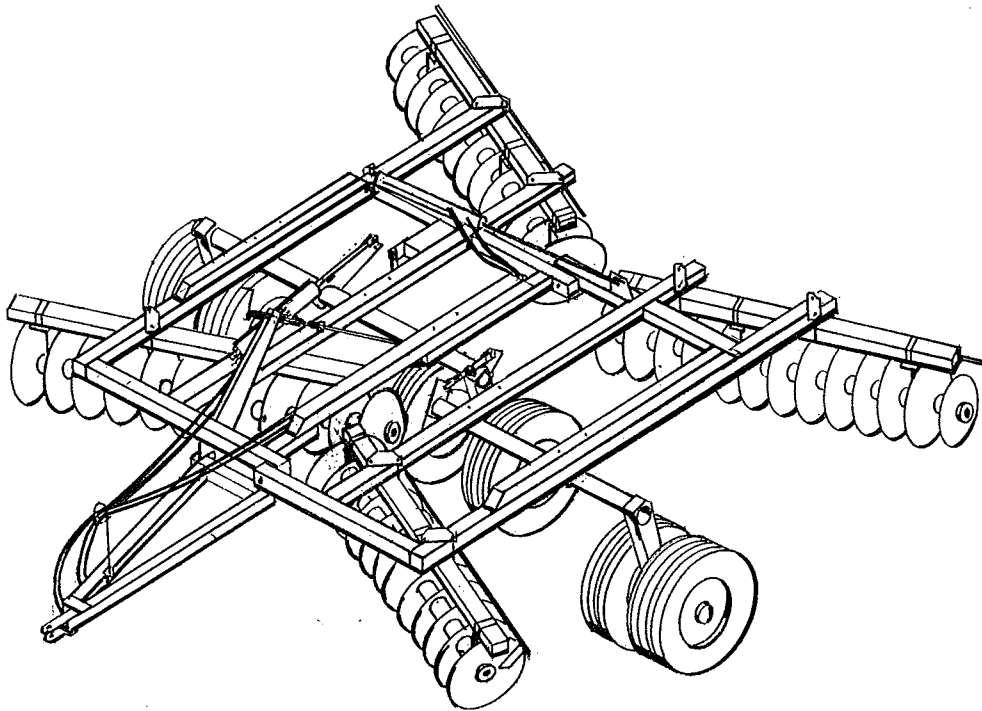


# **Ezee-On**



**Model 1490-1495 and 1500-1550  
Double Offset Tandem Disc**

## **OWNERS MANUAL and PARTS LIST**

**7-11-80-111  
REVISED**

**Manufactured  
by**

**EZEE-ON MFG. LTD.**

**Vegreville, Alberta  
Canada**



# INTRODUCTION

This manual is made available for you as handy reference and contains instructions for setting up and operating.

READ THIS BOOK CAREFULLY TO ENSURE THAT YOUR NEW DISC IS ASSEMBLED AND ADJUSTED PROPERLY.

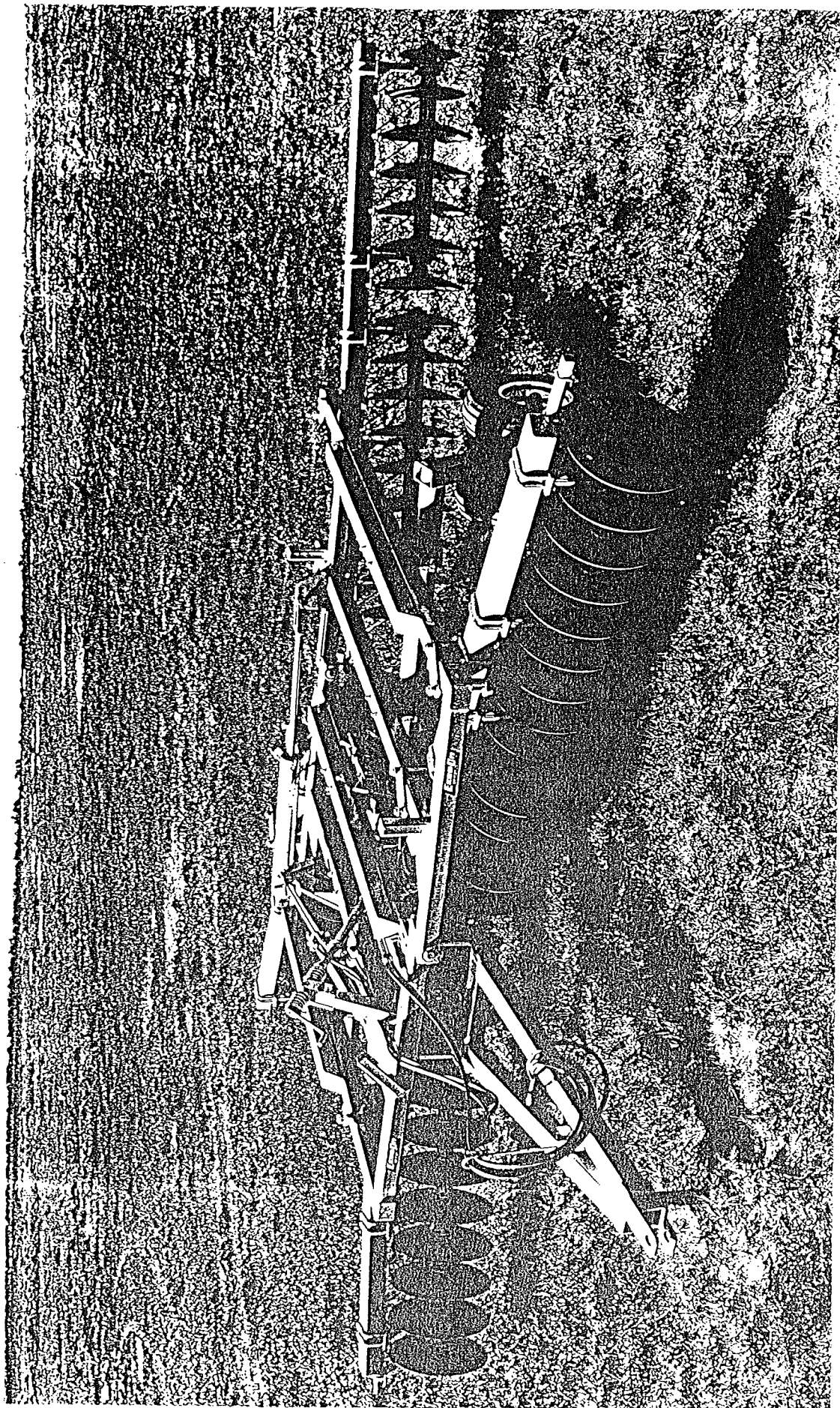
Right and left is determined by standing behind the machine and facing forward, in the direction of travel.

 THIS SYMBOL IS USED TO IDENTIFY IMPORTANT SAFETY MESSAGES. WHEN YOU SEE THIS SYMBOL, READ THE SAFETY MESSAGE CAREFULLY.

Before assembling and operating disc, review all safety recommendations outlined on backside of front cover page.

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MODEL 1490 - 1500 (MODEL 1500 SHOWN)

## 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:

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

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.

## SAFETY RECOMMENDATIONS

### GENERAL SAFETY

1. Never allow anyone to ride on the tractor drawbar, or on the disc. The person(s) riding may fall and be seriously or fatally injured.
2. Disc should be operated ONLY by persons responsible and qualified to do so.
3. Never allow anyone to climb or play on the tractor or disc. They may fall and be seriously injured.
4. Follow all safety precautions in your tractor manual.
5. Keep a First Aid Kit in the tractor at all times.

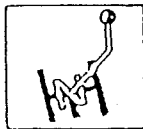


### ASSEMBLY SAFETY

1. When assembling disc, use aligning punch to line up holes. Keep fingers out of holes. Any sudden movement of heavy components will severely injure or sever your fingers.
2. Use adequate manpower or a hoist to lift heavy components in place. Use adequate jacks or support materials. Attempting to lift heavy components by yourself could cause serious injury.
3. Be sure all bolts and hydraulic fittings are tight, and all cotter pins are installed in the slotted nuts and pins.
4. Support main frame and wing frame securely before assembling components. Inadequate support may result in the heavy components falling and causing serious injury to you and person(s) nearby.
5. Be sure all wheel bolts are checked for tightness especially during initial transport or when first discing. Loose wheel bolts may result in the wheel falling off, causing serious damage to the disc and may cause serious injury to operator or person(s) nearby.
6. To fill the wing lift cylinders with hydraulic fluid, remove the pin from the shaft end of each wing lift cylinder and pump fluid into the cylinders. Extend and contract the cylinders until they are completely filled with hydraulic fluid. The wings will free-fall if the cylinders are not completely filled with fluid, resulting in serious damage.
7. Do not raise or lower the main or wing frames until all components are securely tightened. Loose components will cause serious damage to the disc and serious injury or death to you and person(s) nearby if the main or wing frames fell.
8. Hydraulic oil escaping under pressure has sufficient force to cause serious injury. Relieve pressure in all hydraulic components before disconnecting any hydraulic components. Before applying pressure to hydraulic system, be sure all connections are tight and components are not damaged. If injured by escaping hydraulic fluid, see a medical doctor immediately.
9. When attaching gang assemblies, wear protective gloves to prevent injury from cutting edges of blades.
10. Before applying pressure to hydraulic systems. Be sure all connections are tight and components are not damaged.

## MAINTENANCE SAFETY

1. Do not disassemble or loosen hydraulic components when there is pressure within those components. Hydraulic components disconnected under pressure may cause parts and hydraulic fluid to fly out at a high velocity, which could cause serious injury. Always relieve the pressure in the hydraulic system before making adjustments to the hydraulic system. If injured by escaping hydraulic fluid, see a medical doctor immediately.
2. Check hydraulic hoses periodically for signs of rupture and leaks. Use a piece of wood or cardboard as a back stop for escaping high pressure or hot fluid. Wear gloves and eye protection when searching the hydraulic system for leaks. Oil escaping under pressure has sufficient force to penetrate skin or eyes. If injured by escaping hydraulic fluid, see a medical doctor immediately.
3. Always relieve the pressure in the hydraulic system when the disc is not being operated.
4. Always permit parts which contain hot fluid to cool to a safe temperature before handling or disconnecting these parts.
5. Always wear safety glasses or goggles and gloves when working on the hydraulic system.
6. To fill wing lift cylinder with hydraulic oil, extend and contract cylinder within slot on wing until cylinders are completely filled with oil. Do not fold wings until cylinders are completely filled, wings will free fall if cylinders are not filled with oil, causing serious damage.
7. Lower the disc to the ground when servicing or making adjustments. If the disc must be serviced in the raised position, lock wheels in down position by pinning rockshaft cylinder arm to lock-up strap. See Section 7 of ASSEMBLY INSTRUCTIONS on page 6. If the hydraulic system failed, or if the hydraulic lever was accidentally operated, the disc could drop.
8. Do not lubricate disc while it is in motion. You may fall in front of disc and be injured.
9. Always place tractor controls in neutral and lock brakes when hitching disc to tractor. Tractor could roll backwards when hitching disc.



## TRANSPORT SAFETY

1. When trailing the disc over public roads, use the SMV emblem and warning light for protection of tractor and other motor vehicle operators. Check local laws for width and height maximums.



2. When transporting disc, always lock wheels in down position by pinning rockshaft cylinder arm to lock-up strap. See Section 7 of ASSEMBLY INSTRUCTIONS on page 6. If any component of hydraulic system should fail, or if hydraulic system should fail, or if hydraulic lever should accidentally be operated, disc could drop.
3. Do not exceed 10 mph (16 km/h) when transporting disc on smooth surfaces. Reduce speed when transporting on rough surfaces. Excessive speed could cause loss of tractor control and damage to disc and tractor. Do not transport disc with any other vehicle except tractor.
4. When transporting the disc with the wings folded (UP), be sure there is sufficient clearance under all power lines and other overhead obstructions. Serious injury or death can result from contact with electrical lines. Use care to avoid contact with electrical lines when moving or operating the disc.

## TRANSPORT SAFETY continued:

5. Always attach a safety chain to the tractor drawbar and the disc hitch before transporting the disc. Serious damage, injury, or death could result from the disc separating from the tractor drawbar.
6. Check all reflectors and visibility and cleanliness before transporting the disc. It is important that the reflectors are clean and visible, especially during the evening hours.
7. Regulate your speed on hillsides and curves when transporting the disc. Loss of tractor control could result in serious damage to the disc and possibly serious injury or death to you and those nearby.
8. For models equipped with folding gang beams - when transporting disc, be sure beams are folded to obtain minimum transport height.



## OPERATION SAFETY

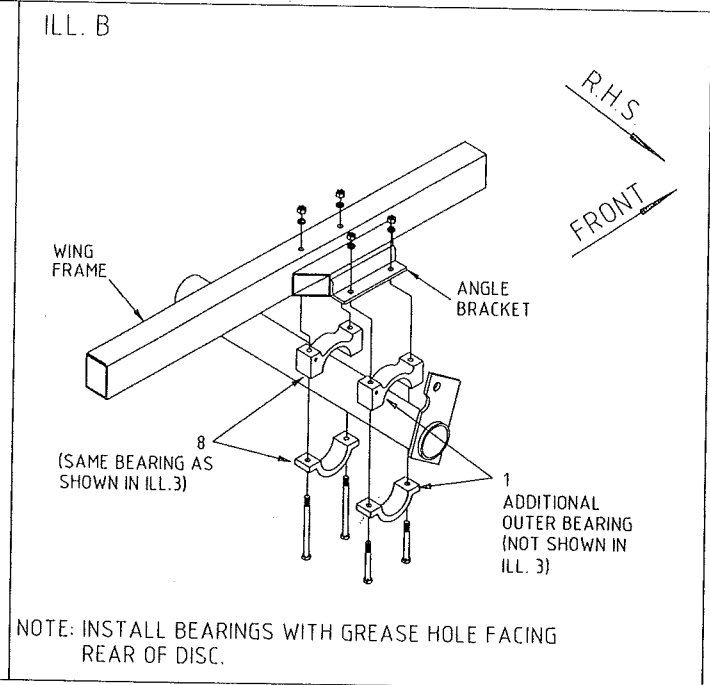
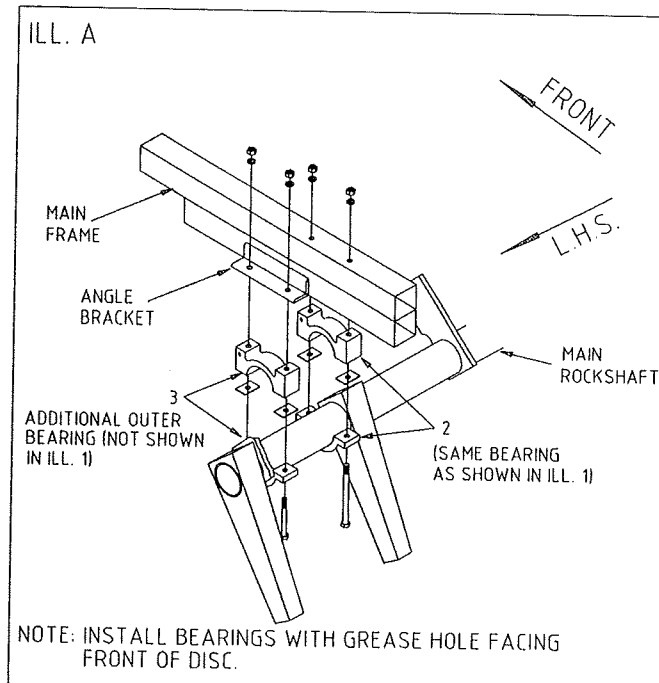
1. Be sure person(s) are standing clear before starting or moving the tractor and disc.
2. Only one (1) person (the operator) should be permitted on the tractor when the disc is in operation, and he/she should be familiar with repair procedures and temporary.
3. Never stand between the tractor and the disc when hitching the disc to the tractor, UNLESS all tractor controls are in neutral and the park brake is set. The tractor could roll backwards, which could result in serious injury or death to you or those nearby.
4. When operating on hillsides, use extreme care. Tractor may tip sideways if it strikes a hole, ditch, or other irregularity.
5. To avoid personal injury or death, always stay clear of the folding wings when they are being raised, lowered, or in the folded position. If the hydraulic system failed, or if the hydraulic lever was accidentally operated, the wings could drop, resulting in serious injury or death to you and those nearby.
6. Do not stand under wing while wing is being raised or lowered. If any components of hydraulic system should fail, or if hydraulic lever should accidentally be operated, wing could fall.
7. For models equipped with folding gang beams on wings DO NOT raise wings into transport position with folding gangs in working position (not folding). Folding gang beams will fall rapidly, if locking pin is not installed, or if locking pin fell out causing serious injury to persons nearby, and also serious damage to disc. (Folding beams must be folded and locked into support brackets when wings are raised into transport position).

## SAFETY DECALS

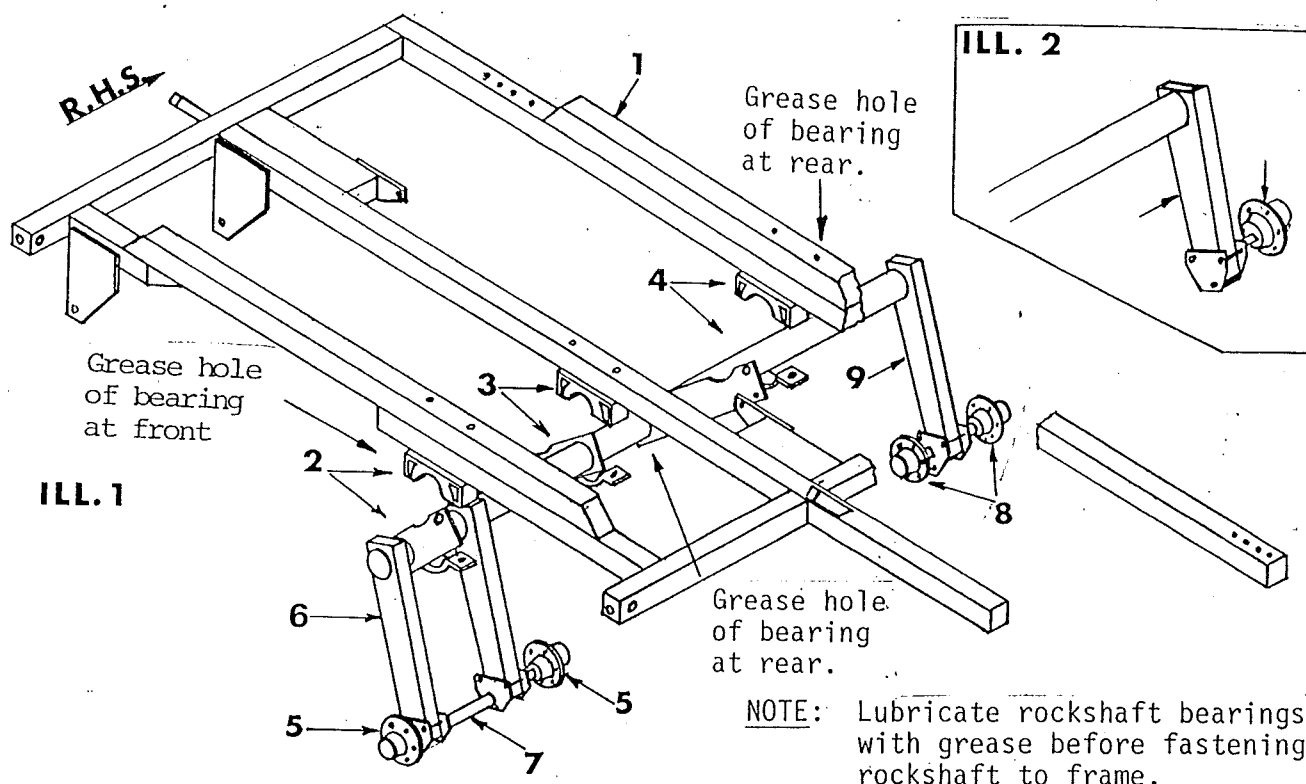
1. Keep all decals clean and in good condition to provide you with a constant reminder of safe operating procedures.
2. Replace any destroyed, missing or illegible decals.

# SUPPLEMENTARY ROCKSHAFT BEARING INSTRUCTIONS

1. **SEE ILL. A.** ILL. 1 shown on page 3 shows (1) one inner rockshaft bearing, arrow 2, bolted under frame. When installing rockshaft add another rockshaft bearing, arrow 3. Fasten bearing to angle bracket with (2)  $3/4"$  x  $6-1/2"$  bolts c/w nuts and lockwashers. Position bearing so grease hole is facing the front of the disc.
2. **SEE ILL. B.** ILL. 3 shown on page 4 shows (1) one inner rockshaft bearing bolted under wing frame. When installing wing rockshaft add another rockshaft bearing, arrow 1. Fasten bearing to angle bracket with (2)  $3/4"$  x  $6-1/2"$  bolts c/w nuts and lockwashers. Position bearing so grease hole is facing the rear of the disc.







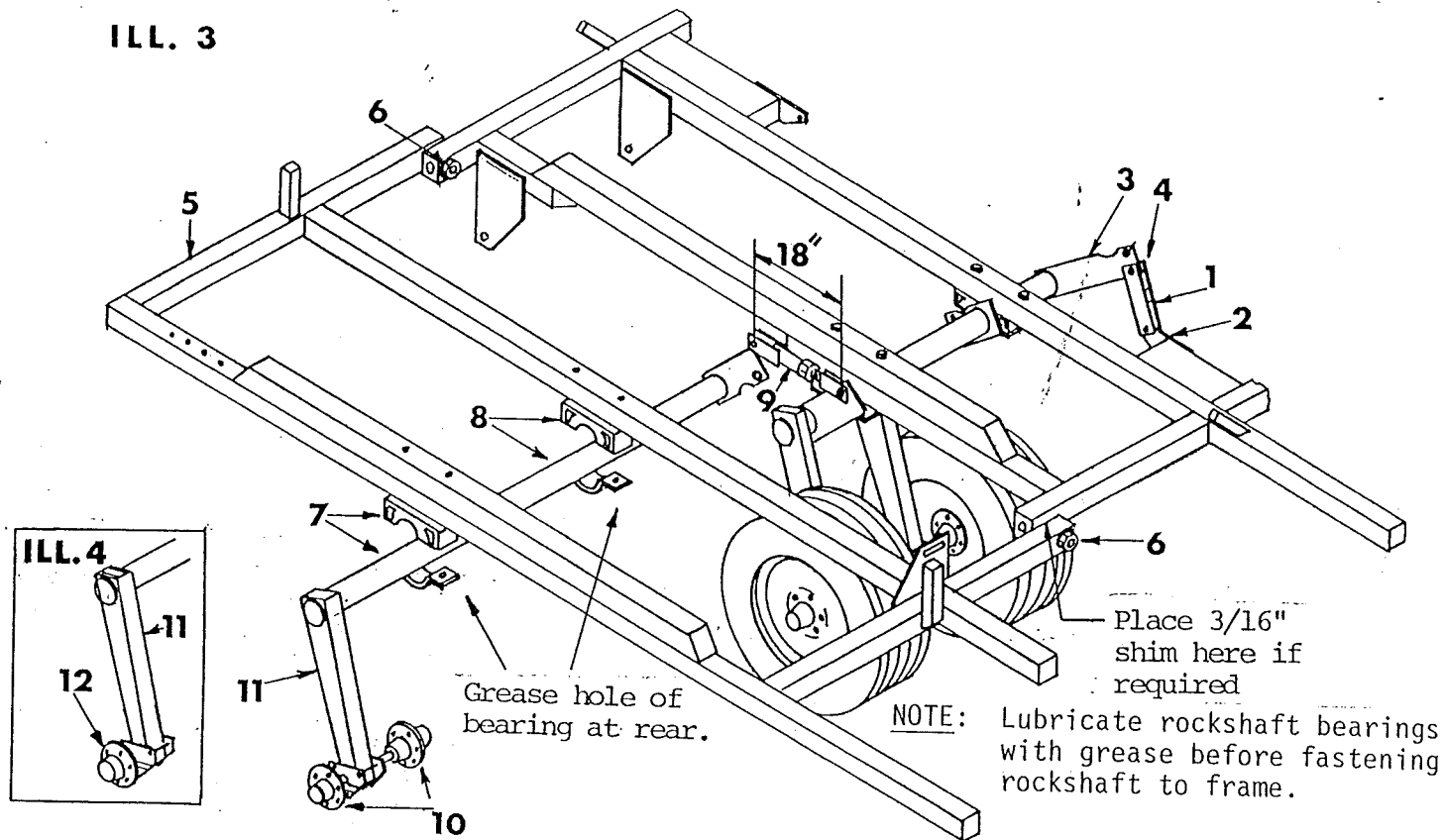
### ASSEMBLY INSTRUCTIONS

1. See Ill. 1. Raise main frame, arrow 1, approximately 30" from ground and block securely.
2. See Ill. 1. Fasten main frame rockshaft to bottom of main frame using three cast rockshaft bearings, arrow 2, 3 and 4 as shown in Ill. 1. Fasten the two outside bearings, arrow 2 and 4 to main frame with two 3/4" x 15" bolts for each bearing. Fasten the centre bearing, arrow 3, to main frame with two 3/4" x 10-1/2" bolts. Position rockshaft so that right hand bearing, arrow 4, is located between cleats welded to rockshaft. Lubricate bearings with grease before installing rockshaft in bearings. When installing rockshaft bearings be sure that centre and right hand bearings, arrow 3 and 4, are installed with grease hole at rear of rockshaft. Install left hand bearing, arrow 2, with grease hole at front of rockshaft.
3. See Ill. 1. To fasten hub assembly, arrow 5, to inside wheel legs, arrow 6. Place wheel spacer, arrow 7, between wheel legs. Next fasten one hub assembly, arrow 5, to outside of each wheel with three 5/8" x 6" bolts. Tighten bolts.
4. ATTACHING HUB ASSEMBLIES TO OUTSIDE WHEEL LEG:
  - (a) DUAL WHEELS: See Ill. 1. Fasten one hub assembly, arrow 8, to each side of outside wheel leg, arrow 9. Fasten with three 5/8" x 6" bolts. Tighten bolts.
  - (b) SINGLE WHEELS: See Ill. 2. Fasten one hub assembly, arrow 10, to outside of outside wheel leg, arrow 9. Fasten with one backing plate and three 5/8" x 6" bolts. Tighten bolts.
5. Bolt wheel and tire assemblies to hub and tighten studs.

**CAUTION:** SUPPORT MAIN FRAME AND WING FRAME SECURELY BEFORE ASSEMBLING COMPONENTS. HEAVY FRAME COULD CAUSE SERIOUS INJURY IF THEY FELL.  
WHEN ASSEMBLING DISC USE ALIGNING PUNCH TO LINE UP HOLES. KEEP FINGERS OUT OF HOLES.

6. See Ill. 3. Attach lock-up strap, arrow 1, to lug, arrow 2, on main frame with one 1" x 3" bolt. Next attach lock-up strap, arrow 1, to cylinder arm, arrow 3, of rockshaft with 1 pin, arrow 4. Secure pin with 1 hair pin cotter. This will lock wheels in up position.

ILL. 3



**NOTE:** If rockshaft bearing clamps rockshaft too tight, place necessary shim between rockshaft bearing halves.

7. See Ill. 3. Attach wing frame, arrow 5, to L.H. side of main frame. Fasten with two 2" bolts, arrow 6. Bolts are installed from front with nuts and washers at rear. Front hinge bolt MUST BE TIGHTENED so there is no clearance between wing frame and main frame. DO NOT over tighten front bolt. Wing must be free to pivot.

When installing rear hinge bolt, place on 3/16" thick shim washer (if shim is required) between wing frame and main frame. Then install nut and washer (1/2") and tighten rear bolt so nut is snug. DO NOT OVER TIGHTEN. Next install cotter pins in slotted nuts.

8. See Ill. 3. Fasten wing frame rockshaft, arrow 11, to bottom of wing frame, arrow 5, with 2 cast rockshaft bearings, arrow 7 and 8, as shown in Ill. 3. Fasten the outside bearing to wing frame with two 3/4" x 15" bolts. Fasten the inside bearing to wing frame with two 3/4" x 10-1/2" bolts. Lubricate bearing with grease before installing rockshaft in bearings. Position rockshaft so that left hand bearing, arrow 7, is located between two cleats welded to rockshaft. When installing rockshaft bearings be sure that both cleats welded to rockshaft. When installing rockshaft bearings be sure that both cleats welded to rockshaft.
- 8a. See Ill. 1 and 3. Install one grease fitting in top half of each rockshaft bearing. (Arrow 2, 3 and 4 of Ill. 1, arrow 7 and 8 of Ill. 3).

9. See Ill. 3. Adjust rockshaft link, arrow 9, so centre to centre distance between holes is 18". Next fasten female half of rockshaft link to wing rockshaft with one 1-1/4" x 4-1/4" bolt. Then fasten male end of link to link arm of main frame rockshaft with one 1-1/4" x 4-1/4" bolts.

**NOTE:** The 1-1/4" x 4-1/4" bolts must be tightened so that the clevises of the rockshaft link are drawn up tight against the ball joint in the rockshaft arms. Ball must be free to pivot in socket.

#### 10. ATTACHING HUB ASSEMBLIES TO WING ROCKSHAFT

(a) DUAL WHEELS - See Ill. 3. Fasten one hub assembly, arrow 10, to each side of wing rockshaft wheel leg, arrow 11. Fasten with three 5/8" x 6" bolts.

(b) SINGLE WHEEL - See Ill. 4. Fasten one hub assembly, arrow 12, to outside of wing rockshaft wheel leg, arrow 11. Fasten with one backing plate and three 5/8" x 6" bolts. Tighten bolts.

#### 11. Bolt wheel and tire assemblies to hubs.

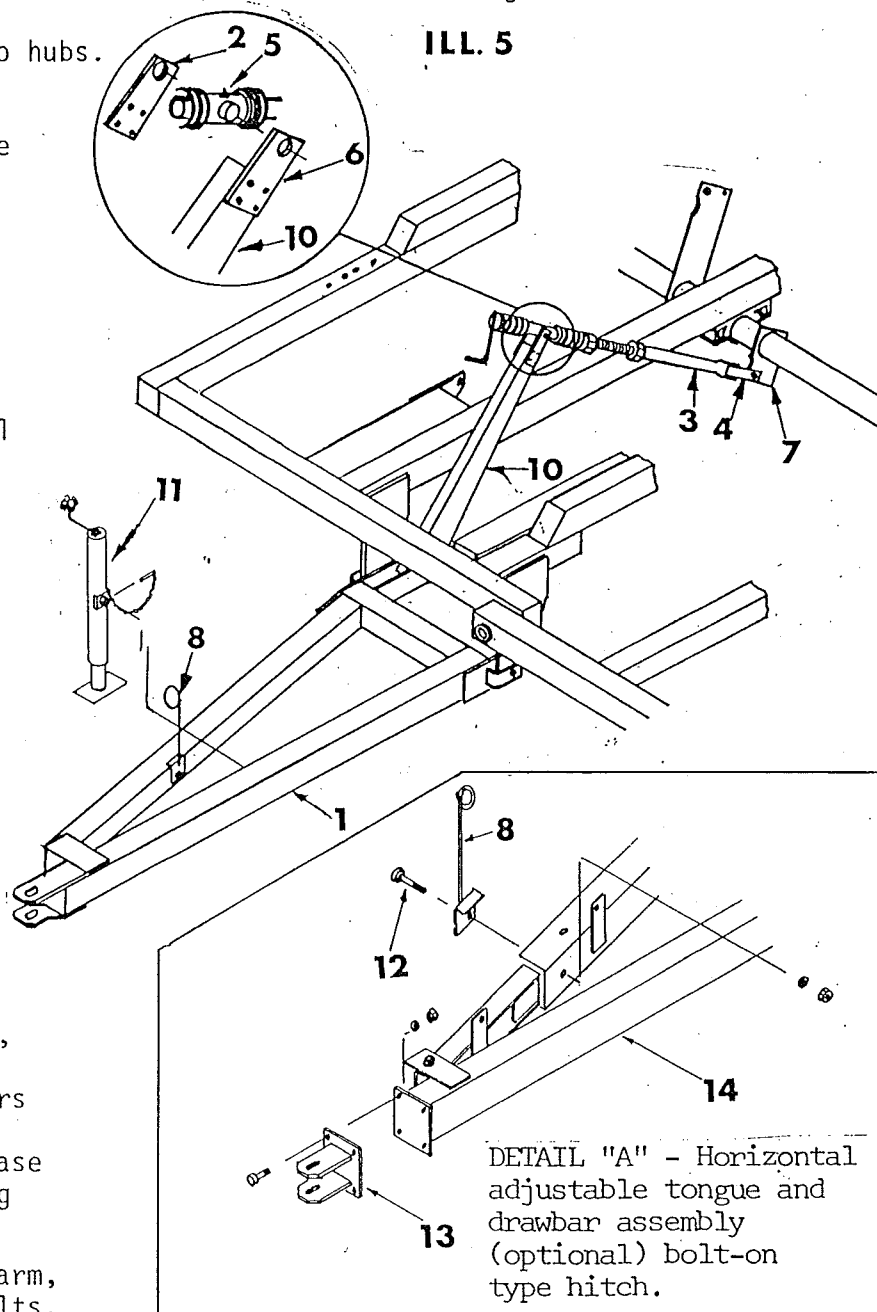
12. See Ill. 5. Fasten tongue and drawbar assembly (standard tongue and drawbar shown - optional tongue and drawbar fastened same way), arrow 1 to hitch legs on main frame with two 1-1/4" dia. pins. We cure each pin with two 1/4" x 1-1/2" cotter pins. See Detail "A". Disc with serial numbers 11101 and up, that are supplied with optional horizontal adjustable tongue and drawbar assembly, have a bolt-on type clevis or male hitch, arrow 13. Fasten hitch, arrow 13, to tongue and drawbar assembly, arrow 14, with four 1" x 2-1/2" N.C. hex. bolt complete with nuts and lockwashers. Be sure bolts are kept tight. Disc supplied with optional horizontal adjustable tongue and drawbar assembly with serial numbers prior to 11101 have convertable type hitch, as shown in Ill. 16.

13. See Ill. 5. To attach levelling link, arrow 3, to levelling arm, arrow 10, remove bolt-on lug, arrow 2, then place bearing tube, arrow 5, between weld-on lug, arrow 6, and bolt-on lug with ears of bearing tube installed in 1" dia. holes of lugs. Be sure grease fitting on bearing tube is facing up.

