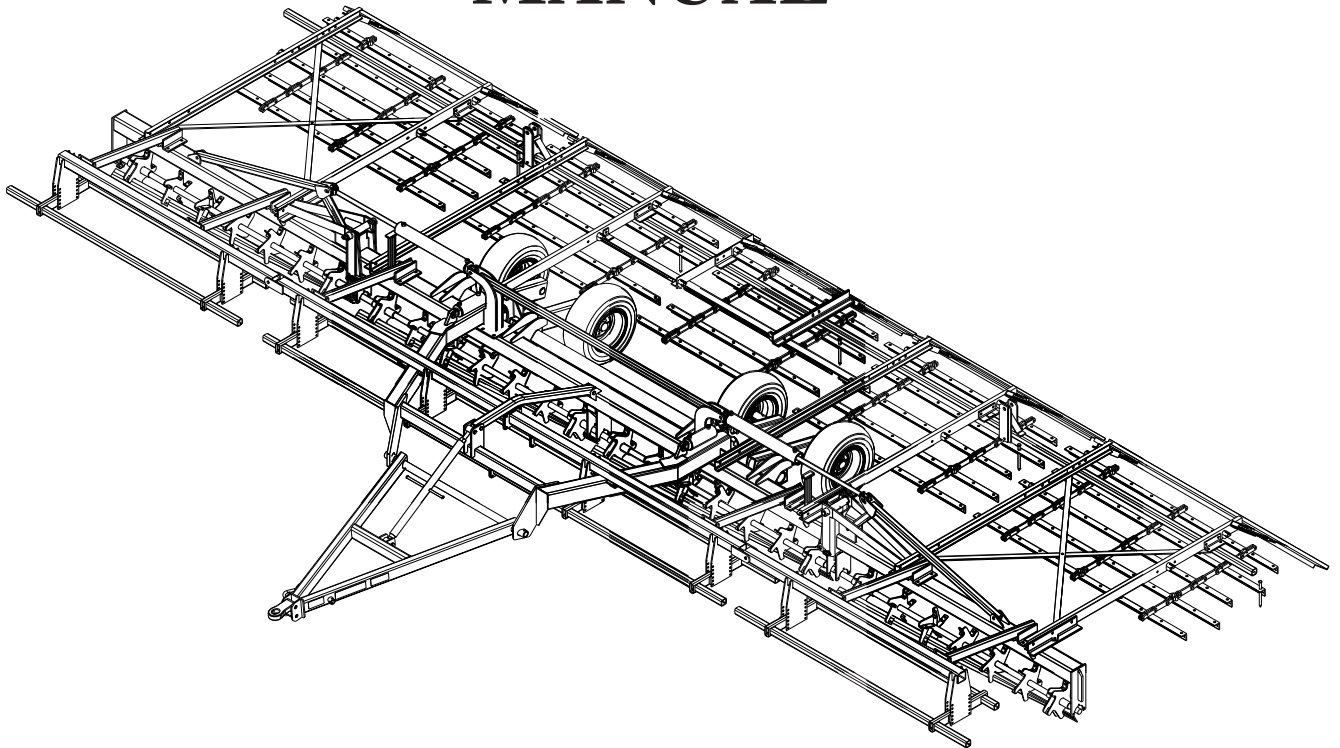




12 ROW 30 SEEDBED FINISHER

OPERATORS/ASSEMBLY/PARTS MANUAL



 **WIL-RICH LLC**

SERIAL # 455432 - CURRENT

Printed in USA (74331) WR - 10 - 11/11

PO Box 1030
Wahpeton, ND 58074
PH (701) 642-2621
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WIL-RICH, LLC

WARRANTY

Wil-Rich's products are warranted to the original non-commercial purchaser to be free from defects in material and workmanship for a minimum period of twelve (12) months from the original date of purchase.

Additional Field Cultivator Warranty: Wil-Rich warrants to the original purchaser of each new Wil-Rich Field Cultivator unit (Excel and QuadX), and Disk Field Cultivators that the product be free from defects in material and workmanship for the period of three (3) years on the main frames and shank assemblies. All other components are covered by the twelve (12) month warranty period.

Commercial Use: Warranty for commercial, rental or custom use of any Wil-Rich product is limited to 90 days, parts and labor.

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.*** 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 hydraulic hoses, hydraulic cylinders, hubs, spindles, engines, valves, pumps or other trade accessories are limited to the warranties made by the respective manufacturers of these components. Rubber tires and tubes are warranted directly by the respective tire manufacturer only, and not by Wil-Rich.

This warranty shall not be interpreted to render Wil-Rich liable for injury or damages of any kind or nature to person or property. This warranty does not include claims for, or extend to the loss or damage of crops, loss because of delay in seeding/planting or harvesting, or any expense or loss incurred for labor, substitute machinery, rental, and transportation expense or for any other reason.

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

WARRANTY CLAIMS PROCEDURE

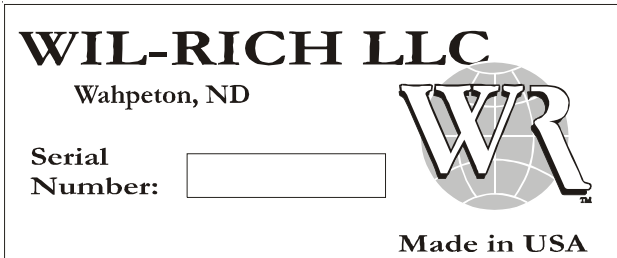
1. The warranty form must be returned to Wil-Rich within thirty (30) working days from the repair date.
2. Parts returned to Wil-Rich without authorization will be refused. The parts must be retained at the dealership for ninety (90) days after the claim has been filed. If the Service Department would 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.

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.

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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 main frame in the front left corner.

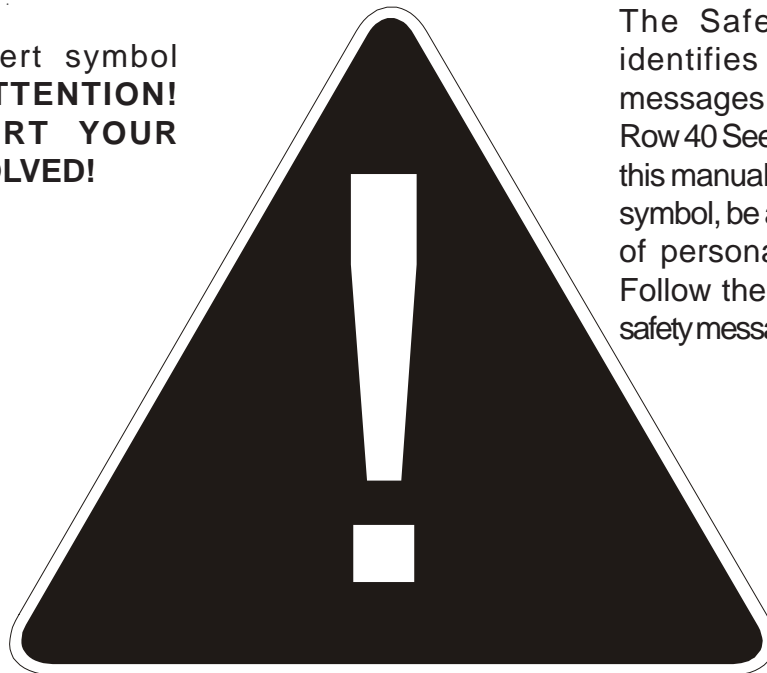
MODIFICATIONS

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.

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 12 Row 40 Seedbed Finisher 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

INTRODUCTION

GENERAL

SEEDBED FINISHER FEATURES

Rugged frame with channel and tubular steel members gives the strength needed to work behind big tractors at high speeds.

Two-rank Shank or Tine tooling; with 9" spacing pre-conditions the soil ahead of the cutting reels. They vibrate rapidly to shatter clods and mix soil and crop residue.

Folding-wing models; are equipped with hydraulic cylinders as standard. The wings may be locked rigid for leveling or may be allowed to float for better work in rolling field conditions.

Leveling crank; enables the operator to adjust the seedbed finisher to the tractor drawbar height as well as to transfer weight from reels to leveler boards as desired.

Spiral 5-blade reels; with blades of high quality plowshares steel for exceptional reliability, chop stalks and clods and thoroughly mix residue and soil.

Reel bearings; are cartridge-type, regreasable, triplesealed, self-aligning ball bearings (two per reel). Reel bearings are equipped with wear guards and grease fitting guards.

Heavy-duty spike-tooth center sections; have five ranks of teeth that further pulverize and loosen soil. Chain suspension linkage keeps working depth constant across the entire width of cut - even in rough terrain.

Transport wheels; are used for depth control of the reels and raising the machine for fast turns in the field and convenient road transport

NOTE: The 12 row pull type machine is equipped with 4 each, 11L-15 tires as standard equipment. The tires are mounted in pairs on a walking axle system that equalizes the weight on the tires. The wheel tread on the inside wheels is 75" center to center with the outer wheels 43" outside the inner wheels.

Metal leveling boards; are mounted on leaf springs and are reversible for longer life.

The recommended tractor drawbar height for average conditions is 16-18 inches. Tractor horsepower requirements is 30-40 hp for each 2-row unit with recommended operating speed at 6-8 mph.

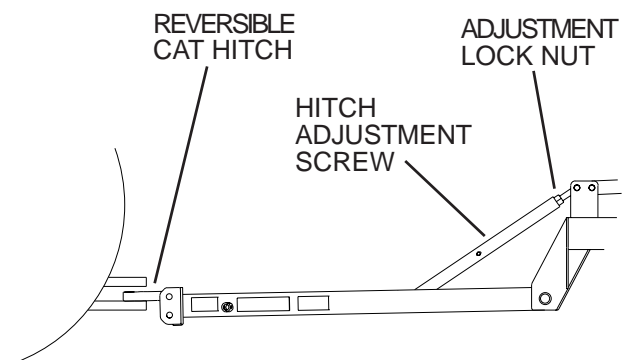


CAUTION: Care must be exercised when hitching the seedbed finisher to the tractor to prevent injury to the hands or fingers.

HITCH ADJUSTMENT

For proper performance, the hitch adjustment screw should be adjusted so that the seedbed finisher frame is level in operation. (see figure 1)

FIGURE 1:



The seedbed finisher is equipped with a heavy-duty cat hitch only. The cat hitch can be assembled with the tongue to the top or bottom(see figure 1). Remove the hitch bolts and rotate if additional leveling adjustment is required.

FRAME AND REELS

Check and tighten all frame bolts securely after the first day of operation.

TINE AND SHANK UNITS

Check and tighten all bolts securely on your unit.

During the first few weeks of operation check all bolts periodically and retighten as required paying special attention to the reel assembly.

DEPTH CONTROL

Depth control is maintained by adjusting the main lift cylinder screw collar. Turn the collar to set the operational depth of the unit. Adjust the screw stops equally on both main lift cylinders; utilize additional stop collars if more adjustment is needed.

HITCH SAFETY CHAIN

When transporting on public roadways, the safety chain package provided must be used.

It is recommended that a safety hitch pin be used. The safety hitch pin is available from your dealer.

SAFETY

Safety decals appear at various locations on your machine. These 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 your dealer.

BEFORE OPERATING

Use extreme care when making adjustments.

When working under or around the machine always lower shanks to the ground.

After servicing, be sure all tools, parts, or servicing equipment is removed from the machine.

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

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.



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

HYDRAULICS

Inspect all hydraulic hoses and fittings for cracks and abrasions at least once a year. Tighten or replace as needed.

When connecting the hoses to the cylinders, tubing, or fittings; always use one wrench to prevent the hose from twisting and another wrench to tighten the union. Excessive twisting will shorten the hose life.

Do not over-tighten hydraulic fittings, excessive torque may cause them to crack.

Care must be taken to prevent twisting when tightening hose connections. Straighten any hose that appears twisted immediately. A twisted hose can burst under pressure.

