

Ezee-On

**MODEL 354-372-454-472
MOUNTED HARROW**

**OWNER'S MANUAL
AND
PARTS LIST**

Manufactured

By

Ezee-On Mfg. Ltd.

Vegreville, Alberta

Canada

PRINTED IN CANADA

608 A

WARRANTY EZEE-ON WARRANTY FOR AGRICULTURAL PRODUCTS

EZEE-ON warrants each item of new EZEE-ON equipment sold by it to be free from defects in material and workmanship under recommended agricultural use. This warranty is void if equipment is used for other than agricultural purposes. The sole obligation of EZEE-ON under this warranty is limited to the repair or replacement of those part(s) (F.O.B. EZEE-ON Factory) of the equipment which EZEE-ON in its sole discretion, determines to have failed as a result of defects in material or workmanship occurring prior to the expiration of one year ("Warranty Period") from delivery by EZEE-ON or its selling dealer ("Dealer") to the original purchaser ("Purchaser"). Such defective part(s) will, at the option of EZEE-ON, be either repaired or replaced only to the Purchaser and must be effected by the selling Dealer.

The Purchaser must, within the Warranty Period, give written notice to the Dealer, from whom the equipment was purchased, of any claimed defect. The Dealer will have a reasonable time under the circumstances then existing, to repair or replace defective part(s). This warranty shall not cover damage to any other part(s) of the equipment caused as a result of delay by the Purchaser to repair or replace defective part(s). EZEE-ON's LIABILITY UNDER THIS WARRANTY SHALL BE LIMITED TO, AND IN NO CASE BE GREATER THAN, THE COST OF THE REPAIR OR REPLACEMENT OF THE PART(S) COVERED. THIS WARRANTY SHALL SPECIFICALLY EXCLUDE ANY OTHER COSTS, INCLUDING BUT NOT LIMITED TO, LOSS AND/OR DAMAGE TO CROPS, LOSS OF USE, LOSS OF PROFIT, REVENUE OR OTHER COMMERCIAL LOSSES, INCONVENIENCE OR COST OF RENTAL OR REPLACEMENT EQUIPMENT, TRANSPORTATION EXPENSE TO AND FROM DEALER'S PREMISES, SERVICE CALLS, NORMAL MAINTENANCE AND UPKEEP COSTS, OVERTIME LABOUR COSTS AND ANY AND ALL INJURIES, CLAIMS OR SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGE OR OTHER ECONOMIC LOSS. THE FOLLOWING ITEMS ARE SPECIFICALLY EXCLUDED FROM WARRANTY:

ALL PRODUCTS -	RUBBER TIRES AND TUBES, EXCLUSIVE OF PACKER WHEEL TIRES WHICH ARE WARRANTED DIRECTLY BY AGENTS OF THE TIRE MANUFACTURERS.
CULTIVATORS/CHISEL PLOWS- AND AIR DRILLS	BENT SHANKS AND ALL GROUND ENGAGING TOOLS.
AIR SEEDERS -	TANK PAINT IF DAMAGE IS CAUSED BY CHEMICAL AGENTS.
DISCS -	DISC BLADES.
FRONT END LOADERS -	BUCKET TEETH AND GRAPPLE TEETH. MODIFICATIONS TO LOADER MOUNTS TO ADAPT TO CHANGES MADE BY TRACTOR MANUFACTURER IN TRACTOR DESIGN.
POST DRIVERS -	ENGINE & ENGINE PARTS WHICH ARE WARRANTED DIRECTLY BY AGENTS OF THE ENGINE MANUFACTURER.

This warranty applies only to new equipment, manufactured by EZEE-ON. This warranty does not cover damage caused to or by any equipment, accessories or part(s) attached to or utilized in conjunction with EZEE-ON equipment. This warranty does not cover damage caused as a result of attachment, modification and incorrect assembly or pre-delivery.

This warranty constitutes the only warranty and is in lieu of any other warranty expressed or implied. There is no warranty of merchantability or of fitness for a particular purpose. No Dealer, salesman or agent has any authority to alter or amend this warranty.

TYPE OF EZEE-ON PRODUCT PURCHASED _____

MODEL NUMBER _____

SERIAL NUMBER _____

This identification should be provided in all correspondence or communication with EZEE-ON regarding your Implement.

INTRODUCTION

Thank you for deciding to purchase Ezee-On. In addition to having traditional Ezee-On reliable and durable harrows, your new implement incorporates a number of operational and safety features. We urge you to familiarize yourself with the operation and maintenance of your implements by reading this manual carefully.

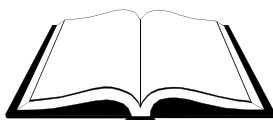
Remember that it is the responsibility of the operator to ensure that the implement is field ready. However, should you encounter a problem, please contact your dealer immediately.

This manual contains the following:

- initial setup instructions
- operational (field) instructions
- parts listing for this implement

This manual is made available to you as a handy reference and contains instructions for the setting up and operation of the harrows, along with a complete parts list.

READ THIS BOOK CAREFULLY TO INSURE THAT YOUR NEW CULTIVATOR IS ASSEMBLED AND ADJUSTED CORRECTLY.



RIGHT and LEFT is determined by standing behind the machine and facing FORWARD, in the direction of travel.

This symbol is used to identify safety messages. When you see this symbol, read the safety message carefully.

