

McFARLANE
MFG. CO.
INC. *Sauk City, Wisconsin*

MANUFACTURERS OF QUALITY AGRICULTURAL EQUIPMENT SINCE 1936

OPERATOR'S MANUAL
AND
PARTS LISTING
FOR THE

Rolling Stalk Chopper

Folding 3 Point

VERSION: 2-11AJF

TO THE OWNER AND OPERATORS

Before assembling or operating this unit, READ THIS MANUAL THOROUGHLY. To obtain the best performance of the unit, familiarize yourself with each component and adjustment. Store this manual where it can be readily available for future reference. In the event that the harrow or any part of the unit should be sold, be sure that the new owner receives a copy of this manual for their reference.

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INTRODUCTION

Thank you for purchasing your new McFarlane 3-pt lift and harrow sections. We know that you will get many years of dependable service from this modernly designed unit.

You may have had a particular application in mind when you purchased this unit. There are actually many uses for the McFarlane harrow including incorporation of herbicides and pesticides, leveling and smoothing tilled soil, and covering of broadcast seeds. Contact your dealer if you would like more information or have questions concerning these or other applications.

LIMITED WARRANTY

FULL ONE - YEAR WARRANTY OF

**Rolling Stalk Chopper
Folding 3-pt Lift**

If within one year from the date of purchase, this 3-pt lift and/or its accompanying harrow sections fail due to defect in material or workmanship, McFarlane Mfg. Co., Inc. will repair it, free of charge.

Warranty service is available by simply contacting the nearest McFarlane dealership throughout the United States or Canada.

This warranty applies only while this product is used in the United States or Canada.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

McFarlane Mfg. Co., Inc., Sauk City, Wisconsin 53583

SAFETY

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



THIS SYMBOL MEANS

- **ATTENTION!**
- **BECOME ALERT!**
- **YOUR SAFETY IS INVOLVED!**

SIGNAL WORDS:

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

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

CONTACT INFORMATION

If you have questions not answered in this manual, require additional copies, or the manual is damaged, please contact your local dealer or:

McFarlane Mfg. Co., Inc.
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SAFETY FIRST!



Equipment Safety Guidelines

Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions. To avoid personal injury, study the following precautions and insist that those working with you, or for you, follow them.

Replace any CAUTION, WARNING, DANGER, or instruction safety decal that is not readable or missing.

Do not attempt to operate this equipment under the influence of drugs or alcohol.

Review the safety instructions with all users annually.

This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**

To prevent injury, use a tractor equipped with a Roll Over Protective System (ROPS). Do not paint over, remove, or deface any safety signs or warning decals on your equipment. Observe all safety signs and practice the instructions on them.

Never exceed the limits of the 3-pt lift or the harrows. If their ability to do a job, or to do so safely, is in question - **DO NOT TRY IT.**



Lighting and Marking

It is the responsibility of the customer to know the lighting and marking requirements of the local highway authorities and to install and maintain the equipment to provide compliance with the regulations. Add extra lights when transporting at night or during periods of limited visibility.

Lighting kits are available from your dealer.



Safety Sign Care

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replacement parts that display a safety sign should display the same sign.
- Safety signs are available from your Distributor, Dealer Parts Department, or the factory.

How to Install Safety Signs:

- Be sure that the installation area is clean and dry.
- Decide on the exact position before you remove the backing paper.



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 tires unless you have the proper equipment and experience to do the job.
- Inflating or servicing tires can be dangerous. Whenever possible, trained personnel should be called to service and/or mount tires.
- Always order and install tires and wheels with appropriate capacity to meet or exceed the weight of the unit. Be sure to inflate tires to tire manufacturer's specifications
- Tires that are provided by the manufacturer are designed for speeds LESS THAN 20mph. Do Not exceed or tire failure will occur.



Remember:

Your best assurance against accidents is a careful and responsible operator. If there is any portion of this manual or function you do not understand, contact your local authorized dealer or the manufacturer.



Before Operation:

- Carefully study and understand this manual.
- Do not wear loose fitting clothing which may catch in moving parts.
- Always wear protective clothing and substantial shoes.
- It is recommended that suitable protective hearing and (eye protection) sight protectors be worn.
- Keep wheel lug nuts or bolts tightened.
- Assure that the tires are inflated evenly.
- Give the unit a visual inspection for any loose bolts, worn parts, or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included in this manual.
- Before using the hydraulics on the cart, be sure all fittings and connections are tight.
- Be sure that there are no tools lying on the unit.
- Make sure that the area is clear of children, animals, and other obstacles before using.
- Don't hurry the learning process or take the unit for granted. Ease into it and become familiar with your new equipment. Practice operation of your new unit. Completely familiarize yourself and other operators with its operation before using.

- Securely attach to towing unit. Use a high strength, appropriately sized hitch pin with a mechanical retainer and attach safety chain.
- Do not allow anyone to stand between the tongue or hitch and the towing vehicle when backing up to the equipment.



During Operation:

- Beware of bystanders, **particularly children!** Always look around to make sure that it is safe to start the engine of the towing vehicle or move the unit. This is particularly important with higher noise levels and quiet cabs, as you may not hear people shouting.
- **NO PASSENGERS ALLOWED** - Do not carry passengers anywhere on, or in, the tractor or equipment, except as required for operation.
- Keep hands and clothing clear of moving parts.
- Do not clean, lubricate, or adjust your equipment while it is moving.
- When altering operation, even periodically, set the tractor or towing vehicle brakes, shut off the engine, and **remove the ignition key**.
- Do not operate the hydraulic cylinders without the flow restrictors installed; the free falling harrow sections may cause serious injury.
- Pick the levellest possible route when transporting across fields. Avoid the edges of ditches or gullies and steep hillsides.
- Periodically clear the equipment of brush, twigs, or other materials to prevent buildup of dry combustible materials.
- Maneuver the tractor or towing vehicle at safe speeds.
- Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death.
- Allow for unit length when making turns.
- Do not walk or work under raised wings unless securely positioned in wing rests.
- Keep all bystanders, pets, and livestock clear of the work area, particularly when raising or lowering harrow sections.
- Operate the towing vehicle from the operator's seat only.
- As a precaution, always recheck the hardware on equipment periodically. Correct all problems. Follow the maintenance safety procedures.



Following Operation:

- When disconnecting, stop the tractor or towing vehicle, set the brakes, secure the wings with the lock bars, relieve hydraulic fluid pressure, shut off the engine and **remove the ignition keys**. Make sure all jack and support stands are in place before removing hitch pins.

- Store the unit in an area away from human activity on a hard level surface.
- Do not park equipment where it will be exposed to livestock for long periods of time. Damage and livestock injury could result.
- Do not permit children to play on or around the stored unit.



Highway and Transport Operations:

- Make sure all transport lock provisions are in place and jack/parking stands are in their storage position before transporting the unit.
- Adopt safe driving practices:
 - Keep the brake pedals latched together at all times. **NEVER USE INDEPENDENT BRAKING WITH MACHINE IN TOW AS LOSS OF CONTROL AND/OR UPSET OF UNIT MAY RESULT.**
 - Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Keep speed to a minimum.
 - Reduce speed prior to turns to avoid the risk of overturning.
 - Avoid sudden uphill turns on steep slopes.
 - Always keep the tractor or towing vehicle in gear to provide engine braking when going downhill. Do not coast.
 - Do not drink and drive!
- Comply with state and local laws governing highway safety and movement of farm machinery on public roads.
- Use approved accessory lighting flags and necessary warning devices to protect operators of other vehicles on the highway during daylight and nighttime transport. Various safety lights and devices are available from your dealer.
- The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
- When driving the tractor and equipment on the road or highway under 20 mph at night or driving during the day, use flashing amber warning lights and a slow moving vehicle (SMV) identification emblem.
- Remember, tires supplied by the manufacturer are designed to operate LESS THAN 20mph. Do Not exceed or tire failure will occur.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc. Plan your route to avoid heavy traffic.
- Be observant of bridge loading ratings. Do not cross bridges rated lower than the gross weight at which you are operating.
- Watch for obstructions overhead and to the side while transporting.

- Always operate equipment in a position to provide maximum visibility at all times. Make allowances for increased length and weight of the equipment when making turns, stopping, etc.



Performing Maintenance:

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Before working on this machine, stop the tractor or towing vehicle, set the brakes, lower into field position, relieve the hydraulic fluid pressure, shut off the engine and **remove the ignition keys.**
- **Always** use safety support and block the wheels. When performing maintenance, never use a jack to support the machine. Assist the jack with blocks or other adequate support.
- Use extreme caution when making adjustments.
- When disconnecting hydraulic lines, shut off hydraulic supply and relieve all pressure.
- Never use hands to locate a hydraulic leak on attachments. Use a piece of cardboard or wood. Hydraulic fluid escaping under pressure can penetrate the skin.
- Openings in the skin and minor cuts are susceptible to infection from hydraulic fluid. **If injured by escaping hydraulic fluid, see a doctor at once. Gangrene can result. Without immediate medical treatment, serious infection and reactions can occur.**
- When installing, replacing, or repairing hydraulic system cylinders or parts, make sure that the entire system is charged and free of air before resuming operations. Failure to bleed the system of all air can result in improper machine operation, causing severe injury.
- After servicing, be sure all tools, parts, and service equipment are removed.
- Never replace hex bolts with less than grade five bolts unless otherwise specified.
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not claim responsibility for damages as a result of the use of unapproved parts and/or accessories.
- If equipment has been altered in any way from original design, the manufacturer does not accept any liability for injury or warranty.

MAINTENANCE AND SERVICE SCHEDULE

- Prior to each use, check for loose bolts and replace lost or worn parts.
- Grease hinge pins before each use when necessary.
- Grease reel bearings daily.
Note: Clean grease fittings and replace those that are broken or missing.
- Inspect and repack wheel bearings at the beginning of each year.
- Remove dirt and debris from the harrow sections before storage.
- Parts diagrams and listings for service and repair references may be found in appendix B.

OPERATING SUGGESTIONS

There are some important points to remember in order to obtain the best possible results from your McFarlane harrow.

- To maximize the harrow's performance, it should be towed at speeds ranging from six to nine (6 - 9) mph. This keeps the field debris moving through the harrow sections and avoids clogging. The best results will be obtained after the paint has been scoured from the teeth.
- Choose the angle of attack of the harrow teeth based on field conditions. For more information see the section titled Angle of Attack.
- Getting the unit ready for transport includes the following steps:
 1. Rotate the wings up.
 2. Secure the wing cylinders with the lock bar.
- Getting the unit ready for field use includes the following steps:
 1. Unlock the wing cylinder lock bars.
 2. Rotate the wings down.

