

Ezee-On

MODEL 4600 DISC HEAVY DUTY TANDEM 3 SECTION FRAME

OWNER'S MANUAL

c/w

ASSEMBLY INSTRUCTIONS - (for S/N 51376 and later)

and

Parts List - (for all Serial Numbers)

Manufactured

by

Ezee-On Manufacturing

Vegreville, Alberta

Canada

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INTRODUCTION

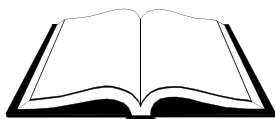
Thank you for deciding to purchase this Ezee-On product. In addition to having traditional Ezee-On reliable and durable disc, your new implement incorporates a number of operational and safety features. We urge you to familiarize yourself with the operation and maintenance of your implement by reading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

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

This manual contains the following:

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

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



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



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

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

INDEX

	PAGE
Safety	2
Specifications	5
General Operating Instructions	6
Adjustments	12
Maintenance	15
Trouble Shooting	18
Assembly Instructions	21

SAFETY RECOMMENDATIONS



WATCH FOR THIS SYMBOL. IT IDENTIFIES IMPORTANT SAFETY MESSAGES. WHEN YOU SEE THIS SYMBOL, READ THIS SAFETY MESSAGE CAREFULLY.

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.

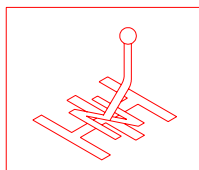


ASSEMBLY SAFETY

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 hoist to lift the heavy components into place. 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 the main and wing frames securely before assembling the components. Inadequate support may result in the heavy components falling and causing serious injury to you or person(s) nearby.
5. Be sure all wheel bolts are checked for tightness 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 the 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 to machine or serious injury or death to person(s) nearby.
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 the hydraulic system, be sure all connections are tight and the components are not damaged.
11. Wings will free fall if wing cylinder is not full of oil causing serious damage to machine or serious injury or death to person(s) nearby.
12. If hydraulic cylinder shafts are unpinned and cycled to fill the cylinders with oil, they can be seriously damaged if clevis of shaft strikes rockshaft arm or wing cylinder lug.
13. Do not stand under folded wings when working on disc. If hydraulic system failed or if hydraulic lever was accidentally operated, wings may fall resulting in serious injury or death to person(s) near disc.
14. When assembling gangs be sure adequate support is placed under main frame and wing frames. Do not use lock out valves as safety device to prevent frame from falling. If any hydraulic component failed, disc could drop causing serious injury or death to person(s) nearby.

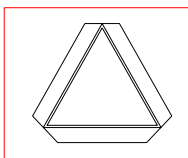
MAINTENANCE SAFETY

1. Do not loosen or disassemble hydraulic 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. 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 all hydraulic hoses periodically for signs of ruptures and leaks. Always use wood or cardboard as a backstop, and wear gloves and eye protection when searching the hydraulic system for leaks. Spurting hydraulic fluid can cause injury if it penetrates the skin or the 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 to machine or serious injury or death to person(s) nearby.
7. Lower the disc to the ground when servicing or making adjustments. If the disc must be serviced in the raised position, place blocks under frame. Do not rely on hydraulics lock up valves as a safety device. 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 seriously or fatally injured.
9. Always place all tractor controls in neutral and lock brakes when hitching disc to tractor. Tractor could roll backwards when hitching disc.
10. If wing lift cylinder(s) or wing lift hydraulic hoses are removed when wings are folded into transport position, always install a safety chain between each wing frame and main frame to prevent wings from falling. If wing(s) fell, serious injury or death could occur to person(s) nearby and machine would be damaged severely.
11. When inflating tires use a clip-on chuck and air hose extension which will allow operator to stand clear of tire and wheel assembly. Do not stand in front of or over tire when inflating. Exploding tire and wheel parts can cause serious injury or death.



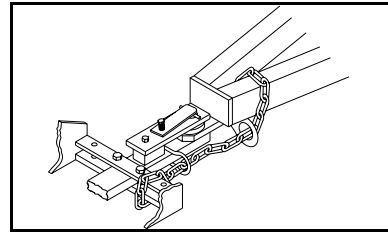
TRANSPORT SAFETY

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 place both hydraulic lock up valves in "closed" position. See Section 6 of Operating Instructions on page 6. If hydraulic lever was accidentally operated the disc could drop or wings could fall causing serious injury or death to operator or person(s) nearby.
3. Do not exceed 10 mph (16 km/h) when transporting the 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 the disc with any other vehicle except a tractor.
4. When transporting disc always install the complete package of depth control stops - 17" long (431.8 mm) on shaft of centre frame cylinder. If any component of hydraulic system failed disc could drop and causing serious injury or death to operator or person(s) near by.



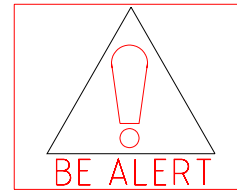
5. When transporting the disc with the wings folded (UP), be sure there is sufficient clearance under all power lines and other overhead obstructions. Serious injury or death can result from contact with electrical lines. Use care to avoid contact with electrical lines when moving or operating the disc. Refer to specification chart on page 5 for approximate transport height for your machine.

6. Always attach a safety chain to the tractor drawbar and the disc hitch before transporting the disc. 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 and injury could result from the disc separating from the tractor drawbar.



7. 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.