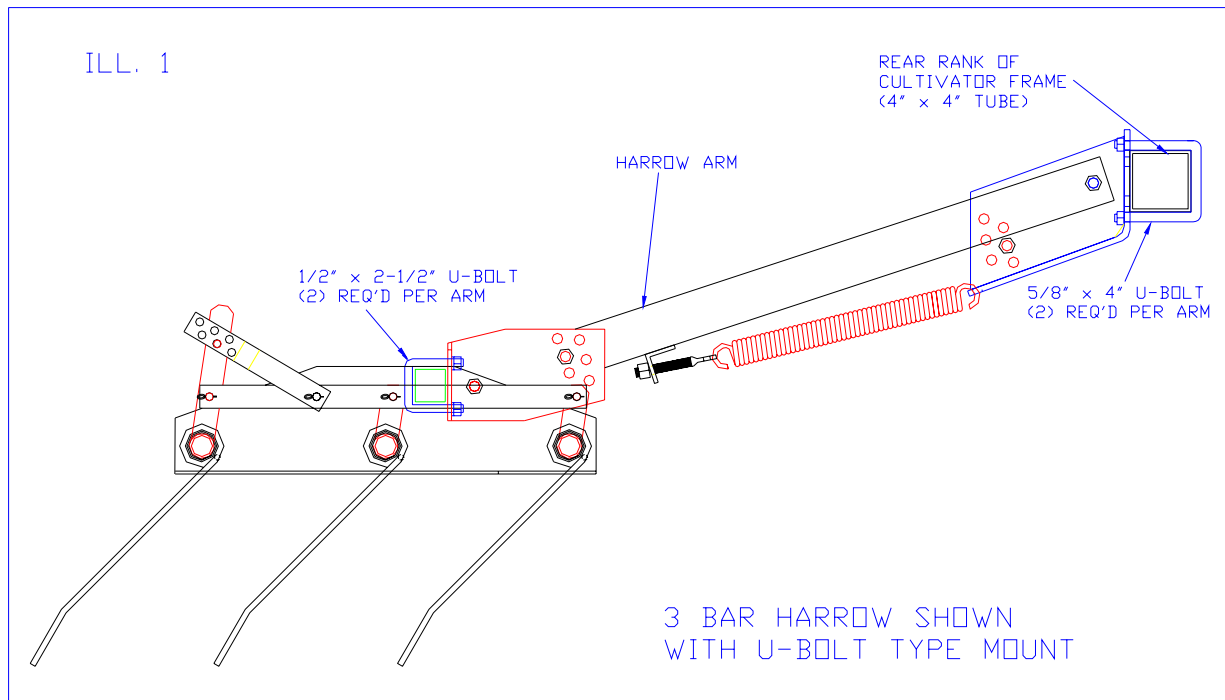


EZEE-ON RESERVES THE RIGHT TO MAKE CHANGES IN MODEL OR SPECIFICATIONS WITHOUT ANY OBLIGATION AS TO THE REPLACEMENT OR MODIFICATIONS IN PREVIOUS MACHINES.

TABLE OF CONTENTS

Description	Page
ASSEMBLY INSTRUCTIONS	2
OPERATING INSTRUCTIONS	8
MAINTENANCE	9
PARTS LIST	10

ASSEMBLY INSTRUCTIONS



1. EZEE-ON CULTIVATORS AND CHISEL PLOWS - See ILL. 1, Table I or Table II.
- A) Layout harrow sections behind cultivator in proper configuration for your cultivator. See Table I on page 6 for configuration for your Ezee-On cultivator. See Table II on page 7 for configuration for your Ezee-On chisel plow.
- B) See Table I or II. Some Ezee-On cultivators or chisel plows require a mounting stub in order to attach harrow arms that extend beyond end of wing frame. These mounting stubs are fastened to end of rear rank with (2) 5/8" x 4" U-Bolts. See Table I or II for models that require a mounting stub. The Table also shows size of stub required.
- C) See ILL. 1 Attach harrow arm assemblies to rear of cultivator frame with (2) 5/8 x 4 U-Bolts, c/w nuts and lockwashers per arm. Each 4-1/2 ft. 3 bar harrow section use one (1) arm only. Each 6 ft. 3 bar harrow section can use one (1) arm per section, or two (2) arms per section. Each 4-1/2 ft. 4 bar harrow section uses one (1) arm only. Each 6 ft. 4 bar harrow section **must use** two (2) arms per section. Do not tighten U-Bolts at this time.
- D) See ILL. 1 Fasten each harrow sections to rear of harrow arm(s) with two (2) 1/2 x 2-1/2 U-Bolts per arm. Harrow sections must be positioned as shown in ILL. 1. Do not tighten U-Bolts at this time.

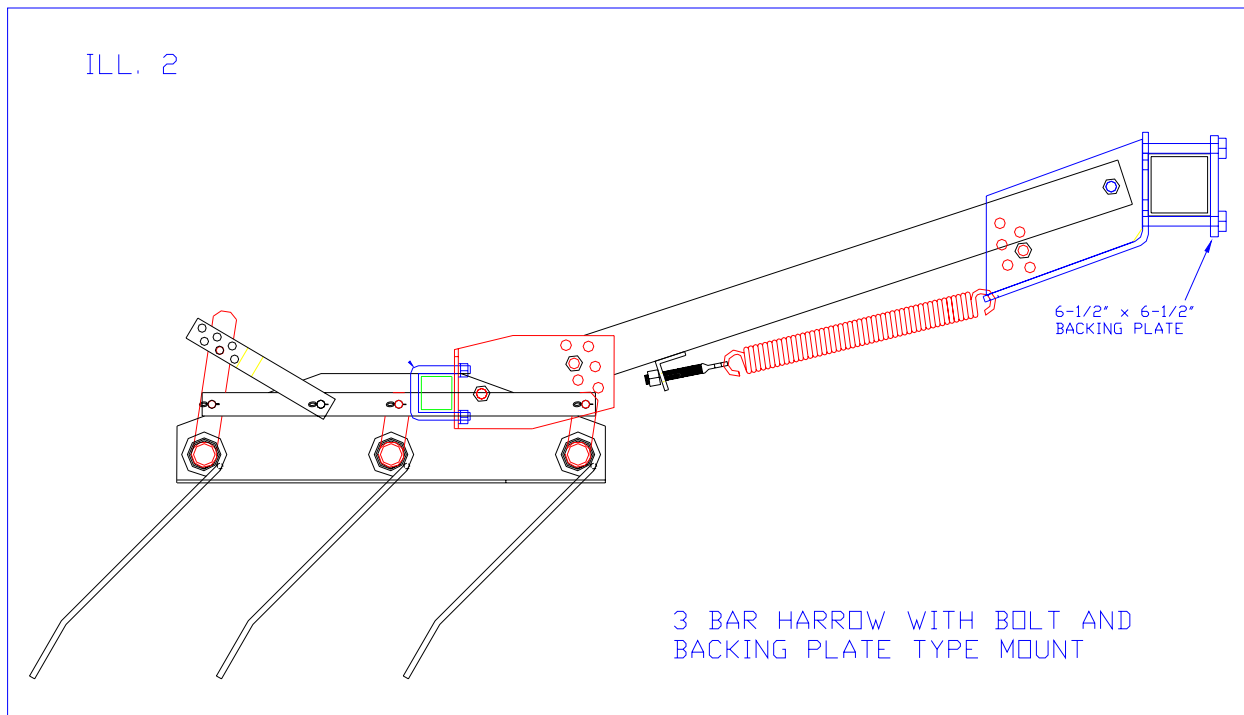


WARNING: USE ADEQUATE MANPOWER OR A HOIST TO LIFT HEAVY COMPONENTS IN PLACE. ATTEMPTING TO LIFT HEAVY COMPONENTS BY YOURSELF COULD CAUSE SERIOUS INJURY.



CAUTION: WHEN ASSEMBLING HARROWS, USE ALIGNING PUNCH TO LINE UP HOLES. KEEP FINGERS OUT OF HOLES.