ASSEMBLY SUGGESTIONS

- You will find the machine is easier to assemble if the set-up instructions are followed in the order given in the manual.
- Whenever the terms “left” and “right” are used, it should be understood to mean when standing behind and facing the unit. This is also known as the “driver’s left” and the “driver’s right.”
- The term “field position” refers to the position the harrows are in when the unit is being used in the field - that is, with the wings down and the harrow sections down.
- The term “transport position” refers to the position the harrows would be in when the unit is being transported from place to place - that is, with the harrows up and the wings folded and secured with the lock bars.
- When assembling this unit, make sure that the parts are securely held before proceeding to the next step.
- Bolt torque specifications are given in appendix A.
- The hydraulic cylinder and hose requirements are listed in the parts listing in appendix B. It is not recommended that other size cylinders or hoses be substituted. Hoses are marked with the part number near the ends. The last three digits indicate the hose length in inches. Fittings with a restrictor are marked with an ‘R’.
- A dual acting hydraulics supply is required. The unit is designed for the standard ASAE pressure of 1500 psi.
- Tire requirements are also listed in the parts listing in appendix B.
- Layout diagrams for each unit may be found in appendix C. Mark the page with the diagram that refers to your unit, it will be referred to periodically throughout the manual.

STEP - BY - STEP ASSEMBLY INSTRUCTIONS

Mount the Tool Bar

Attach the tool bar to the 3-Point hitch on your tractor. This unit is equipped with both category 2 and category 3 hitch capabilities. A 1" Top Link Pin (Category 2) is provided with your unit. If a Category 3 Top Link Pin is needed, you must provide it. (Refer to Figure 1) Make sure that you hook your tractor to the unit properly.

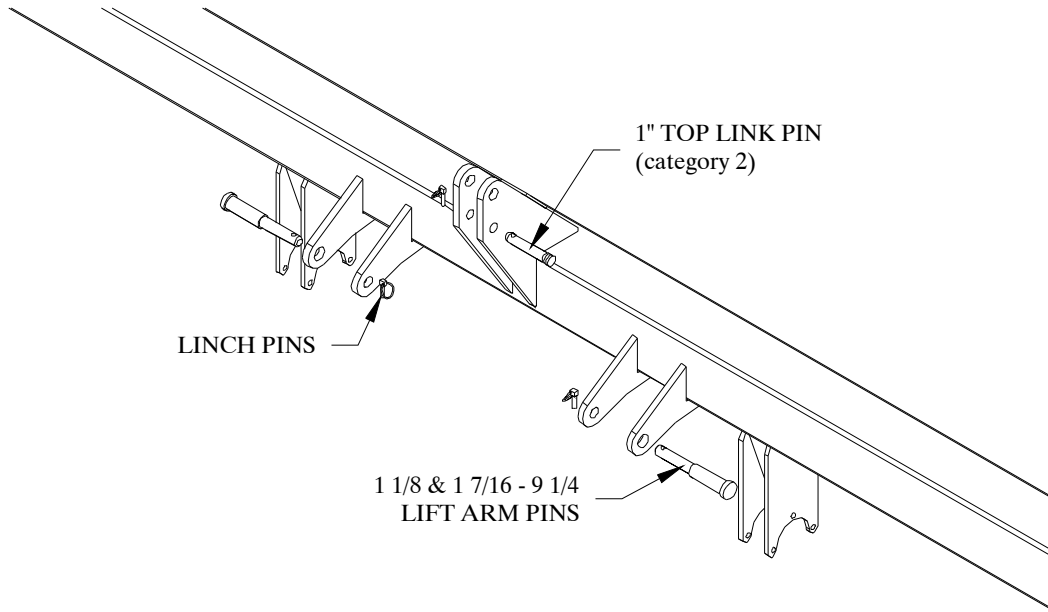


Figure 1

Attach the Wings

(Refer to Figure 2)

1. Attach the wings to the center bar using two 1 1/2" x 8 5/16" hinge pins and the 1/2" x 3" bolts and locking hex nuts. Note the location of the wing cylinder posts.

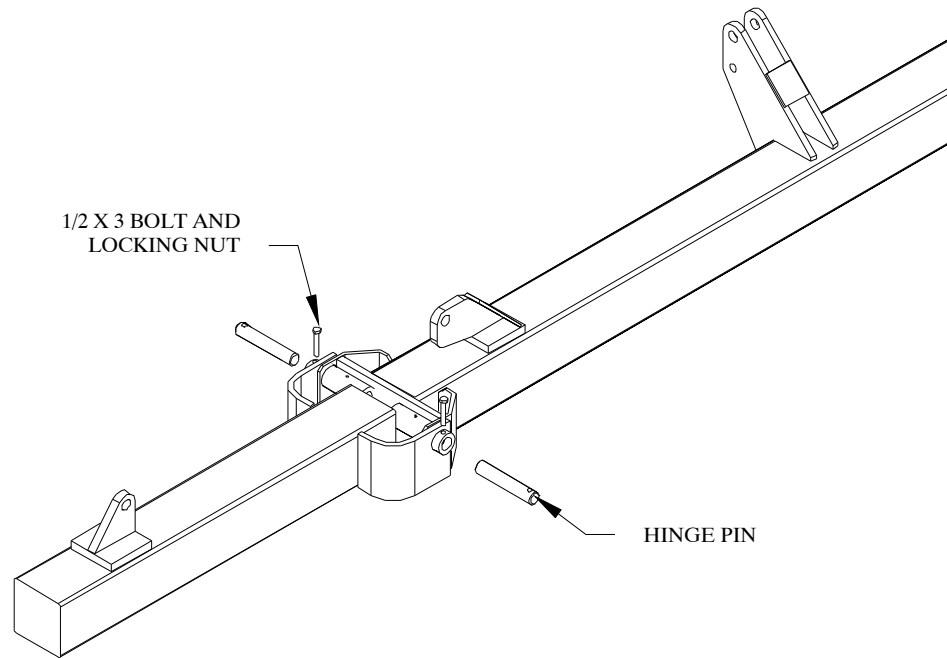


Figure 2

Install the Hydraulics

(Refer to figure 3)

Note: A hydraulics system schematic is shown in appendix B of this manual. Proper hose lengths for different Tool Bar widths is given.

1. Attach the 16" hydraulic cylinders to the cylinder posts using the 1 1/4" cylinder lock clevis pins. Make sure that the ports in the cylinders face toward the rear of the unit.
2. Insert a 3/8m – 1/2 o-ring elbow with restrictor into the outer ports of each cylinder and a 3/8m – 1/2 o-ring elbow into the inner ports of each cylinder. Do Not Overtighten.
3. Your unit will have 4 hydraulic hoses, 2 of them will be longer than the other two. For hose lengths see the parts diagram and listing in appendix B. Connect the longer hoses to the elbows in the outer or farthest from center ports. Connect the shorter hoses to the elbows in the inner or closest to center ports.
4. Connect the similar length hoses together in the center using the 3/8m – 1/2 pipe - 3/8m hydraulic tee's.
5. Secure the hoses to the tool bar using the double hydraulic hose clips on the back or rear side of the tool bar.
6. Hoses that go from the tee's to the tractor are not provided.

7. Hose lengths are determined by the center bars length. The center bar is the tube with the 3-Point hitch plates attached, and is measured from hinge plate to hinge plate.

Attach the cylinder lock bar to the clevis pins of each cylinder when in the transport position to prevent the wings from falling.

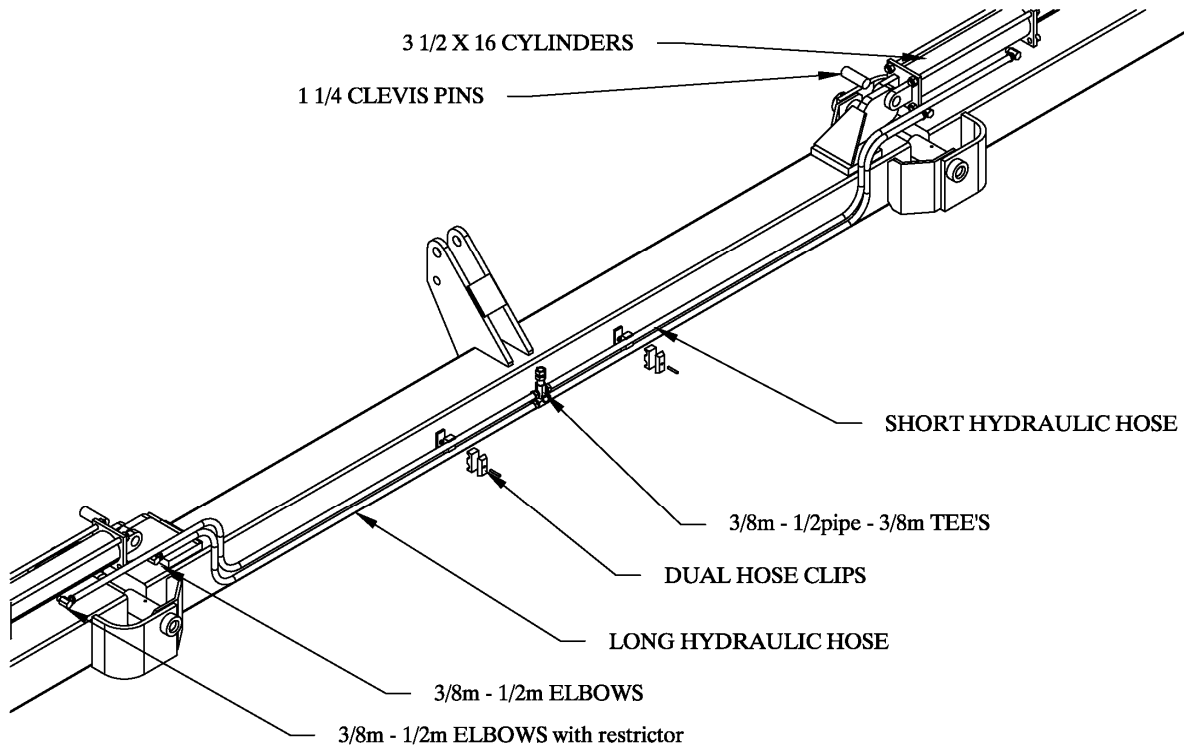


Figure 3

Attach the Reel Assemblies

(Refer to Figure 4 and 5)

Note: In some cases the Reel Assemblies will not be attached to the Tool Bar. If they are, you can skip this section. If they are not, it is very important that they are installed properly.

1. Using the 3-Point or a fork truck lift the unit off the ground far enough so that the Reel Assemblies can be moved in under the Tool Bar, approximately 21 inches. Block the tool bar up for safety purposes.
2. Determine the location for the Reel Assemblies. These locations will depend upon the row spacing that the unit is to be used in. Start from the center of the unit and place a mark one half of the desired row spacing on either side of the center. For 30" rows - 15", 36" rows - 18" and so on. Continue to mark the Reel Assembly locations using the full row spacing on both sides of the unit.
3. Determine which angle you wish to run the Reel Assemblies. Figure 4 shows the three available positions, left, right and straight. The degree of the angle can also be varied. Generally a right or left angle will cut better. If you have a double row unit the best results may be achieved if the front brackets are run at one angle and the rear brackets are run at the opposite angle.