8. Regulate your speed on hillsides and curves when transporting the disc. Loss of tractor control could result in serious damage to the disc and possible serious injury or death to you or person(s) nearby.



9. Never allow anyone to ride on drawbar of the tractor or on the disc. The person riding may fall and be seriously injured.

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 first aid treatment.
3. Never stand between the tractor and disc when hitching 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 persons nearby.
4. When operating on hillsides, use extreme care. The tractor may tip over 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 or person(s) 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 drop causing serious injury or death.
7. Always relieve the pressure in hydraulic system and close both hydraulic lockup valves when the disc is not being used.

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.

STORAGE

1. Wings may unfold due to thermal expansion of hydraulic oil causing damage to disc, property or severe injury or death to person(s) nearby. Release pressure in all cylinders then close hydraulic lockup valves before unhitching from tractor or when parking with tractor.

SPECIFICATIONS

MODEL	WING WIDTH	BLADE SPACING	APPROX. CUTTING WIDTH	NO. OF BLADES	NO. OF GANG BEARINGS	GANG BEARING TYPE	WING LIFT CYLINDER		APPROX. TRANSPORT WIDTH	APPROX. TRANSPORT HEIGHT
						STD.	NO.	SIZE		
4600 - 66SN	Super Narrow	9" (230 mm)	24-1/2' (7.5 m)	66	20	T2-215	2	4" x 36"	17'0" (5.18 m)	10'4" (3.10 m)
4600 - 70SN	Super Narrow	9" (230 mm)	26' (7.90m)	70	20	T2-215	2	4" x 36"	17'0" (5.18 m)	11'3" (3.40 m)
4600 - 74N	Narrow	9" (230 mm)	28' (8.53 m)	74	22	T2-215	2	5" x 36"	17'0" (5.18 m)	12'3" (3.74 m)
4600 - 86N	Narrow	9" (230 mm)	32-1/2' (9.90m)	86	24	T2-215	2	5" x 36"	17'0" (5.18 m)	14'4" (4.37 m)
4600 - 94W	Wide	9" (230 mm)	35-1/2' (10.82 m)	94	28	T2-215	4	5" x 36"	17'0" (5.18 m)	15'8" (4.78 m)
4600 - 102W	Wide	9" (230 mm)	38-1/2' (11.73 m)	102	32	T2-215	4	5" x 36"	17'0" (5.18 m)	17'1" (5.21 m)
4600 - 106W	Wide	9" (230 mm)	40' (12.19 m)	106	34	T2-215	4	5" x 36"	17'0" (5.18 m)	17'9" (5.41 m)
4600 - 110W	Wide	9" (230 mm)	41-1/2' (12.64 m)	110	34	T2-215	4	5" x 36"	17'0" (5.18 m)	18'9" (5.61 m)
4600 - 58SN	Super Narrow	10-1/2" (267 mm)	25' (7.60 m)	58	20	T2-215	2	4" x 36"	17'0" (5.18 m)	10'11" (3.30 m)
4600 - 62SN	Super Narrow	10-1/2" (267 mm)	26-1/2' (8.10 m)	62	20	T2-215	2	4" x 36"	17'0" (5.18 m)	11'9" (3.60 m)
4600 - 66N	Narrow	10-1/2" (267 mm)	29' (8.83 m)	66	22	T2-215	2	5" x 36"	17'0" (5.18 m)	12'7" (3.84 m)
4600 - 74N	Narrow	10-1/2" (267 mm)	32' (9.75 m)	74	24	T2-215	2	5" x 36"	17'0" (5.18 m)	14'2" (4.32 m)
4600 - 82W	Wide	10-1/2" (267 mm)	35-1/2' (10.82 m)	82	28	T2-215	4	5" x 36"	17'0" (5.18 m)	15'10" (4.83 m)
4600 - 90W	Wide	10-1/2" (267 mm)	38-1/2' (11.73 m)	90	32	T2-215	4	5" x 36"	17'0" (5.18 m)	17'5" (5.31 m)
4600 - 94W	Wide	10-1/2" (267 mm)	40-1/2' (12.34 m)	94	34	T2-215	4	5" x 36"	17'0" (5.18 m)	18'3" (5.56 m)
4600 - 98W	Wide	10-1/2" (267 mm)	42' (12.80 m)	98	34	T2-215	4	5" x 36"	17'0" (5.18 m)	19'1" (5.82 m)
4600 - 50SN	Super Narrow	12" (305 mm)	24' (7.30 m)	50	20	T2-215	2	4" x 36"	17'0" (5.18 m)	10'9" (3.30 m)
4600 - 54SN	Super Narrow	12" (305 mm)	26' (7.90 m)	54	20	T2-215	2	4" x 36"	17'0" (5.18 m)	11'8" (3.50 m)
4600 - 58N	Narrow	12" (305 mm)	28-1/2' (8.68 m)	58	22	T2-215	2	5" x 36"	17'0" (5.18 m)	12'7" (3.84 m)
4600 - 66N	Narrow	12" (305 mm)	32-1/2' (9.90 m)	66	24	T2-215	2	5" x 36"	17'0" (5.18 m)	14'6" (4.42 m)
4600 - 74W	Wide	12" (305 mm)	36-1/2' (11.12 m)	74	26	T2-215	4	5" x 36"	17'0" (5.18 m)	16'3" (4.95 m)
4600 - 78W	Wide	12" (305 mm)	38-1/2' (11.73 m)	78	28	T2-215	4	5" x 36"	17'0" (5.18 m)	17'2" (5.23 m)
4600 - 82W	Wide	12" (305 mm)	40-1/2' (12.34 m)	82	32	T2-215	4	5" x 36"	17'0" (5.18 m)	18'1" (5.51 m)
4600 - 86W	Wide	12" (305 mm)	43' (13.10 m)	86	34	T2-215	4	5" x 36"	17'0" (5.18 m)	19' (5.79 m)