ASSEMBLY CONTINUED:



2. CULTIVATOR AND CHISEL PLOWS OTHER THAN EZEE-ON - See ILL. 2
(with 3-1/2" x 3-1/2" or 4" x 4" frame)
 - A) Layout harrow sections behind cultivator. Number of harrow sections, size of each section and layout configuration must be determined by owner or dealer.
 - B) See ILL. 3. Attach harrow arm assembly to rear of cultivator frame with one (1) 6-1/2" x 6-1/2" backing plate and four (4) 5/8" x 6" hex bolts c/w nuts and lockwashers for each arm. Each 4-1/2 ft. 3 bar harrow section uses one (1) arm only. Each 6 ft. 3 bar harrow section can use one (1) arm per section or two (2) arms per section. Each 4-1/2 ft. 4 bar harrow section uses one (1) arm only. Each 6 ft. 4 bar harrow section **must use** two (2) arms per section. Do not tighten U-Bolts at this time.
 - C) See ILL. 3 Fasten harrow sections to rear of harrow arms with (2) 1/2" x 2-1/2" U-Bolts per arm. Harrow sections must be positioned as shown in ILL. 3. Do not tighten U-Bolts at this time.



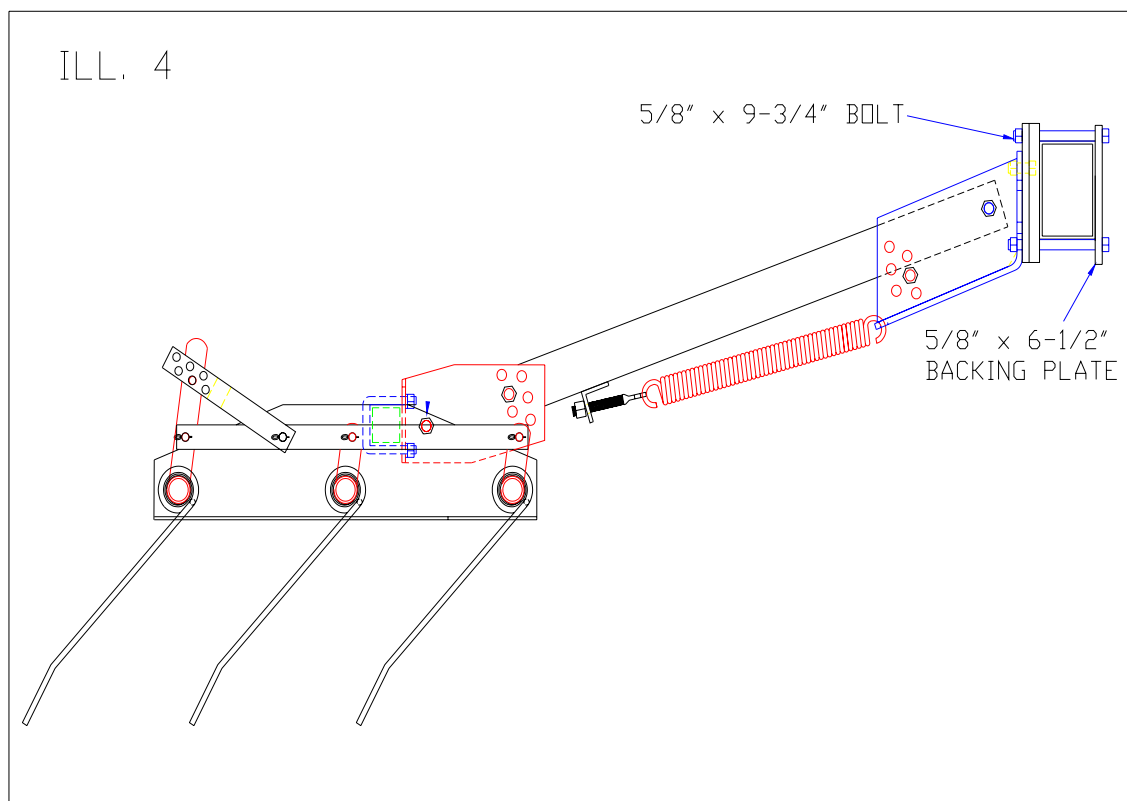
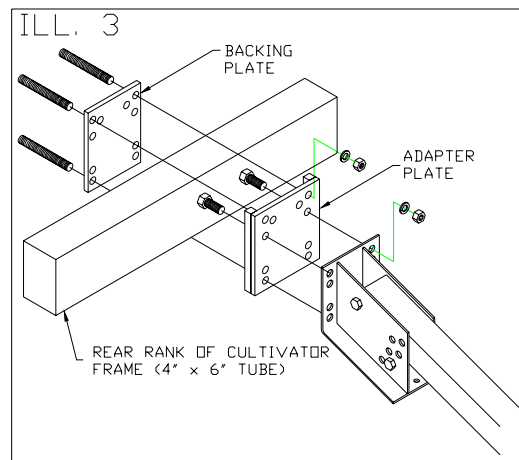
CAUTION: WHEN ASSEMBLING HARROW, USE ALIGNING PUNCH TO LINE UP HOLES. KEEP FINGERS OUT OF HOLES.



WARNING: USE ADEQUATE MANPOWER OR A HOIST TO LIFT HEAVY COMPONENTS IN PLACE. ATTEMPTING TO LIFT HEAVY COMPONENTS BY YOURSELF COULD CAUSE SERIOUS INJURY.

3. CULTIVATORS AND CHISEL PLOWS OTHER THAN EZZE-ON (With 4" x 6" Frame)

- A) Layout harrow sections behind cultivator. Number of harrow sections, size of each section and layout configuration must be determined by owner or dealer.
- B) Fasten one adapter plate to each harrow arm with (4) 5/8" x 1-3/4" N.C. hex bolts c/w nuts and lockwasher. Position adapter plate as shown in ILL. 3. Install bolts from inside of adapter plate. Tighten bolts.



- C) See ILL. 4 Fasten adapter plate and harrow arm assembly to cultivator frame with (1) 5/8" x 6-1/2" backing plate and (4) 5/8" x 6" N.C. hex bolts c/w nuts and lockwashers for each arm. Each 4-1/2 ft. 3 bar harrow section uses one (1) arm only. Each 6 ft. 3 bar harrow section can use one (1) arm per section or two (2) arm per section. Each 4-1/2 ft. 4 bar harrow section uses one (1) arm only. Each 6 ft. 4 bar harrow section **must use** two (2) arms per section. Do not tighten U-Bolts at this time.