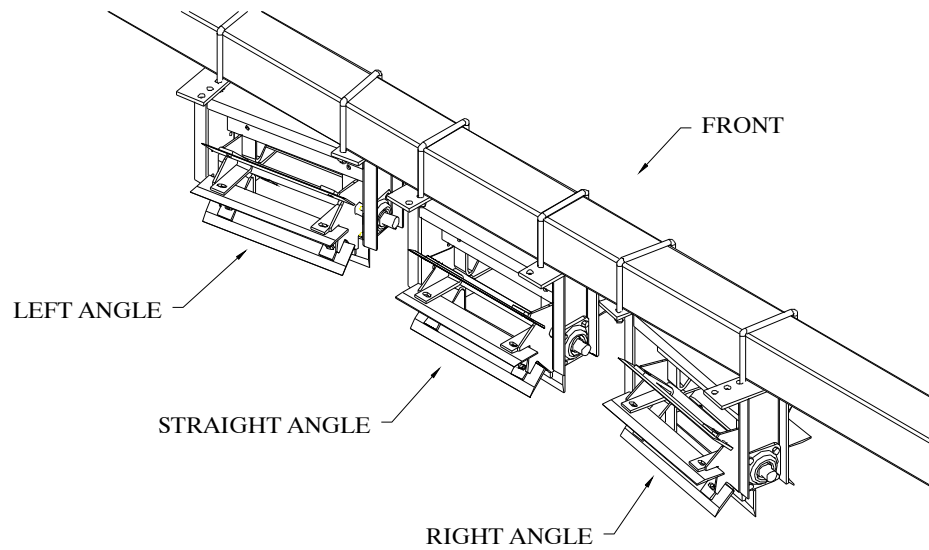


Figure 4

4. If your unit is a double chopper be sure to determine which Reels are to be installed on the front and rear Tool Bars.
5. To determine the front side of the Reels note the location of the beveled edge in figure 5. The NON-beveled edge is to make contact with the ground first. Center the Reel Assembly on the mark you made near the center of the unit and attach using the $\frac{3}{4}$ x $7\frac{1}{4}$ x $8\frac{1}{2}$ U-bolts, lock washers and hex nuts. Repeat this process for the remaining brackets.

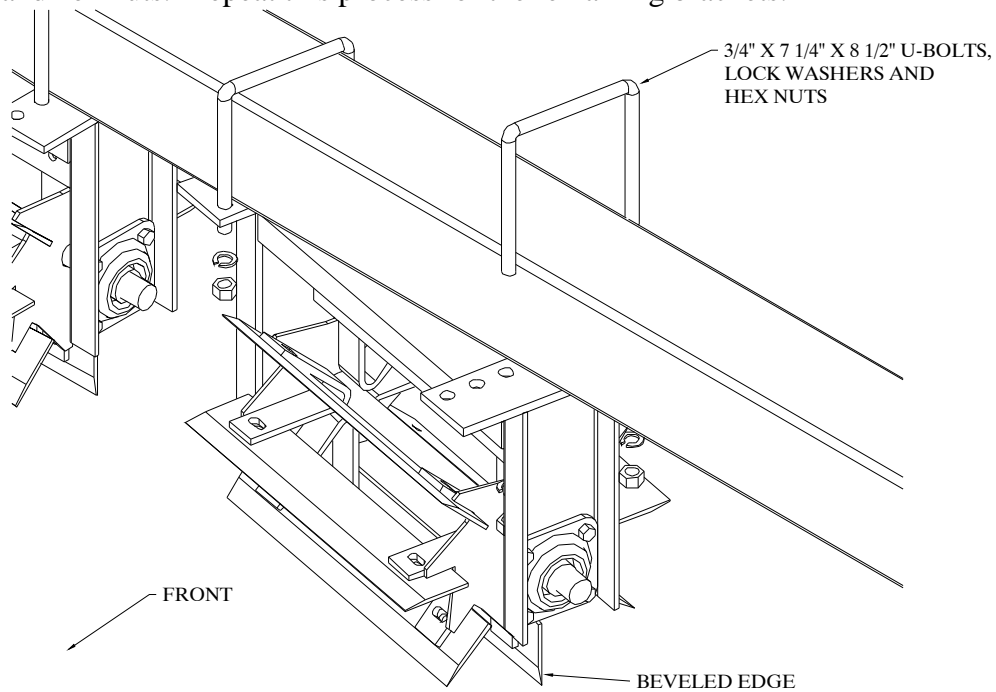


Figure 5

Attach the Support Stands

(Refer to Figure 6)

Note: Support Stands are only necessary for Single Tool Bars without harrow sections. Otherwise, skip this section.

1. Attach the Parking Stand Bracket near the end of the tool bar (for sing row units) or near the end of the front tool bar (for double row units with flexible linkages). Use $\frac{3}{4}$ " U-bolts, lock washers and hex nuts to secure the Parking Stand. Pin the legs up in the field position. Prior to parking and disconnecting the unit from the tractor lower the legs and pin into place.

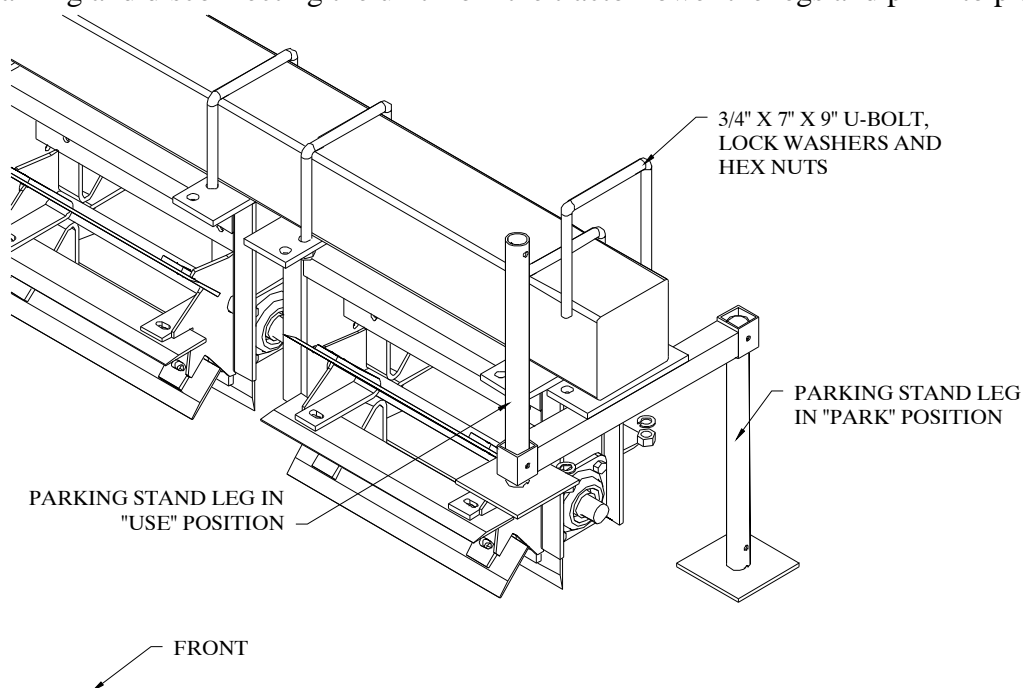


Figure 6

Attach the Second Tool Bar

(Refer to Figure 7)

If your unit is not a double chopper, skip this section.

Note: There are two options for connecting a second Tool Bar, a rigid connection and a flexible connection. Be sure to identify which type of connection is on your unit and follow the appropriate step below. A layout diagram of a typical double row unit is provided on page 28. Because of the many different configurations possible, the specific location of each connector is not given. Each unit comes with a set number of connectors that should be placed evenly across the tool bar. In some cases in which an odd number of connectors are required, the center connector may need to be offset from the center of the tool bar. In most cases the connector can be centered on the front paddle assembly, however slight adjustments may be required.

A. Rigid Connection

1. Attach the Rigid Connection Tube to the Front Tool Bar. Use $\frac{3}{4}$ " U-bolts, lock washers and hex nuts. Repeat for all Connection Tubes.
2. Center the Rear Center Tool Bar and Attach it to the Rigid Connection using $\frac{3}{4}$ " U-bolts, lock washers and hex nuts. It is very important that the front and rear hinge points are aligned. If they are not, binding may occur and the unit will not fold. Repeat for all Rigid Connection Tubes on the Rear Center bar.
3. Attach the Wings as in step 1 of Attach Wings to Center Bar. Again, make sure the front and rear hinge points are aligned. Repeat for all other Rigid Connectors.

B. Flexible Connection

Note: For double row, folding units that have Flexible Connectors the Rear Tool Bar does not include hinge points. Instead, there is a Rear Center Tool Bar and 2 Wing Tool Bars that only consist of the 7" square tubing. Note the orientation of the Flexible Linkage in figure 7. The grease zerks should be pointing upwards and the chain in the linkage should be tight when the unit is lifted off the ground.

1. Attach the Flexible Connection Tube to the Front Tool Bar. Use $\frac{3}{4}$ " U-bolts, lock washers and hex nuts. Repeat for all Connection Tubes.
2. Center the Rear Center Tool Bar and Attach it to the Rigid Connection using $\frac{3}{4}$ " U-bolts, lock washers and hex nuts. It is very important that the Rear Tool Bar is Centered on the Front Tool Bar. Repeat for all Flexible Connection Tubes on the Rear Center bar.
3. Attach the Wings as in step 1 above. Be sure that there is enough clearance at the hinge point to allow the unit to fold. Repeat for all other Flexible Connectors.

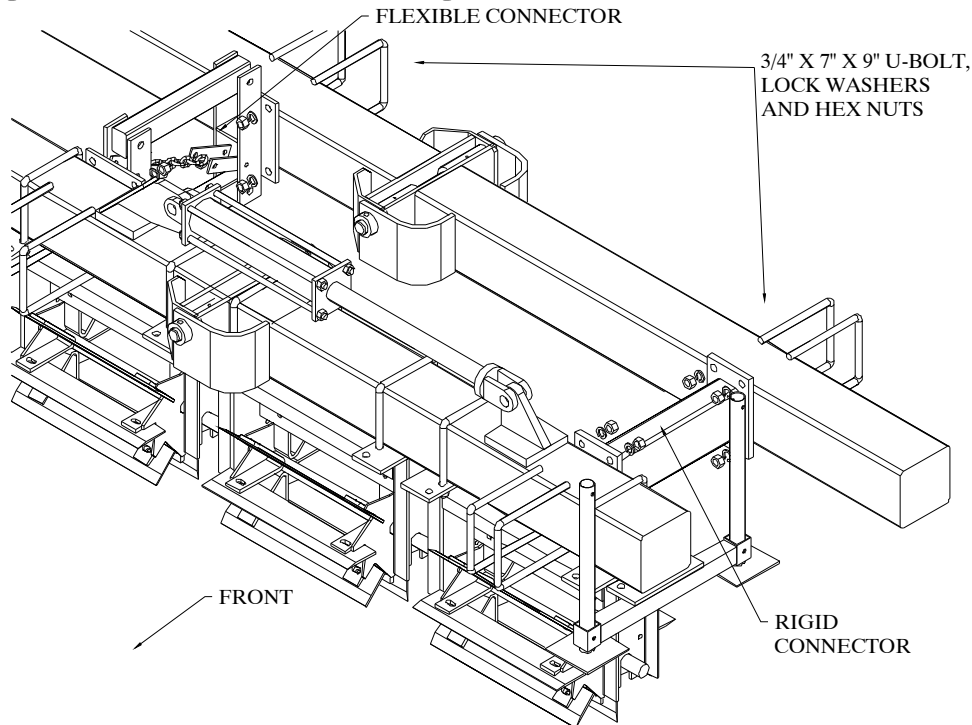


Figure 7

Attach the Reel Assemblies

Attach the reel assemblies to the rear tool bar by following the directions for attaching the reel assemblies to the front tool bar. Be sure to refer to the layout diagram and the different options for attaching the reel assemblies.