Fasten bolt-on lug, arrow 2, to arm, arrow 10, with four 1/2" x 5" bolts.

Install bolts through removeable lug so that nuts are weld-on lug side.

Tighten bolts.

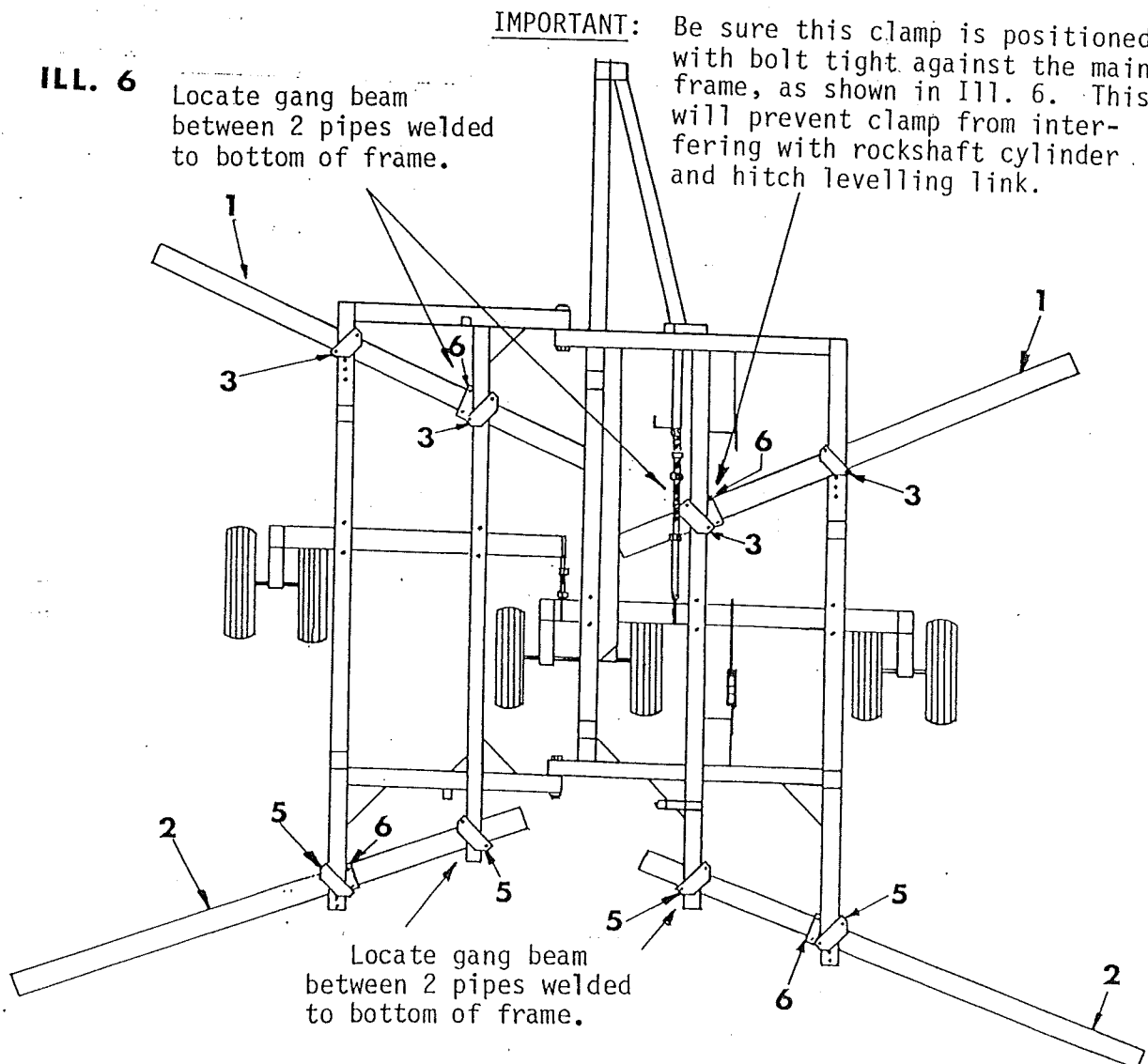


DETAIL "A" - Horizontal adjustable tongue and drawbar assembly (optional) bolt-on type hitch.

14. See Ill. 5. Attach clevis end of levelling link, arrow 4, to arm, arrow 7, on rockshaft. Fasten one 1-1/4" x 4-1/4" bolt.

**NOTE:** The 1-1/4" x 4-1/4" bolt must be tightened so that the clevis is drawn up tight against the ball joint in arm, arrow 7. Ball must also be free to pivot in socket.

15. See Ill. 5. Fasten hose support, arrow 8, to 9/16" dia. hole in right hand side of hitch. Fasten with one 1/2" x 5-1/2" bolt. Be sure to place a 9/16" ID x 1-3/8" OD washer over slotted hole in holes support. If disc is equipped with optional hitch, as shown in Detail "A", fasten hose support to 3/4" x 6" bolt, arrow 12, which is installed in brace of hitch assembly.
- 15a. See Ill. 5. If disc is equipped with hitch jack, arrow 11, mount jack on round tube welded to inside of hitch. Jack pivots on mounting tube and can be placed in vertical position for supporting disc hitch or horizontal position when disc is in motion. Lock jack in desired position with pin. **IMPORTANT:** Jack must be in horizontal position when disc is in motion. If jack is in vertical position when disc is in motion, jack may strike ground or obstruction on ground, causing severe damage to jack. Be sure crank of jack is not hanging below hitch when jack is in horizontal position. Place crank on top of hitch to avoid damage.



**CAUTION:** USE ADEQUATE MANPOWER OF A HOIST TO LIFT HEAVY COMPONENTS IN PLACE. ATTEMPTING TO LIFT HEAVY COMPONENTS BY YOURSELF MAY CAUSE SERIOUS INJURY.

## 16. ATTACHING GANG BEAMS - SEE ILL. 6.

NOTE: See gang beam chart on Page 33 to determine gang beam lengths for the size of your disc.

NOTE: The Model 1490 uses a 4" x 4" gang beams. The Model 1500 uses 6" x 4-1/2" gang beams.

NOTE: The clamp plates for Model 1490 are different than the clamp plates for the Model 1500. The clamp plates for the Model 1490 is 9-1/2" long and the clamp plate for the Model 1500 is 10-3/4" long.

- (a) FRONT GANG: Clamp front gang beams, arrow 1, to bottom of wing frame and main frame. Locate each gang beam between two welded pipes which are located on bottom side of inside beam of each frame.

Fasten each gang beam to each side of frame with two clamp plates, arrow 3, and two 1-1/4" dia. bolts. Locate clamp plates, arrow 3, as shown in Ill. 5.

- (b) REAR GANGS: See Ill. 6. Clamp rear gang beams, arrow 2, to bottom of wing frame and main frame. Locate each gang beam between two welded pipes which are located on bottom side of inside beam of each frame.

Fasten each gang beam to each side of frame with two clamp plates, arrow 5, and two 1-1/4" dia. bolts. Locate clamp plates, arrow 5, as shown in Ill. 6.

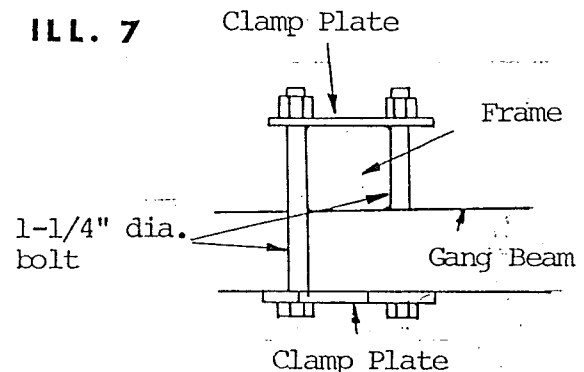
17. See Ill. 6. Using one U-Bolt, fasten one thrust block, arrow 6, to the top of each gang beam. See Ill. 6 for proper position of each thrust block.

18. See Ill. 7. IMPORTANT: The clamp plates used to fasten the gang beams to the bottom of the disc frame MUST be positioned so that the 1-1/4" dia. bolts are tight against the disc frame.

NOTE: CLAMP WILL BEND IF NOT POSITIONED PROPERLY.

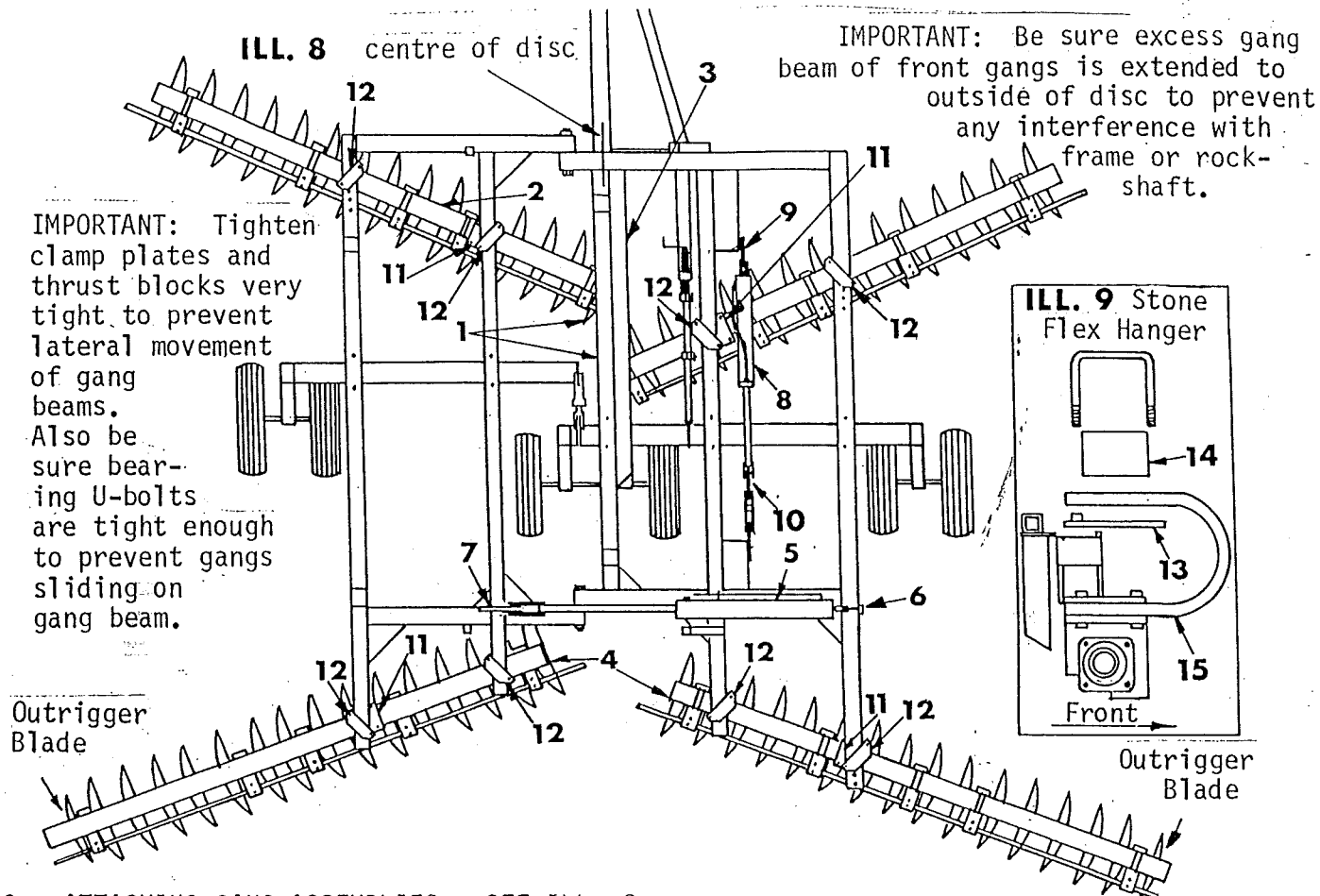
NOTE: DO NOT TIGHTEN CLAMP PLATES UNTIL AFTER GANGS ARE ATTACHED AND ADJUSTED. SEE ADJUSTMENTS.

**ILL. 7**



- 18a. See Ill. 6. Before setting angle of gang beam, read Section 1 of ADJUSTMENTS. To start with, it is recommended to set gangs at a medium angle. Select a hole (at outside of frame) which will give desired gang angle. Then adjust gang beam so that clamp plate is positioned ahead of selected hole. Insert pin in selected holes. Be sure right hand gang beams are set at same angle as left hand gang beams. For example: If front wing gang beam is set at second hole from front, then set front main frame gang at second hole in front. This disc is designed to have approximately two degrees less cutting angle on rear gangs than front gangs. Therefore, if front gangs are set at second hole from front then rear gangs should be set at second hole from rear.

# A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT



19. ATTACHING GANG ASSEMBLIES - SEE ILL. 8.

**NOTE:** See Gang Arrangements on Pages 20 to 32 to determine proper gang arrangements for your disc.

- (a) **REAR GANGS:** Roll rear gang assemblies in place under rear gang beams. Position rear gangs so that the scrapers are at the rear. The gang assemblies with the outrigger blades (small dimension blades) must be positioned at the outside.

Attach bearing hangers to gang beams with two U-Bolts per bearing hanger, leave U-Bolts loose. If disc is equipped with optional stone flex bearing hangers, see Ill. 9 to attach hangers.

- (b) **FRONT GANGS:** Roll front gang assemblies in place under front gang beams. Position gang assemblies so that the scrapers are at the rear. See Ill. 8 for the direction the front blades face.

Attach bearing hangers to gang beam with two U-Bolts per hanger, leave U-Bolts loose. If disc is equipped with optional stone flex bearing hangers, see Ill. 9 to attach hangers.

**NOTE:** See Ill. 9. If disc is equipped with optional stone flex bearing hangers fasten each hanger assembly, arrow 15, to bottom of gang beam, arrow 14, with one backing plate arrow 13, and two U-Bolts. Be sure the pin which is welded to backing plate, arrow 13, is installed in slot of shank.

**CAUTION:** WHEN ATTACHING GANG ASSEMBLIES, WEAR PROTECTIVE GLOVES TO HELP PREVENT INJURY FROM CUTTING EDGES OF BLADES.

- (c) See Ill. 8. Set front gangs so that the leading edge of the inside blade, arrow 1, is approximately 2-1/2" past centre of disc.

IMPORTANT: The front gang beam, arrow 2, on wing frame MUST NOT be extended past inner portion of outside beam, arrow 3, of main frame. If wing gang beam is located under this position of main frame, wing gang beam will hit main frame when wing flexes in normal field use.

IMPORTANT: BE SURE EXCESS GANG BEAM OF FRONT GANG IS EXTENDED TO OUTSIDE OF DISC TO PREVENT ANY INTERFERENCE WITH FRAME AND ROCKSHAFT.

- (d) See Ill. 8. Set rear gangs so that the distance between the rear edge of the two inside blades, arrow 4, is equal to the blade diameter. Be sure the rear gangs are centered on the frame. See Adjustments on Page 14.
- (e) See Ill. 8. If your disc has split gangs, adjust the spacing between the inside and outside gang assemblies of each of the four gangs. This spacing should be the same as the blade spacing in the gang assemblies.
- (f) Before tightening bearing hanger U-Bolts, loosen U-Bolts which fasten scraper bar to bearing hanger. Then check each bearing hanger to make sure hanger is sitting square under gang beam. Also be sure hanger is not turned to one side.
- (g) Next tighten U-Bolts.

IMPORTANT: IF BEARING HANGERS ARE NOT SITTING SQUARE BEFORE TIGHTENING U-BOLTS, THRUST WILL BE BUILT INTO THE BEARINGS AND THE LIFE OF BEARINGS WILL BE SHORTENED.

20. See Ill. 8. Using one U-Bolt, fasten one thrust block, arrow 11, to the top of each gang beam. See Ill. 8 for proper position of each thrust block. Be sure thrust block is tight against frame.

IMPORTANT: See Ill. 8. After gangs have been adjusted, tighten gang beam clamp plates, arrow 12, and thrust blocks, arrow 11, very tight to prevent lateral movement of gang beams. Also be sure bearing U-Bolts are tight enough to prevent gangs sliding on gang beams.

## **YOUR SAFETY**

## **IS IN YOUR HANDS**

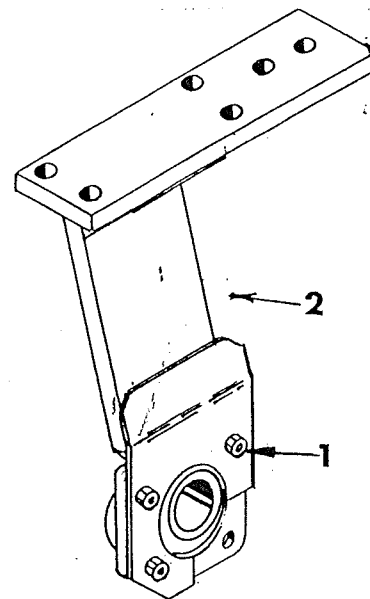
21. See Ill. 10. VERY IMPORTANT  
Loosen all the bolts, arrow 1,  
which bolt the bearings to the  
hangers, arrow 2. Then turn the  
disc blades to allow the bearings  
to align themselves. Next tighten  
all the bolts.

This will ensure proper bearing  
alignment, increasing bearing  
life.

22. See Ill. 11. Adjust scraper bar,  
arrow 1, and scrapers, arrow 2, of  
each gang so that each scraper  
blade is in contact with disc blade.

IMPORTANT: DISC WILL REQUIRE LESS  
HORSEPOWER TO PULL IF  
SCRAPERS ARE ADJUSTED  
PROPERLY.

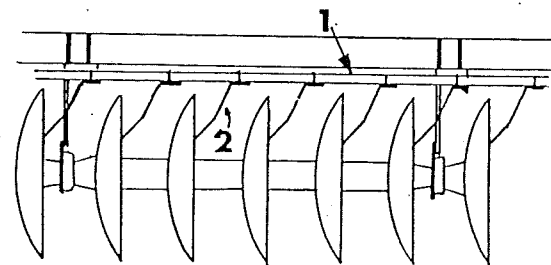
ILL. 10



ILL. 11

23. See Ill. 8. Attach one 5" x 36"  
wing lift cylinder, arrow 5, to rear  
of disc. Fasten tube end of  
cylinder to lug, arrow 6, on main  
frame. Ports on cylinder must  
be facing towards centre of disc.

Do not attach shaft end of cylinder  
to wing cylinder lug, arrow 7, until  
cylinder has been filled with  
hydraulic oil. See Section 26.



24. See Ill. 8. Fasten tube end of 4" x 24" rockshaft cylinder, arrow 8, to lug  
arrow 9, on main frame. Ports on cylinder must be facing towards wing.  
Next extend cylinder and attach shaft end of cylinder to rockshaft cylinder  
arm, arrow 10.

**BE CAREFUL.....**

**AVOID ACCIDENTS**

Fasten 1-3/8" x 23" hose, arrow 12, to elbow at rear of top line, arrow 1. Then fasten same hose to swivel, arrow 10, in L.H. port of wing lift cylinder.

Fasten one 3/8" x 60" hose, arrow 13, to the elbow at the rear of the bottom oil line, arrow 2. Then fasten the same hose to the swivel, arrow 10, on the R.H. port of the wing lift cylinder. Next fasten one 3/8" x 144" hose, arrow 14, to each coupler on each oil line, arrows 1 and 2.

- (e) ATTACHING ROCKSHAFT CYLINDER HOSES - SEE ILL. 12. Fasten one 1/2" street elbow, arrow 15, to the front port, and another 1/2" street elbow, arrow 19, to the rear port of the rockshaft cylinder, arrow 16.

Next fasten one 1/2" x 198" hose, arrow 17, to the street elbow, arrow 15, on the rockshaft cylinder.

Then fasten one 1/2" x 172" hose, arrow 18, to the street elbow, arrow 19, on the rockshaft cylinder.

- (f) See Ill. 12. Fasten the proper male tips (not supplied) to the 3/8" hoses, arrow 14, and to the 1/2" hoses, arrows 17 and 18. Thread all four hoses through the hose support (arrow 8 in Ill. 5), and connect these hoses to the tractor hydraulic system.

#### PUMP OIL INTO CYLINDERS - SEE ILL. 8.

Before filling cylinders with oil, remove cylinder pin from shaft end of rockshaft cylinder. This will allow rockshaft cylinder to be filled with oil without activating rockshaft. As indicated in Section 23, wing lift cylinder should be contracted and unattached to wing. Extend and contract both rockshaft cylinder and wing lift cylinder until they are completely filled with oil. Then extend both cylinders and pin rockshaft cylinder, arrow 8, to rockshaft arm, arrow 10. Then pin wing lift cylinder, arrow 5, to wing lift cylinder lug, arrow 7. (See Ill. 8)

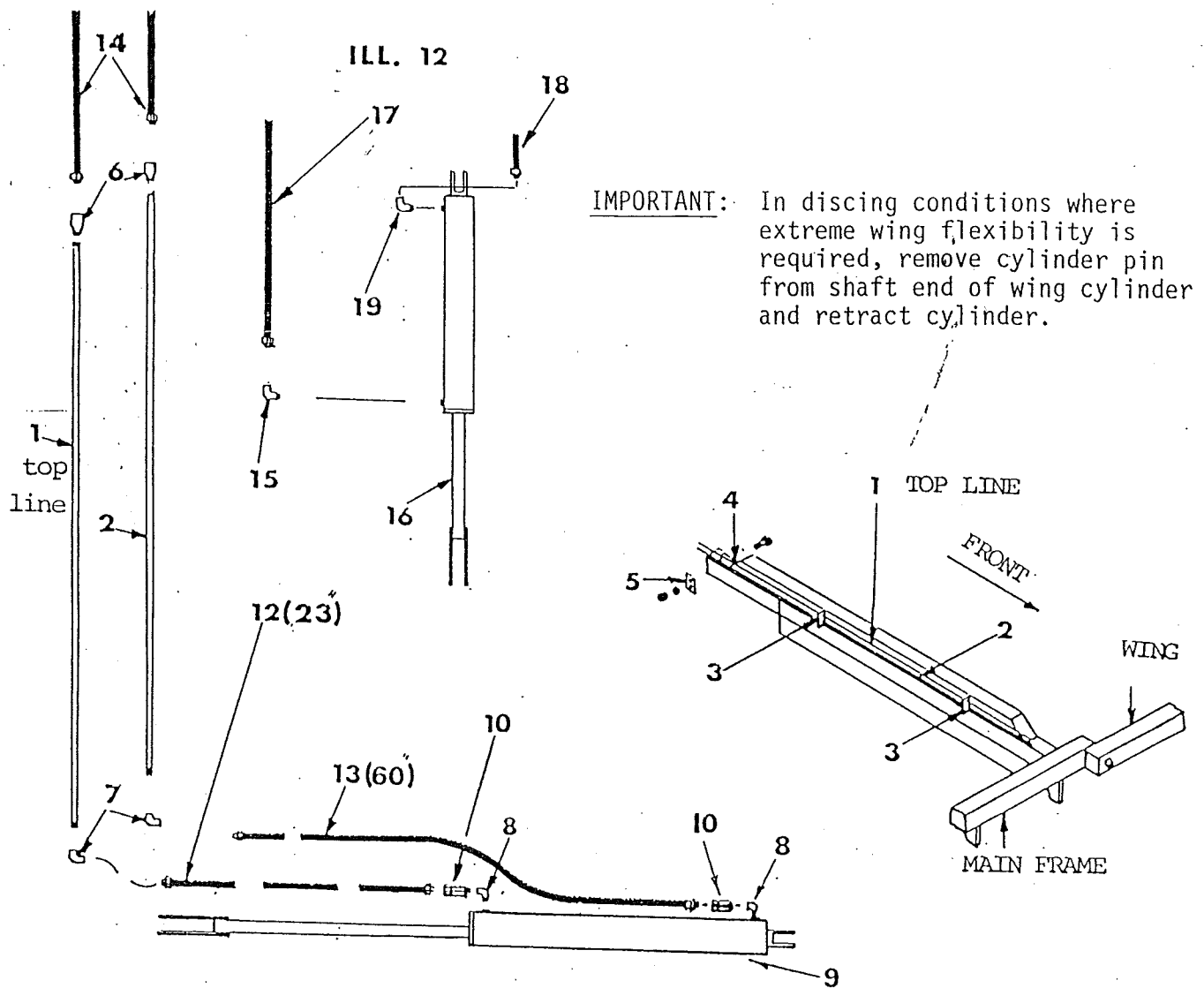
CAUTION: BEFORE OPERATING WING LIFT CYLINDER, REMOVE CYLINDER PIN FROM SHAFT END OF CYLINDER AND PUMP OIL INTO CYLINDER. EXTEND AND CONTRACT CYLINDER UNTIL IT IS COMPLETELY FILLED. WING WILL FREE FALL IF CYLINDER IS NOT FILLED WITH OIL, CAUSING SERIOUS DAMAGE.

NOTE: Wing lift cylinder must be fully extended to allow wing to flex when discing.

IMPORTANT: If discing conditions where extreme wing flexibility is required, remove wing lift cylinder pin from shaft end of wing cylinder and contract cylinder.

CAUTION: HYDRAULIC OIL ESCAPING UNDER PRESSURE HAS SUFFICIENT FORCE TO CAUSE SERIOUS INJURY. IF INJURED BY ESCAPING FLUID, OBTAIN MEDICAL TREATMENT IMMEDIATELY.

CHECK HYDRAULIC HOSES PERIODICALLY FOR SIGNS OF RUPTURE AND LEAKS. USE A CARD BOARD AS BACKSTOP TO CHECK FOR ESCAPING HIGH PRESSURE OR HOT FLUID.



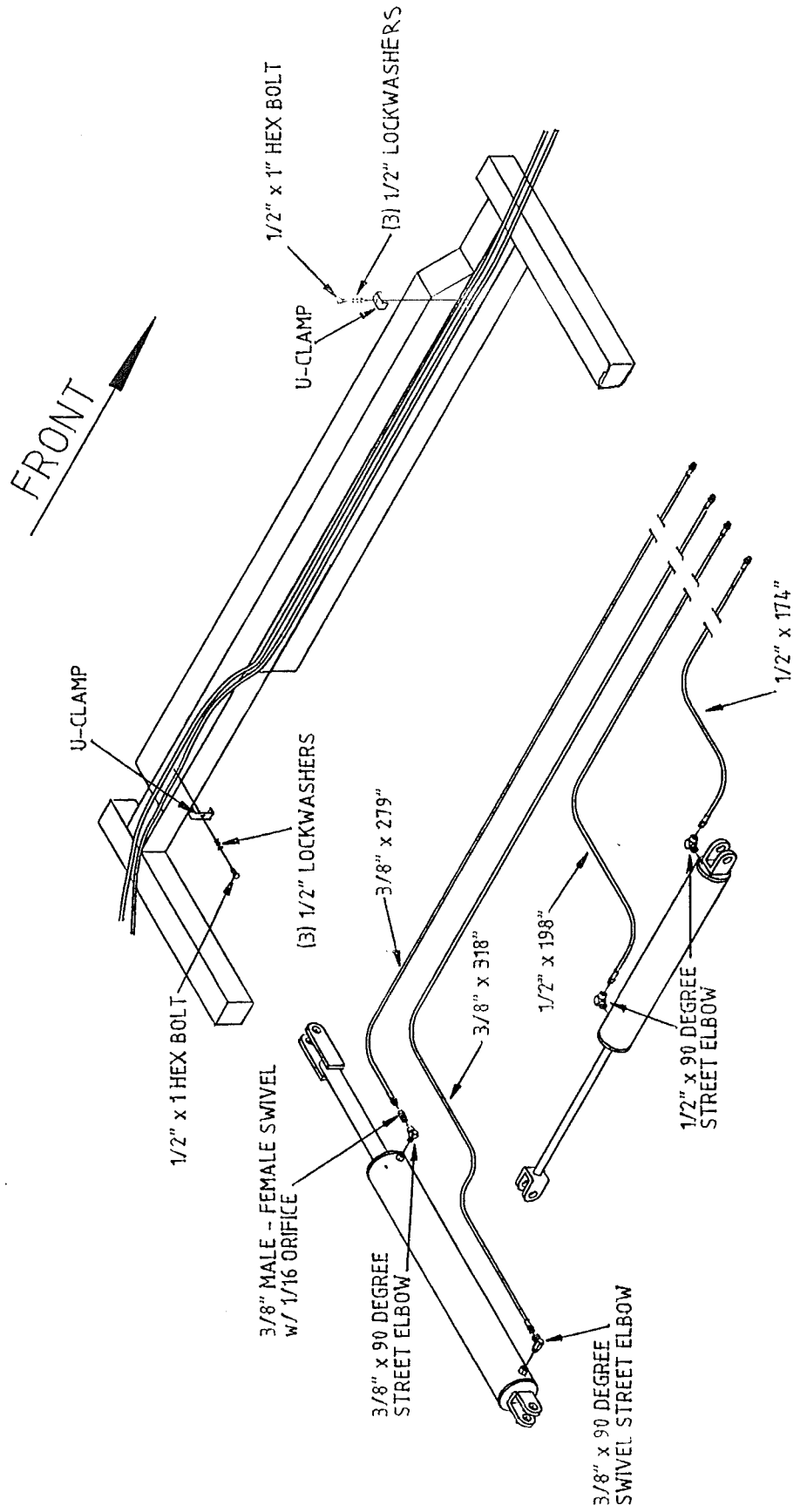
ATTACHING HYDRAULIC HOSES AND OIL LINES - SEE ILL. 12.

**NOTE:** To ensure that the hydraulic system does not leak seal fittings and hoses with paint or other sealing liquid.

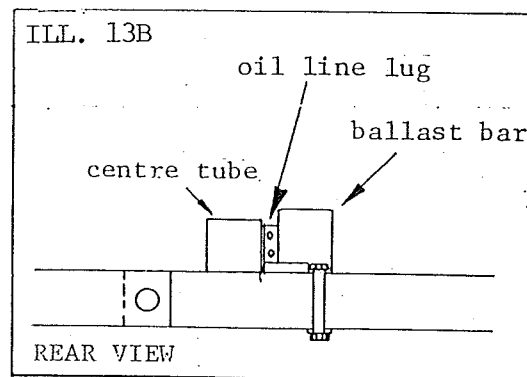
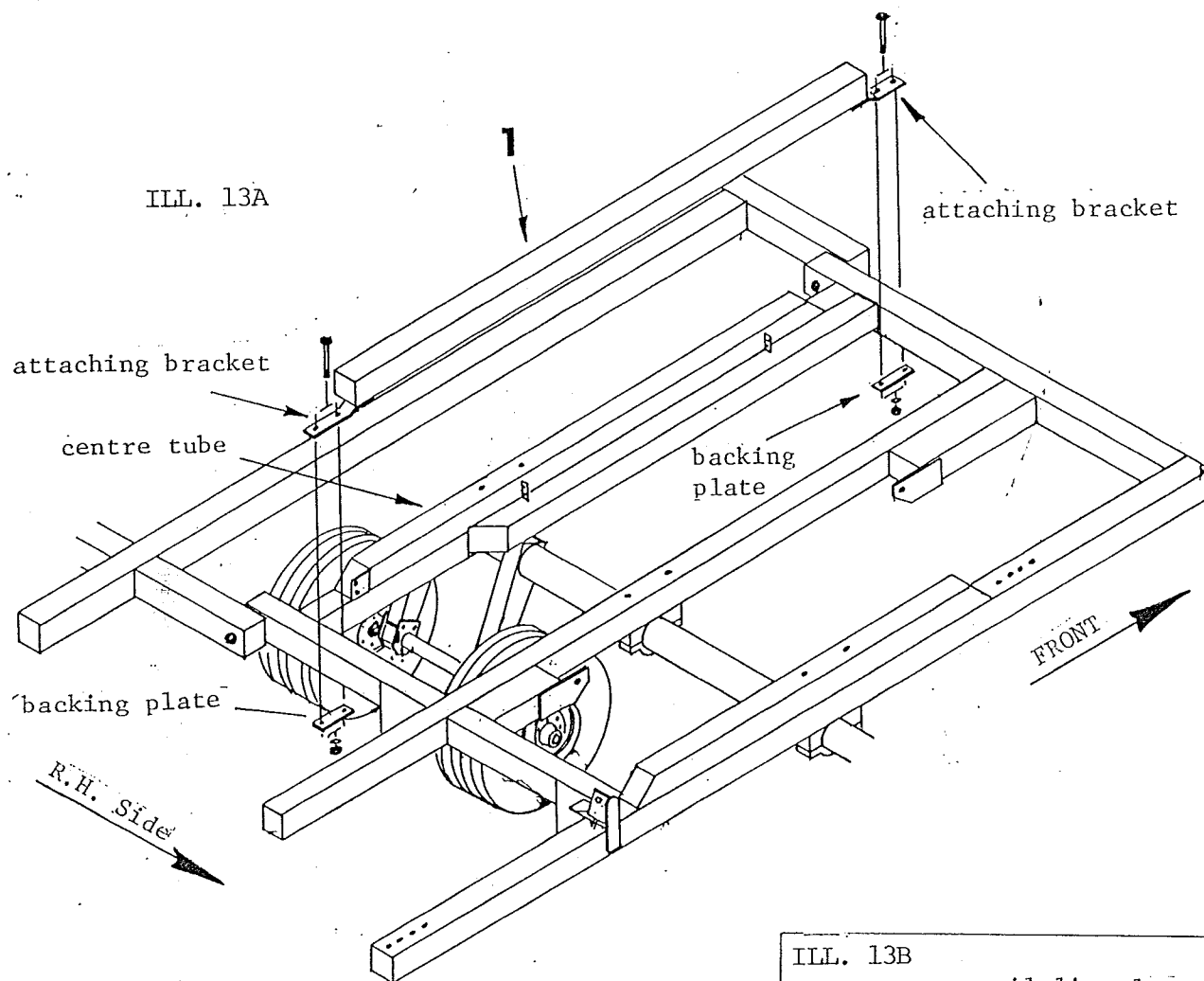
- Install two oil lines, arrow 1 and 2, through two lugs, arrow 3, welded to centre beam of disc frame. Next clamp rear of oil lines to lug, arrow 4, with one clamp plate, arrow 5, and two 1/2" x 2" bolts.
- Install one 3/8" coupler, arrow 6, on the front end of each oil line, arrows 1 and 2.
- Install one 3/8" elbow, arrow 7, on rear end of each oil line, arrows 1 and 2.
- ATTACHING WING CYLINDER HOSES - Install one 3/8" street elbow, arrow 8, in each port of wing lift cylinder, arrow 9. Next install one male-female swivel, arrow 10, in the 3/8" street elbows, arrow 8.