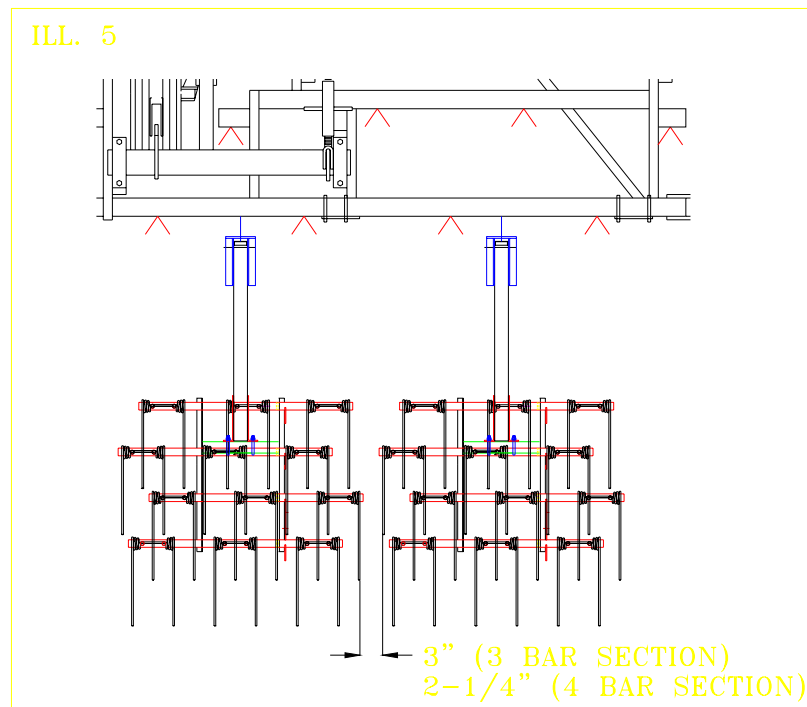
WARNING: USE ADEQUATE MANPOWER OR A HOIST TO LIFT HEAVY COMPONENTS IN PLACE. ATTEMPTING TO LIFT HEAVY COMPONENTS BY YOURSELF COULD CAUSE SERIOUS INJURY.



CAUTION: WHEN ASSEMBLING HARROW, USE ALIGNING PUNCH TO LINE UP HOLES. KEEP FINGERS OUT OF HOLES.

ASSEMBLY CONTINUED:

- 4) See ILL. 5. Adjust spacing between harrow sections. Three (3) bar sections should be a minimum of 3". Four (4) bar sections should be a minimum of 2-1/4". Position harrow so there is a minimum amount extended beyond each end of cultivator.
- 5) See ILL. 5. For single arm harrow, position arm as close as possible to the centre of harrow section. For double arm harrows position each arm as close as possible to the outside of harrow frame.



- 6) See ILL. 1, 2 or 5. Tighten U-Bolts or bolts which fastens arms to cultivator. Next tighten the 1/2" x 2-1/2" U-Bolt which fastens harrow section to arms.



CAUTION: DO NOT WALK ON HARROWS. SERIOUS INJURY COULD OCCUR IF YOU FELL STRIKING SHARP OBJECTS.

HARROW MOUNTING GUIDE

TABLE I

for MODEL 3500/3550 or 5500/5550 SERIES CULTIVATORS

NOTE: **DO NOT** use this chart for MOUNTED PACKER/HARROW configurations

MODEL NUMBER	APPROX. WORKING WIDTH	HARROW SIZE (QTY REQ'D)		TOTAL NO. OF ARMS REQ'D.+ ONE PER 2 PER 6' SECTION SECTION		REQ'D MOUNTING STUB	LAYOUT CONFIGURATION						APPROX. COVERAGE WIDTH			
							WING		CENTRE		WING					
		4-1/2'	6'													
(35,55)24-36-13-6	24' 2"	4	1	5	6	--	4-1/2'		4-1/2'	6'	4-1/2'		4-1/2'		24'	
(35,55)25-38-13-6	25' 6"	3	2	5	7	--	6'		4-1/2'	4-1/2'	4-1/2'		6'		25' 6"	
(35,55)27-40-13-6	26' 10"	2	3	5	8	--	6'		4-1/2'	6'	4-1/2'		6'		27'	
(35,55)29-44-13-8	29' 6"	7	0	7	7	--	4-1/2'	4-1/2'	4-1/2'	4-1/2'	4-1/2'	4-1/2'	4-1/2'	4-1/2'	31' 6"	
(35,55)31-46-13-8	30' 10"	7	0	7	7	--	4-1/2'	4-1/2'	4-1/2'	4-1/2'	4-1/2'	4-1/2'	4-1/2'	4-1/2'	31' 6"	
(35,55)32-48-13-8	32' 2"	6	1	7	8	--	4-1/2'	4-1/2'	4-1/2'	6'	4-1/2'	4-1/2'	4-1/2'	4-1/2'	33'	
(35,55)35-52-13-10	34' 10"	4	3	7	10	--	4-1/2'	6'	4-1/2'	6'	4-1/2'	6'	4-1/2'	4-1/2'	36'	
(35,55)36-54-13-10	36' 2"	4	3	7	10	--	4-1/2'	6'	4-1/2'	6'	4-1/2'	6'	4-1/2'	4-1/2'	36'	
(35,55)37-56-13-10	37' 6"	3	4	7	11	--	4-1/2'	6'	6'	4-1/2'	6'	6'	4-1/2'	4-1/2'	37' 6"	
(35,55)39-58-13-10	38' 10"	2	5	7	12	--	4-1/2'	6'	6'	6'	6'	6'	4-1/2'	4-1/2'	39'	
(35,55)40-60-13-10	40' 2"	1	6	7	13	--	6'	6'	6'	4-1/2'	6'	6'	6'	6'	40' 6"	
(35,55)32-48-16-8	32' 2"	6	1	7	8	--	4-1/2'	4-1/2'	4-1/2'	6'	4-1/2'	4-1/2'	4-1/2'	4-1/2'	33'	
(35,55)33-50-16-8	33' 6"	5	2	7	9	--	4-1/2'	4-1/2'	6'	4-1/2'	6'	4-1/2'	4-1/2'	4-1/2'	34' 6"	
(35,55)35-52-16-8	34' 10"	4	3	7	10	--	4-1/2'	6'	4-1/2'	6'	4-1/2'	6'	4-1/2'	4-1/2'	36'	
(35,55)37-56-16-10	37' 6"	3	4	7	11	--	4-1/2'	6'	6'	4-1/2'	6'	6'	4-1/2'	4-1/2'	37' 6"	
(35,55)39-58-16-10	38' 10"	2	5	7	12	--	4-1/2'	6'	6'	6'	6'	6'	4-1/2'	4-1/2'	39'	
(35,55)40-60-16-10	40' 2"	1	6	7	13	--	6'	6'	6	4-1/2'	6'	6'	6'	6'	40' 6"	
(35,55)41-62-16-10	41' 6"	0	7	7	14	--	6'	6'	6'	6'	6'	6'	6'	6'	42'	
(35,55)43-64-16-10	42' 10"	0	7	7	14	--	6'	6'	6'	6'	6'	6'	6'	6'	42'	
(35,55)44-66-16-10	44' 2"	6	3	9	12	8" (2)	4-1/2'	4-1/2'	4-1/2'	6'	6'	6'	4-1/2'	4-1/2'	4-1/2'	45'
(35,55)46-68-16-10	45' 6"	6	3	9	12	8" (2)	4-1/2'	4-1/2'	4-1/2'	6'	6'	6'	4-1/2'	4-1/2'	4-1/2'	45'