Attach the Lift Arms

(Refer to Figure 8)

If your unit does not have harrow sections, skip this section.

Note: The McFarlane Rolling Stalk Chopper has a 3 bar and a 5 bar harrow section option. The 5 bar harrow Lift Arms are the same as the 3 bar, with the exception that the 5 bar Lift Arms are longer and include a Rear Cross Tube and lifting points. When necessary the text and diagrams will depict the differences between the two options. Because of the many different configurations possible, the specific location of each lift arm is not given. Each unit comes with a set number of lift arms that should be placed evenly across the tool bar. In most cases the lift arm can be centered on the paddle assembly, but adjustments may be required. The main arm cannot be in line with the pull arm, which is above the section pull point.

1. Determine the placement of each harrow section by referring to the diagram in appendix C. Place the main arms evenly across the tool bar, ensuring that they aren't in line with a pull arm.
2. Attach the lift arms to the tool bar using the 5/8 x 7 x 8 1/2 U-Bolts, lock washers and hex nuts. Note the difference between the 3 and 5 bar Main Lift Arms in figure 8.

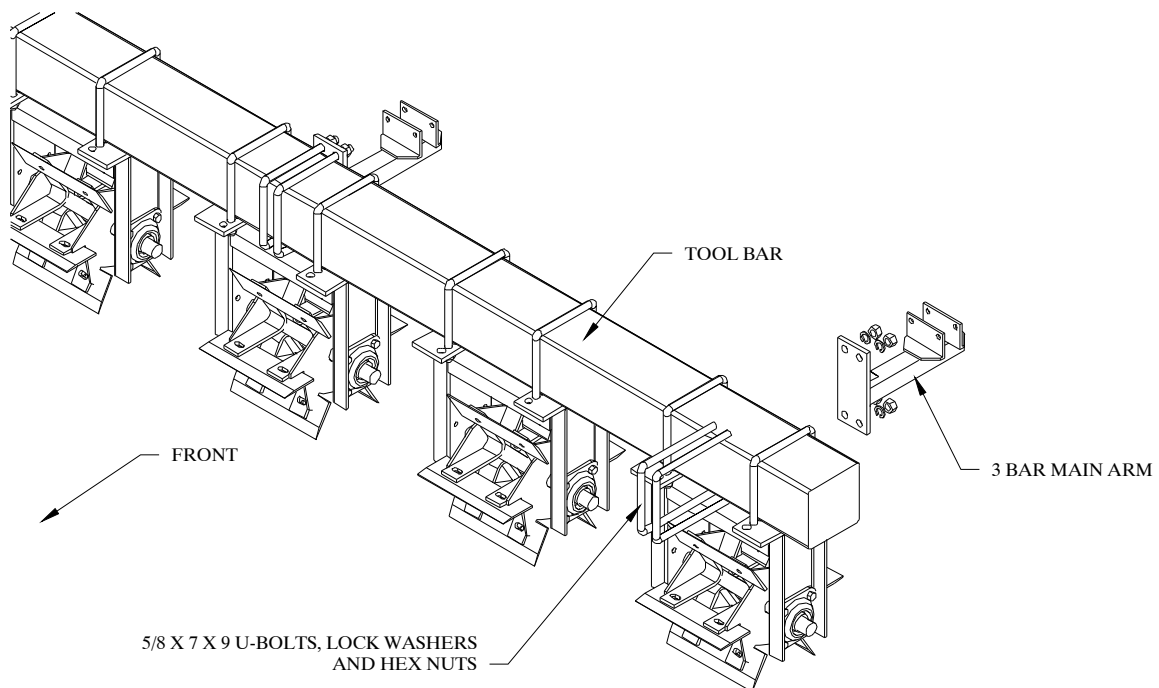


Figure 8 (con't on next page)

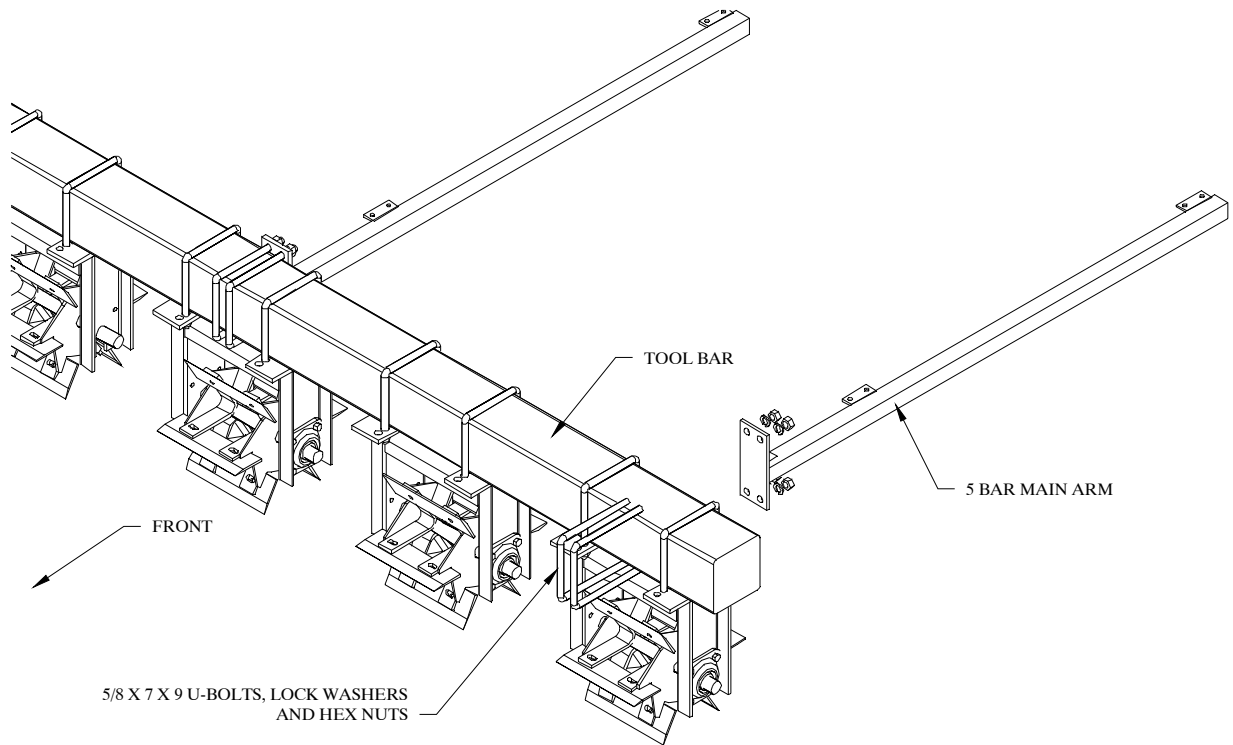


Figure 8

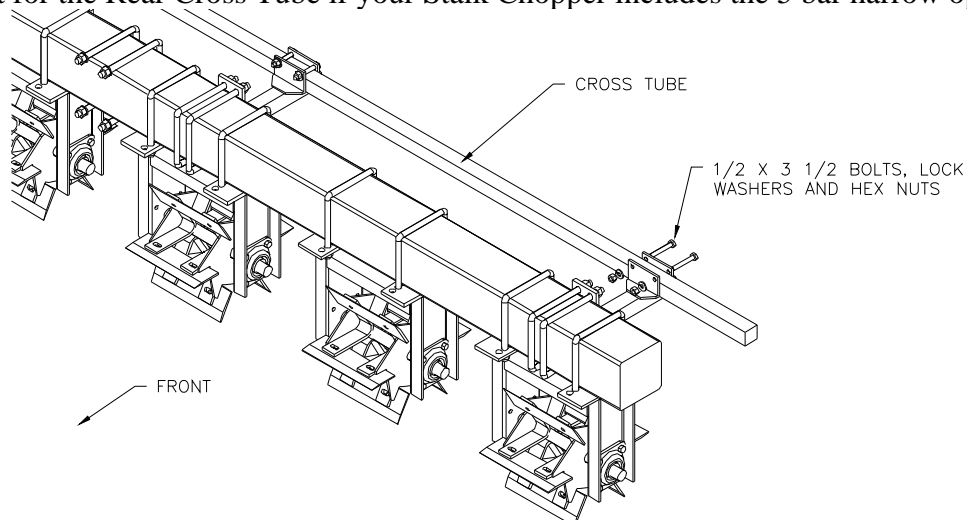
Attach the Cross Tubes

(Refer to Figure 9)

If your unit does not have harrow sections, skip this section.

Note: The 3 bar harrow option only requires a Front Cross Tube while the 5 bar harrow option requires a Front and Rear Cross Tube.

1. Position the Front Cross Tube across the tops of the Main Arms with equal distance out both sides. Use the fasteners shown in figure 7 to secure them into place. Do not completely tighten the bolts yet.
2. Repeat for the Rear Cross Tube if your Stalk Chopper includes the 5 bar harrow option.