**CAUTION:** DO NOT DISCONNECT HYDRAULICALLY OPERATING COMPONENTS WHEN THERE IS PRESSURE WITHIN THOSE COMPONENTS. HYDRAULIC COMPONENTS UNDER PRESSURE, MAY CAUSE PARTS AND HYDRAULIC FLUID TO FLY OUT AT A HIGH VELOCITY WHICH COULD CAUSE SERIOUS INJURY.





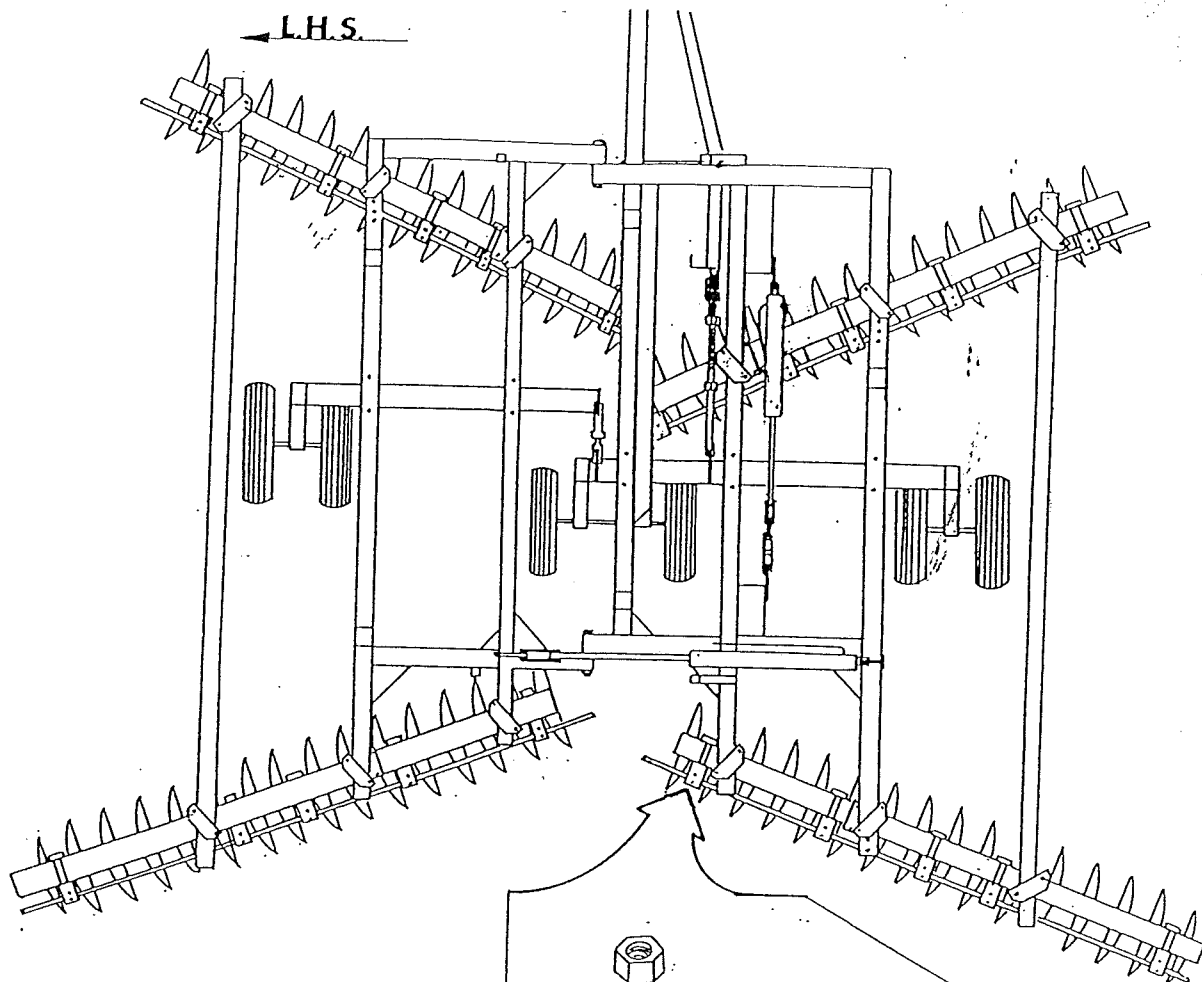


### BALLAST BAR MOUNTING INSTRUCTIONS

(Available as an option on Model 1490-1500)

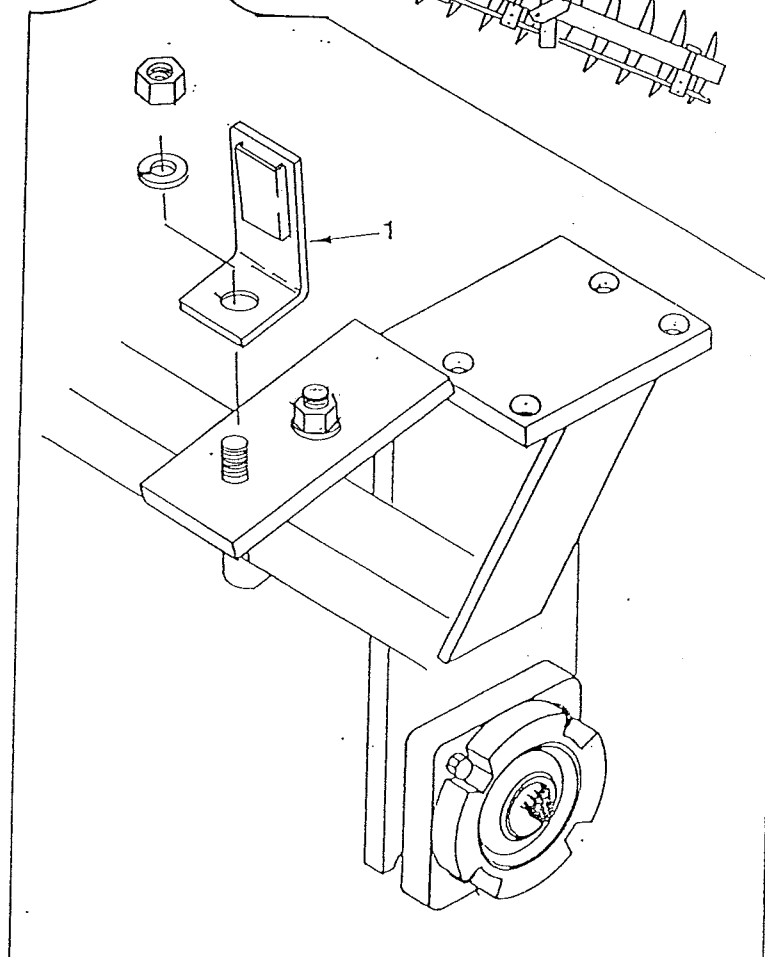
See Ill. 13A. Fasten ballast bar, arrow 1, to top of main frame. Position ballast bar so that attaching brackets are at bottom R.H. side of tube. Locate ballast bar against oil line lugs on centre tube of frame, see Ill. 13B. Secure the ballast bar with two 5/8" x 6-1/2" bolts complete with nuts and lockwashers. Be sure that you insert bolts from the top, as shown in Ill. 13A.

NOTE: L.H. side of ballast bar must be tight against oil line lugs. If it is not up tight against oil line lugs, ballast bar will interfere with tires.

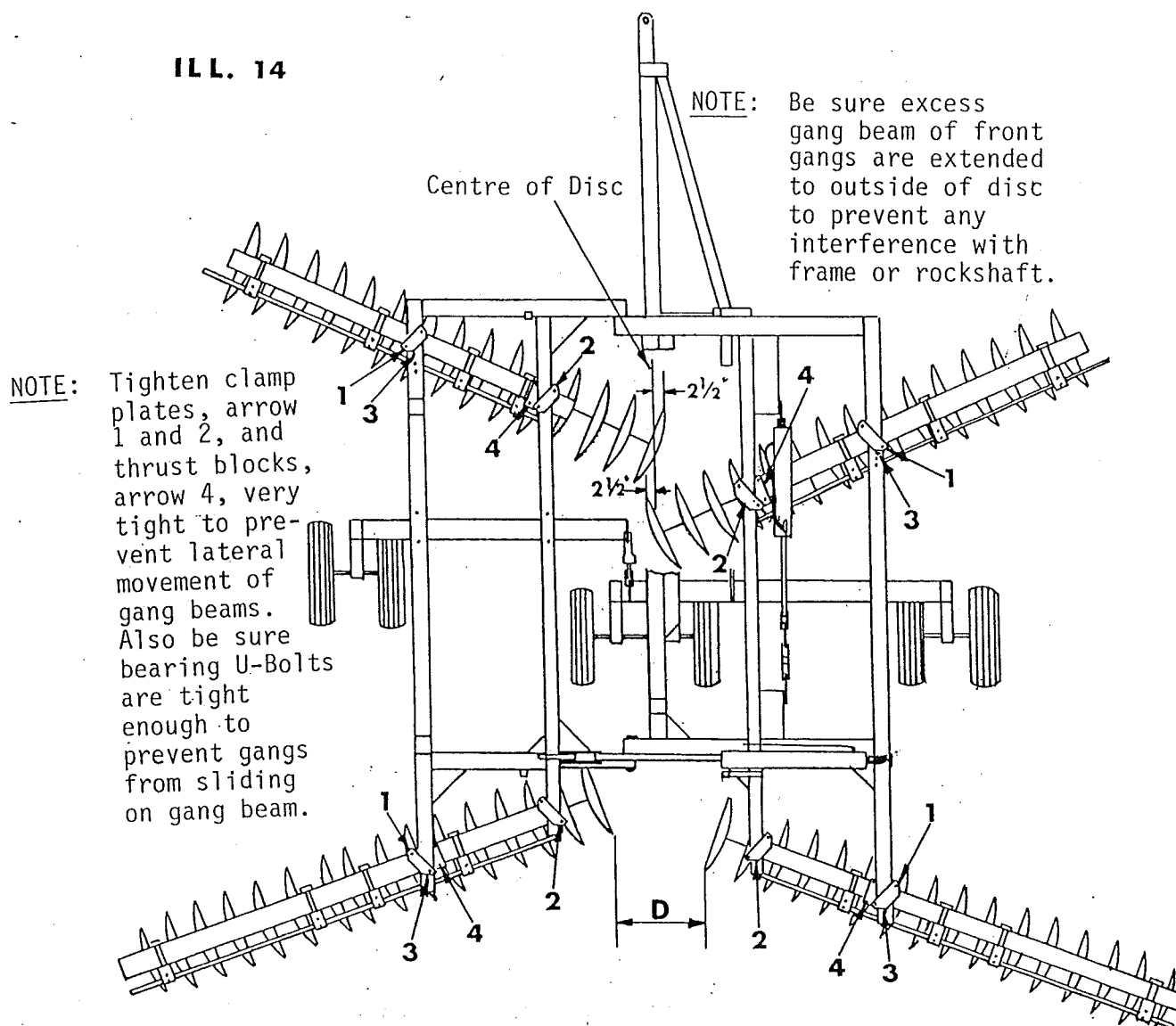


# **MODEL 1490 - 1495 - 1500 - 1550 DISCS**

Mount the "SMV" bracket, arrow 1, to the main frame's rear inside bearing hanger on the R.H. rear gang. Secure to the top of the scraper bar support with the same U-bolt used to fasten the scraper bar to the bearing hanger.



ILL. 14



### ADJUSTMENTS

#### 1. SETTING ANGLE OF FRONT AND REAR GANGS - SEE ILL. 14.

- (a) The angle the gangs are set at is determined by the soil conditions. A field with hard soil will require more cutting angle to penetrate soil than a field with soft soil. In soft soil conditions disc will push dirt or ridge at outside if there is too much cutting angle.

**IMPORTANT:** Excessive gang angle will put added pressure on the gangs and will decrease the life of the bearings, blades, etc.

When gangs are set at an extreme angle, more horsepower is required to pull disc.

**IMPORTANT:** When setting gang angle be sure to set the front wing gang at same angle as the front main frame gang. The rear wing gang must be set at same angle as rear main frame gang. For example, if front wing gang is set at third hole from front, then set front main gang at third hole front.



**CAUTION:** WHEN OPERATING ON HILLSIDES USE EXTREME CARE: TRACTOR MAY TIP SIDEWAYS IF IT STRIKES HOLE, DITCH OR OTHER IRREGULARITY.

- (b) See Ill. 14. Each gang has four holes in outside beam of frame to set cutting angle. To set each gang, loosen clamp plates, arrow 1 and 2, and select hole which will give desired cutting angle. Then adjust gang so clamp plate, arrow 1, is positioned ahead of the selected hole. Insert pin, arrow 3, in selected hole and secure pin with cotter pin.

## 2. LATERAL ADJUSTMENT OF THE FRONT AND REAR GANGS

- (a) FRONT GANGS - SEE ILL. 14. Each time the angle of the front gangs are adjusted the following adjustments must be made. Loosen thrust block, arrow 4, and adjust front gangs so the leading edge of inside blades are approximately 2-1/2" past centre of disc. The centre of disc is shown in Ill. 14. If the above adjustment is made correctly, the front gang will not leave any unbroken ground or ridge at centre of disc.
- (b) REAR GANGS - SEE ILL. 14. The opening between the two rear gangs, dimension "D" must be set at a distance that will allow furrow left by the front gangs to be filled evenly. The distance the rear gangs are set apart is determined by the discing speed, discing depth, gang angle and soil conditions. If rear gangs are set too close together, the rear gangs will leave a ridge at centre. If rear gangs are set too far apart, the furrow at centre left by the front gangs will not be filled.

If gang angle is increased for deeper discing depth, the rear gangs usually must be widened. If gang angle is decreased for a shallower discing depth, the rear gangs usually must be set closer together.

An increase in discing speed may require rear gangs to be set further apart. A decrease in discing speed may require rear gangs to be set closer together.

To start with, set rear gangs at distance equal to diameter of disc blades, then adjust disc to suit your discing requirements.

**NOTE:** When adjusting the distance between rear gangs make sure gangs are centered on frame, the centre of disc is shown in Ill. 14.

- (c) **IMPORTANT:** SEE ILL. 14. When gang adjustments are complete, tighten all gang beam clamp plates, arrow 1 and 2. Clamp plate bolts must be very tight to prevent lateral movement of gangs. Make sure the 1-1/4" bolts are tight against the disc frame, as shown in Ill. 7 on Page 7.

Then place the four thrust blocks, arrow 4, tight against the frame and tighten U-Bolt. The thrust blocks, arrow 4, must be tight against the frame. Thrust block U-Bolt must be very tight to help prevent lateral movement of gang beams.



**CAUTION:** WHEN TRAILING THE DISC OVER PUBLIC ROADS, USE THE SMV EMBLEM AND WARNING LIGHTS FOR PROTECTION OF TRACTOR AND OTHER MOTOR VEHICLE OPERATORS. CHECK LOCAL LAWS FOR WIDTH AND WEIGHT MAXIMUMS.



**CAUTION:** DO NOT EXCEED 10 M.P.H. WHEN TRANSPORTING DISC ON SMOOTH ROADS. REDUCE SPEED WHEN TRANSPORTING ON ROUGH ROADS. EXCESSIVE SPEED COULD CAUSE LOSS OF TRACTOR CONTROL AND DAMAGE TO DISC AND TRACTOR. DO NOT TRANSPORT DISC WITH ANY OTHER VEHICLE EXCEPT A TRACTOR.



**CAUTION:** WHEN TRANSPORTING DISC WITH WING, BE SURE THERE IS SUFFICIENT CLEARANCE UNDER ALL POWER LINES AND OTHER OVERHEAD OBSTRUCTIONS.

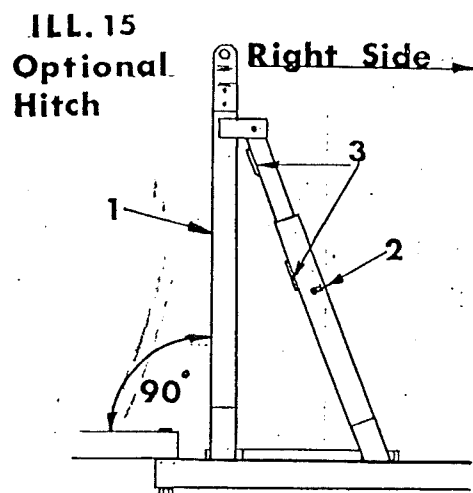
**HITCH ADJUSTMENTS-- (ONLY FOR DISCS EQUIPPED WITH  
OPTIONAL HORIZONTALLY ADJUST-  
ABLE HITCH) SEE ILL. 15.**

When discing, the hitch tongue, arrow 1, must be perpendicular to the disc frame, as shown in Ill. 15.

When transporting disc with wing folded, the hitch tongue, arrow 1, can be swung towards the right side, this will place left side of disc in line with left side of tractor. To place hitch into transport position, remove pin, arrow 2, from hitch brace and move tongue towards the right side. When holes in hitch are in line, install pin, arrow 2.

**NOTE:** The hitch can be pinned in two transport positions. If the first hole is not adequate for your tractor, then continue to move tongue until the next hole is in line.

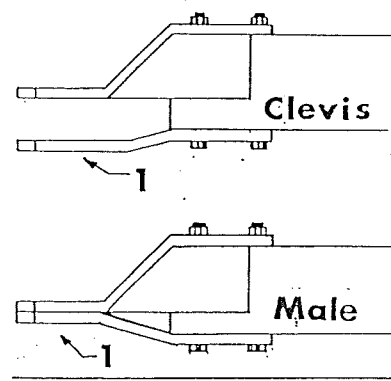
**IMPORTANT:** SEE ILL. 15. An SAE 8" stroke cylinder can be attached to lugs, arrow 3, on hitch to swing hitch. When hitch is equipped with hydraulic cylinder, it is always important to install pin, arrow 2, when discing. (Cylinder not supplied with disc)



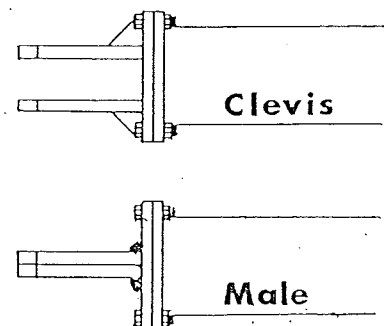
**ONLY FOR DISCS EQUIPPED WITH OPTIONAL  
HORIZONTALLY ADJUSTABLE HITCH - SEE  
ILL. 16 AND 16A.**

For discs with serial numbers prior to 11101 hitch can be converted from male type to clevis type, as shown in Ill. 16. To convert male hitch to clevis, remove bottom hitch plate, arrow 1, and turn plate over. For discs with serial numbers 11101 and up, hitch is bolt-on type. Disc will be supplied with either male or clevis type hitch as shown in Ill. 16A.

**ILL. 16**



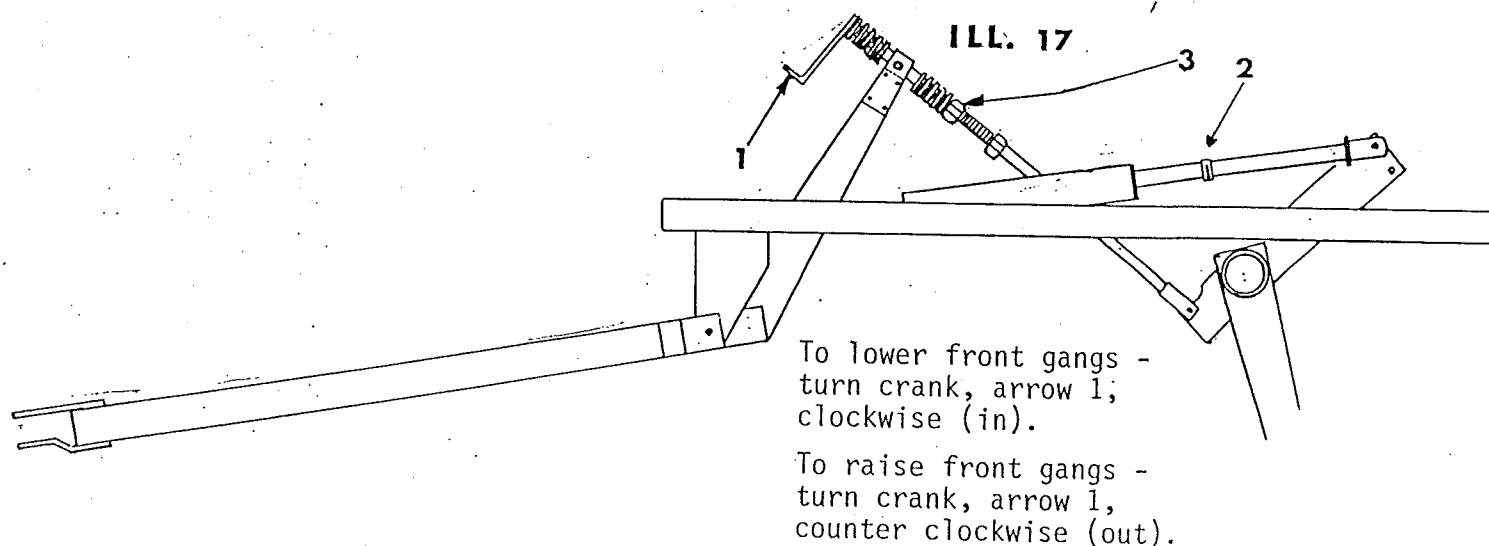
**ILL. 16A**



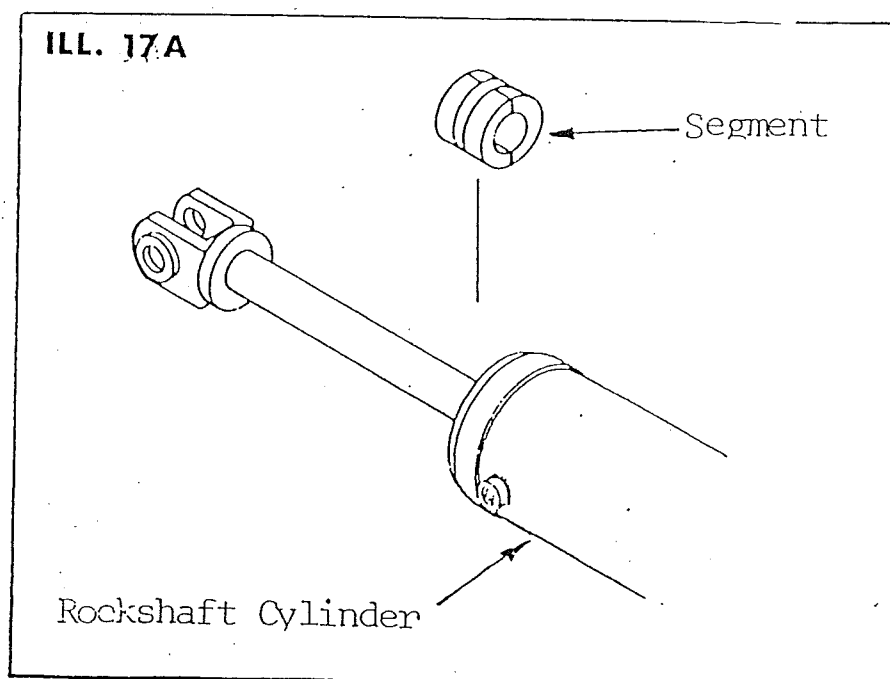
LEVELLING DISC - SEE ILL. 17. When discing the front and rear gangs should be cutting at the same depth. The levelling crank, arrow 1, is used to level disc. Before disc is levelled, set the cutting depth by installing segment collars, arrow 2, on Rockshaft Cylinder Shaft. See Ill. 17A.

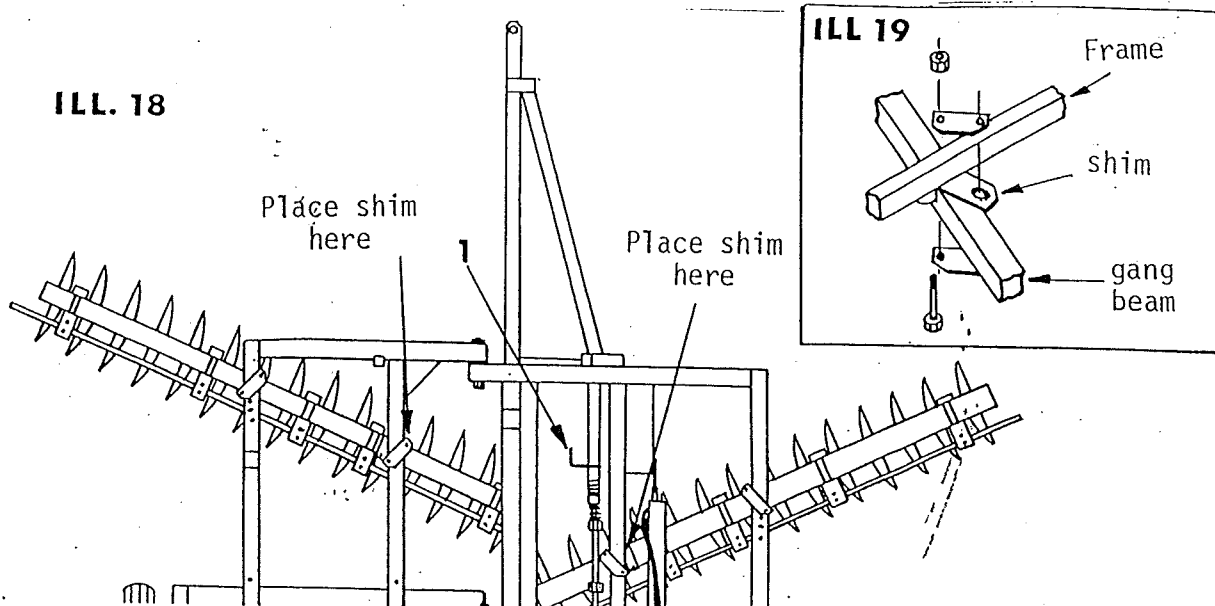
**IMPORTANT:** SEE ILL. 17. In very rocky conditions, loosen nut, arrow 3, of levelling crank, so springs are free to slide back and forth 1". This will allow more vertical flexing of disc.

**CAUTION:** ALWAYS PLACE TRACTOR CONTROLS IN NEUTRAL AND LOCK BRAKES WHEN HITCHING DISC TO TRACTOR. TRACTOR COULD ROLL BACKWARDS WHEN HITCHING DISC.



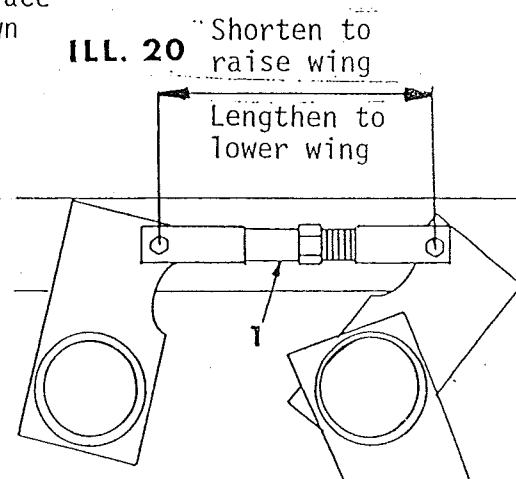
See the illustration below. The cutting depth is controlled by installing segment collars on the rockshaft cylinder shaft. These segments vary in length from 1" to 4". Install the segments as required.





## TROUBLE SHOOTING

1. If outside blade of front gangs are cutting too deep, causing disc to ridge at outside, the following adjustments can be made:
  - (a) Check if transport wheels are on ground, gauging discing depth. If wheels are raised off ground front end of disc will drop, causing disc to ridge. See Section 11 of General Operating Instructions.
  - (b) Check tire pressure of outside wheels. If the pressure in the outside wheels is low, the outside of wing and main frame will be lower than the centre of the disc, causing disc to ridge at outside.
  - (c) Using the levelling crank, arrow 1, raise front of disc. See Ill. 18.
  - (d) If above adjustment does not cure the problem, place shims between front gang beams and frame, as shown in Ill. 19. See Ill. 18 for proper location of shims.
2. See Ill. 20. If outside blades on wing are cutting too deep or they are not cutting deep enough, adjust rockshaft link, arrow 1. If outside blades are cutting too deep, shorten rockshaft link, arrow 1. This will lower outside of wing frame.  
If outside wing blades are not cutting deep enough, lengthen rockshaft link. This will lower outside of wing frame.
3. If disc is not penetrating soil, increase angle of front and rear gangs. See Section 1 of Adjustments.
4. If disc is pushing dirt and leaving a ridge at outside, decrease cutting angle of front and rear gangs. See Section 1 of Adjustments.



**CAUTION:** NEVER ALLOW ANYONE TO RIDE ON DRAWBAR OF TRACTOR OR ON THE DISC. THE PERSON RIDING MAY FALL AND BE SERIOUSLY INJURED.

**CAUTION:** WHEN TRANSPORTING A DISC, ALWAYS LOCK ROCKSHAFT BY ENGAGING LOCK-UP STRAP. IF ANY COMPONENTS SHOULD FALL, OR IF HYDRAULIC LEVER SHOULD BE ACCIDENTALLY OPERATED, DISC COULD DROP.

## TROUBLE SHOOTING CONT'D.

5. If disc is leaving a ridge at centre of disc - check if rear gangs are cutting deeper than front gangs. If so, level disc. If levelling disc does not solve the problem, reduce discing speed or reduce rear gang angle if a reduced angle will give adequate penetration, or increase distance between rear gangs. See Section 2 of Adjustments.
6. If disc is not filling furrow at centre - check if front gangs are cutting deeper than rear gangs. If so, level disc. If levelling disc does not solve problem increase discing speed or decrease distance between rear gangs. See Section 2 of Adjustments.
7. If front gangs are leaving unbroken ground, (ridge) at centre of disc - the front gangs are either overlapped too much or not enough. See Section 2 of Adjustments.
8. If disc side draft - gangs may be angled improperly or hitch may be in wrong position, if disc is equipped with hitch that is adjustable horizontally. The right hand gangs must be set at same angle as left hand gangs. The hitch tongue must be set at 90 degrees to draw bar when discing. See Section 3 on Page 16.
9. If disc gangs are plugging - adjust scrapers so they are fully in contact with blades, or reduce angle.
10. If disc frame buckles upward at frame hinge point raising centre blades out of ground - check if front gangs are cutting deeper than rear gangs. If so, raise front of disc with levelling crank, or check if transport wheels are raised off ground, raised wheels will cause front end of disc to drop. See Section 9 of General Operating Instructions.

If above adjustments do not solve problem, order optional ballast bar from dealer. The ballast bar will add more weight per blade to the centre of the disc, forcing disc to penetrate evenly.

NOTE: The above conditions, Section 10, may occur if front gangs are lowered so that disc will cut in tough conditions.

IMPORTANT: Do not lower front gangs so that disc will cut in tough conditions. If front gangs are lowered, excessive strain will be placed on front gangs, frame, and hitch, which could lead to premature parts failure, especially outside blades of front gangs.

## GENERAL OPERATING INSTRUCTIONS

1. Before operating disc, refer to safety precautions outlined on backside of front cover page. Review all safety items applicable to road transport and field operation of disc.
2. IMPORTANT: When lowering wing to field position, be sure lift cylinders are fully extended. After wing tires have hit the ground, continue to hold hydraulic lever. There will be a short pause before cylinder fully extends. If cylinder is not fully extended, the wing will hang on cylinder and will not flex.
3. For best performance the tractor drawbar should be pinned at centre of tractor.
4. Ensure that disc is level and cutting depth is properly adjusted. If further adjustments are required, see Pages 16, 17 and 18.
5. Do not make sharp turns with the disc in ground. Sharp turns put excess pressure on the gangs.

IT IS ADVISABLE TO ALWAYS LIFT MACHINE OUT OF GROUND FOR MAKING SHARP TURNS. EXCESSIVE SIDE THRUST IS APPLIED TO BEARINGS AND MACHINE IF DISC IS TURNED WHILE IT IS IN THE GROUND.

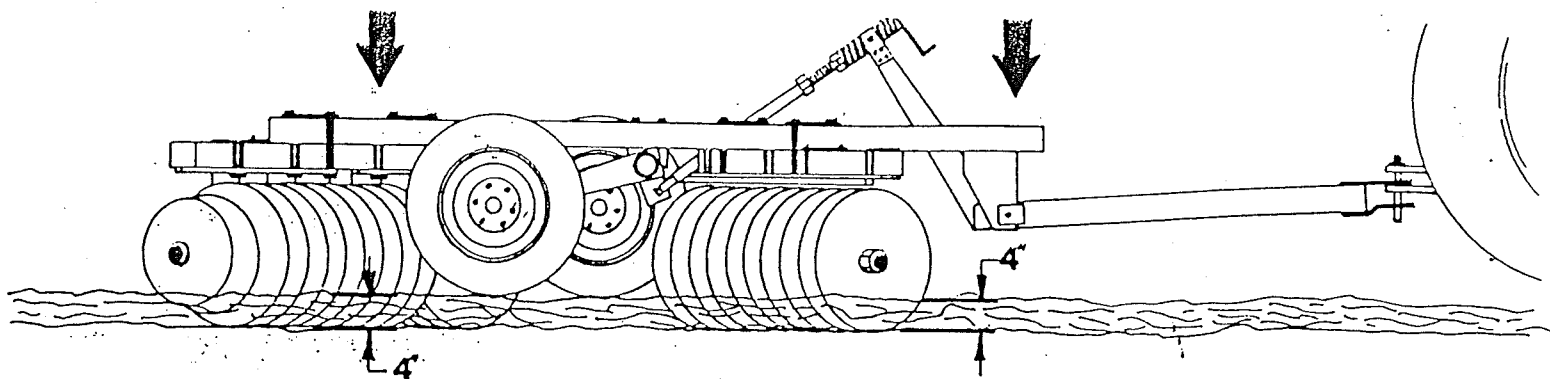
6. IMPORTANT: In discing conditions where extreme wing flexibility is required, remove cylinder pin from shaft end of wing lift cylinder and retract cylinder.
7. When transporting disc be sure to fasten lock-up strap to rockshaft, to place disc in lock-up position. See Page 4 Section 6.
8. IMPORTANT: When transporting disc DO NOT exceed speed of 10 M.P.H. (16 km).
9. IMPORTANT: Do not operate disc with front gangs cutting deeper than rear gangs. Disc must be level. If front gangs are lower excessive strain will be placed on blades, gang bearings, frame and hitch, which could lead to premature parts failure, especially outside blades of front gangs.
10. IMPORTANT: When disc is parked with blades resting on frozen ground, do not attempt to lift disc out of frozen ground by lowering transport wheels. Lifting disc out of frozen ground with transport wheels may cause serious damage to disc components. Damage will most likely occur to main lift cylinder and rockshaft cylinder arm.  
DO NOT PARK DISC WITH BLADES ON GROUND THAT MAY FREEZE. LEAVE DISC PARKED ON TRANSPORT WHEELS.

