

OPERATOR'S MANUAL
AND
SET-UP INSTRUCTIONS
FOR THE

80 Series

Non-Folding 3-pt Lift
with Universal Pull Tube

VERSION: 8-07AJF

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

80 Series
Non-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.
1330 Dallas Street
P.O. Box 100
Sauk City, WI 53583

PHONE: (608) 643-3321
TOLL FREE: (800) 627-8569
FAX: (608) 643-3976



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.



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.
- 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.
- 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.**

- 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.
- 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, 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.
- 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, 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.
- 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.
- 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.

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 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.
- 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.
- 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

Attach the Lift Arms

1. Slide a lift arm into each of the saddles on the toolbar and bolt into place using $\frac{1}{2}$ x $2\frac{1}{2}$ bolts and lock nuts. Refer to figure 1.

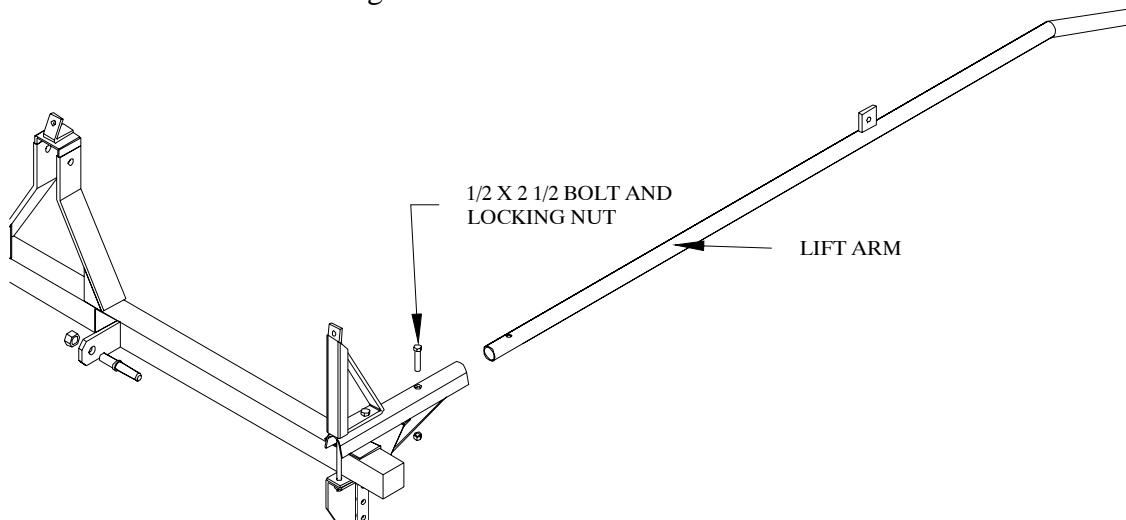


Figure 1

2. Bolt a Truss Rod to each of the lift arms using $\frac{1}{2}$ x $1\frac{1}{2}$ bolts, lock washers and hex nuts. Refer to figure 2 for proper orientation. Be sure that the threaded end of the Truss Rod is inserted into the Truss Post on the Toolbar. If there is a lift arm in the center of the unit The Truss Rod end gets inserted into the tab on top of the 3-point attachment frame.