TIRE LOCATION	TIRE SIZES	PRESSURE
Centre Frame	(4) 12.5L x 15 F1 Load Range "F"	85 PSI (586 KPA)
Wing Frame	(4) 12.5L x 15 F1 Load Range "D"	55 PSI (379 KPA)
Centre & Wing Frame (Australia Only)	40 x 19 x 19.5 Off/Highway	65 PSI (448 KPA)

HYDRAULIC CYLINDERS			
Application	Size	Req'd	Machine Size
Centre Frame Lift	4" x 24" (101.6 mm x 610 mm) Rephasing	1	All Sizes
L.H. Wing Frame Lift	3-1/2" x 24" (88.9 mm x 610 mm) Rephasing	1	All Sizes
R.H. Wing Frame Lift	3-1/2" x 24" (88.9 mm x 610 mm) Rephasing	1	All Sizes
Wing Lift	5" x 36" (127 mm x 914 mm)	2	24' to 32-1/2' (8.53 m x 9.90 m)
Wing Lift	5" x 36" (127 mm x 914 mm)	4	35-1/2' to 43' (10.80 m to 13.10 m)



CAUTION: WHEN INFLATING TIRES USE A CLIP-ON CHUCK AND HOSE EXTENSION WHICH WILL ALLOW OPERATOR TO STAND CLEAR OF TIRE AND WHEEL ASSEMBLY. DO NOT STAND IN FRONT OF OR OVER TIRE WHEN INFLATING. EXPLODING TIRE AND WHEEL PARTS CAN CAUSE SERIOUS INJURY OR DEATH.

GANG ANGLE: Front Gang -----21 Degree (Fixed)

Rear Gang ----- 19 Degree (Fixed)

BOLT TORQUES: Gang Bolts ----- 1-15/16" (49 mm) Diameter 3200 ft. lbs (4339 N · m)
 Gang Beam Bolts ----- 1-1/4" (31.7 mm) Diameter 840 ft. lbs (1139 N · m)
 Levelling Crank Bolts ----- 1-1/4" (31.7 mm) Diameter 840 ft. lbs (1139 N · m)
 Wheel Bolts ----- 9/16" (14.2 mm) Diameter 130 ft. lbs (176.3 N · m)
 Bearing Hanger U-Bolts -- 7/8" (22.0 mm) Diameter 430 ft. lbs (583.0 N · m)

GANG BEARINGS

GENERAL OPERATING INSTRUCTIONS

1. Before operating disc, refer to Safety Precautions on pages 2 to 4. Review disc safety items applicable to road transport and field operation of disc.
2. This machine is a primary tillage tool designed to bury crop residue. The following recommendations (paragraphs A to J) will enhance the discs performance:
 - (A) When lowering wing to field position, be sure wing lift cylinders are fully extended. After wing tires have hit the ground continue to hold hydraulic lever. There will be a short pause before cylinders fully extend. If cylinders are not fully extended, the wing will hang on cylinders and will not flex down.

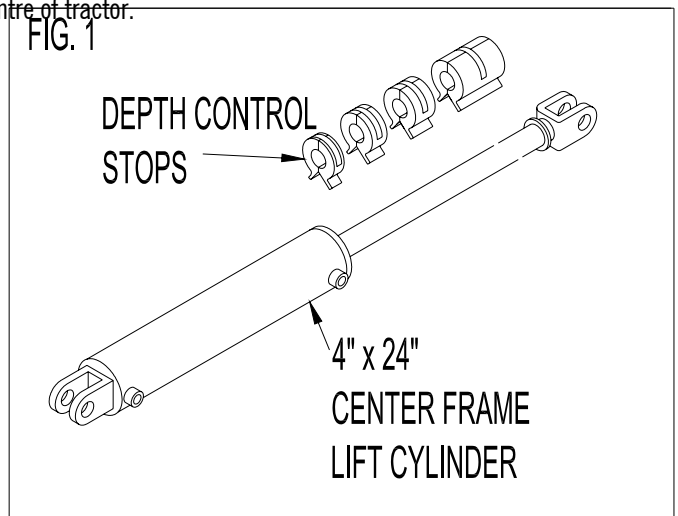


CAUTION: NEVER STAND BETWEEN THE TRACTOR AND DISC WHEN HITCHING DISC TO THE TRACTOR *UNLESS* ALL TRACTOR CONTROLS ARE IN NEUTRAL AND THE BRAKE IS SET. THE TRACTOR COULD ROLL BACKWARDS WHICH COULD RESULT IN SERIOUS INJURY OR DEATH TO YOU OR PERSON(S) NEARBY.

- (B) For best performance, the tractor drawbar should be pinned at centre of tractor.

- (C) Ensure disc is level fore and aft and side to side. If further adjustments are required, see pages 12 and 13.

- (D) See Fig. 1. To set discing depth, lower disc into the ground while moving forward until the disc reaches desired discing depth. Install the necessary depth control stops (on center frame lift cylinder) to maintain the desired cutting depth.