Hydraulic fluid escaping under pressure can have enough force to penetrate the skin. Hydraulic fluid may also infect a minor cut or opening in the skin. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can result if medical treatment is not given immediately. Make sure all connections are tight and that hoses and lines are in good condition before applying pressure to the system. To find a leak under pressure use a small piece of cardboard or wood. **NEVER USE YOUR HAND!**

ON-HIGHWAY OPERATION

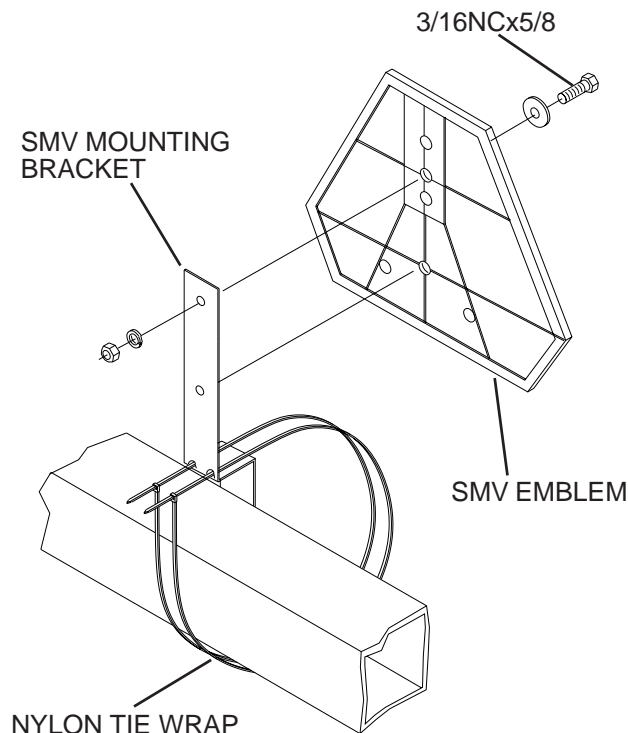
Always place the machine in the transport position. (see page 9 & 10)

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

Reduce road speed on corners.

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

A S.M.V. emblem must be used at all times while traveling on public roads.



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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 practical.

The emblem is to be 2 to 6 feet above the ground, measured from the lower edge of the emblem.

The use of flashing warning lights and turn signals is recommended when pulling this implement on public roads.

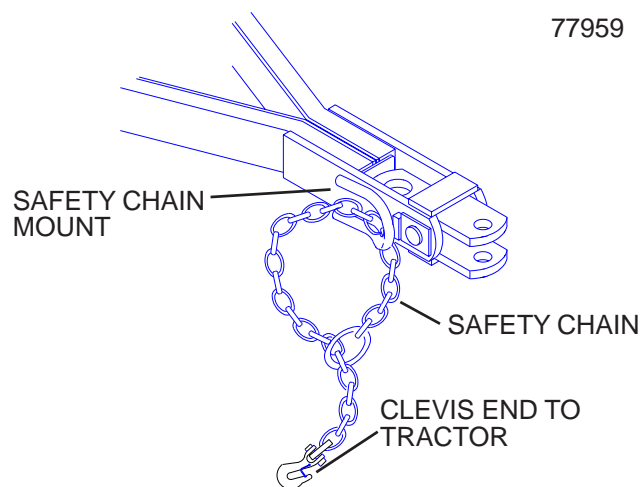
This lighting package conforms to A.S.A.E. standard S279.8 for lighting of towed agricultural implements on highways.

Tractor must be equipped with a seven plug connector per A.S.A.E S279.8 to accommodate this lighting package. This is a standard feature on most newer tractors. Refer to the tractor manufacturer for older model tractors.

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.

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

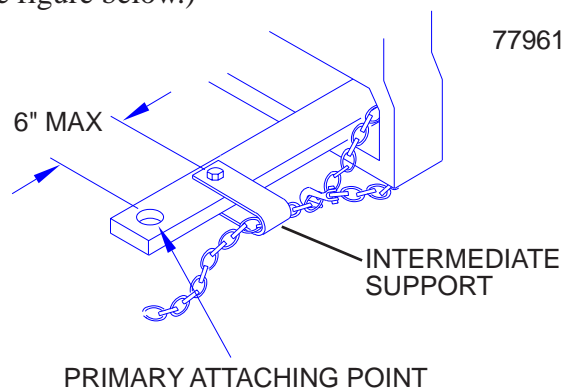
The safety chain should be hooked long enough to permit full turns. Unnecessary slack should be taken up.



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

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

(See figure below.)



PREPARATION

Before using the Seedbed Finisher a careful inspection must become routine. A check must be made to insure that all hardware is securely tightened and moving parts properly lubricated.

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

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

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








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

Bolts with no markings are grade 2

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

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

All U-bolts are grade 5.

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

TORQUE.EPS



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.

40105

TIRE INFLATION

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

Initial tire pressure should be set at 40PSI for the 11L-15, 8 ply tires and 30PSI for the 7.60x15 on the gauge wheels.

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

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

NOTE: DO NOT OVERINFLATE TIRES.

WHEEL BOLTS

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

HYDRAULICS

Check lift and wing folding linkages and cylinders for proper alignment and operation. On new machines check that the hydraulic system to be sure the fittings are tight.

LUBRICATION

Make sure the seedbed finisher is properly lubricated. See maintenance on page 13.

BEARING ASSEMBLIES

IMPORTANT - The spindle nut on all hub and spindle assemblies is preset at the factory. Road transport and field working will seat the bearings and may require additional adjustment. After 20 hours of machine operation remove the dust cap and check the bearing tightness of all hub and spindles. Remove the cotter pin and rotate the tire while tightening the spindle nut. Tighten until the drag in the tire assembly stops the tire rotation.

Locate the cotter pin hole in the spindle and loosen the spindle nut enough to allow insertion of the cotter pin. Replace cotter pin and dust cap.

TRACTOR PREPARATION

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

When using a seedbed finisher, the tractor drawbar must always be pinned in the center to allow for more stability.

NOTE: CHECK YOUR TRACTOR'S HYDRAULIC FLUID LEVEL AFTER CYCLING HYDRAULICS AND FILLING NEW CYLINDERS AND LINES. REFILL IF NECESSARY.

HITCHING

Utilize the jack to raise and support the hitch.

After backing your tractor into position, attach the hitch to the tractor drawbar, using a hitch pin of the adequate strength for the tractor - implement combination. Lock the pin in place to prevent loss (particularly when transporting). The safety chain must be used for road transport.

Connect the seedbed finisher's hydraulic hoses to the proper couplers in your tractor.

TRANSPORTING

A S.M.V. (Slow Moving Vehicle) emblem must be used at all times while traveling on public roads.

NOTE: BEFORE RAISING OR LOWERING WINGS, BE SURE WING LOCK PINS HAVE BEEN REMOVED AND PROPERLY STORED.

NOTE: USE EXTREME CAUTION WHEN WORKING AROUND OVERHEAD POWER



WARNING

Avoid injury from the upward movement of the hitch when unhitching from the tractor.

Lower the implement to the ground and relieve the hydraulic pressure before unhitching from the tractor.

TRANSMISION LINES.

NOTE: SET TRACTOR THROTTLE TO IDLE WHEN UNFOLDING WINGS.

NOTE: ALWAYS INSTALL CHANNEL LOCKS IN THE MAIN LIFT CYLINDERS FOR ROAD TRANSPORT.(See Fig. 2)

NOTE: ALWAYS PLACE THE MACHINE IN THE TRANSPORT POSITION, ALWAYS USE THE CYLINDER CHENNEL LOCKS. (See Fig. 2) NEVER DEPEND ON YOUR TRACTOR'S HYDRAULIC SYSTEM TO CARRY THE WEIGHT OF THE IMPLEMENT WHILE TRANSPORTING.

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

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

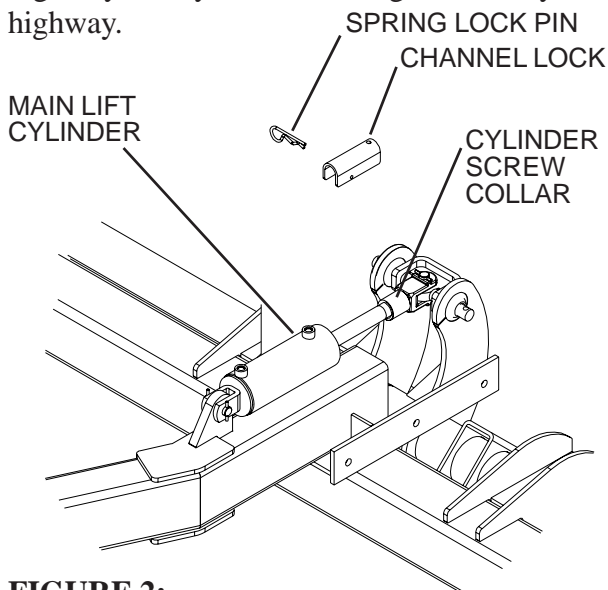
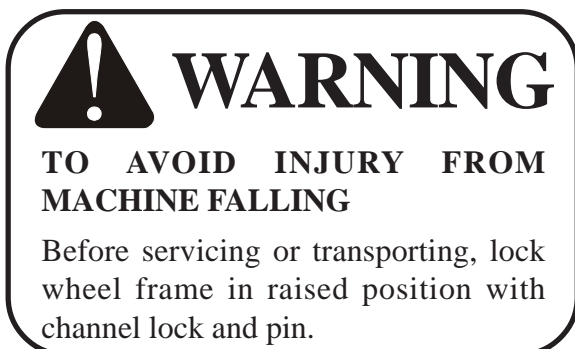


FIGURE 2:



When transporting, extend the hydraulic cylinder fully and install the cylinder channel lock as shown.

Before attampting to operate the hydraulic cylinder or when preparing for field operation, be sure to remove the channel lock from the hydraulic cylinder.

MAIN FRAME DEPTH ADJUSTMENT

The main frame depth on the Seedbed Finisher is regulated by a pair of hydraulic cylinders located at the front corners of the machine.

Depth control is maintained by adjusting the main lift cylinder screw collar. Turn the collar to set the operational depth of the unit.

NOTE: EACH TIME THE DEPTH OF THE MACHINE IS CHANGED BY ADJUSTING THE STOP COLLARS, THE MACHINE MUST BE LEVELED AGAIN, FROM FRONT TO REAR BY USING THE HITCH ADJUSTMENT SCREW (SEE FIG 1 ON PAGE 5)

NOTE: THE CYLINDER STOPS MUST BE SET EQUALLY ON THE 2 MAIN LIFT CYLINDERS. FAILURE TO DO SO CAN TWIST THE MAIN AXLES AND/OR FRAME.

WING ADJUSTMENTS

The operational depth of the wing is controlled by the main frame setting.

The wings are leveled to the main frame at the front and rear hinge area. (See Fig 3) Set the level at the front by rotating the stop pin weldment and stop flat as required to level the wing with the main frame. Use the mulit-thickness shims at the rear hinge to set the level of the rear. The wings can be locked in the level position or they can be allowed to float up. To allow the wings to float, remove any lock pins and set the tractor hydraulic wing fold circuit to float mode.

SPIKE TOOTH HARROW

Make certain to remove both front and rear lock down pins before attempting to fold the outer wings.