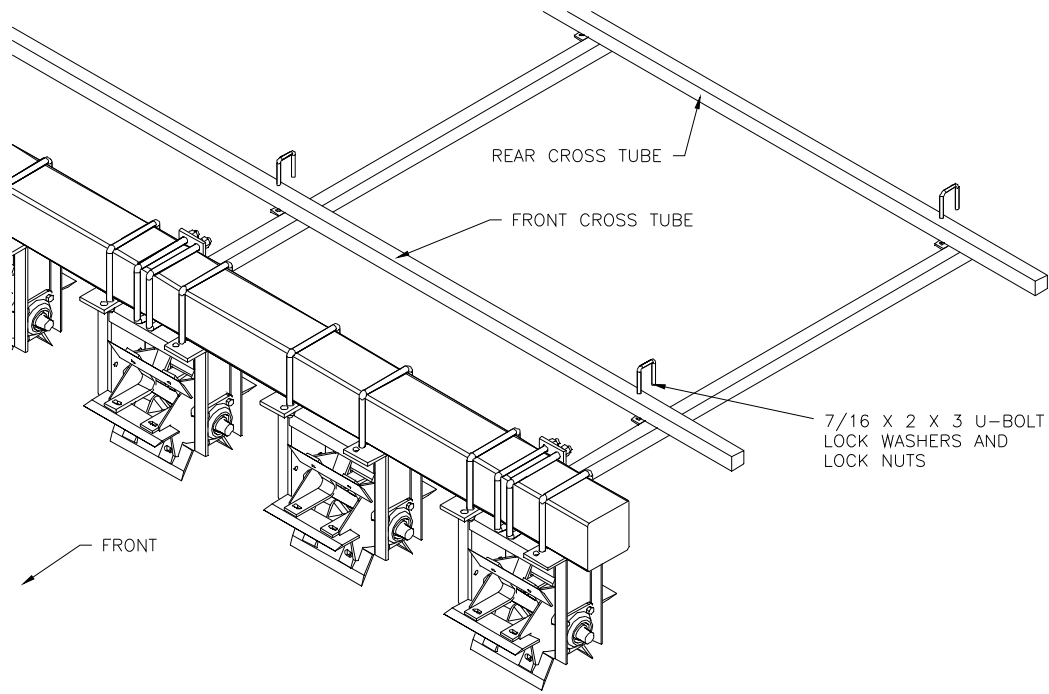


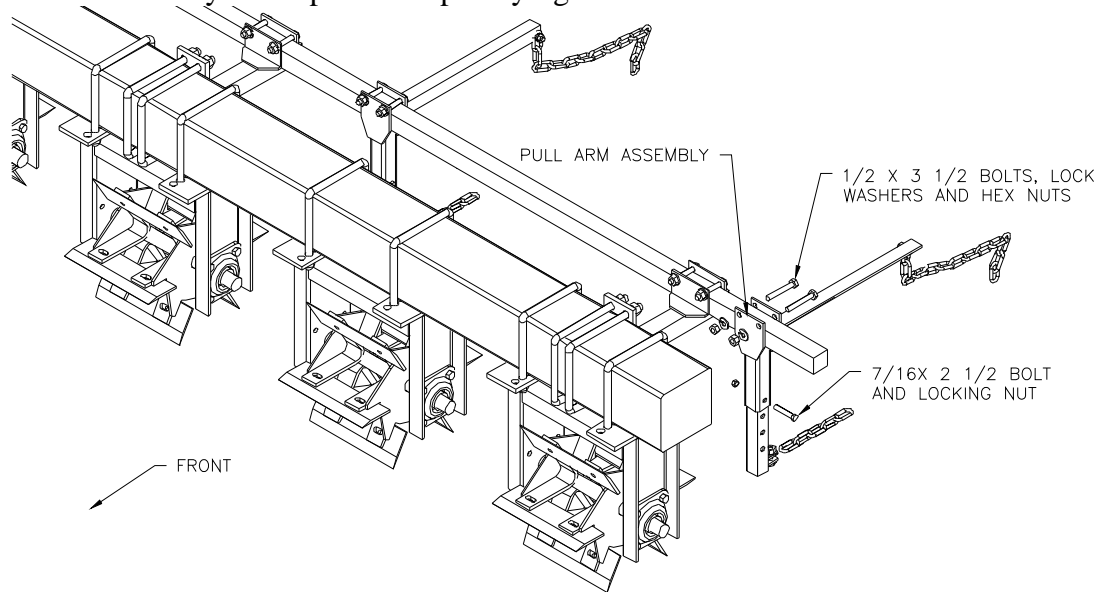
Figure 9

Attach the Pull Arms and Lift Clevis

If your unit does not have harrow sections, skip this section.

1. For the 3 bar option, determine each Pull Arm position from the layout diagram in appendix C. Bolt the Pull Arm to the Front Cross Tube at the specified location with $\frac{1}{2}$ x $3 \frac{1}{2}$ bolts, lock washers and hex nuts.
2. For the 5 bar option, attach the Pull Arms as shown in figure 8.

It may be necessary to move the Main Arms slightly in order to get the Pull Arms in the proper locations. Once they are in place completely tighten all the nuts and bolts that have been installed.



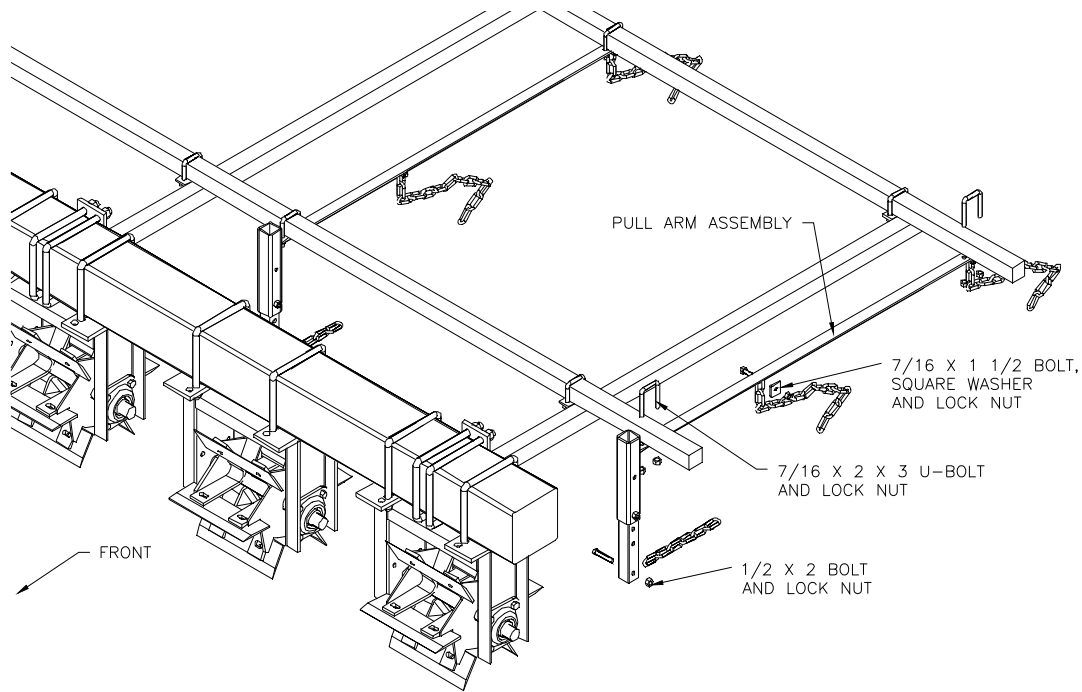


Figure 10

Angle of Attack

If your unit does not have harrow sections, skip this section.

Before placing the harrows into their appropriate places, determine the angle of attack desired. The angle of attack can be changed by simply reversing the harrow sections and pull them from the opposite end. Note the direction of the caps when determining direction of pull in figure 8.

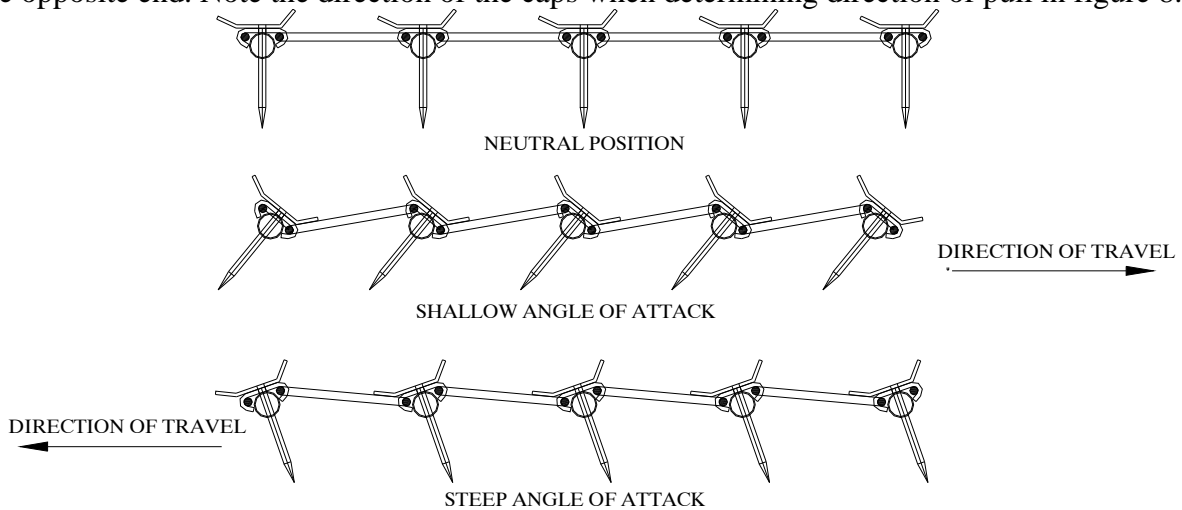
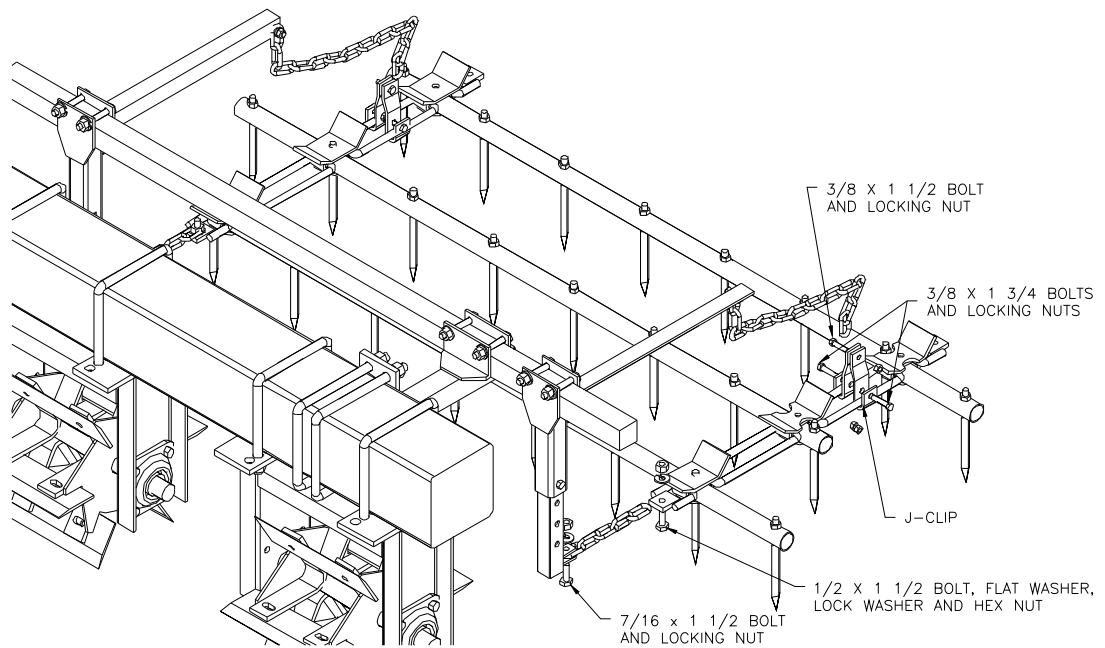


Figure 11

Attach the FH Harrow Sections

1. Position the harrow sections in their appropriate places. Refer to appendix C. Make sure to use the diagram for the unit that is being assembled.
2. Harrow section identification is quite simple, the first two letters (FA or FH) indicates the harrow type. The next number (500, 600,700, etc.) tells the number of teeth per bar (500 = 5 teeth per bar, 600 = 6 teeth per bar). And the last number (5 or 8) indicates the number of bars per section.
3. Once the harrow sections have been positioned in place, attach the 6 link pull chain and the 13 link lift chains as shown in Figure 10. Note the difference between the 3 and 5 bar sections.