IMPORTANT: FOR DISC EQUIPPED WITH OPTIONAL HITCH JACK. To avoid serious damage to hitch jack, be sure jack is locked in horizontal position and crank of jack is not hanging below hitch when disc is in motion.

IMPORTANT: DO NOT OPERATE DISC IN FIELD WITH WING FOLDED IN TRANSPORT POSITION. SEVERE DAMAGE WILL OCCUR WHEN DISCING WITH WING FOLDED.

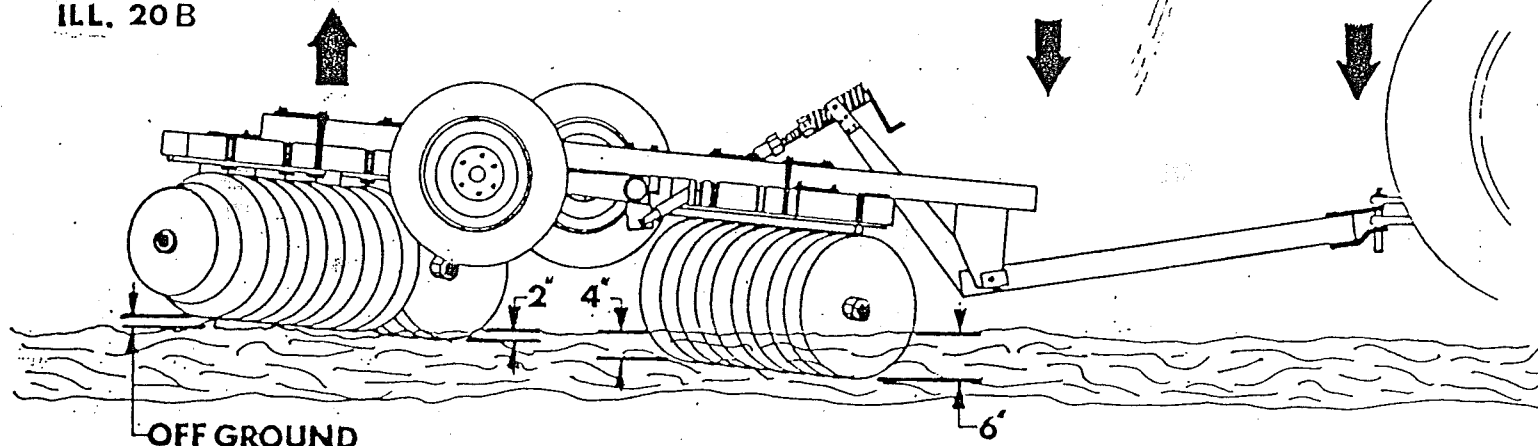


CAUTION: DO NOT STAND UNDER WING WHILE WING IS BEING RAISED OR LOWERED. IF ANY COMPONENT SHOULD FAIL, OR IF HYDRAULIC LEVER SHOULD ACCIDENTALLY BE OPERATED, WING COULD DROP.



**CORRECT - WHEELS ON GROUND GAUGING DISCING DEPTH.**

ILL. 20 B



**OFF GROUND**

**INCORRECT - WHEELS RAISED OFF GROUND**

-GENERAL OPERATING INSTRUCTIONS CONT'D.

11. To keep disc level, transport wheels must be riding on ground, gauging desired discing depth, as shown in Ill. 20A.

If conditions are such that disc can not penetrate to maximum depth, do not raise transport wheels off ground as shown in Ill. 20B. Raised transport wheels will cause front of disc to drop causing front gangs to cut deeper than rear gangs.

Front of disc will drop because rockshaft and hitch are linked. Hitch rises when wheels are raised off ground. Since hitch is fixed to tractor drawbar, front end of disc is forced down, transferring weight of rear gangs to front gangs.

With front of disc lower than the rear, the front outside blades will cut much deeper than the front inside blades. This means most of the disc's weight is placed on the front outside blade, forcing them deep into the ground.

Uneven and deep front gang penetration in tough conditions will place excessive strain on blades, gang bearings, frame and hitch will probably lead to a premature failure of parts, especially outside blade of front gangs.

**SINGLE WING HYDRAULIC FOLDING TYPE DISCS ONLY** - The condition shown in Ill. 20B may also cause frame to buckle upward at frame hinge point, raising centre blades off ground. If frame is level, as shown in Ill. 20A thrust at outside end of front gangs is greatly reduced. Side thrust is distributed evenly on all front blades, reducing the possibility of centre rising.

**IMPORTANT:** Operating disc with transport wheels off ground will cause uneven discing job, and place undue strain on machine, which could lead to parts failure. Always operate disc with transport wheels on ground even if conditions will not allow disc to penetrate to maximum depth.

**IMPORTANT:**



OPERATING DISC WITH TRANSPORT WHEELS OFF GROUND WILL CAUSE UNEVEN DISCING JOB, AND PLACE UNDUE STRAIN ON MACHINE, WHICH COULD LEAD TO PARTS FAILURE. ALWAYS OPERATE DISC WITH TRANSPORT WHEELS ON GROUND EVEN IF SOIL CONDITIONS WILL NOT ALLOW DISC TO PENETRATE TO MAXIMUM DEPTH.

15. See ILL. 31. Attach a safety chain to the tractor drawbar and to the disc's hitch before transporting the disc. Use a chain with strength rating greater than the gross weight of disc. (Safety chain available as an option):



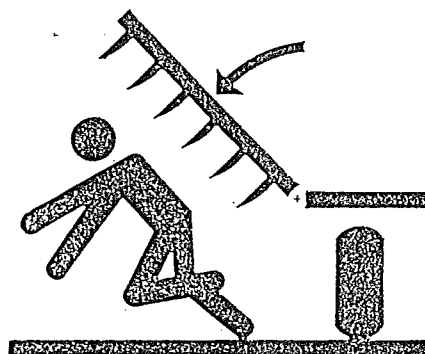
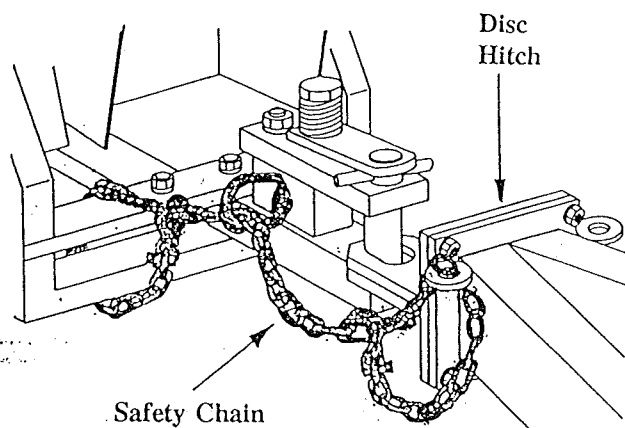
**CAUTION:** WHEN TRANSPORTING A DISC, BE SURE TO ATTACH A SAFETY CHAIN TO TRACTOR DRAWBAR AND DISC HITCH. THE SAFETY CHAIN WILL HELP CONTROL DISC SHOULD IT ACCIDENTALLY SEPARATE FROM THE DRAWBAR. USE A CHAIN WITH A STRENGTH RATING GREATER THAN THE GROSS WEIGHT OF THE TOWED MACHINE.

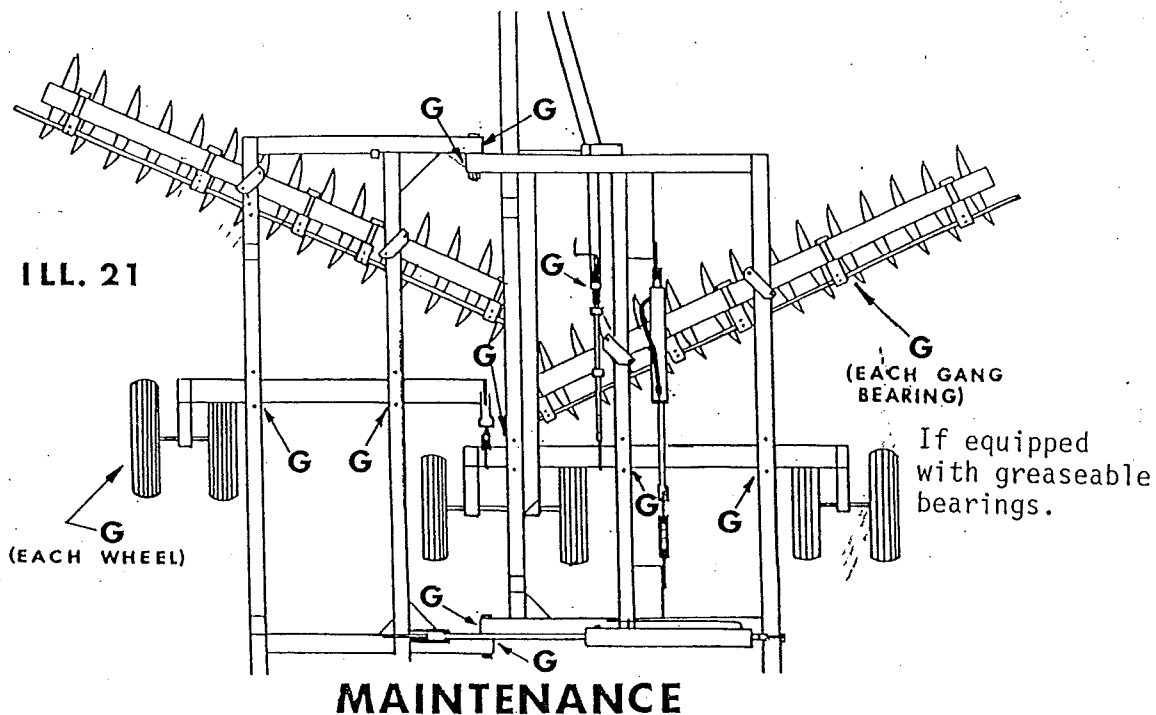
SERIOUS DAMAGE, INJURY OR DEATH COULD RESULT FROM THE DISC SEPARATING FROM THE TRACTOR DRAWBAR.



**CAUTION:** DO NOT STAND UNDER THE WING WHILE IT IS BEING RAISED OR LOWERED. IF ANY COMPONENT OF THE HYDRAULIC SYSTEM FAILED OR IF THE HYDRAULIC LEVER WAS ACCIDENTALLY OPERATED, WING COULD FALL.

ILL. 31





**LUBRICATION** - All lubricating points on disc are marked with Arrow "G" in Ill. 21.

1. (a) For discs equipped with greaseable bearings, gang bearings may be lubricated every four hours with a MINIMUM AMOUNT of grease. Use a high quality SAE multi-purpose grease.

**IMPORTANT:** If gang bearings are over lubricated there is a possibility that the seals can be pushed out. This is more likely to happen when bearings are new.

- (b) Lubricate wing pivot points and levelling crank when necessary.
- (c) Lubricate the wheels once a day.
- (d) **IMPORTANT:** Lubricate rockshaft bearing once a day. If rockshaft bearings are not lubricated there will be excessive wearing of rockshaft and rockshaft bearings.

**NOTE:** When you receive your new disc grease all lubricating points before starting to disc. **IMPORTANT:** DO NOT OVER LUBRICATE GANG BEARING (IF DISC IS EQUIPPED WITH GREASEABLE BEARINGS) SEE PARAGRAPH (a) ABOVE.

2. All bolts and nuts should be checked periodically to make sure they are tight. Special attention should be given to gang bolts, bearing bolts and bearing hanger U-Bolts. If gang bolts come loose, they must be tightened to 3200' lbs.
- IMPORTANT:** SEVERE DAMAGE WILL OCCUR IF GANG BOLTS ARE LOOSE.
3. When storing disc for a long period of time, apply a light coat of oil or grease to the blades. This will increase blade life, also grease all lubricating points.
4. Keep tire pressure equal on all wheels. The amount of pressure will depend on the size of tires, weight of disc and field conditions.



**CAUTION:** DO NOT SERVICE DISC WHILE IT IS IN MOTION. YOU MAY FALL IN FRONT OF DISC AND BE SERIOUSLY INJURED.

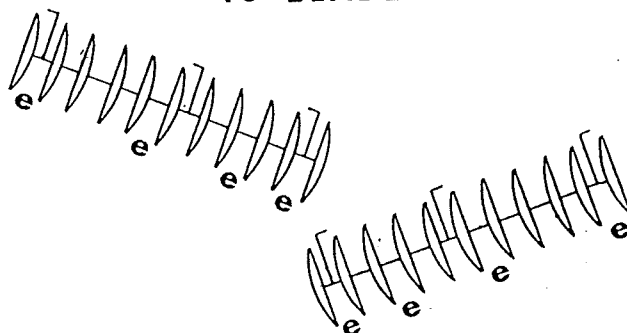


**CAUTION:** LOWER DISC COMPLETELY TO GROUND WHEN SERVICING. IF DISC MUST BE SERVICED IN RAISED POSITION, LOCK ROCKSHAFT BY ENGAGING LOCK-UP STRAP. IF ANY COMPONENTS SHOULD FAIL, OR IF HYDRAULIC LEVER SHOULD BE ACCIDENTALLY OPERATED, DISC COULD DROP.

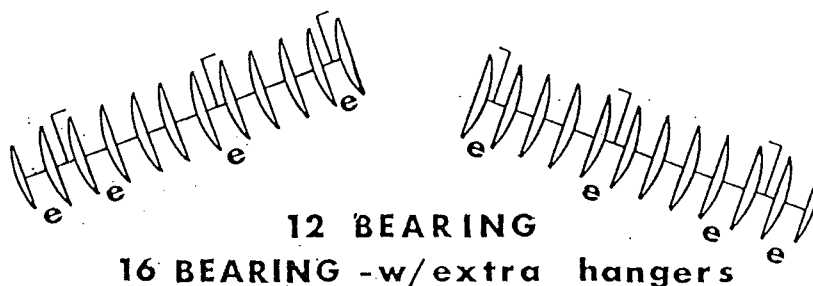
# MODEL 1490 DISC GANG PATTERN 8" SPAC NG

FRONT  
46 BLADE

APPROX. WIDTH  
16 ft.



e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.

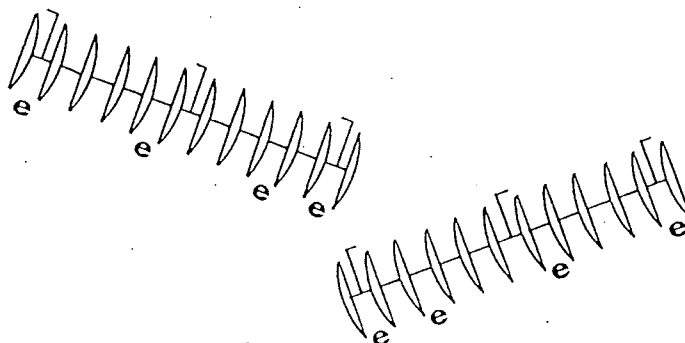


12 BEARING

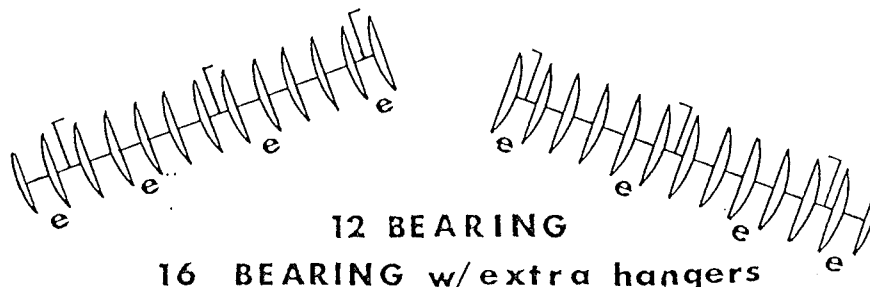
16 BEARING -w/extra hangers

FRONT  
50 BLADE

APPROX. WIDTH  
17 ft.



e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.



12 BEARING

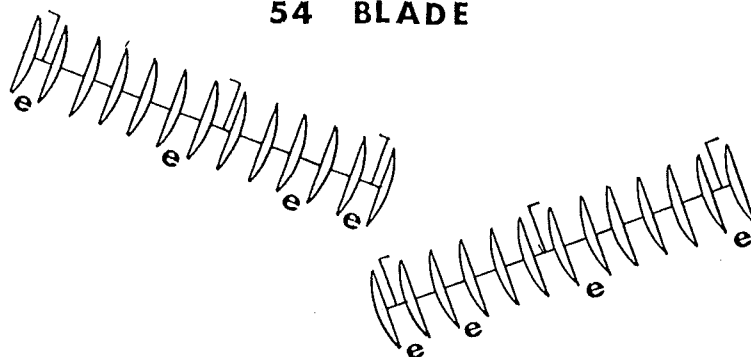
16 BEARING w/extra hangers

**MODEL 1490**  
**DISC GANG PATTERN 8" SPACING**

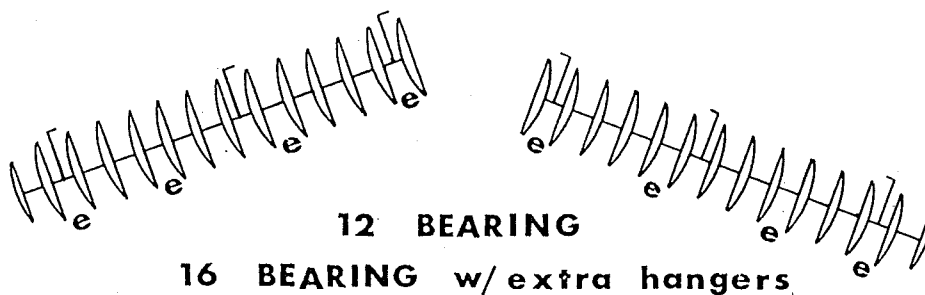
21

**FRONT**  
**54 BLADE**

**APPROX. WIDTH**  
**18½ ft.**



e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.

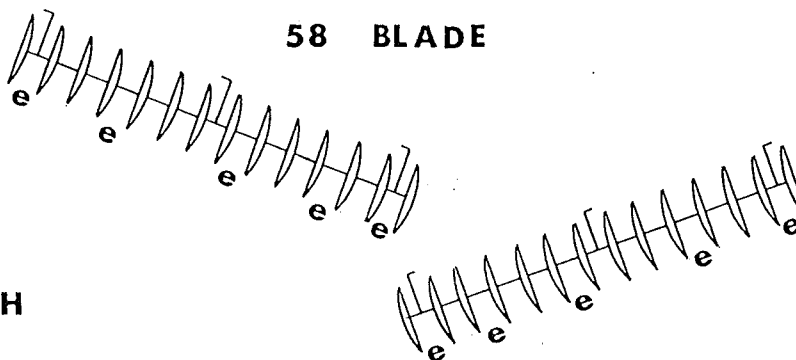


**12 BEARING**

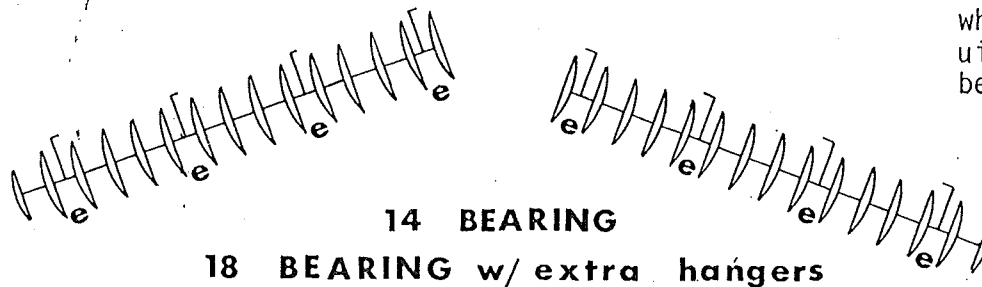
**16 BEARING w/ extra hangers**

**FRONT**  
**58 BLADE**

**APPROX. WIDTH**  
**20 ft.**



e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.



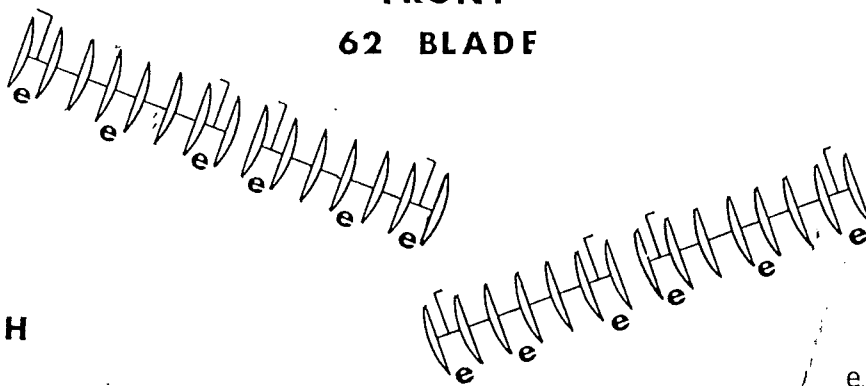
**14 BEARING**

**18 BEARING w/ extra hangers**

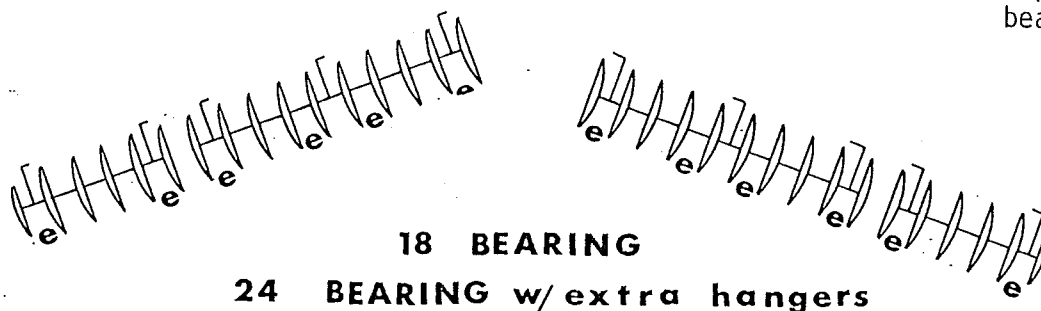
# MODEL 1490 DISC GANG PATTERN 8" SPACING

**FRONT  
62 BLADE**

**APPROX. WIDTH  
21 ft.**

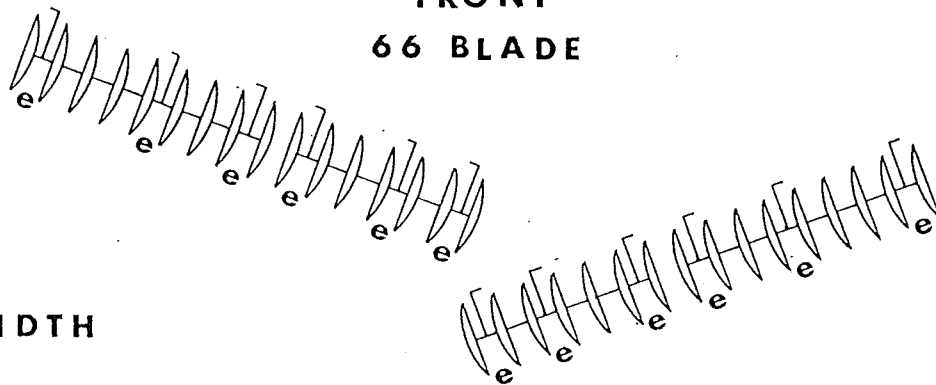


e - Location of bearing hangers when disc is equipped with extra bearing hangers.

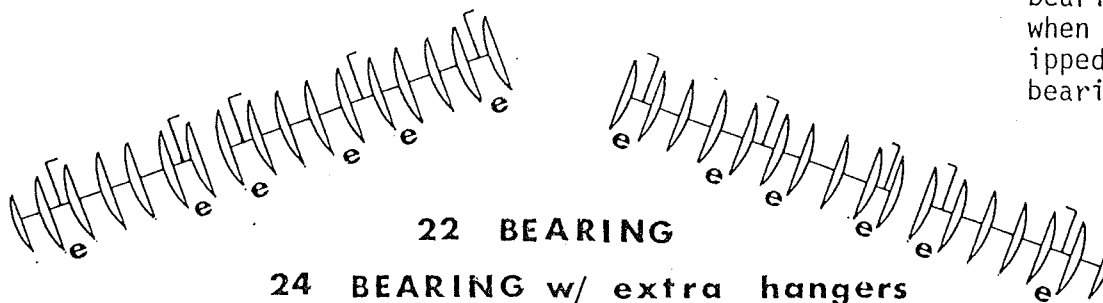


**FRONT  
66 BLADE**

**APPROX. WIDTH  
22 1/2 ft.**



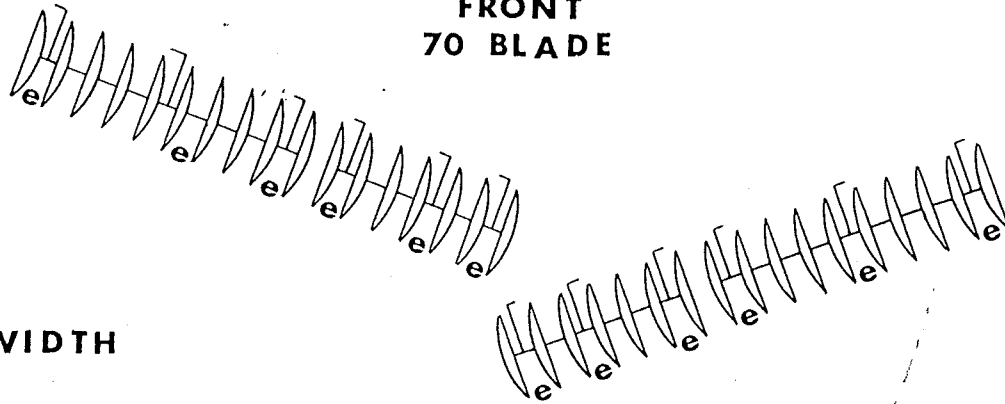
e - Location of bearing hangers when disc is equipped with extra bearing hangers.



**MODEL 1490  
DISC GANG PATTERN 8" SPACING**

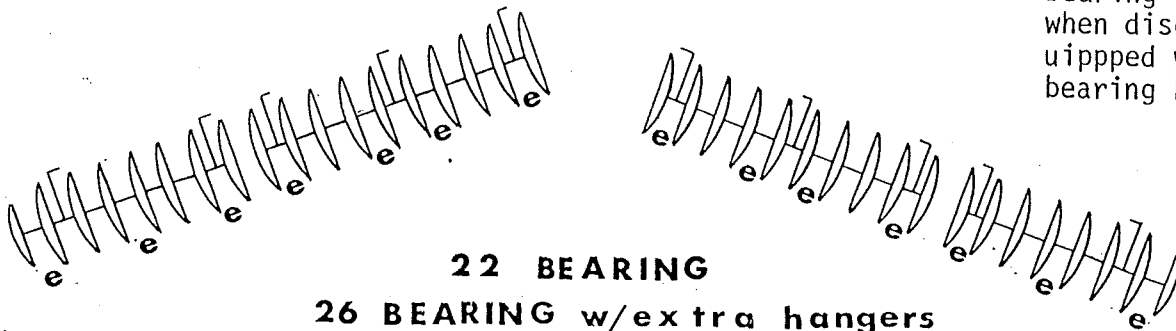
23

**FRONT  
70 BLADE**



**APPROX. WIDTH  
24 ft.**

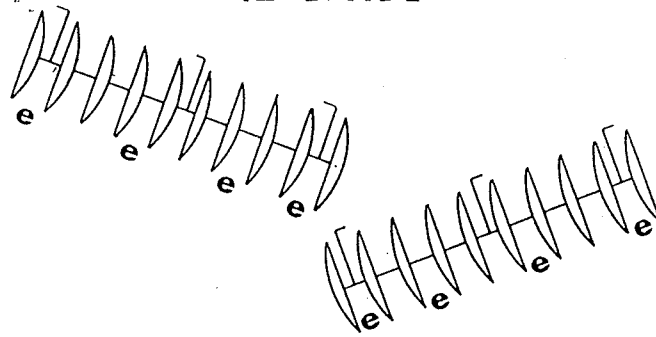
e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.



**22 BEARING  
26 BEARING w/extra hangers**

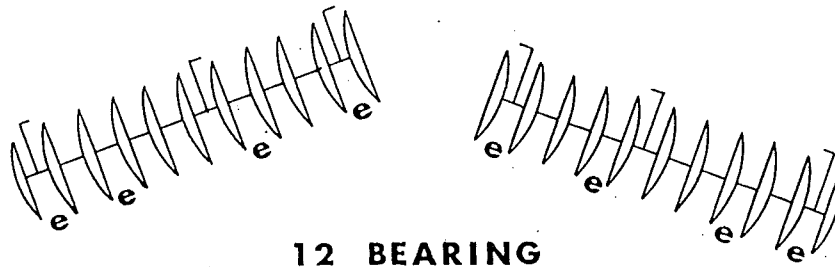
# MODEL 1500 & 1490 DISC GANG PATTERN 9" SPACING

FRONT  
42 BLADE



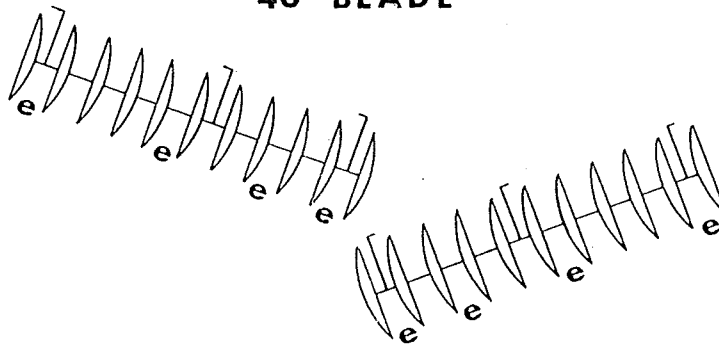
APPROX. WIDTH  
16½ ft

e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.



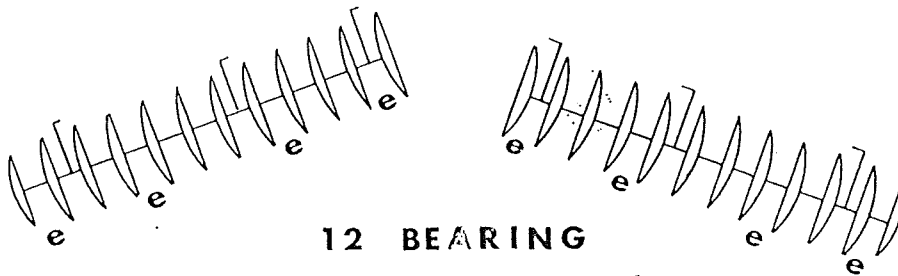
12 BEARING  
16 BEARING w/extra hangers

FRONT  
46 BLADE



APPROX WIDTH  
18 ft.

e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.



12 BEARING  
16 BEARING w/extra hangers

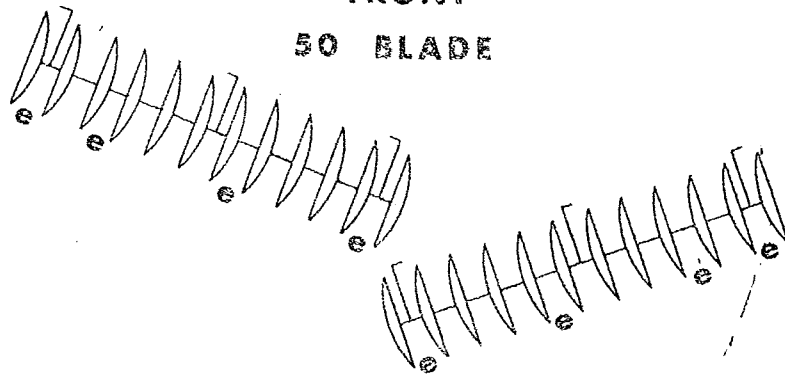
# MODEL 1490 & 1500 DISC GANG PATTERN- 9" SPACING

25

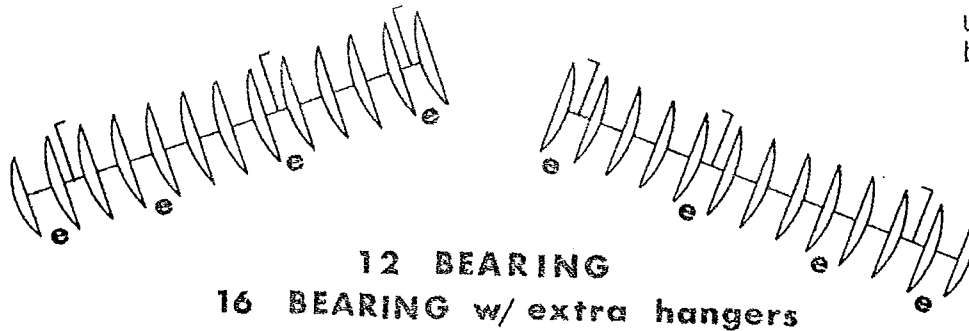
FRONT

50 BLADE

APPROX. WIDTH  
19 1/2 ft.



e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.