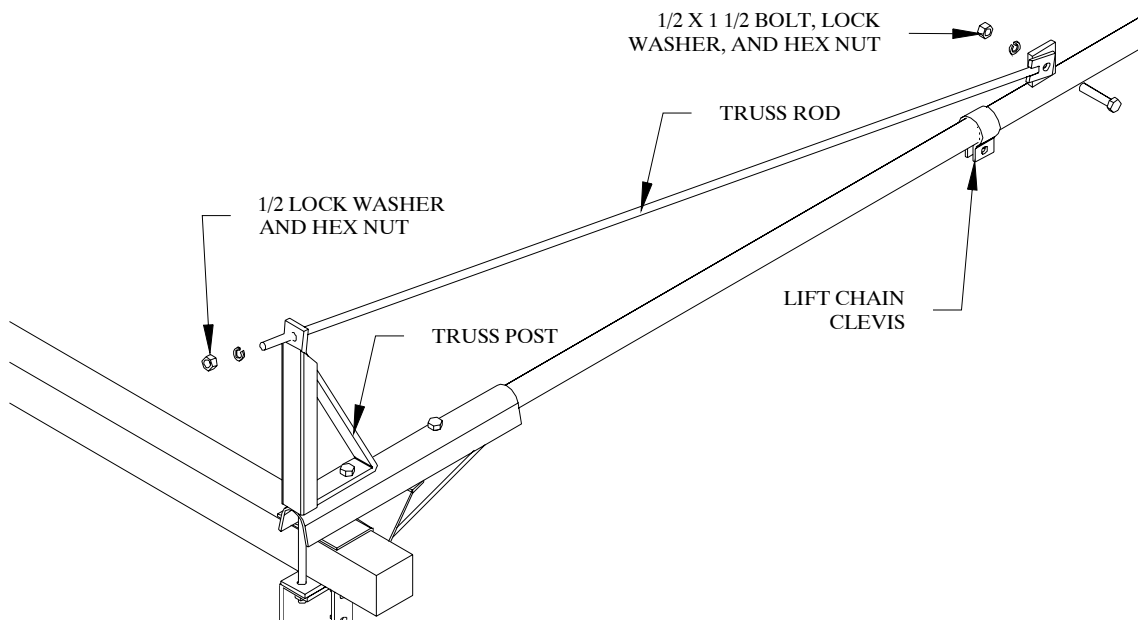


Figure 2

3. Bolt the Truss Rod to the Truss Post using $\frac{1}{2}$ lock washers and hex nuts. Refer to figure 2.
4. Slip a Lift Chain Clevis over the Lift Arm halfway back from the front Toolbar as shown in figure 2.

Attach the Stabilizer Angle

1. Place the Stabilizer Angle across the ends of the lift tubes. Bolt the Stabilizer Angle to the lift tubes using $7/16 \times 1 \ 11/16 \times 2 \ 11/16$ U-bolts, flat washers, lock washers and hex nuts. Refer to figure 3.