- (E) Do not make sharp turns with the disc in ground. Sharp turns put excess pressure on the gangs and leave uneven ground.

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.

- (F) Tractor ground speed should not excess 6 MPH (9.6 KMH). Reduce speed in rocky conditions to avoid damage to disc gangs and frame.

- (G) **REPHASING ROCKSHAFT CYLINDERS** - Periodically, the hydraulic lift cylinders on wing frame will not be synchronized with center frame cylinder. This will cause uneven cutting depth. If this happens it will be necessary to rephase the lift cylinders. Rephasing is done by lifting disc completely out of the ground and holding the hydraulic control lever until all (3) three rockshaft cylinders are fully extended. See section 29 on page 32 for further information on the lift hydraulic system.



CAUTION: WHEN OPERATING ON HILLSIDES, USE EXTRA CARE. TRACTOR MAY TIP SIDEWAYS IF IT STRIKES A HOLE, DITCH OR OTHER IRREGULARITIES.

- (H) In discing conditions where extreme wing flexibility is required, remove cylinder pin from shaft end of each wing lift cylinder and retract cylinders.

When reattaching shaft end of wing lift cylinders to wing frame, be sure cylinder shaft does not strike cylinder lug on wing frame. Serious damage may occur to cylinder if cylinder shaft strikes cylinder lug. Before extending cylinder shafts block up cylinder so that cylinder shaft passes over cylinder lugs.

- (I) **IMPORTANT:** *Do not 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 and frame hitch, which could lead to premature parts failure, especially outside blades and bearings of front gangs.*
- (J) **IMPORTANT:** *Do not operate disc in field with wings folded in transport position. Severe damage will occur when discing with wings folded.*
- (K) 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. See page 23, section 12.

FIG. 2

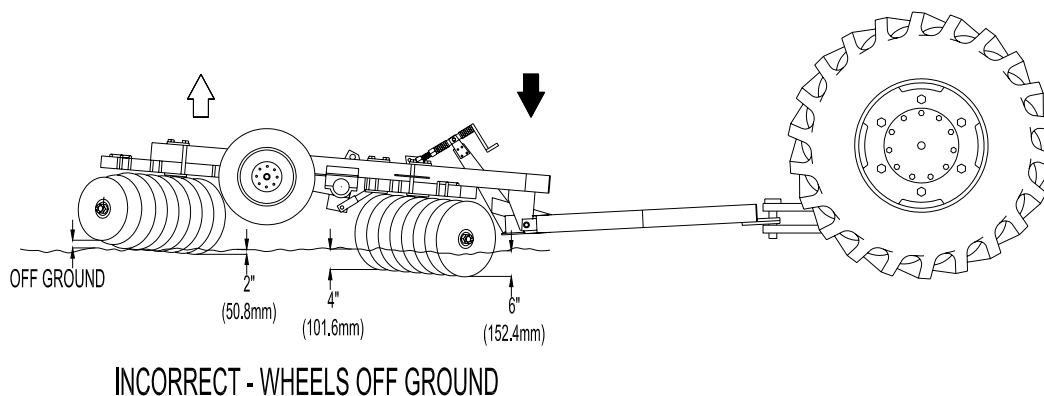
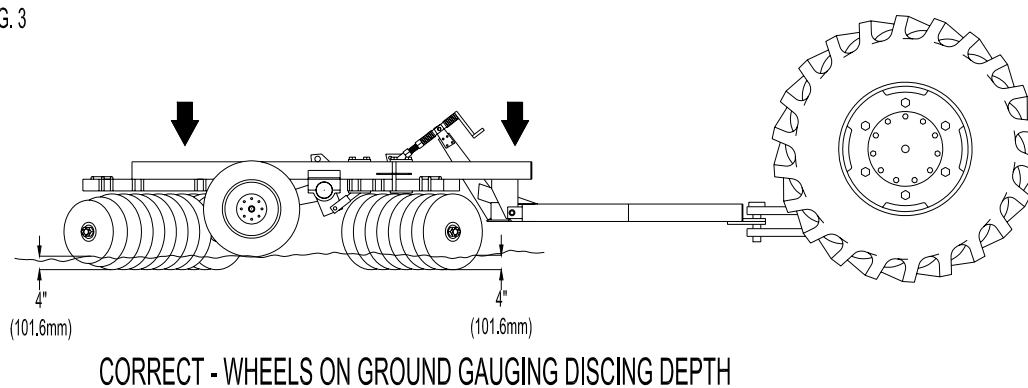


FIG. 3



- (L) To keep disc level transport wheels must be riding on ground gauging desired discing depth, as shown in Fig. 3.

If conditions are such that disc can not penetrate to maximum depth, do not raise transport wheels off ground as shown in Fig. 2. Raised transport wheels may cause front of disc to drop causing front gangs to cut deeper than rear gangs.

Front of disc may drop because rockshaft and hitch levelling arm is linked. As the wheels are raised, the hitch levelling arm is pulled back allowing hitch to float. If hitch is allowed to float it will not support front of disc allowing front gang to drop.