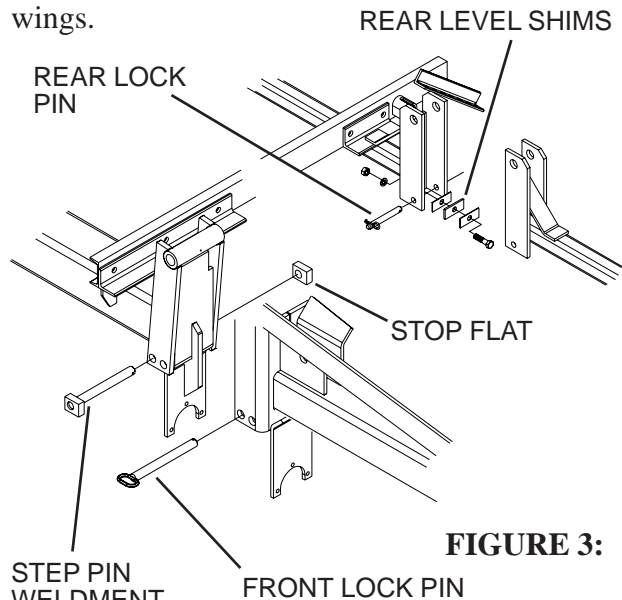
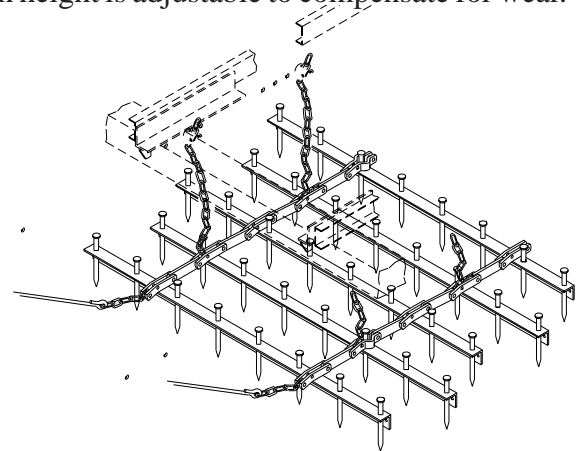


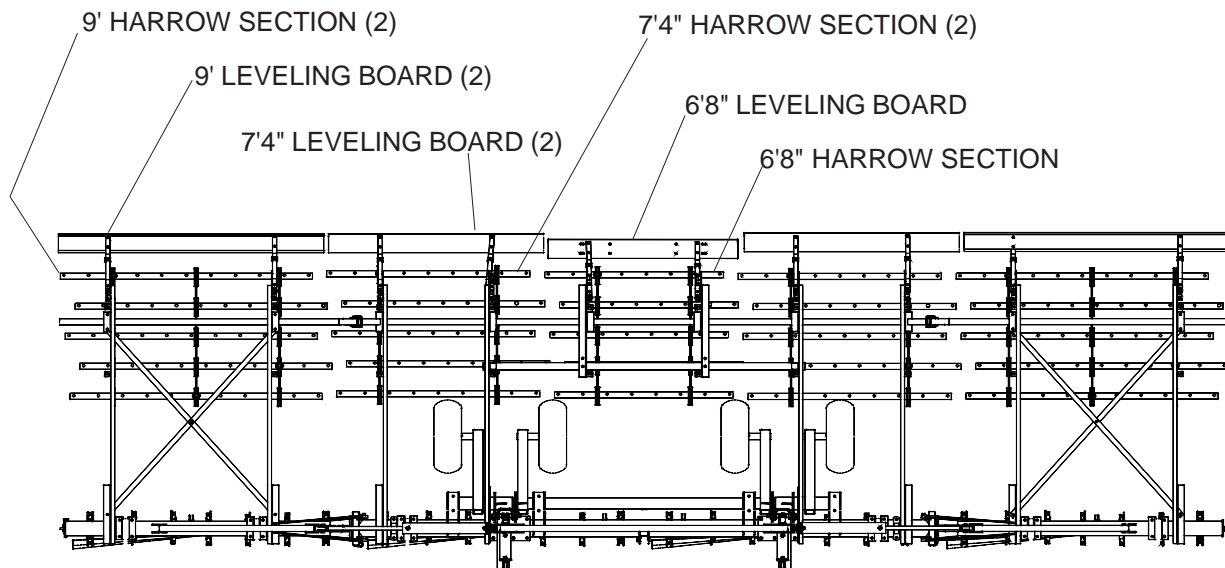
FIGURE 3:

NOTE: FOR THE WINGS TO FLOAT THE TRACTOR HYDRAULICS MUST BE IN THE FLOAT POSITION.

Adjust all the chains equally. On hanger chains for spike-tooth sections, leave one or more links of slack to allow the harrow to flex. The spike tooth height is adjustable to compensate for wear.



NOTE: SPIKES ON THE FIRST ROW OF THE HARROW, BEHIND THE TIRES, SHOULD BE REMOVED TO PREVENT TIRE PUNCTURE.



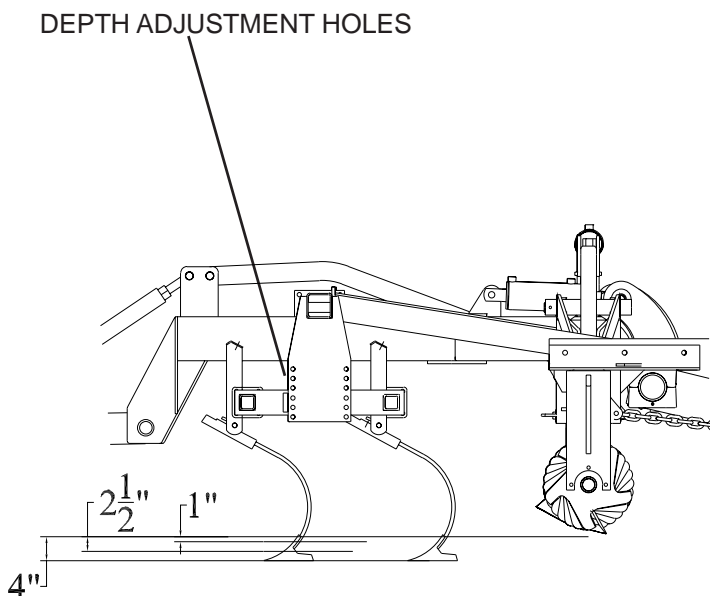
DANGER

STAND CLEAR AT ALL TIMES:

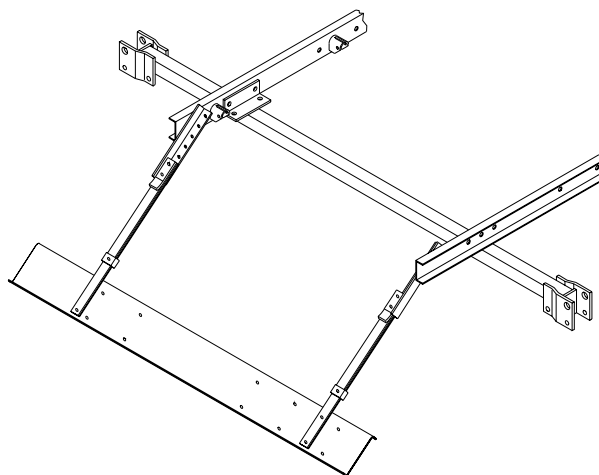
- Never walk or stand in the path of the wings.
- Completely lower the wings before performing service or adjustments.
- Failure to do so will result in serious injury or death.

TINE AND SHANK DEPTH ADJUSTMENT

The front shank attachment is designed to mount the standard WIL-RICH field cultivator shank or Danish tine shank. Refer to page 28 for placement of the shanks on the front attachment. The attachment shank mount frames can be positioned in one of three depth positions, setting the sweeps at approximately 4", 2-1/2", and 1" below the bottom of the reel blades. Loosen; remove and position the shank mount frames in the desired location.



LEVELING BOARD



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Recommended starting position for leveling boards. This position will keep the boards level with the ground.

Keep the frame as level as possible.

The leveling boards are reversible for longer life.



CAUTION: Carry weight of the machine on transport wheels whenever possible in order to save the boards from abnormal abuse.

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.

CYLINDER SHAFTS

If cylinder shafts are left exposed for any extended period of time, they must be coated with grease to protect them from rust and corrosion.

1. HUB & SPINDLE ASSEMBLIES

Each hub and spindle assembly comes with a grease fitting installed in the hub. These should be greased once a week during steady use.

CAUTION - HUB AND SPINDLES ARE NOT FILLED WITH GREASE FROM FACTORY. THEY MUST BE FILLED PRIOR TO USE TO ENSURE LONG LIFE.

2. Hinge

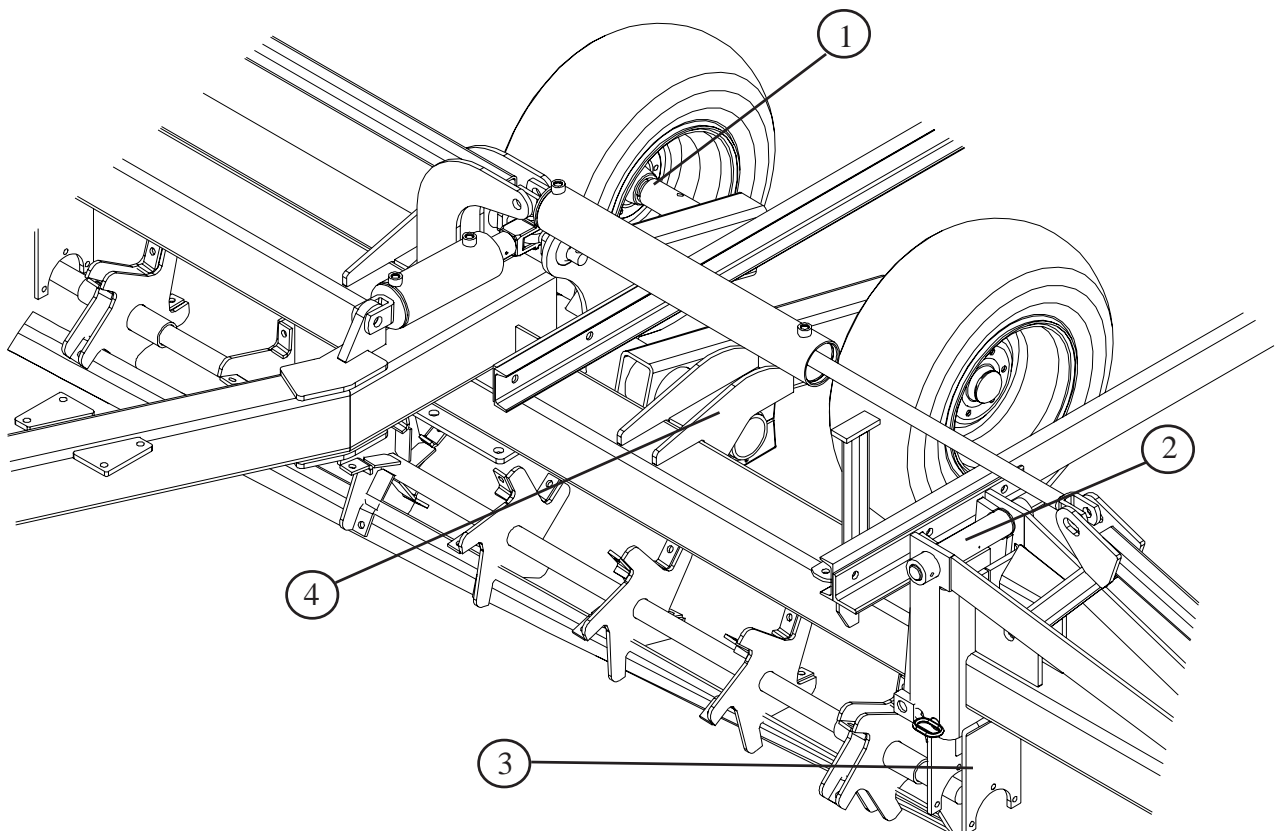
Each wing has one grease fitting which is greaseable only when the wing is UNFOLDED. These should be greased every 50 hours.

3. REEL BEARINGS

Each reel has 2 grease fittings protected by a grease fitting guard. These should be greased every 100 hours.

4. AXLE CLAMPS

All axle clamps must be greased once a day with a good quality grease. Lower machine onto the shovel points to relieve pressure on the clamps to make greasing easier.



STORAGE

NOTE: IF POSSIBLE STORE YOUR SEEDBED FINISHER INSIDE.

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

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

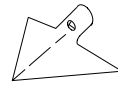
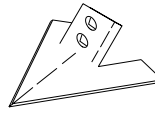
Thoroughly lubricate all grease fittings at the end of the season's use and again before the first operation of the next season.

Avoid possible damage to the hydraulic system by lowering the machine onto the shanks and relieve the pressure on the system. Doing this will also prevent damage to the tires by removing the seedbed finisher's weight.