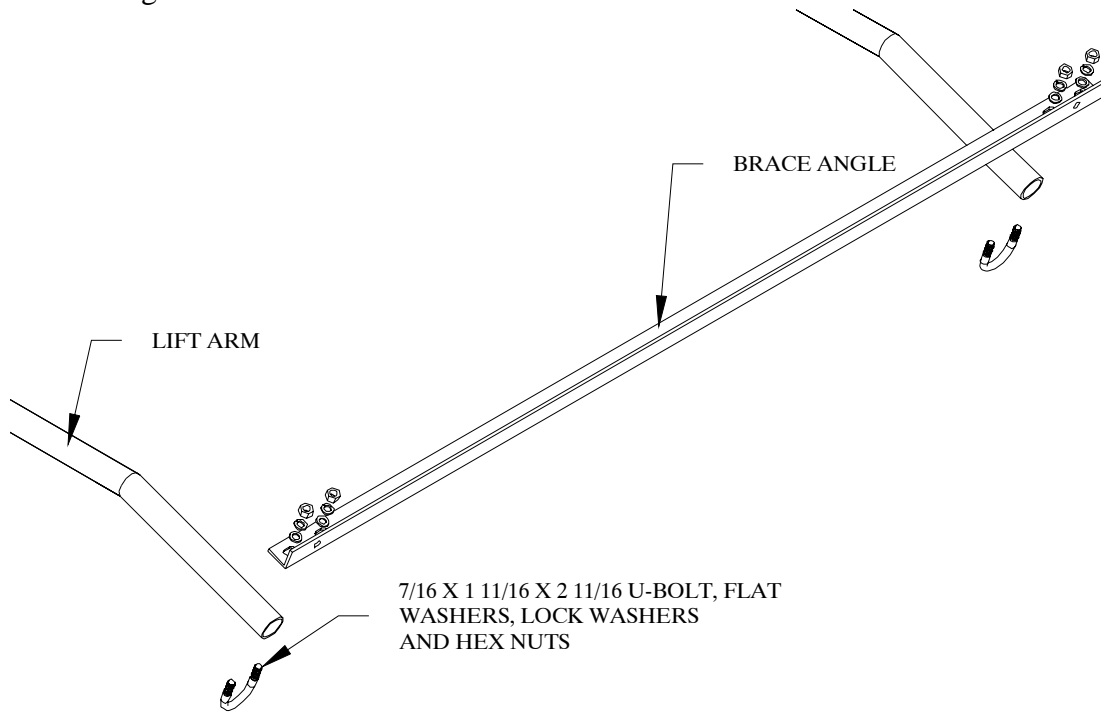


Figure 3

Attach the Pull Tubes

1. Refer to the layout diagram in appendix C and place the pull tubes behind the pull points. Bolt them to the pull chains using a $1/2'' \times 1 \ 1/2''$ bolt, lock washer and hex nut for each pull chain.

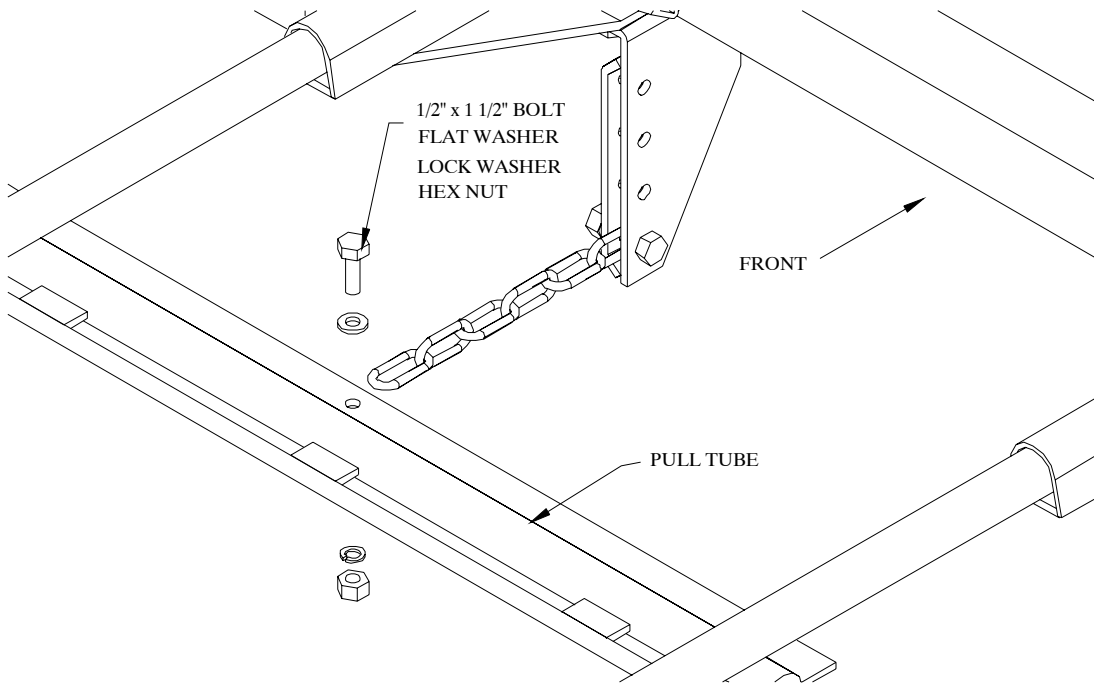


Figure 4

Attach the Front of the Harrow Sections

1. Hook the hooks on the front of the harrow sections between the pull tubes main tube and rear pull rod. Refer to the diagram in appendix C for harrow section placement.