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

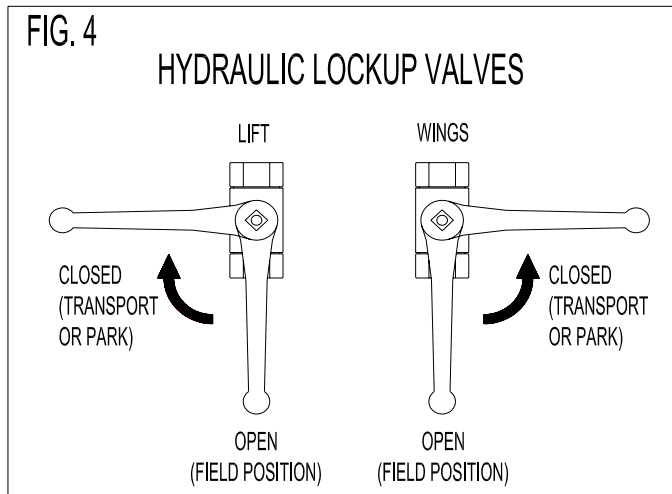
Uneven and deep front gang penetration in tough conditions will place excessive strain on blades, gang bearings, frame and hitch, and will lead to a premature failure of parts especially outside blades and bearings of front gangs.

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.*

3. See Fig. 4. When transporting disc, always place hydraulic lockup valves in closed position. Lockup valves are located at the front end of centre frame.



CAUTION: WHEN TRANSPORTING DISC ALWAYS PLACE BOTH HYDRAULIC LOCKUP VALVES IN "CLOSED POSITION". IF HYDRAULIC LEVER WAS ACCIDENTALLY OPERATED THE DISC COULD DROP OR WINGS COULD FALL CAUSING SERIOUS INJURY OR DEATH TO OPERATOR OR PERSON(S) NEARBY.



4. When transporting disc, do not exceed speed of 10 mph (16 km/h). Reduce speed in hilly or uneven terrain.



CAUTION: DO NOT EXCEED 10 mph (16 km/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 TRACTOR.

5. See Fig. 2. When transporting disc always place the complete 17" (431.80 mm) depth control package on shaft of 4" x 24" (102 x 610 mm) centre frame lift cylinder.



WARNING: WHEN TRANSPORTING DISC ALWAYS INSTALL THE COMPLETE 17" (432 mm) LONG PACKAGE OF DEPTH CONTROL STOPS ON SHAFT OF CENTRE FRAME CYLINDER. IF ANY COMPONENT OF HYDRAULIC SYSTEM FAILED DISC COULD DROP CAUSING SERIOUS INJURY OR DEATH TO OPERATOR OR PERSON(S) NEAR-BY.

6. **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 cylinders and rockshaft cylinder arms. Do not park disc with blades on ground that may freeze. Leave disc parked on transport wheels.*

7. See Fig. 5. 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).



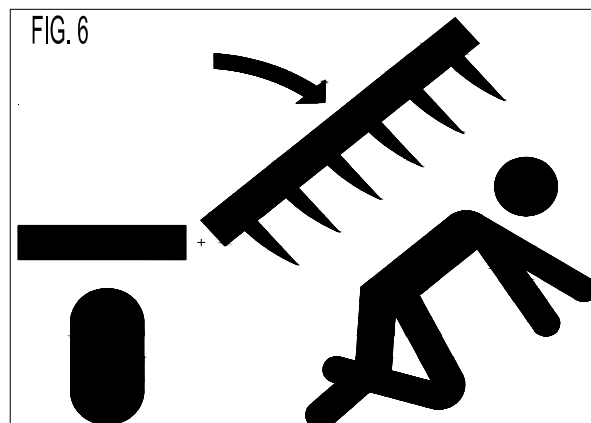
DANGER: WHEN TRANSPORTING A DISC, BE SURE TO ATTACH A SAFETY CHAIN TO TRACTOR DRAWBAR AND DISC HITCH. THE SAFETY CHAIN WILL HELP CONTROL DISC SHOULD IT ACCIDENTALLY SEPARATE FROM THE DRAWBAR. USE A CHAIN WITH A STRENGTH RATING GREATER THAN THE GROSS WEIGHT OF THE TOWED MACHINE.

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



DANGER:

SEE FIG. 6. DO NOT STAND UNDER THE WING(S) 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 CAUSING SERIOUS INJURY OR DEATH.

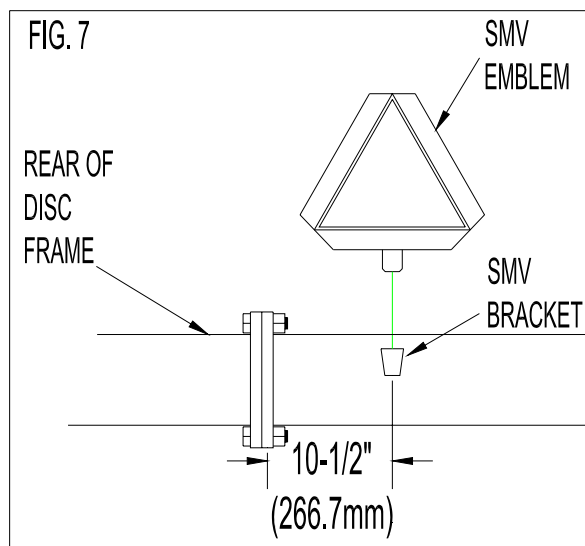


8. See Fig. 7. Install the "SMV" emblem (not supplied by Ezee-On) in the "SMV" bracket welded to the R.H. rear centre frame before transporting the disc



CAUTION:

USE THE "SMV" EMBLEM (NOT SUPPLIED BY EZZE-ON) AND WARNING LIGHTS FOR THE PROTECTION OF TRACTOR AND OTHER MOTOR VEHICLE OPERATORS WHEN TRANSPORTING THE CULTIVATOR OVER PUBLIC ROADS. CHECK LOCAL LAWS REGARDING TRANSPORTING REGULATIONS.



