



**SERIES 6000**  
**ROW CULTIVATOR**  
**RIGID AND FOLDING TOOLBAR**  
**SERIAL NO. 6000-XXXX-101 AND LATER**

**OPERATOR'S MANUAL**

DO NOT USE OR OPERATE THIS EQUIPMENT UNTIL THIS MANUAL  
HAS BEEN READ AND THOROUGHLY UNDERSTOOD

PART NUMBER 81004464 Rev. E

---

---

---



# TABLE OF CONTENTS

81004464 Rev. E

3/17

Hiniker/81004464RevE

INTRODUCTION .....	1
SAFETY SUGGESTIONS .....	2
SPECIFICATIONS .....	3-4
LUBRICATION .....	4
PREPARING FOR FIELD USE .....	5-7
OPERATION PROCEDURES AND ADJUSTMENT .....	8-14
Adjustment Photo .....	8
Toolbar .....	9
Down Pressure Lever .....	9
Depth Control .....	9
Gauge Wheel Lever .....	9
Cutting Coulter Lever .....	10
Tractor Upper Link .....	10
Sweep Share Position .....	10
Shield and Sweep Share Recommendation .....	11
Ridging .....	11
Shields .....	11-13
Cut Away Disc .....	14
Anhydrous Application .....	14
Ridger .....	14
Auto Reset/Middleworker .....	15
Ridger With Liquid Fertilizer Tube .....	15
Lower Middleworker .....	15
Folding Toolbar Wing Lock .....	16
TROUBLE SHOOTING .....	17
ASSEMBLY .....	18-32
Assembly Diagrams .....	65-73
OPTIONAL EQUIPMENT .....	33-61
Sweep Shares .....	33
Coulter Scrapers .....	33
Ridgers .....	34
Down Pressure Spring .....	35
Ballast Weight .....	35
Liquid Fertilizer Tube .....	36
NH3 Coil Shank .....	36
NH3 Disc Closer Assembly .....	36
Telescoping Rear Hitch .....	37
Single Lift Assist .....	38-41
Dual Lift Assist .....	38-42
Telescoping Rear Hitch (for single lift assist) .....	42
Telescoping Rear Hitch (for dual lift assist) .....	43
Vertical Wing Fold Stop .....	44-45
Rotary Shield and Rotary Hoe Wheel .....	46-52
Cut Away / Hoe Shield .....	53-54
Cut Away Disc .....	55
Tunnel Shield .....	56-57
Cat #2 Hitch Pin W/O Quick Hitch .....	58
Single Row Tillage Unit .....	59
Warning Light .....	60-61
Single Row Tillage Unit Component PH Breakdown .....	62-64
ASSEMBLY DIAGRAMS .....	65-75
WARRANTY .....	76



# INTRODUCTION

Congratulations on your purchase of a new Hiniker 6000 Cultivator. Your selection is an indication of your awareness of the intense research, engineering, design and quality control that has produced your durable and dependable row cultivator from Hiniker.

This manual is provided as set-up and assembly instructions, and as an aid to the operator in explaining settings and adjustments for all soil, residue and functional applications of the Hiniker Row Cultivator. Also, its operational care and maintenance requirements. Careful application of the recommended procedures contained in this manual will assure you of many years of dependable, efficient operation.

Your Hiniker Row Cultivator has been designed to accept additional attachments to broaden its scope of operation and make your job easier under unusual or adverse field conditions. These attachments are described in the attachment section of this manual and are available through your local Hiniker Dealer.

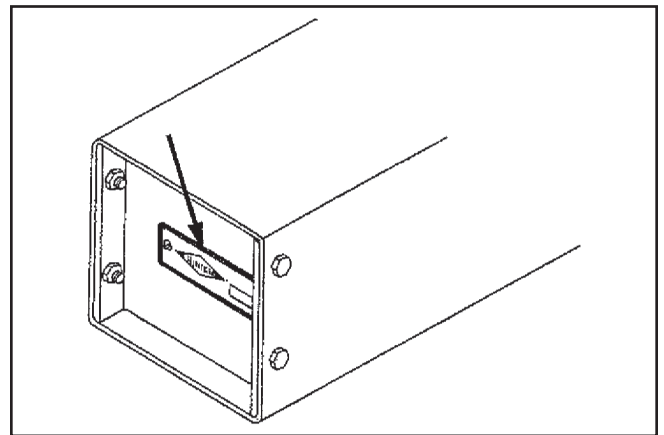
“Right hand” and “left hand” sides of your row cultivator are determined by facing the direction that the row cultivator travels while in use.

Always obtain original Hiniker service parts because substitute parts could adversely affect equipment performance and warranty.

A triplicate (3 copies) delivery report is to be filled out by your Hiniker Dealer when you accept this equipment. One copy is to be given to you. Do not accept this equipment until you are satisfied all items thereon have been checked, and you understand them.

Check that your dealer has forwarded the HINIKER delivery report copy, along with the machine serial number, because it helps maintain maximum service and warranty benefits. This does not put you on any mailing list and information is not available to others.

The serial number tag is located on the left end of the toolbar as indicated.



DWG NO. 162

Record the following information for later reference when obtaining service parts:

Purchase Date \_\_\_\_\_

Purchaser's Name \_\_\_\_\_

Dealer's Name \_\_\_\_\_

Machine Serial No. \_\_\_\_\_

## SAFETY SUGGESTIONS

---



**WARNING: Your safety and the safety of those around you depend upon your using care and good judgement in the operation of this equipment. Know the positions and functions of all controls before attempting to operate.**

All equipment has limitations. Understand the speed, braking, steering, stability, and load characteristics of the machine before starting to operate. Read your OPERATOR'S MANUAL!

The following are general safety comments that apply to all equipment. Review them often as safety reminders.

- Don't be in a hurry.
- Check all controls and operating functions of the machine in a safe area before starting to work.
- Never allow anyone around machinery when you are performing operating functions.
- When service demands working on, under, or around, tillage implement, proper precautions should be taken to stabilize or secure implement. (Lowering stands, blocking of implement, etc.)
- When transporting the machine, ensure all warning devices, such as, SMV sign and reflective devices are in place, clean, and clearly visible.
- Watch where you are going. Note all hazards and obstructions such as ditches, overhead electrical wires, narrow gates, etc. when transporting and/or operating the machine. Refer to page 4 of this manual for transport height and width specifications.
- Never unhook from folding model row cultivator with the wing section in the up transport position. Lower wings to ground first then unhook.
- Never ride or permit others to ride on tractor drawbar or on machine; nor allow anyone other than yourself on the tractor while in operation.
- Reduce tractor speed when transporting over uneven or rough terrain.
- When transporting down steep hills or slopes, shift tractor into lower gear.
- Escaping hydraulic fluid under pressure can have sufficient force to penetrate the skin causing serious personal injury. Before connecting lines, be sure to relieve all pressures in the system by moving hydraulic control levers in both directions before attaching couplers.
- Before disconnecting lines, be sure to relieve all pressures to the system.
- Be sure all connections are tight and that lines, pipes, and hoses are not damaged or worn.
- A very small leak from a hydraulic line, pipe, hose, or fitting can be almost invisible. Use a piece of cardboard or wood when checking for suspected leaks rather than your hands.
- If injury is received from escaping fluid, see a doctor at once, as serious reaction or infection can result if proper medical treatment is not received immediately.
- Never operate wing lift cylinders on folding toolbar models without (4) restrictor fittings, one at each end of lift cylinder.

# SPECIFICATIONS

---

## STANDARD EQUIPMENT

**RIGID TOOLBAR MODEL:  
6002, 6003, 6004, 6024, 6005, 6006**

- 7 x 7 Inch Toolbar With End Plates And Block Removing Rod.

**RIGID TOOLBAR MODEL:  
6020, 6022**

- 7 x 7 Inch Toolbar With 3/8 Inch Wall Thickness And End Plates.

**FOLDING TOOLBAR MODEL:  
6027, 6028, 6031, 6029**

- 7 x 7 Inch Single Center Frame Toolbar.
- 7 x 7 Inch Toolbar Wings With End Plates And Block Removing Rod. Automatic Wing Locks.

**FOLDING TOOLBAR. MODEL:  
6025, 6010, 6011, 6034**

- 5 x 7 Twin Center Frame Toolbars with center mast and adjustable truss straps.
- 7 x 7 Inch Toolbar Wings With End Plates And Block Removing Rod. Automatic Wing Locks

**ALL TOOLBAR MODELS:**

- Hitch Mounting Brackets Fits Category II and III.
- One Pair Of Parking Stands.

## TILLAGE UNIT:

- Two 4 x 16 Inch Oscillating Rubber Gauge Wheels Per Row Unit With Lever And Pin Height Adjustment.
- Cutting/Stabilizing Coulters With Lever And Pin Depth Adjustment.
- High Strength Steel Shanks With Hardened Replaceable Point.
- Weight Transfer System With Variable Adjustment Up To 750 Lbs/Row.

The Hiniker Row Cultivator is 3-point mounted and is available in eight rigid models and seven folding models. It is recommended that a tractor of the following minimum size be used on the appropriate size cultivators:

ROW CULTIVATOR SIZE	RECOMMENDED DRAWBAR HORSEPOWER
4 Row	75
6 Row	75
8 Row	120
10 Row 30	130
12 Row 30	140
12 Row 36/38	180
16 Row 30	200
18 Row 28	200

## 4 Specifications And Lubrication

Model No.	No. Of Rows	Row Spacing	Transport Width	Transport Height	Approx. Wt. (Includes Shares)	Optional Concrete Block Wt.
<b>Rigid Toolbars</b>						
6002	4	30-36 & 38 In.	14 Ft.	6 Ft. 6 In.	2273 Lbs.	473 Lbs.
6003	6	30 In.	16 Ft. 6 In.	6 Ft. 6 In.	2990 Lbs.	563 Lbs.
6004	6	36 & 38 In.	20 Ft. 6 In.	6 Ft. 6 In.	3098 Lbs.	698 Lbs.
6024	6	40 In.	21 Ft. 6 In.	6 Ft. 6 In.	3332 Lbs.	720 Lbs.
6005	8	30 In.	21 Ft. 6 In.	6 Ft. 6 In.	3875 Lbs.	720 Lbs.
6006	8	36 & 38 In.	26 Ft. 10 In.	6 Ft. 6 In.	4046 Lbs.	923 Lbs.
6020	8	36-38 & 40 In.	28 Ft. 2 In.	6 Ft. 6 In.	4224 Lbs.	N/A
6022	10	30 In.	28 Ft. 2 In.	6 Ft. 6 In.	4884 Lbs.	N/A
<b>Folding Toolbars (Single 7 x 7 Center Frame Toolbar)</b>						
6027	8	30 In.	12 Ft. 4 In.	10 Ft. 5 In.	4416 Lbs.	270 Lbs.
6028	8	36-38 & 40 In.	15 Ft. 8 In.	10 Ft. 9 In.	4641 Lbs.	405 Lbs.
6031	10	30 In.	17 Ft. 4 In.	10 Ft. 5 In.	5486 Lbs.	450 Lbs.
6029	12	30 In.	17 Ft. 4 In.	11 Ft.	6146 Lbs.	450 Lbs.
<b>Folding Toolbars (Twin 5 x 7 Center Frame Toolbar)</b>						
6025	10	36 & 38 In.	21 Ft. 1 In.	11 Ft. 10 In.	6483 Lbs.	585 Lbs.
6010	12	36 & 38 In.	21 Ft. 1 In.	12 Ft. 6 In.	7143 Lbs.	585 Lbs.
6011	16	30 In.	22 Ft. 1 In.	12 Ft. 8 In.	8540 Lbs.	630 Lbs.
6034	18	28 In.	23 Ft. 8 In.	13 Ft.	9226 Lbs.	675 Lbs.

## LUBRICATION



**CAUTION: Never clean, lubricate, inspect, repair, or adjust your machine, nor allow anyone else to, while it is in operation.**

Lubrication of moving parts and wear surfaces is essential to the extended service life of those parts. Inspect your machine frequently to ensure that all parts are working smoothly in addition to inspection and lubrication at required intervals as indicated.

The use of sealed ball bearings and oil impregnated bushings throughout the cultivator limits the grease fittings requiring periodic lubrication.

Following are the fitting locations and hourly intervals requiring a high quality SAE multi-purpose grease.

### 20 HOURS

- ROLLING OR ROTARY HOE SHIELD (optional) No restriction of grease volume on single hub fitting.

### 200 HOURS

- FOLDING TOOLBAR HINGE - No restriction of grease volume in single hinge fitting.



# PREPARING FOR FIELD USE

## RECOMMENDED TORQUE VALUES

The torque values given in Table 1 are valid for standard zinc coated and lubricated fasteners assembled in rigid joints.

Fasteners which are waxed or phosphate coated or cadmium coated or specially lubricated should be torqued to lubricate torque values below.

A ± 20 percent tolerance is to be used when a single value torque is specified.

## PREPARING ROW CULTIVATOR

Prior to the operation of your new Row Cultivator or one which has been stored, inspect all hardware and verify proper torque on all bolts and nuts in accordance with the recommended torque specifications listed on page 5.

TABLE 1 - RECOMMENDED TORQUE VALUES FOR INCH FASTENERS (ZINC PLATING & LUBRICATED)**						
Nominal Size	SAE 2 74 000 psi Min Tensile lb - ft		SAE 5 120 000 psi Min Tensile lb - ft		SAE 8 150 000 psi Min Tensile lb - ft	
	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated
1/4-20	6	4	8	6	12	9
1/4-28	6	5	10	7	14	10
5/16-18	11	8	17	13	25	18
5/16-24	12	9	19	14	25	20
3/8-16	20	15	30	23	45	35
3/8-24	23	17	35	25	50	35
7/16-14	30	24	50	35	70	55
7/16-20	35	25	55	40	80	60
1/2-13	50	35	75	55	110	80
1/2-20	55	40	90	65	120	90
9/16-12	70	55	110	80	150	110
9/16-18	80	60	120	90	170	130
5/8-11	100	75	150	110	220	170
5/8-18	110	85	170	130	240	180
3/4-10	175	130	260	200	380	280
3/4-16	195	145	300	220	420	320
7/8-9	165	125	430	320	600	460
7/8-14	185	140	470	350	660	500
1-8	250	190	640	480	900	680
1-12	270	200	700	500	1000	740
1 1/8-7	350	270	800	600	1280	960
1 1/8-12	400	300	880	660	1440	1080
1 1/4-7	500	380	1120	840	1820	1360
1 1/4-12	550	420	1240	920	2000	1500
1 3/8-6	660	490	1460	1100	2380	1780
1 3/8-12	740	560	1680	1260	2720	2040
1 1/2-6	870	650	1940	1460	3160	2360
1 1/2-12	980	730	2200	1640	3560	2660

\*\* MACHINE DESIGN FASTENER AND JOINT REFERENCE ISSUE.



**CAUTION: Loose bolts can cause elongation of holes and part failures resulting in dangerous operating conditions and equipment breakdown. Check all bolts and nuts periodically during equipment operation and keep them tightened to torques specified. When bolt replacement becomes necessary, replace worn bolt with equal SAE grade number bolts.**

### LOOK FOR SUPPLEMENTAL INFORMATION

Occasionally new or revised information will become available after the operator's manual is printed. To get this up-to-date information to you, supplements are prepared and supplied to the field in the operator's manual package.

Supplements are usually supplied in the form of instruction sheets.

Before your initial review of the operator's manual, look through the operator's manual package to see if any supplemental information has been provided. If you find any, review this information to determine which operating procedures have been changed by the supplement. Pay close attention to **"DANGER"**, **"WARNING"**, **"CAUTION"**, and **"IMPORTANT"** statements as they address your safety, the safety of others, and the safe operation of the machine.

Operator's manuals are revised periodically, at which time the supplement is incorporated directly into the operator's manual, eliminating the need for the supplement.

### TRACTOR PREPARATION

For complete tractor operating instructions and use of 3-point hitch implements, refer to your tractor operator's manual.

Place tractor on level surface and check tire inflation to ensure equal tire pressure. Lower draft arms to their lowest position and adjust lift links so that both draft arms are the same distance off the ground as measured from the draft arm sockets.

Reference tractor operator's manual for proper adjustment of draft arms and center link.

If a quick hitch coupler is to be used, install it to the 3-point hitch at this time in accordance with the tractor operator's manual.

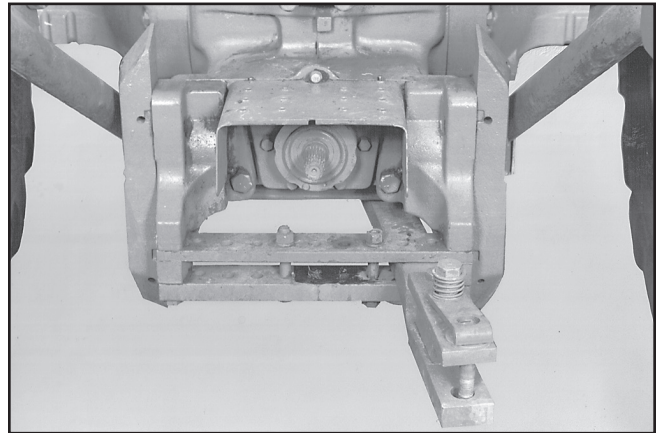


PHOTO NO. 917



**CAUTION: The tractor sway blocks should be positioned, as shown, to prevent too much sway whether the row cultivator is in working position or in transport position.**

There should be 1/2 inch to 3/4 inch of spacing between the lower lift arms on the tractor and the sway blocks. This will allow the cultivator to follow contours, terraces, etc. Some model tractors use different methods to secure lift arms and must be set to allow equivalent movement. If position of the cultivator hitch brackets permit either too much or too little movement, they must be moved either in or out on the toolbar.

Tractor wheel spacing should be set as close to the center of the row as possible. If dual wheels are used, use the proper spacers to also center the dual wheel.

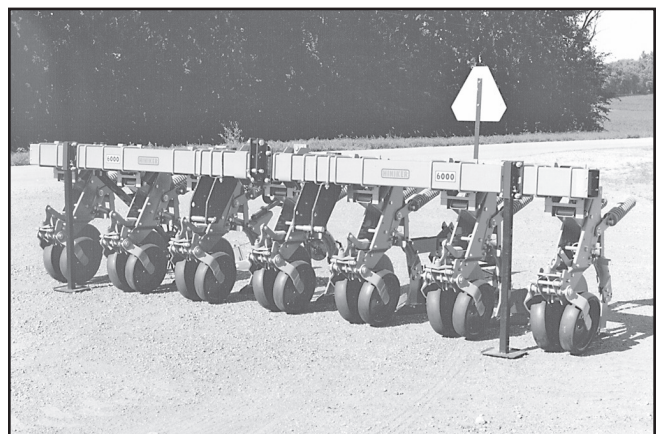


PHOTO NO. 3263

## HITCH PREPARATION

The toolbar hitch is designed to accommodate both Category II and Category III tractor hitches. It may also be used with a quick hitch.

Both the upper and lower hitch brackets have two sets of holes. The tractor's three point arms should be attached to the cultivator pins in a manner which allows the linkage to be as close to level as possible when the cultivator is in the ground.

**NOTE: If the tractor will not lift the cultivator high enough for transport or turning, the hitch pins may have to be placed in a lower set of holes, and adjust tractors lower lift arms to the highest lift position.**



**CAUTION: After attaching Row Cultivator to tractor, check front end stability. Tractor front end stability is necessary for safe and efficient operation. Therefore, it is important that the proper amount of weight be installed on the front of the tractor, as recommended in your tractors operator's manual.**

## TRACTOR HYDRAULIC SETTINGS

Most modern tractors have a POSITION/DRAFT control which will lift the hitch as draft increases when in the draft mode. This setting could decrease penetration of the cultivator units, so be sure the POSITION setting is used.

The rocker arm (three point) lever should be placed in full collapse or down position when the cultivator is in operation.

# OPERATION PROCEDURES AND ADJUSTMENTS

---

## ADJUSTMENT PHOTO

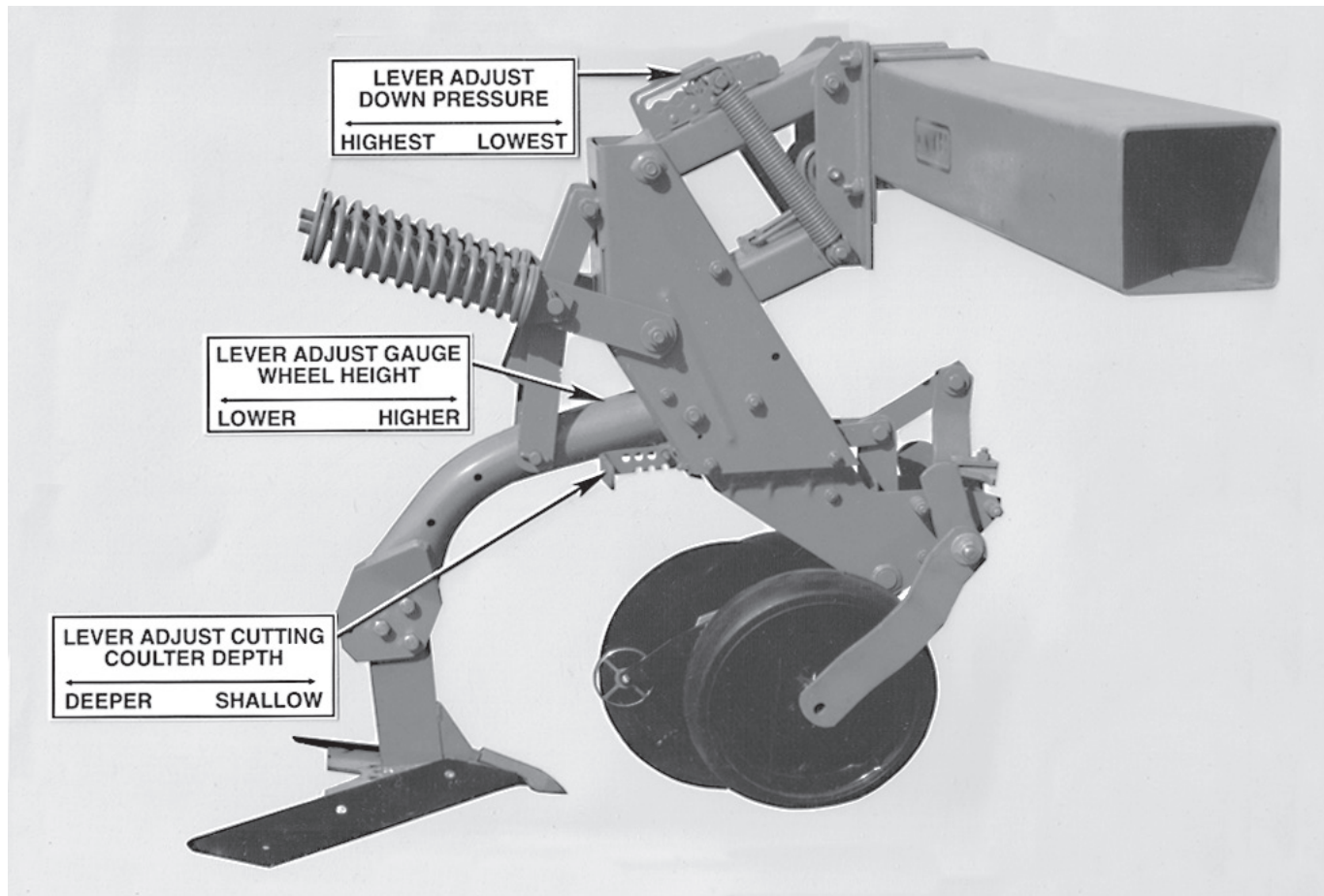


PHOTO NO. 3422A

**NOTE:** REFERENCE ADJUSTMENT PHOTO FOR ALL OPERATION PROCEDURES AND ADJUSTMENTS.

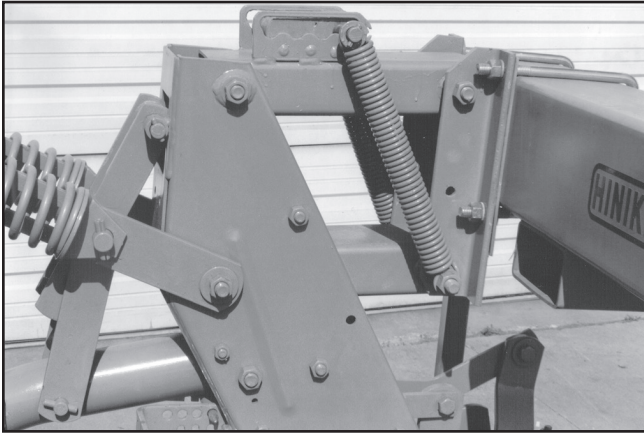


PHOTO NO. 3423

### TOOLBAR

It is critical that the parallel linkages of the individual gangs be nearly level in operation. This will permit 9" of travel (4 1/2" up and 4 1/2" down) and maintain uniform ground penetration on irregular surfaces. The down pressure springs on each row unit will "borrow" weight from the others if that individual gang encounters harder ground, heavier residue, etc., and prevent riding out or plugging on that row. Usually the gangs following the tractor wheels will require increased down pressure.

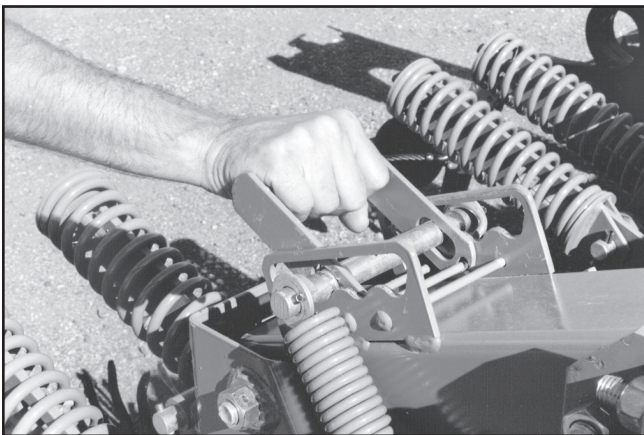


PHOTO NO. 3266

### DOWN PRESSURE LEVER

On firm soils set the down pressure levers at a setting which maintains level parallel linkages with the tractor three point fully collapsed. This setting will differ between folding toolbars and straight, whether a quick hitch or guidance system is being used etc. Do not adjust so toolbar is higher than row unit. Very hard soil conditions may require ballast blocks in the toolbar. Also deep amounts of residue, ridged field will require ballast blocks to allow coulter to cut through residue.

If the gauge wheels sink into conventionally worked or other loose soils, the down pressure setting should be lessened and the weight of the toolbar carried on the tractor.

### DEPTH CONTROL

There are four adjustments, three on the cultivator and one on the tractor which determine operational setting. The down pressure lever adjustment is discussed under TOOLBAR & DOWN PRESSURE. The remaining three adjustments are as follows:



PHOTO NO. 3267

### GAUGE WHEEL LEVER

The lower left lever adjusts the gauge wheel depth by positioning the pivoting rocker arm which in turn stops both gauge wheel arms at the desired depth. With the rearmost hole being #1. INITIAL recommended settings are:

- HOLE #1 - 3 - Large ridge cultivation with surface residue.
- HOLE #4 - Near level with surface residue.
- HOLE #5 - Tilled or loose soil without surface residue.

If the cultivator is not penetrating to desired depth due to worn shares, insufficient down pressure etc., yet the gauge wheels remain on the ground, do not be confused. Observe whether the gauge wheel arms are encountering the rocker arm. If they are not, adjusting the gauge wheel level will have no effect on depth or penetration.

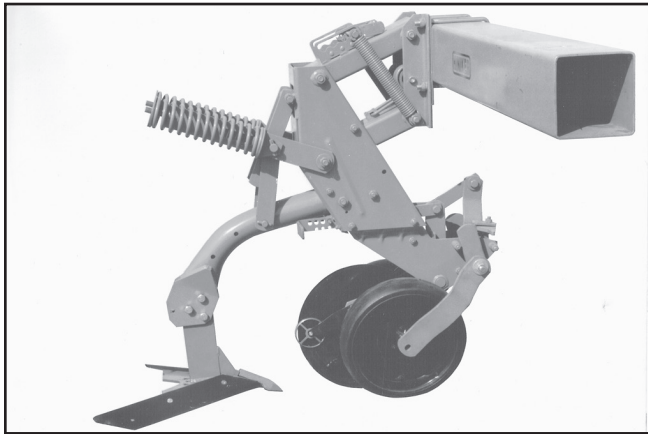


PHOTO NO. 3422

### CUTTING COULTER

The cutting coulter serves two functions, cutting residue ahead of the shank and providing lateral stability. Never set the coulter deeper than that depth necessary to cut the residue and prevent plugging.

Most residue cultivators are difficult to set in varying soil types because the coulter set deep enough to sever the residue in the soft moist soil areas, rides the unit out of the ground in the harder soil conditions. The 6000 employs a pre-set spring feature to avoid this problem. Set the coulter depth to sufficiently cut the residue in the softest areas of the field and the spring will compress in the harder soil areas. This permits the coulter to run at a more shallow depth without riding the tillage unit out of the ground.



PHOTO NO. 3269

The lowest right lever adjusts the coulter depth. With the rear most hole being #1, use hole #3 as the initial setting.

When coulters wear to less than the initial 18" diameter, a deeper lever setting will be required. If coulters are picking up mud and/or plugging the area between the wheels, install 81004118 rotary scrapers.

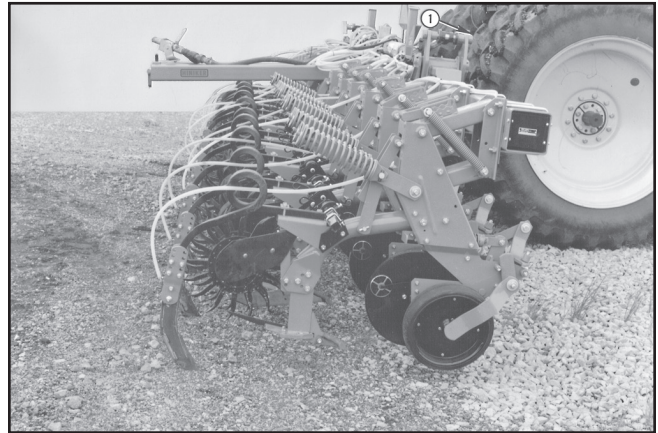
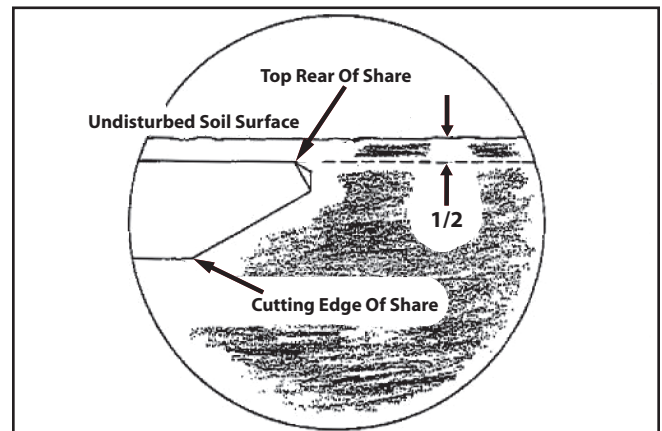


PHOTO NO. 3270

### TRACTOR UPPER LINK (THREE POINT HITCH)

Lengthen upper link (Arrow 1) until material flows smoothly through cultivator. Fine tune by shortening upper link until residue starts to hesitate on shares and re-lengthen one turn on upper link. This setting will vary between a flat and a ridged field and is often the only resetting necessary when changing fields. Always operate shares as shallow as possible to reduce horsepower required and create maximum soil and weed turbulence.



DWG NO. 2001

### SWEEP SHARE POSITION

Correct depth is when the TOP of the share is even with, to 1/2" below, undisturbed soil surface as shown in drawing.

### SHIELD AND SWEEP SHARE RECOMMENDATION

Application	30" Row Spacing				36"-38" Row Spacing			
	Conv. Tillage	No Till	Ridge Till	Layby or Hilling	Conv. Tillage	No Till	Ridge Till	Layby or Hilling
Rolling Shields	1	1	2	3	1	1	2	3
Rotary Hoe Shields	2	2	1	3	2	2	1	3
17" Shares	2	2	2	1	3	3	3	2
19" Shares	2	2	2	2	3	3	3	2
21" Shares	1	1	1	3	3	2	3	1
25" Shares	3	3	3	3	1	2	2	2
27" Shares	3	3	3	3	2	1	1	3
Key:	1. Recommended 2. Alternate 3. Not Recommended							

**NOTE: 33" share is used only on 36/38 inch sweep seeder. The 15" share is used only on outside end rows.**

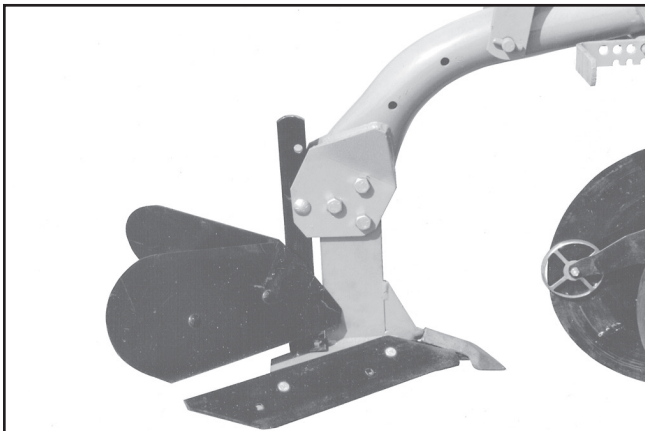


PHOTO NO. 3425

### RIDGING

When ridging, the tilt or attitude of the cultivator should be close to level. This, together with gauge wheel depth and ridger width setting will determine desired ridge size and shape. Use the shortest shares available for your row width spacing when ridging.

There are two pairs of holes on the ridger support bracket. Normally the bolts are placed in the lower holes which positions the ridger lower for maximum soil movement. Less aggressive ridging (example: ridging soybeans) results when the bolts are placed in upper holes, allowing some soil to pass under the ridger.

This may also be desirable when ridging up and down slopes. Leaving some loose soil between rows rather than a bare "ditch" will reduce soil erosion.

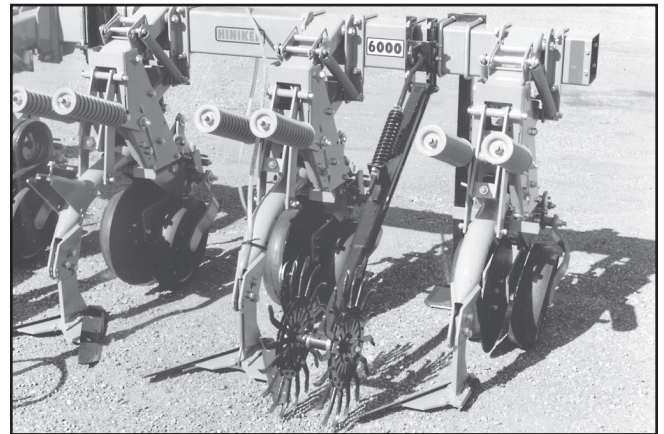


PHOTO NO. 3273

### SHIELDS ROTARY HOE AND ROLLING SHIELDS

In heavy residue conditions, do not use any shields or fenders on the 6000 Cultivator other than the 5034 rotary hoe shields or the 5028 rolling shields. Either of these shields may be locked up and out of position in crops over 8" - 9" of height by removing the hairpin, moving the spring rod from the center bracket to one of the holes in the angle mount brackets, and replacing the hairpin. Large or tunnel shields are unnecessary due to the lack of slabbing, and discouraged as they can contribute to plugging.

Little or no down pressure is required with the 5028 rolling shields. Excessive down pressure may cause the shields to stop turning and drag residue.

The 5034 rotary hoe shields should have down pressure sufficient to penetrate hoes to a depth of about 2". In heavy no-till residue conditions, and/or wet stalks the rotary hoe wheels may have to be reversed if they are wrapping or plugging. If crop is very small and/or growing in a depression, the use of the 5028 rolling shields with or without tunnel extensions may be necessary.

Set the length of the telescoping shield arms so that the material flow will hit the shields just behind the axle bolt. If extended too long, the material will flow ahead of the shield, both covering the crop and causing the shields to plug and drag.

**CUTAWAY HOE SHIELD**

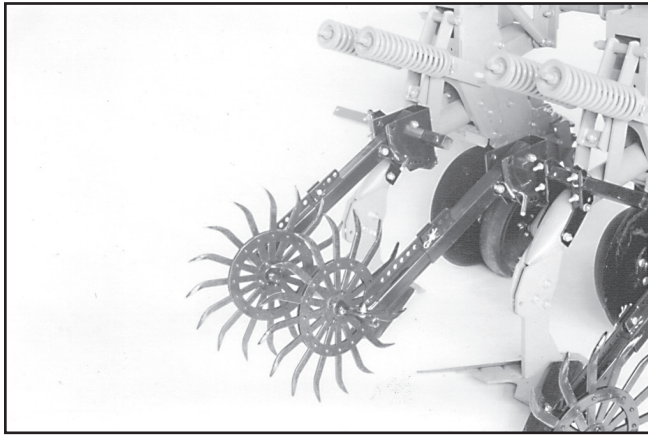
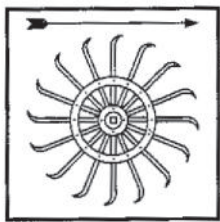
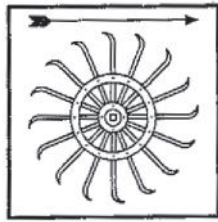


PHOTO NO. 3522

The cutaway hoe shield can be used as a shield for small crops and as a weeding device for both large and small crops. It can also be used to move soil either into or away from the row.

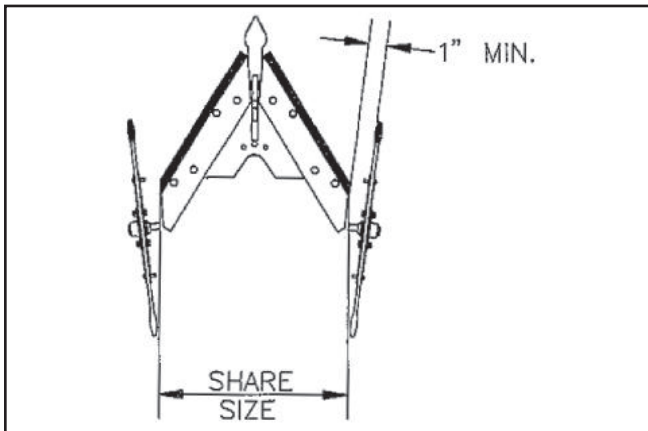


AGGRESSIVE



PASSIVE

In small crops and first cultivation, you run the cutaway hoe teeth in the aggressive position, see page 13. You should change the length adjustment so that the cutaway hoe axle is in line with the back edge of the sweep as shown. Ground speed will cause you to change the position of the cutaway hoe wheel. Adjust the cutaway hoe wheel so that soil flowing off the sweep strikes the cutaway hoe wheel just behind the axle.



DWG NO. 3121

The edge of the cutaway hoe wheel should be a minimum of 1" away from the edge off the sweep.

To set the cutaway hoe shield at an angle cutting away from the row, angle the cutaway hoe wheels in at the rear. In small crop and first cultivation you set the cutaway hoe teeth in the aggressive position. In crops with heavy residue, hoe teeth can be run in the passive position to reduce carry over by the wheel.