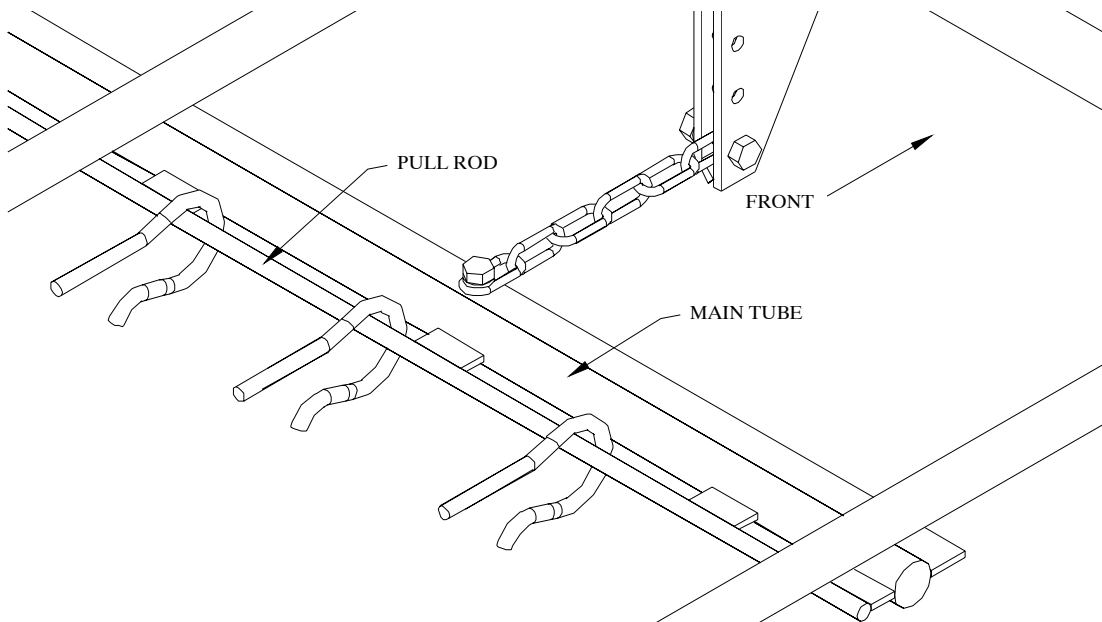


Figure 5

Attach the Rear Lift Chains

1. Pull the unit forward a few feet to take the slack out of the harrow section and pull chains.
2. Directly below the Lift Chain Clevis, wrap a 16 Link Lift Chain around a harrow section cross piece and feed the chain back through the large 1 1/2" ring on the end of the chain. Bolt the free end of the Lift Chain to the Lift Chain Clevis. Referring to figure 6, use 7/16 x 1 1/4 bolts, lock washers and hex nuts.
3. In the same fashion as step 2, wrap a 16 link Lift Chain around a harrow section cross piece directly below the Stabilizer Angle where the angle is u-bolted to the Lift Arm. Bolt the free end of the Lift Chain to the rear side of the Stabilizer Angle using a 7/16 x 1 1/4 bolt, flat washer, lock washer and hex nut as shown in figure 6.