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 AND HEIGHT MAXIMUMS.



DANGER: WHEN TRANSPORTING DISC WITH WINGS RAISED, 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 DISC. MODELS EQUIPPED WITH FOLDING GANG BEAMS MUST HAVE THESE BEAMS FOLDED TO GIVE MINIMUM TRANSPORT HEIGHT.



WARNING: WHEN TRANSPORTING DISC, ALWAYS PLACE HYDRAULIC LOCK UP VALVES IN “CLOSED” POSITION. SEE SECTION 6 OF OPERATING INSTRUCTIONS ON PAGE 6. IF THE HYDRAULIC LEVER WAS ACCIDENTALLY OPERATED, THE DISC COULD DROP OR WINGS COULD FALL CAUSING SERIOUS INJURY OR DEATH TO OPERATOR OR PERSON(S) NEARBY.



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



WARNING: LOWER THE DISC TO THE GROUND WHEN SERVICING OR MAKING ADJUSTMENTS . IF THE DISC MUST BE SERVICED OR ADJUSTED IN THE RAISED POSITION, PLACE BLOCK UNDER FRAME. DO NOT RELY ON HYDRAULIC LOCK UP VALVES AS A SAFETY DEVICE. IF THE HYDRAULIC SYSTEM FAILED, OR IF THE HYDRAULIC LEVER WAS ACCIDENTALLY OPERATED, THE DISC COULD DROP.

9. **VERY IMPORTANT:** WHEN PARKING DISC ALWAYS RELEASE PRESSURE IN HYDRAULIC CYLINDERS. SERIOUS DAMAGE COULD OCCUR TO HYDRAULIC CYLINDER IF THERMAL EXPANSION OF HYDRAULIC OIL TAKES PLACE DUE TO WARM WEATHER OR IF DISC IS STORED IN HEATED BUILDING.

10. **IMPORTANT:** *When parking disc always place both hydraulic lockup valves in “Closed Position”. See Fig. 4 on page 9.*

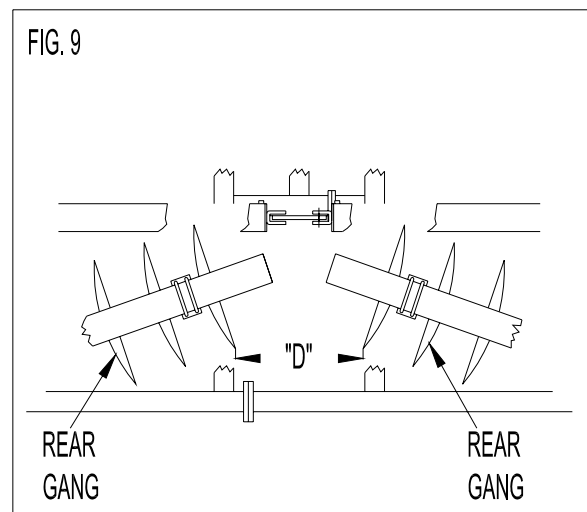
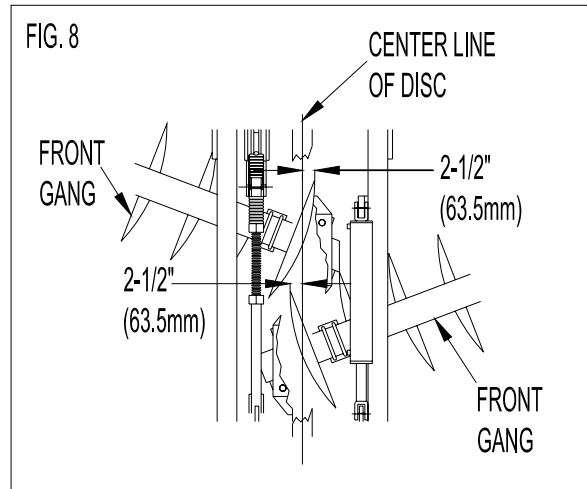
ADJUSTMENTS

1. LATERAL ADJUSTMENT OF THE FRONT AND REAR GANGS

- a) **FRONT GANGS** - See Fig. 8. Loosen bearing hanger U-bolts and adjust front gangs so that leading edge of inside blades are, arrow 1, approximately 2-1/2" (63.5 mm) past centre of disc. The centre of disc is shown in Fig. 8. If the above adjustment is made correctly, the front gang will not leave any unbroken ground at centre of disc.
- b) **REAR GANGS** - See Fig. 9. To adjust rear gangs, loosen bearing hanger U-bolts.

The opening between the rear gang dimensions "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 the 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. Take note of the amount of soil the rear inside blades are packing up. It may be necessary to increase distance between rear gangs in order to collect enough soil to fill furrow. To start with this, distance should be set at 2" (50.8 mm) less than diameter of blade to a maximum of 24" (610mm). For example, if your disc is equipped with 26" (660 mm) blades then the opening (Dimension "D") should be 24" (610 mm). If your disc is equipped with 28" (711mm) diameter blades dimension "D" would be set at a maximum of 24" (610mm).

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



NOTE: Be sure the blade to blade distance between individual gangs are adjusted to match your disc's blade spacing.