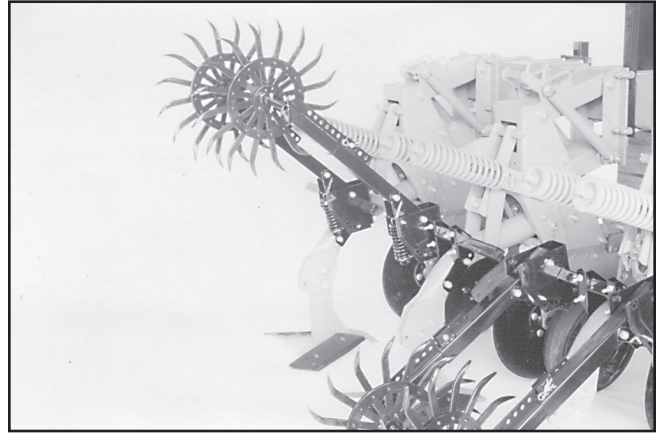
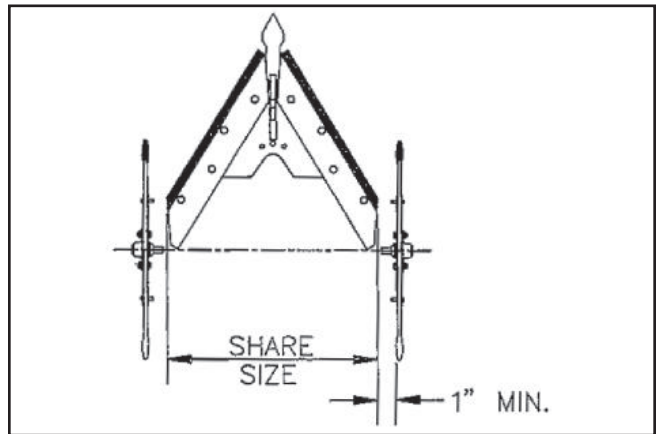


PHOTO NO. 3523

Use the holes provided in the mount to adjust height and down pressure. The cutaway hoes can swing up and out of the way when they are not needed using the storage hole provided in the mount.

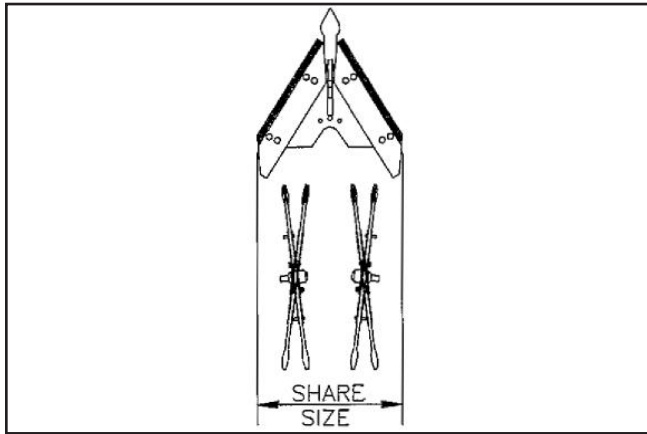
**\*\* NOTE:** To eliminate rotary hoe wheel interference, at folding toolbar hinge area (on folding toolbar model 6028, 8 row 36 and model 6010, 12 row 36). When rotary hoe shield arms are swung into non-use position A, see page 13, shield adjustment drawing. Before raising toolbar wings, swing 1st and 2nd shield arm down to position B, near hinge on toolbar center frame.



DWG NO. 3122

In large crop or second cultivation, you should turn the cutaway hoe wheels around to the passive position.





DWG NO. 3123

You can adjust the cutaway hoe wheels to run behind the sweeps. The cutaway hoe shields can also be angled to throw dirt into or away from the row.

At any time height and down pressure should be adjusted to match field conditions. Hoes should penetrate about 2”.

To change cutaway hoe teeth into the aggressive position, remove Cotter key (arrow 1), or 1/4 x 1/4 Hex Head Cap Screw, slide cutaway hoe shield (arrow 2) out of lower bracket (arrow 3). Do the same to other cutaway hoe shield (arrow 4). Turn it around and reinstall in (arrow 2) position and do the same to other, in (arrow 4) position. Reinstall hardware.

## TUNNEL SHIELDS

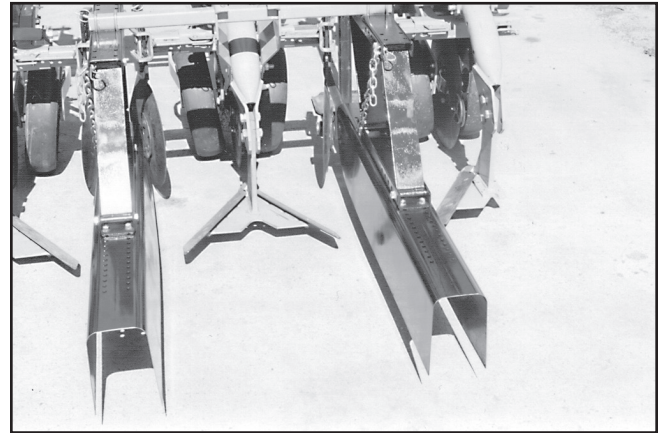
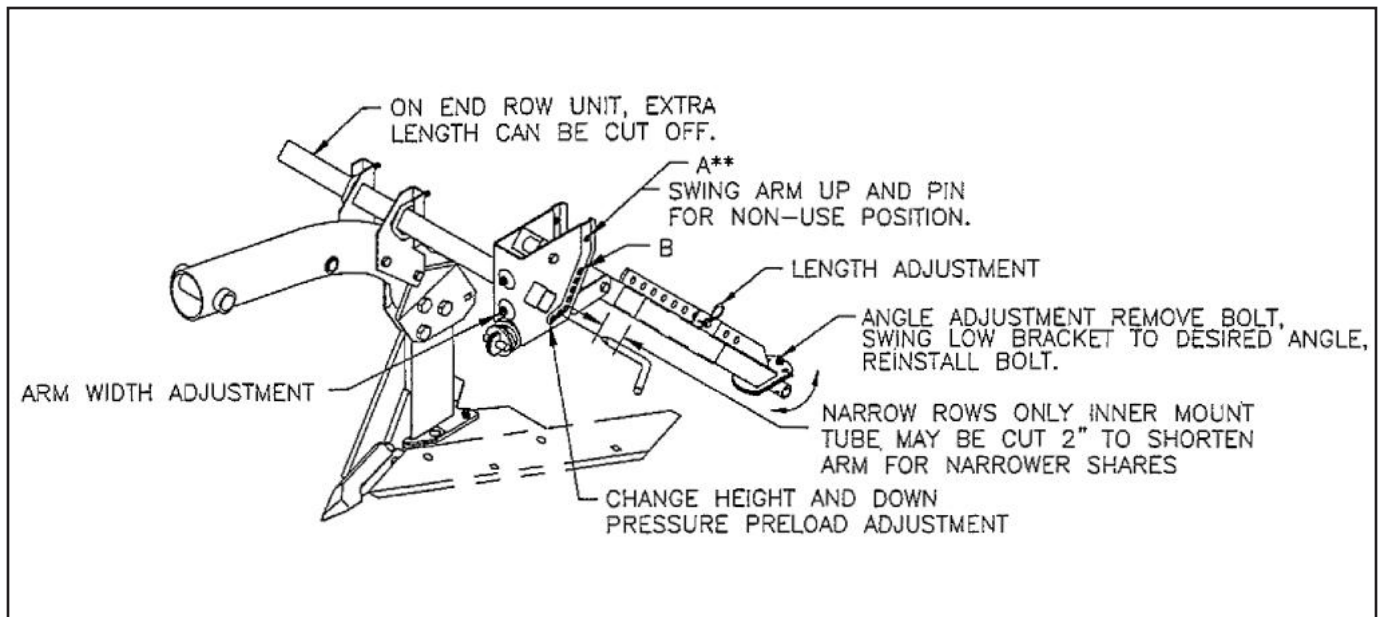


PHOTO NO. 3524

Tunnel shields can only be used on 30” or narrower row spacings. The chain on the tunnel shield pivot arms do not pivot any farther forward than 20 degrees less than vertical. The shields should not strike any attachments to the cultivator when they swing forward.

The shields can be adjusted fore and aft using the series of holes in the top of the shield. The shields will wear excessively if the shields are allowed to drag on the ground during operation. Level the tunnel shields in the field using the slots provided in the mounting bracket.

## CUTAWAY HOE SHIELD ADJUSTMENT



DWG NO. 3159A

### CUTAWAY DISCS

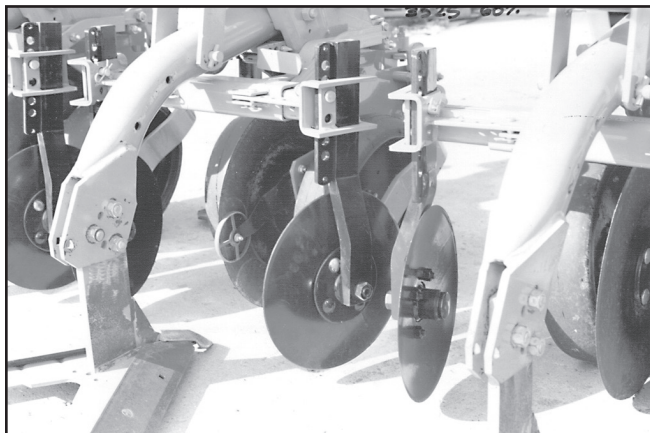
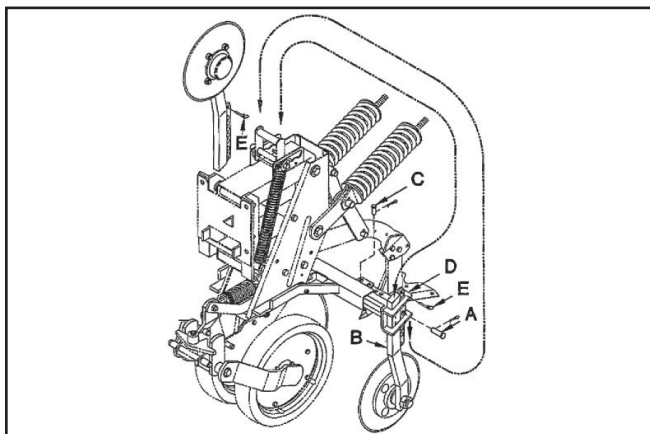


PHOTO NO. 3525

If the optional cutaway discs are not used, the leading edge the two discs should be not more than 6 inches to 7 inches apart. No point is served in setting the discs wider because the share will be cleaning the row middles.



DWG NO. 3153

### ADJUSTMENTS

Depth adjustments are made in 1/2 inch increments. Adjust by removing 5/8 inch pin, (arrow A), and sliding shank (arrow B) up or down. Re-install 5/8 inch pin and hair pin, (arrow A).

Right to left adjustments are also made in 1/2 inch increments. Pull 1/2 inch pin (arrow C), slide inner tube/cut away disc assembly (arrow D), in or out and reinstall 1/2 inch pin and hair pin, (arrow C).

Storage position for cut-away disc. Remove 5/8 inch pin and hair pin (arrow A) and 1/4 inch klik pin, (arrow E). Slide shank (arrow B) out of the bottom.

Carry over to the other side and slide in from top. Move other cut-away disc to this side, re-install 5/8 inch pin and hair pin (arrow A) and 1/4 inch klik pin, (arrow E) on top as shown in drawing.

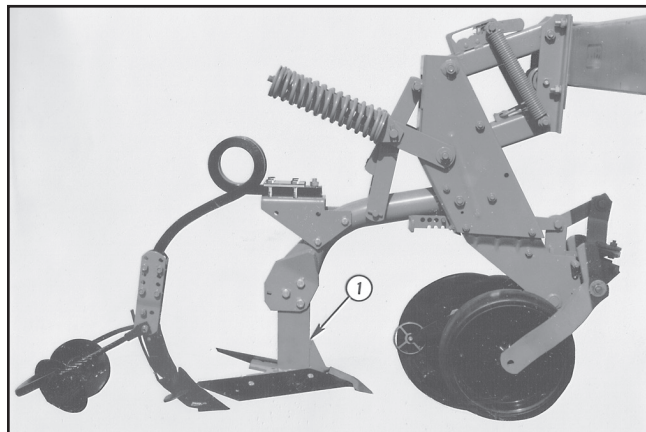


PHOTO NO. 3426

### ANHYDROUS APPLICATION

The NH3 coil shank attachment (81004113) is recommended for both pre-plant and sidedress applications. Simply remove the middleworker (Arrow 1) bottom when making pre-plant applications.

NH3 will best "seal" if beavertails are used on the knives and Hiniker disc closers (81004120) are used behind each shank.

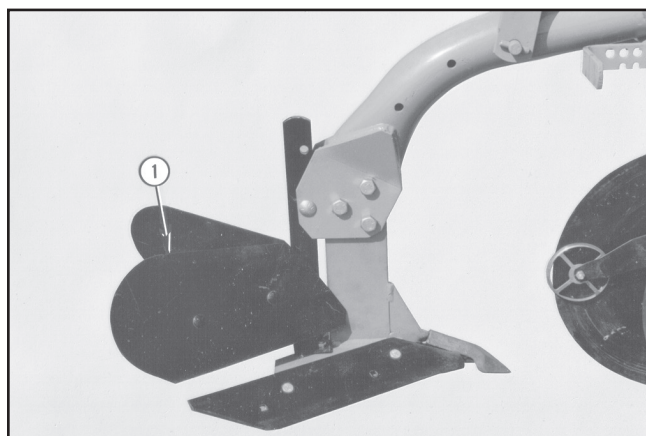
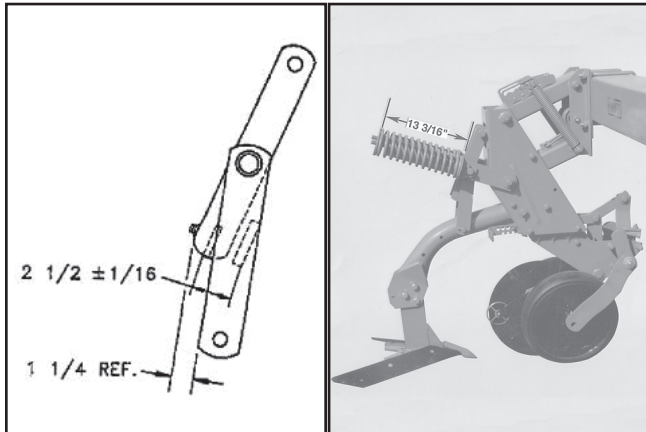


PHOTO NO. 3425A

### RIDGER

Ridger wings can be adjusted in width by loosening two hex nuts (Arrow 1). Slide ridger wings to desired width to match row spacing and ground speed, then retighten nuts.



DWG NO. 2969

PHOTO NO. 3422B

### AUTO RESET

The auto reset feature is standard on the 6000 cultivator. It permits vertical obstruction clearance of 12 inches followed by automatic resetting. The linkage stop bolt is preset in the factory and should not be changed as structural damage to the row unit could occur. Overall dimension including washers is 13 3/16 inches.

### MIDDLEWORKER

The 6000 shank employs 3 1/2 inches round tube and a 5/8" high tensile steel lower shank. A chrome alloy point and double sided shares draw the bottom into the ground with a minimum of slabbing. Seven different sizes of shares are available as indicated in the Share Recommendation Chart page 33.

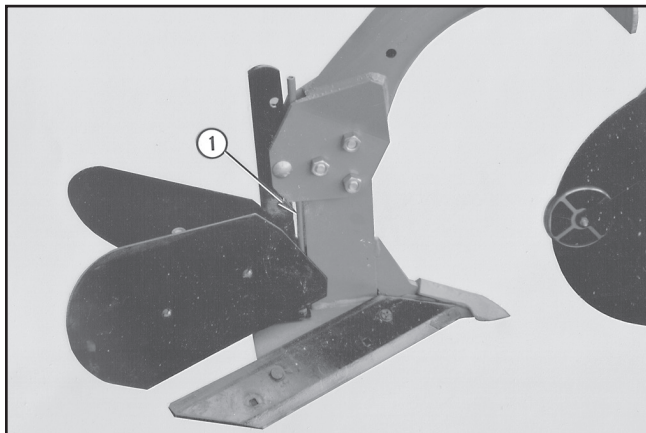


PHOTO NO. 3427

### RIDGER WITH LIQUID FERTILIZER TUBE

Fertilizer tube (Arrow 1) can be installed on middleworker as shown. This combination would be used when side dressing fertilizer and ridging.

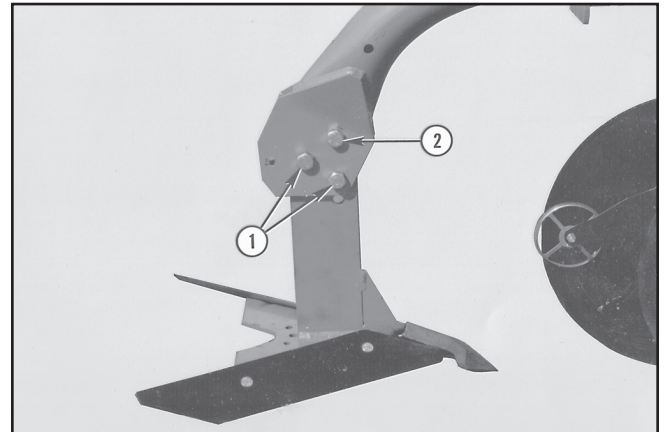


PHOTO NO. 3428

### LOWER MIDDLEWORKER

In ridged conditions where extra sweep depth is required, the middleworker may be lowered 1 1/2 inches. Reinstall middleworker flat bar onto the shank plates by using the two holes, along with two 5/8 inch hex bolts (arrow 1). Also, install a third 5/8 inch hex bolt (arrow 2) to clamp the flat bar securely.

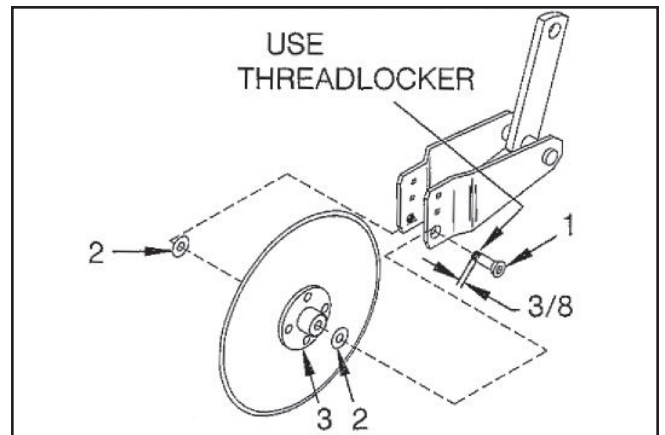


PHOTO NO. 2979

### COULTER REPLACEMENT

When reinstalling coulters and hub assembly use 2 drops of threadlocker. Locktite #262 (red) or Perm-loc #HM 118 (red) on thread of machine screw (arrow 1) within 3/8 inch from end. Install washers (arrow 2) one on each side of hub assembly (arrow 3) as shown.

### FOLDING TOOLBAR WING LOCK

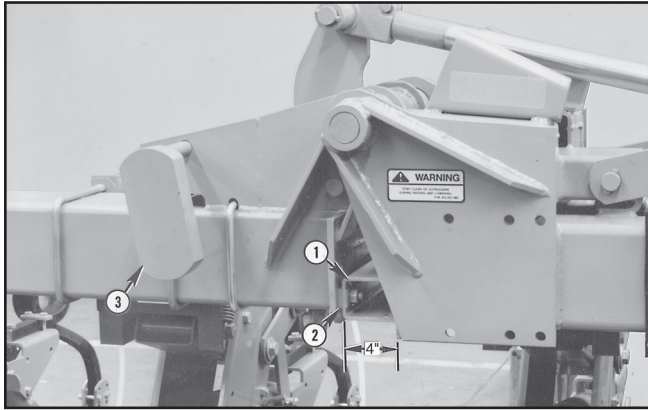


PHOTO NO. 3317A

#### ADJUST WING STOP With Wing In Locked Flat Position

Extend wing fold cylinders until wing section outer end, is slightly below level 3 to 5 inches. Now, adjust wing spacer tube (arrow 1). Note: The 4 inch dimension and position of shim (arrow 2).

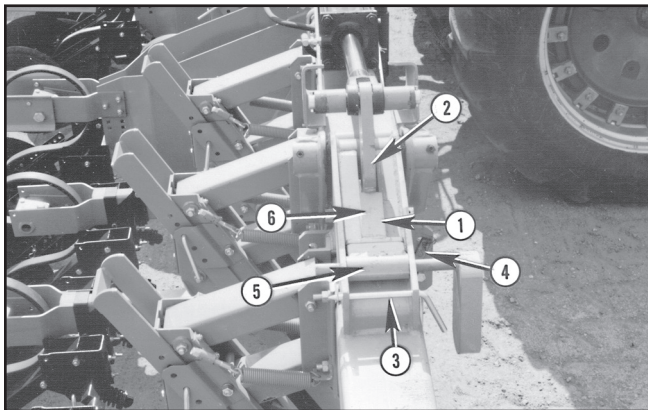


PHOTO NO. 3596

#### LOCK POSITION

With toolbar wing section now adjusted to desired slightly below level position, fully extend cylinder. **NOTE: Cylinder must hold at that fully extended length.** All trapped air is to be purged out of the cylinders. They may be cycled 3 or 4 times before rechecking wing lock flat bar (arrow 1). Retract hydraulic cylinders about 1" and rotate wing lock assembly (arrow 1) as shown. Fully extend the hydraulic cylinders and check that the lift link (arrow 2) is preloading the wing lock mechanism (arrow 1). Add or subtract shims (arrow 4) (stored on wing toolbar) between the tube weld (arrow 5) and lock bar weld (arrow 6). The wing toolbar should be locked in a position of level to slightly below level when it is operating in the field.

**IMPORTANT: Do Not Install Any Equipment That Will Interfere With The Wing Lock Mechanism.**

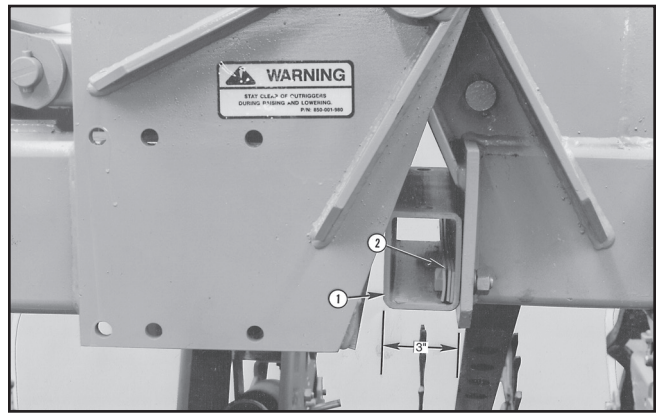
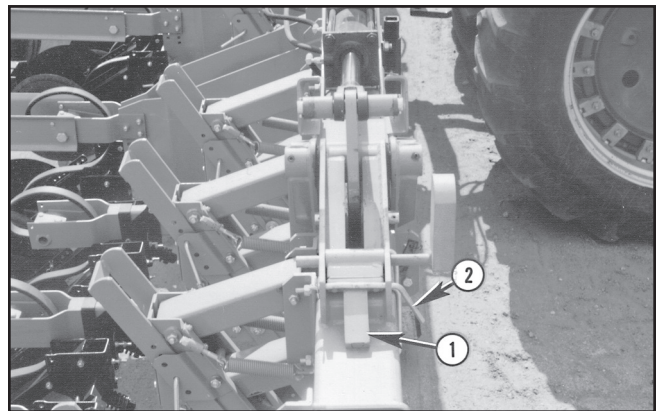


PHOTO NO. 3320

#### ADJUST WING STOP With Wing In Float Position

When wing section is in float position, notice the position of wing spacer tube (arrow 1) and shims (arrow 2).



DWG NO. 3597

#### Float Position

When wing section is in the float position, the lock flat bar (arrow 1) will not be used. Note the position of storage pin (arrow 2).



DWG NO. 3316

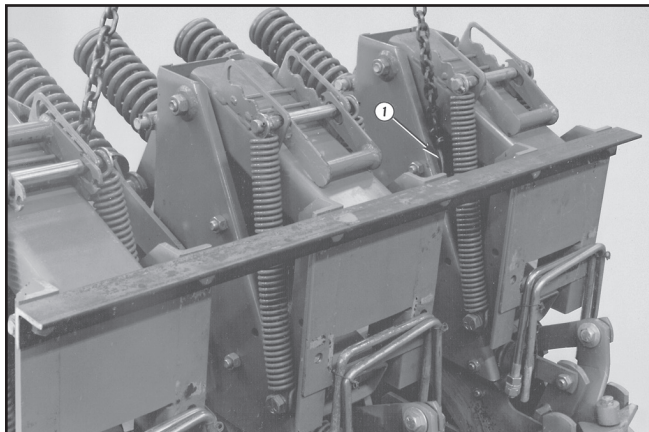
The toolbar wing section may be locked in a flat position as shown when cultivating or allowed to float when applying NH<sub>3</sub> or seeding.

## TROUBLE SHOOTING

TROUBLE	CAUSE	REMEDY
Residue plugging between coulter & shank.	Gang riding out.	Worn points or shares.  Coulter set too deep.
	Coulter not cutting residue.	Set coulter deeper (see page 10).  Set more down pressure on gang and/or add ballast to toolbar (see page 9).  Static shields prevent residue flow. Remove and use rolling type.
	Point and share not getting under residue pick in deep ridges.	Raise gauge wheel to hole #1 or #2. Lower shank to lower holes (see page 15).
Residue plugging/bunching on end of shares.	Machine tipped too far forward.	Lengthen upper link.
Middleworker not penetrating.	Worn points or shares .	Replace worn components.
	Cutting coulter too deep.	Set only deep enough to fully cut residue.
	Insufficient down pressure/ballast.	Read toolbar and down pressure (see page 9).
	Machine tilted too far forward.	Lengthen upper hitch link.
Slabbing.	Hitch pins in lower holes.	Raise lower link hitch pins to upper holes.
	Cultivator set too deep.	Read depth control (see page 9).
Weeds undercut but not destroyed.	Slow tractor speed.	Better soil fracturing occurs at 6-7 mph.
	Cultivator set too deep.	Read depth control (see page 9).
Shares lifting ridge and crop.	Too slow tractor speed.	Better soil boiling and mixing occurs at 6-7 mph.
	Cultivator too level.	Pitch machine forward with upper link.
Rotary hoe shields plugging.	Wrong size shares.	Switch to smaller size (see chart on page 11).
	Support arm too long.	Set to 46" (30" rows), 50" (36-38" rows).
Gauge wheels bury (loose soil).	No-Till conditions	Run hoe wheels backward.  Switch to rolling shields.
	Too much weight on gang.	Carry toolbar with tractor.  Decrease down pressure setting.
Mud between gauge wheels.	Deposited from coulter.	Install coulter scrapers.  Set coulter shallower.

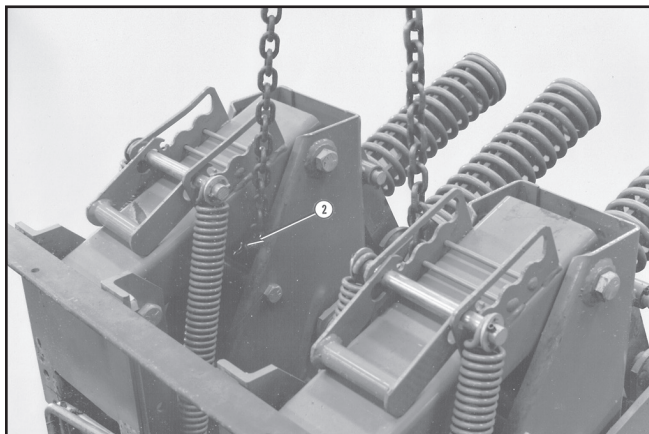
# ASSEMBLY OF TOOLBAR AND TILLAGE UNITS

All hardware should be tightened only enough to insure safety during assembly. Torque hardware to specified values, as shown on Torque Chart on page 5 only after assembly has been completed.



Three Tillage Unit Assembly

PHOTO NO. 3275



Two Tillage Unit Assembly

PHOTO NO. 3276

## STEP 1

**NOTE:** Move tillage unit shipping assemblies around as shown using inner tube spacer (arrow 1 and 2).



**CAUTION:** Do Not Remove shipping angles from tillage unit shipping assemblies until shipping band have been cut. See step 2A and 2B.



DWG. NO. 3315

## STEP 2A

Cut and remove shipping band from each tillage unit.

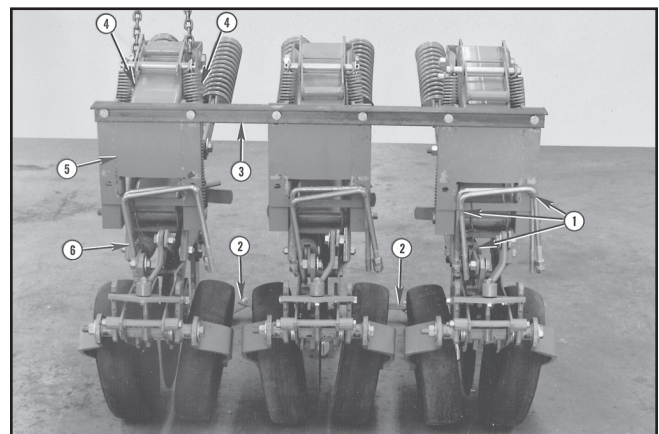


PHOTO NO. 3277

## STEP 2B

Cut all u-bolt bundling wires (arrow 1). Remove shipping strap (arrow 2) and shipping angle (arrow 3).



**CAUTION:** When removing any bundling straps, wires or brackets, be certain to keep clear of any parts which may drop. Support heavy sections with hoist or blocks before removing wires or straps. **NOTE:** Lift single tillage unit using inner tube spacer (arrow 4).

Conveniently arrange parts, support plate (arrow 5), and U-Bolts (arrow 6).

### STEP 3A RIGID TOOLBAR

Support toolbar on stands approximately 38 to 40 inches high. Locate serial number tag on left end. **NOTE:** Weld seam on the inside of toolbar must be on top to allow optional concrete blocks to be installed.

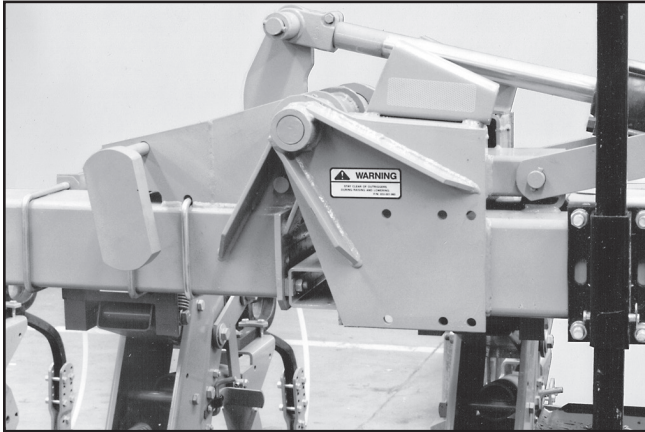


PHOTO NO. 3317

### STEP 3B FOLDING TOOLBAR

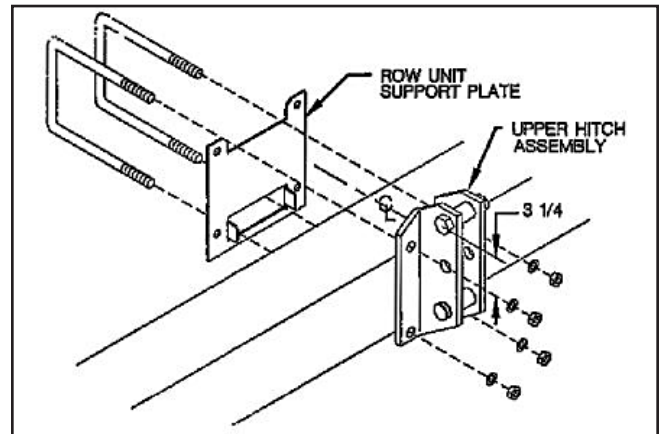
With toolbar on the floor cut shipping straps that hold the wing sections. Now loosen hydraulic cylinder port plugs to allow air escape. Do not remove them completely at this time. Swing wing section down into working position as shown in photo. Now lift toolbar and place it on stands approximately 38 to 40 inches high.

Remove (2) shipping pads from under front lower hitch. They will not be used.

Remove parking stands from rear side of folding toolbar at this time. They will be installed later.

### STEP 4 ALL MODELS

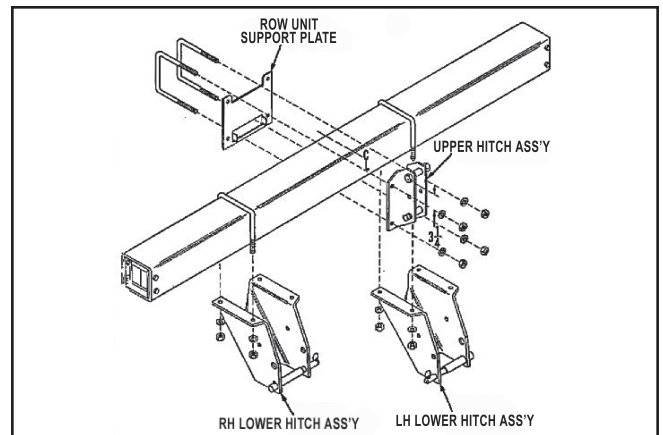
Mark the center of the 7-inch square toolbar. Then mark the centers between the rows as shown in assembly diagrams, page 65-73, by measuring the correct row spacing from the center mark.



DWG. NO. 2850

### STEP 5A RIGID TOOLBAR ONLY

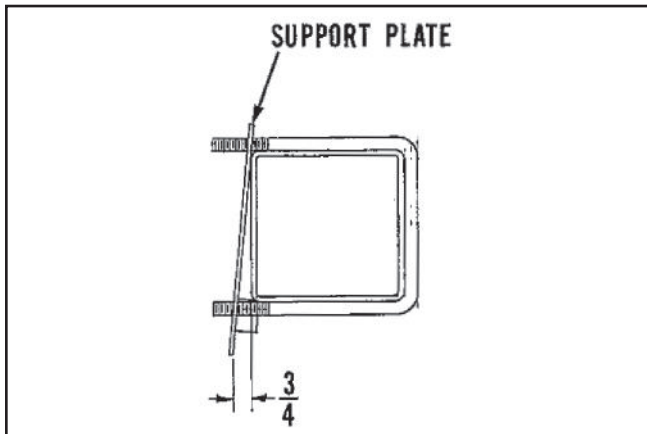
Install one upper three point hitch on the front side of toolbar on center making sure the hitch extends above the toolbar. **NOTE:** 3 3/4" dimensions. **NOTE:** The two 3/4 inch U-Bolts must pass through slot in support plate before installing upper hitch to toolbar.



DWG. NO. 1661

### STEP 5B

Rigid toolbar only - install two lower three point hitches to bottom of toolbar using 3/4 inch U-Bolts. Reference assembly diagrams for locating dimensions. Three point hitch will adapt to Category II or III tractors with and without quick hitches by changing positions of hitch pins.



DWG. NO. 1662

**STEP 6**

For ease of row unit attachment to toolbar, it is important that the following procedure be used. Place all 5/8" U-Bolts on the toolbar. Install the support plates on the U-Bolts with the top of the plates touching the rear of the bar and the lower part (with the protruding tabs) pushed onto the U-Bolts to within 3/4" of the toolbar. In this position the tabs will just be under the edge of the toolbar. At this time align the support plates to the exact row spacing desired. Next, install row units onto U-Bolts. Drawing down the four nuts will force the support plate tabs under the toolbar, resulting in both a square and secure positioning of the row unit assembly.



PHOTO NO. 3278

**STEP 7A  
ALL RIGID TOOLBARS & FOLDING TOOLBAR**

Center tillage unit only - install 1/2" spacer strap (arrow 1) as shown on all rigid toolbars models. **NOTE:** Folding toolbar models will not use 1/2" spacer strap.

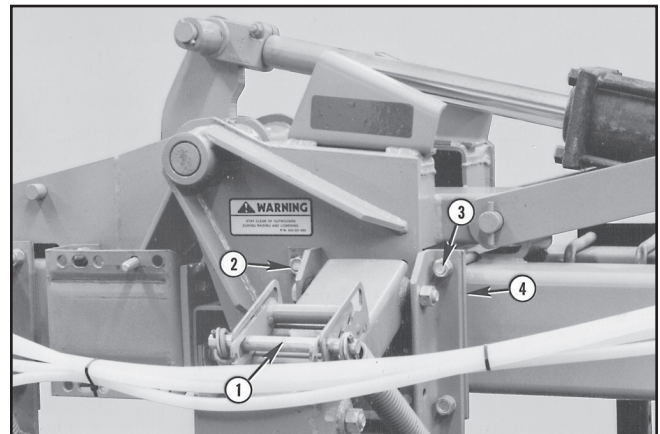


PHOTO NO. 3322

**STEP 7B  
FOLDING MODEL  
(8, 10 & 12 Row 30, 8 Row 38/40)  
(7 X 7 Center Toolbar)**

Install outside tillage unit (arrow 1) Photo 3322 onto center frame near hinge. Note support plate is not used. Install 5/8" Hex Bolt (arrow 2) thru holes in hinge plates. Refer to assembly diagrams on pages 63 and 70 to determine which holes are to be used. Install 5/8" U-Bolt (arrow 3) using one spacer plate (arrow 4) between toolbar and mount angle.

**FOLDING MODELS  
(10 & 12 Row 36, 38, 16 Row 30", 18 Row 28") (5 X 7 Center Toolbar)**

Install outside tillage unit (arrow 1) onto center frame near hinge. **NOTE:** Support plate is not used. Install 5/8" U-Bolt (arrow 2) inserting between toolbars, then passing through hole in hinge plate. Refer to assembly diagrams on pages 71 and 73 to determine which holes to be used. Install second 5/8" U-Bolt (arrow 3) using one spacer plate (arrow 4) mounted between toolbar and mount angle.

**(8 Row 36 Only)  
(7 X 7 Center Toolbar)**

The outside tillage unit will mount on the toolbar, not on the hinge plate as shown in photo. The standard support plate and (2) 5/8" U-Bolts will be used.





PHOTO NO. 3323

**STEP 8  
FOLDING MODELS  
(8 Row 30" thru 16 Row 30")**

Install tillage unit on toolbar wing near hinge. Note 5/8" U-bolt (arrow 1) will pass through hinge plate. Refer to assembly diagrams on pages 65 and 73 to determine which hole is to be used. Support plate will be used.

**(18 Row 28")**

To install the row unit on the wing toolbar nearest the wing hinge you must partially disassemble the row unit. Remove the innermost mounting angle (item 1) by removing the two (2) 3/4" hex head cap screws (items 2 & 3). Position the unit so the parallel links can be secured to the toolbar using the two bolts previously removed. Torque the 3/4-10 UNC bolts and locknut to 150 to 180 ft. lbs. Secure the outermost angle to the toolbar using a 5/8-10 u-bolt, nuts, and lockwashers.