+ At least one arm per section is required, however 6' sections can be equipped with 2 arms. Only one arm can be installed with 4-1/2' sections.

HARROW MOUNTING GUIDE

for
MODEL 7400/7450 SERIES CHISEL PLOWS

TABLE II

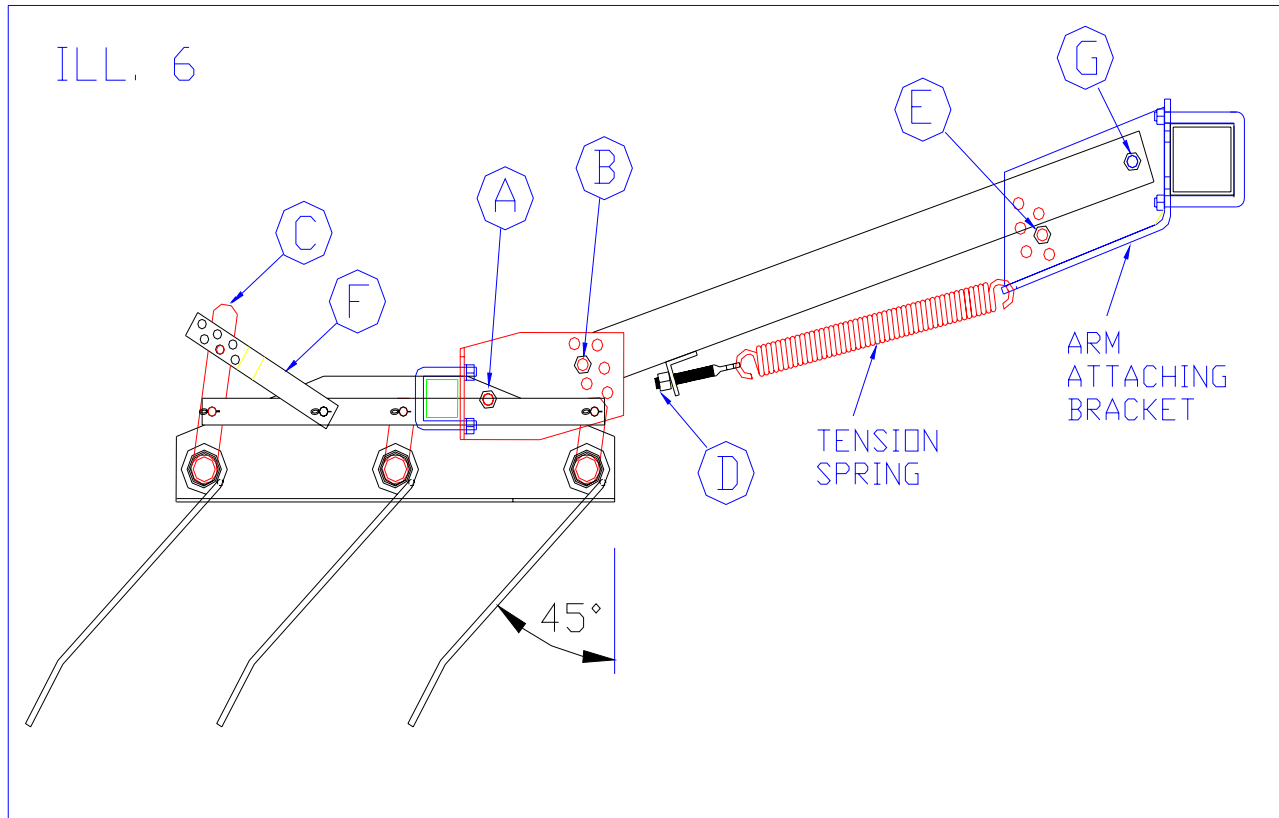
NOTE: DO NOT use this chart for MOUNTED PACKER/HARROW configurations

MODEL NUMBER	APPROX. WORKING WIDTH	HARROW SIZE (QTY REQ'D) 4-1/2' 6'		TOTAL NO. OF ARMS REQ'D. +		REQ'D MOUNTING + + STUBS	LAYOUT CONFIGURATION						APPROX. COVERAGE WIDTH
				ONE PER SECTION	2 PER 6' SECTION		WING		CENTRE		WING		
7426-26-14-6	26'	2	3	5	8	--	6'	4-1/2'	6'	4-1/2'	6'		27'
7428-28-14-6	28'	1	4	5	9	--	6'	6'	4-1/2'	6'	6'		28' 6"
7430-30-14-8	30'	7	0	7	0	--	4-1/2'	4-1/2'	4-1/2'	4-1/2'	4-1/2'	4-1/2'	31' 6"
7432-32-14-8	32'	6	1	7	8	--	4-1/2'	4-1/2'	4-1/2'	6'	4-1/2'	4-1/2'	33'
7434-34-14-8	34'	5	2	7	9	8" (2)	4-1/2'	4-1/2'	6'	4-1/2'	6'	4-1/2'	34' 6"
7434-34-14-10	34'	5	2	7	9	--	4-1/2'	4-1/2'	6'	4-1/2'	6'	4-1/2'	34' 6"
7436-36-14-10	36'	0	6	6	12	--	6'	6'	6'	6'	6'	6'	36'
7438-38-14-10	38'	3	4	7	11	--	4-1/2'	6'	6'	4-1/2'	6'	6'	37'
7440-40-14-10	40'	1	6	7	13	8" (2)	6'	6'	6'	4-1/2'	6'	6'	40' 6"
7428-28-16-6	28'	1	4	5	9	--	6'	6'	4-1/2'	6'	6'		28' 6"
7430-30-16-6	30'	0	5	5	10	--	6'	6'	6'	6'	6'		30'
7432-32-16-8	32'	6	1	7	8	--	4-1/2'	4-1/2'	6'	4-1/2'	6'	4-1/2'	33'
7434-34-16-8	34'	5	2	7	9	--	4-1/2'	4-1/2'	6'	4-1/2'	6'	4-1/2'	34' 6"
7436-36-16-8	36'	0	6	6	12	8" (2)	6'	6'	6'	6'	6'	6'	36'
7436-36-16-10	36'	0	6	6	12	--	6'	6'	6'	6'	6'	6'	36'
7438-38-16-10	38'	2	5	7	12	--	4-1/2'	6'	6'	6'	6'	4-1/2'	39'
7440-40-16-10	40'	1	6	7	13	8" (2)	6'	6'	6'	4-1/2'	6'	6'	40' 6"
7442-42-16-10	42'	0	7	7	14	8" OR 21"(2)*	6'	6'	6'	6'	6'	6'	42'
7444-44-16-10	44'	6	3	7	14		4-1/2'	4-1/2'	4-1/2'	6'	6'	6'	45'