Coat the shovels with grease and place boards under the points to prevent the shovels from settling into the ground.

OPTIONAL EQUIPMENT

9" SWEEP



7" SHOVEL

Shovels should be used for general tillage, seedbed preparation and weed eradication.

Spikes are recommended for deep penetration, hard soil conditions, killing of quack grass and other grassy weeds, and also for general tillage. These spikes are reversible for longer wear.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Poor or uneven penetration.	Incorrect leveling adjustments on main frame or wings.	See leveling, page,
	Hydraulic malfunction-air in lines cylinders or hoses leaking or not installed properly.	Check for oil leakage in cylinders, hoses and fittings. Make sure all hydraulic cylinders and hoses are properly connected.
	Worn shovel points	Replace shovels if wear is severe.
	Tires not equally inflated.	See tire inflation, page
Settling of entire implement from raised position.	Leaking cylinder.	Replace cylinder seals.
	Leaking tractor hydraulic control valve.	See tractor manual.
Wings lowering too rapidly.	Incorrect cylinder installed, should have 1/16" dia. integral restrictor cylinder.	See wing lift circuitry in assembly manual and install correct cylinder.
Machine will not pull straight, (skewing)	Seedbed finisher not level	See leveling page
	Incorrect shank placement	Check shanks for proper location, see Assembly manual.
	Tires not equally inflated.	See tire inflation, page

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 seedbed finisher 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

DECALS

DECAL KIT PART NUMBER - 55831

REF SYMBOL	DECAL
A	WIL-RICH 1400
2-7/8" HEIGHT	B
C	
D	WIL-RICH 1400
2" HEIGHT	E
F	1400

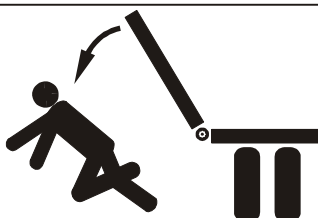
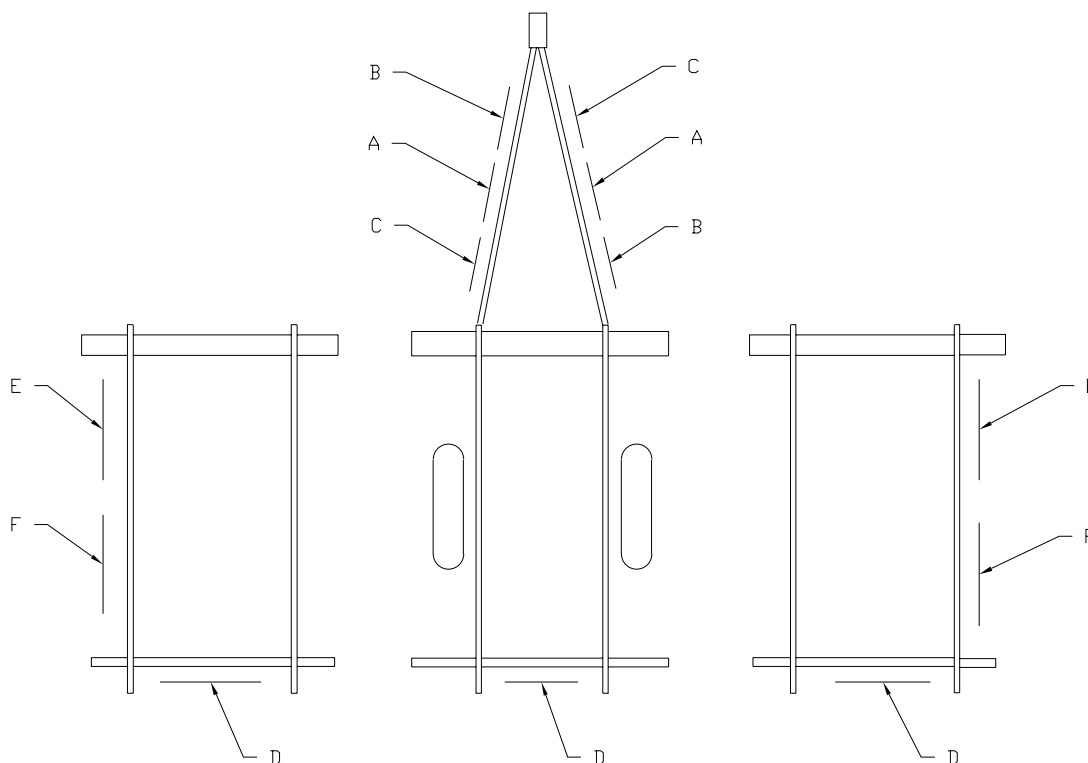
NOTE: Cut 2-7/8" WIL-RICH 1400 between letters and numbers to get (A) & (B). Ref letters (F) & (G) are created by cutting (E) in half.

Decals should be applied to the outer most frame members when implement is in field position only.

It is recommended the decals be mounted after implement is fully assembled to avoid possibility of being obscured from view by shanks and/or attachments.



NOTE: Decals should be applied to machine when temp is greater than 32°F (0°C)



DANGER

STAND CLEAR AT ALL TIMES:

- Never walk or stand in the path of the wings.
- Completely lower the wings before performing service or adjustments.
- Failure to do so will result in serious injury or death.

LIGHT PLACEMENT

64597 - 35' FLAT WIRE HARNESS

223145 - AG MODULE ASSY

**NOTE: ROUTE WISHBONE
THRU LIGHT ARMS**

223143 -
AMBER
LIGHT(2)

223146 - WISHBONE 4 LEAD

(4 PLACES)

223126 - LIGHT BRACKET

88203 - 1/4NCx1" BOLT (4)

88702 - 3/8NCx3/4" SET SCREW

88103 - 3/8NC NUT

223144 - RED LIGHT (2)

LEFT

(2 PLACES)

235473 - EXTENDED BASE

88386 - 3/8NCx2-1/2x3-1/4 U-
BOLT

(2 PLACES)