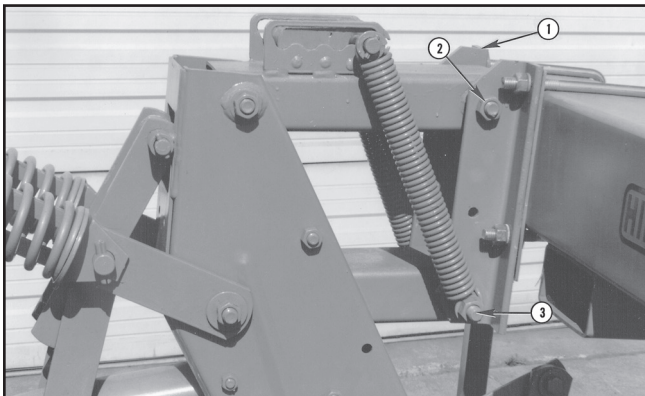


PHOTO NO. 3423B

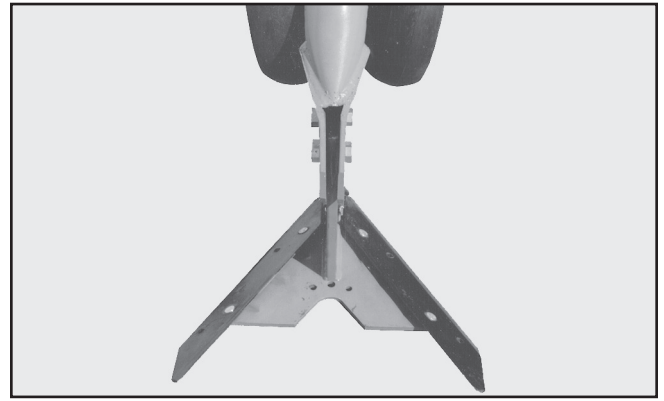


PHOTO NO. 3429

**STEP 9**

Install sweep shares as shown using plow bolts provided in tillage unit assembly.

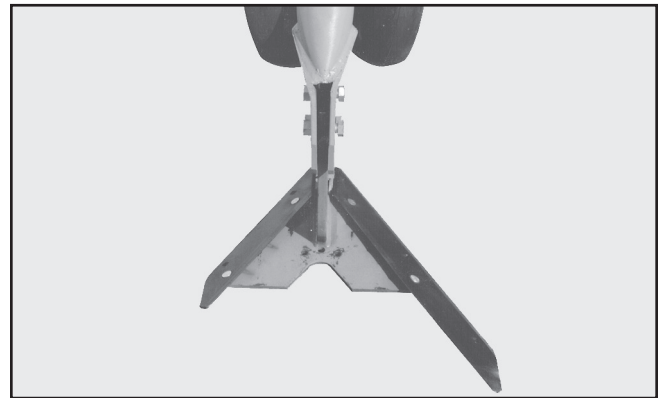


PHOTO NO. 3430

**STEP 10A**

On each end of toolbar's outside tillage unit, the 15 inch end sweep share, 5033-15, is recommended. It is needed when guess rows are wide and for wide row cultivating, and when using cultivator as a sweep seeder.

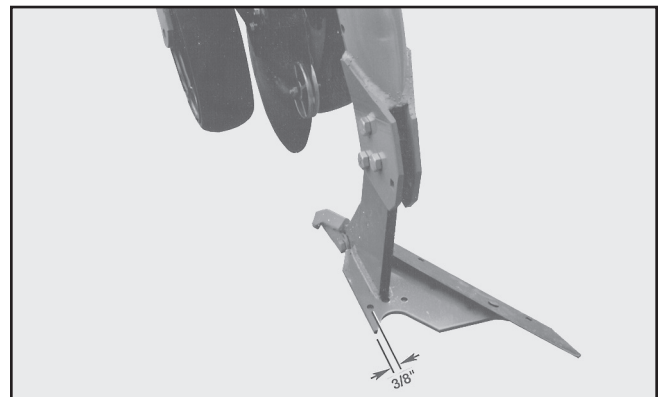


PHOTO NO. 3431

Only in special cases will the sweep support bracket will be cut off as shown. (When 30 inch guess rows are narrow or when ridging in 30 inch rows.)



PHOTO NO. 3280

### STEP 11

**NOTE:** To insure both end row tillage units adjusting pin (arrow 1) will not be brushed away by fence row trees, place handle end and hold clip on the inside as shown.



PHOTO NO. 3324

### STEP 12B FOLDING TOOLBAR

Install parking stands onto front side of toolbar. Refer to assembly diagrams for proper location on pages 63 and 70.

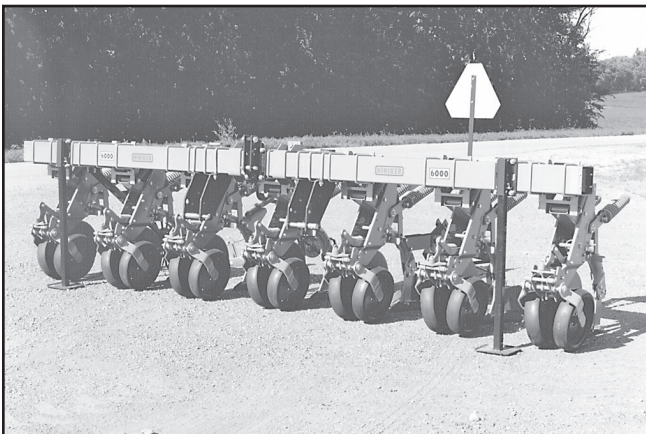


PHOTO NO. 3263

### STEP 12A RIGID TOOLBAR

Install parking stands onto front side of toolbar. (Rigid toolbar shown in photo.) Refer to assembly diagrams for proper location for all models on pages 63 through 70.

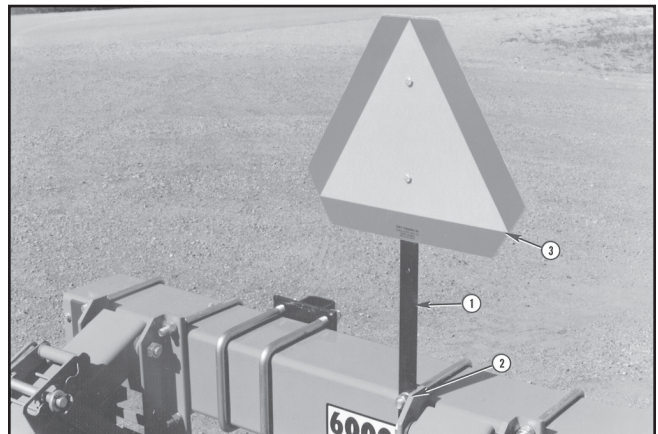
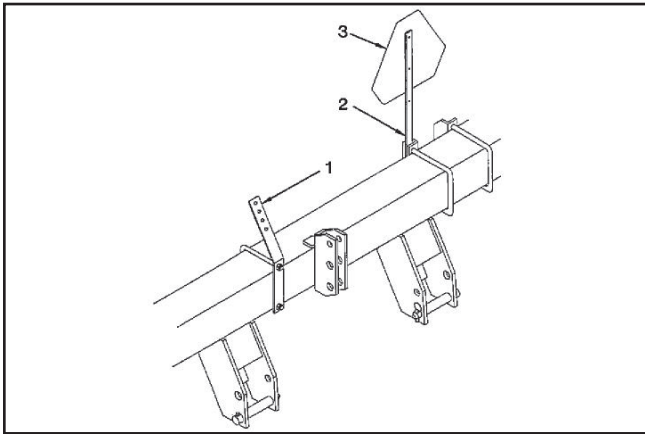


PHOTO NO. 3281

### STEP 13A RIGID TOOLBAR

Install SMV mount strap (arrow 1). Place it on the back side of tillage unit mount angle (arrow 2). Install SMV sign (arrow 3) using 14 inch bolts as shown. **NOTE:** Position of SMV sign near left end of toolbar.



DWG. NO. 2972

**STEP 13B**  
**FOLDING TOOLBARS 6027, 6028, 6031, 6029**

Install bulkhead plate (arrow 1) onto front side of toolbar using 5/8" U-bolt.

Install SMV mount strap (arrow 2). Place it on the back side of tillage unit mount angle. Note the location of tillage unit, one row spacing to left of center. Install SMV sign (arrow 3) using 1/4" bolt as shown.

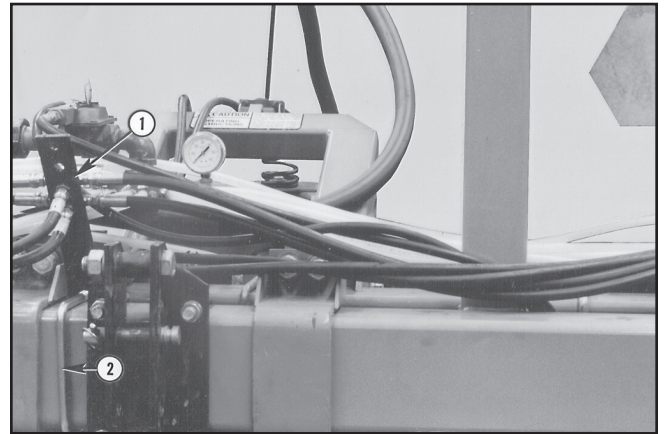


PHOTO NO. 3326

**STEP 14**  
**FOLDING TOOLBAR 6025, 6010, 6011, 6034**

Install bulkhead plate (arrow 1) on the rear side of front toolbar using 5/8" U-bolt (arrow 2). **NOTE:** Position of strap, near upper hitch assembly.

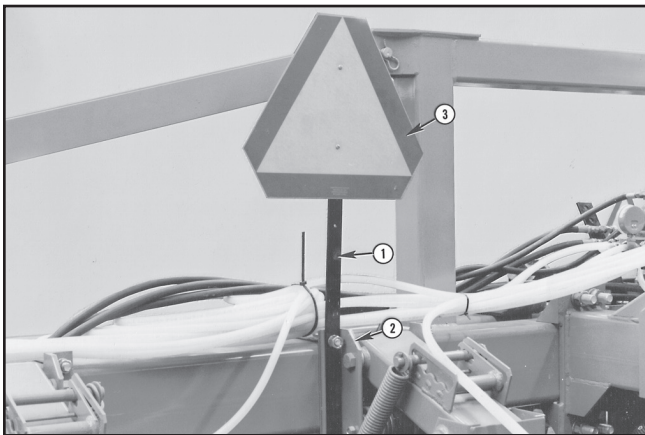


PHOTO NO. 3325

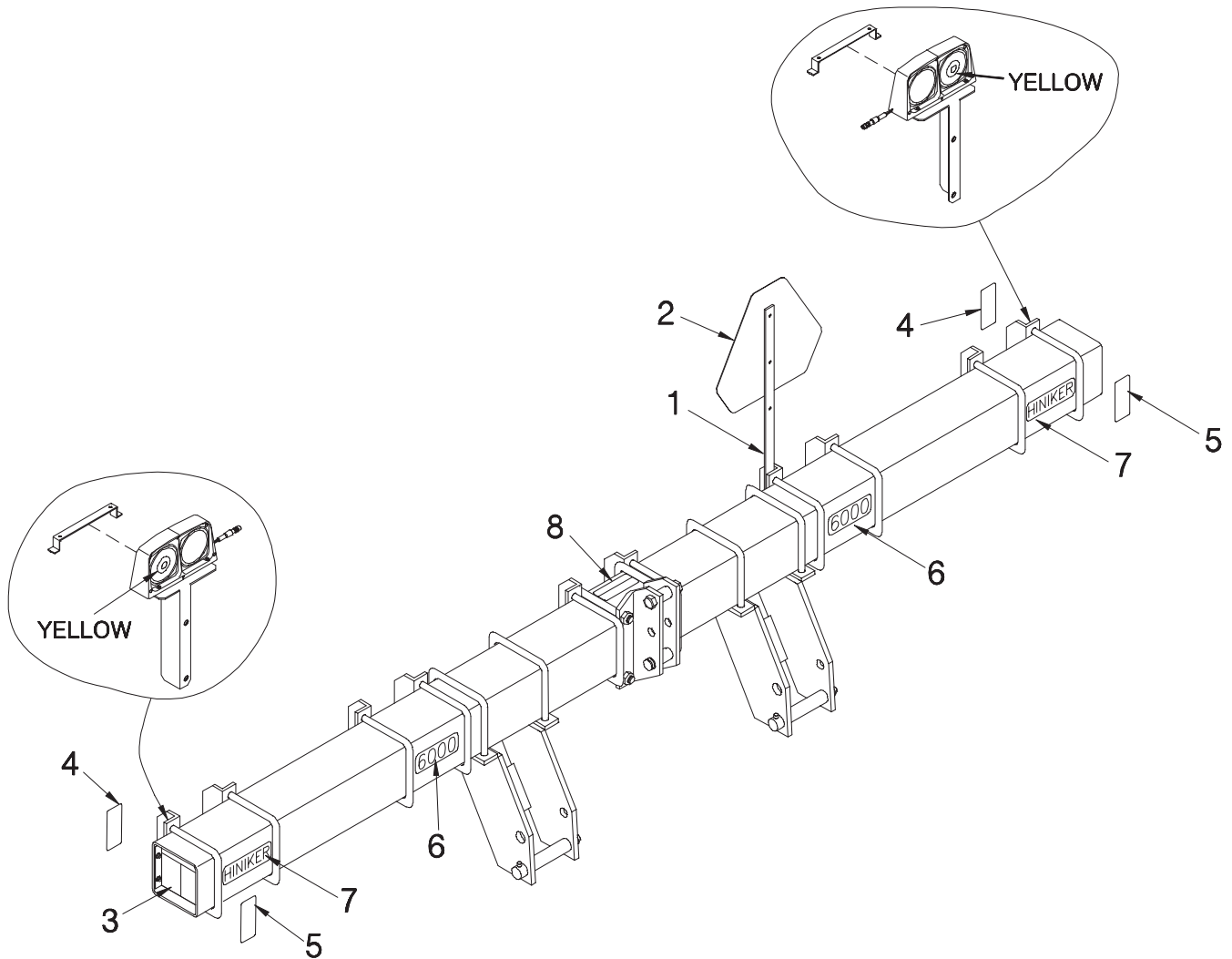
**STEP 13C**  
**FOLDING TOOLBAR 6025, 6010, 6011**

Install SMV mount strap (arrow 1). Place it on the back side of tillage unit mount angle (arrow 2). Note the location of tillage unit, one row spacing to left of center. Install SMV sign (arrow 3) using 1/4" bolt as shown.

RIGID TOOLBAR

MODEL

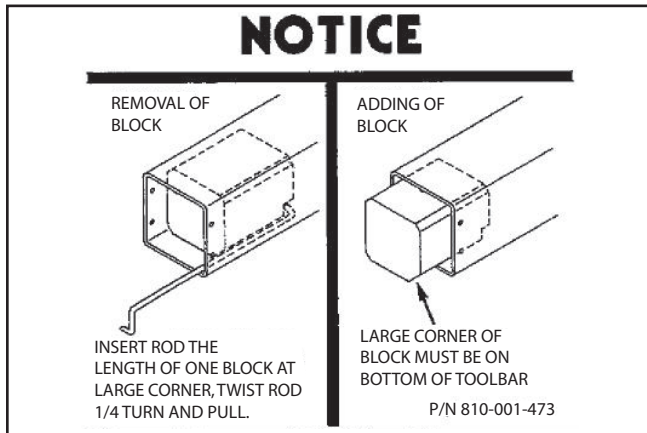
6002	4 ROW 30/36/38	6005	8 ROW 30
6003	6 ROW 30	6006	8 ROW 36/38
6004	6 ROW 36/38	6020	8 ROW 36/38/40
6024	6 ROW 40	6022	10 ROW 30



DWG. NO. 2973A

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	815-001-004	SMV Mount Strap	1	5	850-001-285	Tape Reflector (Yellow)	2
2	850-001-354	SMV Sign	1	6	81004129	6000 Decal	2
3	810-001-473	Decal - Notice	1	7	81004138	Hiniker Decal	2
4	850-001-305	Tape Reflector (Red)	2	8	850-002-426	Caution Decal	1

**STEP 15A  
DECAL IDENTIFICATION AND PLACEMENT  
RIGID TOOLBAR**



Decal one 810-001-473 (arrow 3) on end cover without serial number tag.

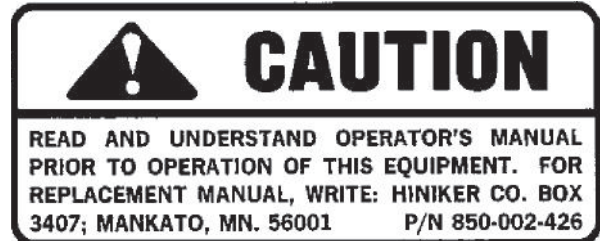
Rigid toolbars install two 850-001-305 red reflective tapes (arrow 4) on the outer rear of toolbar (one on each end). Install two 850-001-285 yellow (arrow 5) reflective tapes on the outer front of toolbar (one on each end).



Decal two 81004129 6000 decal (arrow 6) on front side of toolbar, between second outer tillage unit U-Bolts (one on each end).



Decal two 81004136 Hiniker Decal (arrow 7) on front side of toolbar between outer tillage unit U-Bolt (one on each end).

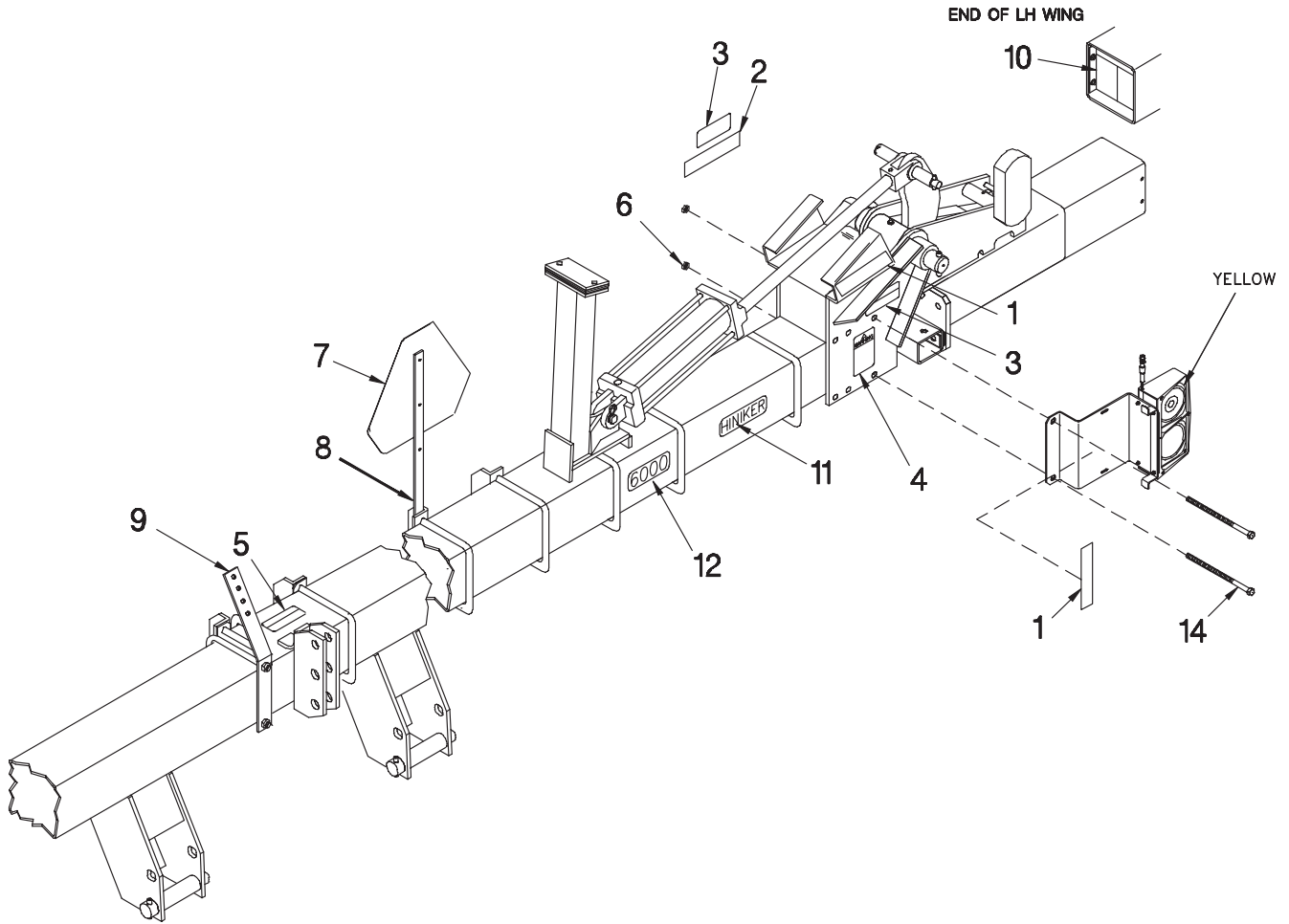


Decal one 850-002-426 (arrow 8) on toolbar top on centerline.

### 6000 FOLDING TOOLBAR

#### MODEL

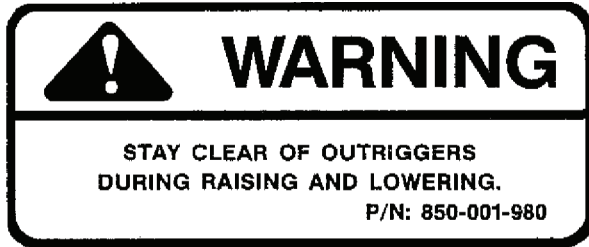
6027	8 ROW 30 ROW	6031	10 ROW 30
6028	8 ROW 36/38/40	6029	12 ROW 30



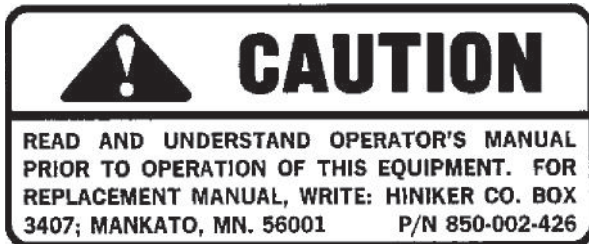
DWG. NO. 2968A

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	850-001-285	Yellow Reflective Tape	2	8	815-001-004	SMV Mount Strap	1
2	850-001-305	Red Reflective Tape	2	9	850-001-784	30° Bulkhead Plate	1
3	850-001-980	Warning Decal	4	10	810-001-473	Decal Notice	1
4	850-001-306	Warning Decal	2	11	81004136	Hiniker Decal	2
5	850-002-426	Caution Decal	1	12	81004129	6000 Decal	2
6	951-001-008	Hex Nut 5/8	4	13	952-001-005	Lock Washer 5/8 (Not Shown)	4
7	850-001-354	SMV Sign	1	14	950-001-230	Hex Head Cap Screw 5/8-11 x 9 1/2 Gr. 5	4

**STEP 15B  
DECAL IDENTIFICATION AND PLACEMENT  
FOLDING TOOLBAR**

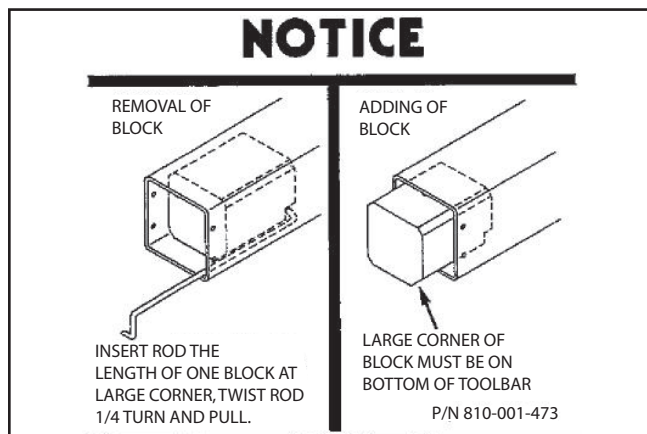


Decal four 850-001-980 (arrow 3) on front and back of toolbar near hinge.



Decal one 850-002-426 on front of toolbar left of upper hitch.

Folding toolbars install two 850-001-305 red reflective tapes on the outer rear of center frame (one on each end). Install two 850-001-285 yellow-reflective tapes (arrow 1) on the outer front of center frame (one on each end).



Decal one 810-001-473 (arrow 10) on end cover without serial number tag.



Decal two 850-001-306 (arrow 4) on front side of toolbar (one on each end).



Decal two 81004136 Hiniker decal (arrow 11) on front side of toolbar between outer tillage unit U-Bolt (one on each end).

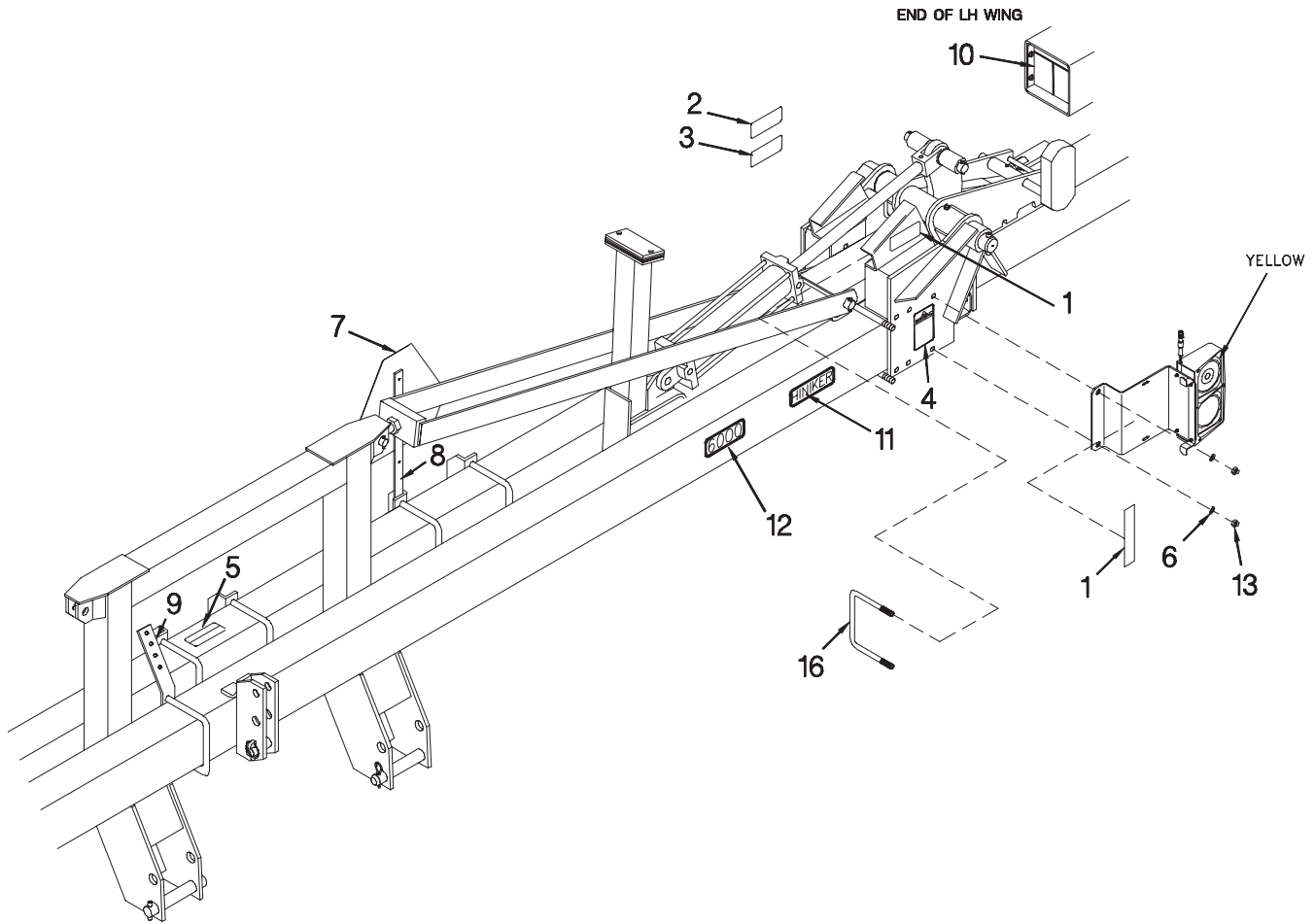


Decal two 81004129 6000 decal (arrow 12) between second outer tillage unit U-Bolts (one on each end).

### FOLDING TOOLBAR

#### MODEL

6025	10 ROW 36/38	6011	16 ROW 30
6010	12 ROW 36/38	6034	18 ROW 28

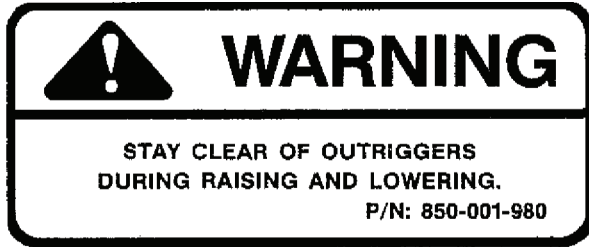


DWG. NO. 2924B

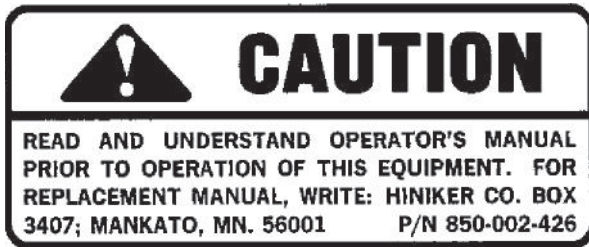
REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	850-001-285	Yellow Reflective Tape	2	9	805-001-784	300 Bulkhead Plate	1
2	850-001-305	Red Reflective Tape	2	10	810-001-473	Decal Notice	1
3	850-001-980	Warning Decal	4	11	81004136	"Hiniker" Decal	2
4	850-001-306	Warning Decal	2	12	81004129	"6000" Decal	2
5	850-002-426	Caution Decal	1	13	951-001-008	Hex Nut 5/8-11	4
6	952-001-005	Lock Washer 5/8 Inch	4	14	715-02020	Name Plate Serial Tag (Not Shown)	1
7	850-001-354	SMV Sign	1	15	954-002-001	Pop Rivet 1/8 x 3/8 SS (Not Shown)	2
8	815-001-004	SMV Mount Strap	1	16	81003020	U-Bolt 5/8 x 7 5/8 Inch	2



**STEP 15C  
DECAL IDENTIFICATION AND PLACEMENT  
FOLDING TOOLBAR**

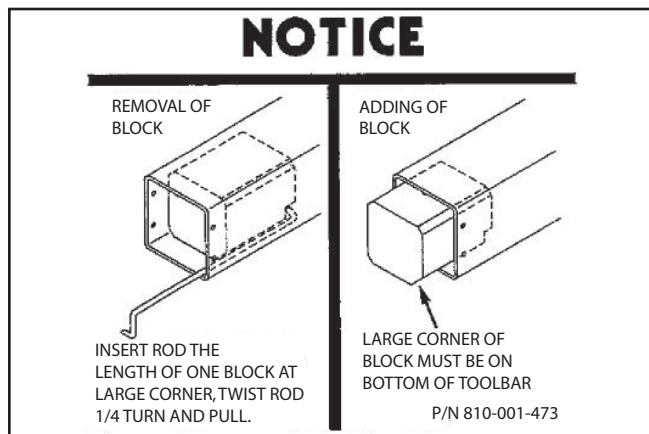


Decal four 850-001-980 (arrow 3) on front and back of toolbar near hinge.



Decal one 850-002-426 on front of toolbar left of upper hitch.

Folding toolbars install two 850-001-305 red reflective tapes on the outer rear of center frame (one on each end). Install two 850-001-285 yellow-reflective tapes (arrow 1) on the outer front of center frame (one on each end).



Decal one 810-001-473 (arrow 10) on end cover without serial number tag.



Decal two 850-001-306 (arrow 4) on front side of toolbar (one on each end).



Decal two 81004136 Hiniker decal (arrow 11) on front side of toolbar between outer tillage unit U-Bolt (one on each end).



Decal two 81004129 6000 decal (arrow 12) between second outer tillage unit U-Bolts (one on each end).


**STEP 16  
FOLDING TOOLBARS ONLY**

**ASSEMBLY  
HYDRAULIC PLUMBING**

Inspect all hydraulic fittings and hoses for damage, wear, and tightness. Ensure that all hoses are secured to frame in such a manner as to prevent possible damage or wear due to chafing or pinching by moving parts.


**NOTE:** DO NOT overtighten hydraulic fittings. Fittings should be installed and tightened in accordance with the torque table. Only pipe threaded connections should be treated with a thread sealant compatible to hydraulic systems and the sealant applied to male portion of threads only.

**HYDRAULIC FITTING INSTALLATION PROCEDURES  
AND TORQUE TABLE**



**SAE FLARE CONNECTION**

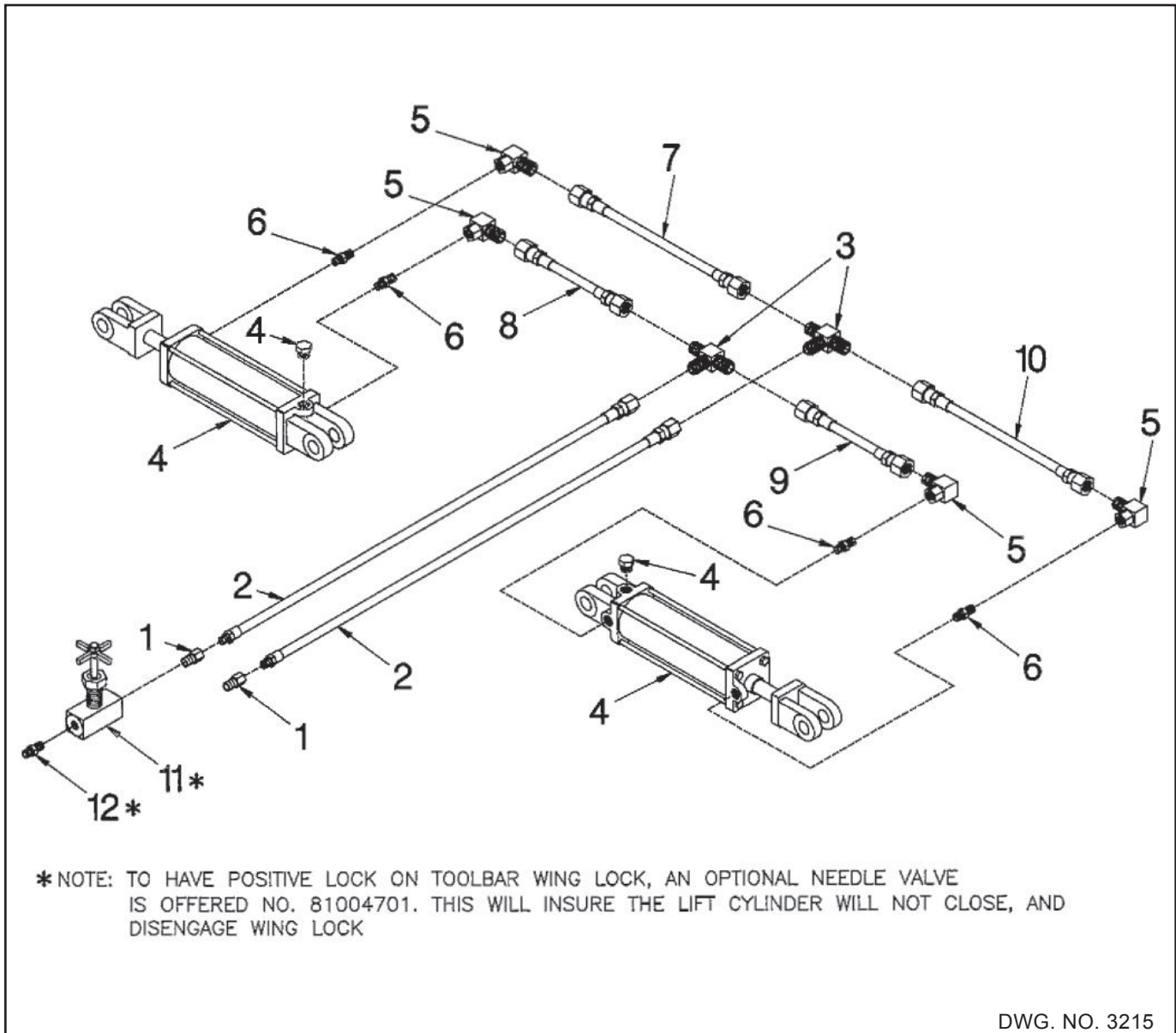
- 1) Tighten nut finger tight until it bottoms the seat.
- 2) Using a wrench, rotate nut to tighten. Turn nut 1/3 turn to apply proper torque.



**SAE STRAIGHT THREAD "O" RING SEAL**

- 1) Insure jam nut and washer are backed up to the back side of smooth portion of w/bow adapter.
- 2) Lubricate "O" Ring - **VERY IMPORTANT**
- 3) Thread into port until washer bottoms onto spot face.
- 4) Position elbows by backing up adapter.
- 5) Tighten jam nut.

DWG. NO. 2980



DWG. NO. 3215

**ASSEMBLY HYDRAULIC PLUMBING  
DIAGRAM FOLDING TOOLBAR  
ALL FOLDING MODELS**

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	956-004-002	Reducer Bushing 1/2 M NPT to 3/8 F NPT	2	957-001-014	3/8 Hose Assembly 60" 10 Row 30, 12 Row 30	1	
2	957-002-014	3/8 Hose Assembly - 48	2	957-001-057	3/8 Hose Assembly 86" 10 Row 36, 38, 12 Row 36, 38	1	
3	956-007-003	Tee 9/16 M Jic to 9/16 M Jic to 9/16 M Jic	2	957-001-019	3/8 Hose Assembly 92" 16 Row 30	1	
4	81002580	3.5 Diameter x 16 Cylinder 8 Row 30	2	957-001-006	3/8 Hose Assembly 41" 8 Row 30	1	
	81004342	4 Diameter x 16 Cylinder 8 Row 36-38-40, 10 Row 30, 12 Row 30	2	957-001-015	3/8 Hose Assembly 68" 8 Row 36, 38, 40	1	
	81004872	5 Diameter 16 cylinder 10 Row 36-28, 12 Row 36-38, 16 Row 30	2	957-001-018	3/8 Hose Assembly 79" 10 Row 30, 12 Row 30	1	
5	956-005-002	90° Elbow 9/16 F Jic to 9/16 M Jic	4	957-001-021	3/8 Hose Assembly 102" 10 Row 36, 38, 12 Row 36, 38	1	
6	956-008-024	Restrictor 3/4 M O-Ring to 9/16 M Jic 3.5 & 4 Cyl.	4	957-001-056	3/8 Hose Assembly 108" 16 Row 30	1	
	956-008-025	Restrictor 7/8 M O-Ring to 9/16 M Jic 5 Cylinder	4	957-001-014	3/8 Hose Assembly 60" 8 Row 30	1	
7	957-001-009	3/8 Hose Assembly 50" 8 Row 30	1	957-001-057	3/8 Hose Assembly 86" 8 Row 36, 38, 40	1	
	957-001-017	3/8 Hose Assembly 72" 8 Row 36-38-40	1	957-001-020	3/8 Hose Assembly 96" 10 Row 30, 12 Row 30	1	
	957-001-018	3/8 Hose Assembly 79" 10 Row 30 12 Row 30	1	957-001-054	3/8 Hose Assembly 120" 10 Row 36, 38, 12 Row 36, 38	1	
	957-001-021	3/8 Hose Assembly 102" 10 Row 36-38 12 Row 36-38	1	957-001-023	3/8 Hose Assembly 126" 16 Row 30	1	
	957-001-056	3/8 Hose Assembly 108" 16 Row 30	1	11	81004701	3/8 Needle Valve (Optional)	1
8	957-001-004	3/8 Hose Assembly 29" 8 Row 30	1	12	956-003-022	Straight Adapter 3/8 M to 1/2 M (Optional)	1
	957-001-009	3/8 Hose Assembly 50" 8 Row 36, 38, 40	1				



**BEFORE OPERATING HYDRAULIC WING LIFT CYLINDERS, ALL CAPTIVE AIR MUST BE REMOVED FROM SYSTEM. THIS MAY BE DONE BY REMOVING CYLINDER PIN FROM ROD END OF CYLINDER AND CYCLING CYLINDER AND SYSTEM UNTIL SYSTEM IS PURGED OF AIR. REATTACH CYLINDER ROD PIN AND CAUTIOUSLY CYCLE ROW CULTIVATOR THROUGH FULL CYCLE. FAILURE TO TAKE PRECAUTION MAY RESULT IN BODILY INJURY OR EQUIPMENT DAMAGE.**



**IMPORTANT: NEVER OPERATE WING LIFT CYLINDERS WITHOUT (4) RESTRICTOR FITTINGS PART NO. 956-008-024 FOR 3 1/2 AND 4 INCH CYLINDER OR 956-008-025 FOR 5 INCH CYLINDER, ONE AT EACH END OF BOTH CYLINDERS. FAILURE TO HAVE RESTRICTORS IN PLACE MAY RESULT IN BODY INJURY OR EQUIPMENT DAMAGE.**

**8 ROW 36, 12 ROW 36  
FOLDING TOOLBAR ONLY**

To hold down the adjusting lever handle on the first tillage unit nearest the hinge on the toolbar wing section, these steps must be taken.