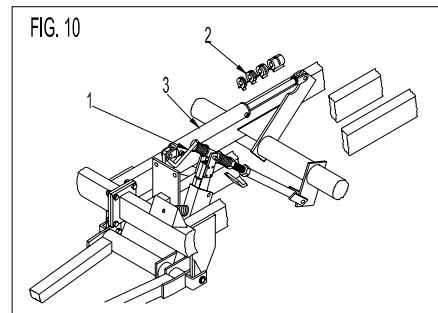
- c) When gang adjustments are complete, tighten all bearing hanger U-Bolts. Before tightening bearing hanger U-Bolts, check each bearing hanger to make sure hanger is sitting square under gang beam. Tighten U-Bolt to 430 ft. lbs (583.0 N.m).

2. **IMPORTANT:** When raising wings for transport for first time after adjusting gangs, raise wings slowly making sure wing gangs clear centre frame gangs.

3. **LEVELLING DISC - FRONT to REAR** - See Fig. 10. When discing, the front and rear gangs should be cutting at same depth. The levelling crank, arrow 1, is used to level disc.

TO LOWER FRONT GANGS: Turn crank, arrow 1, "IN" (clockwise)

TO RAISE FRONT GANGS: Turn crank, arrow 1, "OUT" (counter clockwise)



VERY IMPORTANT: ALWAYS KEEP DISC LEVEL FROM FRONT TO REAR. DISCING WITH FRONT GANGS LOWER THAN REAR GANGS WILL CAUSE RIDGING AT OUTSIDE AND MAY CAUSE DAMAGE TO DISC COMPONENTS.

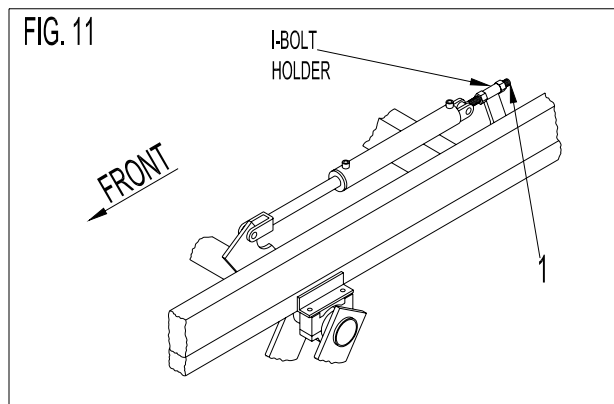
4. **SETTING DISCING DEPTH** - See Fig. 10. To set discing depth, lower disc into the ground while moving forward until disc reaches desired discing depth. Install the necessary depth control stops on centre frame cylinder to maintain the desired cutting depth.

5. LEVELLING WING FRAMES - See Fig. 11.

Before this adjustment is made, be sure centre frame is level from front to rear. After adjustments are complete tighten nuts on cylinder I-Bolt.

For even blade penetration, outside of wing frames must be level with centre frame or even 1/2" (12.7 mm) higher than centre frame.

To level wing frame with centre frame, adjust wing rockshaft cylinder I-Bolt, arrow . If outside of wing frame needs to be raised, loosen rear nut of I-Bolt and tighten front nut. This will lower the wheels raising outside of wing. If outside of wing frame needs to be lowered, loosen front nut of I-Bolt and tighten rear nut. This will raise the wheels allowing outside of wing lower.



IMPORTANT: Be sure axis of clevis pin is horizontal with cylinder ports facing up. If clevis bolt is not positioned properly, cylinder will not be free to pivot when activated, causing serious damage.

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

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

6. REMOVE RIDGE AT CENTRE OF DISC - Make one or more of the following adjustments:
 - a) Level disc from front to rear using levelling crank, see Section 3 of adjustments.
 - b) Reduce discing speeds.
 - c) Increase distance between rear gangs, see Section 1 of adjustments.
7. REMOVE FURROW AT CENTRE OF DISC - Make one or more of the following adjustments:
 - a) Level disc from front to rear using levelling crank, see Section 3 of adjustments.
 - b) Increase discing speed.
 - c) Decrease distance between rear gangs, see Section 1 of adjustments.
8. REMOVE UNBROKEN GROUND LEFT BY FRONT GANGS - Make the following adjustments:
 - a) Adjust leading edge of inside blade of each front gang so it is 2-1/2" (63.5mm) past centre of disc, see Section 1 of adjustments.
9. REDUCE GANG PLUGGING - Make the following adjustment:
 - a) Adjust scrapers so they contact blades.

FIG. 12

FIG. 12 is a detailed schematic diagram of a mechanical assembly, likely a conveyor system, showing various components and their interconnections. The diagram includes labels for various parts: G1 (EACH GANG BEARING), G2, G3 (EACH WHEEL), G4, G5, G6 (WALKING AXLE), O1 (BALL JOINT), and O2 (ROCKSHAFT CYL. PINS). The assembly features a central frame with multiple horizontal and vertical supports, and several angled components with sharp teeth or blades. The diagram is a technical drawing with precise lines and labels.

MAINTENANCE

1. LUBRICATION See Fig. 12 - All grease lubricating points on disc are marked with arrow G. The oil lubrication points are marked with arrow O.

- G1) GANG BEARINGS - for 410 Series - Lubricate every 20 hours of operation with 6 to 10 strokes of hand grease gun. Use a high quality SAE multi-purpose grease. (used on earlier Models Only)
- for T2-215 Series - Lubricate every 20 hours of operation. Lubricate until grease comes out around seal. Excessive lubrication will not damage seals. Use high quality SAE multi-purpose grease.