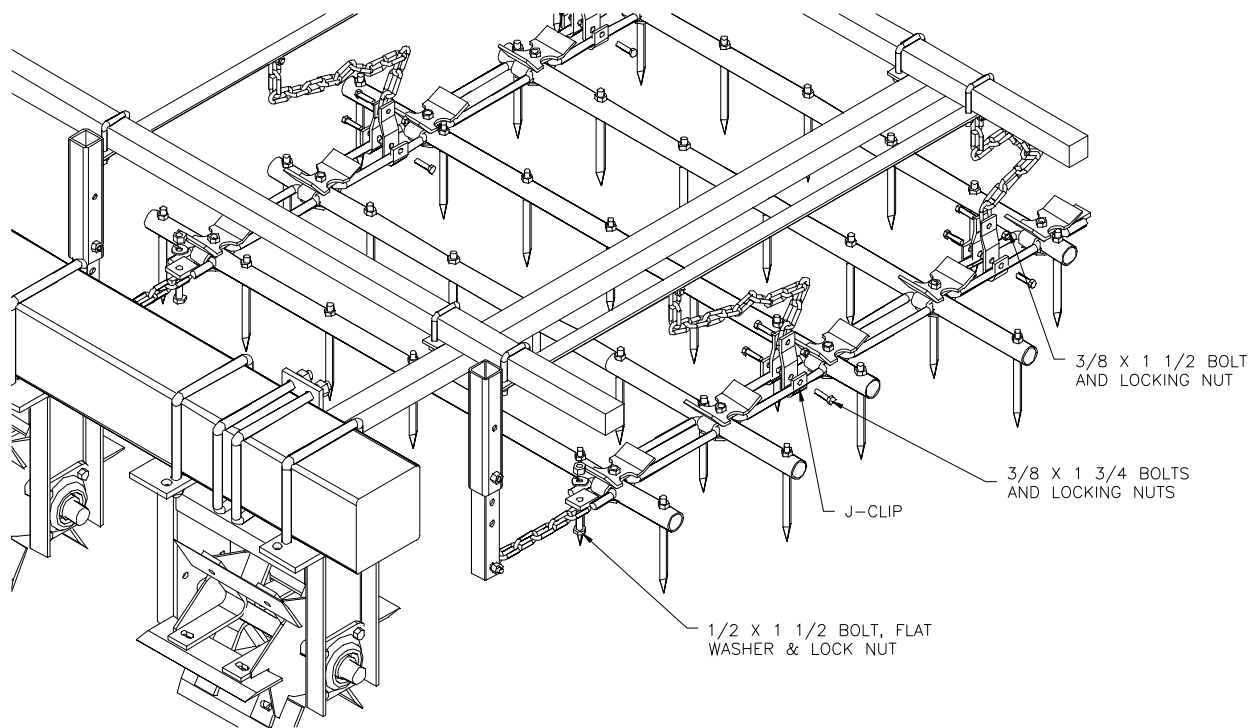


Figure 12

Final Adjustments

1. Lower the unit into the field position.
2. Pull the completed unit ahead a few feet to check that everything is properly assembled and that nothing is binding or misaligned.
3. Check to make sure that all bolts and fasteners are tight.
4. With the unit in the transport position, attach the red and amber reflectors at the widest visible points. The red reflectors should be visible from the rear of the unit, and the amber reflectors should be visible from the front of the unit.
5. When unhooking the unit from the tractor make sure that the jack stand supports are in place.
6. After the first few hours of operation, check all fasteners and tighten if necessary. Include wheel lugs.

This completes the assembly of your harrow and 3-pt lift. Before using the unit, double check that all components have been assembled properly. If there are any questions regarding any of the assembly steps, contact your local dealer for an explanation. Do not operate this or any equipment unless you are sure that all components operate as they were designed to operate.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Excessive clogging during operations	Angle of attack too steep	Pull harrow sections from the other end
	Ground speed too low	Increase ground speed to 6 - 9 mph

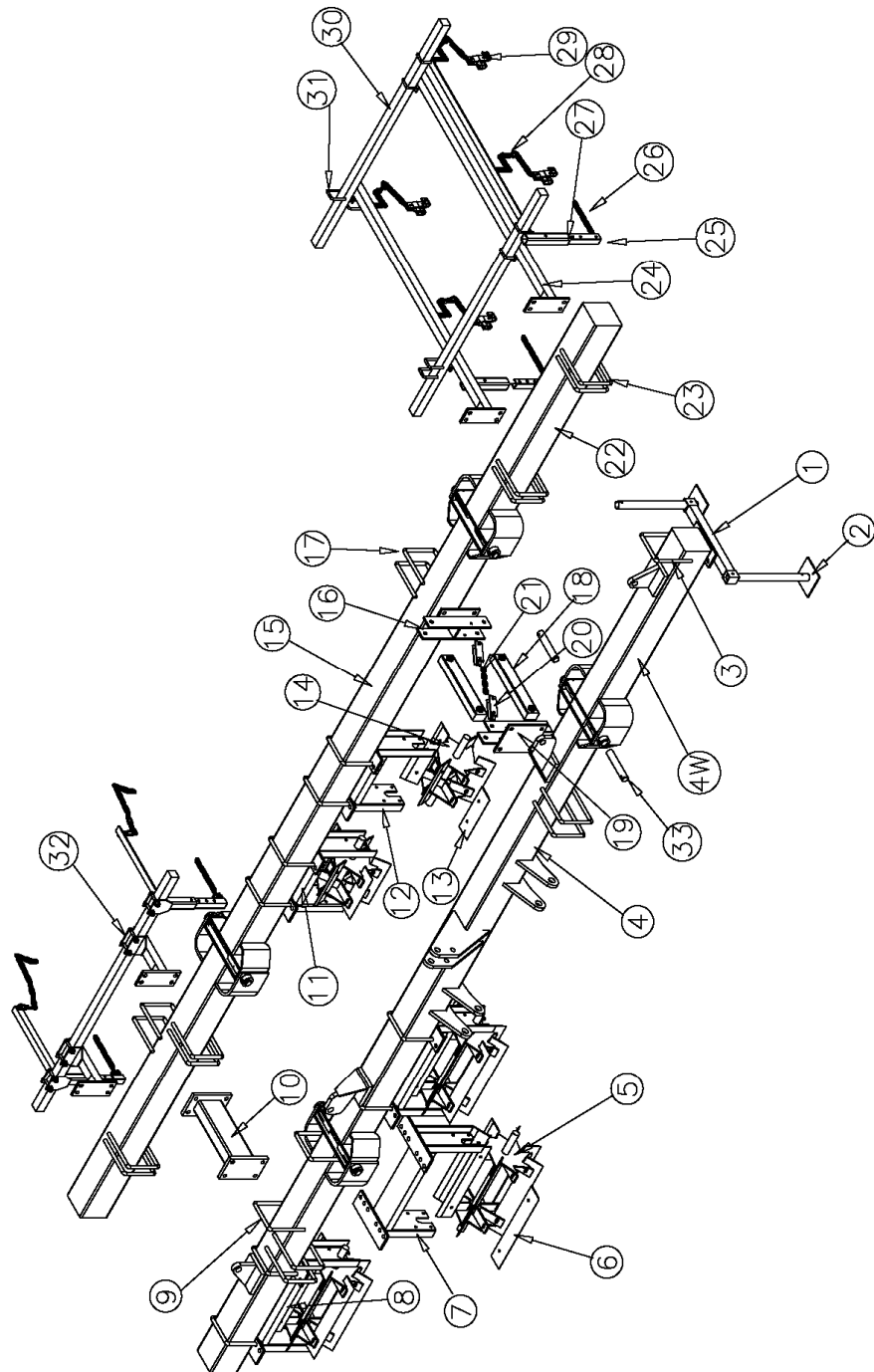
BOLT TORQUE SPECIFICATIONS

Coarse Thread Series			Fine Thread Series		
Nut Size and Threads per Inch	Nut Tightening Torque (lb.ft.)		Nut Size and Threads per Inch	Nut Tightening Torque (lb.ft.)	
Grade C Nuts			Grade C Nuts		
	Max.	Min.		Max.	Min.
1/4 - 20	14.7	10	1/4 - 28	14.7	10
5/16 - 18	22.3	15.2	5/16 - 24	23.4	18.4
3/8 - 16	39	28	3/8 - 24	41	30
7/16 - 14	60	44	7/16 - 20	60	44
1/2 - 13	88	63	1/2 - 20	98	70
9/16 - 12	134	98	9/16 - 18	134	98
5/8 - 11	172	127	5/8 - 18	176	127
3/4 - 10	295	218	3/4 - 16	295	218
7/8 - 9	440	317	7/8 - 14	440	317
1 - 8	651	506	1 - 14	703	610

WHEEL LUG TORQUE SPECIFICATIONS

Tire Size	Lug Size	Lug Tightening Torque (lb.ft.)	
		Max.	Min.
18.5X8.5-8	½ nut	85	75
7.60-15	½ x 1	85	75
9.5L-15	½ x 1	90	80
11L-15	½ x 1	90	80
12.5L-15	9/16 x 1	90	80
13X13.5-15	9/16 x 1	90	80
425/65R 22.5	3/4 nut	90	80

3-POINT ROLLING STALK CHOPPER W/FOLDING TOOL BAR PARTS DIAGRAM



**ROLLING STALK CHOPPER W/FOLDING TOOL BAR
PARTS LIST**

Always order by Part Number - *Not* by Key Number

KEY	PART #	DESCRIPTION	QTY.
1	SC-401	PARKING STAND BRACKET	1
2	SC-400	PARKING STAND LEG	2
3	BU-7579	U-BOLT (3/4" X 7" X 9")	*
4W	***	FRONT TOOL BAR WING	*
4	***	FRONT CENTER TOOL BAR	1
**	SC-504	LOWER 3-PT HITCH PIN (1 1/8" X 1 7/16" X 9 1/4")	2
**	SC-501	TOP LINK PIN (1")	1
5	SC-102	REEL (20 3/4" 8-BLADE)	*
6	SC-103	BLADE (20 3/4")	*
7	SC-101	REEL BRACKET (20 3/4" BLADE)	*
8	SC-100	REEL BRACKET ASSEMBLY (20 3/4" 8-BLADE)	*
9	BU-3479	U-BOLT (3/4" X 7 1/4" X 8 1/2")	*
**	SC-150	BEARING	*
**	SC-151	BEARING HOLDER	*
10	SC-310	RIGID CONNECTOR	*
11	SC-200	REEL BRACKET ASSEMBLY (11 3/4" 6-BLADE)	*
12	SC-201	REEL BRACKET (11 3/4" BLADE)	*
13	SC-203	BLADE (11 3/4")	*
14	SC-202	REEL (11 3/4" 6 BLADE)	*
**	SC-110	REEL BRACKET ASSEMBLY (20 3/4" 6-BLADE)	*
**	SC-111	REEL (20 3/4" 6-BLADE)	*
15	***	REAR CENTER TOOL BAR	1
16	SC-303	REAR FLEXIBLE LINKAGE VERTICAL	*
17	BU-7579	U-BOLT (3/4" X 7" X 9")	*
18	SC-302	FLEXIBLE LINKAGE TUBE	*
19	SC-301	FRONT FLEXIBLE LINKAGE VERTICAL	*
20	SC-304	CHAIN FLAT STRAP	*
**	SC-300	FLEXIBLE LINKAGE ASSEMBLY	*
21	CH-0807	3/8" 7 LINK CHAIN	*
22	***	REAR TOOL BAR WING	2
23	BU-5878	U-BOLT (5/8" X 7" X 8 1/2")	*
24	STM-3105	MAIN ARM (5 BAR HARROW OPTION)	*
**	STM-3200	MAIN ARM (FUERST FULL SECTION OPTION)	*
**	STM-3250	MAIN ARM (FUERST HALF SECTION OPTION)	*
25	STM-2040	PULL ARM INSERT	*
26	CH-0706	6 LINK PULL CHAIN	*
27	STM-2050	PULL ARM	*
28	CH-0710	10 LINK LIFT CHAIN	*

**	CH-1516	16 LINK LIFT CHAIN (FUERST SECTION OPTION)	*
29	STM-2024	STM LIFT CLIP	*
30	***	CROSS TUBE	*
31	BU-7623	U-BOLT (7/16 X 2 X 3)	
32	BTM-3100	MAIN ARM (3 BAR HARROW OPTION)	*
33	SPR-2712	WING HINGE PIN (1 ½" X 8 5/16")	*
**	***	PULL TUBE ASSEMBLY	*
**	***	PULL TUBE ONLY	*
**	HD-1197	PULL TUBE CLEVIS	*
**	***	GAUGE WHEEL	2
**	DC-111	DECAL: "STAND CLEAR..."	1
**	DC-116	DECAL: "DO NOT CLIMB ON..."	1
**	DC-117	DECAL: "...USE JACK STAND"	1
	***	BOLT BAG	1
	***	LITERATURE PACKET	1

* Quantity depends on specific unit ordered.