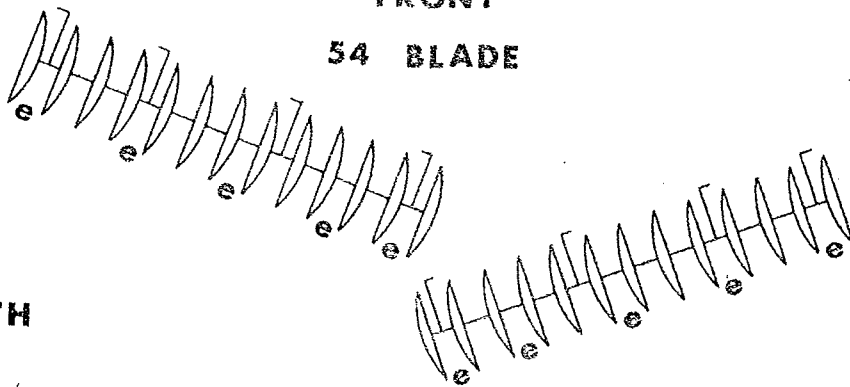
12 BEARING

16 BEARING w/ extra hangers

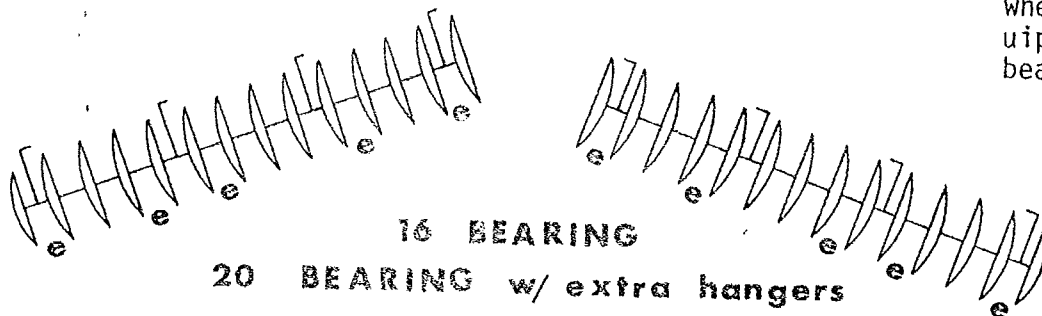
FRONT

54 BLADE

APPROX. WIDTH  
21 ft.



e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.



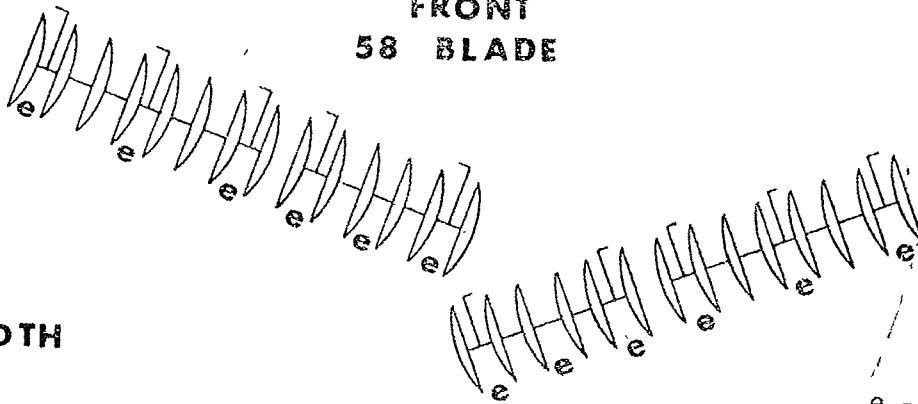
16 BEARING

20 BEARING w/ extra hangers

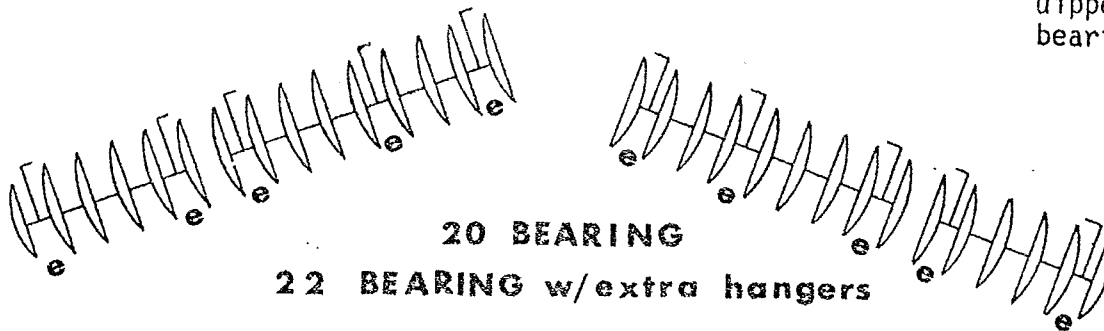
# MODEL 1490 & 1500 DISC GANG PATTERN- 9" SPACING

FRONT  
58 BLADE

APPROX. WIDTH  
22 1/2 ft.

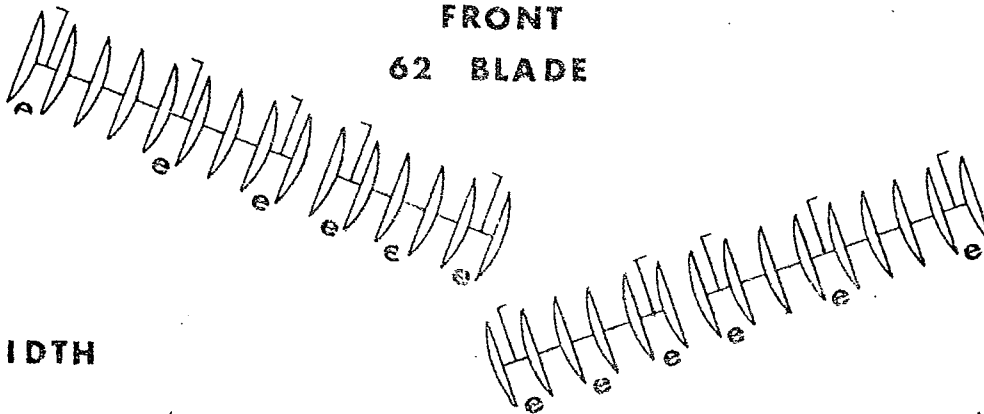


e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.

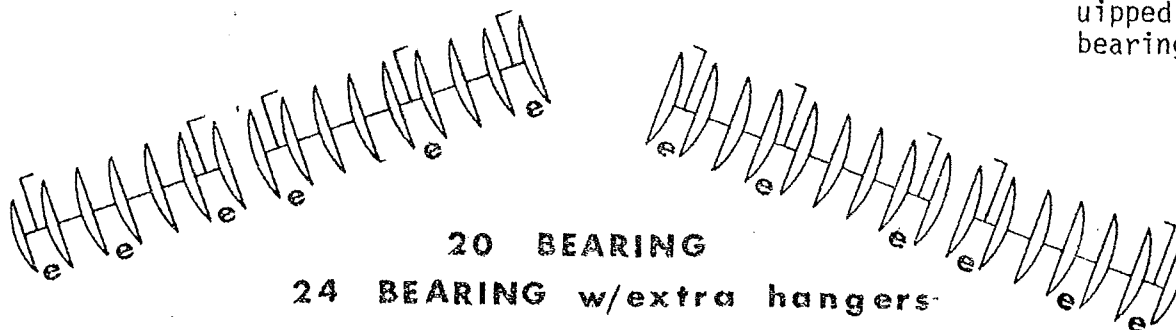


APPROX. WIDTH  
24 ft.

FRONT  
62 BLADE



e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.

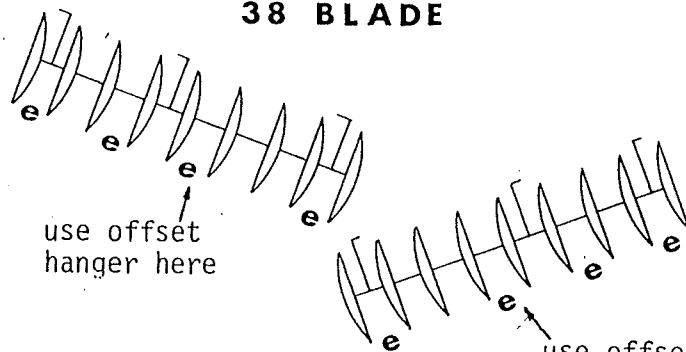


# MODEL 1500 DISC GANG PATTERN 10 1/2" SPACING

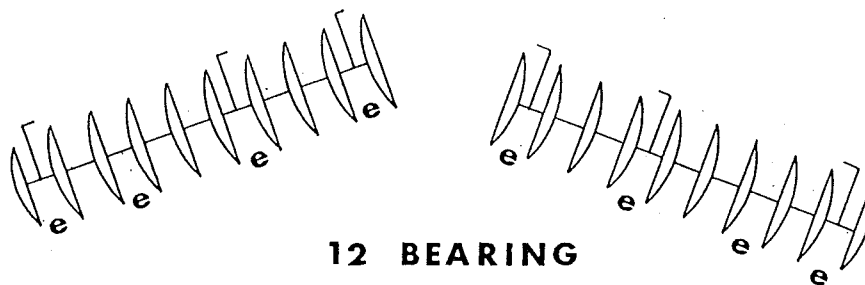
27

## FRONT 38 BLADE

APPROX. WIDTH  
16 1/2 ft.



e - Location of bearing hangers when disc is equipped with extra bearing hangers.

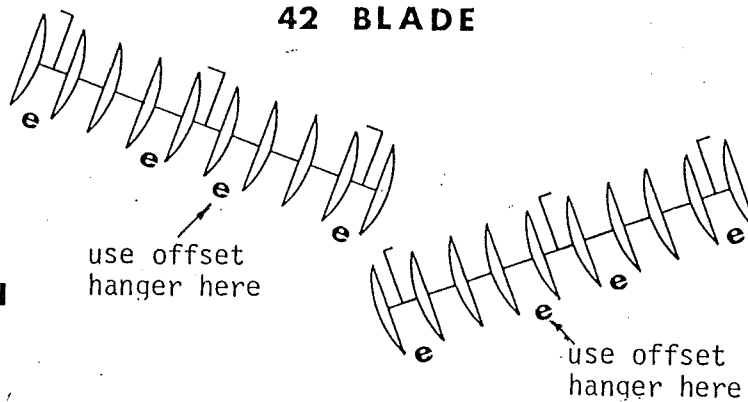


## 12 BEARING

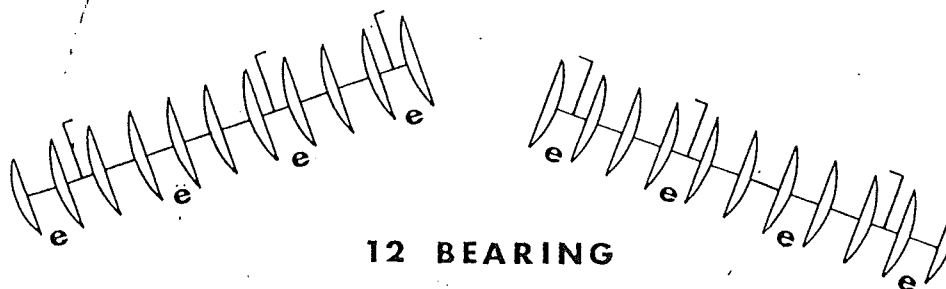
16 BEARING w/ extra hangers

## FRONT 42 BLADE

APPROX. WIDTH  
18 1/2 ft.



e - Location of bearing hangers when disc is equipped with extra bearing hangers.



## 12 BEARING

16 BEARING w/ extra hangers

# MODEL 1500 DISC GANG PATTERN 10½" SPACING

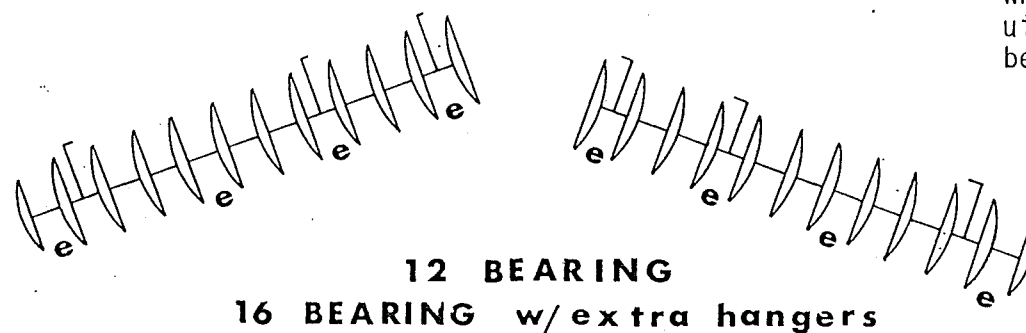
## FRONT 46 BLADE

APPROX. WIDTH  
20 ft.

use offset  
hanger here

use offset  
hanger here

e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.



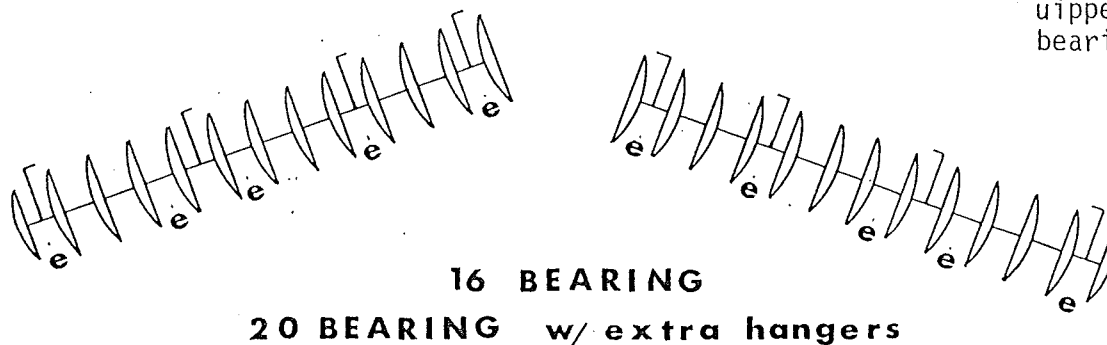
## FRONT 50 BLADE

APPROX. WIDTH  
22 ft.

use offset  
hanger here

use offset  
hanger here

e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.



MODEL 1500  
DISC GANG PATTERN 10 1/2" SPACING

29

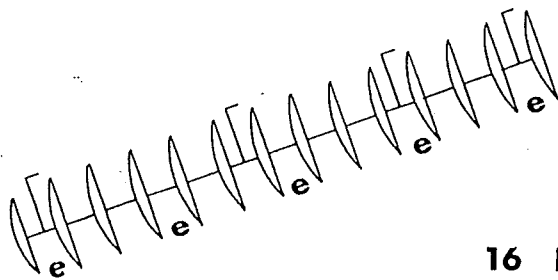
FRONT  
54 BLADE

APPROX. WIDTH  
23 1/2 ft.

use offset  
hanger here

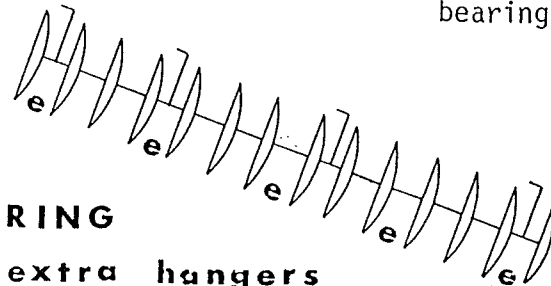
use offset  
hanger here

e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.



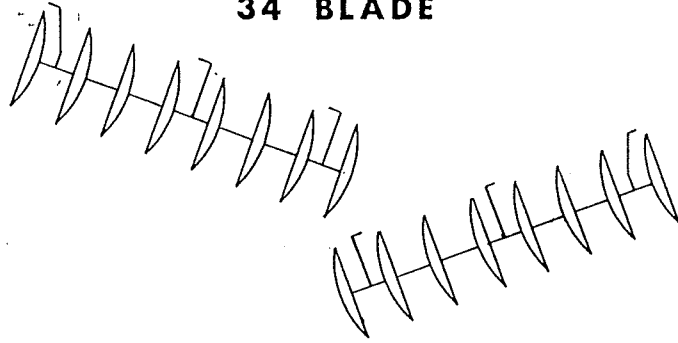
16 BEARING

20 BEARING w/extra hangers



# MODEL 1500 DISC GANG PATTERN 12" SPACING

FRONT  
34 BLADE



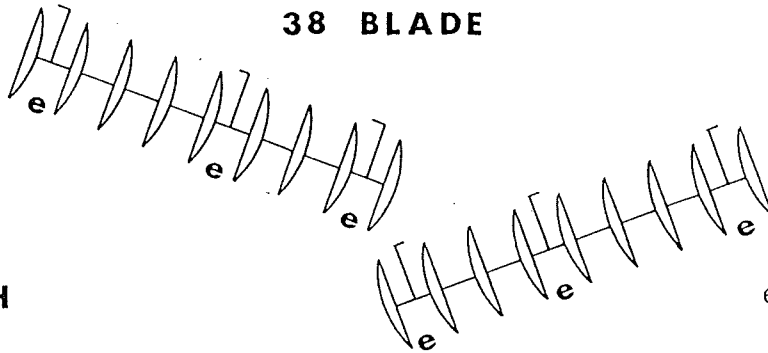
APPROX WIDTH  
17 ft.



12 BEARING

extra hangers not available

FRONT  
38 BLADE



APPROX. WIDTH  
19 ft.

e - Location of  
bearing hangers  
when disc is eq-  
uipped with extra  
bearing hangers.



12 BEARING

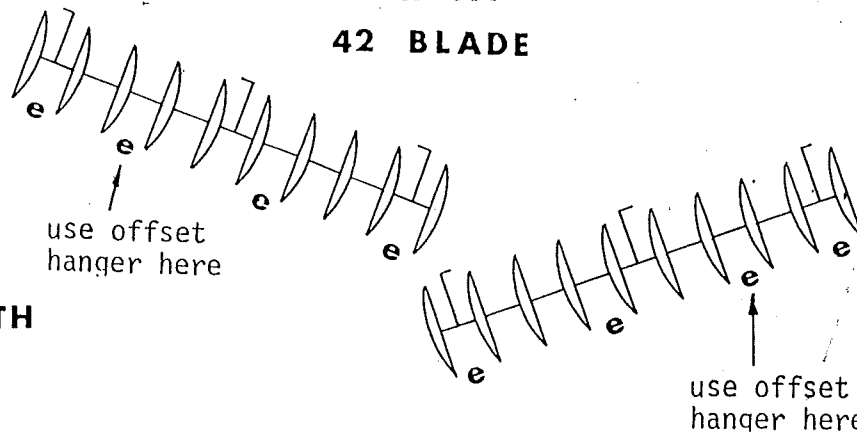
14 BEARING w/ extra hangers

**MODEL 1500**  
**DISC GANG PATTERN 12" SPACING**

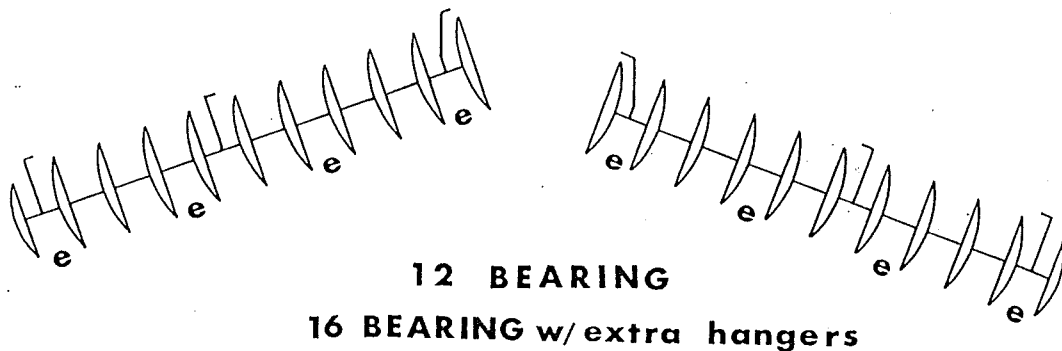
31

**FRONT**  
**42 BLADE**

**APPROX WIDTH**  
**21 ft.**

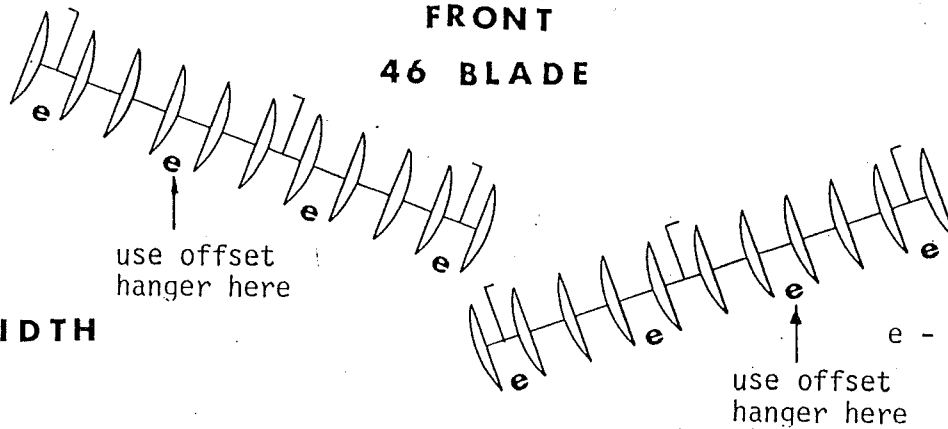


e - Location of bearing hangers when disc is equipped with extra bearing hangers.

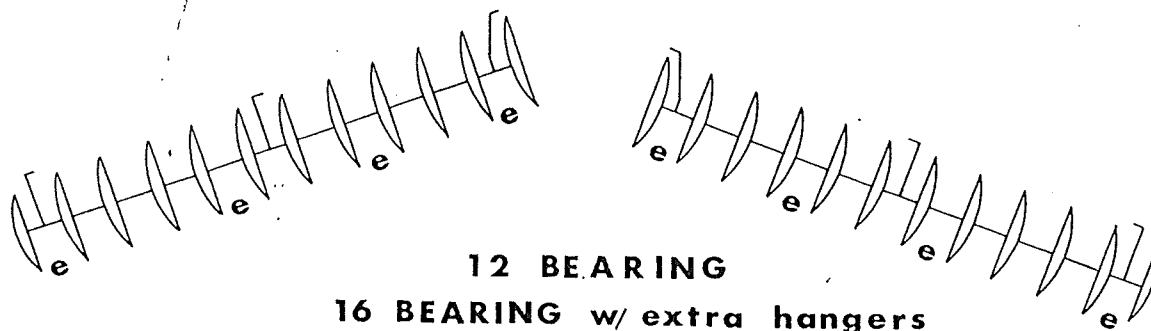


**FRONT**  
**46 BLADE**

**APPROX WIDTH**  
**23 ft.**



e - Location of bearing hangers when disc is equipped with extra bearing hangers.



PARTS LIST INDEX

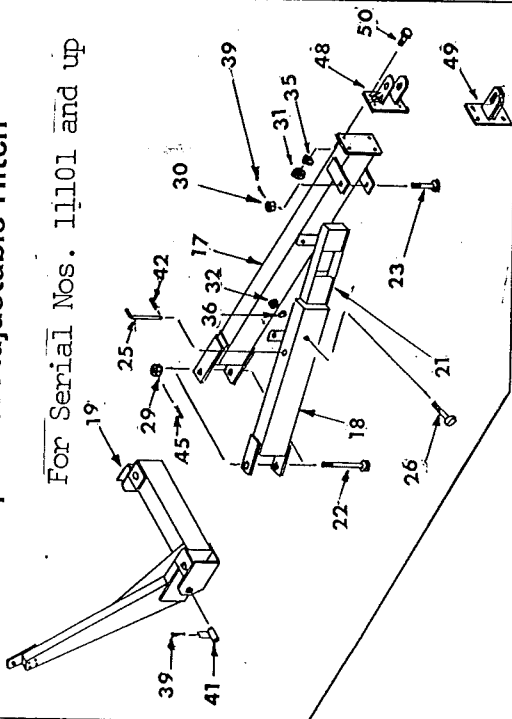
|                                                | PAGE |
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PAINT and DECALS

| PART NO. | DESCRIPTION                      | QTY. REQ'D |
|----------|----------------------------------|------------|
| L001     | Ezee-On Yellow Paint - 1 qt. can | *          |
| L002     | Ezee-On Yellow Paint - 1/2 pint  | *          |
| L010     | Ezee-On Decal                    | *          |

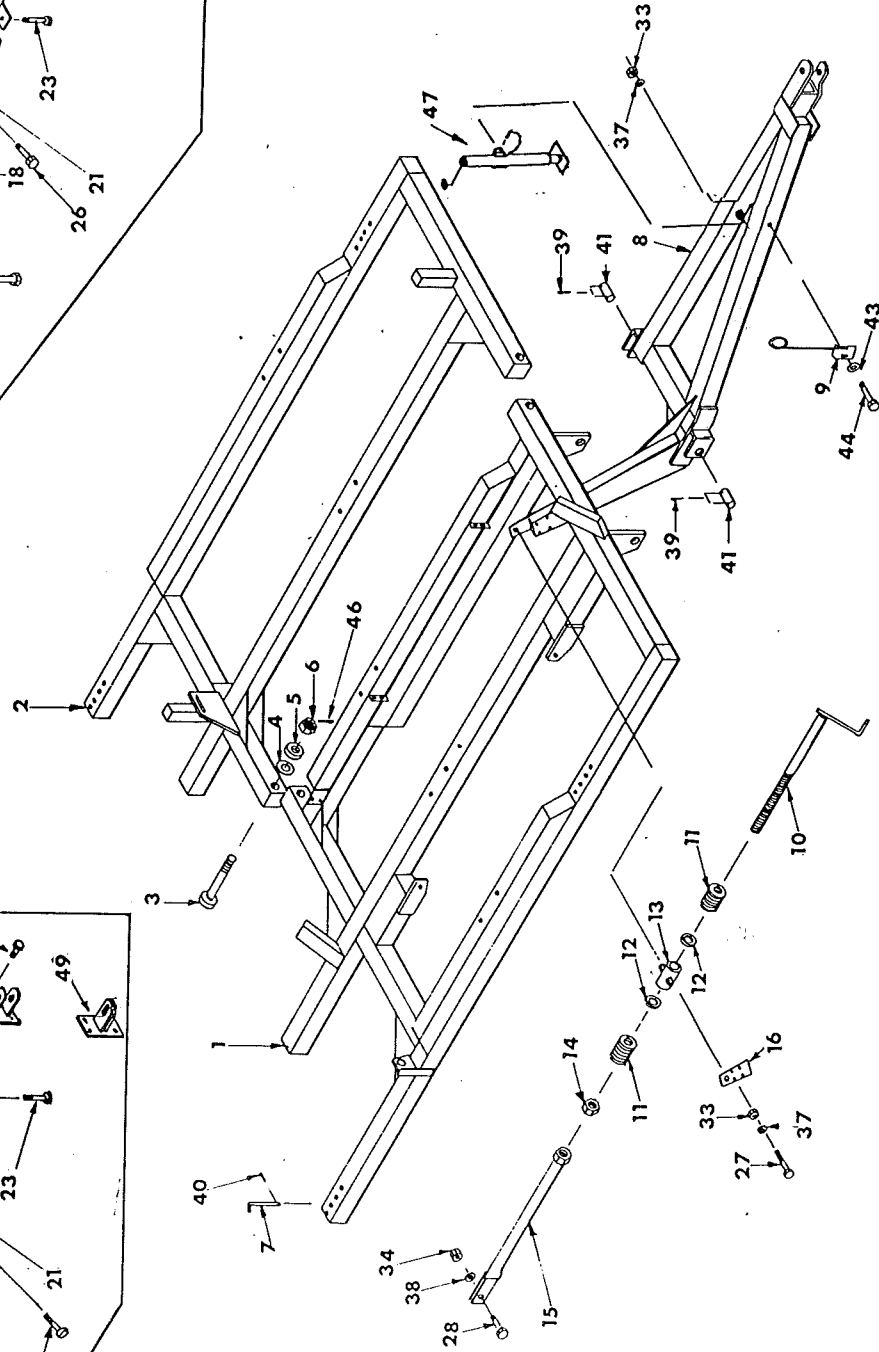
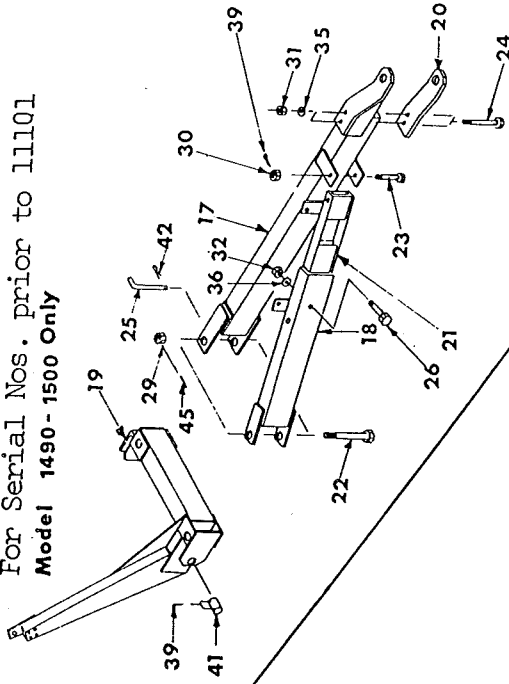
# Optional Adjustable Hitch

For Serial Nos. 11101 and up



# Optional Adjustable Hitch

For Serial Nos. prior to 11101  
Model 1490-1500 Only



Frame Hitch and Levelling Crank  
Model 1490-1500

FRAME, HITCH AND LEVELLING CRANK PARTS LIST  
MODEL 1490 - 1500 DISC

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                                                  | QTY.<br>REQ'D. |
|-------------|-------------|----------------------------------------------------------------------------------------------|----------------|
| 1           | DFB8500     | Main Frame c/w 2 Hinge Bolts c/w Washers and Nuts<br>(Ref. # 3-4-5-6), 2 Gang Pins (Ref. #7) | 1              |
| 2           | DWB8537     | Wing Frame c/w 2 Gang Pins (Ref. #7)                                                         | 1              |
| 3           | DFA5042     | Hinge Bolt                                                                                   | 2              |
| 4           | DF5020      | Rear Hinge Bolt Shim                                                                         | 1              |
| 5           | DH3         | Washer                                                                                       | 2              |
| 6           | DG82        | 2" N.C. Slotted Nut                                                                          | 2              |
| 7           | DF37        | Gang Beam Retainer Pin                                                                       | 4              |
| 8           | DHB8554     | Standard Hitch c/w Pins and Crank Lug<br>(Ref. # 16-27-33-37-39-41)                          | 1              |
| 9           | DHA5161     | Hose Support                                                                                 | 1              |
| 10          | DCA3        | Crank - 33" Long                                                                             | 1              |
| 11          | DC5187      | Compression Spring - Levelling Crank                                                         | 2              |
| 12          | DC15        | Thrust Bearing - Timken # T199                                                               | 2              |
| 13          | DCA5184     | Bearing Tube - Levelling Crank                                                               | 1              |
| 14          | DH5         | 2" N.C. Heavy Hex. Nut - Drilled for Set Screw                                               | 1              |
| 15          | DCA8577     | Levelling Link - 29" Pipe Length                                                             | 1              |
| 16          | DH5146      | Levelling Arm Lug                                                                            | 1              |
| 17          | DHA5131     | Tongue (Optional Adjustable Hitch) - For Serial<br>Numbers Prior to 11101                    | 1              |
|             | DHA5172     | Tongue (Optional Adjustable Hitch) - For Serial<br>Numbers 11101 and Up.                     | 1              |
| 18          | DHA5147     | Hitch Brace - Female Half (Optional Adjustable Hitch)                                        | 1              |
| 19          | DHA8567     | Draw Bar (Optional Adjustable Hitch)                                                         | 1              |
| 20          | DH5158      | Hitch - Bottom Half (Optional Adjustable Hitch)<br>For Serial Numbers Prior to 11101         | 1              |
| 21          | DHA5150     | Hitch Brace - Male Half (Optional Adjustable Hitch)                                          | 1              |
| 22          | DH5164      | 1-1/2" x 11" Hex. Bolt - Drilled for Cotter Pin<br>(Optional Adjustable Hitch)               | 2              |
| 23          | DH5167      | 1-1/4" x 9" Hex. Bolt - Drilled for Cotter Pin<br>(Optional Adjustable Hitch)                | 1              |

FRAME, HITCH AND LEVELLING CRANK PARTS LIST  
MODEL 1490-1500 DISC

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                                              | QTY.<br>REQ'D. |
|-------------|-------------|------------------------------------------------------------------------------------------|----------------|
| 24          | DH5156      | 1" x 9-1/2" N.C. Hex. Bolt (Optional Adjustable Hitch) For Serial Numbers Prior To 11101 | 1              |
| 25          |             | Brace Pin (Optional Adjustable Hitch)                                                    | 1              |
| 26          |             | 3/4" x 6" N.C. Hex. Bolt                                                                 | 1              |
| 27          |             | 1/2" x 5" N.C. Hex. Bolt                                                                 | 4              |
| 28          | DR5215      | 1-1/4" x 4-1/4" Hex. Bolt (Special)                                                      | 1              |
| 29          | DH5165      | 1-1/2" N.C. Hex. Slotted Nut (Optional Adjustable Hitch)                                 | 2              |
| 30          | DG125       | 1-1/4" N.C. Hex. Slotted Nut (Optional Adjustable Hitch)                                 | 1              |
| 31          |             | 1" N.C. Hex. Nut (Optional Adjustable Hitch)                                             | 1              |
| 32          |             | 3/4" N.C. Hex. Nut                                                                       | 11             |
| 33          |             | 1/2" N.C. Hex. Nut                                                                       | 4              |
| 34          |             | 1-1/4" N.C. Hex. Nut                                                                     | 1              |
| 35          |             | 1" Lockwasher (Optional Adjustable Hitch)                                                | 2              |
| 36          |             | 3/4" Lockwasher                                                                          | 11             |
| 37          |             | 1/2" Lockwasher                                                                          | 4              |
| 38          |             | 1-1/4" Lockwasher                                                                        | 3              |
| 39          |             | 1/4" x 2" Cotter Pin (Optional Adjustable Hitch)                                         | 5              |
| 40          |             | 3/16" x 1-1/4" Cotter Pin                                                                | 4              |
| 41          | DH8562      | 1-1/4" x 4-1/2" Hitch Pin                                                                | 2              |
| 42          | DW25        | Hair Pin Cotter (Optional Adjustable Hitch)                                              | 1              |
| 43          |             | 1-3/4" O.D. x 9/16" I.D. Flatwasher                                                      | 1              |
| 44          |             | 1/2" x 5-1/2" N.C. Hex. Bolt                                                             | 1              |
| 45          |             | 5/16" x 2-1/4" Cotter Pin (Optional Adjustable Hitch)                                    | 1              |
| 46          |             | 3/8" x 3" Cotter Pin                                                                     | 1              |
| 47          | DHB5170     | Hitch Jack                                                                               | 1              |