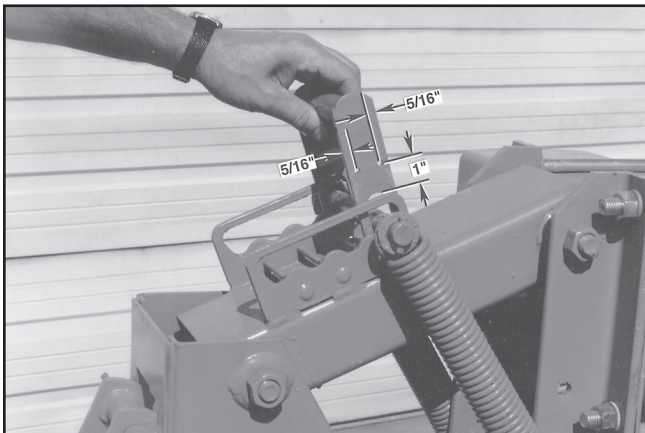


PHOTO NO. 3432

**STEP 1:** Drill two 3/16 inch diameter holes as shown in photo.

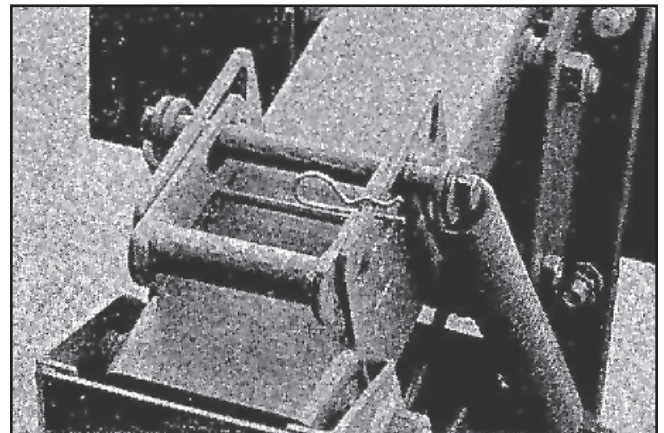


PHOTO NO. 3433

**STEP 2:** Install hair pin #953-005-001 .120 x 2 3/8 inches long as shown.

STEP 17

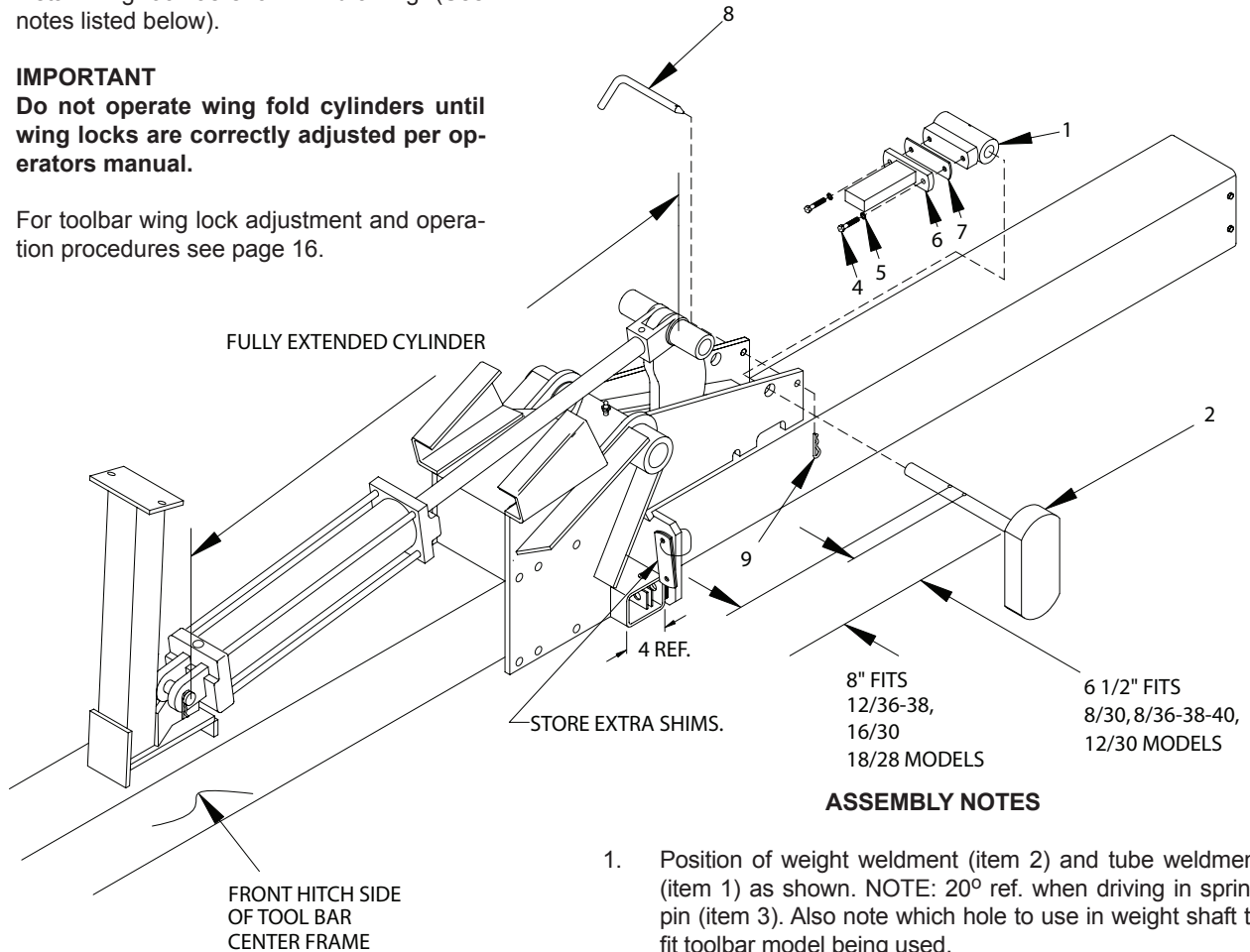
ASSEMBLY OF TOOLBAR WING LOCK  
ON ROW CULTIVATOR FOLDING TOOLBAR

1. Unfold toolbar wings.
2. With both toolbar wings in the flat position install wing lock as shown in drawing. (See notes listed below).

**IMPORTANT**

**Do not operate wing fold cylinders until wing locks are correctly adjusted per operators manual.**

3. For toolbar wing lock adjustment and operation procedures see page 16.



**ASSEMBLY NOTES**

1. Position of weight weldment (item 2) and tube weldment (item 1) as shown. NOTE: 20° ref. when driving in spring pin (item 3). Also note which hole to use in weight shaft to fit toolbar model being used.
2. Weight weldment (item 2) must be mounted on front side of both right and left side hinges.
3. Install lock bar weldment (item 6) using (2) hex bolt 3/8 x 1 1/2 (arrow 4) with (2) 3/8 lock washer shorten lift cylinder about 1" to allow lock bar to fall in place. Then extend cylinder to full extension. Check for proper preload on wing lock, if required use shims (arrow 7).
4. Extra shims will be stored by wiring in place as shown in drawing.

DWG. NO. 3242

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	81004700	Tube Weldment	2	6	81004697	Lock Bar Weldment	A/R
2	81004702	Weight Weldment	2	7	81004695	Shim	2
3	701-30022	Spring Pin 3/16 x 2	2	8	81003042	Pin	2
4	950-001-108	Hex Head Cap Screw 3/8-16 x 1 1/2	4	9	953-005-001	Hair Pin Cotter .120 x 2 3/8	2
5	952-001-007	Lock Washer 3/8 Inch	4				

# ASSEMBLY OPTIONAL EQUIPMENT

## SWEEP SHARES

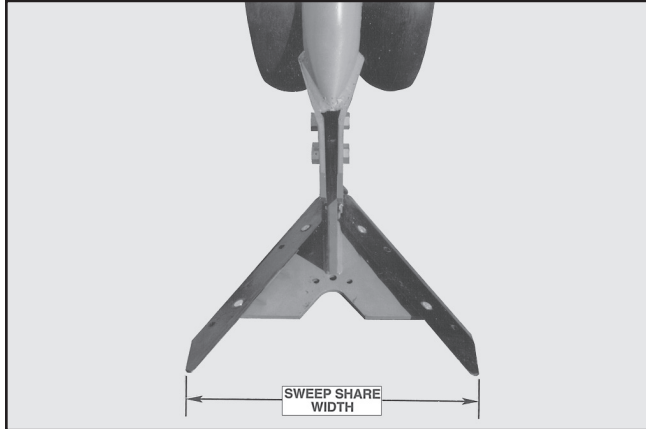
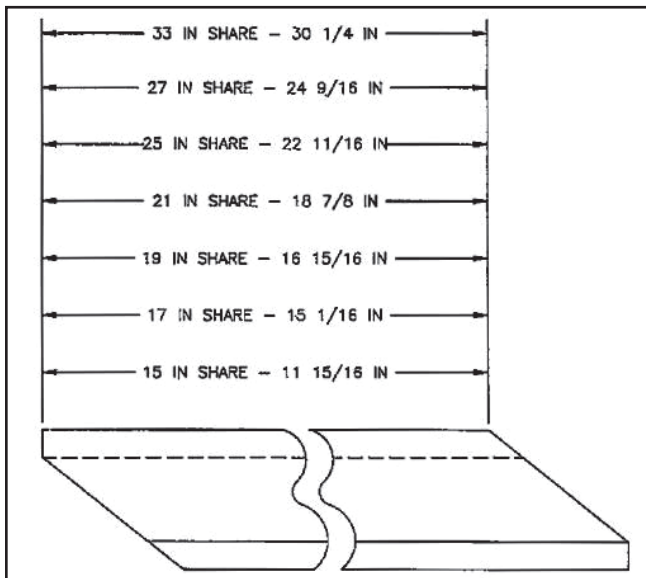


PHOTO NO. 3429A

Install double-edge shares as shown using four 3/8 x 1 inch long plow bolts. Thirty-three inch double-edge share uses, 3/8 x 1 1/4 inches long plow bolt.

**NOTE:** Cultivator shares are identified by the width of cut as installed on the cultivator. Use this guide to identify shares.



DWG. NO. 2970

SWEEP SHARE	FIRST CULTIVATION	SECOND CULTIVATION	SEEDING
30 inch rows	19/21 inch	17/19 inch	25/27 inch
36/38 inch rows	27 inch	21/25 inch	33 inch

## COULTER SCRAPER

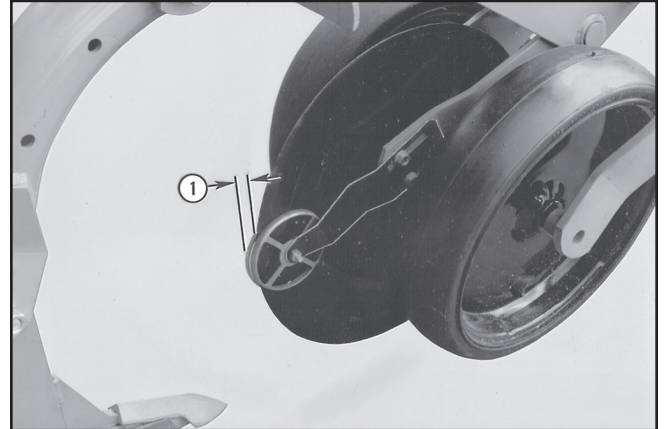


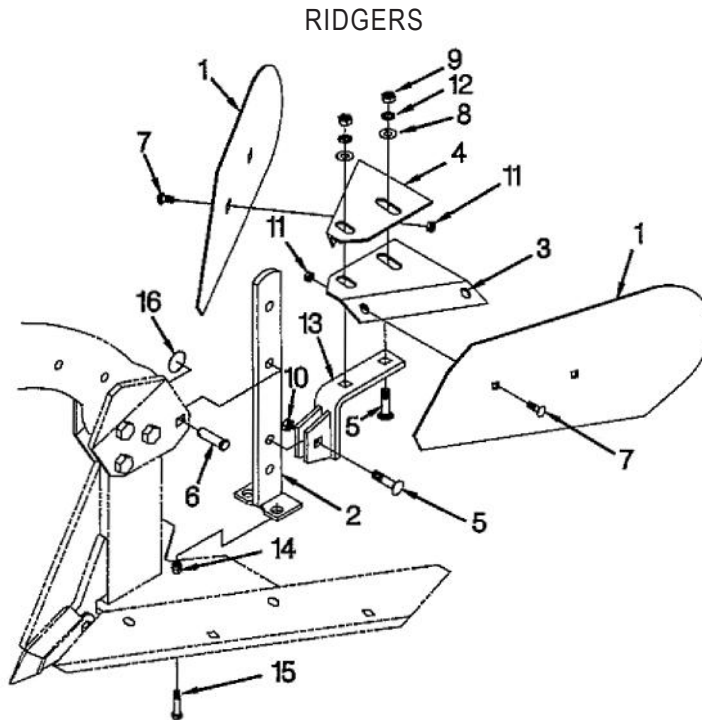
PHOTO NO. 3434

Install rotary scraper assembly to each side of coultter using two 3/8 x 3/4 inch carriage bolt and 3/8 lock nut as shown. **NOTE:** Lock nut is placed on outside. Adjust rotary scraper (Arrow 1) to run even with edge of coultter or slightly beyond. Rotary scraper should not have more than 7 lbs. pull pressure. Check with scale and adjust by moving scraper forward on mounting bolt. If it cannot be adjusted to 7 lbs. bend scraper support bracket. **NOTE:** More than 7 lbs. will cause rapid scraper failure.

ORDER ITEM NUMBER	DESCRIPTION
81004118	Rotary coultter scraper - one per tillage unit

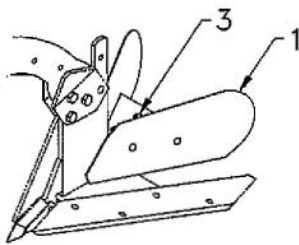
**NOTE: Used for very wet soil conditions.**

ORDER ITEM NUMBER	DESCRIPTION	HARD FACED ORDER ITEM NUMBER
5033-15	15 inch double-edge shares - one row	5044-15
5033-17	17 inch double-edge shares - two rows	5044-17
5033-19	19 inch double-edge shares - two rows	5044-19
5033-21	21 inch double-edge shares - two rows	5044-21
5033-25	25 inch double-edge shares - two rows	5044-25
5033-27	27 inch double-edge shares - two rows	5044-27
5033-33	33 inch double-edge shares - two rows	5044-33
REPLACEMENT POINT		
81004425	Point Weldment - one row	



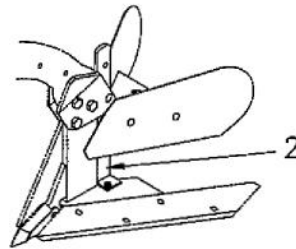
DWG. NO. 2961

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	810-002-124	Ridger Wings	2	9	951-001-007	Hex Nut 1/2-13	2
2	81004422	Support Weldment	1	10	10304	Lock Nut 1/2-13	1
3	810-002-125	LH Support	1	11	951-002-003	Lock Nut 3/8-16 Whiz Lock	4
4	810-002-126	RH Support	1	12	952-001-004	Lock Washer 1/2 Inch	2
5	950-003-019	Carriage Bolt 1/2-13 x 1 1/2	3	13	81004143	Ridges Support Weldment	1
6	81004499	Clevis Pin	1	14	951-001-005	Hex Nut 3/8-16	4
7	950-003-054	Carriage Bolt 3/8-16 x 3/4	4	15	950-001-105	Hex Head Cap Screw 3/8-16 x 1	2
8	952-004-059	Heavy Flat Washer	2	16	81004500	Ring	1



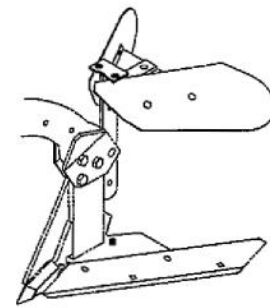
Low working position used for ridging.

Ridger can adjust in width by loosening hex nut (arrow 3). Slide ridge wings (arrow 1) to desired width to match row spacing and ground speed.



High working position.

If required to have more soil left behind ridger, support weld (arrow 2) can be moved up onto the second hole.



DWG. NO. 2962

Storage position shown. For more crop clearance move support strap up into second hole.

ORDER ITEM NUMBER	DESCRIPTION	ORDER ITEM NUMBER	DESCRIPTION
6030-4	Ridger Assembly - 4 Row	6030-10	Ridger Assembly - 10 Row
6030-6	Ridger Assembly - 6 Row	6030-12	Ridger Assembly - 12 Row
6030-5	Ridger Assembly - 8 Row	6030-16	Ridger Assembly - 16 Row

**DOWN PRESSURE SPRING**

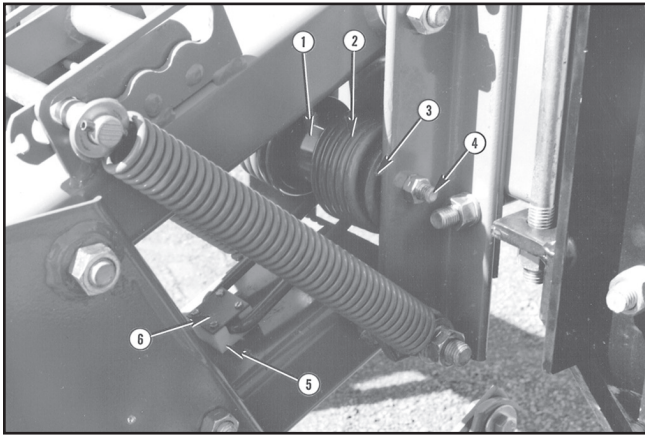


PHOTO NO. 3282

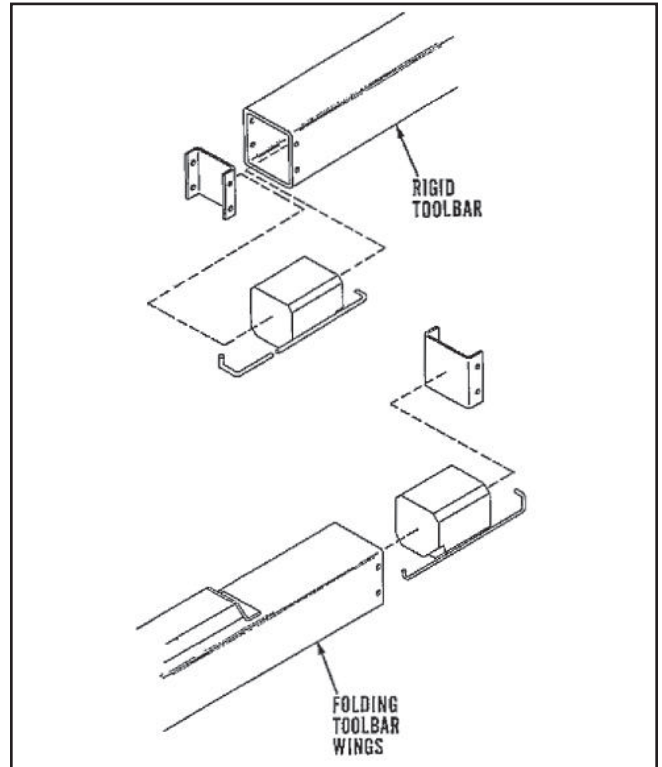
Install tube (arrow 1) through double torsion spring (arrow 2). Slide (2) large washers (arrow 3) into end of tube (arrow 1) slide in place between mount angle as shown using one 1/2 x 8 inch bolt (arrow 4) and 1/2 inch lock nut. NOTE: The two short ends of torsion spring will be against tillage unit lock plate.

Install top slide block (arrow 5) and cover (arrow 6) using four self tapping screws,

NOTE: Used for extra down pressure, mostly behind tractor wheel tracks.

ORDER ITEM NUMBER	DESCRIPTION
81004117	Down pressure spring - 2 row set

**BALLAST WEIGHT**



DWG. NO. 2866

QUANTITY REQUIRED RIGID TOOLBAR	
4 Row 36-38 Inch Rigid	= 21
6 Row 30 Inch Rigid	= 25
6 Row 36-38 Inch Rigid	= 31
6 Row 40 Inch Rigid	= 32
8 Row 30 Inch Rigid	= 32
8 Row 36-38 Inch Rigid (5/16 Wall Toolbar)	= 41
FOLDING TOOLBAR	
8 Row 30 Inch Folding	= 12
8 Row 36-38 Inch Folding	= 18
10 Row 30 Inch Folding	= 20
12 Row 30 Inch Folding	= 20
12 Row 36-38 Inch Folding	= 26
16 Row 30 Inch Folding	= 28
18 Row 28 Inch Folding	= 30

ORDER ITEM NUMBER	DESCRIPTION
810-001-176	Concrete block 22 lbs. each

### LIQUID FERTILIZER TUBE

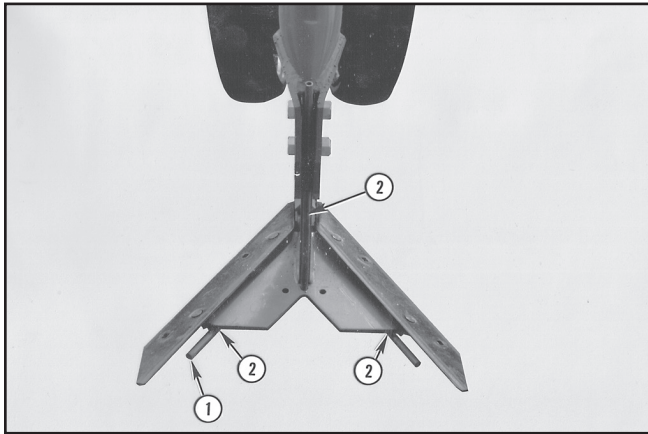


PHOTO NO. 3435

Install fertilizer tube (arrow 1) using three tack welds 3/8 inch long (arrow 2).

**NOTE:** When using fertilizer tube for outside end rows in half sweep arrangement, the fertilizer tube will be cut off just beyond the t-joint and end welded closed.

When removing fertilizer tube, a grinder must be used. **NOTE:** Special care must be taken not to burn through or grind through fertilizer tubing.

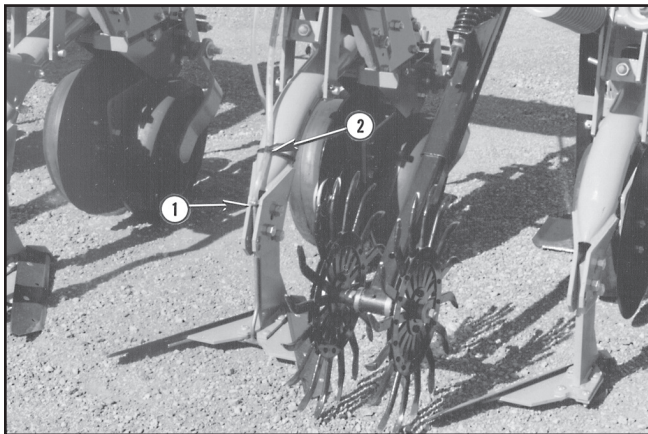


PHOTO NO. 3273A

**NOTE:** Position tube clamp (arrow 1) in between shank plate and plastic tie (arrow 2) securing plastic fertilizer tube for best residue clearance.

ORDER ITEM NUMBER	DESCRIPTION
81004448	Liquid fertilizer tube - 1 row

### NH3 COIL SHANK

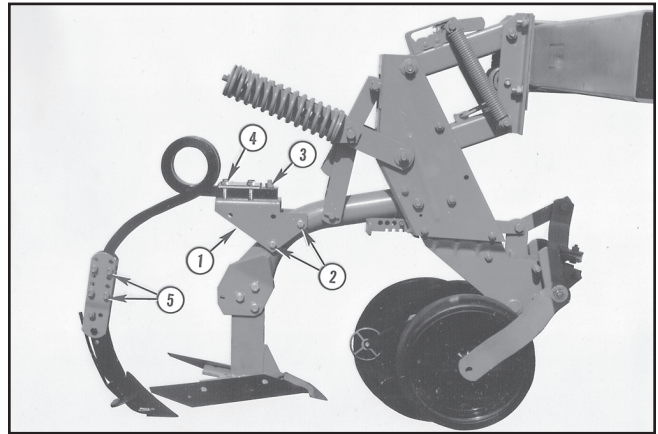


PHOTO NO. 3424

Install saddle bracket (arrow 1) onto cultivator shank using two 1/2 x 4 3/4 inch hex bolts (arrow 2). Mount coil shank using one 5/8 x 2 1/2 inch hex bolt (arrow 3) at front. At rear, mount top plate (arrow 4) with four 1/2 x 2 1/2 inch hex bolts, At bottom mount two side plates (arrow 5) using four 1/2 x 2 1/2 inch Hex Bolts as shown.

**NOTE:** Depth of NH3 knife can be adjusted by positioning of side plate (arrow 5) on coil shank.

ORDER ITEM NUMBER	DESCRIPTION
81004113	NH3 Coil Shank {Does not include knife} one row

### NH3 DISC CLOSER ASSEMBLY

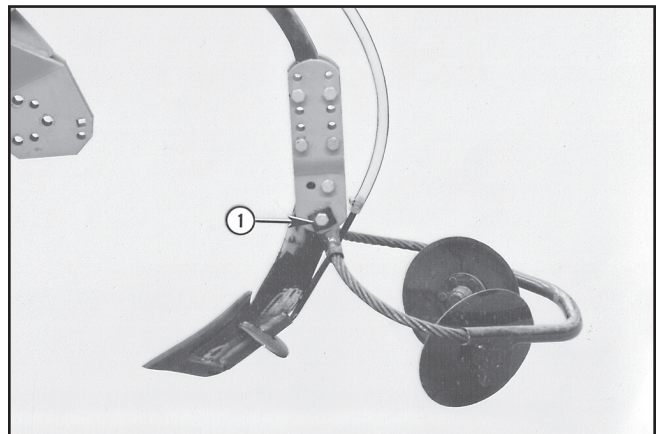


PHOTO NO. 3309

Install disc closer as shown, using 1/2 x 2 1/2 inch Hex Bolt Grade #8 only. Swing cable down to increase down pressure on disc closer or swing up to reduce pressure (Arrow 1).

ORDER ITEM NUMBER	DESCRIPTION
81004120	Disc closer assy - one row



**TELESCOPING REAR HITCH**

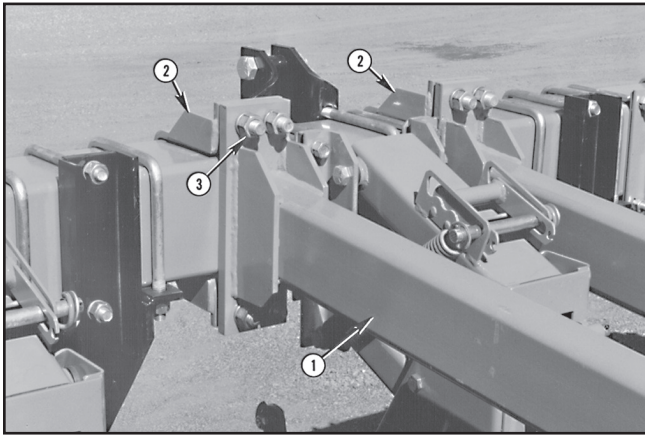
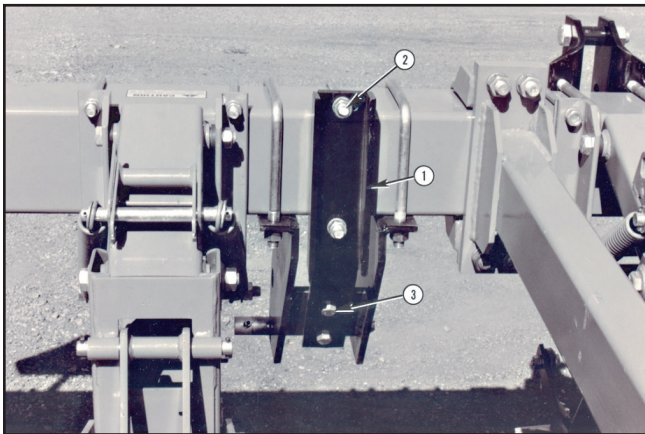


PHOTO NO. 3284

**7 x 7 Toolbar**

Install rear hitch (arrow 1) centered around upper 3-point hitch and center tillage unit as shown. Install two front mount straps (arrow 2) using eight 7/8 x 3 inch Hex Bolts (arrow 3).



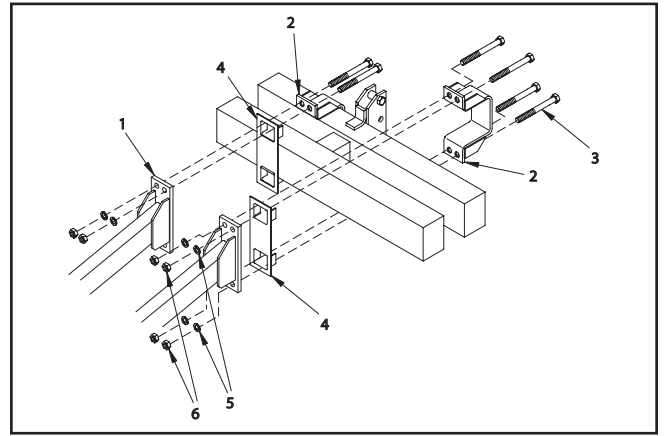
Rigid Toolbar PHOTO NO. 3285  
(Bolt on lower hitch models only)

Install two hitch supports (arrow 1) using 3/4 inch U-Bolt (arrow 2) and 5/8 x 2 1/2 inch Bolts (arrow 3).

**NOTE: Two 1/2 x 2 x 8 inch flat bars are sent with this hitch bundle. They will be used with rotary shields.**

ORDER ITEM NUMBER	DESCRIPTION
81004116	Telescoping Rear Hitch

**TELESCOPING REAR HITCH**



DWG. NO. 3243

**Twin 5 x 7 Toolbar**

Install rear hitch (arrow 1) centered around upper 3-point hitch and center tillage unit as shown. Install two front mount strap welds (arrow 2) using eight 7/8 x 10 inch hex bolts (arrow 3). Install two lock plates (arrow 4) slide rear hitch forward over the 7/8 hex bolt. Lock in place with eight lock washers (arrow 5) and eight 7/8 hex nut (arrow 6).



PHOTO NO. 3328

When pulling NH3 tank or seeder trailer use safety anchor loops (arrow 1) or (arrow 2) to secure safety chain.

**NOTE: Two hitch support assemblies and four 1/2 x 2 x 8 inch flat bars are sent with this hitch bundle. They will not be used with this folding toolbar model.**

ORDER ITEM NUMBER	DESCRIPTION
6019	Telescoping Rear Hitch

### SINGLE LIFT ASSIST

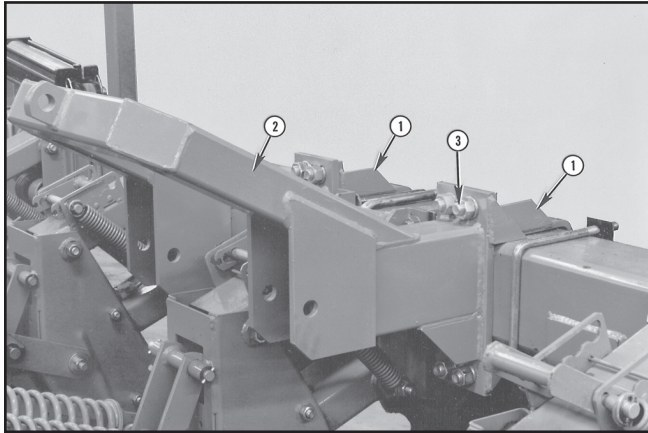


PHOTO NO. 3286

#### STEP 1A

##### 7 x 7 Toolbar

Install two mount strap weldments (arrow 1), on front side of toolbar, centered around center tillage unit. Install front mast weldment (arrow 2) using eight 7/8 x 3 inch hex bolts (arrow 3) with hex nuts and lock washers as shown.

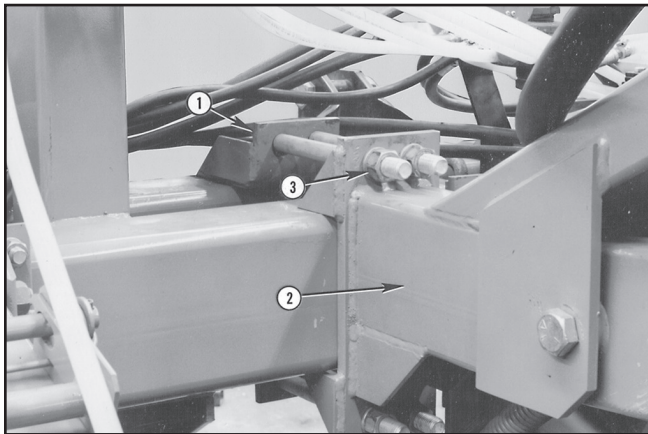


PHOTO NO. 3327

#### STEP 1B

##### Twin 5 x 7 Toolbar

Install two mount strap weldments (arrow 1), on front side of toolbar, centered around center tillage unit. Install front mast weldment (arrow 2) using eight 7/8 x 10 inch hex bolt (arrow 3) with hex nut and lock washers as shown.

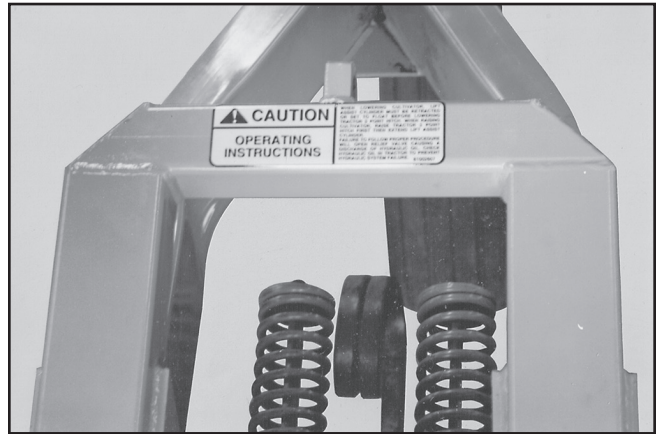


PHOTO NO. 3287

#### STEP 2

Install caution decal on front mast weldment as shown. It must be readable from tractor seat.

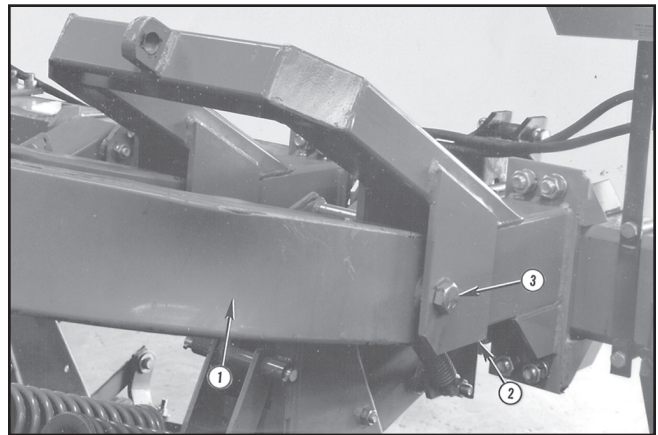
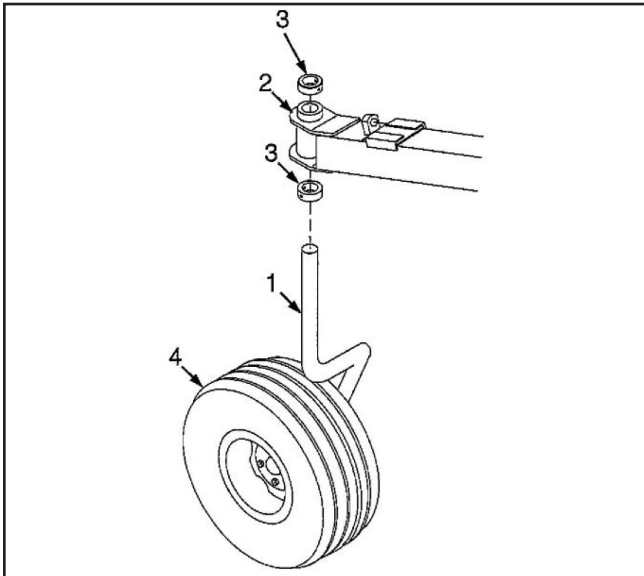


PHOTO NO. 3288

#### STEP 3

Install rear frame (arrow 1) into front mast weldment. (arrow 2) Using two 1 3/8 O.D. x 3 15/16 inch sleeves with two 1 x 6 inch hex bolts (arrow 3) hex nuts and lock washers as shown.



DWG. NO. 2863

**STEP 4**

Install rear caster assembly (arrow 1) through rear frame mounting sleeve (arrow 2) using two stem collars (arrow 3) top and bottom. Install tire (arrow 4) as shown.

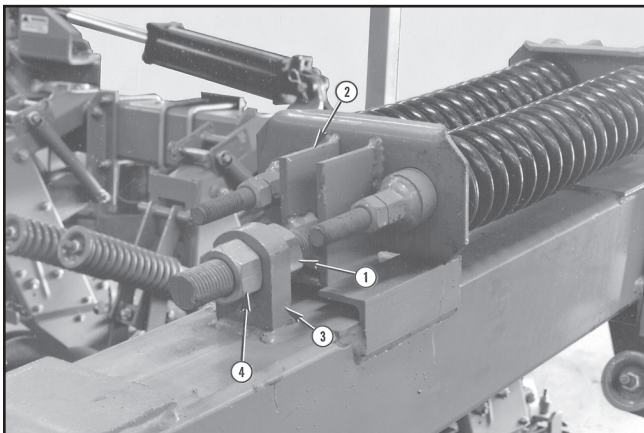
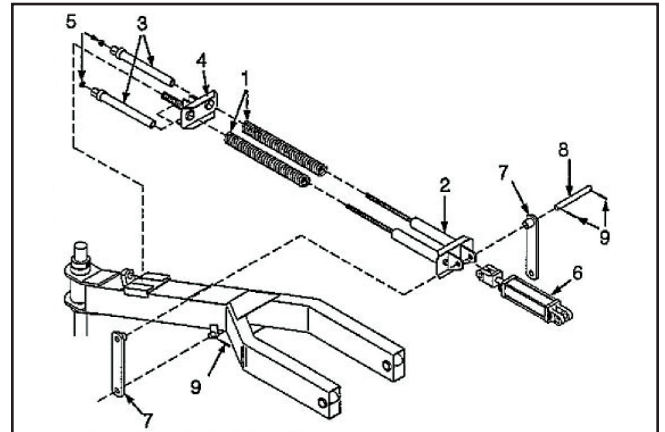


PHOTO NO. 3289

**STEP 5**

Install front 1 1/4 inch hex nut (arrow 1) to anchor weld (arrow 2). NOTE: Screw nut all the way on. Slide anchor weldment (arrow 2) through the anchor tab (arrow 3). Now install rear 1 1/4 inch hex nut (arrow 4) as shown.