+ At least one arm per section is required, however 6' sections can be equipped with 2 arms. Only one arm can be installed with 4-1/2' sections.

+ + Mounting extensions are required when wing frame is not wide enough to mount outer carrier arms. See page 13 for price of mounting extensions.

* Use 8" extensions if harrow is equipped with one arm per section; use 21" extensions if two arm arms per section are used.



OPERATING INSTRUCTIONS

- Harrow Height -** The height of harrow section must be adjusted to match your tillage implement. Usually the bottom of Harrow tines should be even with bottom of implement shovels. Harrow height is adjusted by repositioning bolt (E) in one of 6 holes in arm attaching bracket.
- Levelling Harrow -** See ILL. 6. Once the tillage implement has been set at desired cutting depth, the harrow section must be levelled to give a smooth uniformly finished field. Levelling is accomplished by loosening bolt (A) then relocating bolt (B) in one of the 6 sets of holes. Tighten bolt (A) and (B) after adjustment.
- Harrow Tine Angle -** See ILL. 6. Harrow tine angle may be adjusted to suit particular field conditions. If very aggressive action is desired, tine angle should be set at the nearest vertical position. If harrow plugging is a problem in fields with a large amount of straw, tine angle should be set in a more horizontal position. Tine angle is adjusted by removing pin and relocating the adjustment handle (C) at one of the six holes in link (F).
- Harrow Pressure -** See ILL 6. Once Implement depth and tine angle have been set, pressure on the harrow can be adjusted to increase aggressiveness. If harrow plugging is a problem, pressure should be decreased. Pressure is increased by tightening spring I-Bolt (D). Pressure is decreased by loosening spring I-Bolt (D).

NOTE: Tension spring additionally holds harrow arm in proper position when implement is winged-up for transport, and should not be removed.

OPERATING INSTRUCTIONS CONTINUED:

Carry Arm Stop Bolt - See ILL 6. When the implement is raised out of the ground, the harrow should rise also and should have adequate height for transporting. To adjust stop bolt, lower implement to working depth then remove stop bolt (E). Next, reposition stop bolt so it is just below but not touching the arm. Tighten stop bolt.

NOTE: Do not over tighten the stop bolt. Carry arm should raise freely in mount.

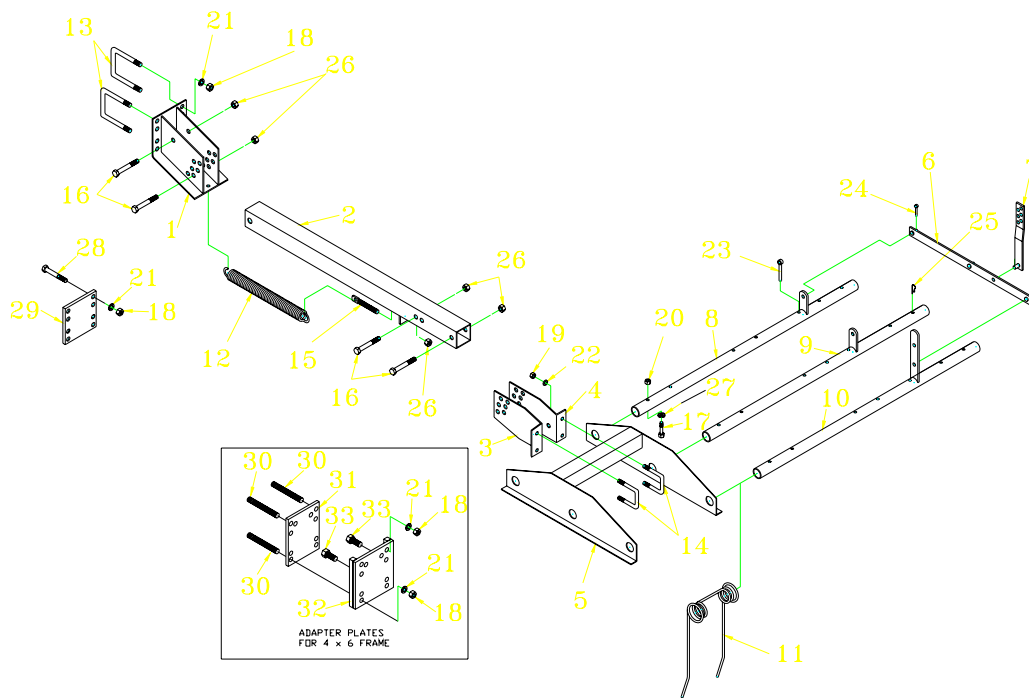
MAINTENANCE

1. Check all bolts for tightness after initial use, and periodically thereafter.



2. See ILL. 6. The pivot bolt (G) and arm stop bolt (E) on arm attaching bracket are meant to be assembled for only a snug fit and should not be over tightened. The carry arm should be free to move up and down in the attaching bracket. The bolts should be snugged-up periodically to reduce carry arm side play.

CAUTION: DO NOT WALK ON HARROWS. SERIOUS INJURY COULD OCCUR IF YOU FELL STRIKING SHARP OBJECTS.