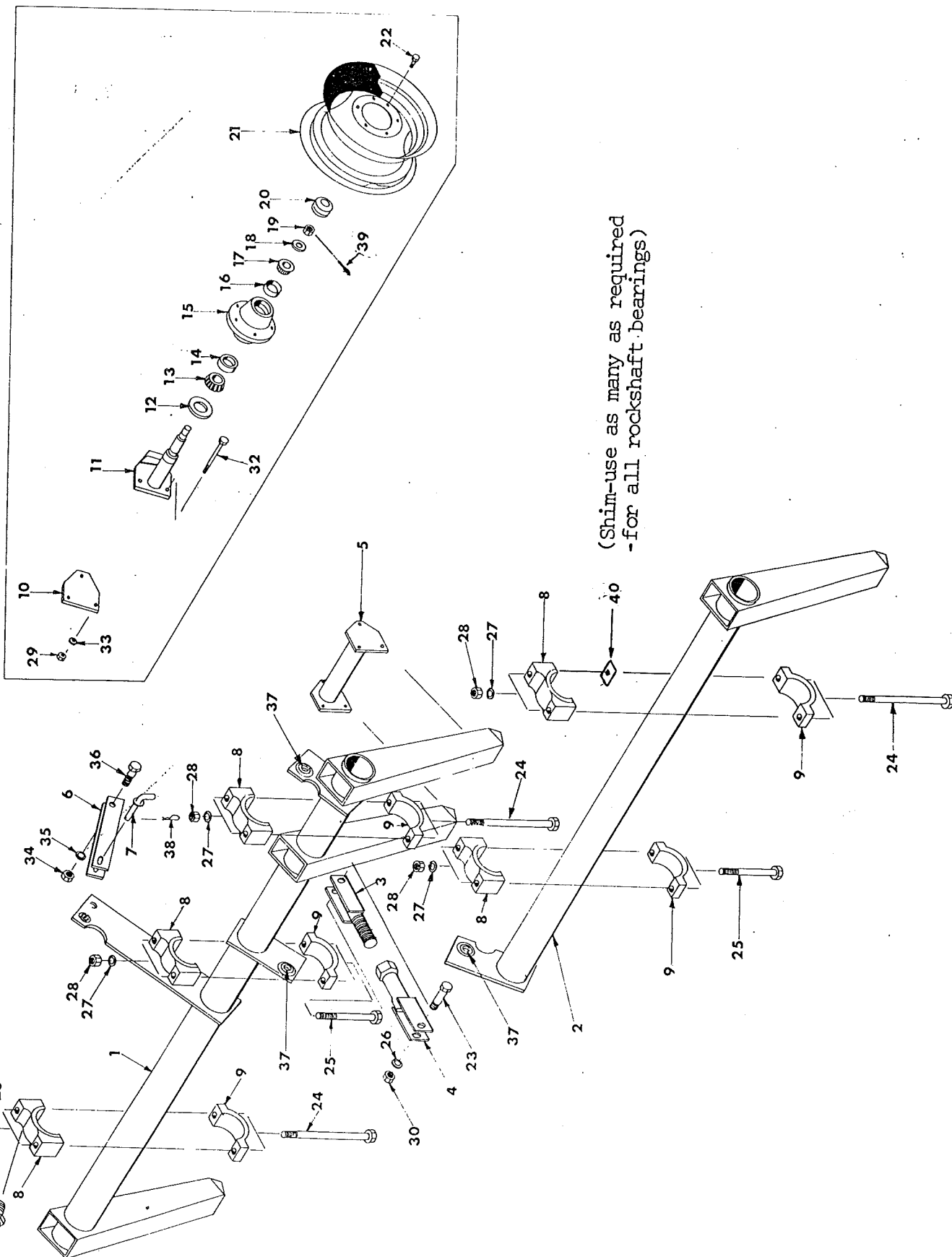
## FRAME, HITCH AND LEVELLING CRANK LIST

40

MODEL 1490 - 1500 DISC

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                       | QTY.<br>REQ'D. |
|-------------|-------------|-------------------------------------------------------------------|----------------|
| 48          | DHA5176     | Clevis Hitch Assembly - (Bolt-On) For Serial Numbers 11101 and Up | *              |
| 49          | DHA5179     | Male Hitch Assembly - (Bolt-On) For Serial Numbers 11101 and Up   | *              |
| 50          |             | 1" x 2-1/2" N.C. Hex. Bolt For Serial Numbers 11101 and Up        | 4              |

\* As Required



Rockshaft and Wheel  
Model 1490 - 1500

ROCKSHAFT AND WHEEL PARTS LIST  
MODEL 1490 - 1500 DISC

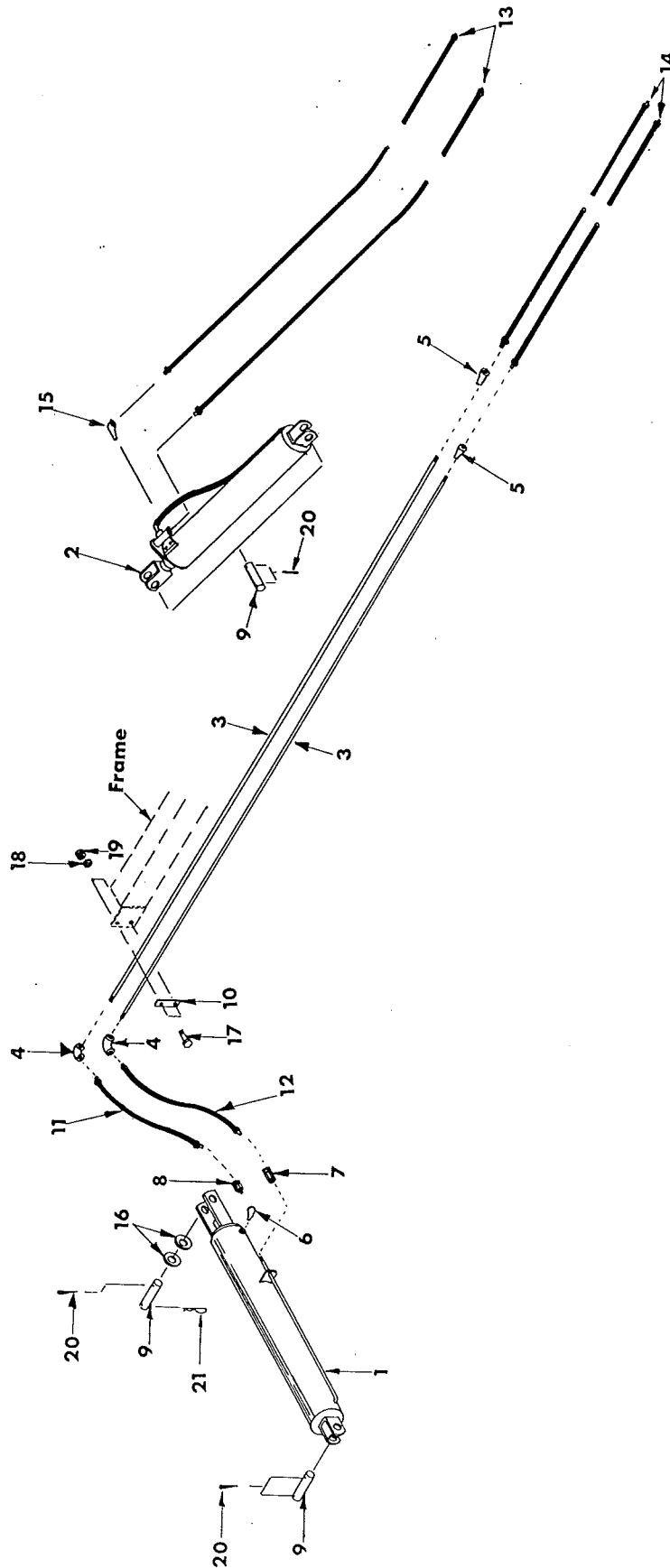
| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                            | QTY.<br>REQ'D. |
|-------------|-------------|------------------------------------------------------------------------|----------------|
| 1           | DRA8579     | Main Frame Rockshaft                                                   | 1              |
| 2           | DRA8591     | Wing Frame Rockshaft                                                   | 1              |
| 3           | DRA5213     | Rockshaft Link - Male Half                                             | 1              |
| 4           | DRA5210     | Rockshaft Link - Female Half                                           | 1              |
| 5           | DRA8604     | Wheel Leg Spacer                                                       | 1              |
| 6           | DRA5245     | Lock-Up Strap                                                          | 1              |
| 7           | DRA5248     | Lock-Up Pin                                                            | 1              |
| 8           | DR8601-T    | Rockshaft Bearing - Top                                                | 5              |
| 9           | DR8601-B    | Rockshaft Bearing - Bottom                                             | 5              |
| 10          | DR76        | Axle Backing Plate                                                     | *              |
| 11          | DRA8        | Axle Assembly                                                          | *              |
| 12          | DR122       | Grease Seal NOK #AF 7879E                                              | *              |
| 13          | DR120       | Inner Cone Bearing #25580                                              | *              |
| 14          | DR118       | Inner Cup #25520                                                       | *              |
| 15          | DRA9        | Hub - c/w Cups                                                         | *              |
| 16          | DR92        | Outer Cup - #LM48548                                                   | *              |
| 17          | DR91        | Outer Cone Bearing #LM48548                                            | *              |
| 18          |             | 2" O.D. x 1-1/16" I.D. x 1/8" Flatwasher                               | *              |
| 19          | DR110       | 1" N.F. Hex. Slotted Nut                                               | *              |
| 20          | DR123       | Hub Cap                                                                | *              |
| 21          | DR127       | Wheel Rim - 15 x 8 - 6 Hole Rim (9.5 L x 15 Tire<br>or 11 L x 15 Tire) | *              |
| 22          | DR125       | 9/16" x 1-1/8" N.F. Wheel Studs                                        | *              |
| 23          | DR5215      | 1-1/4" x 4-1/4" N.C. Hex. Bolt (Special)                               | 2              |
| 24          |             | 3/4" x 15" N.C. Hex. Bolt                                              | 6              |
| 25          |             | 3/4" x 10-1/2" N.C. Hex. Bolt                                          | 4              |
| 26          |             | 1-1/4" Lockwasher                                                      | 2              |
| 27          |             | 3/4" Lockwasher                                                        | 10             |



ROCKSHAFT AND WHEEL PARTS LIST  
MODEL 1490 - 1500 DISC

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                    | QTY.<br>REQ'D. |
|-------------|-------------|--------------------------------|----------------|
| 28          |             | 3/4" N.C. Hex. Nut             | 10             |
| 29          |             | 5/8" N.C. Hex. Nut             | 20             |
| 30          |             | 1-1/4" Hex. Nut                | 2              |
| 31          | 10GN1       | 1/4" x 28 Grease Fitting       | 5              |
| 32          |             | 5/8" x 6" N.C. Hex. Nut        | 12             |
| 33          |             | 5/8" Lockwasher                | 12             |
| 34          |             | 1" N.C. Hex. Nut               | 1              |
| 35          |             | 1" Lockwasher                  | 1              |
| 36          |             | 1" x 3" N.C. Hex. Bolt         | 1              |
| 37          | DR5227      | 1-1/4" Ball Joint (Weld-On)    | 1              |
| 38          | DW25        | Hair Pin Cotter                | 1              |
| 39          |             | 3/16" x 1-1/4" Cotter Pin      | 1              |
| 40          | DR8609      | 2" x 3" Rockshaft Bearing Shim | *              |

\* AS REQUIRED

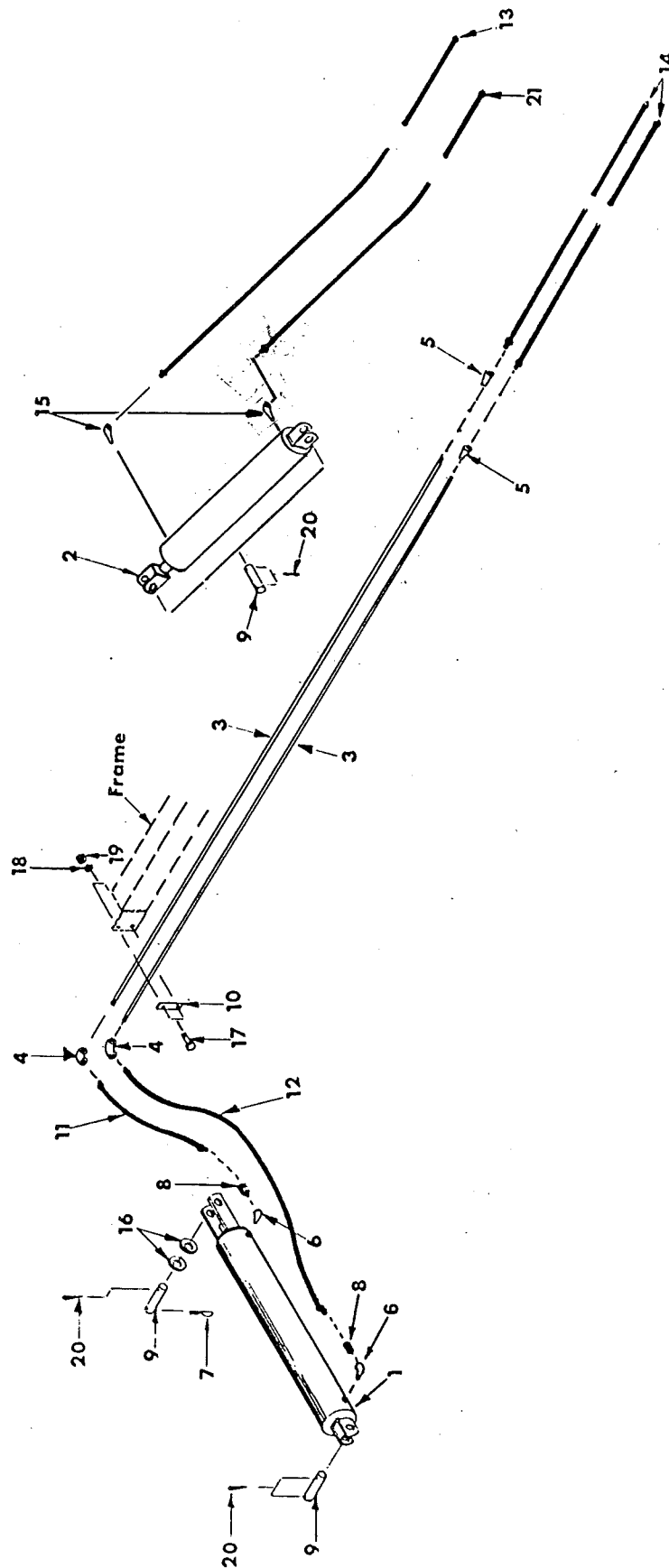


FOR MODELS WITH SERIAL NO. UNDER 21814  
**Hydraulic System**  
**Model 1490-1500**

## HYDRAULIC SYSTEM

MODEL 1490 - 1500 DISC

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                                                                      | QTY.<br>REQ'D. |
|-------------|-------------|------------------------------------------------------------------------------------------------------------------|----------------|
| 1           | 214         | 5" x 36" Wing Lift Cylinder (See Parts List on Page 64)                                                          | 1              |
| 2           | 205         | 4" x 24" Rockshaft Cylinder c/w Depth Control Stop, Less Flo-Valve, Elbows and Hose. (See Parts List on Page 62) | 1              |
| 3           | DF8599      | Hydraulic Line                                                                                                   | 2              |
| 4           | DL11        | 3/8" x 90 Degree Elbow                                                                                           | 2              |
| 5           | DL8590      | 3/8" x 1/2" Coupler                                                                                              | 2              |
| 6           | L1618       | 3/8" x 90 Degree Street Elbow                                                                                    | 2              |
| 7           | L29         | 3/8" Female Swivel Adapter                                                                                       | 2              |
| 8           | L1619       | 3/8" Male-Female Swivel Adapter                                                                                  | 2              |
| 9           | DR5252      | Cylinder Pins                                                                                                    | 6              |
| 10          | DF5066      | Oil Line Clamp Plate                                                                                             | 1              |
| 11          | H23         | 3/8" x 23" Hose                                                                                                  | 1              |
| 12          | H30         | 3/8" x 30" Hose                                                                                                  | 1              |
| 13          | H198-1      | 1/2" x 198" Hose                                                                                                 | 2              |
| 14          | H144-1      | 1/2" x 144" Hose                                                                                                 | 2              |
| 15          | DL5271      | 1/2" x 90 Degree Street Elbow                                                                                    | 1              |
| 16          | DF5068      | Spacer Washer                                                                                                    | 2              |
| 17          |             | 1/2" x 2" Hex. Bolt                                                                                              | 2              |
| 18          |             | 1/2" Lockwasher                                                                                                  | 2              |
| 19          |             | 1/2" N.C. Hex. Nut                                                                                               | 2              |
| 20          |             | 1/4" x 1-1/2" Cotter Pin                                                                                         | 2              |
| 21          | DW25        | Hair Pin Cotter                                                                                                  | 1              |



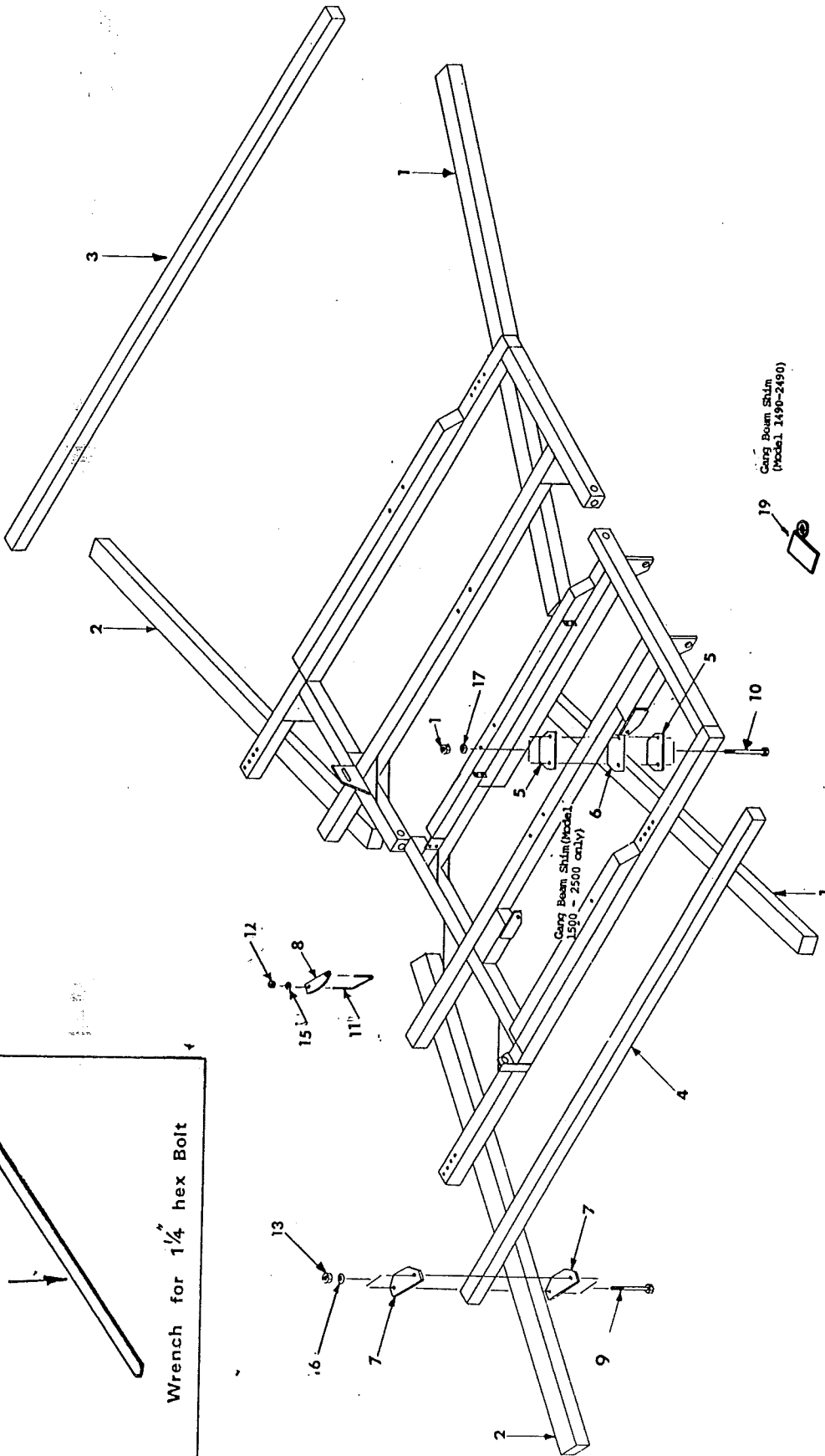
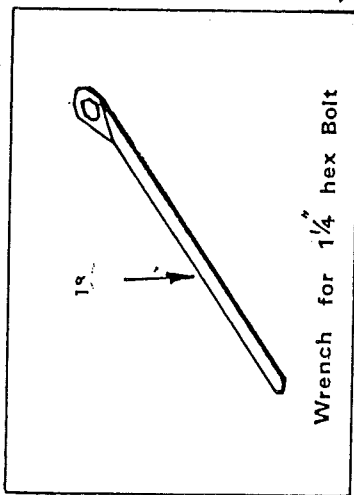
**HYD. SYSTEM**  
FOR MODELS WITH SERIAL NO. OVER 21814

FOR MODELS WITH SERIAL NO. OVER 21814  
HYDRAULIC SYSTEM

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MODEL 1490 - 1500 DISC

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                             | QTY.<br>REQ'D. |
|-------------|-------------|---------------------------------------------------------|----------------|
| 1           | 214, 242    | 5" x 36" Wing Lift Cylinder (See Parts List on Page 64) | 1              |
| 2           | 241         | 4" x 24" Rockshaft Cylinder (See Parts List on Page 64) | 1              |
| 3           | DF8599      | Hydraulic Line                                          | 2              |
| 4           | DL11        | 3/8" x 90 Degree Elbow                                  | 2              |
| 5           | DL5280      | 3/8" Coupler                                            | 2              |
| 6           | L1618       | 3/8" x 90 Degree Street Elbow                           | 2              |
| 7           | DW25        | Hair Pin Cotter                                         | 1              |
| 8           | L1619       | 3/8" Male-Female Swivel Adapter                         | 2              |
| 9           | DR5252      | Cylinder Pins                                           | 6              |
| 10          | DF5066      | Oil Line Clamp Plate                                    | 1              |
| 11          | H23         | 3/8" x 23" Hose                                         | 1              |
| 12          | H60         | 3/8" x 60" Hose                                         | 1              |
| 13          | H198-1      | 1/2" x 198" Hose                                        | 1              |
| 14          | H144-1-3    | 3/8" x 144" Hose (One 3/8" End, One 1/2" End)           | 2              |
| 15          | DL5271      | 1/2" x 90 Degree Street Elbow                           | 2              |
| 16          | DF5068      | Spacer Washer                                           | 2              |
| 17          |             | 1/2" x 2" Hex. Bolt                                     | 2              |
| 18          |             | 1/2" Lockwasher                                         | 2              |
| 19          |             | 1/2" N.C. Hex. Nut                                      | 2              |
| 20          |             | 1/4" x 1-1/2" Cotter Pin                                | 2              |
| 21          | H172-1      | 1/2" x 172" Hose                                        | 1              |



Gang Beam and Stabilizer Beam  
Model 1490-1500

GANG BEAM AND STABILIZER BEAM PARTS LIST  
MODEL 1490 - 1500 DISCS

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                         | QTY.<br>REQ'D. |
|-------------|-------------|---------------------------------------------------------------------|----------------|
| 1           |             | <u>FRONT GANG BEAM FOR 8" SPACING MODEL<br/>1490 DISC ONLY</u>      |                |
|             | DBS4-84     | 84" Gang Beam (4" x 4") - 46 Blade Disc                             | 2              |
|             | DBS4-90     | 90" Gang Beam (4" x 4") - 50 Blade Disc                             | 2              |
|             | DBS4-102    | 102" Gang Beam (4" x 4") - 54 Blade Disc                            | 2              |
|             | DBS4-108    | 108" Gang Beam (4" x 4") - 58 Blade Disc                            | 2              |
|             | DBS4-120    | 120" Gang Beam (4" x 4") - 62 Blade Disc                            | 2              |
|             | DBS4-126*   | 126" Gang Beam (4" x 4") - 66 Blade Disc                            | 2              |
|             | DBS4-132    | 132" Gang Beam (4" x 4") - 70 Blade Disc                            | 2              |
|             |             | <u>FRONT GANG BEAM FOR 9" SPACING MODEL<br/>1490 DISC ONLY</u>      |                |
|             | DBS4-84     | 84" Gang Beam (6" x 4-1/2") - 42 Blade Disc                         | 2              |
|             | DBS4-96     | 96" Gang Beam (6" x 4-1/2") - 46 Blade Disc                         | 2              |
|             | DBS4-102    | 102" Gang Beam (6" x 4-1/2") - 50 Blade Disc                        | 2              |
|             | DBS4-114    | 114" Gang Beam (6" x 4-1/2") - 54 Blade Disc                        | 2              |
|             | DBS4-126*   | 126" Gang Beam (6" x 4-1/2") - 58 Blade Disc                        | 2              |
|             | DBS4-132    | 132" Gang Beam (6" x 4-1/2") - 62 Blade Disc                        | 2              |
|             |             | <u>FRONT GANG BEAM FOR 9" SPACING MODEL<br/>1500 DISC ONLY</u>      |                |
|             | DBS84       | 84" Gang Beam (6" x 4-1/2") - 42 Blade Disc                         | 2              |
|             | DBS96       | 96" Gang Beam (6" x 4-1/2") - 46 Blade Disc                         | 2              |
|             | DBS102      | 102" Gang Beam (6" x 4-1/2") - 50 Blade Disc                        | 2              |
|             | DBS114      | 114" Gang Beam (6" x 4-1/2") - 54 Blade Disc                        | 2              |
|             | DBS126*     | 126" Gang Beam (6" x 4-1/2") - 58 Blade Disc                        | 2              |
|             | DBS132      | 132" Gang Beam (6" x 4-1/2") - 62 Blade Disc                        | 2              |
|             |             | <u>FRONT GANG BEAM FOR 10-1/2" SPACING MODEL<br/>1500 DISC ONLY</u> |                |
|             | DBS90       | 90" Gang Beam (6" x 4-1/2") - 38 Blade Disc                         | 2              |
|             | DBS96       | 96" Gang Beam (6" x 4-1/2") - 42 Blade Disc                         | 2              |
|             | DBS108      | 108" Gang Beam (6" x 4-1/2") - 46 Blade Disc                        | 2              |
|             | DBS120*     | 120" Gang Beam (6" x 4-1/2") - 50 Blade Disc                        | 2              |
|             | DBS132      | 132" Gang Beam (6" x 4-1/2") - 54 Blade Disc                        | 2              |
|             |             | <u>FRONT GANG BEAM FOR 12" SPACING MODEL<br/>1500 DISC ONLY</u>     |                |
|             | DBS90       | 90" Gang Beam (6" x 4-1/2") - 34 Blade Disc                         | 2              |
|             | DBS102      | 102" Gang Beam (6" x 4-1/2") - 38 Blade Disc                        | 2              |
|             | DBS114      | 114" Gang Beam (6" x 4-1/2") - 42 Blade Disc                        | 2              |
|             | DBS126*     | 126" Gang Beam (6" x 4-1/2") - 46 Blade Disc                        | 2              |
|             | DBS138      | 138" Gang Beam (6" x 4-1/2") - 50 Blade Disc                        | 2              |

\* If disc is equipped with stabilizer beams.  
Order front gang beam 6" longer than length  
listed. This applies only to models with  
asterisk beside gang beam number.

## GANG BEAM AND STABILIZER BEAM PARTS LIST

## MODEL 1490 - 1500 DISCS

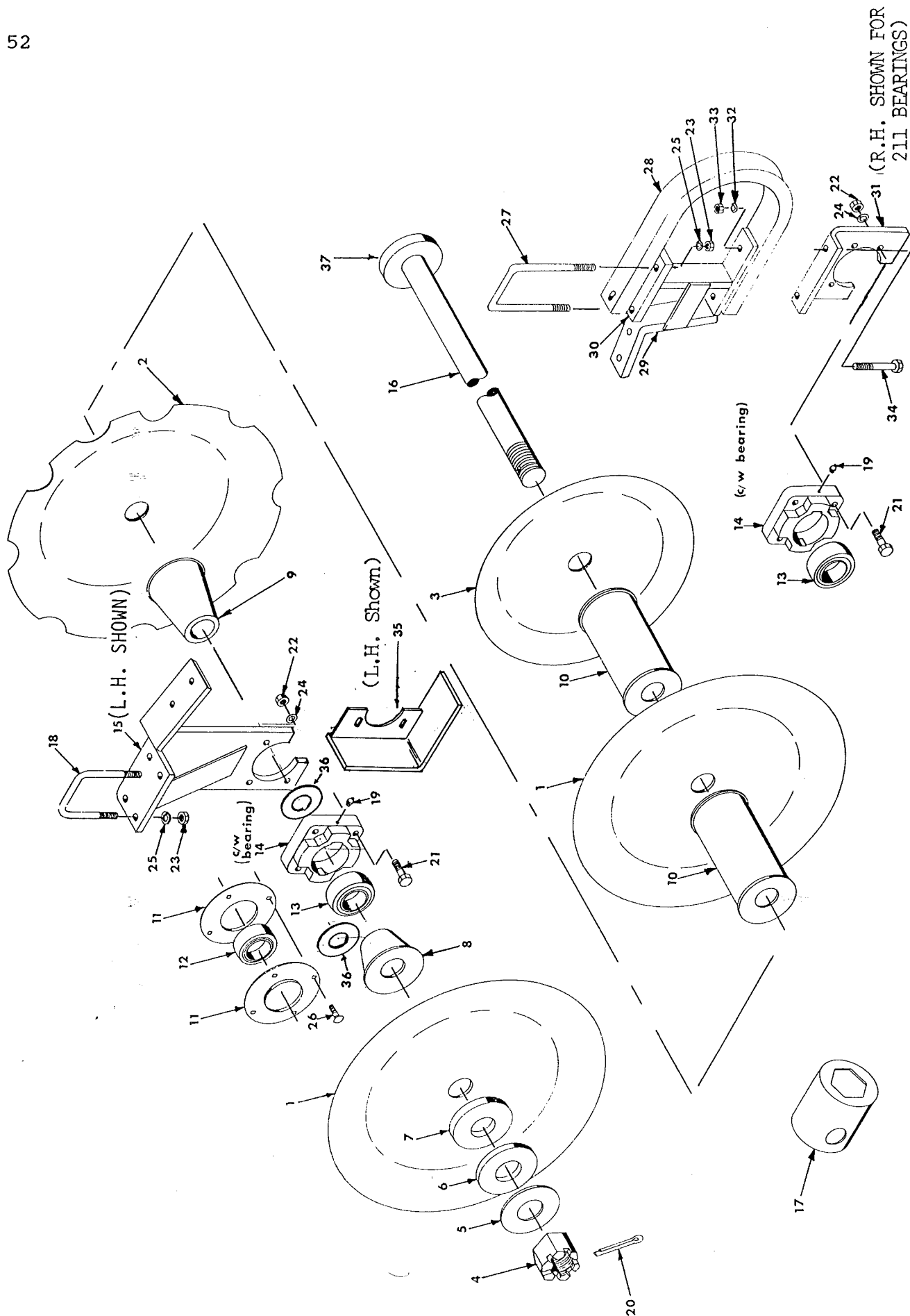
| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                            | QTY.<br>REQ'D. |
|-------------|-------------|------------------------------------------------------------------------|----------------|
| 2           |             | <u>REAR GANG BEAM FOR 8" SPACING MODEL<br/>1490 DISC ONLY</u>          |                |
|             | DBS4-90     | 90" Gang Beam (4" x 4") - 46 Blade Disc                                | 2              |
|             | DBS4-102    | 102" Gang Beam (4" x 4") - 50 Blade Disc                               | 2              |
|             | DBS4-108    | 108" Gang Beam (4" x 4") - 54 Blade Disc                               | 2              |
|             | DBS4-120    | 120" Gang Beam (4" x 4") - 58 Blade Disc                               | 2              |
|             | DBS4-126    | 126" Gang Beam (4" x 4") - 62 Blade Disc                               | 2              |
|             | DBS4-132    | 132" Gang Beam (4" x 4") - 66 Blade Disc                               | 2              |
|             | DBS4-144    | 144" Gang Beam (4" x 4") - 70 Blade Disc                               | 2              |
|             |             | <u>REAR GANG BEAM FOR 9" SPACING MODEL<br/>1490 DISC ONLY</u>          |                |
|             | DBS4-96     | 96" Gang Beam (4" x 4") - 42 Blade Disc                                | 2              |
|             | DBS4-102    | 102" Gang Beam (4" x 4") - 46 Blade Disc                               | 2              |
|             | DBS4-114    | 114" Gang Beam (4" x 4") - 50 Blade Disc                               | 2              |
|             | DBS4-126    | 126" Gang Beam (4" x 4") - 54 Blade Disc                               | 2              |
|             | DBS4-132    | 132" Gang Beam (4" x 4") - 58 Blade Disc                               | 2              |
|             | DBS4-144    | 144" Gang Beam (4" x 4") - 62 Blade Disc                               | 2              |
|             |             | <u>REAR GANG BEAM FOR 9" SPACING MODEL<br/>1500 DISC ONLY</u>          |                |
|             | DBS96       | 96" Gang Beam (6" x 4-1/2") - 42 Blade Disc                            | 2              |
|             | DBS102      | 102" Gang Beam (6" x 4-1/2") - 46 Blade Disc                           | 2              |
|             | DBS114      | 114" Gang Beam (6" x 4-1/2") - 50 Blade Disc                           | 2              |
|             | DBS126      | 126" Gang Beam (6" x 4-1/2") - 54 Blade Disc                           | 2              |
|             | DBS132      | 132" Gang Beam (6" x 4-1/2") - 58 Blade Disc                           | 2              |
|             | DBS144      | 144" Gang Beam (6" x 4-1/2") - 62 Blade Disc                           | 2              |
|             |             | <u>REAR GANG BEAM FOR 10-1/2" SPACING MODEL<br/>1500 DISC ONLY</u>     |                |
|             | DBS96       | 96" Gang Beam (6" x 4-1/2") - 38 Blade Disc                            | 2              |
|             | DBS108      | 108" Gang Beam (6" x 4-1/2") - 42 Blade Disc                           | 2              |
|             | DBS120      | 120" Gang Beam (6" x 4-1/2") - 46 Blade Disc                           | 2              |
|             | DBS132      | 132" Gang Beam (6" x 4-1/2") - 50 Blade Disc                           | 2              |
|             | DBS144      | 144" Gang Beam (6" x 4-1/2") - 54 Blade Disc                           | 2              |
|             |             | <u>REAR GANG BEAM FOR 12" SPACING MODEL<br/>1500 DISC ONLY</u>         |                |
|             | DBS102      | 102" Gang Beam (6" x 4-1/2") - 34 Blade Disc                           | 2              |
|             | DBS114      | 114" Gang Beam (6" x 4-1/2") - 38 Blade Disc                           | 2              |
|             | DBS126      | 126" Gang Beam (6" x 4-1/2") - 42 Blade Disc                           | 2              |
|             | DBS138      | 138" Gang Beam (6" x 4-1/2") - 46 Blade Disc                           | 2              |
|             | DBS150      | 150" Gang Beam (6" x 4-1/2") - 50 Blade Disc                           | 2              |
| 3           | DBS45-200   | 200" Stabilizer Beam (4-1/2" x 4-1/2") - Used<br>on Larger Models Only |                |
| 4           | DBS45-182   | 182" Stabilizer Beam (4-1/2" x 3-1/2") - Used<br>on Larger Models Only |                |