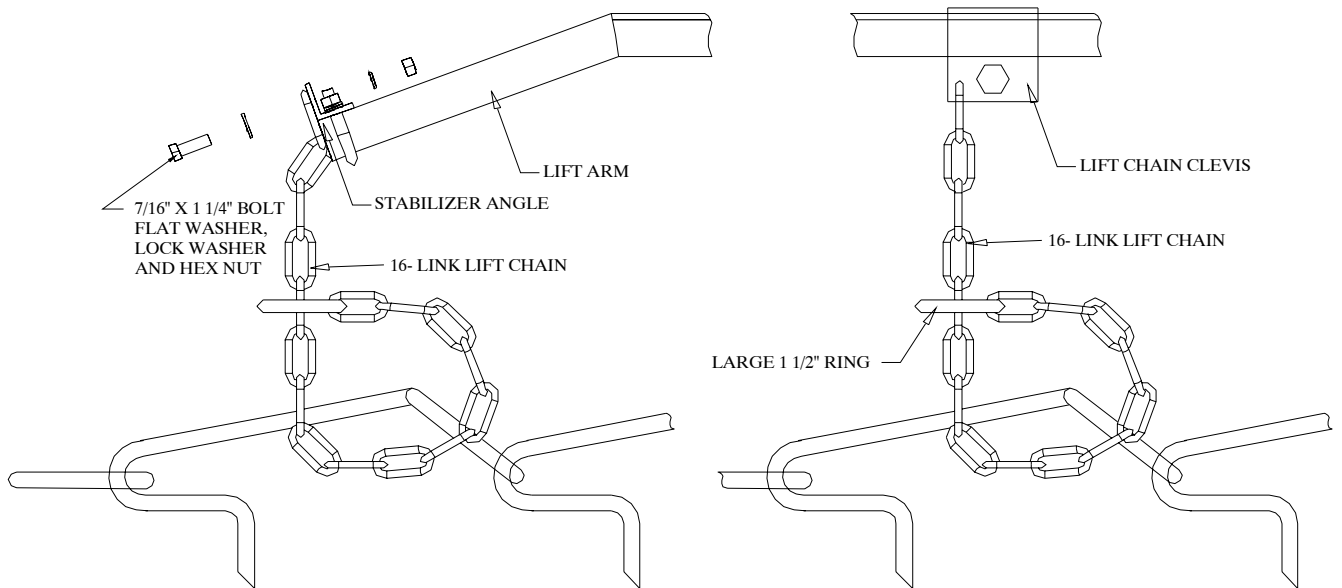


Figure 6

Install the Parking Stands

1. Bolt the jack stand mounting brackets to the outside lift arms towards the rear of the unit using 7/16 x 1 11/16 x 2 11/16 U-bolts and locking nuts. Refer to figure 7.
2. Place 2 jack stands in the mounting brackets that were installed in the previous step and 2 jack stands in the short pipe that is welded to each end of the main tool bar. Secure into place with 3/8 x 2 1/2 lynch pins in the hole closest to the flat base of the jack stands. When parking the unit, lower the jack stands so that the flat base is pointing towards the ground and pin into place.

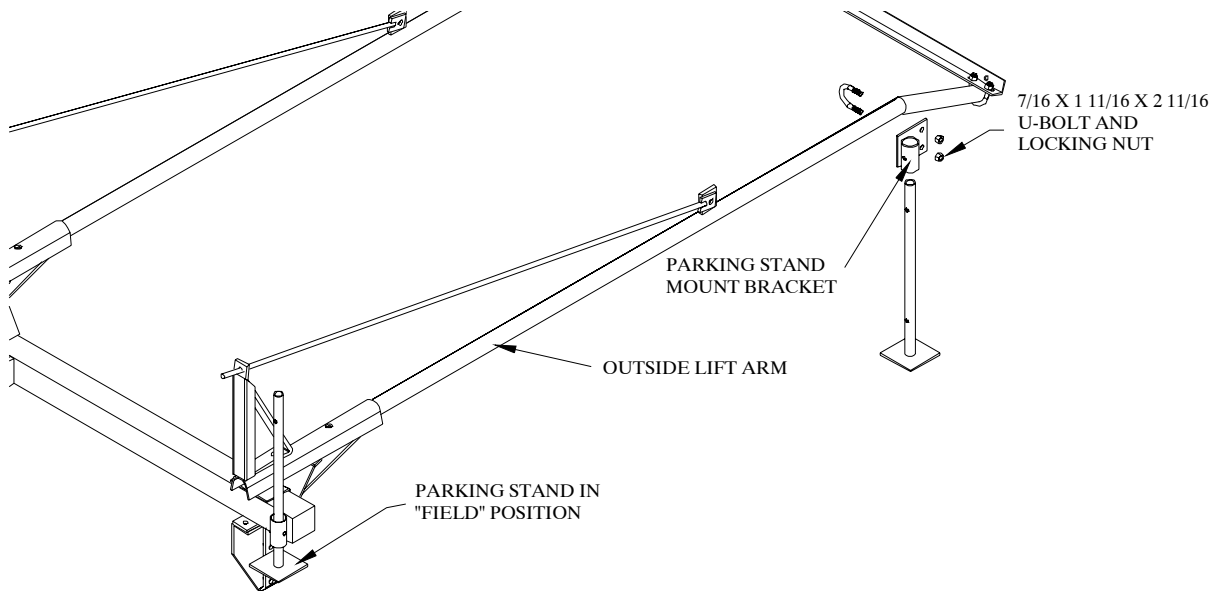


Figure 7

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.