DWG. NO. 2864

**STEP 6**

Install two springs (arrow 1) over front guide weldment (arrow 2). Slide two rear guide tubes (arrow 3) through anchor weldment (arrow 4). Screw two 3/4 inch lock nuts (arrow 5) down until springs overall length is 22 inches. Install fully retracted hydraulic cylinder (arrow 6).

**NOTE: Rod end must be to rear as shown. Install two link arm weldments (arrow 7) and cylinder arm pin (arrow 8), using four 5/16 x 2 inch spring pins (arrow 9).**

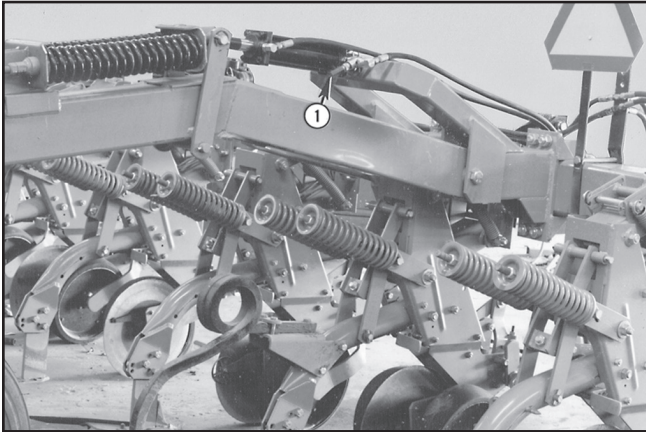
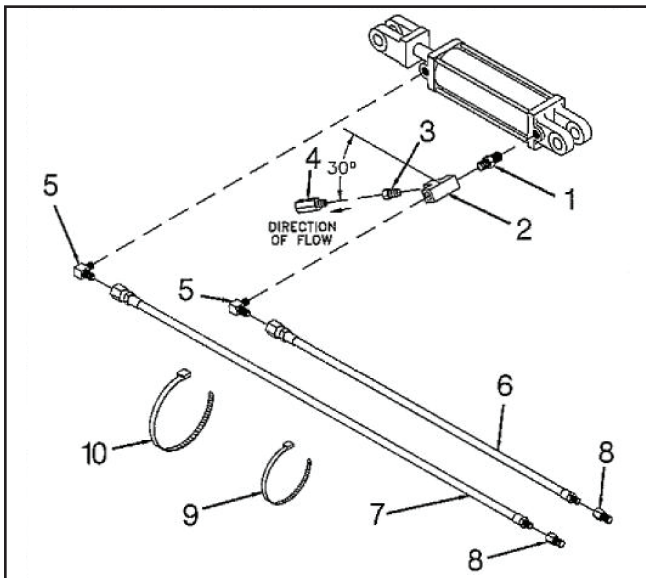


PHOTO NO. 3290A



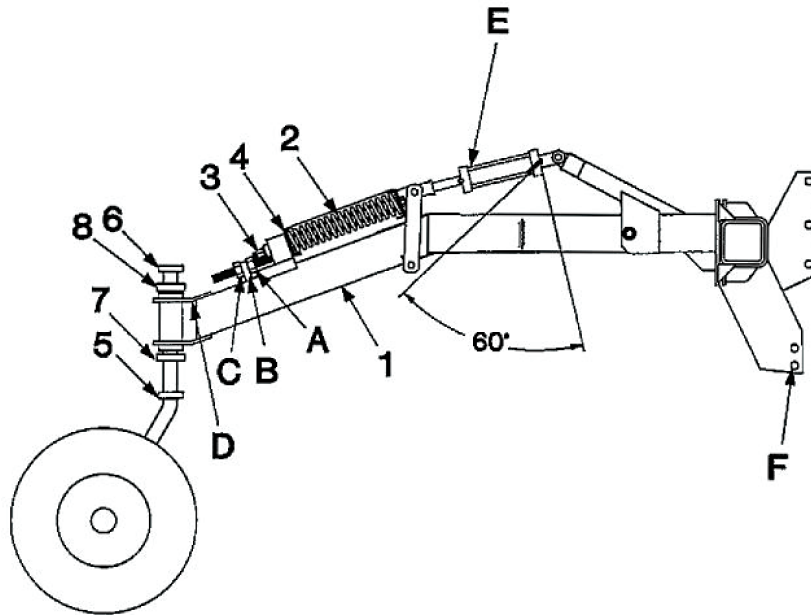
DWG. NO. 2861

### STEP 7

Install straight adapter (arrow 1) into base end of cylinder. Install street tee (arrow 2) with a reducer bushing (arrow 3) then relief valve (arrow 4). NOTE: Position relief valve at 30° from center line of cylinder as shown, Install two 90° elbows (arrow 5) and 3/8 hose x 108 inches (arrow 6) and 3/8 hose x 126 inches (arrow 7). If required use two reducer bushings (arrow 8) on end of hose to fit into quick couplers.

Install plastic ties (arrow 9 and 10) as required to hold hydraulic hose in place.

LIFT ASSIST SPRING PRELOAD AND HEIGHT ADJUSTMENT



DWG. NO. 2860

**STEP 8**

With cultivator sweeps on level ground or shop floor, lift rear frame (arrow 1) at point D with a lift chain. Raise until spring (arrow 2) has collapsed to 19 inches. Then retighten 3/4 inch lock nut, (arrow 3) to back side of anchor weldment (arrow 4).

**STEP 9**

Raise the whole row cultivator to full raised height of the tractor lift. (Note: this may require auxiliary lift device). Recheck caster assembly that lower stem collar, (arrow 5), in its lowest position on stem, and place upper stem collar, (arrow 6), on the top end of caster stem

**STEP 10**

Extend hydraulic cylinder, E, to full length. NOTE: Pin to pin length will be 28 1/4 inches. Now re-adjust position of both stem collars, (arrow 7 and 8), to fit tractor lift height.

**STEP 11**

Readjust preload on spring by screwing front and rear 1 1/4 inch hex nut, A and C, moving anchor weldment (arrow 4) ahead 1 full inch. NOTE: Spring length will be 18 inches.

**STEP 12**

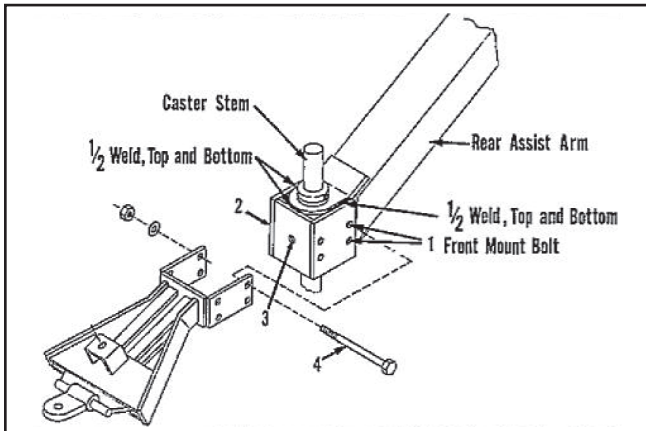
**IMPORTANT OPERATING INSTRUCTION**

When lowering row cultivator into working position, proper operating order must be followed. Lift assist cylinder, E, must be retracted first or tractor remote valve placed in float, before lowering tractor 3-point hitch, F. When lifting row cultivator, lift tractor 3-point hitch, F, first, and then extend lift assist cylinder, E, second.

If this is not followed, it will cause undo stress on lift assist components and relief valve will discharge hydraulic oil. NOTE: Operator will be required to check oil level of hydraulic system (relief valve will not discharge oil if proper operating lowering and raising order is followed.)

ORDER ITEM NUMBER	DESCRIPTION
6017	Single lift assist fits all size models
6018	Dual lift assist fits 16 Row 30 Only

### TELESCOPING REAR HITCH (FOR SINGLE LIFT ASSIST)

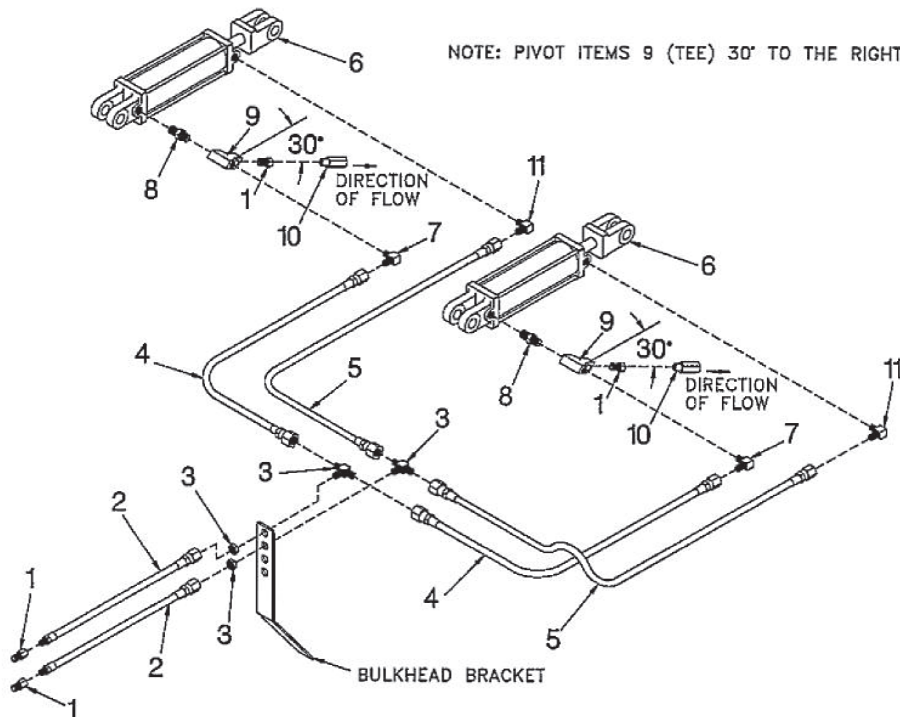


DWG. NO. 2865

- Step 1: Remove two front mount bolts (Arrow 1). Slide mount weldment (arrow 2) around the collar plates of rear lift assist arm.
- Step 2: Align hitch with center line of rear lift assist arm and center grease fitting in access hole (arrow 3). Reinstall the two front mount bolts (arrow 4) and tighten all four mounting bolts.
- Step 3: Recheck alignment and then weld mount (arrow 2) only, to rear lift assist arm as indicated.

ORDER ITEM NUMBER	DESCRIPTION
6314	Telescoping rear hitch for cultivator with single lift assist

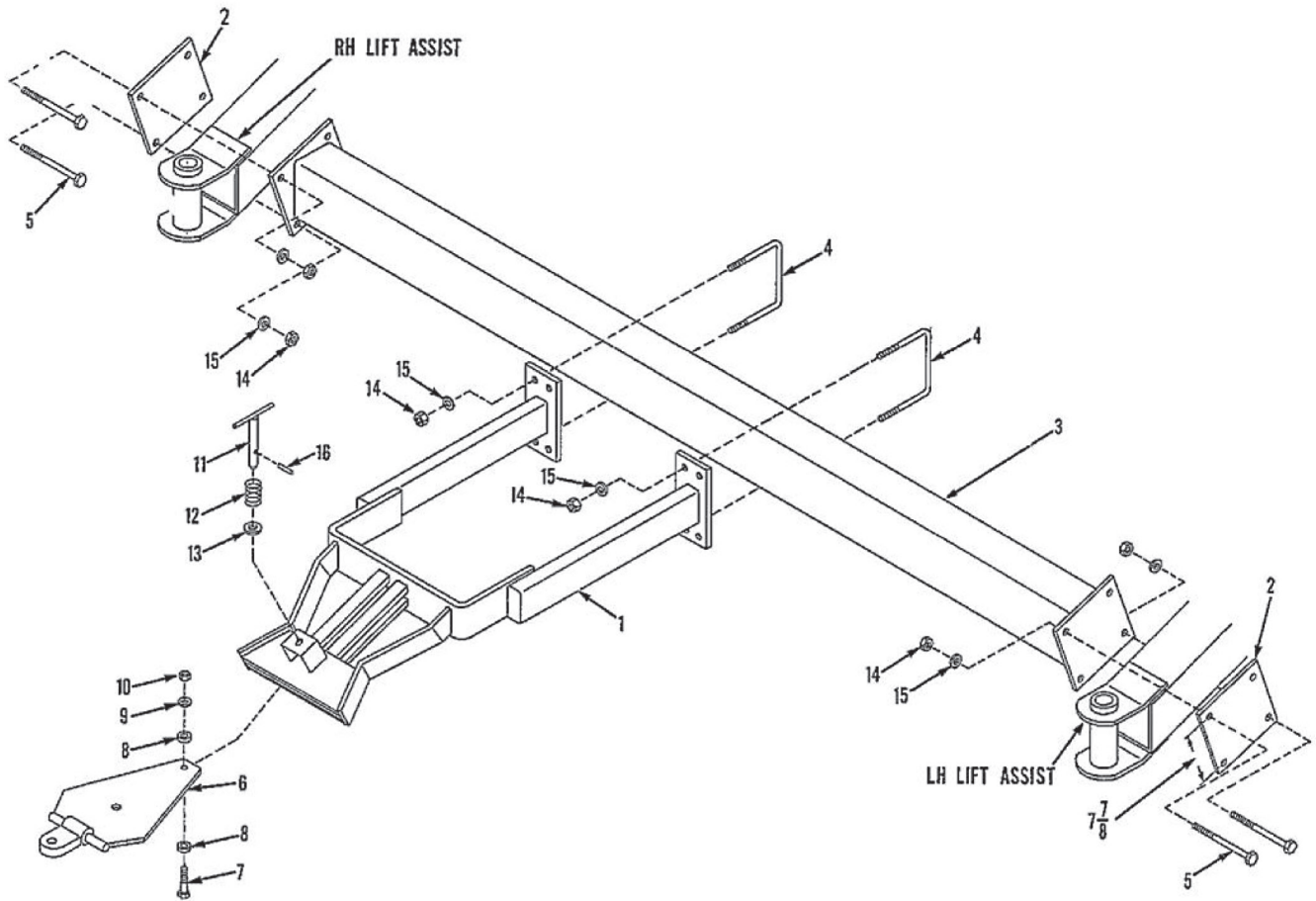
### DUAL LIFT ASSIST PLUMBING



DWG. NO. 2925

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	956-004-002	Reducer Bushing, 1/2-14 Male NPT To 3/8-18 Female NPT	4	7	956-005-003	90° Elbow 1/2-14 Male NPT To 9/16-18 Male 37° JIC	2
2	957-002-014	3/8 x 48 inch Long Hose Assembly	2	8	956-003-020	Straight Adapter 1/2 Male NPT To 3/4 Male Orb	2
3	956-007-003	Bulkhead Tee, 9/16-18 Male 37° JIC To 9/16-18 Male 37° JIC On Run	2	9	956-007-002	Street Tee 1/2 Female NPT	2
		9/16-18 Male 37° JIC Bulkhead On Branch		10	956-008-022	Relief Valve 3/8 Female NPT	2
4	957-001-017	3/8 x 72 Inch Long Hose Assembly	2	11	956-005-001	90° Elbow 3/4-16 Male Orb To 9/16-18 Male 37° JIC	2
5	957-001-058	3/8 x 82 inch Long Hose Assembly	2	* NOTE: Refer to Assembly Diagrams page 51 and 58 to determine position for Dual Lift Assist			
6	80503830	3.00 Inch Diameter x 8 Inch Stroke Cylinder With 3/4-16 O-Ring Port	2				

TELESCOPING REAR HITCH 16 ROW 30 WITH DUAL LIFT ASSIST



DWG. NO. 1667

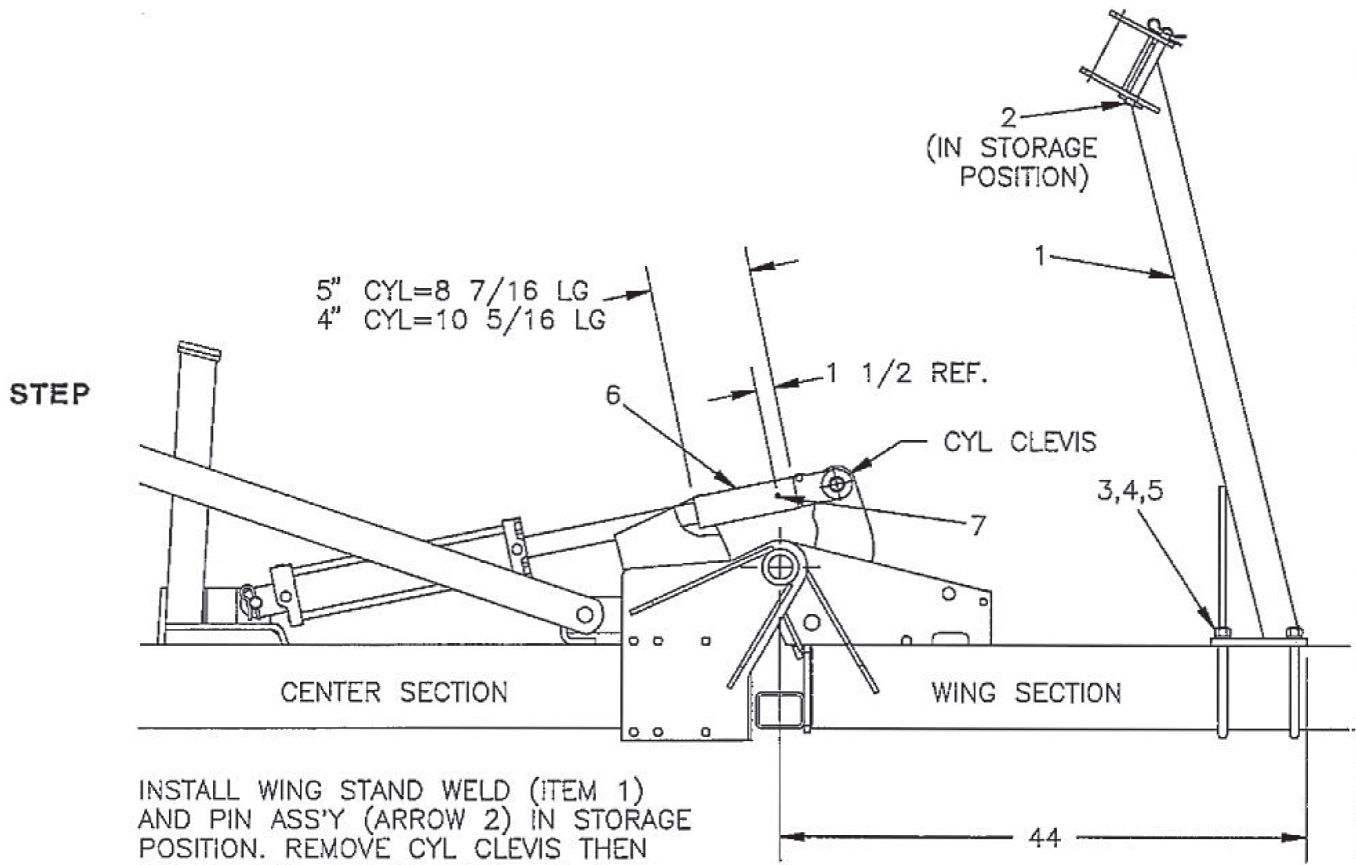
REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	810-001-205	Anhydrous Hitch Weldment	1	9	952-001-005	Lock Washer 5/8	1
2	810-002-334	Mount Plate	2	10	951-001-008	Hex Nut 5/8-11	1
3	810-002-328	Cross Tube	1	11	810-001-522	Handle Weldment	1
4	875-001-035	U-Bolt 3/4	4	12	810-001-527	Spring	1
5	950-001-229	Hex Head Cap Screw 3/4-10 x 8 Gr. 5	8	13	952-002-010	Flat Washer 1 Inch	1
6	810-001-518	Hitch Plate Weldment	1	14	951-001-009	Hex Nut 3/4-10	16
7	950-001-141	Hex Head Cap Screw 5/8-11 x 3 Gr. 5	1	15	952-001-006	Lock Washer 3/4-10	16
8	810-001-526	Collar	2	16	953-003-003	Spring Pin 1/4 x 1 3/4	1

ORDER ITEM NUMBER	DESCRIPTION
5025	Telescoping rear hitch for cultivator with dual lift assist

VERTICAL WING FOLD STOP

8 ROW 36, 38, 40;  
 10 ROW 30; 12 ROW 40;  
 4" LIFT CYLINDER

10 ROW 36, 38; 12 ROW 36, 38;  
 16 ROW 30;  
 5" LIFT CYLINDER



INSTALL WING STAND WELD (ITEM 1) AND PIN ASS'Y (ARROW 2) IN STORAGE POSITION. REMOVE CYL CLEVIS THEN INSTALL CYL SPACER OVER CYL ROD AS SHOWN. DO NOT INSTALL SET SCREW AT THIS TIME. REINSTALL CYL CLEVIS & CLEVIS PIN. LIFT WING SECTION AT THIS TIME.

DWG. NO. 2977

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	81004375	Wing Stand Weldment	2	6	81004377	Cylinder Spacer 2 5/8 O.D. x 6 7/16 (Fits 5 x 16 Cyl.)	2
2	81004379	Pin Assembly	2		81004445	Cylinder Spacer 2 3/8 O.D. x 10 5/16 (Fits 4 x 16 Cyl.)	2
3	875-001-038	U-Bolt 3/4-10 x 7 3/4	4	7	950-008-001	Hex Socket Set Screw 3/8-16 x 3/8	2
4	952-001-006	Lock Washer 3/4 Inch	8	8	953-005-002	Hair Pin Cotter .178 x 3 9/16	2
5	951-001-009	Hex Nut 3/4-10	8				

ORDER ITEM NUMBER	DESCRIPTION
81004355	Vertical Wing Fold Stop



**STEP 2**

MOVE PIN ASS'Y  
(IN LOCK  
POSITION)

2

1

INSTALL 3/8 SET SCREW IN  
CYL. SPACER, AFTER WING  
SECTION HAS BEEN FULLY  
RAISED.

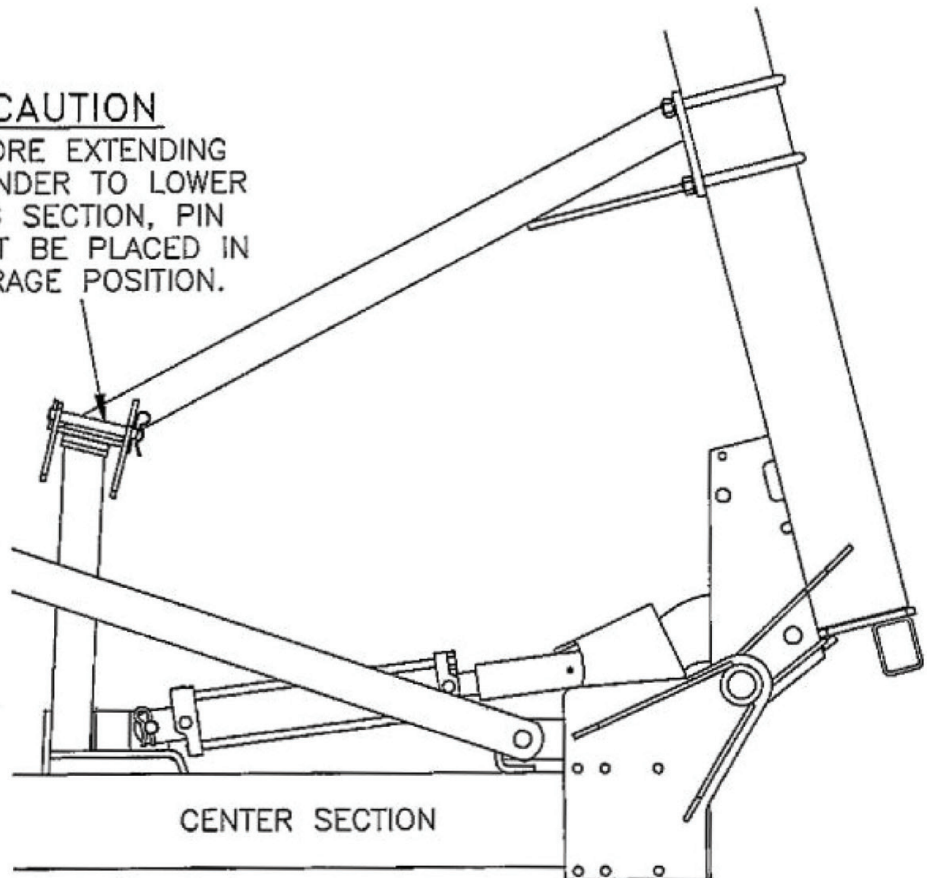
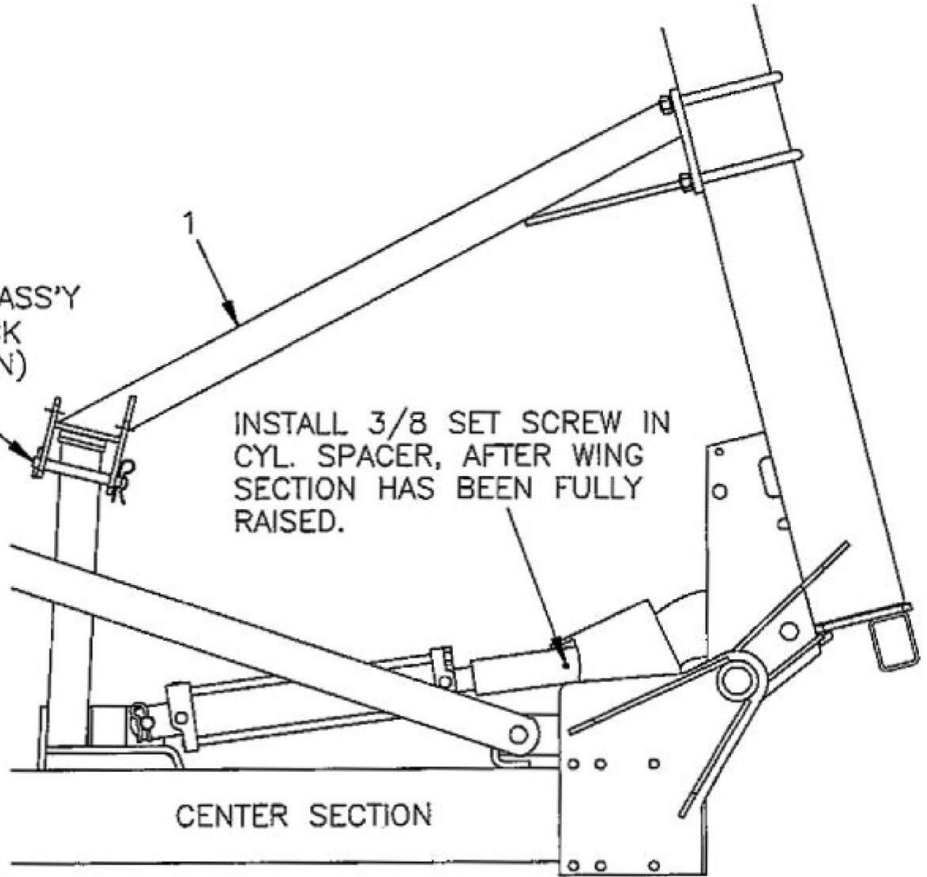
CENTER SECTION

**CAUTION**

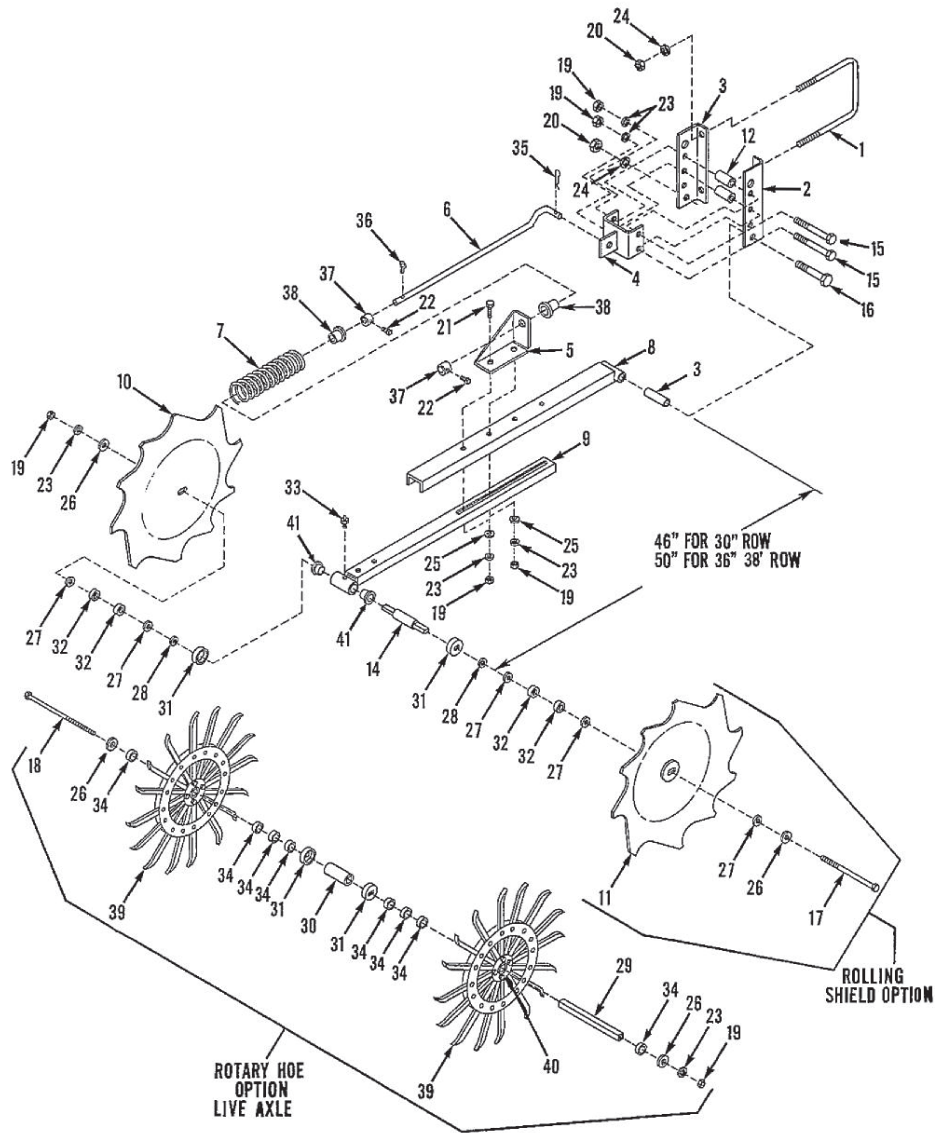
BEFORE EXTENDING  
CYLINDER TO LOWER  
WING SECTION, PIN  
MUST BE PLACED IN  
STORAGE POSITION.

**STEP 3**

CENTER SECTION



ROLLING SHIELD AND ROTARY HOE WHEEL



DWG. NO. 1855

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	805-001-332	U-Bolt 5/8 x 7 5/8 Inch Center Fits 7 x 7	2	20	951-001-008	Hex Nut 5/8-11	5
	81003020	U-bolt 5/8 x 7 5/8 Inch Center Fits 5 x 7	2	21	950-001-125	Hex Head Cap Screw 1/2-13 x 1 1/2 Gr. 5	2
2	810-002-364	Right Mount Bracket	1	22	950-008-008	Square Head Set Screw 1/2-13 x 3/4	2
3	810-002-363	Left Mount Bracket	1	23	952-001-004	Lock Washer 1/2 Inch	5
4	810-001-487	Bracket Weldment	1	24	952-001-005	Lock Washer 5/8 Inch	5
5	810-001-497	Spring Bracket	1	25	952-002-005	Flat Washer 1/2 Inch	2
6	810-001-500	Rod	1	26	952-004-059	Flat Washer 9/16 x 1 3/4 x .250	2
7	850-002-408	Compression Spring	1	27	952-002-010	Flat Washer 1 Inch (Rolling Shield Option Only)	5
8	810-002-357	Outer Channel Weldment	1	28	952-003-005	Flat Washer 1 Inch SAE (Rolling Shield Option Only)	2
9	810-001-179	Inner Channel Assembly (Includes Item 33)	1	29	810-002-462	Axle Tube (Rotary Hoe Option Only)	1
10	810-001-499	Left Rolling Shield Weldment	1	30	810-002-461	Sleeve Axle Bearing (Rotary Hoe Option Only)	1
11	810-001-498	Right Rolling Shield Weldment	1	31	515-301-012	Dust Cap	2
12	810-001-490	Spacer	2	32	810-001-591	Spacer (Rolling Shield Option Only)	4
13	810-002-361	Tube	1	33	955-001-002	Grease Fitting 1/4-28 UNF	1
14	810-001-590	Axle (Rolling Shield Only)	1	34	810-002-463	Axle Spacer (Rotary Hoe Option Only)	8
15	950-001-060	Hex Head Cap Screw 1/2-13 x 5 Gr. 5	2	35	953-005-002	Hair Pin Cotter .178 x 3 9/16	1
16	950-001-131	Hex Head Cap Screw 5/8-11 x 4 1/2 Gr. 5	1	36	953-001-010	Cotter Pin 1/4 x 1 1/2	1
17	950-001-259	Hex Head Cap Screw 1/2-13 x 8 Gr. 5 (Rolling Shield Option Only)	1	37	828-001-005	Lock Collar	2
18	950-001-274	Hex Head Cap Screw 1/2-13 x 10 Gr. 5 (Rotary Hoe Option Only)	1	38	810-001-493	Spring Cap Weldment	2
19	951-001-007	Hex Nut 1/2-13	5	39	810-002-467	Wheel Assembly W/Washer Weldment	2
				40	810-002-466	Washer Weldment (Service Replacement Part)	4

Rotary Hoe Wheels with Support Arms		21 Inch Rolling Shield with Support Arm	
ITEM NUMBER	DESCRIPTION	ITEM NUMBER	DESCRIPTION
5034-4	Rotary Hoe Wheels and Arms - 4 Row	5028-4	Rolling Shields and Arms - 4 Row
5034-6	Rotary Hoe Wheels and Arms - 6 Row	5028-6	Rolling Shields and Arms - 6 Row
5034-8	Rotary Hoe Wheels and Arms - 8 Row Rigid	5028-8	Rolling Shields and Arms - 8 Row Rigid
6015-8F	Rotary Hoe Wheels and Arms - 8 Row Folding	6016-8F	Rolling Shields and Arms - 8 Row Folding
6015-12F	Rotary Hoe Wheels and Arms - 12-30 Row Folding	6016-12F	Rolling Shields and Arms - 12-30 Row Folding
6015-12WF	Rotary Hoe Wheels and Arms - 12-36/38 Row Folding	6016-12WF	Rolling Shields and Arms - 12-36/38 Row Folding
6015-16F	Rotary Hoe Wheels and Arms - 16-30 Row Folding	6016-16F	Rolling Shields and Arms - 16-30 Row Folding

RIGHT AND LEFT MOUNT BRACKET TYPICAL MOUNTING ARRANGEMENT

FIG. 1



FIG. 2



FIG. 3



FIG. 4

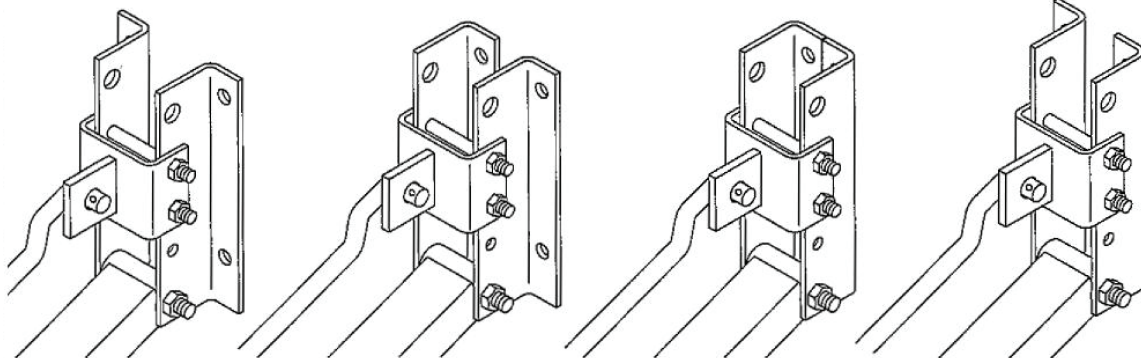
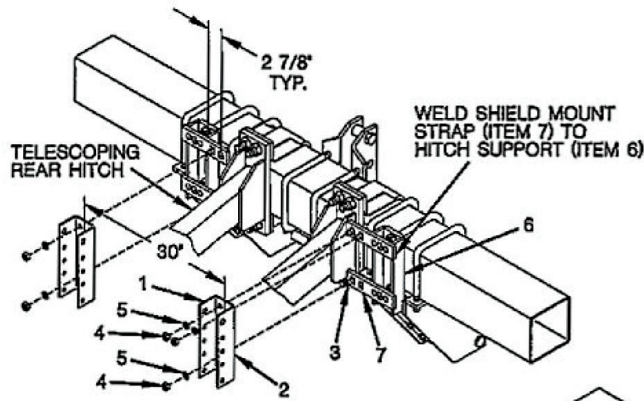


DIAGRAM KEY; USED IN ASSEMBLY DIAGRAMS PAGES 63 - 70

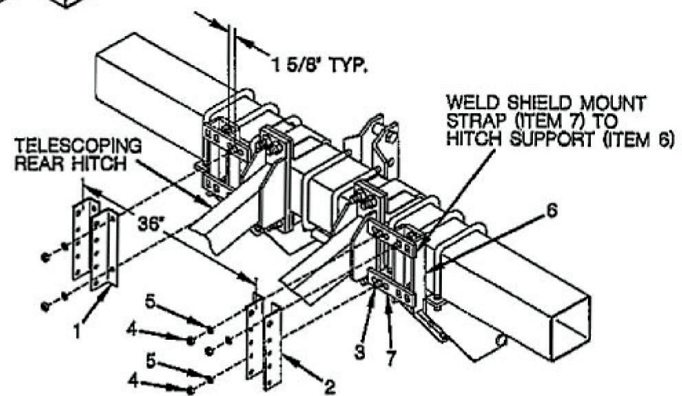
DWG. NO. 2891

RIGID TOOLBAR MOUNTING

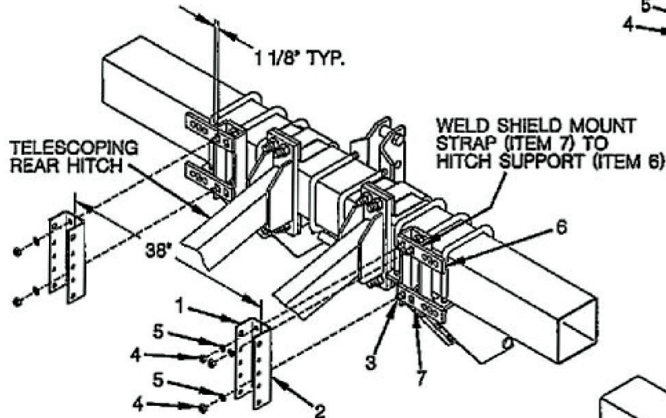
ROLLING SHIELDS & ROTARY HOE  
WHEEL MOUNTING BRACKETS WITH  
TELESCOPING HITCH.