223130 - SHORT BASE

88386 - 3/8NCx2-1/2x3-1/4
U-BOLT

**IMPLEMENT
REAR BAR**

RIGHT

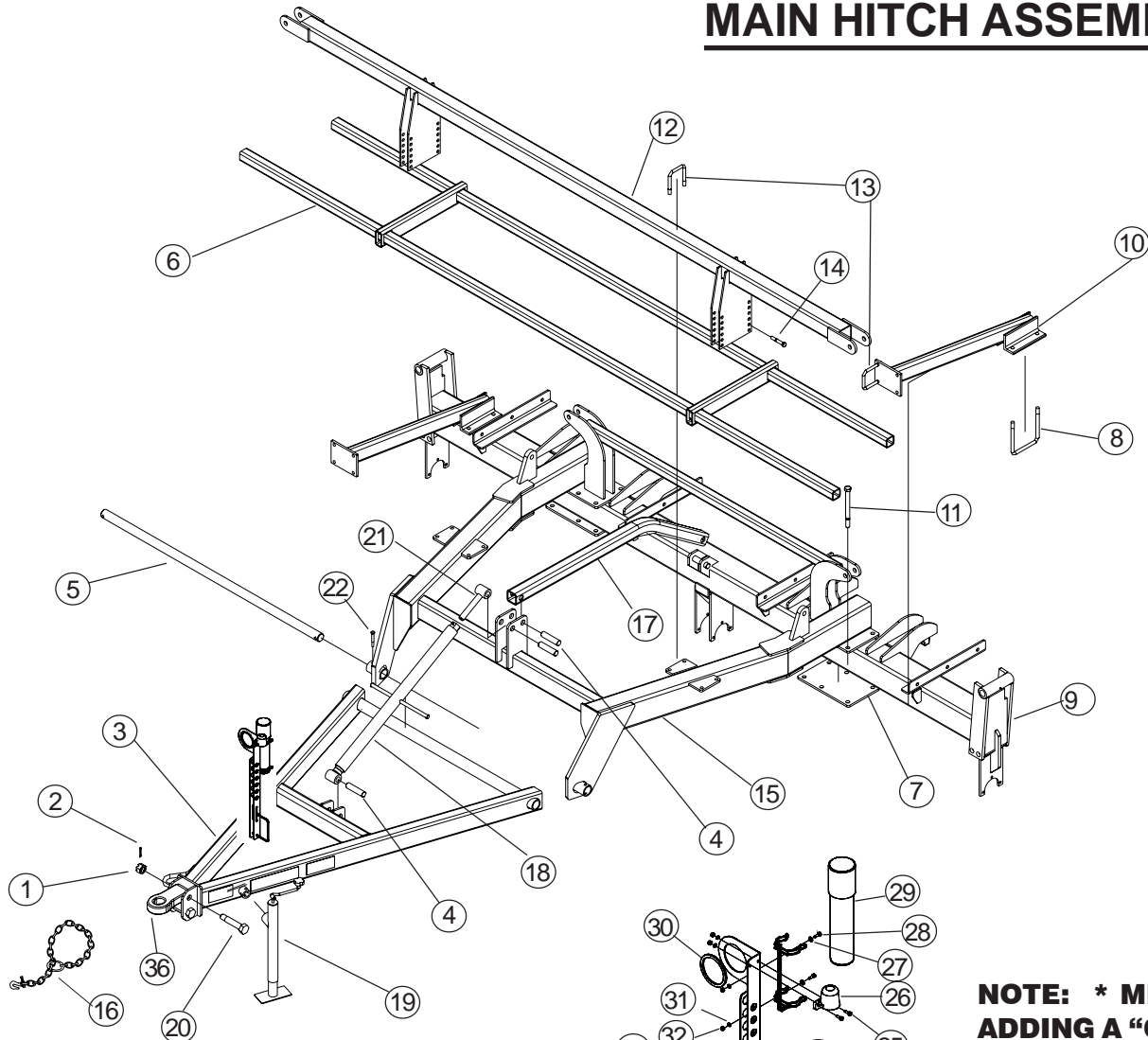
223140 - 12x12 LIGHT ARM

223132 - 26x36 LIGHT ARM

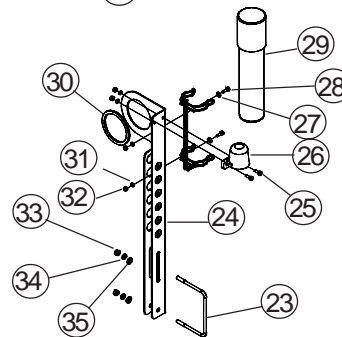
48" - 120"
CENTERED

**SET AMBER LIGHTS AS WIDE AS POSSIBLE. MUST
BE WITHIN 16" OF EXTREMITYS.**

MAIN HITCH ASSEMBLY



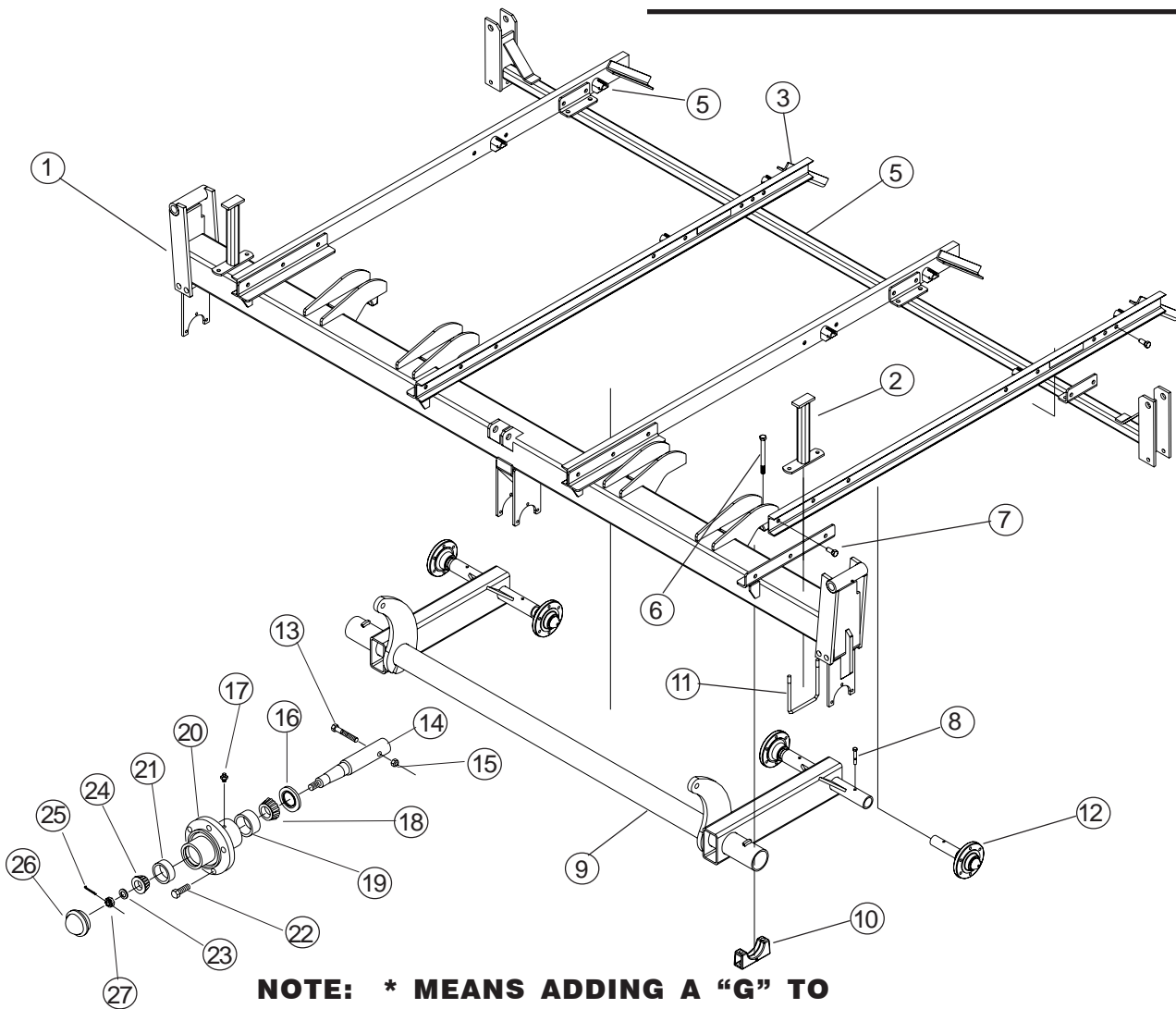
ITEM	PART #	DESCRIPTION
1	88350	1-1/4NC SLOTTED NUT
2	88133	3/16x2 COTTER PIN
3	*222924	MAIN HITCH
4	68031	HEADLESS PIN 1-1/4x5.12
	42484	1/4 X 2-1/4 ROLL PIN
5	*235258	HITCH PIVOT SHAFT
6	*239543	CENTER R. FNT. ATT.
7	*235260	HITCH BASE PLATE
8	23185	3/4NCx7x8-1/2 U-BOLT
	88130	WSHR HLK 3/4ID(13/16ACT) Z
	88110	NUT HEX 3/4-10NC 5Z
9	*239514	PULL TYPE MAINFRAME
10	*222954	CENTER ATT. ARM
11	88843	7/8NCx10" BOLT
	88371	NUT HEX 7/8-9NC 5Z
	88341	WSHR HLK 7/8ID(15/16ACT) Z
12	*239538	CENTER ATT TOP TUBE
13	88145	5/8NCx4x5-1/4 U-BOLT
	88126	NUT HEX 5/8-11NC 5Z
	88129	WSHR HLK 5/8ID(11/16ACT) Z
14	88793	5/8NCx3-3/4 BOLT
	88126	NUT HEX 5/8-11NC 5Z
	88129	WSHR HLK 5/8ID(11/16ACT) Z
15	*239508	MAIN HITCH FRAME
16	55174	SAFETY CHAIN
17	*239544	PULL MAST TUBE
18	*68036	ADJUSTOR ASSY



**NOTE: * MEANS
ADDING A "G" TO
PAINTED PART
NUMBERS
DENOTES GREEN
PAINT.**

ITEM	PART #	DESCRIPTION
19	24415	JACK
20	11638	HITCH BOLT
21	68026	ADJUSTMENT SCREW
22	88507	1/2NCx3-1/2" BOLT
	88363	NUT 2POS LK 1/2-13NC 5Z
23	89069	3/8NCx5x4 U-BOLT
24	236142	HYD HOSE BRACKET
25	88203	1/4x1 BOLT
26	223329	LIGHT PLUG HOLDER
27	88261	1/4 FLAT WASHER
28	88993	1/4x3/4 BOLT
29	234313	MANUAL TUBE & HOLDER
30	236092	RUBBER EDGING
31	88262	1/4 LOCK WASHER
32	88172	1/4 NUT
33	88103	3/8 NUT
34	88362	3/8 LOCK WASHER
35	88282	3/8 FLAT WASHER
36	18236	CAST DUAL HITCH

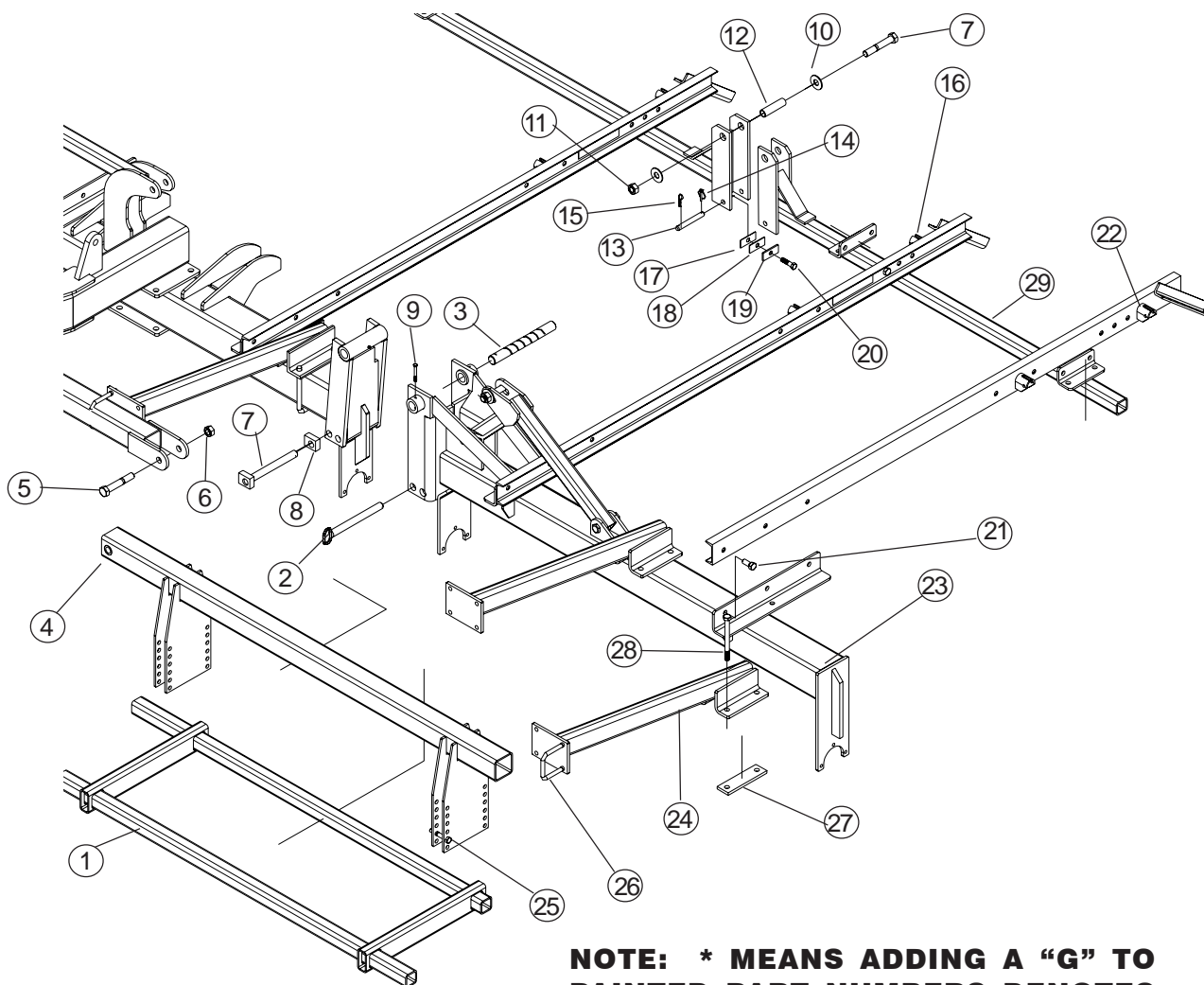
MAIN FRAME WITH AXLES



**NOTE: * MEANS ADDING A "G" TO
PAINTED PART NUMBERS DENOTES
GREEN PAINT.**

ITEM	PART #	DESCRIPTION	ITEM	PART #	DESCRIPTION
1	*239517	PULL TYPE MAIN HITCH	12	14131	2" HUB & SPINDLE ASSY
2	*233989	WING REST	13	88429	1/2NFX3-1/4" BOLT
3	*30998	LEFT SIDE FRAME	14	14251	2" AXLE SPINDLE
4	*30999	RIGHT SIDE FRAME	15	88304	1/2NF LOCK NUT
5	*239532	REAR BAR	16	58546	2" TRIPLE LIP SEAL
6	88403	BLT HEX 3/4-10NC X 8 5Z	17	88263	1/8NPT GREASE FITTING
	88110	3/4" NC NUT	18	14248	1-5/8ID BEARING CONE (LM501349)
	88130	3/4" LOCK WASHER	19	14249	2.891OD BEARING CUP (LM501310)
7	88405	3/4NCx1-3/4" BOLT	20	24097	2" PRESSED HUB W/ CUPS
	88110	3/4" NC NUT	21	10344	2.328OD BEARING CUP (LM67010)
	88130	3/4" LOCK WASHER	22	88142	1/2NFX1 WHEEL BOLT
8	88429	1/2NFX3-1/4" BOLT	23	16094	7/8ID SPINDLE WASHER
	88304	1/2"NF LOCK NUT	24	10345	1-1/4ID BEARING CONE (LM67048)
9	*236526	MAIN AXLE	25	88301	3/16x1-1/2 COTTER PIN
10	*34132	AXLE CLAMP ASSEMBLY	26	11381	DUST CAP
11	89351	5/8NCx7x8-1/2" U-BOLT	127	88340	7/8NF SLOTTED NUT
	88129	5/8" LOCK WASHER			
	88126	5/8"NC NUT			