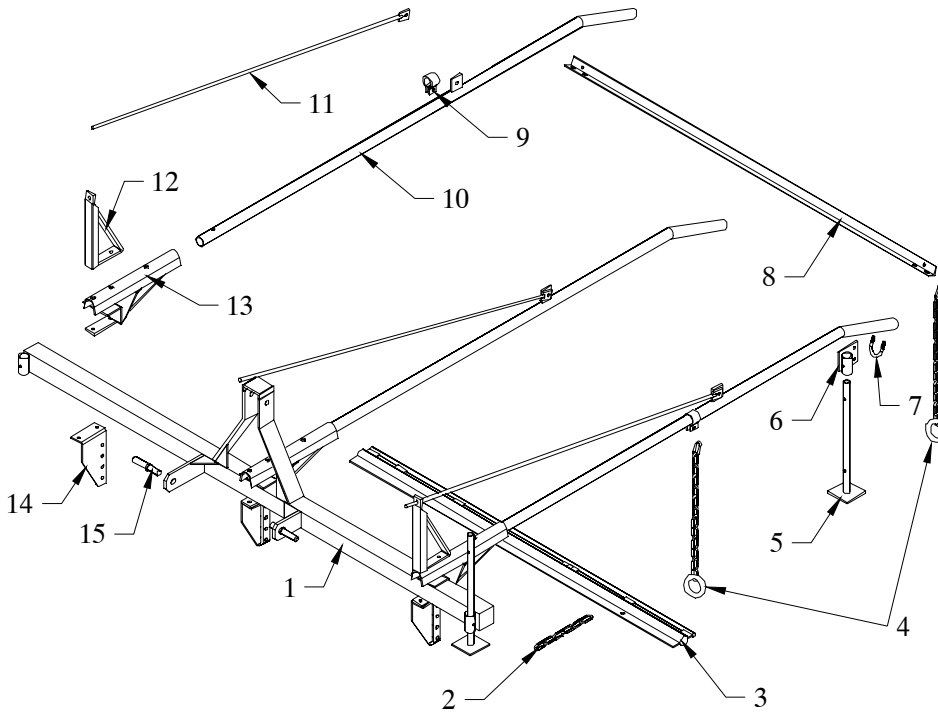
This completes the assembly of your harrow and 3-pt lift. Before using the unit, double check that all components have been assembled properly. If there are any questions regarding any of the assembly steps, contact your local dealer for an explanation. Do not operate this or any equipment unless you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

BOLT TORQUE SPECIFICATIONS

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

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

80-U SERIES 3-PT LIFT PARTS DIAGRAM



KEY	PART #	DESCRIPTION	QTY.
1	N-003	TOOL BAR (8' UNIT ONLY)	1
**	N-004	TOOL BAR (10' UNIT ONLY)	1
**	N-005	TOOL BAR (12' UNIT ONLY)	1
**	N-006	TOOL BAR (14' UNIT ONLY)	1
2	CH-0706	7/0 X 6 LINK PULL CHAIN	*
3	***	PULL TUBE ASSEMBLY, UNIVERSAL	1
4	CH-1516	16 LINK LIFT CHAIN	*
5	HD-1233	PARKING STAND	4
6	N-035	PARKING STAND MOUNT BRACKET	2
7	BU-7612	7/16 X 1 11/16 X 2 11/16 U-BOLT	*
8	***	BRACE ANGLE	1
9	N-018	LIFT CHAIN CLEVIS	*
10	N-007	LIFT ARM	*
11	N-002	TRUSS ROD	*
12	N-001	TRUSS POST	*
13	HD-1133	STANDARD SADDLE	*
14	HD-1137	PULL POINT	*
15	N-014	CATEGORY I HITCH STUD	2
**	N-015	CATEGORY II HITCH STUD	2