** Unnumbered items are not pictured.

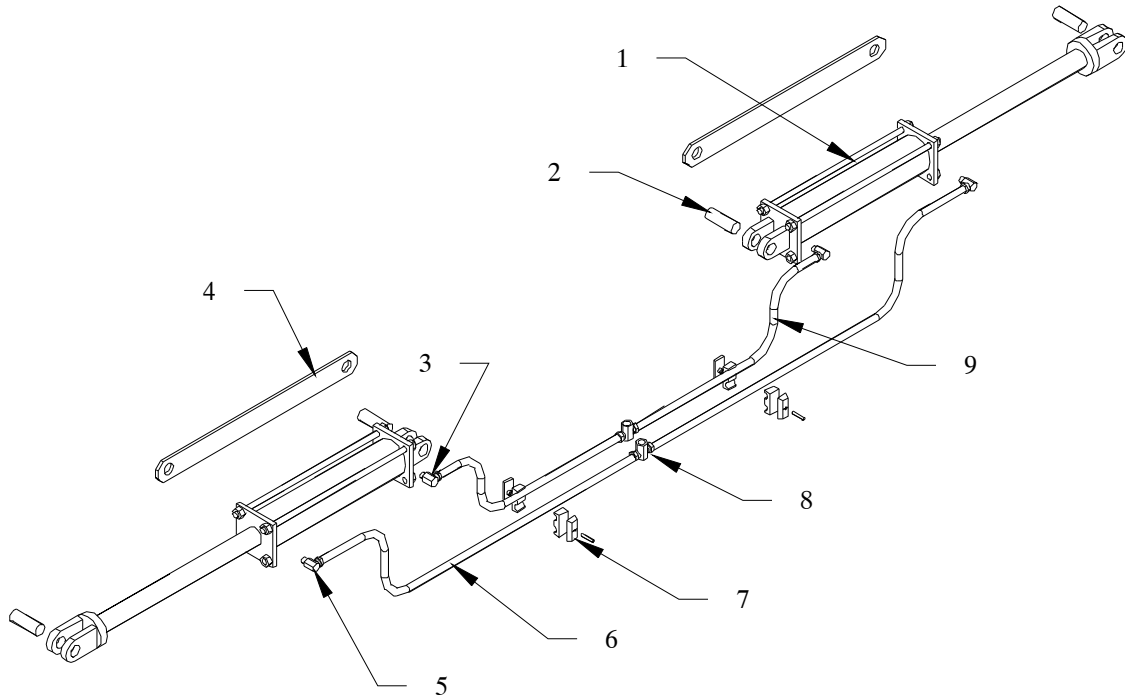
*** Specify model number when ordering.

xxx length in inches (84" is 084, 112" is 112)

Bolts, washers, nuts, and cotter pins are not shown. Refer to the assembly instructions for details.

McFarlane Manufacturing reserves the right to change specifications of design at any time without obligation to modify previous products.

3-POINT FOLDING ROLLING STALK CHOPPER PARTS LIST and DIAGRAM

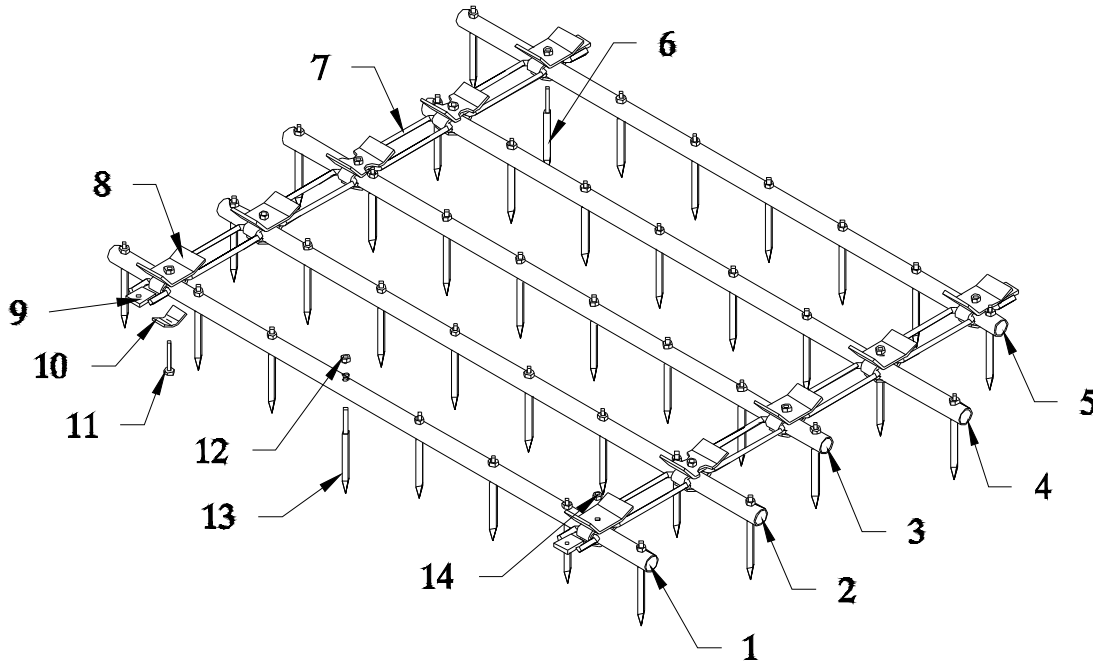


KEY	PART #	DESCRIPTION	QTY.
1	HYA-3516	3 1/2" x 16" ASAE HYDRAULIC CYLINDER (ONLY ON UNITS SMALLER THAN 10 ROW 30")	2
**	HYA-34016	4" X 16" ASAE HYDRAULIC CYLINDER	2
2	SC-503	1 1/4" CYLINDER LOCK CLEVIS PIN	4
3	HYF-2820	ELBOW (3/8"m – 1/2"o-ring)	2
4	SC-600	CYLINDER LOCK BAR	2
5	HYF-2821	ELBOW w/restrictor (3/8"m – 1/2"o-ring)	2
6	HYH-8060	3/8" x 60" HYDRAULIC HOSE (115" CENTER ONLY)	2
6	HYH-8072	3/8" x 72" HYDRAULIC HOSE (145" CENTER ONLY)	2
6	HYH-8084	3/8" x 84" HYDRAULIC HOSE (175" CENTER ONLY)	2
6	HYH-8108	3/8" x 108" HYDRAULIC HOSE (217" CENTER ONLY)	2
7	***	3/8" DUAL HYDRAULIC HOSE CLAMP	3
8	HYF-1828	TEE (3/8"m – 1/2"pipe - 3/8"m)	2
9	HYH-8080	3/8" x 80" HYDRAULIC HOSE (115" CENTER ONLY)	2
9	HYH-8090	3/8" x 90" HYDRAULIC HOSE (145" CENTER ONLY)	2
9	HYH-8108	3/8" x 108" HYDRAULIC HOSE (175" CENTER ONLY)	2
9	HYH-8126	3/8" x 126" HYDRAULIC HOSE (217" CENTER ONLY)	2

Note: When ordering cylinder replacement parts, please specify cylinder make & part number.

FH 5 BAR HARROW SECTIONS

Includes FH-500-5, FH-600-5, FH-700-5, FH-800-5 and FH-900-5
and Heavy Duty



ITEM #	PART #	DESCRIPTION
1	FH-506	#1 HARROW BAR (FH-500-5)
1	FH-601	#1 HARROW BAR (FH-500-5H)
1	FH-509	#1 HARROW BAR (FH-600-5)
1	FH-604	#1 HARROW BAR (FH-600-5H)
1	FH-512	#1 HARROW BAR (FH-700-5)
1	FH-607	#1 HARROW BAR (FH-700-5H)
1	FH-113	#1 HARROW BAR (FH-800-5)
1	FH-610	#1 HARROW BAR (FH-800-5H)
1	FH-515	#1 HARROW BAR (FH-900-5)
1	FH-613	#1 HARROW BAR (FH-900-5H)
2	FH-507	#2 HARROW BAR (FH-500-5)
2	FH-602	#2 HARROW BAR (FH-500-5H)
2	FH-510	#2 HARROW BAR (FH-600-5)
2	FH-605	#2 HARROW BAR (FH-600-5H)
2	FH-513	#2 HARROW BAR (FH-700-5)
2	FH-608	#2 HARROW BAR (FH-700-5H)
2	FH-114	#2 HARROW BAR (FH-800-5)
2	FH-611	#2 HARROW BAR (FH-800-5H)
2	FH-516	#2 HARROW BAR (FH-900-5)
2	FH-614	#2 HARROW BAR (FH-900-5H)
3	FH-507	#3 HARROW BAR (FH-500-5)

3	FH-602	#3 HARROW BAR (FH-500-5H)
3	FH-510	#3 HARROW BAR (FH-600-5)
3	FH-605	#3 HARROW BAR (FH-600-5H)
3	FH-513	#3 HARROW BAR (FH-700-5)
3	FH-608	#3 HARROW BAR (FH-700-5H)
3	FH-114	#3 HARROW BAR (FH-800-5)
3	FH-611	#3 HARROW BAR (FH-800-5H)
3	FH-516	#3 HARROW BAR (FH-900-5)
3	FH-614	#3 HARROW BAR (FH-900-5H)
4	FH-508	#4 HARROW BAR (FH-500-5)
4	FH-603	#4 HARROW BAR (FH-500-5H)
4	FH-511	#4 HARROW BAR (FH-600-5)
4	FH-606	#4 HARROW BAR (FH-600-5H)
4	FH-514	#4 HARROW BAR (FH-700-5)
4	FH-609	#4 HARROW BAR (FH-700-5H)
4	FH-115	#4 HARROW BAR (FH-800-5)
4	FH-612	#4 HARROW BAR (FH-800-5H)
4	FH-517	#4 HARROW BAR (FH-900-5)
4	FH-615	#4 HARROW BAR (FH-900-5H)
5	FH-508	#5 HARROW BAR (FH-500-5)
5	FH-603	#5 HARROW BAR (FH-500-5H)
5	FH-511	#5 HARROW BAR (FH-600-5)
5	FH-606	#5 HARROW BAR (FH-600-5H)
5	FH-514	#5 HARROW BAR (FH-700-5)
5	FH-609	#5 HARROW BAR (FH-700-5H)
5	FH-115	#5 HARROW BAR (FH-800-5)
5	FH-612	#5 HARROW BAR (FH-800-5H)
5	FH-517	#5 HARROW BAR (FH-900-5)
5	FH-615	#5 HARROW BAR (FH-900-5H)
6	E-511	SPIKE TOOTH (1/2" X 3" SHANK)
7	FH-125	CONNECTOR LINK (REGULAR)
8	FH-127	NOTCHED LINK CAP
9	FH-122	PULL FLAT
10	FH-019	CAP CLIP
11	**	1/2" X 3 " BOLT
12	**	1/2" LOCK NUT
13	E-510	SPIKE TOOTH (1/2" X 2 1/2" SHANK)
14	**	1/2" LOCK NUT