BASE WING ASSEMBLY



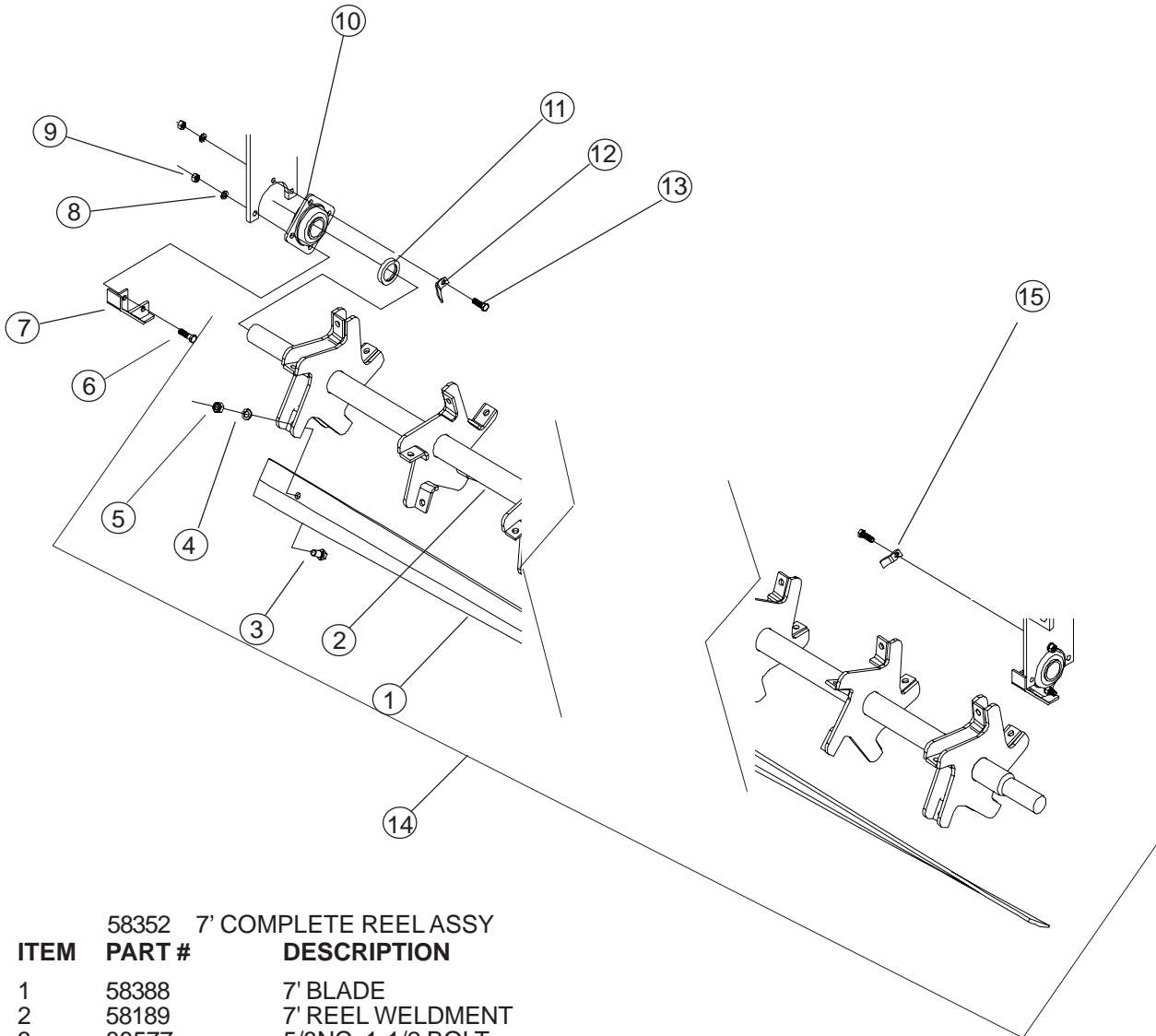
NOTE: * MEANS ADDING A "G" TO PAINTED PART NUMBERS DENOTES GREEN PAINT.

ITEM	PART #	DESCRIPTION
1	*239540	FRONT WING ATT. FRAME
2	23023	HITCH PIN 1-1/8x10-27/32
3	23024	HEADLESS PIN 1-9/16x12-27/32
4	*239536	WING ATT. TOP TUBE
5	88264	1"NCx6 BOLT
6	88658	1"NC TOP LOCK NUT
7	31383	CLEVIS PIN 1-1/8x9-23/32
8	31386	STOP FLAT
9	88531	3/8"NCx3 BOLT
	88162	3/8"NC LOCK NUT
10	88196	1" FLAT WASHER
11	88658	1" NC TOP LOCK NUT
12	30335	HINGE BUSHING
13	30146	HEADLESS PIN 3/4x4-11/16
14	23013	1/4x1-1/4 CLICK PIN
15	23039	2.69" COTTER HAIR PIN
16	*30998	LEFT SIDE FRAME
17	30129	1/8" SHIM
18	30140	STOP BAR
19	30145	1/16" SHIM
20	88409	5/8NCx2-1/2" BOLT
	88126	NUT HEX 5/8-11NC 5Z
	88129	WSHR HLK 5/8ID(11/16ACT) Z

ITEM	PART #	DESCRIPTION
21	88405	3/4NCx1-3/4" BOLT
	88110	NUT HEX 3/4-10NC 5Z
	88130	WSHR HLK 3/4ID(13/16ACT) Z
22	*30999	RIGHT SIDE FRAME
23	*239521	PULL TYPE WING LEFT (SHOWN)
	*239520	PULL TYPE WING RIGHT
24	*222932	PULL WING ATT. ARM (6" MNT)
25	88793	5/8NCx3-3/4" BOLT
26	88145	5/8NCx4x5-1/4 U-BOLT
27	*235156	TIE STRAP
28	88403	3/4NCx8" BOLT
29	*239534	12R30 REAR WING BAR

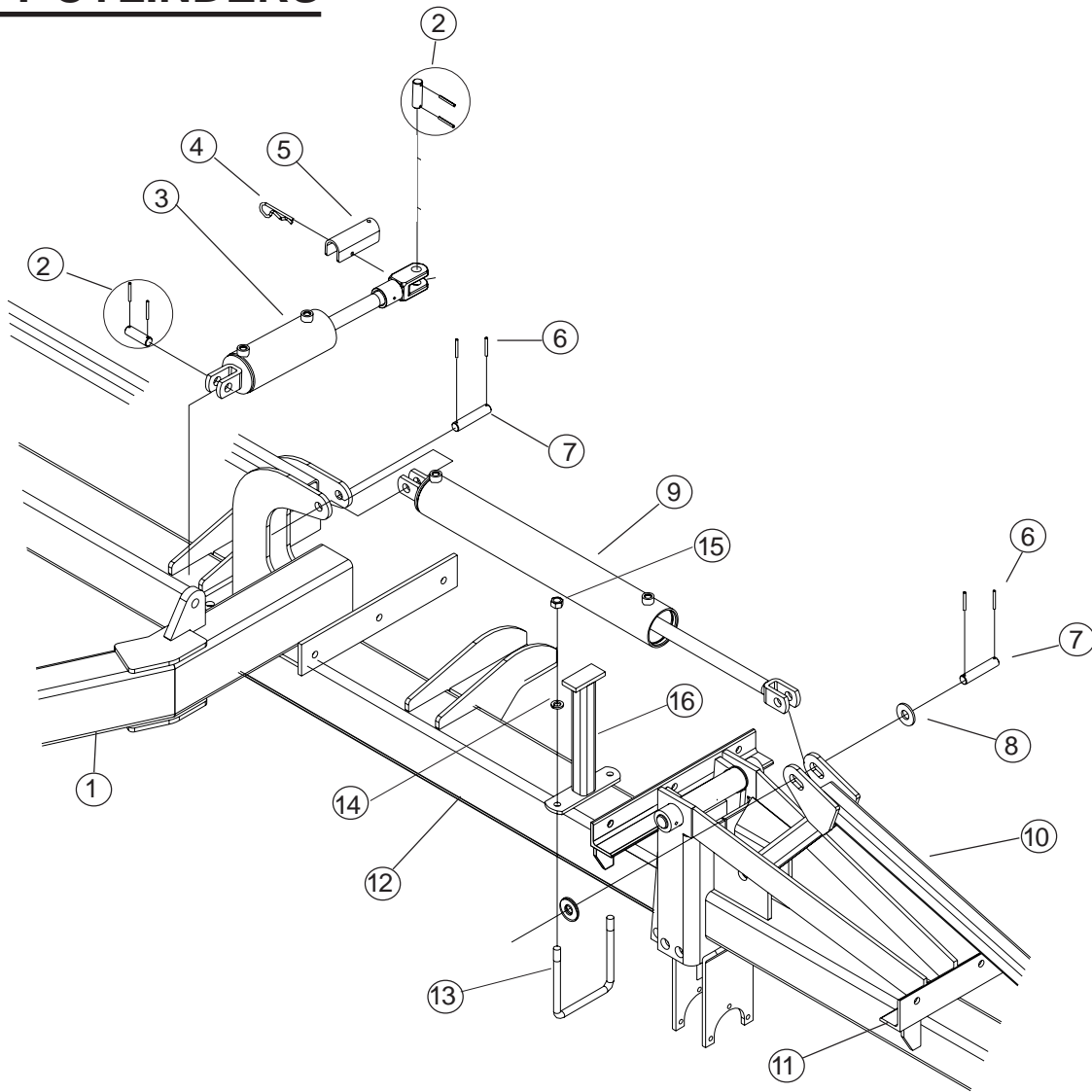
REEL ASSEMBLY

FOR WINGS & CENTER



ITEM	58352	7' COMPLETE REEL ASSY
ITEM	PART #	DESCRIPTION
1	58388	7' BLADE
2	58189	7' REEL WELDMENT
3	88577	5/8NCx1-1/2 BOLT
4	88129	5/8" LOCK WASHER
5	88369	5/8"NC NUT
6	88517	1/2NCx1-3/4 BOLT
7	236893	BEARING GAURD
8	88303	1/2" LOCK WASHER
9	88104	1/2"NC NUT
10	30185	FLANGE BEARING
11	30186	BEARING LOCKING COLLAR
12	33804	RIGHT GREASE FITTING GAURD
13	88475	1/2NCx1-1/2 BOLT
14	58352	7' REEL ASSY (ITEMS 1-5)
15	33803	LEFT GREASE FITTING GAURD

LIFT CYLINDERS

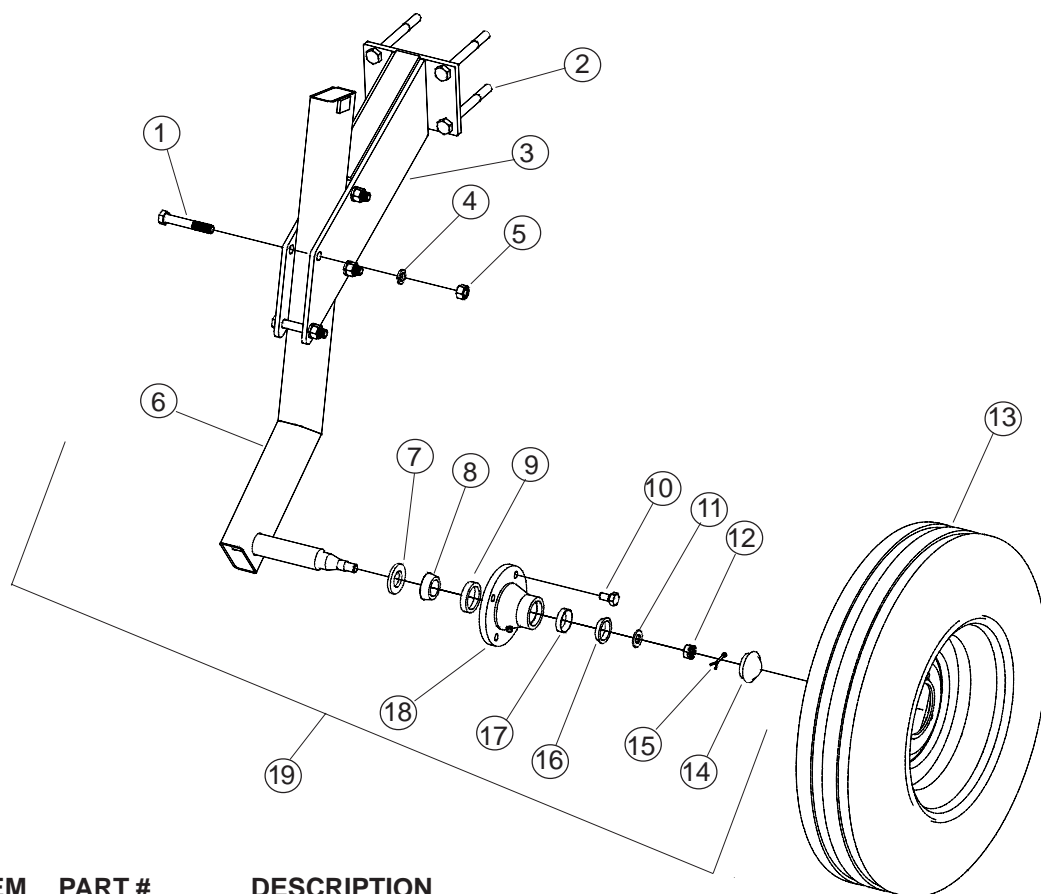


ITEM	PART #	DESCRIPTION
1	*222916	MAIN HITCH FRAME
2	NPN	PROVIDED IN 4X12 CYLINDER
3	234764	4x12 HYDRAULIC CYL (TRANSPORT)
	222038	SEAL KIT
4	42721	1/4x5" SPRING LOCK PIN
5	236900	2" CYL CHANNEL LOCK
6	42484	1/4x2-1/4 ROLL PIN
7	222338	1x4-1/8" HEADLESS PIN
8	88196	1" FLAT WASHER
9	51226F	4x24 HYRAULIC CYL (WING)
	233730	SEAL KIT
10	*239525	WING FOLD BRACKET
11	*233195	WING - LEFT (SHOWN)
	*233196	WING - RIGHT
12	*222910	MAIN FRAME
13	89351	5/8NCx7x8-1/2 U-BOLT
14	88129	5/8 LOCK WASHER
15	88126	5/8NC NUT
16	*233989	WING REST
	63834	STOP PACKAGE

NOTE: * MEANS ADDING A "G" TO PAINTED PART NUMBERS DENOTES GREEN PAINT.