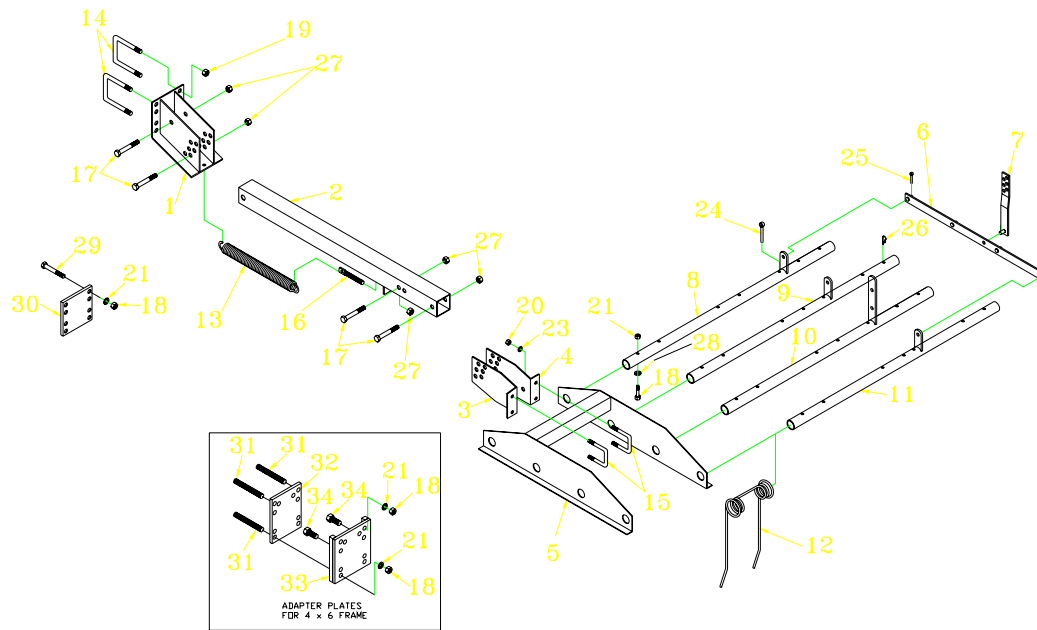
**MODEL 354 HARROW
(3 BAR 4-1/2 FT.)**

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D / SECTION
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1	M80024	TOP ATTACHING BRACKET	1
2	M80034	ARM	1
3	M80023	BOTTOM ATTACHING BRACKET L.H.	1
4	M80021	BOTTOM ATTACHING BRACKET R.H.	1
5	M80060	3 BAR 4-1/2 FT. FRAME	1
6	M80030	ANGLE ADJUSTING TIE BAR	1
7	M80032	ANGLE ADJUSTING PLATE	1
8	M80042	3 BAR - FRONT - 46" LONG	1
9	M80043	3 BAR - SECOND - 46" LONG	1
10	M80044	3 BAR - THIRD - 46" LONG	1
11	M80019	18" HARROW TINE	9
12	M80020	SPRING - ARM	1
13	DG6080	5/8" N.C. x 4-11/16" x 5-5/8" U-BOLT	2
14	M80010	1/2" N.C. x 3-1/16" x 3-9/16" U-BOLT	2
15	M80011	5/8" N.C. x 4-3/4 SPADE BOLT FOR SPRING	1
16	M80012	5/8" N.C. x 4-1/2" HEX BOLT	4
17		3/8" N.C. x 2-1/4" SPECIAL LONG HEAD BOLT	18
18		5/8" N.C. HEX NUT	4
19		1/2" N.C. HEX NUT	4
20		3/8" N.C. HEX NYLON LOCKNUT	18
21		5/8" LOCKWASHER	4
22		1/2" LOCKWASHER	4
23	BP37200	3/8" x 2" COTTER PIN	3
24	M80064	1/8" x 3/4" COTTER PIN	4
25		HAIR PIN	1
26		5/8" N.C. HEX NYLON LOCK NUT	4
27		3/8" LOCKWASHER (Not required if harrow bolt head is 5/8" long)	18
28		5/8" x 6" N.C. Hex Bolt	4
29	M80022	CLAMP PLATE	1
30	M80065	5/8" x 9-3/4" THREADED ROD	4
31	M80066	ADAPTER BACKING PLATE	1
32	M80067	ADAPTER PLATE	1
33		5/8" x 1-3/4" N.C. Hex Bolt	2