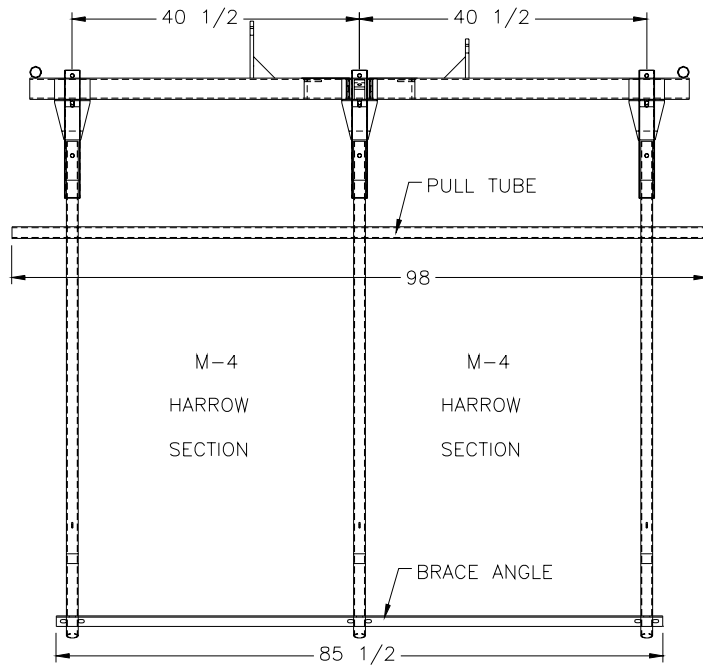
* Quantity depends on specific unit ordered.

** Unnumbered items are not pictured.

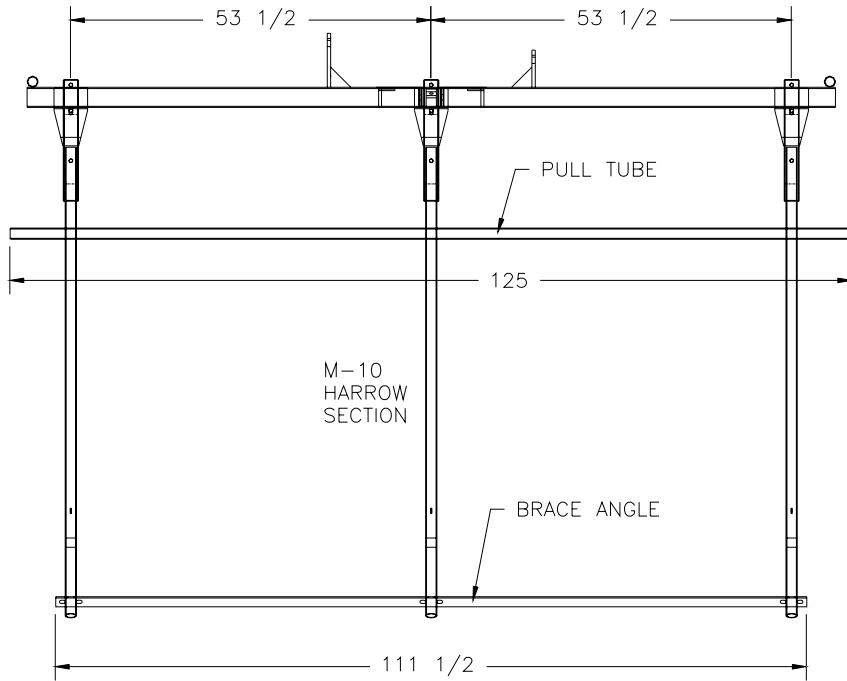
*** Please specify model number when ordering these parts.