GANG BEAM STABILIZER BEAM PARTS LIST

51

MODEL 1490 - 1550 DISCS

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                                                                                | QTY.<br>REQ'D. |
|-------------|-------------|----------------------------------------------------------------------------------------------------------------------------|----------------|
| 5           | DG8621      | Gang Beam Clamp Plate - 9-1/2" Long<br>(Model 1490 Only)                                                                   | 16             |
|             | DG167       | Gang Beam Clamp Plate - 10-3/4" Long<br>(Model 1500 Only)                                                                  | 16             |
| 6           | DG163       | Front Gang Beam Shim (Model 1500 Only)<br>Used to Prevent Front Gangs From Ridging<br>(Not Supplied As Standard Equipment) | *              |
| 7           | DG161       | Clamp Plate - (Model 1500 Only) 10-1/2" Long                                                                               | 8              |
|             | DG8621      | Clamp Plate - (Model 1490 Only) 9-1/2" long                                                                                | 8              |
| 8           | DG8622      | Thrust Block - 6-1/4" Long (Model 1490 Only)                                                                               | 4              |
|             | DG5360      | Thrust Block - 8-1/2" Long (Model 1500 Only)                                                                               | 4              |
| 9           |             | 1" x 12" N.C. Hex. Bolt (Stabilizer Beams Only)                                                                            | 8              |
| 10          |             | 1-1/4" x 11-1/2" N.C. Hex. Bolt (Model 1490 Only)                                                                          | 16             |
|             |             | 1-1/4" x 12" N.C. Hex. Bolt (Model 1500 Only)                                                                              | 16             |
| 11          | DG6080      | 5/8" x 4" U-Bolt - 5-7/16" Long (Model 1490 Only)                                                                          | 4              |
|             | DG5314      | 7/8" x 6" U-Bolt - 6-1/4" Long (Model 1500 Only)                                                                           | 4              |
| 12          |             | 5/8" N.C. Hex. Nut (Model 1490 Only)                                                                                       | 8              |
|             |             | 7/8" N.C. Hex. Nut (Model 1500 Only)                                                                                       | 8              |
| 13          |             | 1" N.C. Hex. Nut - (Stabilizer Beams Only)                                                                                 | 8              |
| 14          |             | 1-1/4" N.C. Hex. Nut (All Models)                                                                                          | 16             |
| 15          |             | 5/8" Lockwasher (Model 1490 Only)                                                                                          | 4              |
|             |             | 7/8" Lockwasher (Model 1500 Only)                                                                                          | 4              |
| 16          |             | 2" O.D. x 1-1/32" I.D. x 1/4" Flatwasher<br>(Stabilizer Beams Only)                                                        | 16             |
| 17          |             | 2-1/2" O.D. x 9/32" I.D. x 1/4" Flatwasher                                                                                 | 16             |
| 18          | DGA5348     | Wrench For 1-1/4" Hex. Bolts (All Models)                                                                                  | 2              |
| 19          | DGA8634     | Front Gang Beam Shim (Model 1490 Only) Used<br>To Prevent Front Gangs From Ridging (Not<br>Supplies As standard Equipment) | *              |



## DISC GANG ASSEMBLY PARTS LIST

## MODEL 1490 DISC

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                                 | QTY.<br>REQ'D. |
|-------------|-------------|-----------------------------------------------------------------------------|----------------|
| 1           | DG149       | 20" x 6 mm (.236) Plain Disc Blade                                          | *              |
|             | DG64        | 22" x 6 mm (.236) Plain Disc Blade                                          | *              |
|             | DG60        | 22" x 7 mm (.275) Plain Disc Blade                                          | *              |
|             | DG68        | 24" x 6 mm (.236) Plain Disc Blade                                          | *              |
|             | DG76        | 24" x 7 mm (.275) Plain Disc Blade                                          | *              |
|             | DG137       | 24" x 8 mm (5/16") Plain Disc Blade                                         | *              |
| 2           | DG150       | 20" x 6 mm (.236) Notched Disc Blade                                        | *              |
|             | DG61        | 22" x 7 mm (.275) Notched Disc Blade                                        | *              |
|             | DG79        | 24" x 7 mm (.275) Notched Disc Blade                                        | *              |
|             | DG138       | 24" x 8 mm (5/16") Notched Disc Blade                                       | *              |
| 3           | DG84        | 16" x 4 mm (.157) Plain Outrigger Blade                                     | *              |
|             | DG133       | 18" x 5 mm (.197) Plain Outrigger Blade                                     | *              |
|             | DG134       | 20" x 5 mm (.197) Plain Outrigger Blade                                     | *              |
| 4           | DG82        | 2" Heavy Hex. Slotted Nut                                                   | *              |
| 5           | DG89        | 1/4" Shim Washer                                                            | *              |
| 6           | DG88        | 1/2" Shim Washer                                                            | *              |
| 7           | DG78        | 5" O.D. x 2" I.D. x 5/8" Head Washer                                        | *              |
| 8           | DGA108      | 8" Spacing Short Half Spool - 2-3/8" Long                                   | *              |
|             | DGA97       | 9" Spacing Short Half Spool - 3-1/4" Long w/5" Washer                       | *              |
| 9           | DGA102      | 8" and 9" Spacing Long Half Spool - 4-7/16" Long                            | *              |
| 10          | DGA113      | 8" Spacing Full Spool (8" Long)                                             | *              |
|             | DGA98       | 9" Spacing Full Spool With 5" End Washers (9" Long)                         | *              |
| 11          | DG93        | Heavy Duty Flangette For 210 Series Bearing                                 | *              |
| 12          | DG90        | 210 Series Sealed Bearings                                                  | *              |
| 13          | DG95        | 211 Series Greaseable Bearing                                               | *              |
|             | DG38        | 214 Series Greaseable Bearing                                               | *              |
| 14          | DGB5334     | 211 Housing c/w Bearing And Grease Fitting                                  | *              |
|             | DGB5335     | 214 Housing c/w Bearing And Grease Fitting                                  | *              |
| 15          | DGA6089     | L.H. Straight Bearing Hanger - 211 Series Bearing<br>Uses 5/8" x 4" U-Bolts | *              |
|             | DGA6090     | R.H. Straight Bearing Hanger - 211 Series Bearing<br>Uses 5/8" x 4" U-Bolts | *              |
|             | DGA10280    | L.H. Straight Bearing Hanger - 214 Series Bearing<br>Uses 5/8" x 4" U-Bolts | *              |
|             | DGA10281    | R.H. Straight Bearing Hanger - 214 Series Bearing<br>Use 5/8" x 4" U-Bolts  | *              |

\* AS REQUIRED

DISC GANG ASSEMBLY PARTS LIST  
MODEL 1490 DISC ONLY

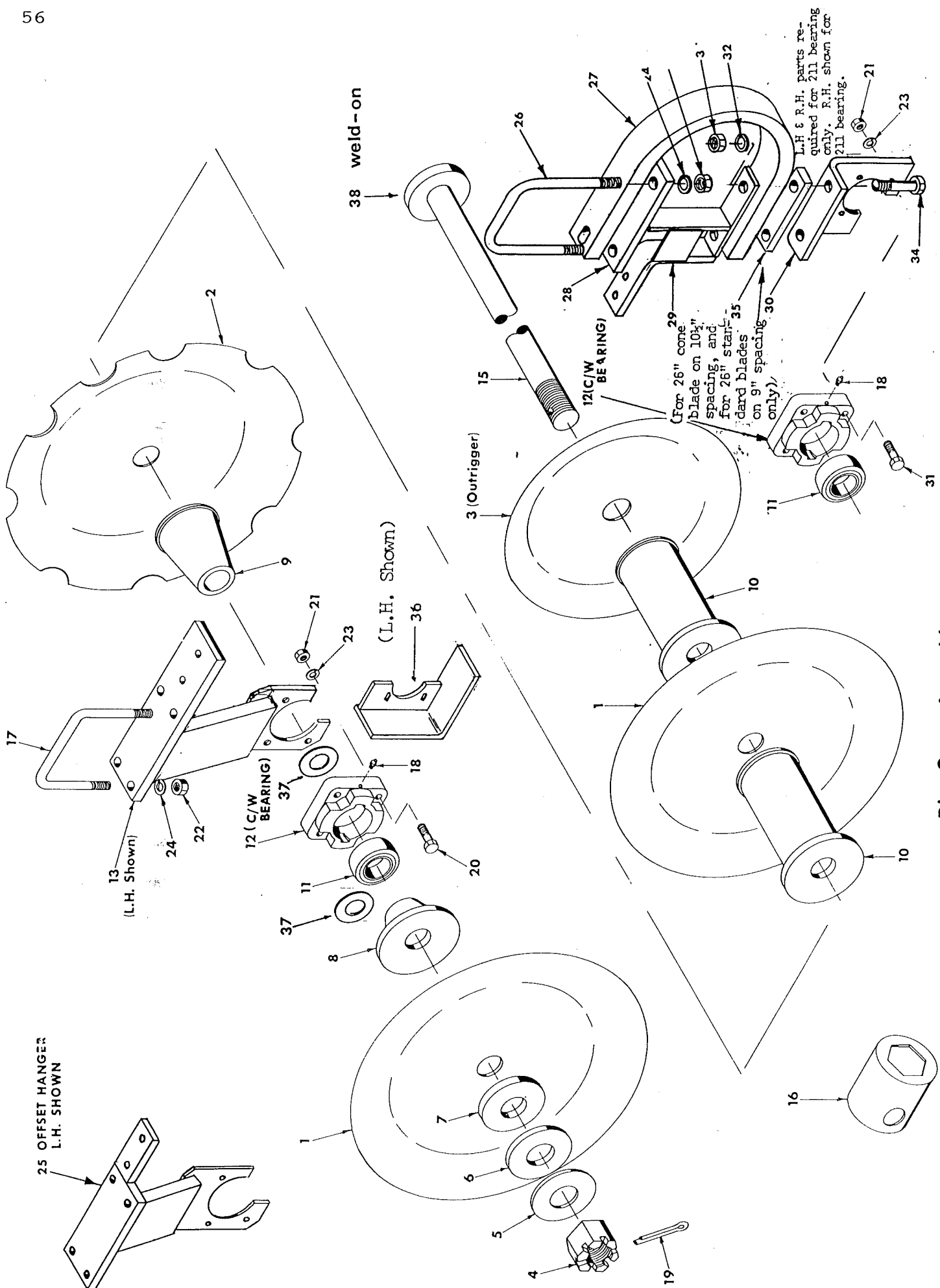
| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                 | QTY.<br>REQ'D. |
|-------------|-------------|-------------------------------------------------------------|----------------|
| 16          |             | <u>GANG BOLTS FOR 8" SPACING</u>                            |                |
|             | DGA86       | 6 Blade Gang Bolt - 46" Long                                | *              |
|             | DGA87       | 7 Blade Gang Bolt - 54-1/2" Long                            | *              |
|             | DGA88       | 8 Blade Gang Bolt - 62-3/4" Long                            | *              |
|             | DGA89       | 9 Blade Gang Bolt - 71" Long                                | *              |
|             | DGA90       | 10 Blade Gang Bolt - 79-1/2" Long                           | *              |
|             | DGA70       | 11 Blade Gang Bolt - 88-1/4" Long                           | *              |
|             | DGA92       | 12 Blade Gang Bolt - 96" Long                               | *              |
|             | DGA93       | 13 Blade Gang Bolt - 104-1/4" Long                          | *              |
|             | DGA94       | 14 Blade Gang Bolt - 112-1/2" Long                          | *              |
|             | DGA95       | 15 Blade Gang Bolt - 121" Long                              | *              |
|             |             | <u>GANG BOLTS FOR 9" SPACING</u>                            |                |
|             | DGA66       | 6 Blade Gang Bolt - 50-3/4" Long                            | *              |
|             | DGA67       | 7 Blade Gang Bolt - 60-1/2" Long                            | *              |
|             | DGA68       | 8 Blade Gang Bolt - 69-3/4" Long                            | *              |
|             | DGA69       | 9 Blade Gang Bolt - 78-3/4" Long                            | *              |
|             | DGA70       | 10 Blade Gang Bolt - 88-1/4" Long                           | *              |
|             | DGA71       | 11 Blade Gang Bolt - 97-1/2" Long                           | *              |
|             | DGA72       | 12 Blade Gang Bolt - 106-3/4" Long                          | *              |
|             | DGA73       | 13 Blade Gang Bolt - 115-3/4" Long                          | *              |
|             | DGA74       | 14 Blade Gang Bolt - 125" Long                              | *              |
| 17          | DGA35       | Socket Wrench                                               | 1              |
| 18          | DG6080      | 5/8" x 4" U-Bolt - 5-7/16" Long                             | *              |
| 19          | 10GN1       | 1/4" x 28" Grease Nipple                                    | *              |
| 20          | DG83        | 3/8" x 3" Cotter Pin                                        | *              |
| 21          |             | 1/2" x 2-1/4" N.C. Hex. Bolt                                | *              |
|             |             | 1/2" x 2-1/2" N.C. Hex. Bolt                                | *              |
|             |             | (If Sand Guard Is Used)                                     | *              |
| 22          |             | 1/2" N.C. Hex. Nut                                          | *              |
| 23          |             | 5/8" N.C. Hex. Nut                                          | *              |
| 24          |             | 1/2" Lockwasher                                             | *              |
| 25          |             | 5/8" Lockwasher                                             | *              |
| 26          |             | 1/2" x 1-3/4" N.C. Carriage Head Bolt                       | *              |
|             |             | 1/2" x 2" N.C. Carriage Head Bolt                           | *              |
|             | DG-10290    | (If Sand Guard Is Used)                                     | *              |
| 27          | DG8541      | 5/8" x 4" U-Bolt - 6-13/16" Long                            | *              |
| 28          | DG8150      | 1-1/4" x 2" Spring Shank                                    | *              |
| 29          | DGA8612     | Scraper Bar Support Bracket (Stone Flex Hanger)             | *              |
| 30          | DGA8617     | Backing Plate - (Stone Flex Hanger)                         | *              |
| 31          | DG5342      | Bracket L.H. Mounting For 211 Series -<br>Stone Flex Hanger | *              |

DISC GANG ASSEMBLY PARTS LIST  
MODEL 1490 DISC ONLY

55

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                   | QTY.<br>REQ'D. |
|-------------|-------------|---------------------------------------------------------------|----------------|
|             | DG5343      | Bracket R.H. Mounting For 211 Series -<br>Stone Flex Hanger   | *              |
|             | DG5324      | Bracket - Mounting For 214 Series - Stone<br>Flex Hanger      |                |
| 32          |             | 3/4" Lockwasher                                               | *              |
| 33          |             | 3/4" N.C. Hex. Nut                                            | *              |
| 34          |             | 3/4" x 3-1/2" N.C. Hex. Bolt                                  | *              |
| 35          | DGA37       | Sand Guard - R.H. For 211 Series Bearing<br>(California Only) | *              |
|             | DGA38       | Sand Guard - L.H. For 211 Series Bearing<br>(California Only) | *              |
|             | DGA39       | Sand Guard - R.H. For 214 Series Bearing<br>(California Only) | *              |
|             | DGA40       | Sand Guard - L.H. For 214 Series Bearing<br>(California Only) | *              |
| 36          | DG236       | 211 Gang Bearing Shield                                       | *              |
|             | DG237       | 214 Gang Bearing Shield                                       | *              |
| 37          | DGA5370     | 5" O.D. Weld-On Washer                                        | *              |

\* AS REQUIRED



Optional Spring Hanger

Disc Gang Assembly  
MODEL 1500

## DISC GANG PARTS LIST

## MODEL 1500 DISC

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                                                            | QTY.<br>REQ'D. |
|-------------|-------------|--------------------------------------------------------------------------------------------------------|----------------|
| 1           | DG60        | 22" x 7 mm (.275) Plain Disc Blade                                                                     | *              |
|             | DG76        | 24" x 7 mm (.275) Plain Disc Blade                                                                     | *              |
|             | DG137       | 24" x 8 mm (5/16") Plain Disc Blade                                                                    | *              |
|             | DG80        | 26" x 7 mm (.275) Plain Disc Blade                                                                     | *              |
|             | DG74        | 26" x 8 mm (5/16") Plain Disc Blade                                                                    | *              |
|             | DG145       | 22" x 7 mm (.275) Cone Disc Blade - Solid                                                              | *              |
|             | DG139       | 24" x 7 mm (.275) Cone Disc Blade - Solid                                                              | *              |
|             | DG141       | 26" x 7 mm (.275) Cone Disc Blade - Solid                                                              | *              |
|             | DG157       | 26" x 8 mm (5/16") Cone Disc Blade - Solid                                                             | *              |
|             |             |                                                                                                        |                |
| 2           | DG61        | 22" x 7 mm (.275) Notched Disc Blade                                                                   | *              |
|             | DG79        | 24" x 7 mm (.275) Notched Disc Blade                                                                   | *              |
|             | DG138       | 24" x 8 mm (5/16") Notched Disc Blade                                                                  | *              |
|             | DG81        | 26" x 7 mm (.275) Notched Disc Blade                                                                   | *              |
|             | DG75        | 26" x 8 mm (5/16") Notched Disc Blade                                                                  | *              |
|             | DG146       | 22" x 7 mm (.275) Cone Disc Blade - Solid                                                              | *              |
|             | DG142       | 26" x 7 mm (.275) Cone Disc Blade - Solid                                                              | *              |
|             | DG158       | 26" x 8 mm (5/16") Cone Disc Blade - Solid                                                             | *              |
| 3           | DG84        | 16" x 4 mm (.157) Plain Outrigger Blade                                                                | *              |
|             | DG133       | 18" x 5 mm (.197) Plain Outrigger Blade                                                                | *              |
|             | DG134       | 20" x 5 mm (.197) Plain Outrigger Blade                                                                | *              |
|             | DG64        | 22" x 6 mm (.236) Plain Outrigger Blade                                                                | *              |
| 4           | DG82        | 2" N.C. Heavy Hex. Slotted Nut                                                                         | *              |
| 5           | DG89        | 1/4" Shim Washer                                                                                       | *              |
| 6           | DG88        | 1/2" Shim Washer                                                                                       | *              |
| 7           | DG78        | 5" O.D. x 2" I.D. x 5/8" Head Washer                                                                   | *              |
| 8           | DGA106**    | 9" & 10-1/2" Spacing Short Half Spool For 211 & 214 Bearings. 3-1/4" Long (Convex Side) With 6" Washer | *              |
| 9           | DGA110**    | 12" Spacing Short Half Spool For 211 & 214 Bearings. 4-3/4" Long (Convex Side) With 6" Washer          | *              |

\* AS REQUIRED

\*\* 6" DIAMETER

## DISC GANG PARTS LIST

## MODEL 1500 DISC

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                                              | QTY.<br>REQ'D. |
|-------------|-------------|------------------------------------------------------------------------------------------|----------------|
| 9           | DGA102      | 9" Spacing Long Half Spool For 211 Bearings<br>4-7/16" Long (Concave Side)               | *              |
|             | DGA103      | 9" Spacing Long Half Spool For 214 Bearings<br>4-3/16" Long (Concave Side)               | *              |
|             | DGA104      | 10-1/2" and 12" Spacing Long Half Spool For<br>211 Bearings 5-15/16" Long (Concave Side) | *              |
|             | DGA105      | 10-1/2" and 12" Spacing Long Half Spool For<br>214 Bearings 5-11/16" Long (Concave Side) | *              |
| 10          | DGA100      | 9" Spacing Spool - 6" Dia. One End                                                       | *              |
|             | DGA101      | 10-1/2" Spacing Spool - 6" Dia. One End                                                  | *              |
|             | DGA111      | 12" Spacing Spool - 6" Dia. One End                                                      | *              |
| 11          | DG95        | 211 Series Greaseable Bearing                                                            | *              |
|             | DG38        | 214 Series Greaseable Bearing                                                            | *              |
| 12          | DGB5334     | 211 Housing c/w Bearing and Grease Fitting                                               | *              |
|             | DGB5335     | 214 Housing c/w Bearing and Grease Fitting                                               | *              |
| 13          | DGA5315     | R.H. Bearing Hanger - 211 Series Bearing<br>Uses 7/8" x 6" U-Bolt                        | *              |
|             | DGA5317     | L.H. Bearing Hanger - 211 Series Bearing<br>Uses 7/8" x 6" U-Bolt                        | *              |
|             | DGA5318     | R.H. Bearing Hanger - 214 Series Bearing<br>Uses 7/8" x 6" U-Bolt                        | *              |
|             | DGA5319     | L.H. Bearing Hanger - 214 Series Bearing<br>Uses 7/8" x 6" U-Bolt                        | *              |
| 15          |             | <u>GANG BOLTS FOR 9" SPACING</u>                                                         |                |
|             | DGA66       | 6 Blade Gang Bolt - 52" Long                                                             | *              |
|             | DGA67       | 7 Blade Gang Bolt - 61-3/4" Long                                                         | *              |
|             | DGA68       | 8 Blade Gang Bolt - 71" Long                                                             | *              |
|             | DGA69       | 9 Blade Gang Bolt - 80" Long                                                             | *              |
|             | DGA70       | 10 Blade Gang Bolt - 89-1/2" Long                                                        | *              |
|             | DGA71       | 11 Blade Gang Bolt - 98-3/4" Long                                                        | *              |
|             | DGA72       | 12 Blade Gang Bolt - 108" Long                                                           | *              |
|             | DGA73       | 13 Blade Gang Bolt - 117-1/2" Long                                                       | *              |
|             | DGA74       | 14 Blade Gang Bolt - 126-1/2" Long                                                       | *              |
|             |             | <u>GANG BOLTS FOR 10-1/2" SPACING</u>                                                    |                |
|             | DGA79       | 9 Blade Gang Bolt - 92" Long                                                             | *              |
|             | DGA80       | 10 Blade Gang Bolt - 103" Long                                                           | *              |
|             | DGA81       | 11 Blade Gang Bolt - 113-3/4" Long                                                       | *              |

\* AS REQUIRED

## DISC GANG PARTS LIST

## MODEL 1500 DISC

| REF.<br>NO. | PART<br>NO.                                                                          | DESCRIPTION                                                                                     | QTY.<br>REQ'D. |
|-------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------|
| 15          | DGA82<br>DGA83<br>DGA84                                                              | <u>GANG BOLTS FOR 10-1/2" SPACING</u>                                                           |                |
|             |                                                                                      | 12 Blade Gang Bolt - 124-3/4" Long                                                              | *              |
|             |                                                                                      | 13 Blade Gang Bolt - 135-1/2" Long                                                              | *              |
|             |                                                                                      | 14 Blade Gang Bolt - 146-1/2" Long                                                              | *              |
|             | DGA115<br>DGA69<br>DGA79<br>DGA118<br>DGA119<br>DGA120<br>DGA121<br>DGA122<br>DGA123 | <u>GANG BOLTS FOR 12" SPACING</u>                                                               |                |
|             |                                                                                      | 6 Blade Gang Bolt - 67-3/4" Long                                                                | *              |
|             |                                                                                      | 7 Blade Gang Bolt - 80" Long                                                                    | *              |
|             |                                                                                      | 8 Blade Gang Bolt - 92" Long                                                                    | *              |
|             |                                                                                      | 9 Blade Gang Bolt - 104-3/4" Long                                                               | *              |
|             |                                                                                      | 10 Blade Gang Bolt - 117" Long                                                                  | *              |
|             |                                                                                      | 11 Blade Gang Bolt - 129" Long                                                                  | *              |
|             |                                                                                      | 12 Blade Gang Bolt - 141-3/4" Long                                                              | *              |
|             |                                                                                      | 13 Blade Gang Bolt - 153-3/4" Long                                                              | *              |
|             |                                                                                      | 14 Blade Gang Bolt - 166-1/4" Long                                                              | *              |
| 16          | DGA35                                                                                | Socket Wrench                                                                                   | *              |
| 17          | DG5314                                                                               | U-Bolt 7/8" x 6-3/8" Long. Use on Standard<br>Hangers For Spring Shank Hangers Use Part #DG5325 | *              |
| 18          | 10GN1                                                                                | 1/4" x 28 Grease Nipple                                                                         | *              |
| 19          |                                                                                      | 3/8" x 3" Cotter Pin                                                                            | *              |
| 20          |                                                                                      | 1/2" x 2" N.C. Hex. Bolt - 211 Series Bearing                                                   | *              |
|             |                                                                                      | 1/2" x 2-1/4" N.C. Hex. Bolt - 211 Series Bearing<br>(If Sand Guards Are Used)                  | *              |
|             |                                                                                      | 5/8" x 2-1/4" N.C. Hex. Bolt - 214 Series Bearing                                               | *              |
|             |                                                                                      | 5/8" x 2-1/2" N.C. Hex. Bolt - 214 Series Bearing<br>(If Sand Guards Are Used)                  | *              |
| 21          |                                                                                      | 5/8" N.C. Hex. Nut - For 211 Series Bearing                                                     | *              |
|             |                                                                                      | 1/2" N.C. Hex. Nut - For 214 Series Bearing                                                     | *              |
| 22          |                                                                                      | 7/8" N.C. Hex. Nut                                                                              | *              |
| 23          |                                                                                      | 1/2" Lockwasher - For 211 Series Bearing                                                        | *              |
|             |                                                                                      | 5/8" Lockwasher - For 214 Series Bearing                                                        | *              |
| 24          |                                                                                      | 7/8" Lockwasher                                                                                 | *              |
| 25          | DGA5320                                                                              | R.H. Offset Hanger - 211 Series Hanger<br>(7/8" x 6" U-Bolt) - 2" Offset                        | *              |
|             | DGA5321                                                                              | L.H. Offset Hanger - 211 Series Hanger<br>(7/8" x 6" U-Bolt) - 2" Offset                        | *              |
|             | DGA5322                                                                              | R.H. Offset Hanger - 214 Series Hanger<br>(7/8" x 6" U-Bolt) - 2" Offset                        | *              |
|             | DGA5323                                                                              | L.H. Offset Hanger - 214 Series Hanger<br>(7/8" x 6" U-Bolt) - 2" Offset                        | *              |

\* AS REQUIRED

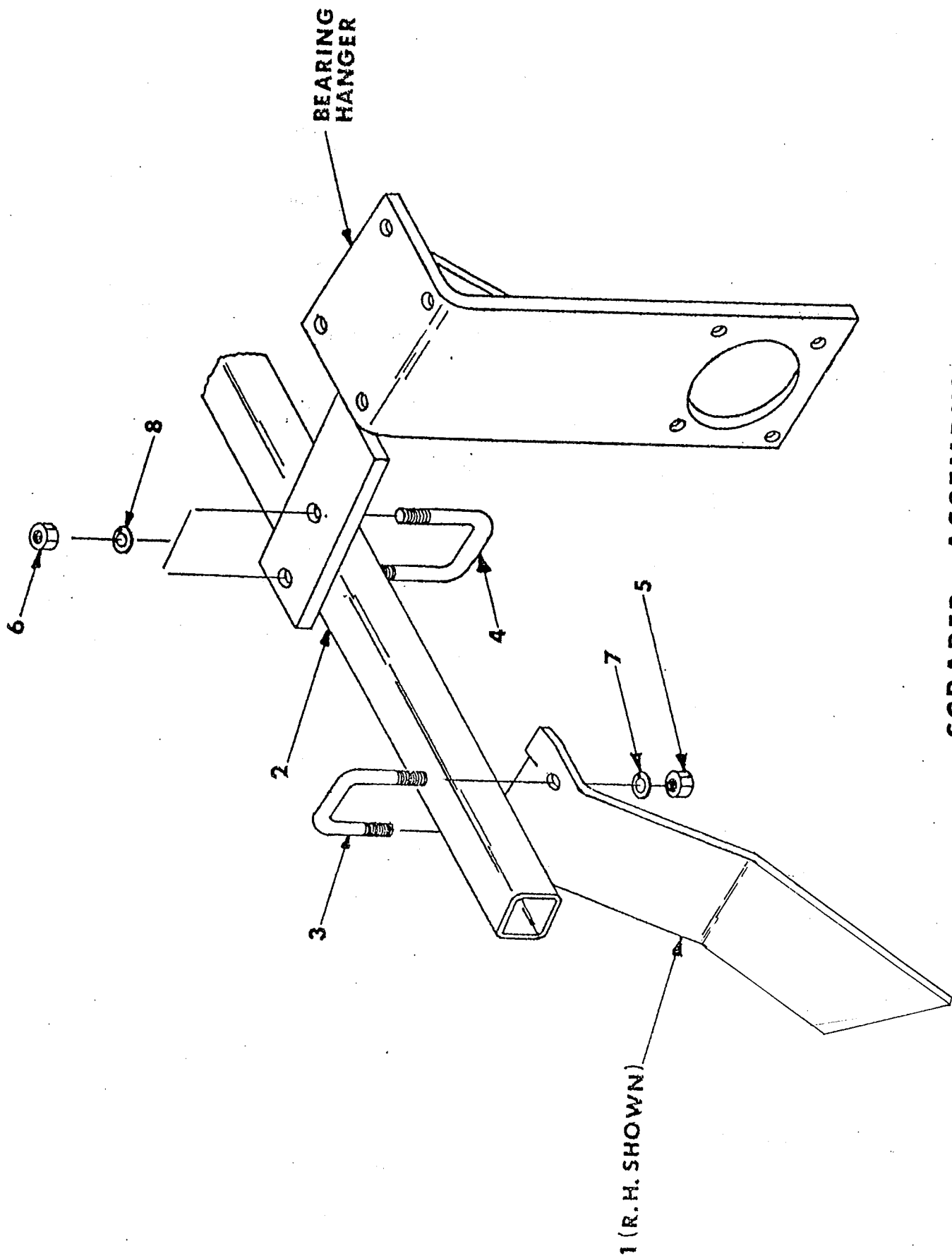
DISC GANG PARTS LIST  
MODEL 1500 DISC

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                                                                                                                                                | QTY.<br>REQ'D. |
|-------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 26          | DG5325      | 7/8" U-Bolt x 7-5/8" Long (Stone Flex Hanger)                                                                                                                                              | *              |
| 27          | DG5313      | Spring Shank 1-1/4" x 2-1/2" (Stone Flex Hanger)                                                                                                                                           | *              |
| 28          | DGA5328     | Backing Plate (Stone Flex Hanger)                                                                                                                                                          | *              |
| 29          | DGA5333     | Scraper Bar Support Bracket - For Standard Stone Flex Hanger (Shown) and 1-1/2" Offset Brackets For Discs With 26" Cone Blades on 10-1/2" and 12" Spacing or 24" Cone Blades on 9" Spacing | *              |
|             | DGA5336     | Scraper Bar Support Bracket - For Offset Stone Flex Hanger - Used on Front L.H. Gang or Rear R.H. Gang                                                                                     | *              |
|             | DGA5337     | Scraper Bar Support Bracket - For Offset Stone Flex Hanger - Used on Front R.H. Gang or Rear L.H. Gang                                                                                     | *              |
| 30          | DG5342      | Bracket L.H. Mounting For 211 Series - Standard Stone Flex Hanger                                                                                                                          | *              |
|             | DG5343      | Bracket R.H. Mounting For 211 Series - Standard Stone Flex Hanger                                                                                                                          | *              |
|             | DG5374      | Bracket L.H. Mounting For 211 Series - 1-1/2" Offset Stone Flex Hanger                                                                                                                     | *              |
|             | DG5375      | Bracket R.H. Mounting For 211 Series - 1-1/2" Offset Stone Flex Hanger                                                                                                                     | *              |
|             | DGA5344     | Bracket L.H. Mounting For 211 Series - 2" Offset Stone Flex Hanger                                                                                                                         | *              |
|             | DGA5345     | Bracket R.H. Mounting For 211 Series - 2" Offset Stone Flex Hanger                                                                                                                         | *              |
|             | DGA5324     | Mounting Bracket For 214 Series - Standard Stone Flex Hanger                                                                                                                               | *              |
|             | DGA5376     | Mounting Bracket For 214 Series - 1-1/2" Offset Stone Flex Hanger                                                                                                                          | *              |
|             | DGA5341     | Mounting Bracket For 214 Series - 2-1/2" Offset Stone Flex Hanger                                                                                                                          | *              |
| 31          |             | 1/2" x 2-1/4" N.C. Hex. Bolt - 211 Series Bearing                                                                                                                                          | *              |
|             |             | 1/2" x 2-1/2" N.C. Hex. Bolt - 211 Series Bearing (If Sand Guards Are Used)                                                                                                                | *              |
|             |             | 5/8" x 2-1/4" N.C. Hex. Bolt - 214 Series Bearing                                                                                                                                          | *              |
|             |             | 5/8" x 2-1/2" N.C. Hex. Bolt - 214 Series Bearing (If Sand Guards Are Used)                                                                                                                | *              |
| 32          |             | 3/4" Lockwasher                                                                                                                                                                            | *              |
| 33          |             | 3/4" N.C. Hex. Nut                                                                                                                                                                         | *              |
| 34          |             | 3/4" x 3-1/2" Hex. Bolt                                                                                                                                                                    | *              |
|             |             | 3/4" x 4-1/2" Hex. Bolt - Used When Spring Hanger is Equipped With Spacer #DG5332                                                                                                          | *              |