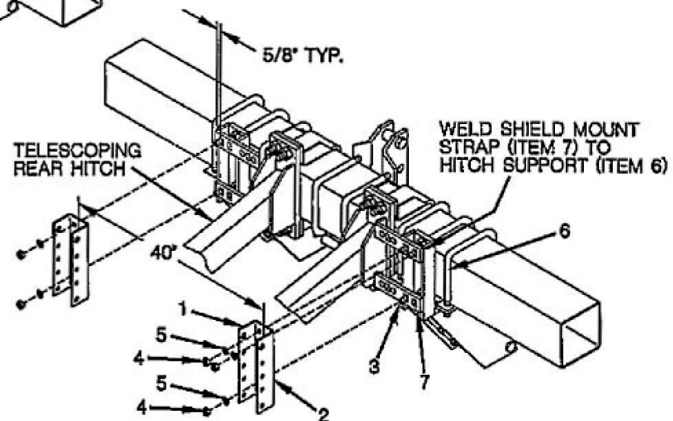
ON ALL 30" MODELS



ON ALL 36" MODELS



ON ALL 38" MODELS



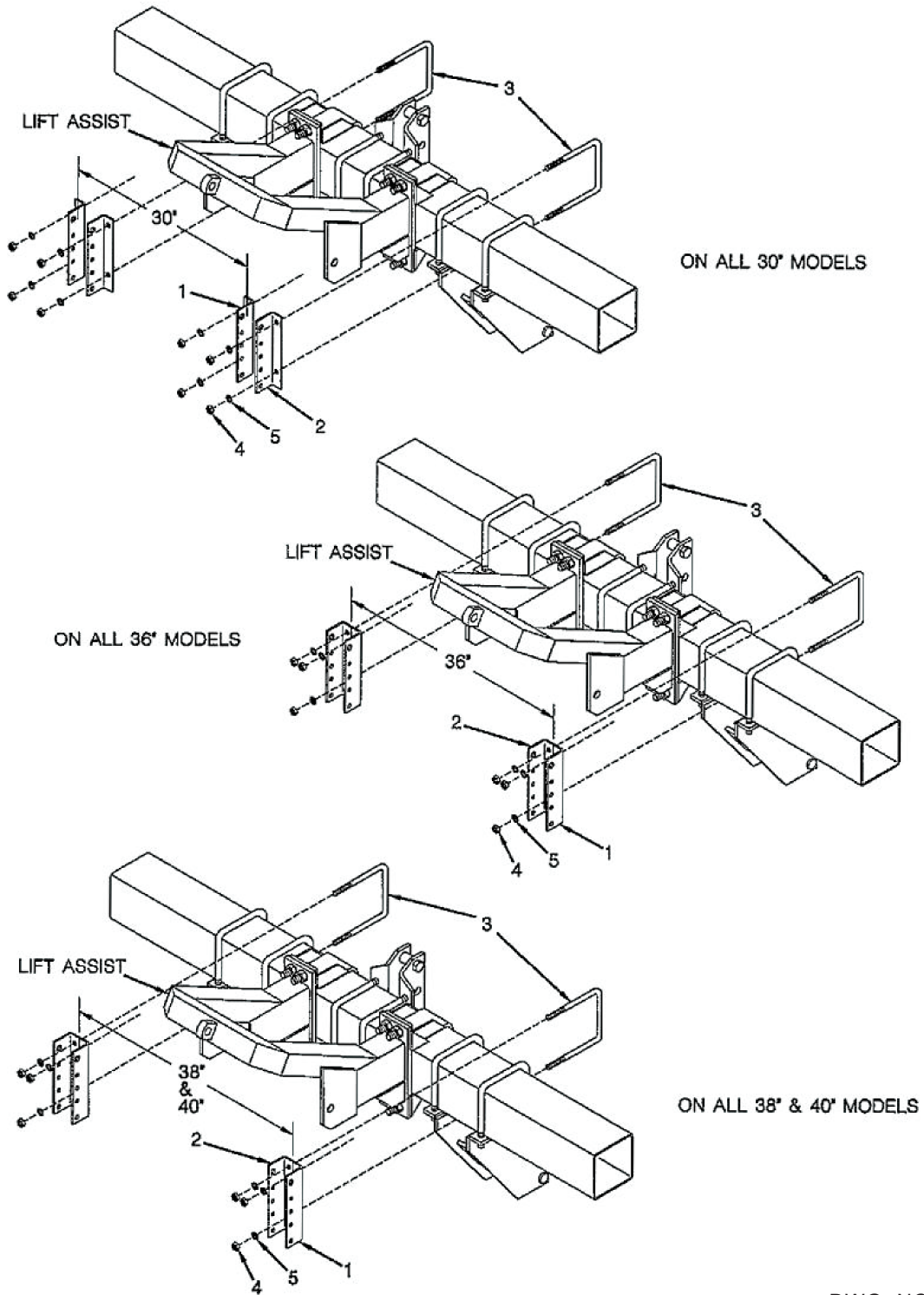
ON ALL 40" MODELS

DWG. NO. 2976

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	810-002-363	LH Mount Bracket	2	5	952-001-005	Lock Washer 5/8 Inch	8
2	810-002-364	RH Mount Bracket	2	6	810-002-212	Hitch Support Weldment	2
3	950-003-021	Carriage Bolt 5/8-11 x 1 1/4	8	7	810-001-551	Shield Mount Strap	4
4	951-001-008	Hex Nut 5/8-11	8				

FOLDING TOOLBAR MOUNTING

ROLLING SHIELDS & ROTARY HOE  
WHEEL MOUNTING BRACKETS WITH  
LIFT ASSIST.

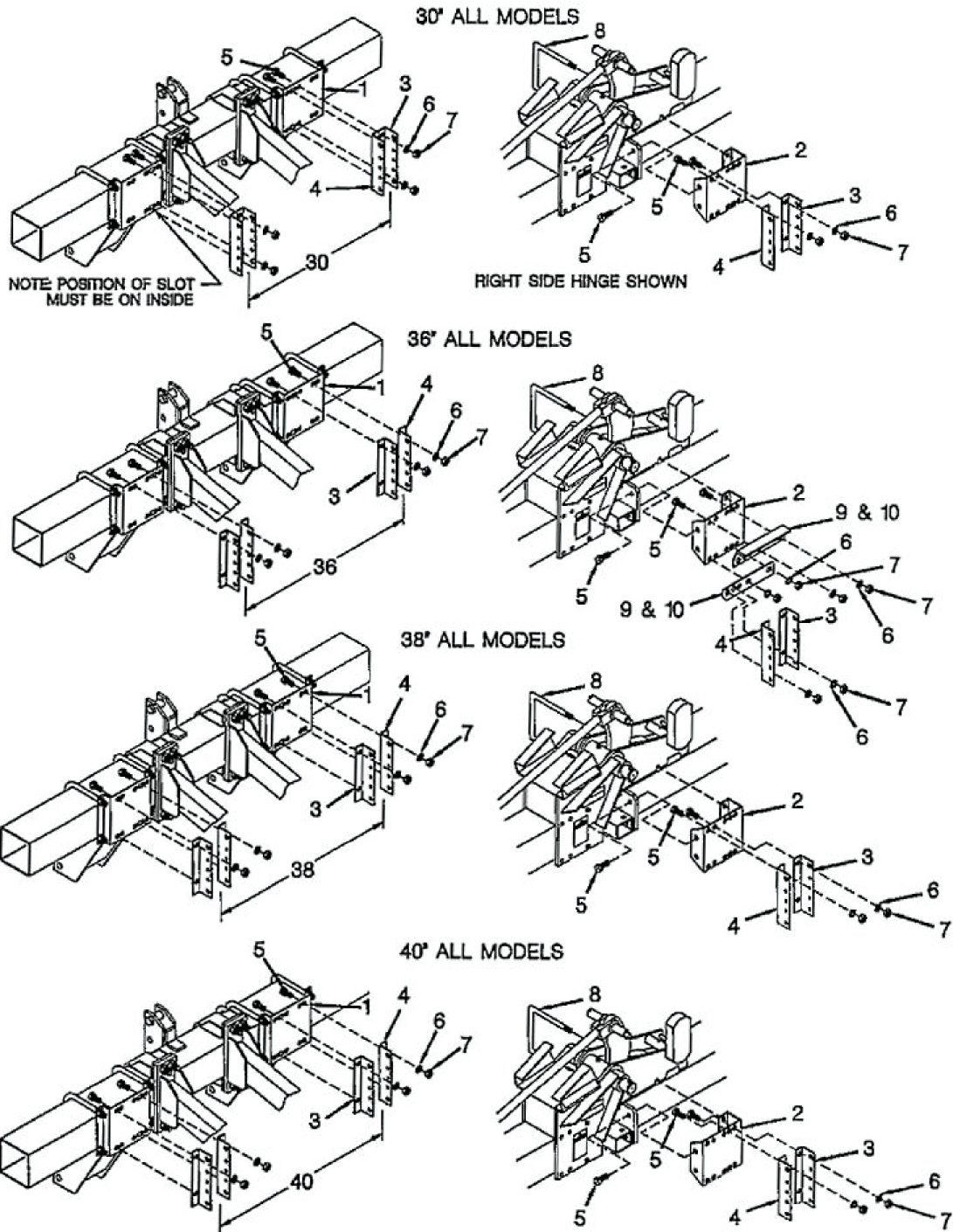


DWG. NO. 2975

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	810-002-364	RH Mount Bracket	2	4	951-001-008	Hex Nut 5/8-11	8
2	810-002-363	LH Mount Bracket	2	5	952-001-005	Lock Washer 5/8 Inch	8
3	805-001-332	Center U-Bolt 5/8 x 7 5/8	4				

FOLDING TOOLBAR MOUNTING

ROLLING SHIELDS & ROTARY HOE  
WHEEL MOUNT BRACKETS, WITH OR  
WITHOUT TELESCOPING REAR HITCH  
OR LIFT ASSIST.



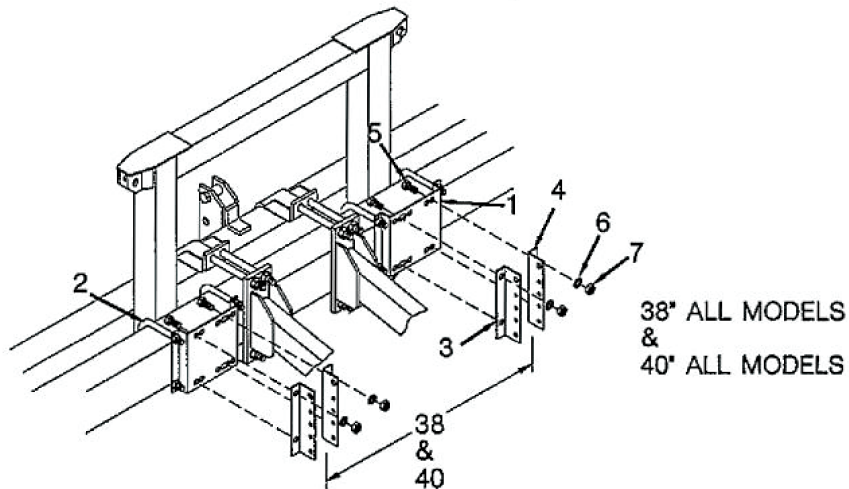
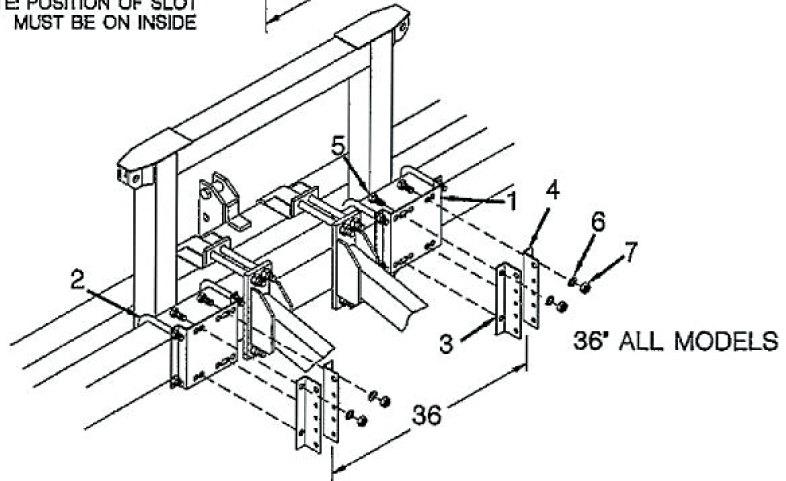
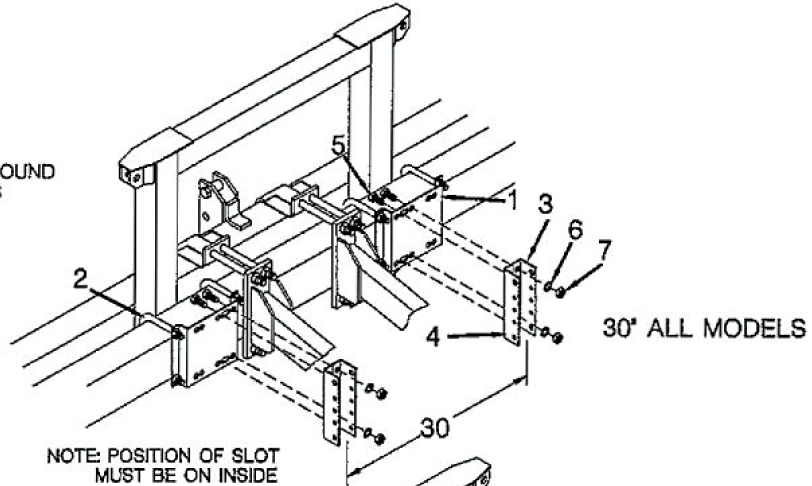
DWG. NO. 2974

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	810-002-310	Mount Plate	2	6	952-001-005	Lock Washer 5/8 Lock Washer	A/R
2	81004288	Mount Bracket	2	7	951-001-008	Hex Nut 5/8-11	A/R
3	810-002-364	RH Mount Bracket	4	8	805-001-332	U-Bolt 5/8 x 7 5/8	2
4	810-002-363	LH Mount Bracket	8	9	81004335	RH Angle (Right Side. Wing)	2
5	950-001-087	Head Cap Screw 5/8-11 x 1 1/2	18	10	81004336	LH Angle (Left Side Wing)	4

FOLDING TOOLBAR MOUNTING ROLLING SHIELD AND ROTARY HOE WHEEL

ROLLING SHIELDS & ROTARY HOE  
WHEEL MOUNT BRACKETS, WITH OR  
WITHOUT TELESCOPING REAR HITCH  
OR LIFT ASSIST.

MOUNTING AROUND  
HITCH PLATES



DWG. NO. 2926

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	810-002-310	Mount Plate	2	5	950-001-087	Hex Head Cap Screw 5/8-11 x 1 1/2	16
2	81003020	U-Bolt 5/8 Inch	4	6	952-001-005	Lock Washer 5/8	A/R
3	810-002-364	RH Mount Bracket	4	7	951-001-008	Hex Nut 5/8-11	A/R
4	810-002-363	LH Mount Bracket	8				

### FOLDING TOOLBAR MOUNTING ROLLING SHIELD AND ROTARY HOE WHEEL

Rolling shields and rotary hoe wheel mount brackets mounting around wing hinges. LH wing shown in photo.

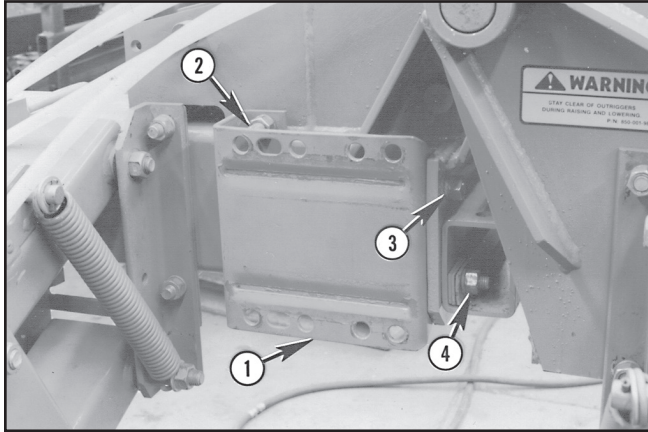


PHOTO NO. 3329

Install mounting bracket (arrow 1) using one 5/8 U-Bolt (arrow 2), one 5/8 x 1 1/2 inch hex bolt (arrow 3). Reinstall one 5/8 x 2 1/4 inch hex bolt (arrow 4).

### 30 & 38 INCH ROW SPACINGS

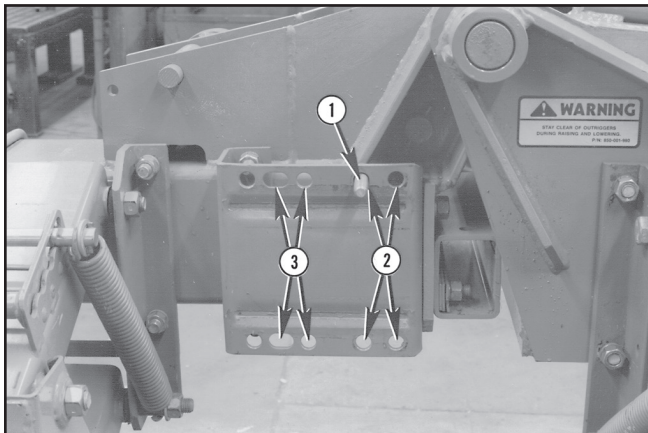


PHOTO NO. 3330

30 inch row spacing only. Install one 5/8 x 1 1/2 inch hex bolt (arrow 1) as shown. 30 inch row spacing, bolt locations will be (arrow 2), 38 inch row spacing, bolt locations will be (arrow 3).

### 12 ROW 36 INCH ROW SPACING ONLY

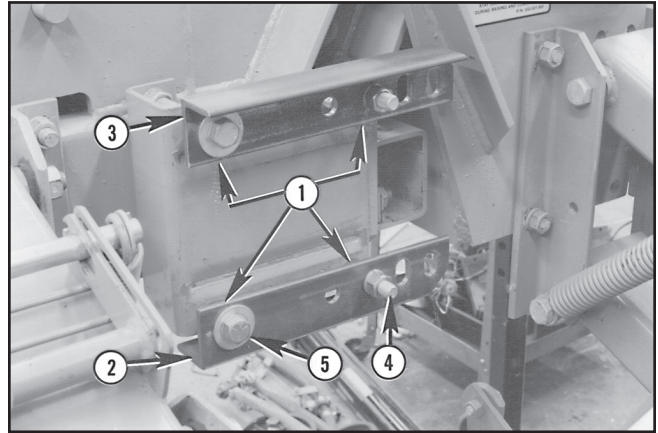


PHOTO NO. 3331

Install four spacers 1 3/16 inch long (arrow 1) also one mount angle with angle flange in (arrow 2) and one mount angle with flange out (arrow 3) using four 5/8 x 2 1/2 inch hex bolts (arrow 4) and two 3/8 inch flat washers (arrow 5).

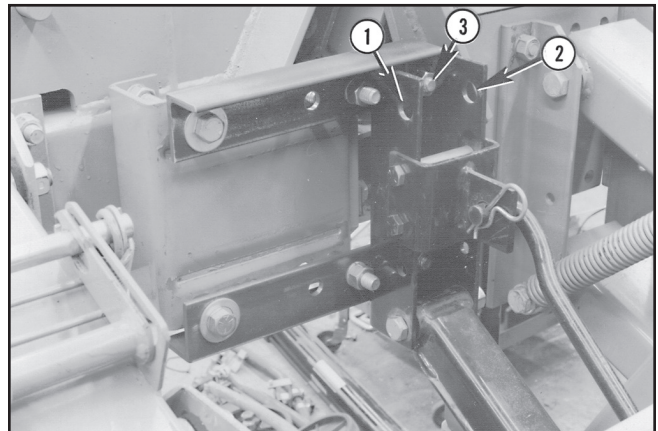
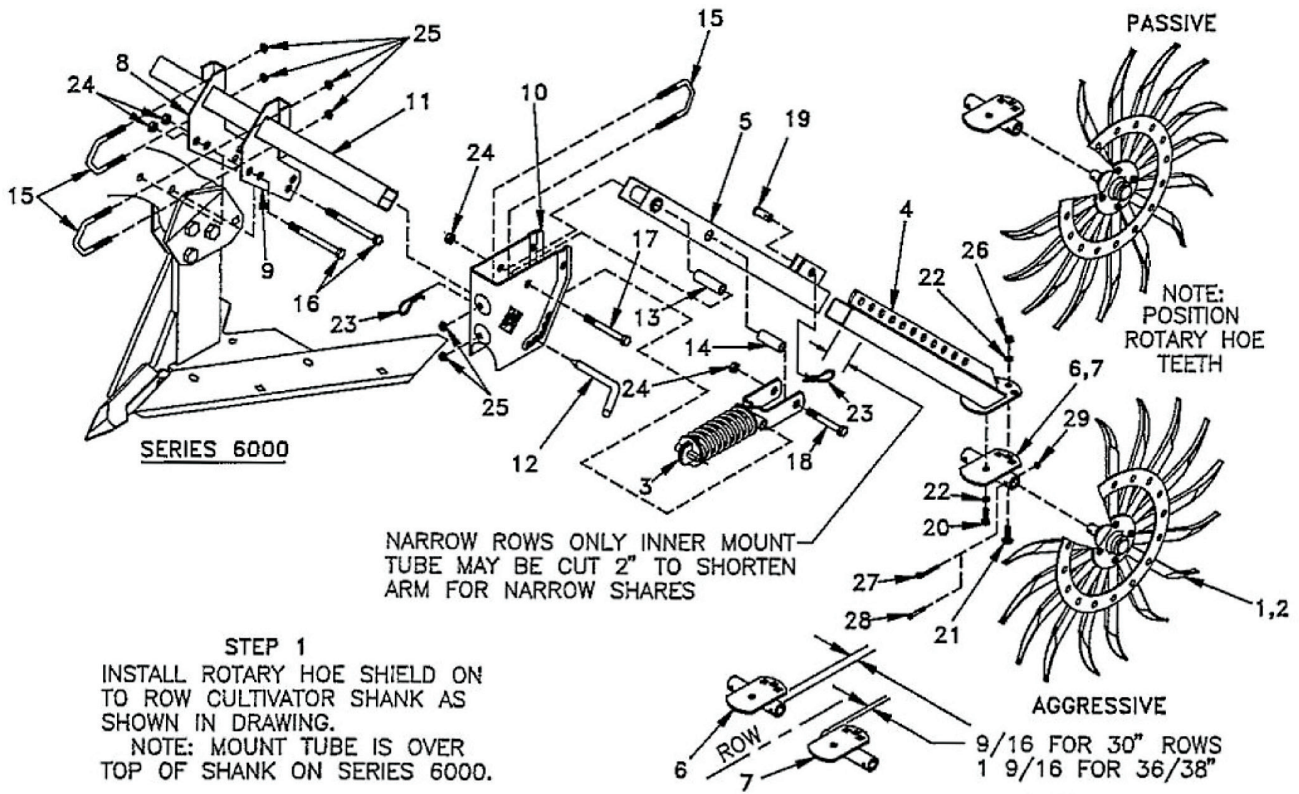


PHOTO NO. 3332

Install RH & LH mount bracket (arrows 1 & 2) to mount angle as shown in photo, using four 5/8 x 1 1/2 inch hex bolts (arrow 3).



CUT AWAY / HOE SHIELD



**STEP 1**  
INSTALL ROTARY HOE SHIELD ON TO ROW CULTIVATOR SHANK AS SHOWN IN DRAWING.  
NOTE: MOUNT TUBE IS OVER TOP OF SHANK ON SERIES 6000.

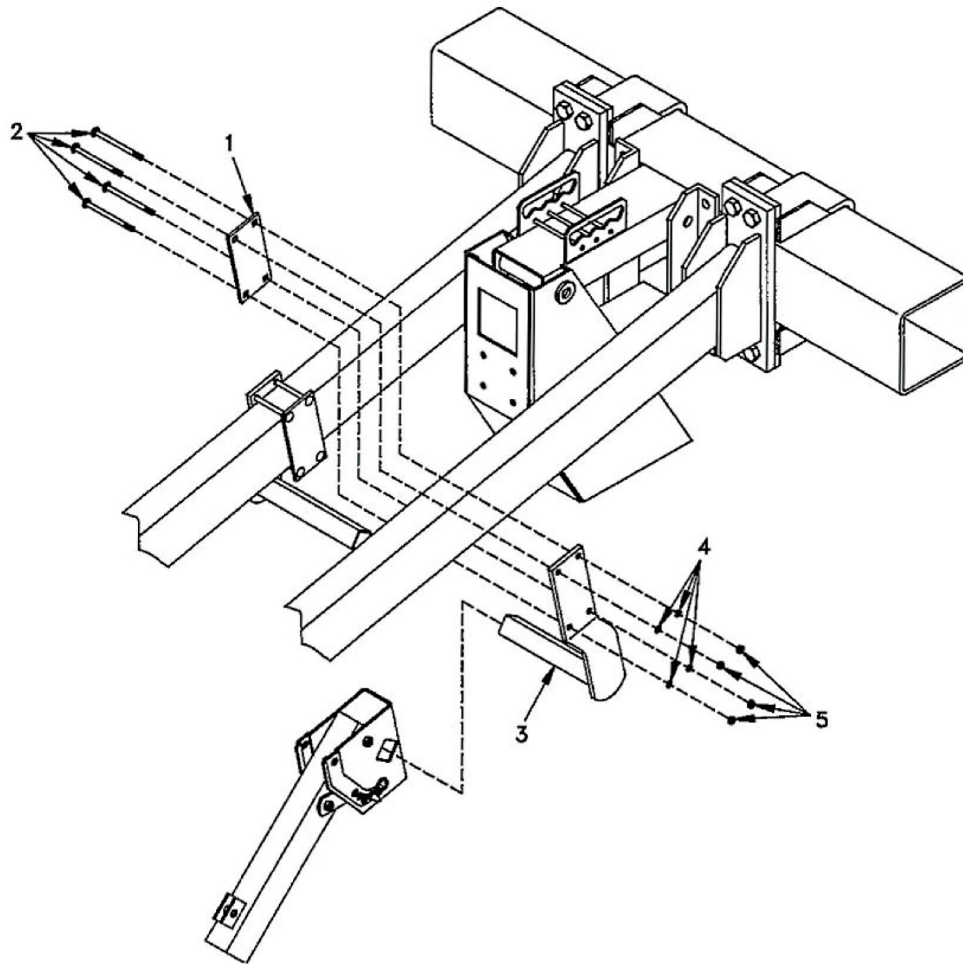
**STEP 2**  
INSTALL ITEM 6 AND ITEM 7 THE SAME OVER THE ROW. ALSO INSTALL THE ROTARY HOE WHEEL TEETH IN THE SAME DIRECTION.

DWG. NO. 3320

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	81004573	RH Wheel Assembly	1	15	81004572	Diagonal U-Bolt	4
2	81004574	LH Wheel Assembly	1	16	950-001-126	Hex Head Cap Screw 1/2-13 x 4 1/2 Gr. 5	2
3	81004578	Spring Assembly	2	17	950-001-142	Hex Head Cap Screw 1/2-13 x 3 1/2 Gr. 5	2
4	81004649	Inner Mount Tube Weldment	2	18	950-001-075	Hex Head Cap Screw 1/2-13 x 3 Gr. 5	2
5	81004652	Tube Weldment	2	19	953-002-034	Clevis Pin 1/2 x 1 1/4	2
6	81004583	RH Bottom Plate Weldment	1	20	950-001-105	Hex Head Cap Screw 3/8-16 x 1 Gr. 5	2
7	81304584	LH Bottom Plate Weldment	1	21	950-003-029	Carriage Bolt 3/8-16 x 1 Gr. 5	2
8	81004654	RH Mount Plate	1	22	952-001-007	Lock Washer 3/8 Inch	4
9	81004552	LH Mount Plate	1	23	953-005-001	Hair Pin .120 x 2 3/8	4
10	81004569	Mounting Channel	2	24	10304	Lock Nut 1/2-13	6
11	81004582	Mount Tube (22" Narrow Row)	1	25	951-002-003	Flange Nut 3/8-16 Whiz Lock	8
	81004650	Mount Tube (28" Wide Row)	1	25	951-001-005	Hex Nut 3/8-16	2
12	81004549	Pin	2	27	035-42065	Cotter Pin 1/4 x 1 3/4	2
13	81004571	Inner Tube	2	28	031-06007	Hex Head Cap Screw 1/4-20 x 1 1/4 Gr. 5	2
14	81004577	Spacer	2	29	951-005-085	Nut 2-Way 1/4-20 Gr. A	2

ORDER ITEM NUMBER	DESCRIPTION
81004608	Cutaway Hoe Shield Two Row
81004609	End Row Mounting Kit

ASSEMBLY OF CUTAWAY HOE SHIELD AROUND TELESCOPING REAR HITCH



DWG. NO. 3156

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	81004639	Mount Plate	2	4	952-001-007	Lock Washer 3/8 Inch	8
2	950-003-030	Carriage Bolt 3/8-16 x 4 1/2 Gr. 2	8	5	951-001-005	Hex Nut 3/8-16	8
3	81004640	Mounting Tube Weldment	2				

ORDER ITEM NUMBER	DESCRIPTION
81004610	Cutaway Hoe Shield Extra Parts For Telescoping Rear Hitch.

**NARROW ROW**

Install mounting plate (arrow 1) on inside of rear hitch using four 3/8 inch carriage bolts (arrow 2). Install rotary hoe assembly onto mounting tube weldment (arrow 3). Now move into place on outside on rear hitch by using four 3/8 inch lock washers (arrow 4) and four 3/8 inch hex nuts (arrow 5). Repeat procedure on other side.

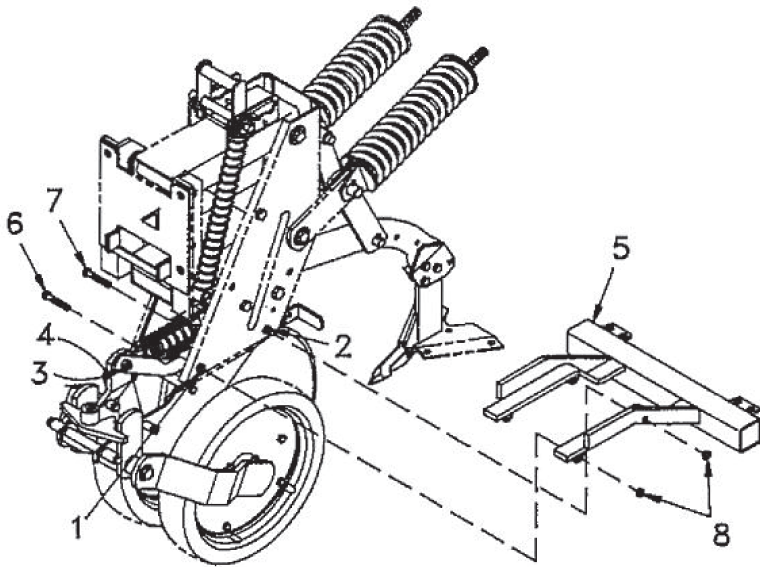
**WIDE ROW**

Install mounting plate (arrow 1) on outside rear hitch, and mounting tube (arrow 3) inside on rear hitch having 1 1/2 inch square tube facing outward from hitch.

Front to rear initial setting. After all other 1 1/2 inch cross tube have been installed, move the hitch mounting weldment (arrow 3) rearward two inches out of alignment. Adjust rotary hoe telescoping mounting tube into the shorter position.

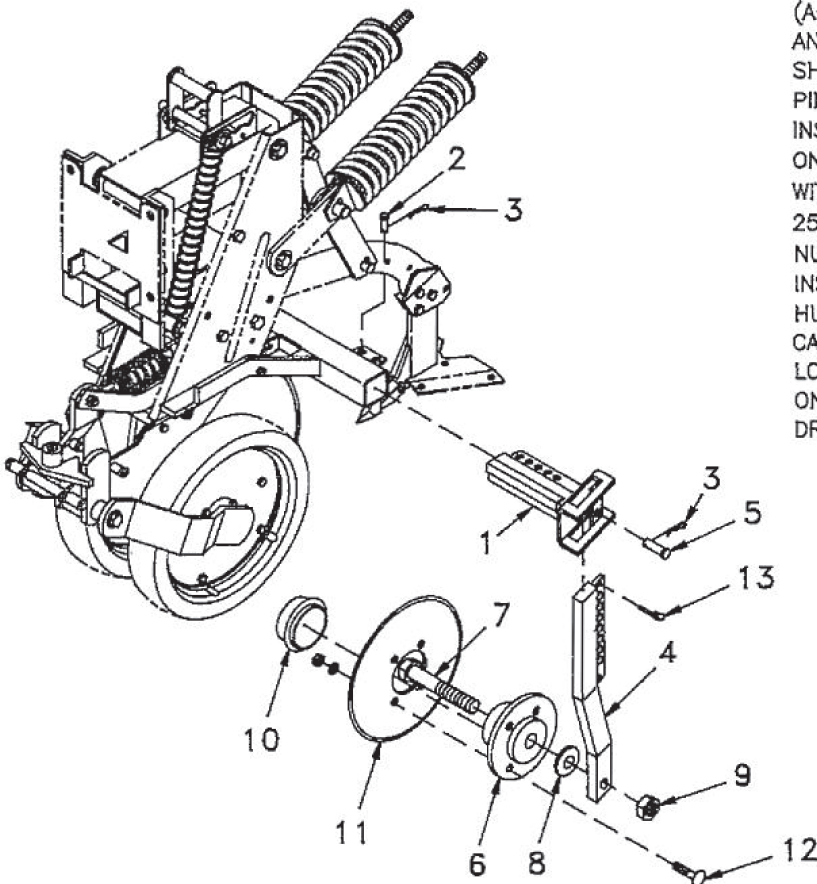
CUT AWAY DISC INSTALLATION

STEP 1



REMOVE FOUR LOWER MAST BOLTS, (ARROW 1 & 2). TO IMPROVE ACCESS, REMOVE LEVER BOLTS, (ARROW 3 & 4). NOTE POSITION OF LEVERS, SPACERS AND WASHERS, THEY WILL BE REINSTALLED. INSTALL CROSS TUBE WELD, (ARROW 5), USING TWO 1/2 X 2 1/2 HEX BOLTS, (ARROW 6), AT FRONT AND TWO 1/2 X 2 3/4 HEX BOLTS, (ARROW 7), AT REAR. REINSTALL FOUR 1/2 LOCK HEX NUTS, (ARROW 8). REINSTALL LEVER BOLTS, (ARROW 3 & 4). CHECK LEVERS FOR PROPER INSTALLATION AND FULL ADJUSTMENT MOTION.

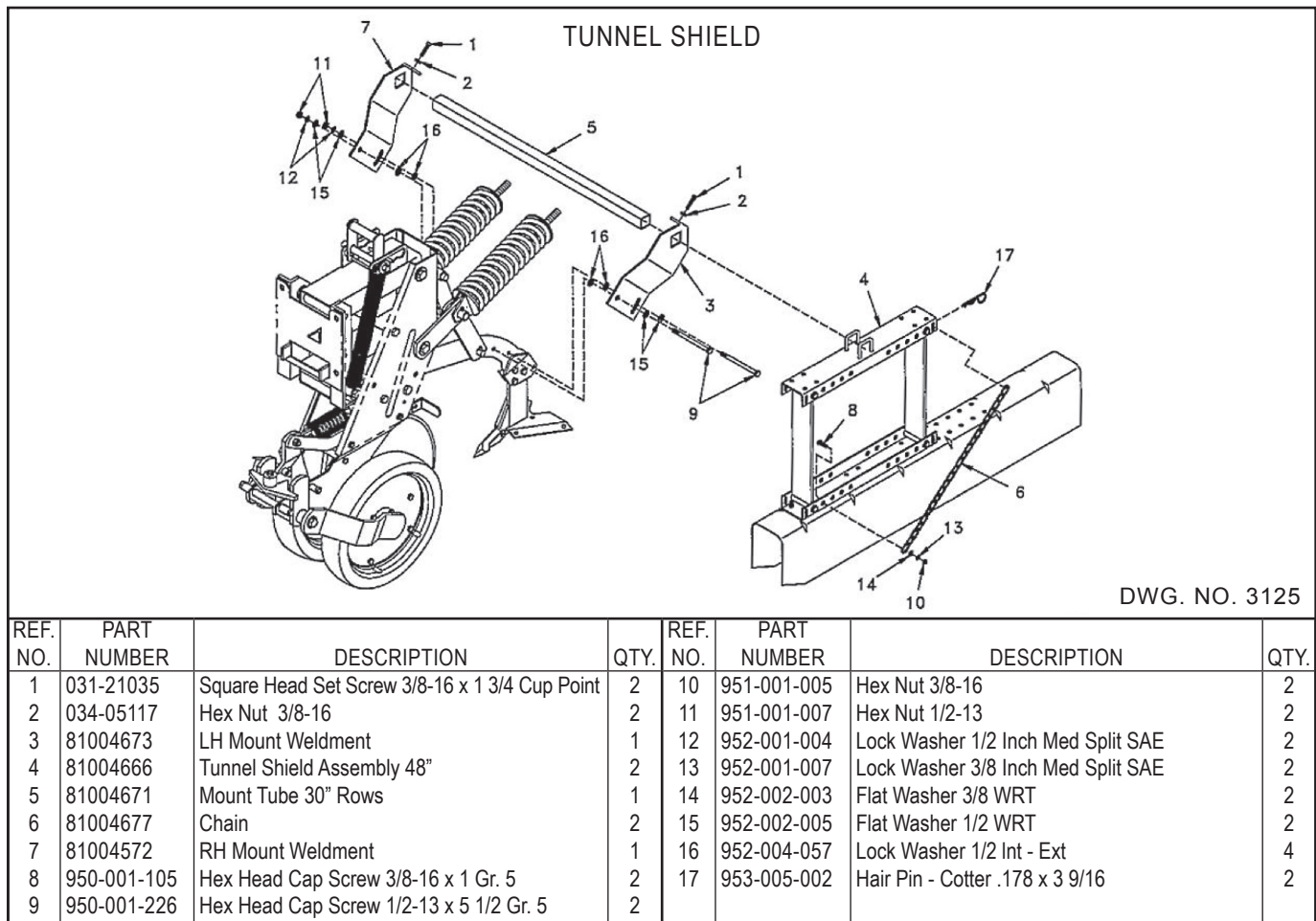
STEP 2



INSTALL RH & LH INNER TUBE WELD, (ARROW 1), USING 1/2 PIN, (ARROW 2), AND HAIR PIN, (ARROW 3). INSTALL SHANK, (ARROW 4), USING ONE 5/8 PIN, (ARROW 5), AND HAIR PIN, (ARROW 3). INSTALL HUB ASSEMBLY, (ARROW 6), USING ONE 3/4 X 3 1/4 HEX BOLT, (ARROW 7), WITH ONE MACHINE BUSHING 1 1/4 O.D. X 25/32 I.D., (ARROW 8), AND ONE 3/4 LOCK NUT, (ARROW 9), PLUS HUB CAP, (ARROW 10). INSTALL CONCAVE DISC, (ARROW 11), ONTO HUB ASSEMBLY, USING FOUR 1/2 X 1 CARRIAGE BOLTS, (ARROW 12), WITH 1/2 LOCKWASHER AND 1/2 HEX NUT. INSTALL ONE 1/4 PIN, (ARROW 13), AS SHOWN IN DRAWING.