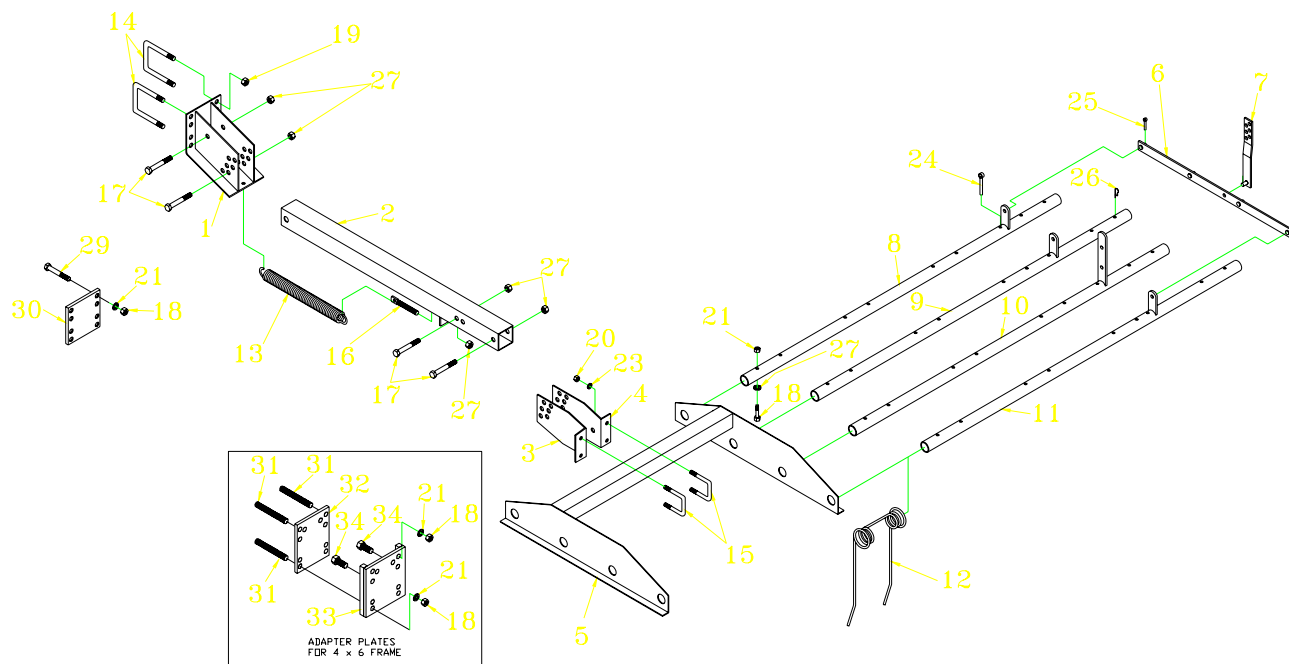
**MODEL 372 HARROW
(3 BAR 6 FT.)**

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D / SECTION
1	M80024	TOP ATTACHING BRACKET	1
2	M80034	ARM	1
3	M80023	BOTTOM ATTACHING BRACKET L.H.	1
4	M80021	BOTTOM ATTACHING BRACKET R.H.	1
5	M80061	3 BAR 6 FT. FRAME	1
6	M80030	ANGLE ADJUSTING TIE BAR	1
7	M80032	ANGLE ADJUSTING PLATE	1
8	M80039	3 BAR - FRONT - 64" LONG	1
9	M80040	3 BAR - SECOND - 64" LONG	1
10	M80041	3 BAR - THIRD - 64" LONG	1
11	M80019	18" HARROW TINE	12
12	M80020	SPRING - ARM	1
13	DG6080	5/8" N.C. x 4-11/16" c-c x 5-5/8" U-BOLT	2
14	M80010	1/2" N.C. x 3-1/16" c-c x 3-9/16" U-BOLT	2
15	M80011	5/8" N.C. x 4-3/4" SPADE BOLT FOR SPRING	1
16	M80012	5/8" N.C. x 4-1/2" HEX BOLT	4
17		3/8" N.C. x 2-1/4" SPECIAL LONG HEAD BOLT	24
18		5/8" N.C. HEX NUT	6
19		1/2" N.C. HEX NUT	4
20	BP37200	3/8" N.C. HEX NYLON LOCKNUT	24
21		5/8" LOCKWASHER	6
22		1/2" LOCKWASHER	4
23		3/8" X 2" COTTER PIN	4
24	M80064	1/8" x 3/4" COTTER PIN	4
25		HAIR PIN	1
26		5/8" N.C. HEX NYLON LOCK NUT	4
27		3/8" LOCKWASHER (Not required if harrow bolt head is 5/8" long)	24
28	M80022	5/8" x 6" N.C. Hex Bolt	4
29		CLAMP PLATE	1
30		5/8" x 9-3/4" THREADED ROD	4
31		ADAPTER BACKING PLATE	1
32	M80067	ADAPTER PLATE	1
		5/8" x 1-3/4" N.C. Hex Bolt	2



MODEL 454 HARROW (4 BAR 4-1/2 FT.)

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D / SECTION
1	M80024	TOP ATTACHING BRACKET	1
2	M80034	ARM	1
3	M80023	BOTTOM ATTACHING BRACKET L.H.	1
4	M80021	BOTTOM ATTACHING BRACKET R.H.	1
5	M80062	4 BAR 4-1/2 FT. FRAME	1
6	M80031	ANGLE ADJUSTING TIE BAR	1
7	M80032	ANGLE ADJUSTING PLATE	1
8	M80049	4 BAR - FRONT - 46" LONG	1
9	M80050	4 BAR - SECOND - 46" LONG	1
10	M80051	4 BAR - THIRD - 46" LONG	1
11	M80052	4 BAR - REAR - 46" LONG	1
12	M80019	18" HARROW TINE	12
13	M80020	SPRING - ARM	1
14	DG6080	5/8" N.C. x 4-11/16" x 5-5/8" U-BOLT	2
15	M80010	1/2" N.C. x 3-1/16" x 3-9/16" U-BOLT	2
16	M80011	5/8" N.C. x 4-3/4 SPADE BOLT FOR SPRING	1
17	M80012	5/8" N.C. x 4-1/2" HEX BOLT	4
18		3/8" N.C. x 2-1/4" SPECIAL LONG HEAD BOLT	24
19		5/8" N.C. HEX NUT	6
20		1/2" N.C. HEX NUT	4
21		3/8" N.C. HEX NYLON LOCKNUT	24
22		5/8" LOCKWASHER	6
23		1/2" I.D. LOCKWASHER	4
24	BP37200	3/8" x 2" COTTER PIN	4
25		1/8" x 3/4" COTTER PIN	4
26	M80064	HAIR PIN	1
27		5/8" N.C. HEX NYLON LOCK NUT	1
28		3/8" LOCKWASHER (Not required if harrow bolt head is 5/8" long)	24
29		5/8" x 6" N.C. Hex Bolt	4
30	M80022	CLAMP PLATE	1
31	M80065	5/8" x 9-3/4" THREADED ROD	4
32	M80066	ADAPTER BACKING PLATE	1
33	M80067	ADAPTER PLATE	1
34		5/8" x 1-3/4" N.C. Hex Bolt	2



**MODEL 472 HARROW
(4 BAR 6 FT.)**

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D / SECTION
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1	M80024	TOP ATTACHING BRACKET	1
2	M80034	ARM	1
3	M80023	BOTTOM ATTACHING BRACKET L.H.	1
4	M80021	BOTTOM ATTACHING BRACKET R.H.	1
5	M80063	4 BAR 6 FT. FRAME	1
6	M80031	ANGLE ADJUSTING TIE BAR	1
7	M80032	ANGLE ADJUSTING PLATE	1
8	M80045	4 BAR - FRONT - 64" LONG	1
9	M80046	4 BAR - SECOND - 64" LONG	1
10	M80047	4 BAR - THIRD - 64" LONG	1
11	M80048	4 BAR - REAR - 64" LONG	1
12	M80019	18" HARROW TINE	16
13	M80020	SPRING - ARM	1
14	DG6080	5/8" N.C. x 4-11/16" x 5-5/8" U-BOLT	2
15	M80010	1/2" N.C. x 3-1/16" x 3-9/16" U-BOLT	2
16	M80011	5/8" N.C. x 4-3/4 SPADE BOLT FOR SPRING	1
17	M80012	5/8" N.C. x 4-1/2" HEX BOLT	4
18		3/8" N.C. x 2-1/4" SPECIAL LONG HEAD BOLT	32
19		5/8" N.C. HEX NUT	6
20		1/2" N.C. HEX NUT	4
21		3/8" N.C. HEX NYLON LOCKNUT	32
22		5/8" LOCKWASHER	6
23		1/2" LOCKWASHER	4
24	BP37200	3/8" x 2" COTTER PIN	4
25		1/8" x 1-1/2" COTTER PIN	4
26	M80064	HAIR PIN	1
27		5/8" N.C. HEX NYLON LOCK NUT	1
28		3/8" LOCKWASHER (Not required if harrow bolt head is 5/8" long)	32
29		5/8" x 6" N.C. Hex Bolt	4
30	M80022	CLAMP PLATE	1
31	M80065	5/8" x 9-3/4" THREADED ROD	4
32	M80066	ADAPTER BACKING PLATE	1
33	M80067	ADAPTER PLATE	1
34		5/8" x 1-3/4" N.C. Hex Bolt	2