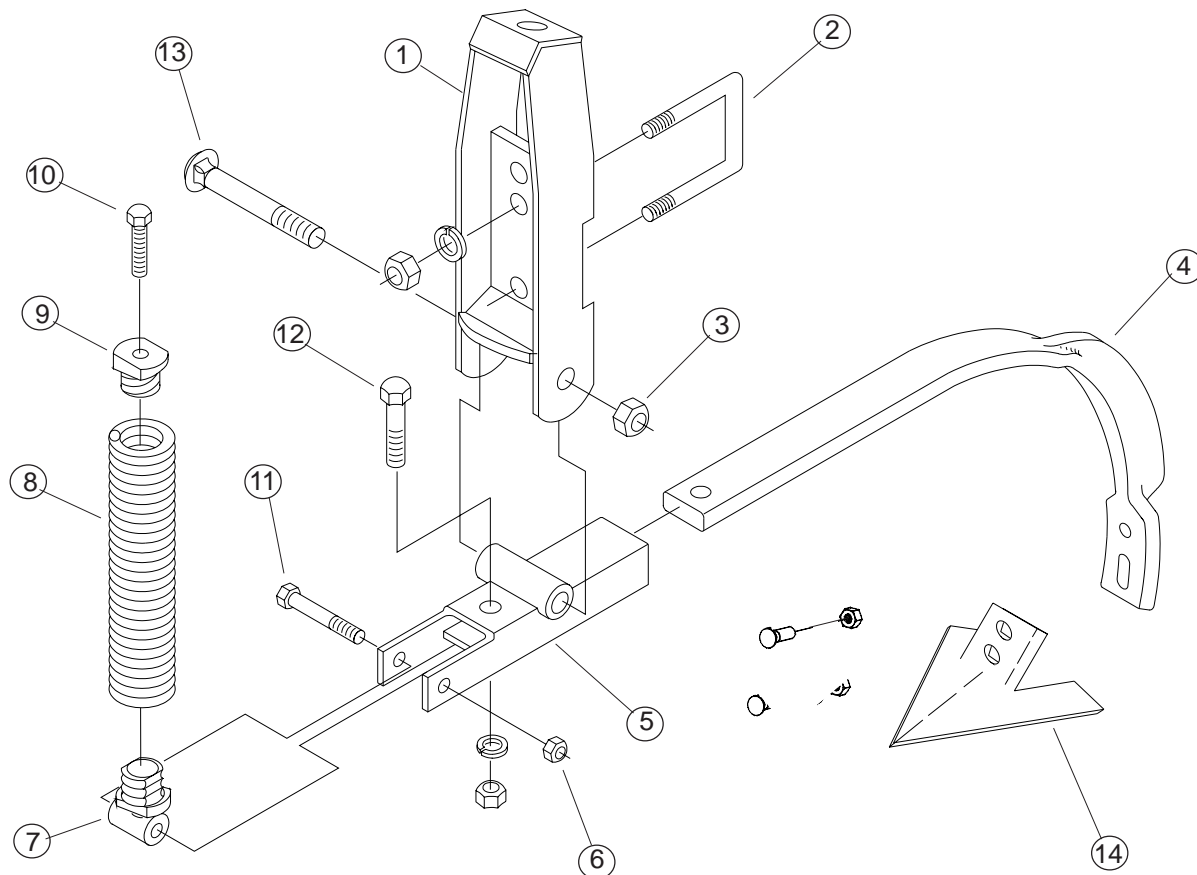
NOTE: WING REST SHOULD BE PLACE UNDER THE CLYINDER CLEVIS WHEN WING IS FOLDED.

GAUGE WHEEL



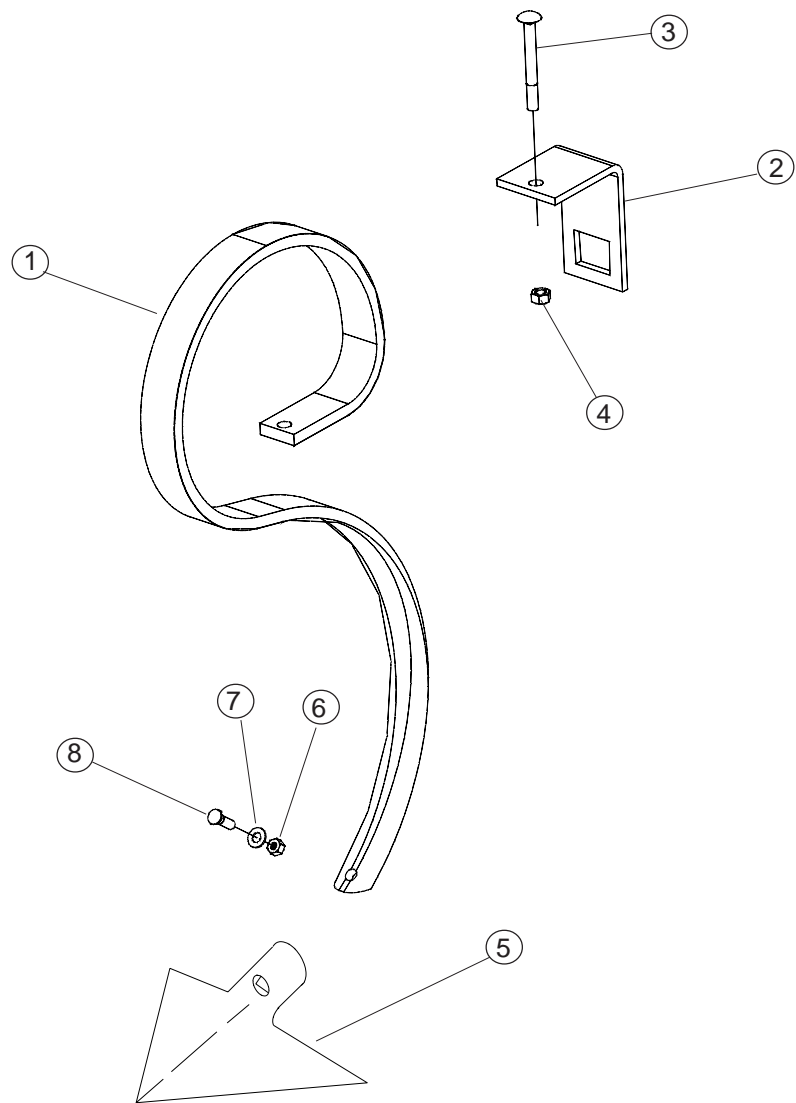
ITEM	PART #	DESCRIPTION
1	88298	5/8NCx4 BOLT
2	88837	5/8NCx6-1/2 BOLT
3	235834	PULL TYPE WHEEL MOUNT
4	88129	5/8 LOCK WASHER
5	88126	5/8NC NUT
6	222991	GAUGE WHEEL LEG W/ SPINDLE ONLY- RIGHT
	222992	GAUGE WHEEL LEG W/SPINDLE ONLY - LEFT
7	23097	SEAL
8	10345	1-1/4 ID BEARING CONE
9	10344	2.328 OD BEARING CUP (LM67010)
10	88142	1/2NFX1 WHEEL BOLT
11	86630	5/8 FLAT WASHER
12	86558	5/8NF SLOTTED NUT
13	11949	760x15 8 PLY TIRE
	23104	15x6 4 BOLT RIM
14	23103	DUST CAP
15	88559	5/32x1 COTTER PIN
16	23029	3/4 BEARING CONE
17	23101	25/32 OD BEARING CUP (LM11910)
18	23100	4 BOLT PRESSED HUB (INCLUDES ITEMS 9 & 17)
19	233369	COMPLETE ASSY-LH
	233369	COMPLETE ASSY-RH

EDGE FORMED C-SHANK



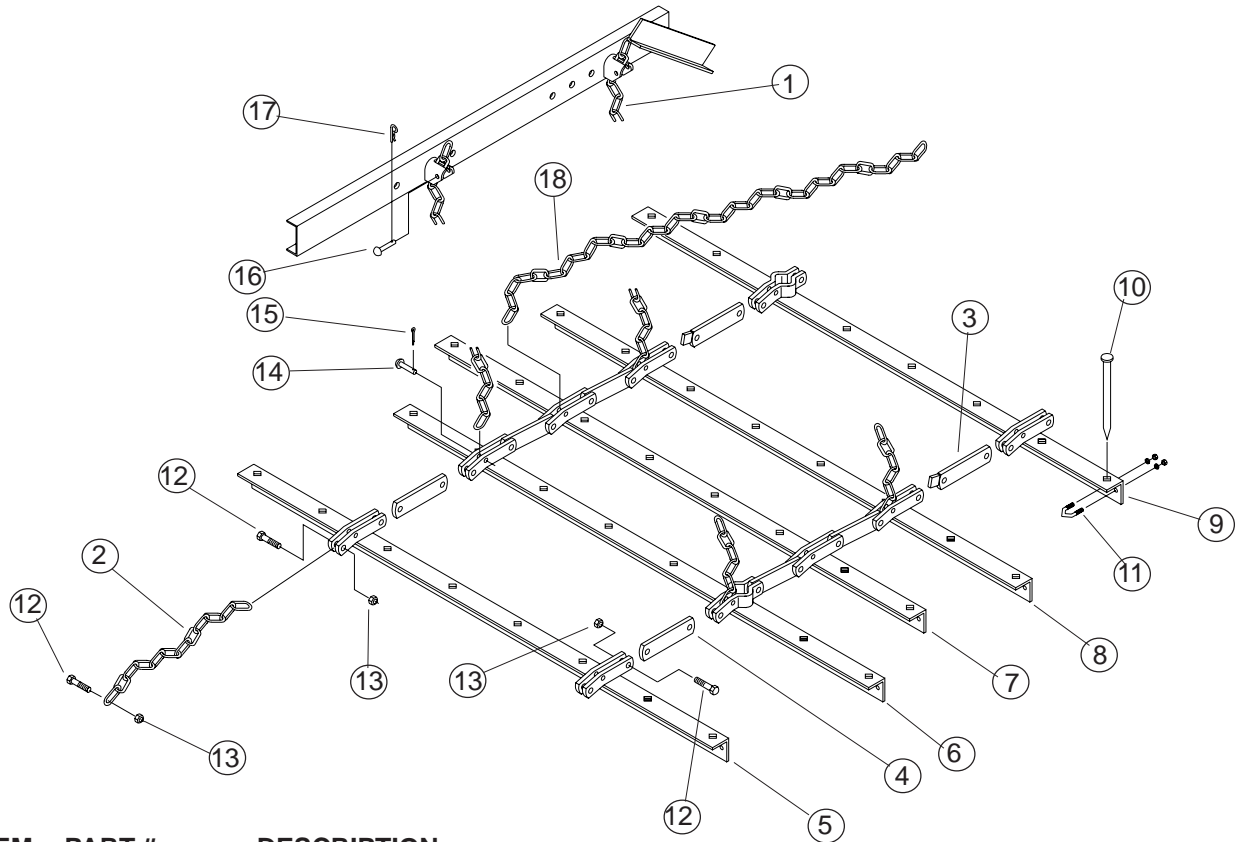
ITEM	PART #	DESCRIPTION
	53404	3/8" SPRING EDGE FORMED
	FC SHANK ASSY	
1	11512	SHANK FRAME BRKT ASSY
2	88311	5/8NCx2-1/2x3-3/4 U-BOLT
3	22463	3/4NF LOCK NUT
4	53408	EDGE FORMED FC SHANK
5	11509	SHANK HOLDER ASSY
6	88304	1/2NF LOCK NUT
7	11397	SPRING HANDLE
8	11510	SPRING
9	11398	SPRING PLUG
10	23153	1/2NCx2 FULL THREAD BOLT
11	20637	1/2NFx3 BOLT
12	88294	5/8NCx2 BOLT
13	68575	SHANK CARRIAGE BOLT
14	222682	9"x1/4" SWEEP W/ 7/16NC HARDWARE