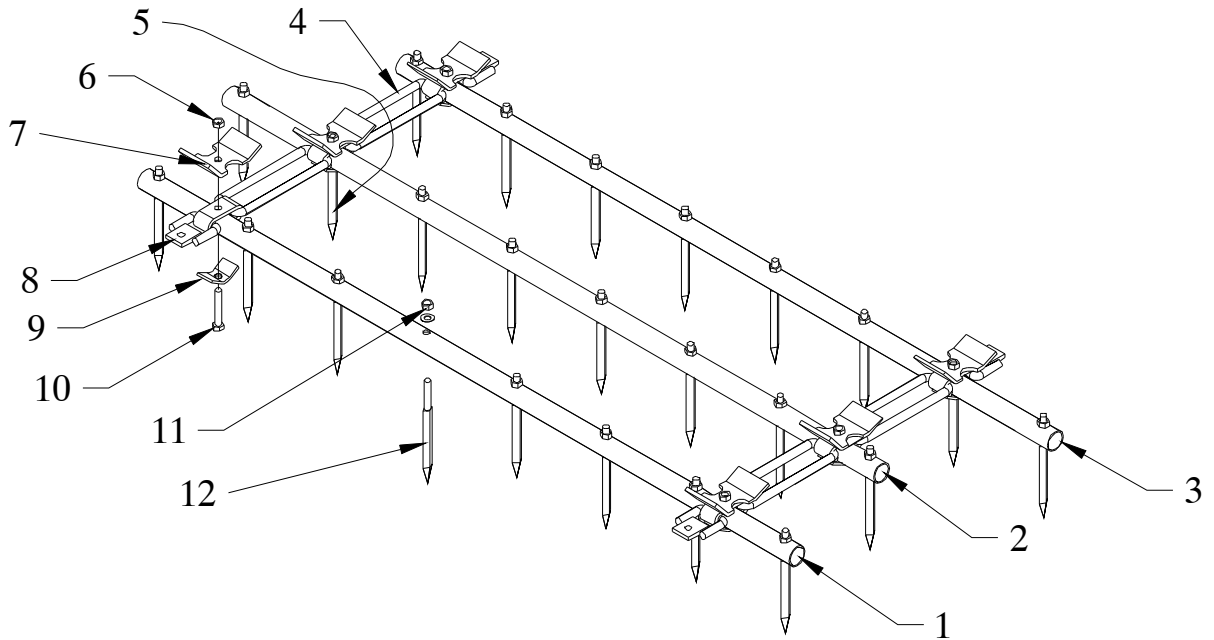
The #1 bar is the bar with an equal amount of tube to the right and left of the pull flats. The #5 bar is the bar that is staggered off to one side.

When pulling the harrow section from the #1 bar, the teeth will be in the least aggressive setting. When pulling from the #5 bar the teeth will be in the most aggressive setting.

2/26/03

FH 3 BAR HARROW SECTIONS

Includes FH-500-3, FH-600-3, FH-700-3, FH-800-3 and FH-900-3



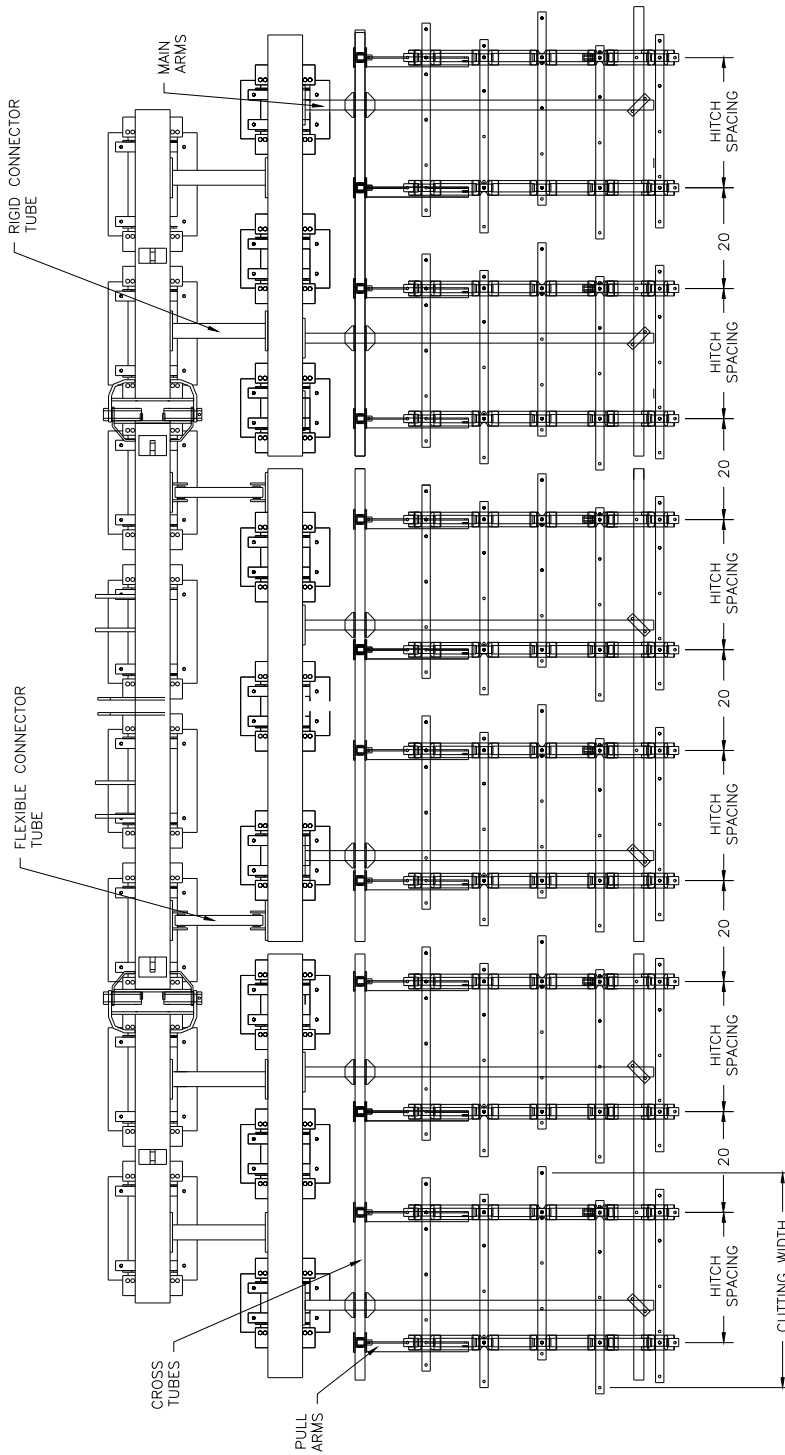
ITEM #	PART #	DESCRIPTION
1	FH-320	#1 HARROW BAR (FH-500-3)
1	FH-322	#1 HARROW BAR (FH-600-3)
1	FH-324	#1 HARROW BAR (FH-700-3)
1	FH-326	#1 HARROW BAR (FH-800-3)
1	FH-328	#1 HARROW BAR (FH-900-3)
2	FH-321	#2 HARROW BAR (FH-500-3)
2	FH-323	#2 HARROW BAR (FH-600-3)
2	FH-325	#2 HARROW BAR (FH-700-3)
2	FH-327	#2 HARROW BAR (FH-800-3)
2	FH-329	#2 HARROW BAR (FH-900-3)
3	FH-321	#3 HARROW BAR (FH-500-3)
3	FH-323	#3 HARROW BAR (FH-600-3)
3	FH-325	#3 HARROW BAR (FH-700-3)
3	FH-327	#3 HARROW BAR (FH-800-3)
3	FH-329	#3 HARROW BAR (FH-900-3)
4	FH-125	CONNECTOR LINK (STANDARD)
5	E-511	1/2" X 3" SHANK SPIKE TOOTH
6	**	1/2" LOCK NUT
7	FH-127	NOTCHED LINK CAP
8	FH-122	PULL FLAT
9	FH-019	CAP CLIP
10	**	1/2" X 3" BOLT
11	**	1/2" LOCK NUT
12	E-510	1/2" X 2 1/2" SHANK SPIKE TOOTH

2/26/03

SECTION LAYOUT DIAGRAM

Double Chopper with 5 Bar Harrow Sections Shown

*Place sections evenly across unit with the larger sections in the center when possible.



SECTION	HITCH SPACING	CUTTING WIDTH
FH-500-3	24 1/8"	42 1/4"
FH-600-3	33 3/16"	51 5/16"
FH-700-3	42 1/4"	60 3/8"
FH-800-3	51 5/16"	69 7/16"
FH-900-3	60 3/8"	78 1/2"
FH-500-5	25 3/8"	43 1/2"
FH-600-5	34 7/16"	52 9/16"
FH-700-5	43 1/2"	61 5/8"
FH-800-5	52 9/16"	70 11/16"
FH-900-5	61 5/8"	79 3/4"

WARRANTY REGISTRATION FORM

This form must be filled out by the dealer and owner and sent to: McFarlane Mfg. Co., Inc., 1330 Dallas Street, P.O. Box 100, Sauk City, WI 53583.

WARRANTY REGISTRATION FORM & INSPECTION REPORT

WARRANTY REGISTRATION

This form must be filled out by the dealer and signed by both the dealer and customer at the time of delivery.

Customer Name _____ Dealer Name _____

Address _____ Address _____

City, state, code _____ City, state, code _____

Phone number (____) _____

Model _____ Serial Number _____ Delivery Date _____

DEALER INSPECTION REPORT

- _____ Wheel bolts tight
- _____ Fasteners tight
- _____ Hydraulic hoses free
- _____ Hydraulic fittings tight
- _____ Arms free
- _____ Check tire pressures
- _____ Lubricate machine

SAFETY

- _____ All decals installed
- _____ Review operating and safety instructions

I have thoroughly instructed the buyer on the above described equipment; review included the operator's manual content, equipment care, adjustments, safe operation and applicable warranty policy.

Date _____ Dealer's signature _____

The above equipment and operator's manual have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation, and applicable warranty policy.

Date _____ Owner's signature _____