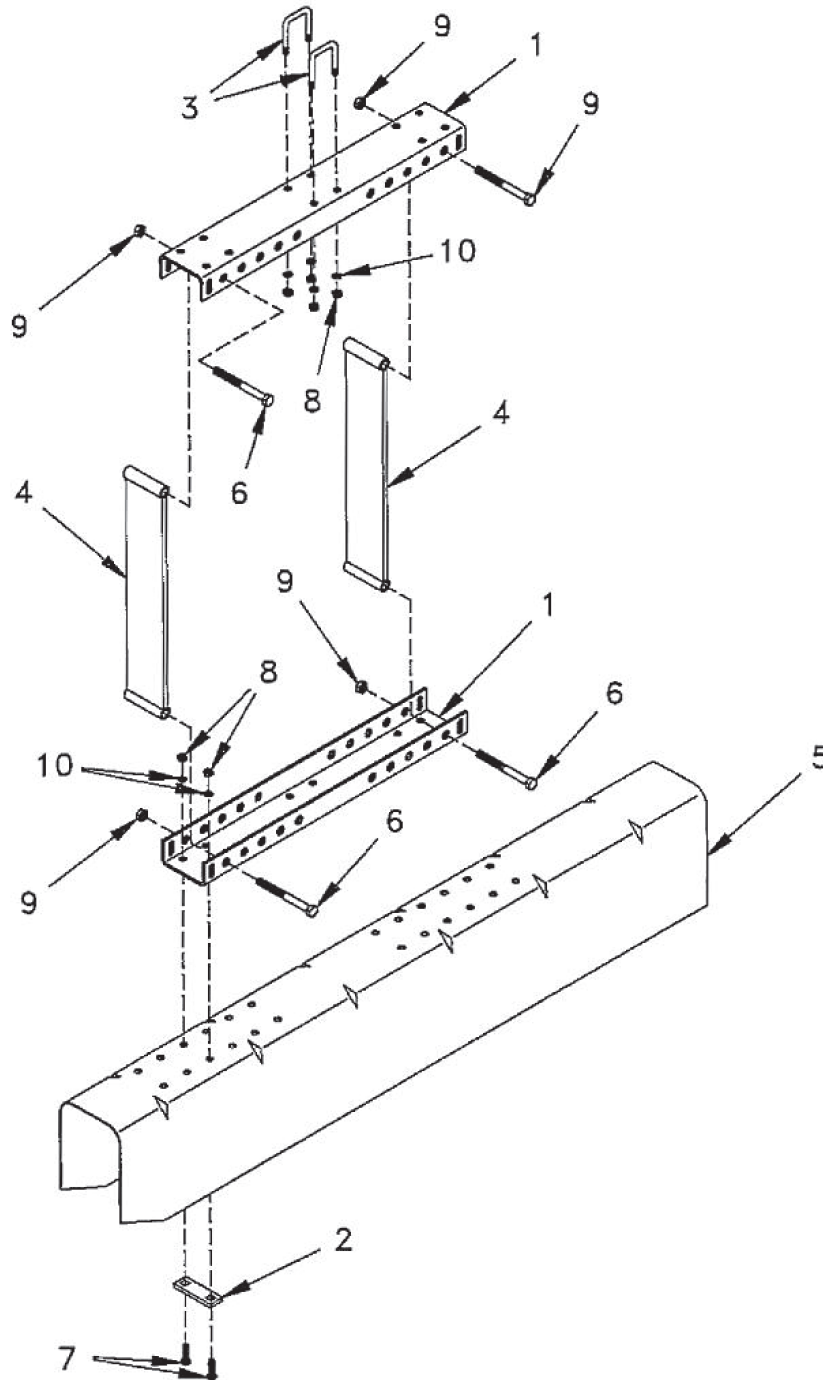
ORDER ITEM NUMBER FOR (2-ROW)	DESCRIPTION
81004605	CUT-AWAY DISC NARROW ROW ASSEMBLY (2-ROW)
81004606	CUT-AWAY DISC WIDE ROW ASSEMBLY (2-ROW)

ORDER ITEM NUMBER FOR ONE TOOLBAR	DESCRIPTION
81004607	CUT-AWAY DISC NARROW ROW END ROW MTG KIT
81004613	CUT-AWAY DISC WIDE ROW END ROW MTG KIT



- Secure the right and left mount plates to the cultivator shank using (2) 1/2 x 5 1/2 inch long bolts, internal/external tooth lock washers should be between the tunnel shield mount and the shank tube as shown. The flat washers should be used as shown on the leveling adjustment slots on the mount weldments. If the cultivator is already equipped with the anhydrous ammonia knife remove the mounting bolts securing the anhydrous ammonia mounting bracket and replace with the longer bolts in the tunnel shield mounting kit. Secure with internal/external tooth lock washers, flat washers, and nuts.
- Slide the 1 1/2 inch square tube into the mounting brackets. Center the tube over the shank, secure the tube using 3/8 x 1 3/4 inch square head set screws and 3/8 inch jam nuts.
- Slide the U-Bolts in the tunnel shield assembly over the square tube, Center the tunnel shield assembly over the row.
  - Secure the tunnel shield assembly to the square cross tube by tightening the 3/8 x 1 7/8 inch U-Bolts, lock washers and nuts.
  - Secure the chain to the lower tunnel channel in one of the holes provided using a 3/8 x 1 inch bolt, flat washer, lock washer and nut. Run the chain to the slot provided in the upper tunnel channel and secure the chain using a hair pin cotter. Adjust the chain so that when the cultivator is raised the chain stops the tunnel shield from swinging forward. The tunnel shield should not strike any attachments to the cultivator gang and the pivot straps should not go beyond vertical. The tunnel shield may have to be adjusted to match the field conditions and the options on the cultivator.
  - Repeat steps 3 and 4 for the other tunnel shield mounted on the other side of the gang.

TUNNEL SHIELD PARTS BREAKDOWN



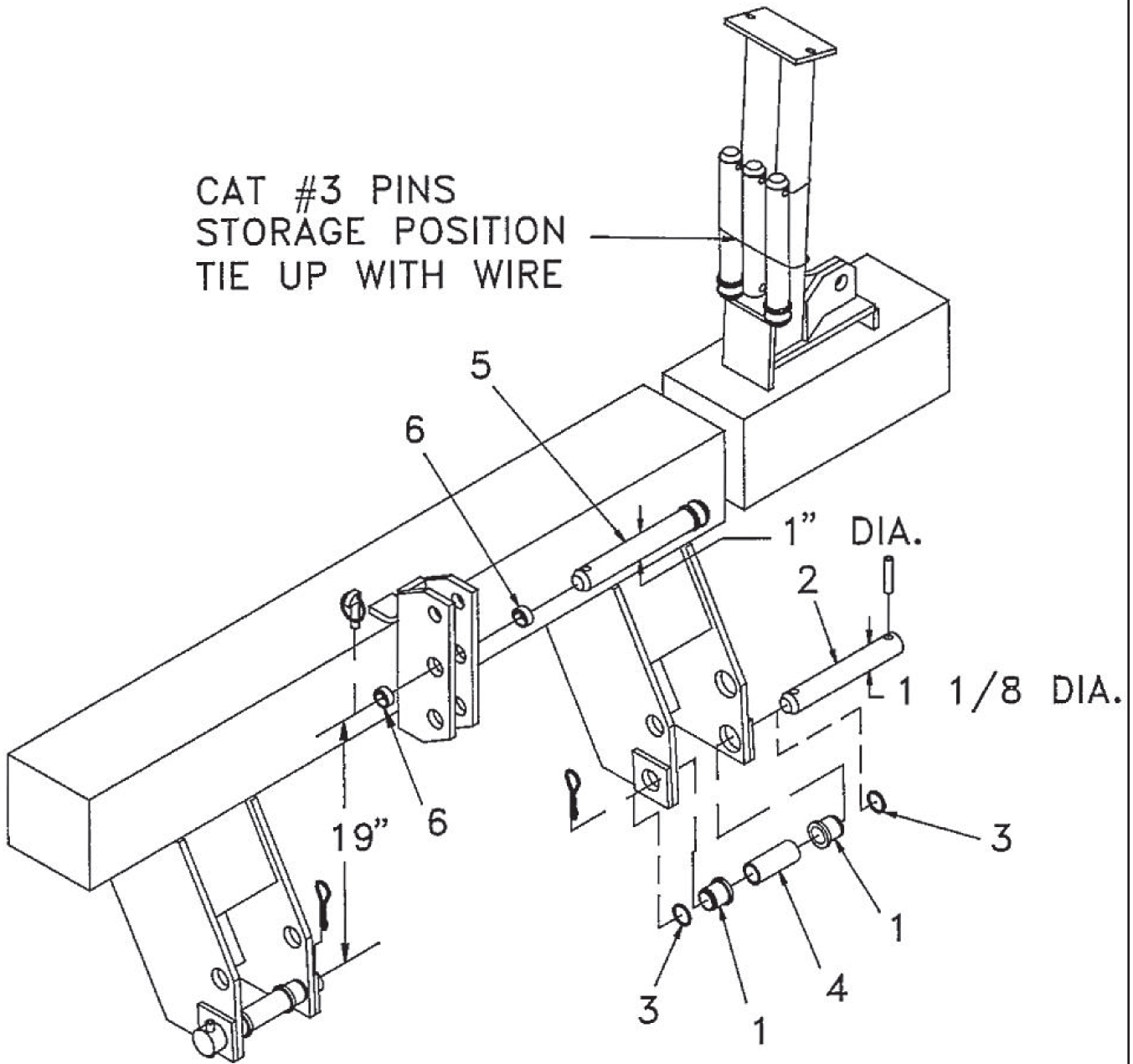
DWG. NO. 3118

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	810-001-640	Tunnel Channel	2	6	950-001-124	Hex Head Cap Screw 1/2-13 x 4 Gr. 5	4
2	810-001-649	Reinforcement strap	2	7	950-003-029	Carriage Bolt 3/8-16 x 1	4
3	810-001-650	U-Bolt 3/8 x 1 7/8 Center	2	8	951-001-005	Hex Nut 3/8-16	8
4	81004665	Strap Weldment Pivot	2	9	951-005-023	Lock Nut 1/2-13 Mac Lock	4
5	81004670	Tunnel Shield 48"	2	10	952-001-007	Lock Washer 3/8 Inch	8

ORDER ITEM NUMBER	DESCRIPTION
81004611	Tunnel Shield Two Flow

CAT. #2 HITCH PINS WITHOUT QUICK HITCH

CAT #3 PINS  
STORAGE POSITION  
TIE UP WITH WIRE



DWG. NO. 3157

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	81004492	Inside Bushing	4	4	81004495	Lower Bushing	2
2	81004493	Lower Pin	2	5	875-001-123	Top Link Pin	1
3	81004494	Retaining Ring	4	6	81004496	Bushing	2

ORDER ITEM NUMBER	DESCRIPTION
81004491	Cat. 2 W/O Quick Hitch Kit

SINGLE ROW TILLAGE UNIT

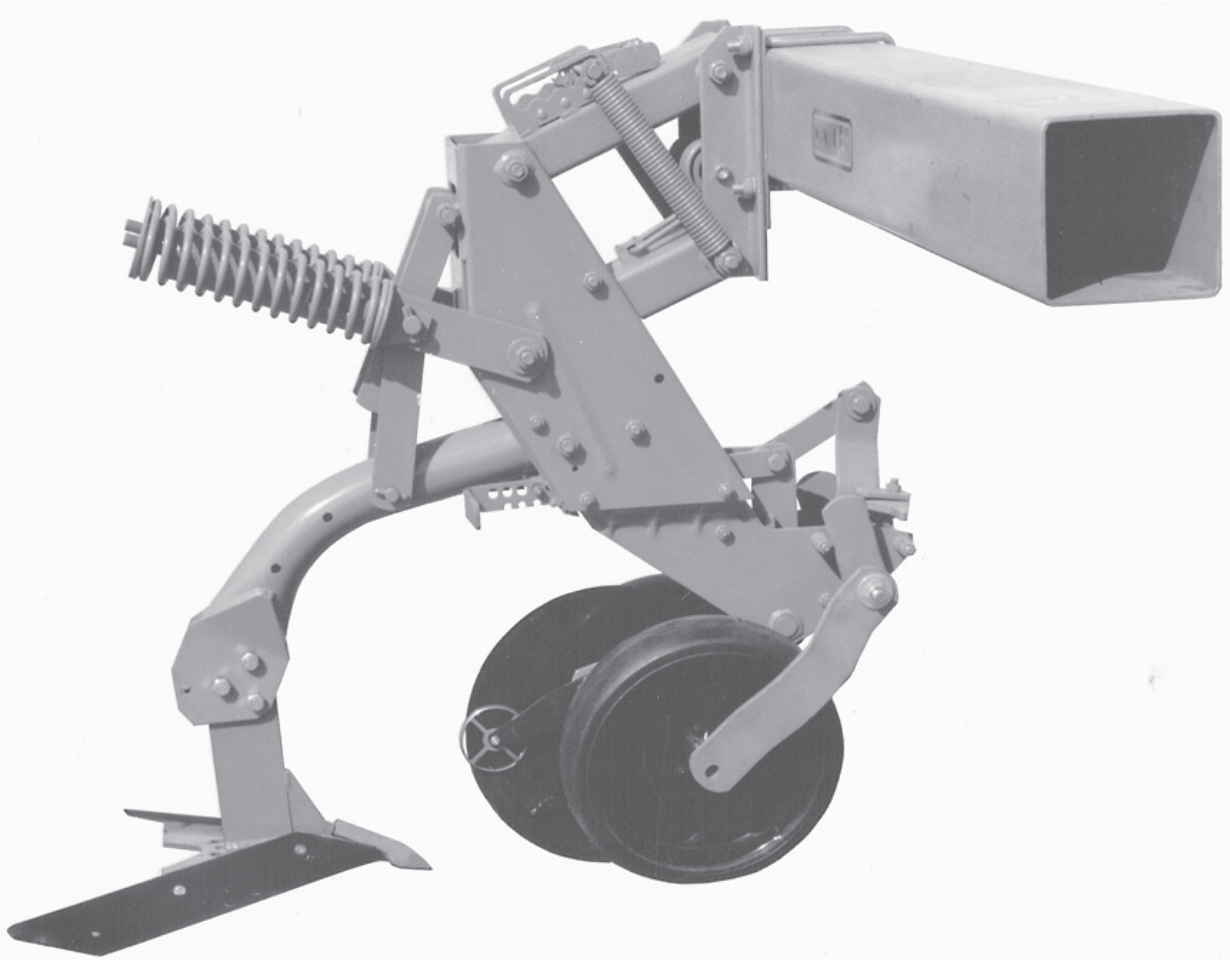


PHOTO NO. 3422

ORDER ITEM NUMBER	DESCRIPTION
6026	Single Row Unit

## **WARNING LIGHTS**

**NOTE: Right hand and left hand sides of your row crop cultivator are determined by facing the direction that the row cultivator travels while in use.**

### **RIGID TOOLBARS**

On the two outermost row units remove the 5/8 inch nuts and lockwashers from the outside u-bolts. Secure the right warning bracket to outermost u-bolt on the right end row unit with the 5/8 inch nuts and lockwashers. See page 24.

Secure the left warning light bracket to the outermost u-bolt on the left end row unit with the 5/8 inch nuts and lockwashers.

Attach the right warning light assembly to the left warning light bracket, (amber light to outside, red to inside) with (4) 1/4 x 1 1/4 bolts and whiz locknuts. Secure the cord carrier underneath the warning light bracket using the 1/4 x 1 1/4 bolts and whiz locknuts.

Start routing the lighting harness from the center of the toolbar.

Extend the 7 pin connector about 4 feet from the toolbar.

Run the right and left cables to the correct side of the implement securing the cable with the cable ties provided. Connect the end to the light assemblies and store any excess cable on the cord carrier.

### **FOLDING MODELS**

Assemble the right warning light assembly (item 4) to the warning light bracket with the amber light to the top as shown on page 61. Use (4) 1/4 x 1 1/4 bolts and whiz locknuts.

Attach the cord carrier (item 14) to the back side of the warning bracket.

Assemble the left warning light assembly (item 3) to the warning light bracket with the amber light to the top as shown on page 61. Use (4) 1/4 x 1 1/4 bolts and whiz locknuts.

Attach the cord carrier (item 14) to the back side of the warning light bracket.

On the 6000 series folding toolbars use 5/8 x 9 1/2 inch bolts, (item 13 on page 61) (7 x 7 main) lockwashers and nuts to secure the assemblies to the outermost holes in the toolbar as shown on page 26.

On the 6000 series folding toolbars (double 5 x 7 main toolbar), use 5/8 x 7 5/8 u-bolts (item 7 on page 61), lockwashers and nuts to secure the assemblies to the outer most holes in the toolbar. See page 28.

The light assemblies must be assembled on the front side of the toolbar. Refer to the row unit diagrams on pages 26, 28, 69 and 73.

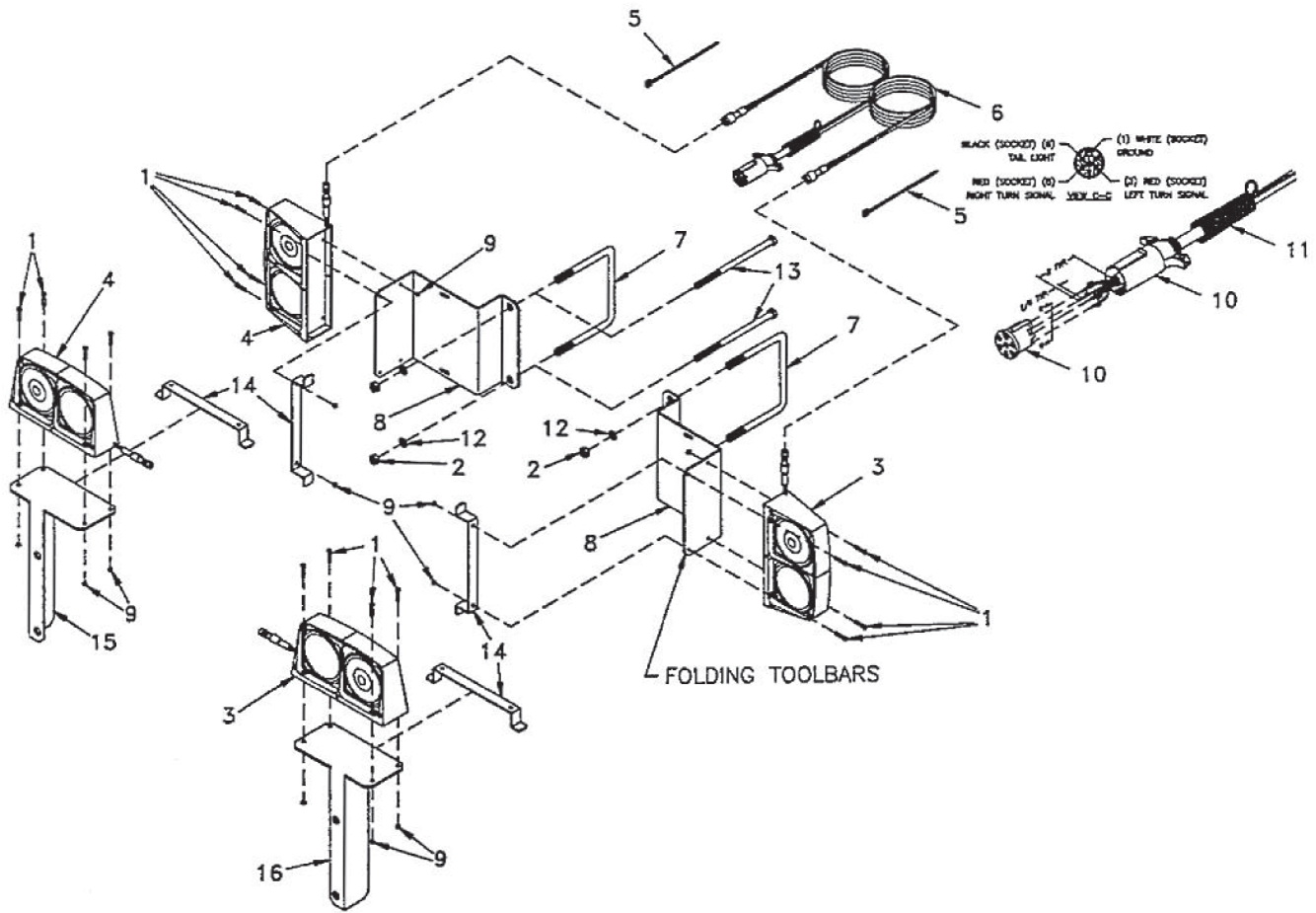
To attach the wiring harness to the 6000 folding toolbars, start with approximately 4 feet of cable extending beyond the tractor hitch point. Take the cable in the direction indicated by the label on the cables, one to the right and the other to the left, securing the cable as you go with tie straps.

Wrap the excess cable around the cord carrier and connect the warning light cable to the warning light assembly.

Connect the 7 pin plug to a tractor and check that all lights function as they are expected to. If they do not work, have your tractor dealer check out the receptacle on the tractor.



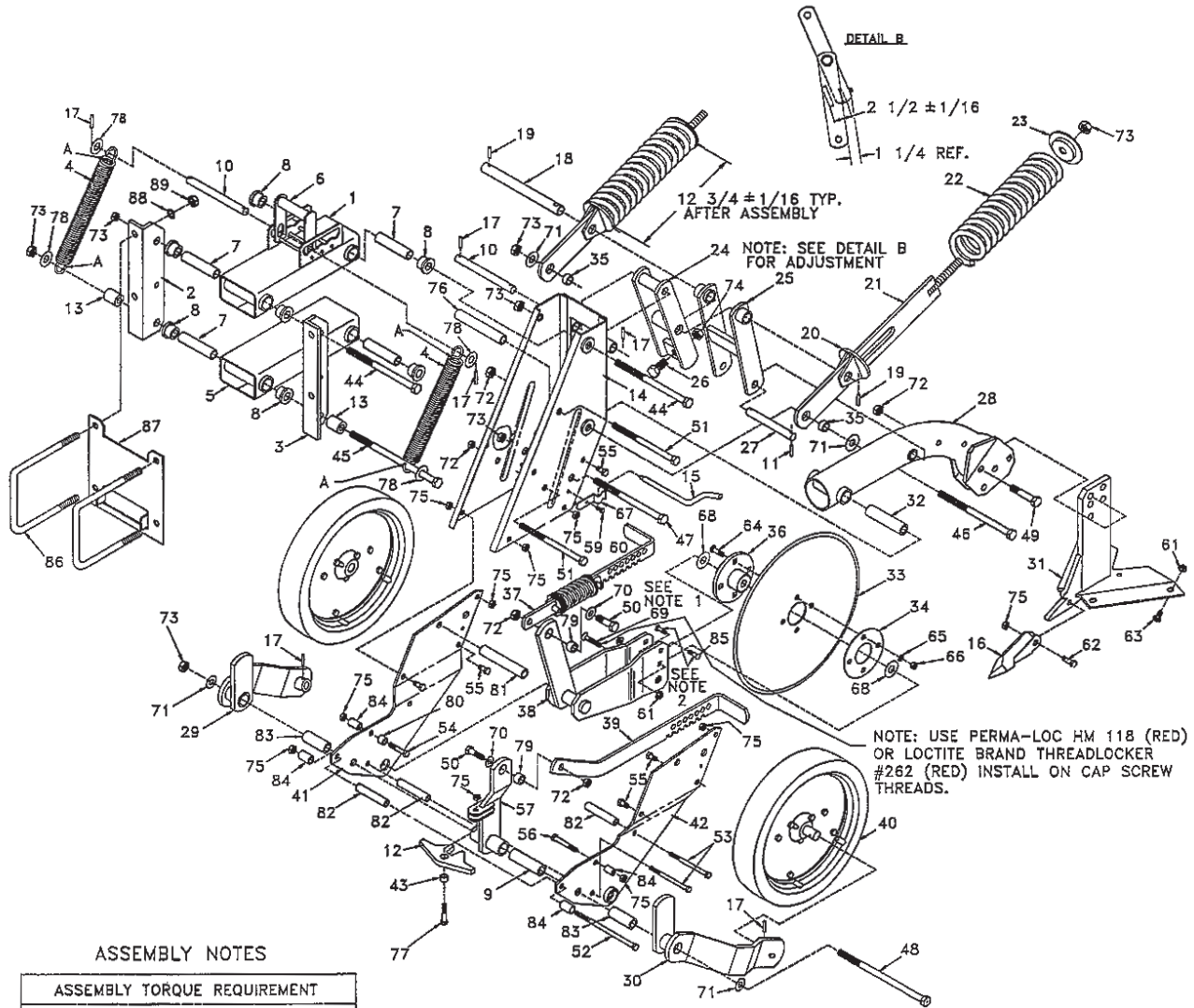
WARNING LIGHT KIT 6000 ROW CROP CULTIVATOR



DWG. NO. 3601

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	031-06007	Hex Head Cap Screw 1/4 x 1 1/4 Gr. 5	8	10	38450002	Connector Plug 7 Pin	1
2	951-001-230	Hex Nut 5/8-11	4	11	38400004	Strain Relief Spring	1
3	36100000	Implement Light LH Assembly	1	12	952-001-005	Lock Washer 5/8 Med	8
4	36100001	Implement Light RH Assembly	1	13	950-001-230	Hex Head Cap Screw 5/8-11 x 9 1/2 Gr. 5	4
5	921-001-145	Cable Tie Black 21 Inch	16	14	624960	Cord Carrier	2
6	38609029	Light Harness Cult 16' (Includes 10 & 11)	1	15	81003527	RH Warning Light Bracket	1
7	81003020	U-Bolt 5/8 x 7 5/8 Center	2	16	81003528	LH Warning Light Bracket	1
8	81003404	Warning Light Bracket	2	17	81003529	Instruction Warning Lights (Not Shown)	1
9	034-05150	Lock Nut 1/4 Stover	8				

SINGLE ROW TILLAGE UNIT ASSEMBLY  
SERIAL NO. ENDING 101 OR HIGHER

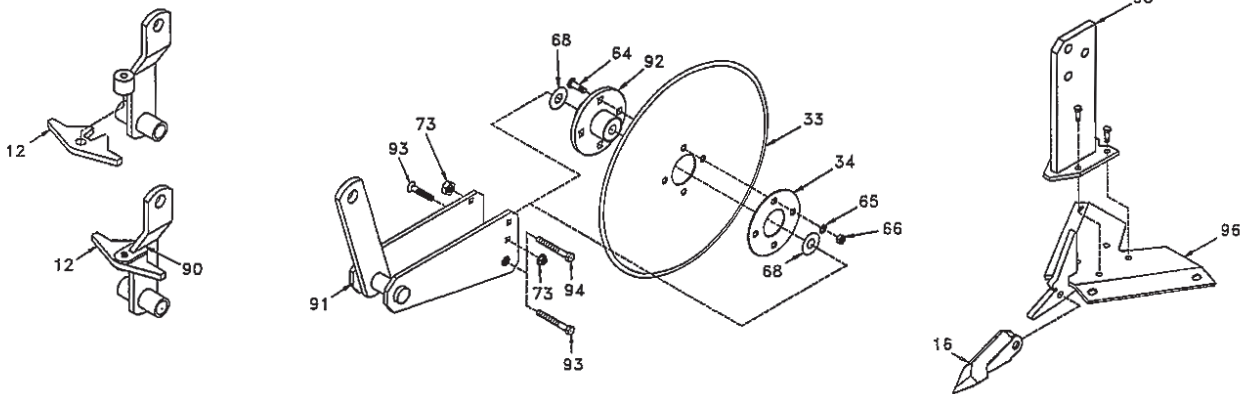


ASSEMBLY NOTES

ASSEMBLY TORQUE REQUIREMENT	
BOLT SIZE	TORQUE VALUE ± 10%
3/8-16 UNC	30
1/2-13 UNC	75
5/8-11 UNC	125
3/4-10 UNC	150 TO 180

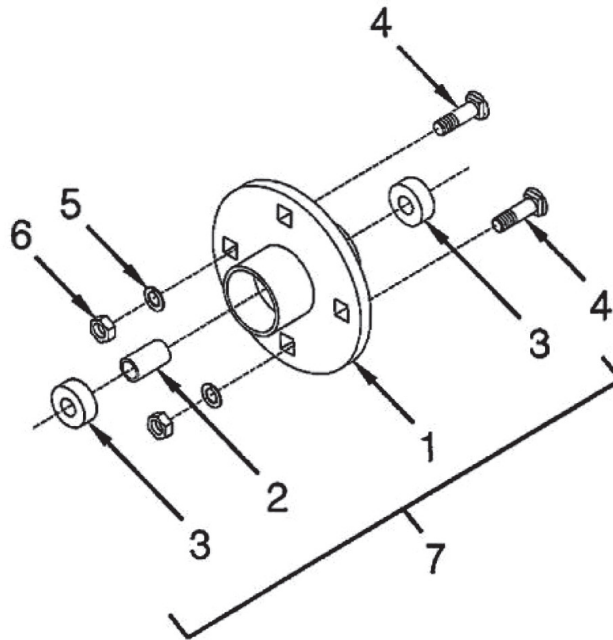
1. A = OPENING OF SPRING HOOK OF ITEM 4 EXT. SPRING.
2. INSTALL CARRIAGE BOLTS FROM INSIDE, LOWER SQUARE HOLES, BEFORE (ITEM 36) HUB ASSEMBLY IS INSTALLED.

SERIAL NO. ENDING 100



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	81004018	Upper Parallel Link Weldment	1	67	81004112	Flat Spring	1
2	81004000	RH Angle	1	68	952-004-003	Machine Bushing 25/32 x 1 1/4 x .075	2
3	81004001	LH Angle	1	69	950-001-035	Flat Head Screw 3/4-10 x 3 Gr. 5	1
4	81004003	Extension Spring	2	70	952-002-007	Flat Washer 5/8 Inch	2
5	81004010	Lower Link Weldment	1	71	952-002-008	Flat Washer 3/4 Inch	4
6	81004015	Handle Weldment	1	72	951-005-044	Lock Nut 5/8-11 2-Way	7
7	81004008	Inner Bushing	4	73	951-005-037	Lock Nut 3/4-10 2-Way	8
8	81004019	Flange Bearing	8	74	951-005-052	Jam Nut 3/4-10	1
9	81004033	Tube	1	75	10304	Lock Nut 1/2-13 2-Way	13
10	81004004	Rod	2	76	81004028	Tube	1
11	953-003-009	Spring Pin 3/8 x 1 3/4	2	77	950-001-112	Hex Head Cap Screw 1/2-13 x 2 Gr. 5	1
12	81004564	Pivot Link	1	78	033-12013	Flat Washer 3/4 SAE Plated	4
13	81004005	Spacer	2	79	81004025	Pivot Bushing	2
14	81004435	Mast Weldment	1	80	81004029	Tube	1
15	81004093	Pin	1	81	81004031	Tube	1
16	81004097	Point Weldment	1	82	81004030	Tube	3
	81004425	Point Weldment 7 1/4 Long	1	83	81004027	Tube	2
17	953-003-018	Spring Pin 1/4 x 1 1/4	6	84	81004032	Tube	4
18	81004083	Pin	1	85	950-001-024	Carriage Bolt 3/8-16 x 3/4	2
19	953-003-019	Spring Pin 1/2 x 2	2	86	805-001-332	U-Bolt 5/8 Fits 7 x 7	2
20	81004082	Disc Plate Weldment	2		81003020	U-Bolt 5/8 Fits 5 x 7	2
21	81004076	Strap Weldment	2	87	81004034	Support Plate	1
22	81004098	Compression Spring	2	88	952-001-005	Lock Washer 5/8	4
23	81004090	Washer	2	89	951-001-008	Hex Nut 5/8-11	4
24	81004072	Adjusting Link Weldment	1	90	81004484	Pivot Link Anchor Kit	1
25	81004075	Link Weldment	1	91	81004057	Support Weldment	1
26	950-001-202	Hex Head Cap Screw 3/4-10 x 2 1/4 Gr. 5	1	92	810-002-100	Hub Assembly (3 Wide)	1
27	81004070	Bottom Pin	1	93	81004486	Coulter Holder Bolt Kit (1 Row)	1
28	81004432	Shank Weldment	1	94	950-001-033	Hex Head Cap Screw 3/4-10 x 4 1/2 Gr. 5	1
29	81004044	RH Gauge Wheel Arm Weldment	1	95	*	Shank Flat Bar Weldment	
30	81004043	RH Gauge Wheel Arm Weldment	1	96	*	Sweep Support Weldment	
31	81004418	Sweep Support Weldment	1			*Not Sold Separately	
32	81004067	Sleeve	1			*Must Order 81004418 For Complete Unit	
33	805-001-001	18 Inch Coulter	1	6025		Complete 6000 Tillage Unit Assembly	
34	805-001-015	Back Up Washer	1				
35	81004061	Bushing	2				
36	81004407	Hub Assembly (2 Wide) (See Page 62)	1				
37	81004080	Adjusting Strap Assembly	1				
38	81004414	Support Weldment					
39	81004048	Gauge Wheel Pull Strap					
40	81004052	4 x 16 Tire & Rim Assembly (See Page 62)	2				
41	81004054	RH Side Plate Weldment	1				
42	81004053	LH Side Plats Weldment					
43	81004049	Pivot Bushing					
44	950-001-229	Hex Head Cap Screw 3/4-10 x 8 Gr. 5	2				
45	950-001-225	Hex Head Cap Screw 3/4-10 x 11 Gr. 5	1				
46	950-001-264	Hex Head Cap Screw 3/4-10 x 9 1/2 Gr. 5	1				
47	950-001-153	Hex Head Cap Screw 3/4-10 x 7 1/2 Gr. 5	1				
48	950-001-273	Hex Head Cap Screw 3/4-10 x 12 Gr. 5	1				
49	950-001-023	Hex Head Cap Screw 5/8-11 x 2 Gr. 5	3				
50	950-001-132	Hex Head Cap Screw 5/8-11 x 1 3/4 Gr. 5	2				
51	950-001-165	Hex Head Cap Screw 5/8-11 x 7 1/2	2				
52	950-001-259	Hex Head Cap Screw 1/2-13 x 8 Gr. 5	1				
53	950-001-060	Hex Head Cap Screw 1/2-13 x 5 Gr. 5	2				
54	950-001-135	Hex Head Cap Screw 1/2-13 x 2 3/4 Gr. 5	1				
55	950-001-231	Hex Head Cap Screw 1/2-13 x 1 Gr. 5	6				
56	031-06208	Hex Head Cap Screw 1/2-13 x 2 1/4 Gr. 5	1				
57	81004434	Lift Arm Weldment	1				
59	950-001-117	Hex Head Cap Screw 1/4-20 x 3/4 Gr. 5	1				
60	951-002-001	Lock Nut 1/4-20 Whiz Lock	1				
61	951-005-003	Lock Nut 3/8-16 Mac Lock	6				
62	950-001-125	Hex Head Cap Screw 1/2-13 x 1 1/2 Gr. 5	1				
63	950-007-001	Plow Bolt 3/8-16 x 1	4				
64	950-003-028	Carriage Bolt 1/2-13 x 1 1/4 Gr. 5	4				
65	952-001-004	Lock Washer 1/2 Inch	4				
66	951-001-007	Hex Nut 1/2-13	4				

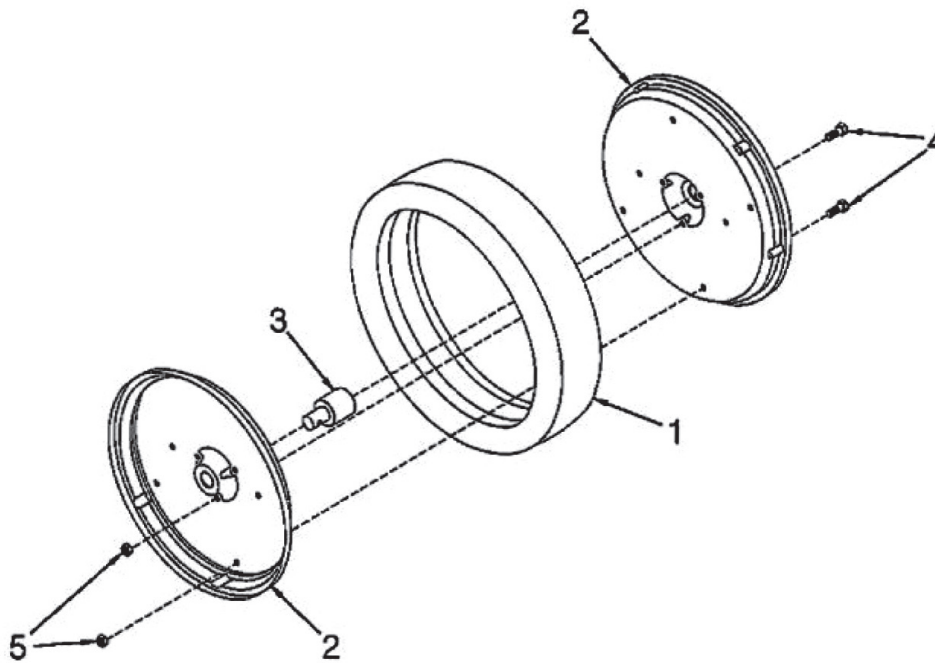
COULTER HUB ASSEMBLY 2 INCH WIDE SERIAL NO. ENDING 101 OR HIGHER



DWG. NO. 3016

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	81004410	4 Bolt Hub Weldment	1	5	952-001-004	Lock Washer 1/2 Inch	4
2	81004409	Spacer	1	6	951-001-007	Hex Nut 1/2-13	4
3	600-02009	Bearing 3/4	2	7	81004407	Hub Assembly	1
4	950-003-328	Carriage Bolt 1/2-13 x 1 1/4	4				

GAUGE WHEEL 4 X 16 TIRE ASSEMBLY



DWG. NO. 2879

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	81004123	Tire 4 x 16	1	4	950-001-232	Hex Head Cap Screw 5/16-18 x 5/8 Gr. 5	7
2	61003196	Half Wheel	2	5	951-005-064	Lock Nut 5/16-18 2-Way	7
3	81004002	Bearing W/Outer Bushing	1				

## ASSEMBLY DIAGRAMS KEY INSTRUCTIONS

### 4 ROW THROUGH 18 ROW 28

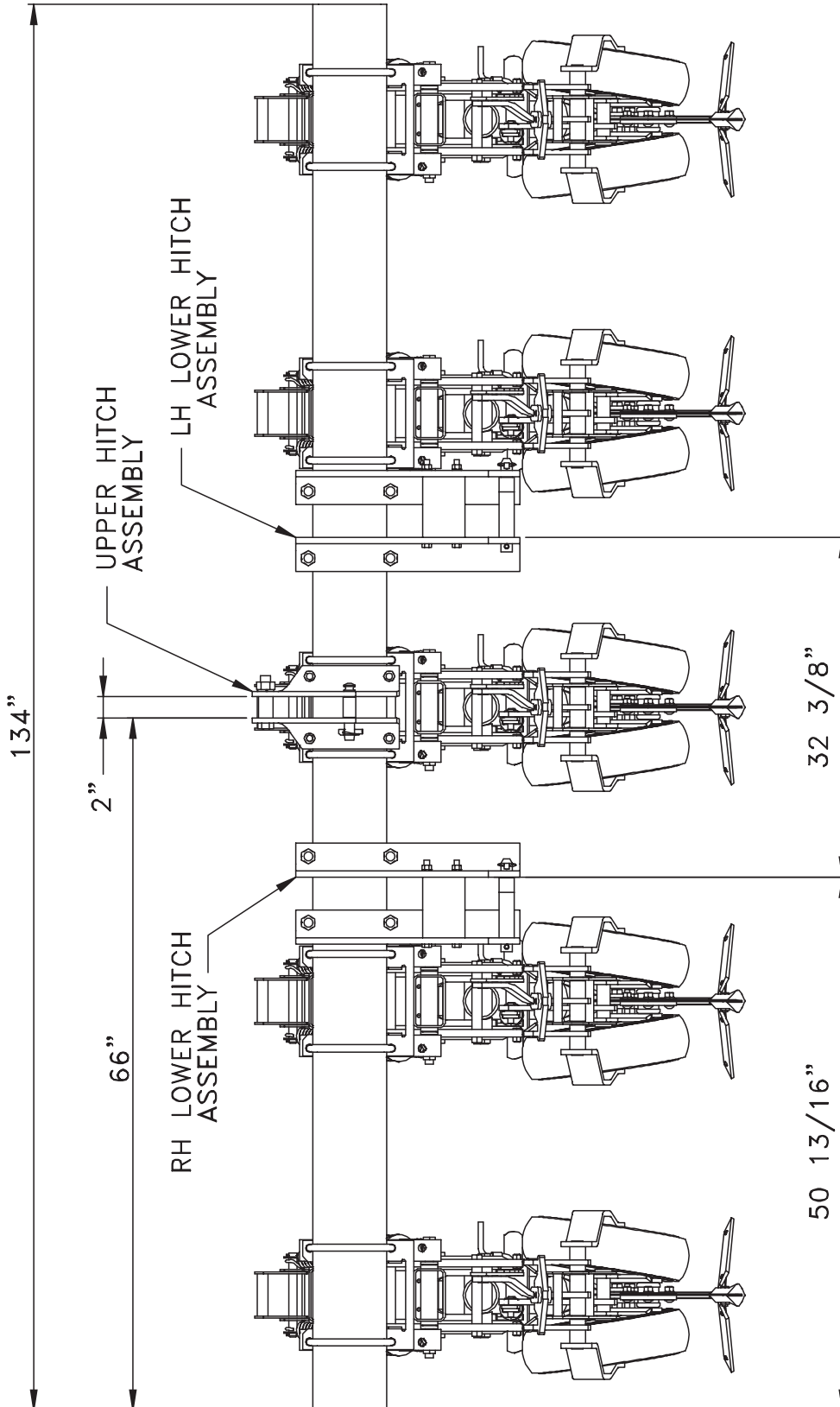
---

The assembly diagrams on the following pages provide dimensions and locations for:

1. Row unit spacing dimensions for 28, 30, 36, and 38 inch rows (See letter "A" on diagrams).
2. Hitch Locations And Mounting Dimension.
3. Location Of Amber And Red Reflective Tapes.
4. Location Of S.M.V. Sign.
5. Location Of Parking Stands.
6. Optional Equipment Mounting Location Of:
  - Telescoping rear hitch.
  - Rolling shield/rotary hoe wheel mounting brackets.
  - Lift Assist.
  - Warning Lights.