DISC GANG PARTS LIST  
MODEL 1500 DISC

| REF.<br>NO.                                                                                                                                     | PART<br>NO. | DESCRIPTION                                                                                   | QTY.<br>REQ'D. |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------|----------------|
| 35                                                                                                                                              | DG5332      | Shim - Used With Disc With 26" Cone Blade<br>And Discs With 26" Standard Blades on 9" Spacing | *              |
| ***NOTE: DISCS SHIPPED AFTER JULY 15, 1988. Shim Is No Longer Required For<br>Models With 10-1/2" And 12" Spacing Regardless Of Whatever Blade. |             |                                                                                               |                |
| 36                                                                                                                                              | DGA37       | Sand Guard, R.H. For 211 Series Bearing<br>(California Only)                                  | *              |
|                                                                                                                                                 | DGA38       | Sand Guard, L.H. For 211 Series Bearing<br>(California Only)                                  | *              |
|                                                                                                                                                 | DGA39       | Sand Guard, R.H. For 214 Series Bearing<br>(California Only)                                  | *              |
|                                                                                                                                                 | DGA40       | Sand Guard, L.H. For 214 Series Bearing<br>(California Only)                                  | *              |
| 37                                                                                                                                              | DG236       | 211 Gang Bearing Shield                                                                       | *              |
|                                                                                                                                                 | DG237       | 214 Gang Bearing Shield                                                                       | *              |
| 38                                                                                                                                              | DGA5370     | 5" O.D. Weld-On Washer                                                                        | *              |

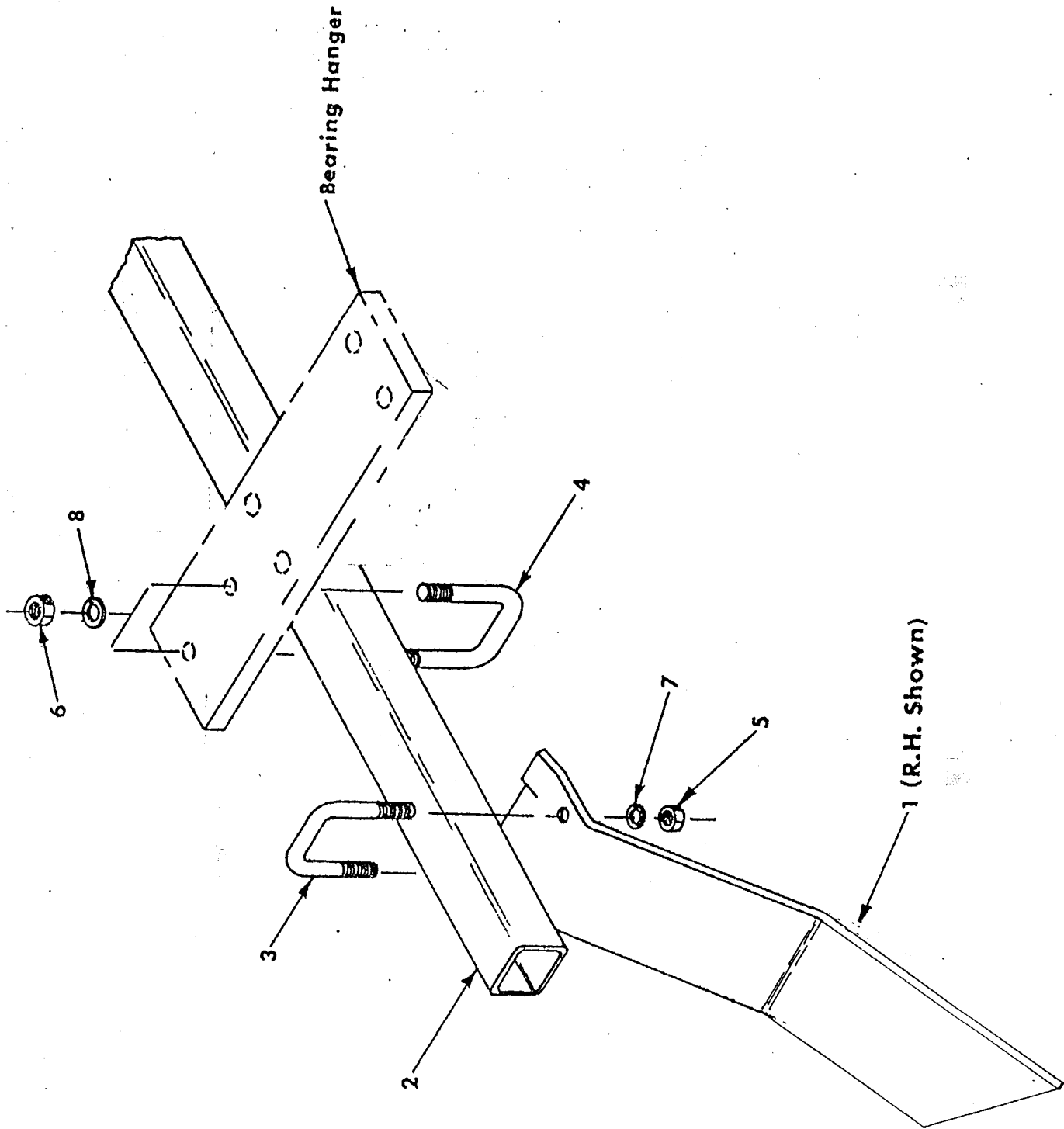
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SCRAPER ASSEMBLY  
MODEL 1490

SCRAPER ASSEMBLY PARTS LIST  
MODEL 1490 DISC

| REF.<br>NO. | PART<br>NO.      | DESCRIPTION                                                                            | QTY.<br>REQ'D. |
|-------------|------------------|----------------------------------------------------------------------------------------|----------------|
| 1           | DG6083<br>DG6084 | L.H. Scraper - Used With 5/8" x 6" Hanger<br>R.H. Scraper - Used Wirh 5/8" x 6" Hanger | *<br>*         |
| 2           |                  | <u>SCRAPER BAR FOR 8" SPACING DISC</u>                                                 |                |
|             | DS49             | 6 Blade Scraper Bar - 49"                                                              | *              |
|             | DS57             | 7 Blade Scraper Bar - 57-1/2"                                                          | *              |
|             | DS65             | 8 Blade Scraper Bar - 65-1/2"                                                          | *              |
|             | DS73             | 9 Blade Scraper Bar - 73-1/2"                                                          | *              |
|             | DS82             | 10 Blade Scraper Bar - 82"                                                             | *              |
|             | DS90             | 11 Blade Scraper Bar - 90"                                                             | *              |
|             | DS99             | 12 Blade Scraper Bar - 99"                                                             | *              |
|             | DS107            | 13 Blade Scraper Bar - 107"                                                            | *              |
|             | DS115            | 14 Blade Scraper Bar - 115-1/2"                                                        | *              |
|             | DS123            | 15 Blade Scraper Bar - 123-1/2"                                                        | *              |
|             |                  | <u>SCRAPER BAR FOR 9" SPACING DISC</u>                                                 |                |
|             | DS55             | 6 Blade Scraper Bar - 55"                                                              | *              |
|             | DS64             | 7 Blade Scraper Bar - 64"                                                              | *              |
|             | DS73             | 8 Blade Scraper Bar - 73-1/2"                                                          | *              |
|             | DS82             | 9 Blade Scraper Bar - 82"                                                              | *              |
|             | DS92             | 10 Blade Scraper Bar - 92"                                                             | *              |
|             | DS101            | 11 Blade Scraper Bar - 101-1/2"                                                        | *              |
|             | DS110            | 12 Blade Scraper Bar - 110"                                                            | *              |
|             | DS120            | 13 Blade Scraper Bar - 120"                                                            | *              |
|             | DS129            | 14 Blade Scraper Bar - 129-1/2"                                                        | *              |
| 3           | DG5308           | 1/2" x 2" U-Bolt                                                                       | *              |
| 4           | DG5309           | 5/8" x 2" U-Bolt                                                                       | *              |
| 5           |                  | 1/2" N.C. Hex. Nut                                                                     | *              |
| 6           |                  | 5/8" N.C. Hex. Nut                                                                     | *              |
| 7           |                  | 1/2" Lockwasher                                                                        | *              |
| 8           |                  | 5/8" Lockwasher                                                                        | *              |

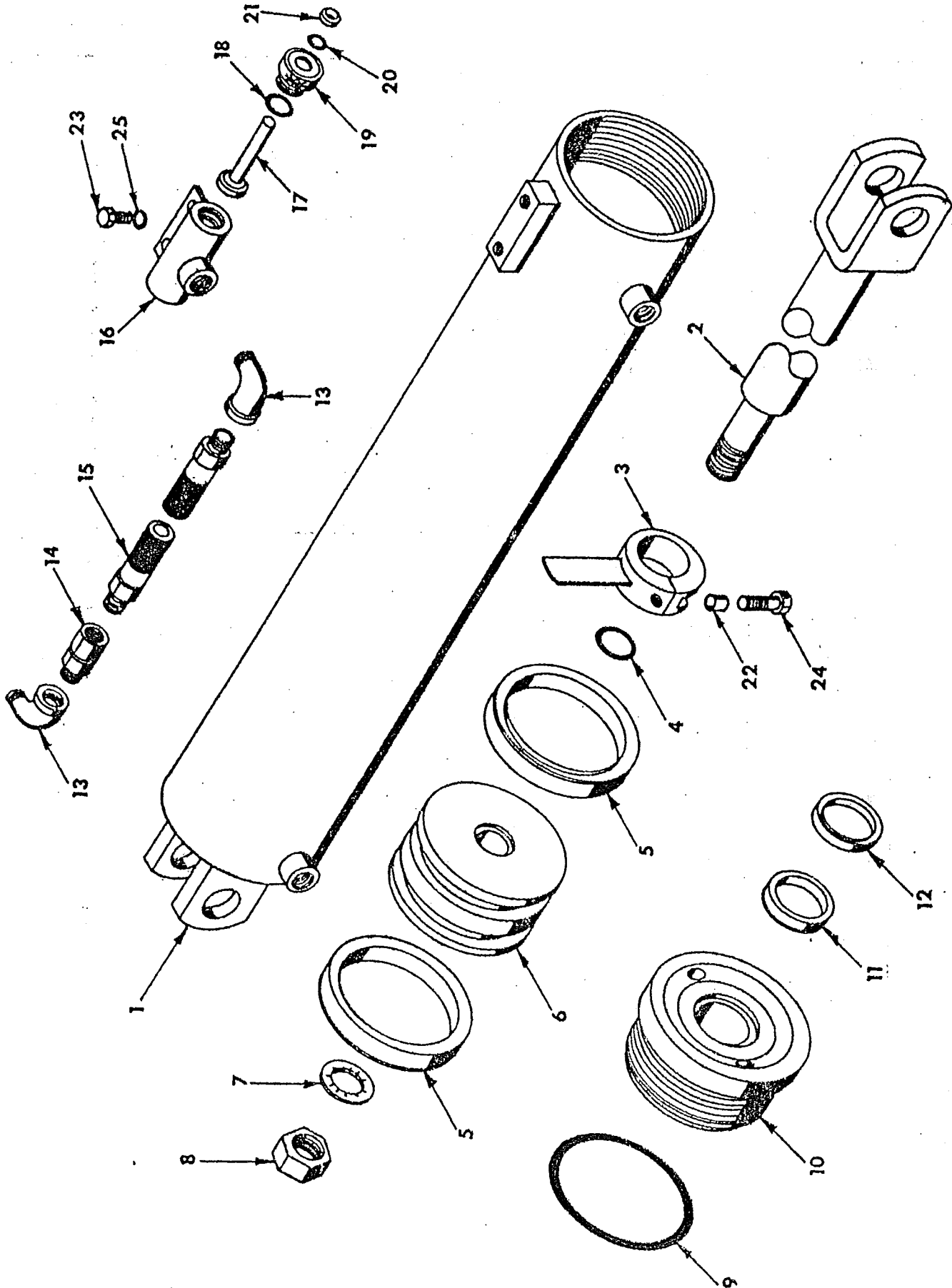


**SCRAPER ASSEMBLY  
MODEL 1500**

## SCRAPER ASSEMBLY PARTS LIST

## MODEL 1500 DISC

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                 | QTY.<br>REQ'D. |
|-------------|-------------|---------------------------------------------|----------------|
| 1           | DG5300      | L.H. Scraper                                | *              |
|             | DG5301      | R.H. Scraper                                | *              |
|             | DG5304      | L.H. Scraper (For Cone Blades Only)         | *              |
|             | DG5305      | R.H. Scraper (For Cone Blades Only)         | *              |
| 2           |             | <u>SCRAPER BAR FOR 9" SPACING DISC</u>      |                |
|             | DS55        | 6 Blade Scraper Bar - 55"                   | *              |
|             | DS64        | 7 Blade Scraper Bar - 64"                   | *              |
|             | DS73        | 8 Blade Scraper Bar - 73-1/2"               | *              |
|             | DS82        | 9 Blade Scraper Bar - 82"                   | *              |
|             | DS92        | 10 Blade Scraper Bar - 92"                  | *              |
|             | DS101       | 11 Blade Scraper Bar - 101-1/2"             | *              |
|             | DS110       | 12 Blade Scraper Bar - 110"                 | *              |
|             | DS120       | 13 Blade Scraper Bar - 120"                 | *              |
|             | DS129       | 14 Blade Scraper Bar - 129-1/2"             | *              |
|             |             | <u>SCRAPER BAR FOR 10-1/2" SPACING DISC</u> |                |
|             | DS94        | 9 Blade Scraper Bar - 94-1/2"               | *              |
|             | DS105       | 10 Blade Scraper Bar - 105"                 | *              |
|             | DS115       | 11 Blade Scraper Bar - 115-1/2"             | *              |
|             | DS127       | 12 Blade Scraper Bar - 127-1/2"             | *              |
|             | DS138       | 13 Blade Scraper Bar - 138"                 | *              |
|             | DS149       | 14 Blade Scraper Bar - 149"                 | *              |
|             |             | <u>SCRAPER BAR FOR 12" SPACING DISC</u>     |                |
|             | DS70        | 6 Blade Scraper Bar - 70"                   | *              |
|             | DS82        | 7 Blade Scraper Bar - 82"                   | *              |
|             | DS94        | 8 Blade Scraper Bar - 94-1/2"               | *              |
|             | DS107       | 9 Blade Scraper Bar - 107"                  | *              |
|             | DS119       | 10 Blade Scraper Bar - 120"                 | *              |
|             | DS131       | 11 Blade Scraper Bar - 132"                 | *              |
|             | DS144       | 12 Blade Scraper Bar - 144"                 | *              |
| 3           | DG5308      | 1/2" x 2" U-Bolt                            | *              |
| 4           | DG5309      | 5/8" x 2" U-Bolt                            | *              |
| 5           |             | 1/2" N.C. Hex. Nut                          | *              |
| 6           |             | 5/8" N.C. Hex. Nut                          | *              |
| 7           |             | 1/2" Lockwasher                             | *              |
| 8           |             | 5/8" Lockwasher                             | *              |



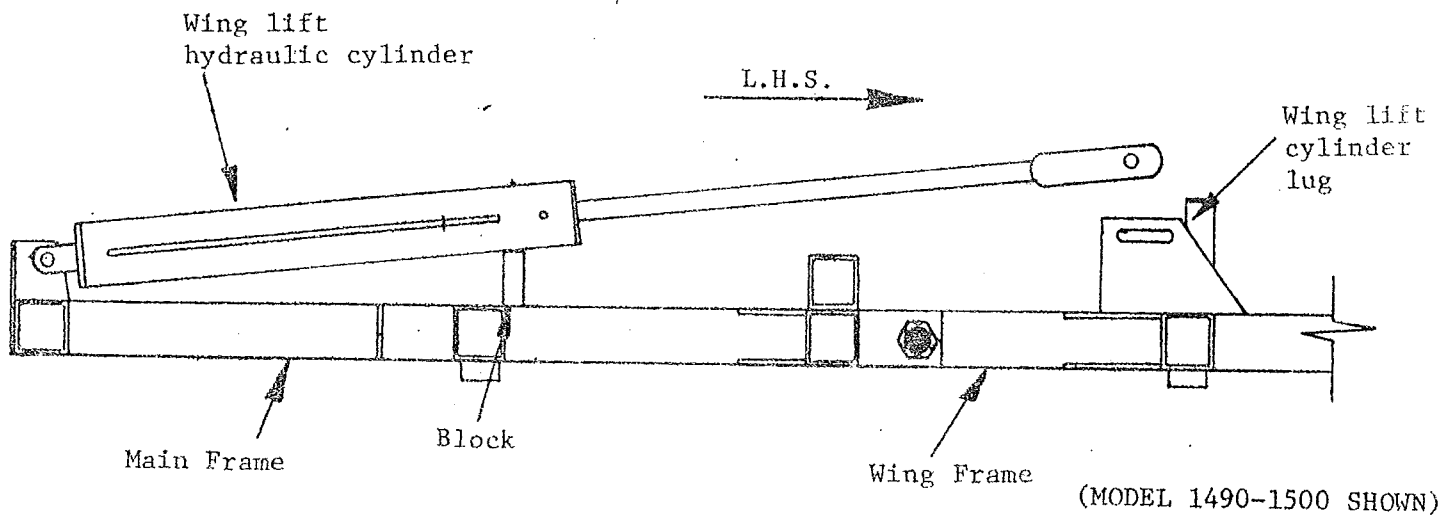
ROCKSHAFT CYLINDER  
N4 TYPE

ROCKSHAFT CYLINDER PARTS LIST  
N4 - NUT TYPE - (HYDRAULIC DEPTH CONTROL)  
MODEL 1490-1500 DISC

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                                         | QTY.<br>REQ'D |
|-------------|-------------|-------------------------------------------------------------------------------------|---------------|
| 1           | 40TU5       | Tube Assembly - 4" x 24"                                                            | 1             |
| 2           | 10SH34      | Shaft - 1-3/4" x 24" (can order Shaft<br>#10SH26 and Pin from Model 2590-2600 Disc) | 1             |
| 3           | DCA6        | Depth Control Stop c/w Spacer (ref. no. 22)<br>and Bolt (ref. no. 24)               | 1             |
| 4           | 10OR13      | 1/8" x 1-1/4" O.D. O-Ring                                                           | 1             |
| 5           | 40CU3       | U-Cup - 3-1/2" x 4" x 3/8"                                                          | 2             |
| 6           | 40PB5       | Piston - 4" O.D. x 2-1/2" long                                                      | 1             |
| 7           | 10SW2       | Internal Star Washer - 1" I.D.                                                      | 1             |
| 8           | 10NU2       | 1" - 14 UNS Hex. Nut                                                                | 1             |
| 9           | 10OR17      | 3/16" x 4" O.D. O-Ring                                                              | 1             |
| 10          | 40HP4       | Head Plate - 4" O.D. x 1-3/4" I.D.                                                  | 1             |
| 11          | 10RS3       | Rod Seal - 1-3/4" x 2-1/8" x 3/8"                                                   | 1             |
| 12          | 10WS3       | Wiper Seal - 1-3/4" x 2-1/8" x 3/16"                                                | 1             |
| 13          | DL5271      | 1/2" x 90 degree Street Elbow                                                       | 2             |
| 14          | DC27        | 1/2" Male-Female Swivel                                                             | 1             |
| 15          | H25-1       | 1/2" x 25" Hose                                                                     | 1             |
| 16          | DCA7        | Depth Control Assembly c/w Piston, Plug, Two<br>O-rings and Wiper Seal              | 1             |
| 17          | DC28        | Piston - for Depth Control Stop                                                     | 1             |
| 18          | DC29        | 1-1/16" O.D. x 7/8" I.D. O-Ring                                                     | 1             |
| 19          | DC30        | Plug                                                                                | 1             |
| 20          | DC20        | 1/16" x 1/2" O.D. O-Ring                                                            | 1             |
| 21          | DC32        | Wiper Seal - 3/8" x 5/8" x 3/16"                                                    | 1             |
| 22          | DC33        | Spacer - 3/8" I.D. x 11/16" long                                                    | 1             |
| 23          |             | 1/2" x 7/8" N.C. Hex. Bolt                                                          | 2             |
| 24          |             | 3/8" x 1-3/4" N.C. Hex. Bolt                                                        | 1             |
| 25          |             | 1/2" Lockwasher                                                                     | 2             |



MODEL 1490 -1500 -1590 -1600 - 3590-3600 DISC



PINNING SHAFT END OF WING LIFT CYLINDERS

IMPORTANT:

If wing lift cylinder(s) is unpinned at shaft end and retracted to allow more wing flexibility, or when cylinder(s) is attached during initial assembly, extra care must be used when attaching shaft end of cylinder.

To attach shaft end of cylinder(s), block up cylinder as shown in ILL. above. This will allow cylinder shaft(s) to pass over cylinder lug when cylinder is being extended.

If cylinder is not blocked up, the end of cylinder shaft may STRIKE cylinder lug, causing serious damage to cylinder(s).

**IMPORTANT STORAGE NOTE:**

When storing disc for winter, DO NOT LEAVE CYLINDERS UNDER HYDRAULIC PRESSURE, especially if cylinders are activated during cold weather.

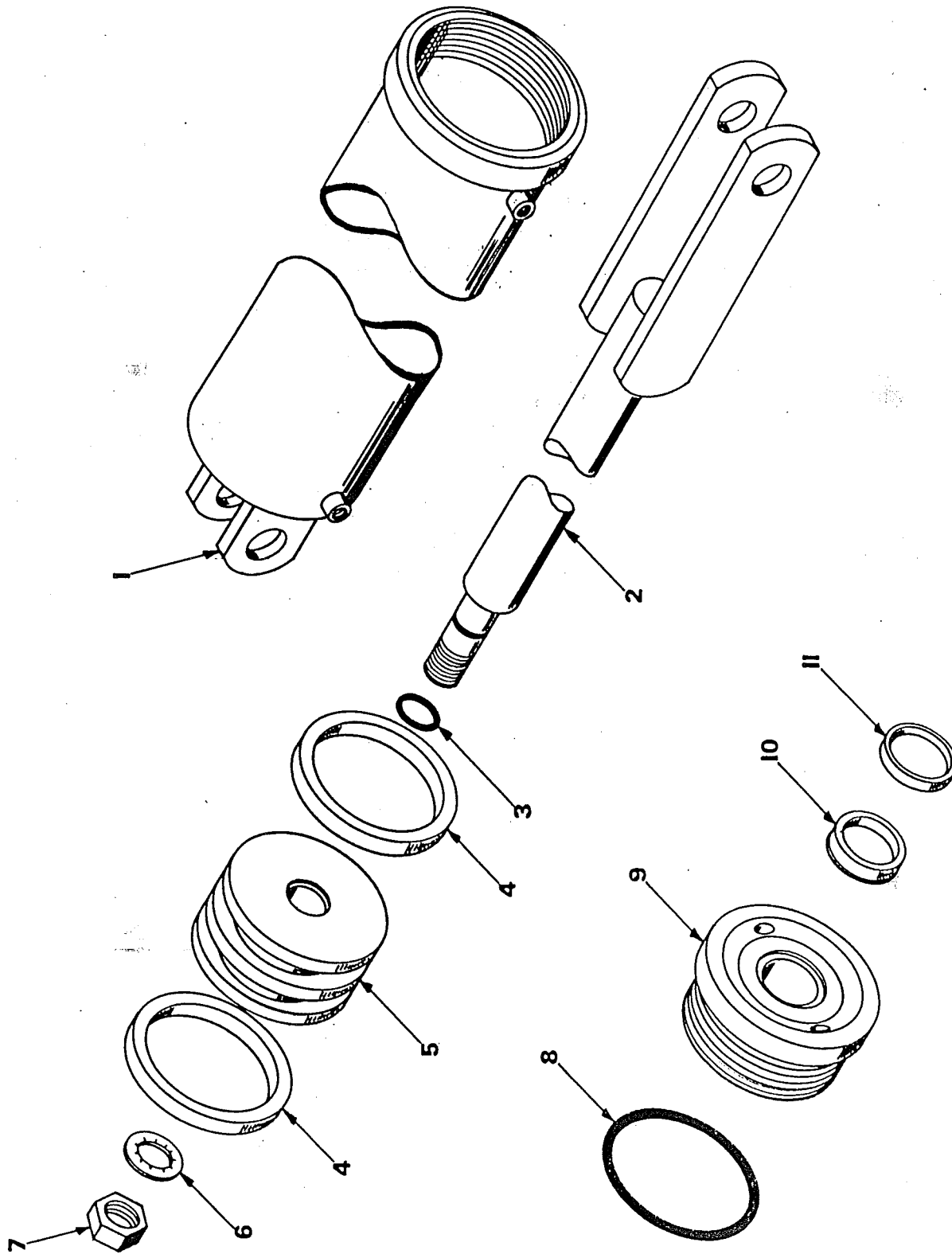
The expansion of oil which takes place when warm or hot weather returns may cause SERIOUS DAMAGE to cylinder, lines or hoses.



ROCKSHAFT CYLINDER PARTS LIST  
N4 TYPE - (MECHANICAL DEPTH STOP)

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                           | QTY.<br>REQ'D |
|-------------|-------------|---------------------------------------|---------------|
| 1           | 40TU9       | Tube Assembly - 4" x 24"              | 1             |
| 2           | 10SH46      | Shaft - 1-3/4" x 24"                  | 1             |
| 3           | CR50711     | Depth Control Stop Ring - 1" long     | *             |
|             | CR50712     | Depth Control Stop Ring - 1-1/2" long | *             |
|             | CR50713     | Depth Control Stop Ring - 1-3/4" long | *             |
|             | CR50714     | Depth Control Stop Ring - 2" long     | *             |
|             | CR50715     | Depth Control Stop Ring - 2-1/4" long | *             |
| 4           | 100R13      | 1/8" x 1-1/4" O.D. O-Ring             | 1             |
| 5           | 40CU3       | 3-1/2" x 4" x 3/8" U-Cup              | 2             |
| 6           | 40PB5       | 4" O.D. x 2-1/2" Long Piston          | 1             |
| 7           | 10NU4       | 1" Lock Nut                           | 1             |
| 8           | 100R17      | 3/16" x 4" O.D. O-Ring                | 1             |
| 9           | 40HP4       | 4" O.D. x 1-1/2" I.D. Head Plate      | 1             |
| 10          | 10RS3       | 1-3/4" x 2-1/8" x 3/8" Rod Seal       | 1             |
| 11          | 10WS3       | 1-3/4" x 2-1/8" x 3/16" Wiper Seal    | 1             |

\* AS REQUIRED



WING LIFT CYLINDER

## WING LIFT CYLINDER PARTS LIST

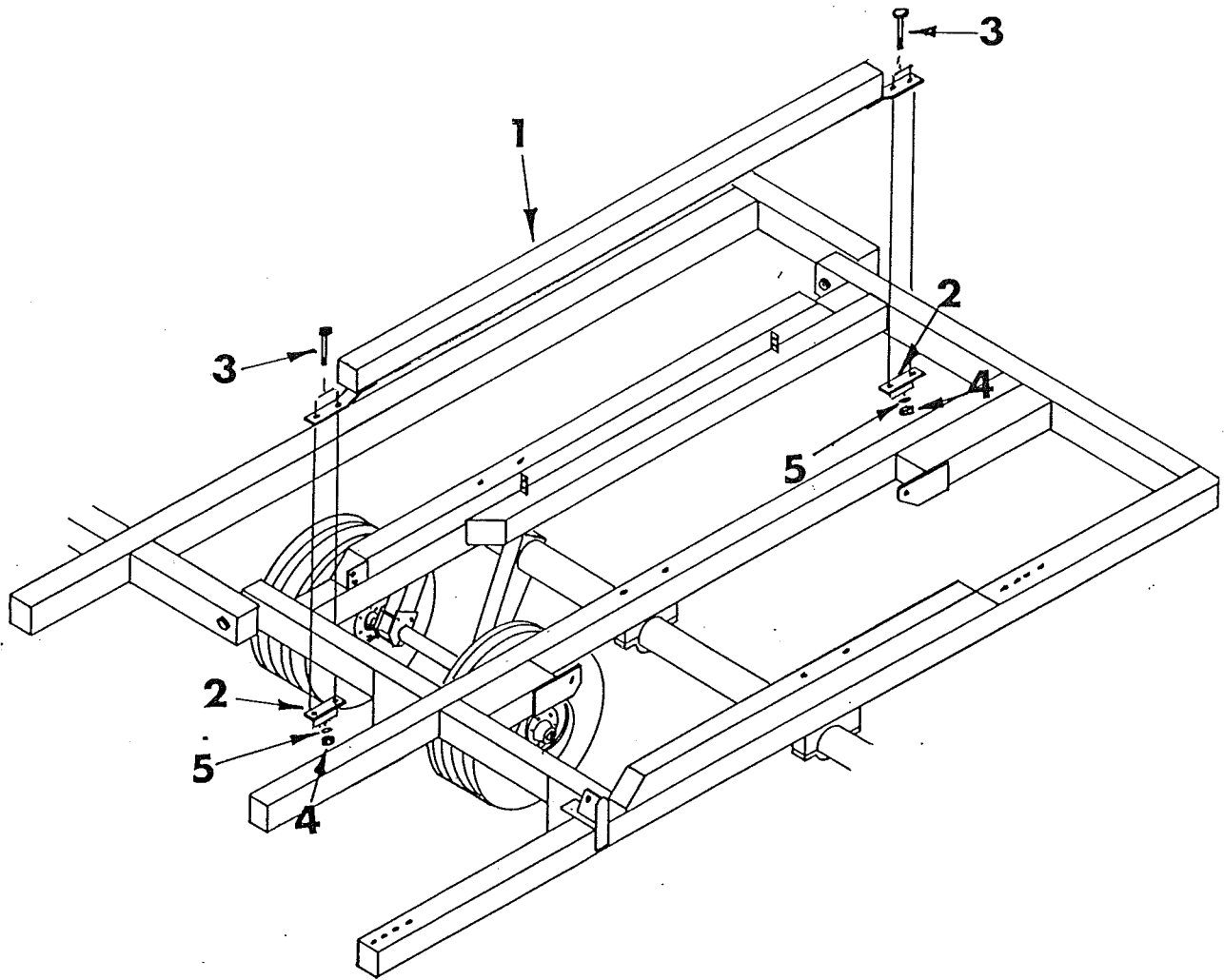
N4 - NUT TYPE

MODEL 1490 - 1500 DISC

| REF.<br>NO. | PART<br>NO. | DESCRIPTION                                                 | QTY.<br>REQ'D. |
|-------------|-------------|-------------------------------------------------------------|----------------|
| 1           | 50TU4       | Tube Assembly 5" x 36"                                      | 1              |
| 2           | 10SH28      | Shaft 1-3/4" x 36" (With 1" Stub)                           | 1              |
|             | 10SH36      | Shaft 1-3/4" x 36" (With 1-1/4" Stub)                       | 1              |
| 3           | 100R13      | 1/8" x 1-1/4" O.D. O-Ring (Use With Shaft<br>#10SH28 ONLY)  | 1              |
|             | 100R19      | 1/16" x 1-1/4" O.D. O-Ring (Use With Shaft<br>#10SH36 ONLY) | 1              |
| 4           | 50CU1       | U-Cup - 4-1/2" x 5" x 9/16"                                 | 2              |
| 5           | 50PB1       | Piston - 5" O.D. x 2-1/2" Long (With 1" I.D.)               | 1              |
|             | 50PB2       | Piston - 5" O.D. x 2-1/2" Long (With 1-1/4" I.D.)           | 1              |
| 6           | 10SW2       | Internal Star Washer 1" I.D. (For Shaft #10SH28<br>ONLY)    | 1              |
| 7           | 10NU2       | 1" - 14 UNS Hex. Nut                                        | 1              |
|             | 10NU3       | 1-1/4" - 12 UNF Hex. Lock Nut                               | 1              |
| 8           | 100R14      | 1/4" x 5" O.D. O-Ring                                       | 1              |
| 9           | 50HP1       | Head Plate - 5" O.D. x 1-3/4" I.D.                          | 1              |
| 10          | 10RS3       | Rod Seal - 1-3/4" x 2-1/8" x 3/8"                           | 1              |
| 11          | 10WS3       | Wiper Seal - 1-3/4" x 2-1/8" x 3/16"                        | 1              |

CYLINDER SEAL KITS  
MODEL 1490-1500 DISC

| KIT NO. | CONTENTS                                   |        |                                    | APPLICATION                                        |
|---------|--------------------------------------------|--------|------------------------------------|----------------------------------------------------|
| 4017N4  | 2                                          | 40CU3  | 3-1/2" x 4" x 3/8" U-Cup           | 4" x 24"<br>Rockshaft<br>Cylinder                  |
|         | 1                                          | 10OR13 | 1/8" x 1-1/4" O.D. O-Ring          |                                                    |
|         | 1                                          | 10OR17 | 3/16" x 4" O.D. O-Ring             |                                                    |
|         | 1                                          | 10RS3  | Rod Seal 1-3/4" x 2-1/8" x 3/8"    |                                                    |
|         | 1                                          | 10WS3  | Wiper Seal 1-3/4" x 2-1/8" x 3/16" |                                                    |
| 5017N4  | 2                                          | 50CU1  | 5/8" Wide U-Cup                    | 5" x 36"<br>Wing Lift<br>Cylinder                  |
|         | 1                                          | 10OR13 | 1/8" x 1-1/4" O.D. O-Ring          |                                                    |
|         | 1                                          | 10OR14 | 1/4" x 5" O.D. O-Ring              |                                                    |
|         | 1                                          | 10RS3  | Rod Seal 1-3/4" x 2-1/8" x 3/8"    |                                                    |
|         | 1                                          | 10WS3  | Wiper Seal 1-3/4" x 2-1/8" x 3/16" |                                                    |
| DCB4    | 1                                          | DC29   | 1-1/16" O.D. x 7/8" I.D. O-Ring    | Rockshaft<br>Cylinder<br>Depth<br>Control<br>Valve |
|         | 1                                          | DC20   | 1/16" x 1/2" O.D. O-Ring           |                                                    |
|         | 1                                          | DC32   | Wiper Seal 3/8" x 5/8" x 3/16"     |                                                    |
|         | IF PISTON IS REQUIRED, ORDER PART NO. DC28 |        |                                    |                                                    |
|         |                                            |        |                                    |                                                    |



### BALLAST BAR - PARTS LIST

| REF. NO. | PART NO. | DESCRIPTION                  | QTY. REQ'D. |
|----------|----------|------------------------------|-------------|
| 1        | DFA8642  | Ballast Bar                  | 1           |
| 2        | DF8645   | Backing Plate                | 2           |
| 3        |          | 5/8" x 6-1/2" N.C. Hex. Bolt | 4           |
| 4        |          | 5/8" N.C. Hex. Nut           | 4           |
| 5        |          | 5/8" Lockwashers             | 4           |

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## 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, WHICH ARE WARRANTED DIRECTLY BY AGENTS OF THE TIRE MANUFACTURERS. |
| CULTIVATORS/CHISEL PLOWS - | 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.                                                           |
| 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.