STANDARD DRAWN DANISH TINE



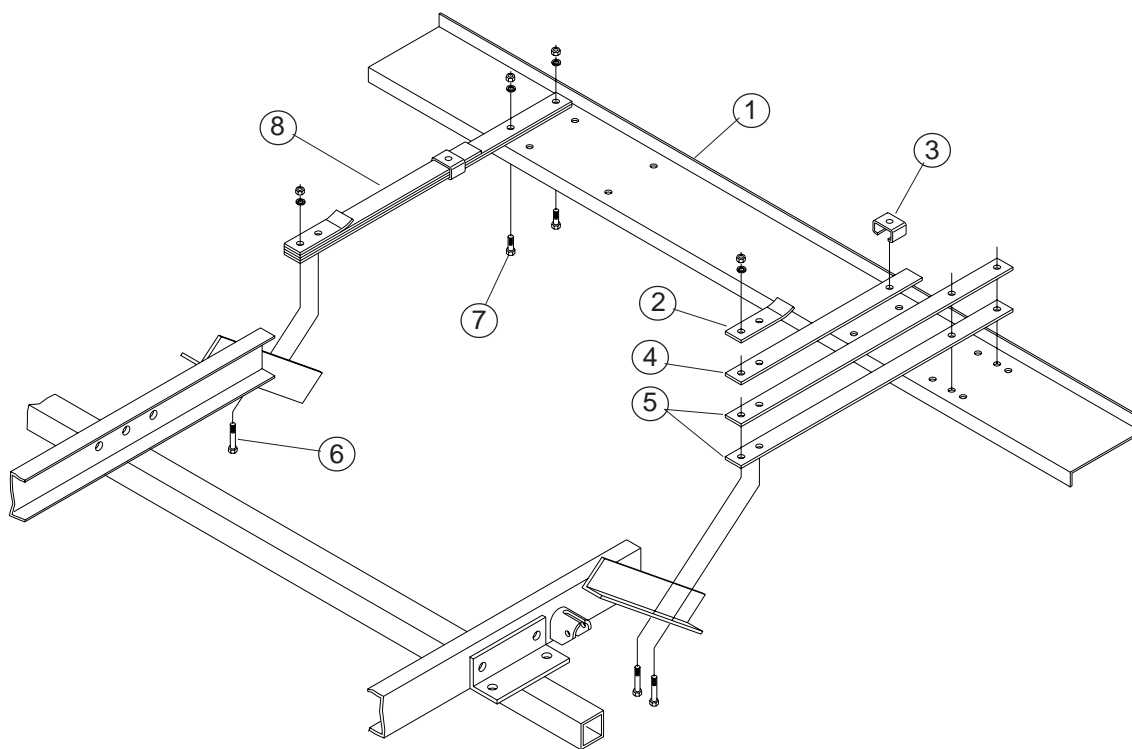
ITEM	PART #	DESCRIPTION
1	54810	DANISH TYPE TINE
2	54836	TOOTH CLAMP
3	88589	7/16NCx4 CARRIAGE BOLT
4	88660	7/16NC LOCK NUT
5	56234	7" SHOVEL
6	88103	3/8NC NUT
7	88282	3/8 FLAT WASHER
8	88459	3/8NCx1-1/4 PLOW BOLT

SPIKE TOOTH HARROW ASSEMBLY



ITEM	PART #	DESCRIPTION
	59468	7'4" HARROW SECTION ASSY
1	30478	LINK CHAIN (20.88")
2	61710	LINK CHAIN (49.50")
3	236896	CONNECTOR BAR
4	236897	TOOTH BAR CONNECTOR
5	59460	#1 9 TOOTH BAR (83")
6	59461	#2 9 TOOTH BAR (83")
7	59462	#3 9 TOOTH BAR (83")
8	59463	#4 9 TOOTH BAR (83")
9	59464	#5 9 TOOTH BAR (83")
10	52631	TOOTH
11	30277	3/8NCx1.06x1.9 U-BOLT
12	58295	5/8NCx2-1/4 BOLT
13	88369	5/8NC LOCK NUT
14	30672	1/2x2-1/4 PIN
15	88645	3/16x1-1/4 COTTER PIN
16	30162	7/16x2-1/2 PIN
17	23039	2.69 COTTER HAIRPIN
18	61013	LINK CHAIN (45.75")

LEVELING BOARD



ITEM	PART #	DESCRIPTION
1	60958	7'4" LEVELING BOARD
2	30154	SPRING LEAF CAP
3	30422	SPRING LEAF CLIP
4	30152	SHORT LEAF
5	30151	LONG LEAF
6	88410	1/2NCx2-1/2 BOLT
7	88475	1/2NCx1-1/2 BOLT
8	*30531	SPRING LEAF ASSEMBLY

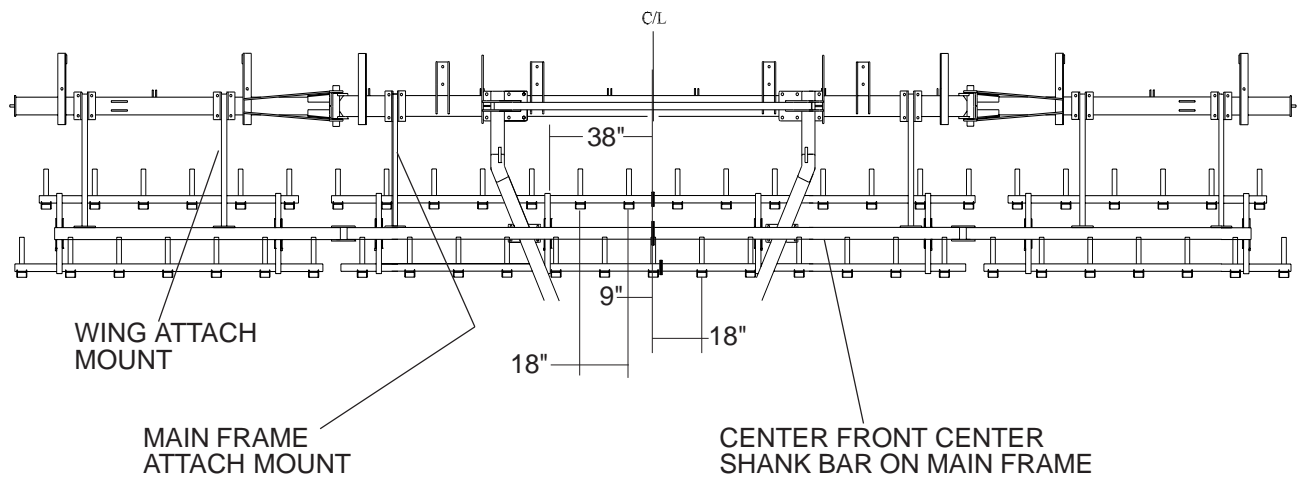
* - DENOTES ITEM CONTAINS ITEMS 2, 3, 4, AND 5.

Front Shank Mounting

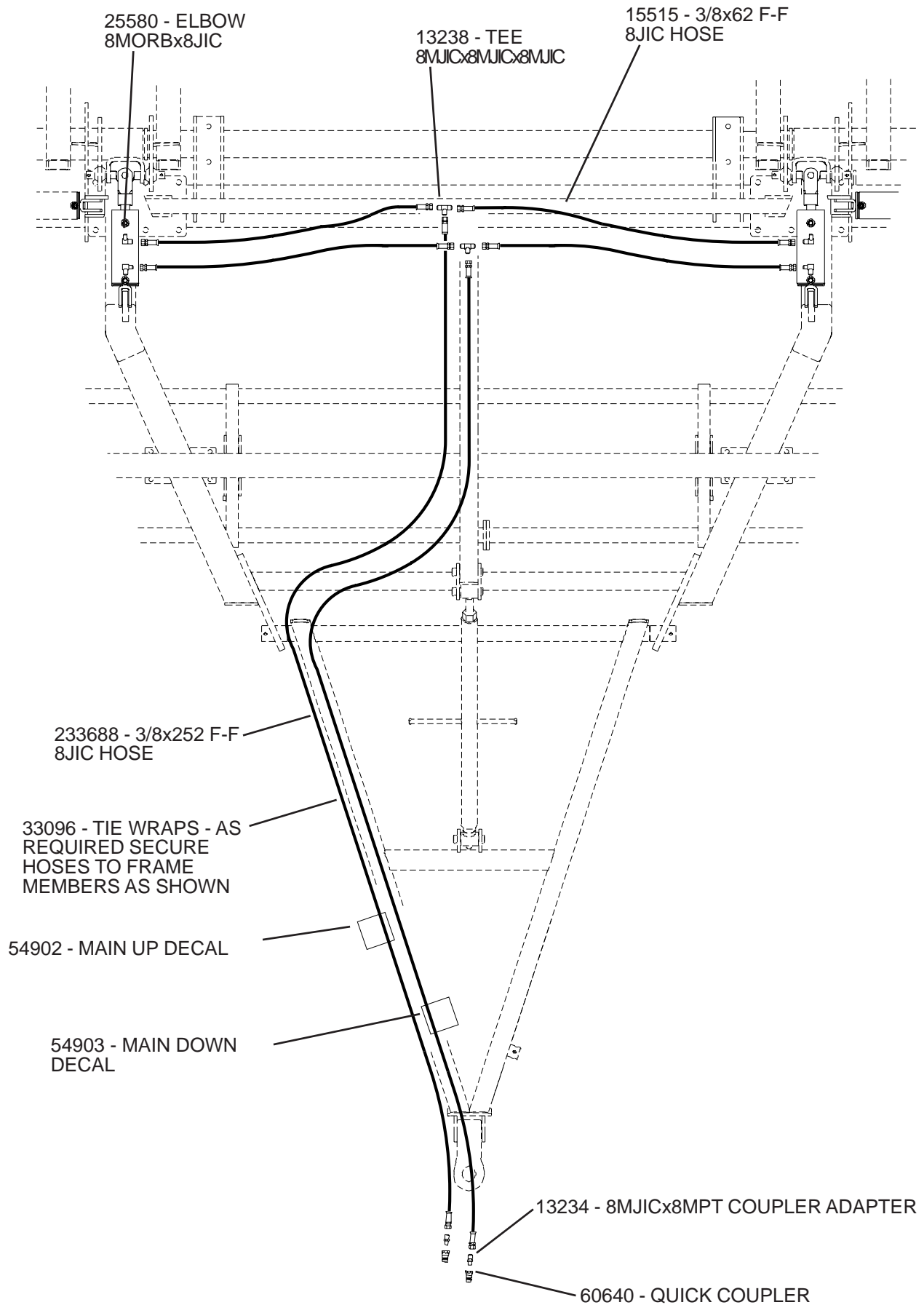
SHANK PLACEMENT

Locate the attach mounts on the main frame as shown below, secure per assembly instructions. Refer to the assembly instructions for attach mount and front shank mount assembly.

Shanks are mounted on a 9" spacing. Locate the center of the rear tube at 38" as shown. Mark 9" to each side and mark 18" increments to the outside of each tube. Mark 18" out from the center on the front tube. Position shanks at the mark locations, shift to fit as required.



MAIN LIFT HYDRAULICS



WING FOLD HYDRAULICS