ASSEMBLY DIAGRAM

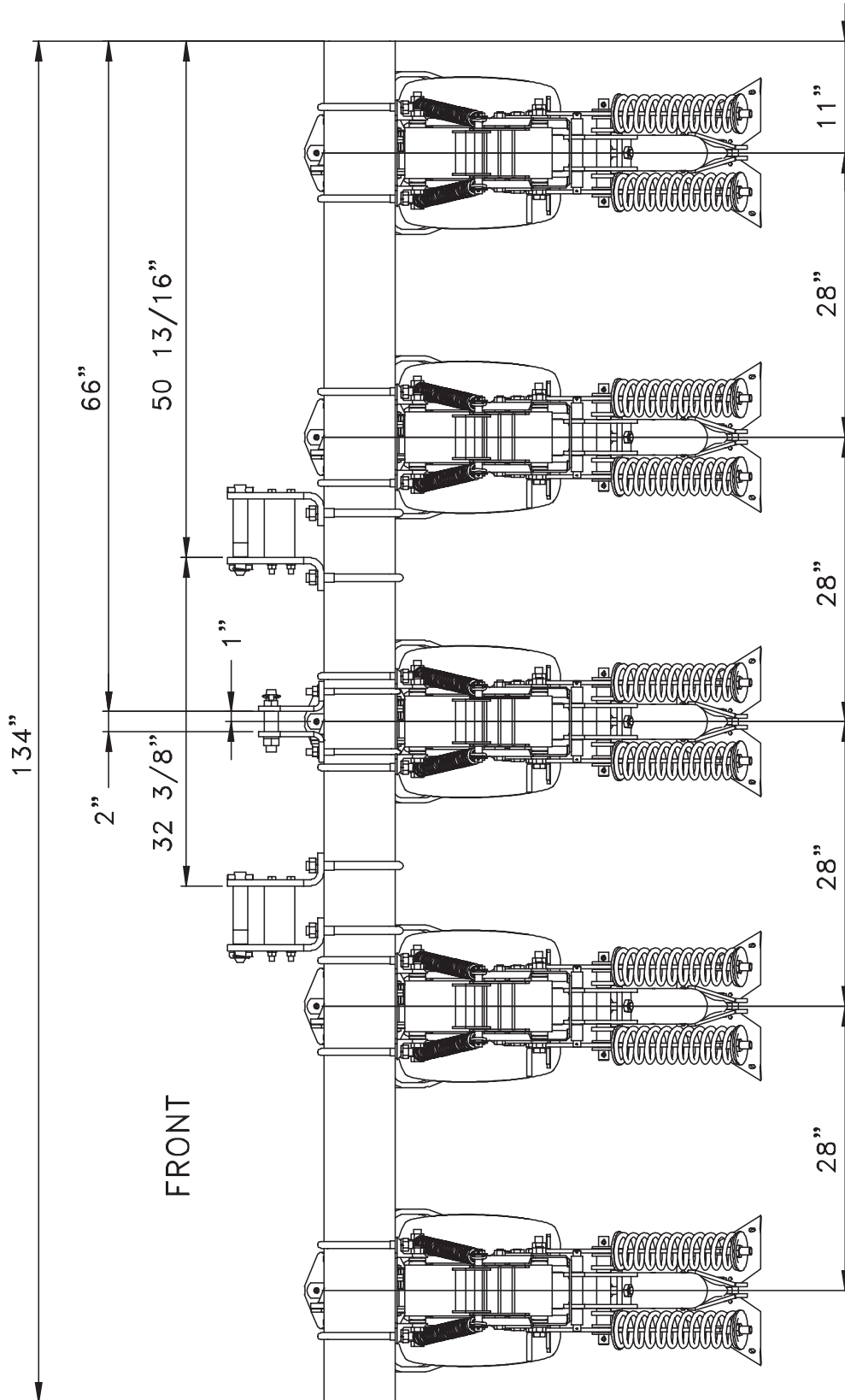
4 ROW 28 RIGID TOOLBAR



4 ROW - 28 INCH RIGID ASSEMBLY  
FRONT VIEW

ASSEMBLY DIAGRAM

4 ROW 28 RIGID TOOLBAR

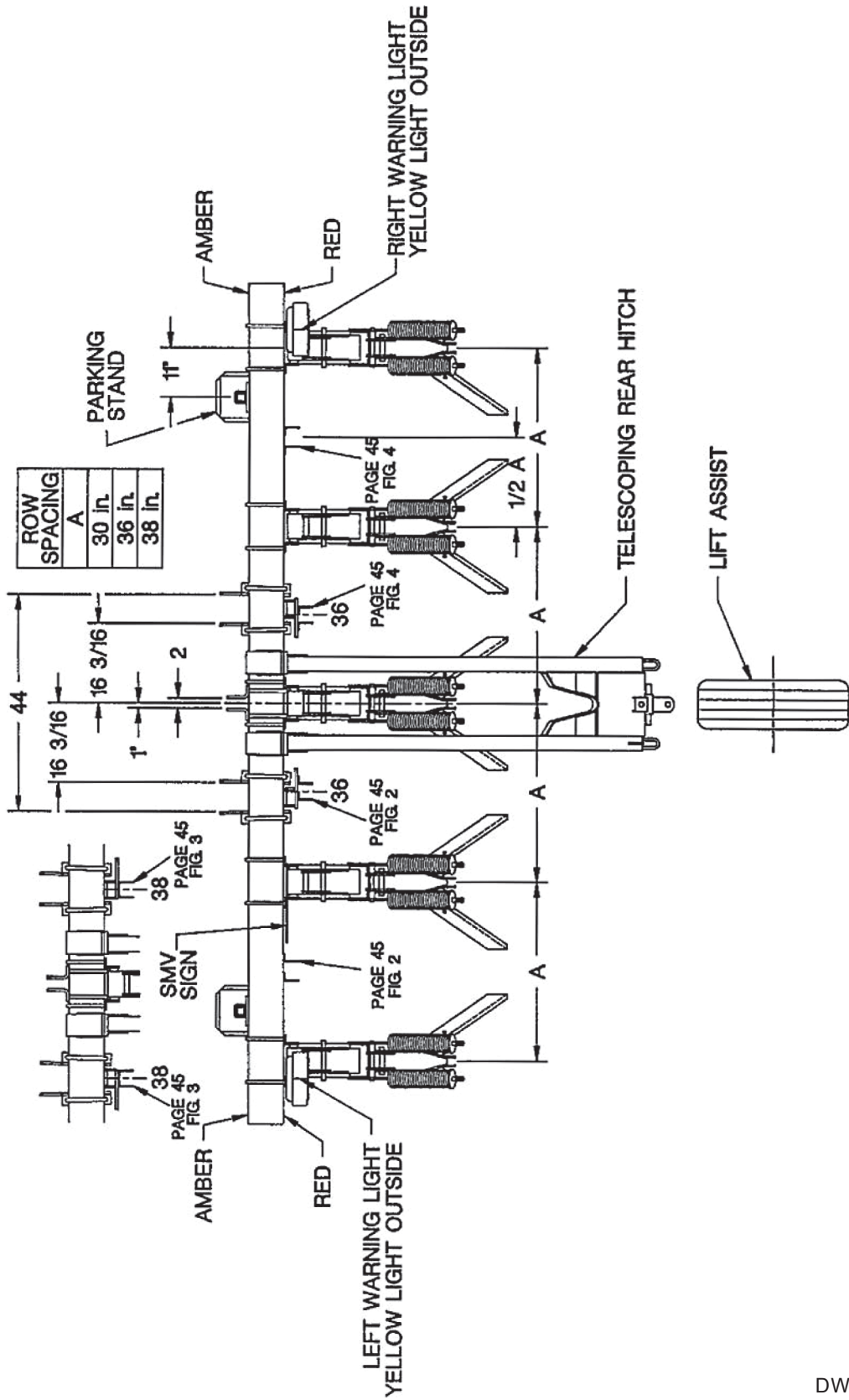


4 ROW - 28 INCH RIGID ASSEMBLY  
TOP VIEW

ASSEMBLY DIAGRAM

MODEL  
6002

4 ROW 30, 36, 38 RIGID TOOLBAR

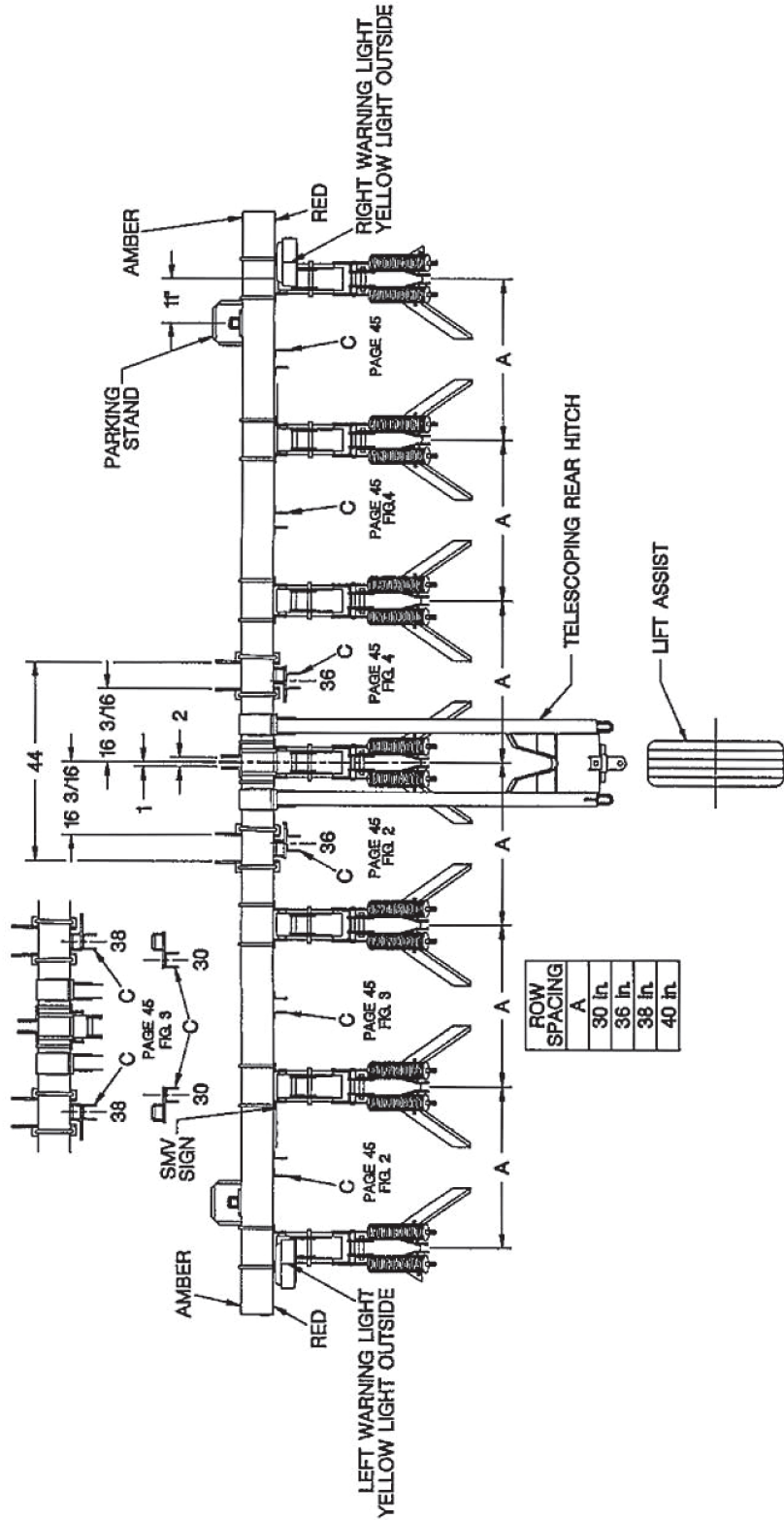




ASSEMBLY DIAGRAM

MODEL

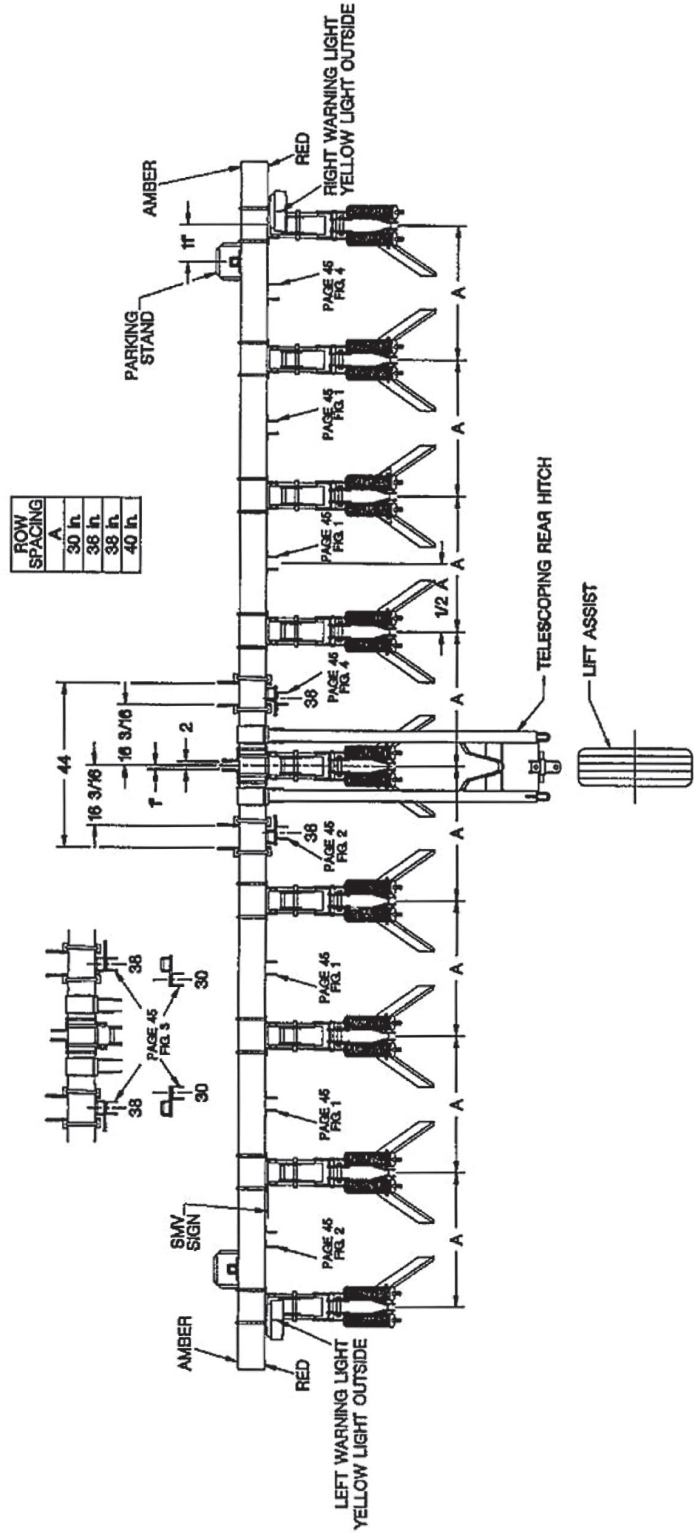
- 6003 6 ROW 30 RIGID TOOLBAR
- 6004 6 ROW 36, 38 RIGID TOOLBAR
- 6024 6 ROW 40 RIGID TOOLBAR



ASSEMBLY DIAGRAM

MODEL

- 6005 8 ROW 30 RIGID TOOLBAR
- 6006 8 ROW 36, 38 RIGID TOOLBAR
- 6020 8 ROW 36, 38, 40 RIGID TOOLBAR
- 6022 10 ROW 30 RIGID TOOLBAR



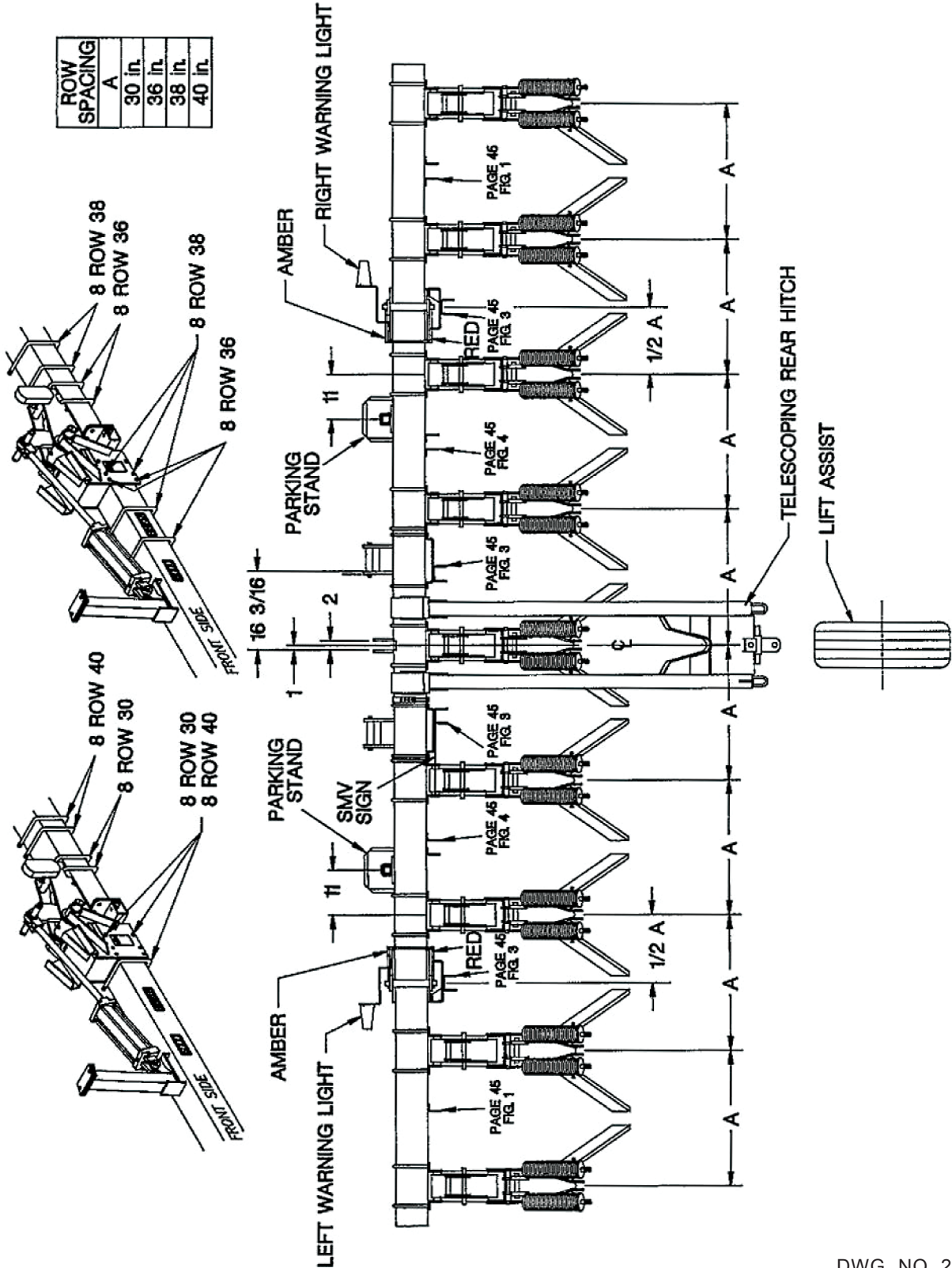
ASSEMBLY DIAGRAM

MODEL

6027 8 ROW 30 FOLDING TOOLBAR

6028 8 ROW 36, 38, 40 FOLDING TOOLBAR

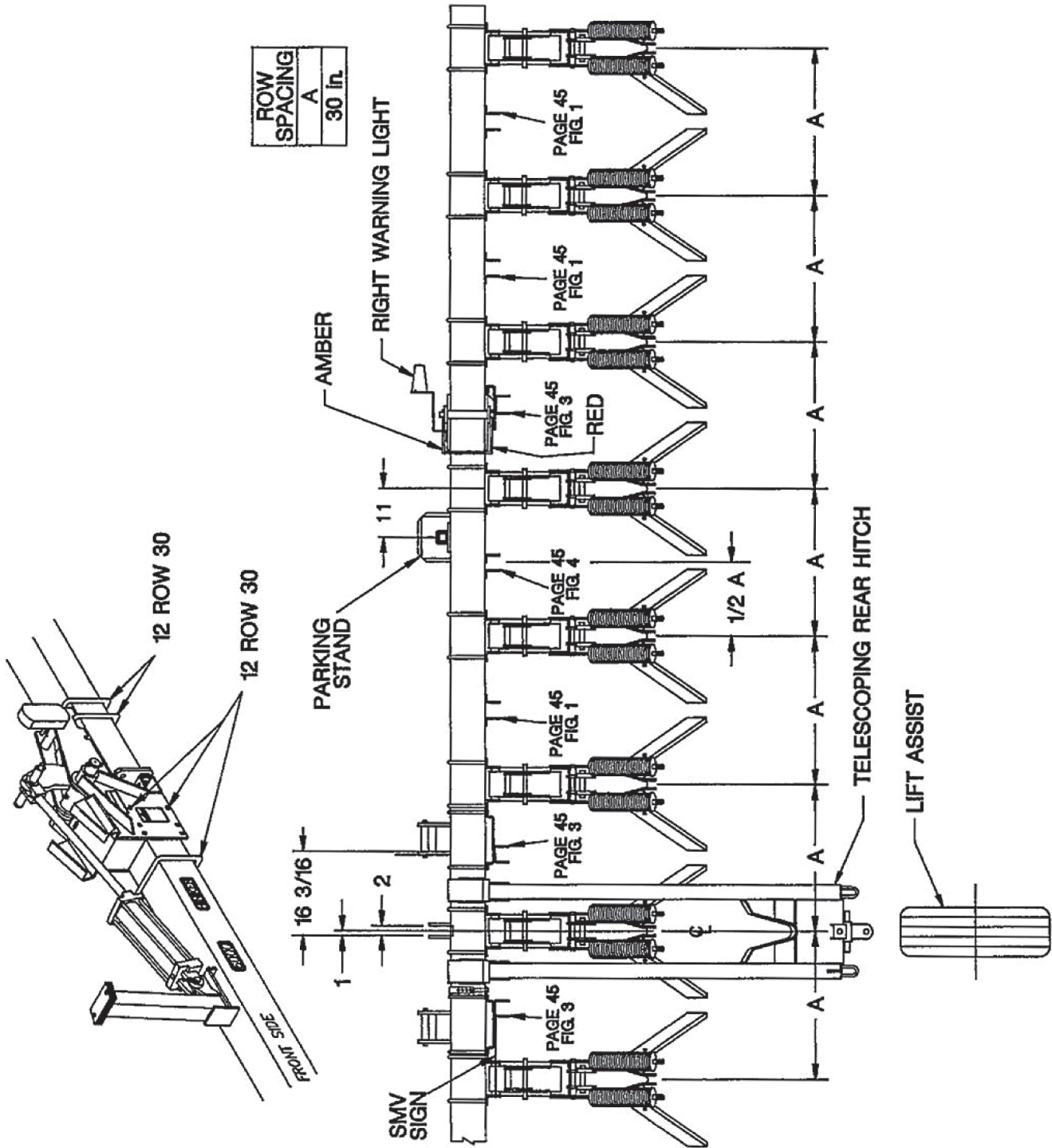
ROW SPACING	A
30 in.	
36 in.	
38 in.	
40 in.	



ASSEMBLY DIAGRAM

MODEL

- 6029 12 ROW 30 FOLDING TOOLBAR
- 6031 10 ROW 30 FOLDING TOOLBAR



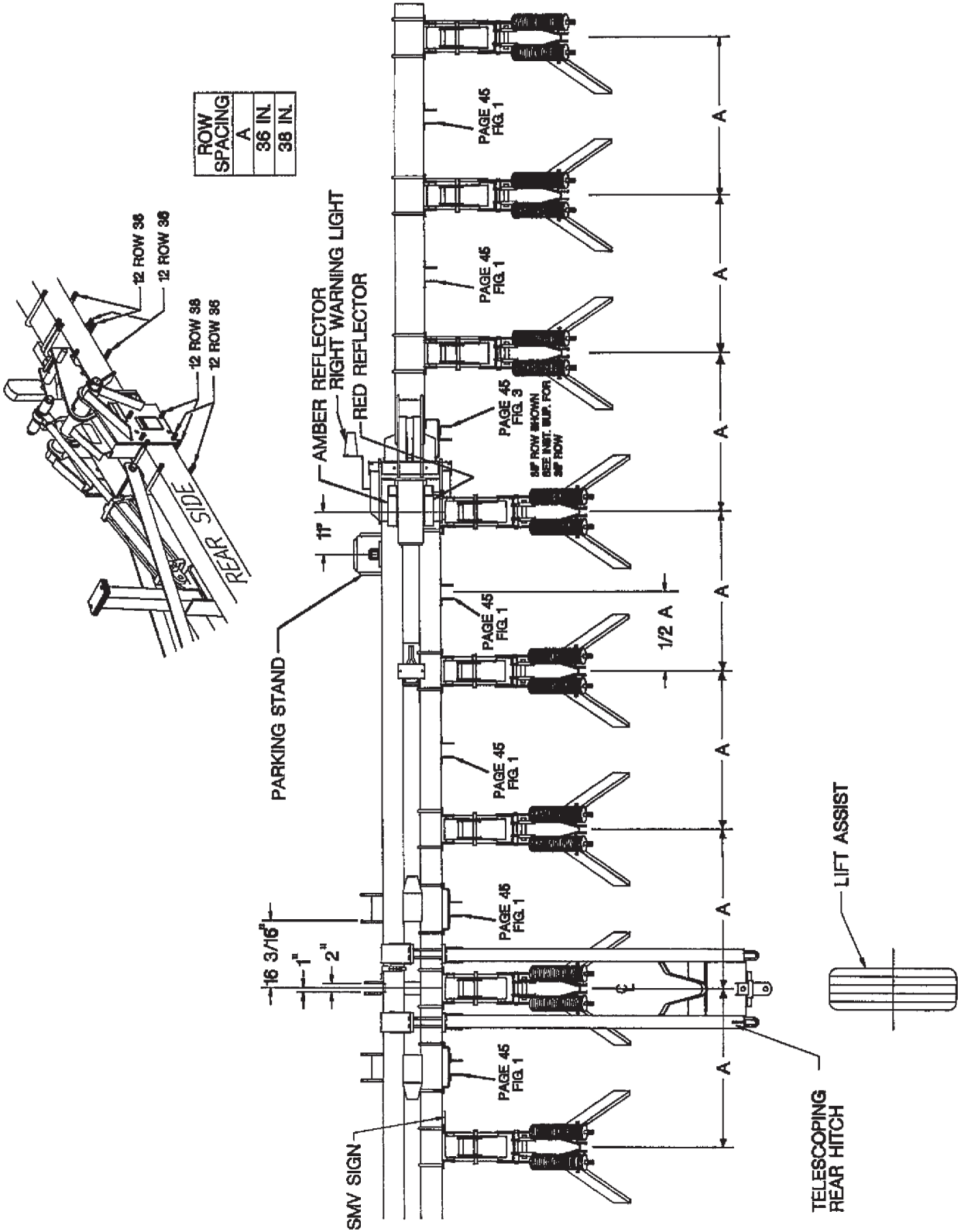
ASSEMBLY DIAGRAM

MODEL

6010 12 ROW 36-38 FOLDING TOOLBAR

6025 10 ROW 36-38 FOLDING TOOLBAR

ROW SPACING
A
36 IN.
38 IN.



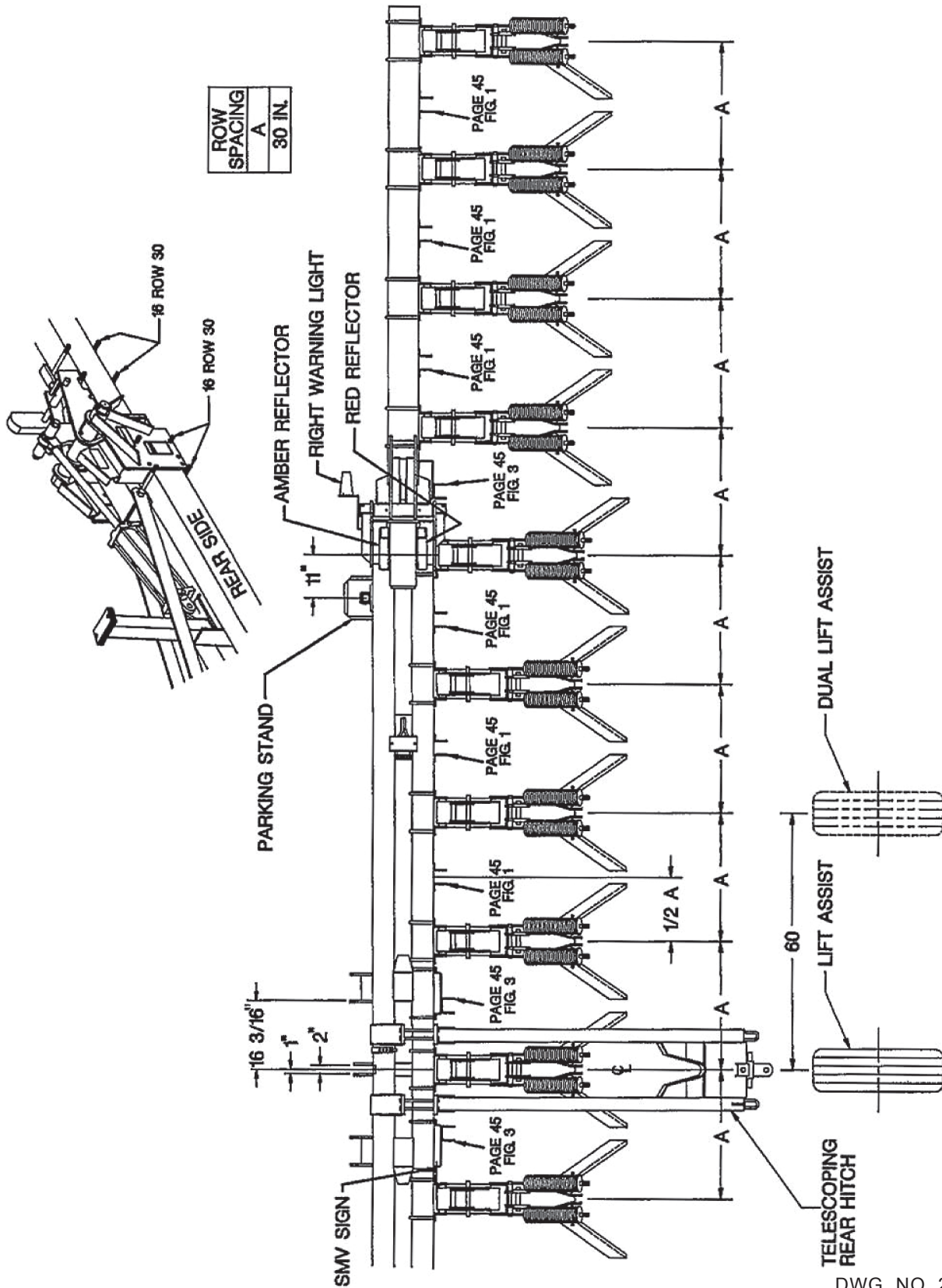
ASSEMBLY DIAGRAM

MODEL

6011

16 ROW 30 FOLDING TOOLBAR

ROW SPACING
A
30 IN.

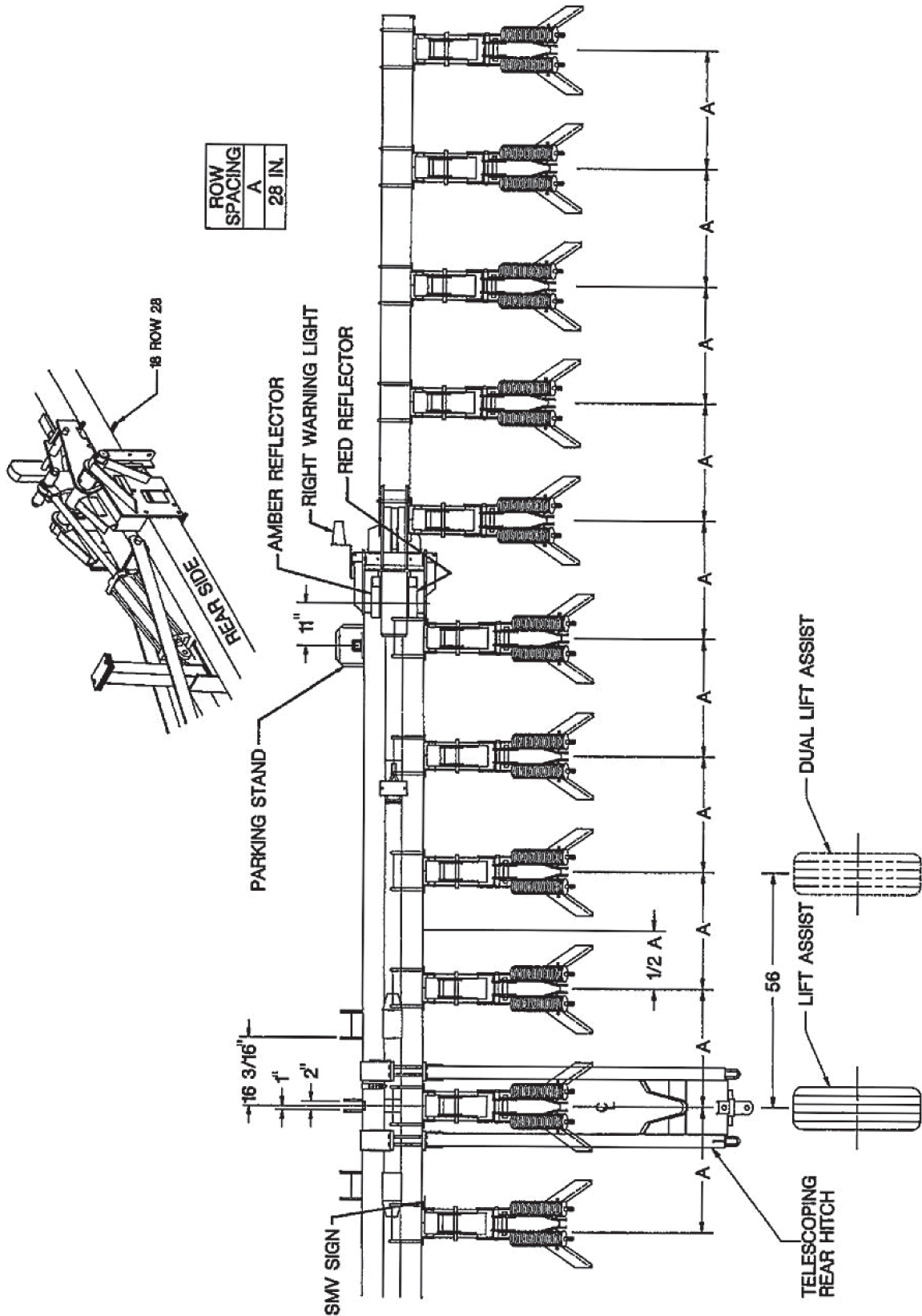


ASSEMBLY DIAGRAM

MODEL

6034

18 ROW 28 FOLDING TOOLBAR



## HINIKER WARRANTY

The only warranty Hiniker Company (Hiniker) gives and the only warranty the dealer is authorized to give is as follows:

We warranty new products sold by Hiniker or authorized Hiniker dealers 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 one year after date of retail delivery, to the original purchaser, any product not meeting the specification. **WE MAKE NO OTHER WARRANTY, EXPRESS OR IMPLIED AND MAKE NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE.** Our obligation under this warranty shall not include any transportation charges or costs or any liability for direct, indirect or consequential damage or delay. If requested by Hiniker Company, products or parts for which a warranty claim is made are to be returned freight prepaid to our factory. Any improper use, operation beyond rated capacity, substitution of parts not approved by Hiniker Company, or any alteration or repair by others in such manner as in our judgement 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.**

**HINIKER** reserves the right to make improvement changes on any of our products without notice.

**HINIKER** does not warrant the following:

1. Used products
2. Any product that has been repaired modified or altered in a way not approved by Hiniker Company.
3. Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow Operator Manual Instructions, misuse, lack of proper protection during storage, or accident.
4. Parts replacement and service necessitated by normal wear or maintenance including, but not limited to, belts, cutting parts, and ground engaging parts.

**A DELIVERY REPORT FORM** must be filled out and received by HINIKER COMPANY to initiate the warranty coverage.

**HINIKER COMPANY  
58766 240TH ST.  
P. O. Box 3407  
MANKATO, MN 56002-3407  
PHONE (507) 625-6621  
FAX (507) 625-5883**