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

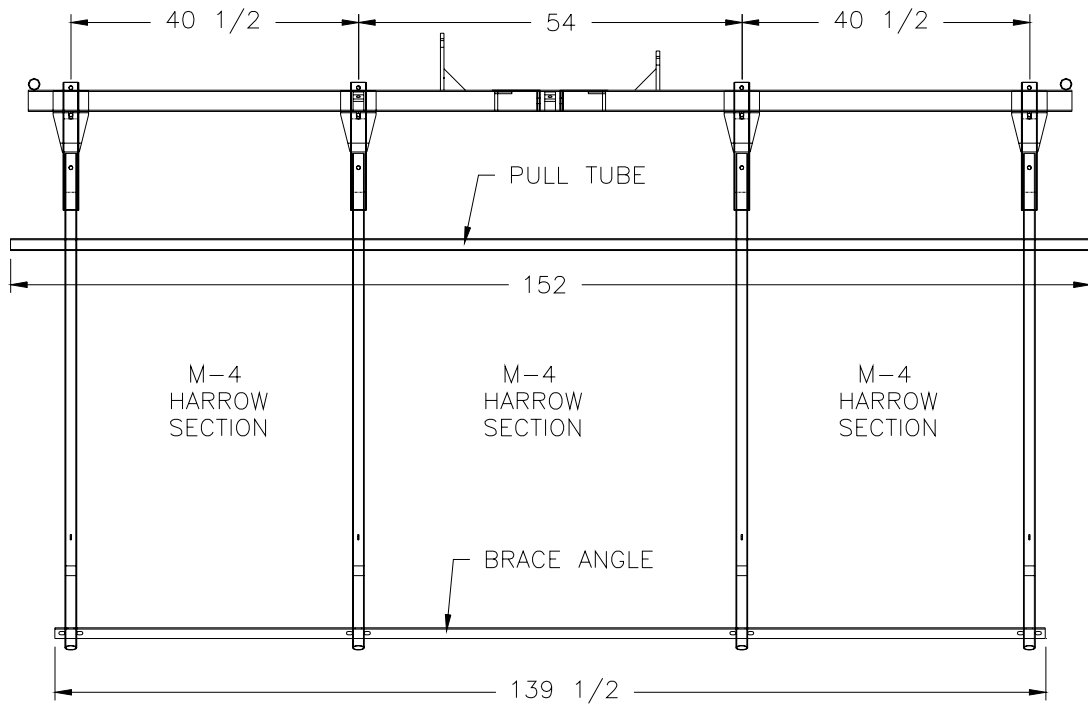
8008



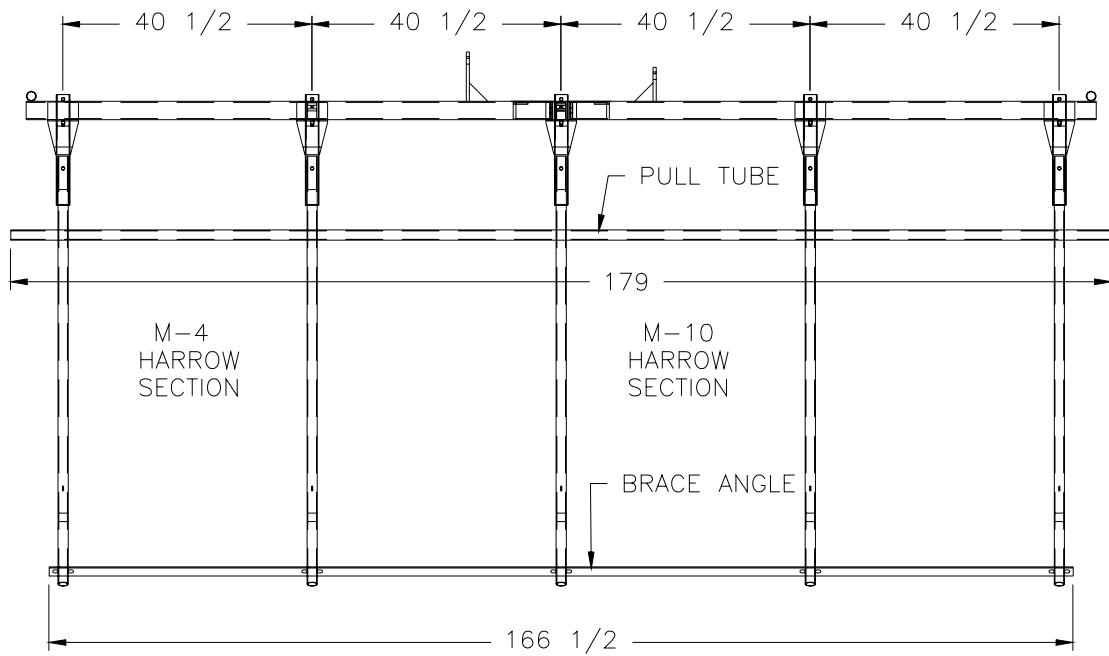
8010



8012



8014



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 _____