CAUTION: FOR 410 BEARINGS ONLY. 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.

- G2) Lubricate levelling crank every 100 hours of operation.
- G3) Lubricate wheels every 50 hours of operation.
- G4) Lubricate top and bottom half of each rockshaft bearing every 20 hours of operation.
- G5) Lubricate wing hinge points every 100 hours of operation.
- G6) Lubricate walking axles every 50 hours of operation.

NOTE: *When you receive your new disc, grease all lubricating points before starting to disc. However, use caution when lubricating 410 series gang bearings. These gang bearings are filled with grease at the factory and seals may be damaged if over lubricated.*

01) Lubricate levelling crank ball joint (with oil) at the end and beginning of each season.

02) Lubricate rockshaft cylinder pins (with oil) every 50 hours of operation.

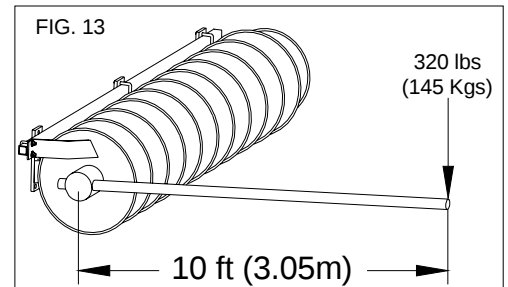
2. All bolts and nuts should be checked periodically to make sure they are tight. Special attention should be given to gang bolts, bearing bolts and bearing hanger U-bolts, and wheel bolts.

They should be tightened as follows:

- Gang bolts 1-15/16" (49 mm) Diameter -tighten to 3200 ft. lbs torque(4339 N · m)

See Fig. 13. To tighten gang bolt to 3200 ft. Lbs (4339N.m) install a 10ft. (3.05m) bar in socket wrench and apply 320 Lbs. (145Kgs) of force to end of bar.

IMPORTANT: After repairing a gang, the gang bolt should be retightened after 2 hours of operation



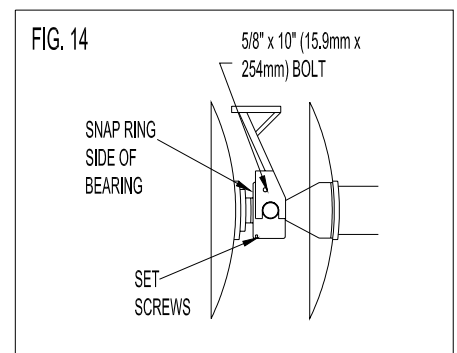
IMPORTANT!!!
SEVERE DAMAGE WILL OCCUR IF GANG BOLTS ARE LOOSE.

- Gang beam bolts 1-1/4" (31.7 mm) Diameter --- 840 ft. lbs (1139 N · m)
- Levelling crank bolt 1-1/4" (31.7 mm) Diameter - 840 ft. lbs (1139 N · m)
- Wheel bolts 9/16" (14.2 mm) Diameter ----- 130 ft. lbs (176.2 N · m)
- Bearing hanger u-bolts 7/8" (22 mm) Diameter -- 430 ft. lbs (583.0 N · m)

3. When storing disc for a long period of time, grease all lubricating points.

4. **IMPORTANT:** See Fig. 14. For discs equipped with T2-215 bearings:

- a) If T2-215 bearing must be dismantled, double set screws must be removed from bottom of housing to remove seal cap.
- b) When replacing grease seals in T2-215 bearing, ensure they are installed correctly. The I.D. of the outer shield is larger on one side than the other. Be sure the side with the larger I.D. of both seals are facing out. The rubber seal may be damaged if grease seal is not installed correctly.



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



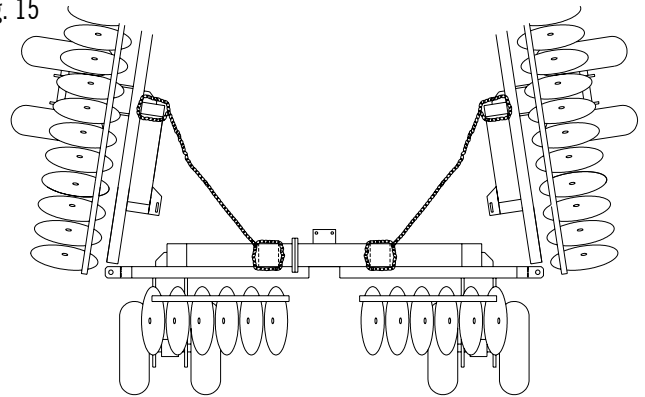
CAUTION: LOWER THE DISC TO THE GROUND WHEN SERVICING OR MAKING ADJUSTMENTS. IF THE DISC MUST BE SERVICED OR ADJUSTED IN THE RAISED POSITION, PLACE BLOCKS UNDER FRAME. DO NOT RELY ON HYDRAULIC LOCK UP VALVES AS A SAFETY DEVICE. IF THE HYDRAULIC SYSTEM FAILED, THE DISC COULD DROP.

5. See Fig. 14. When reinstalling bearing hanger on **T2-215 Bearing** (if gangs are dismantled) do not over tighten the 5/8" x 10" (15.7 mm x 254 mm) bolts, which fasten hanger to bearing. Turn inner nut until it is snug against bearing hanger. Secure inner nut by tightening a outer jam nut against it. The bolt may break during field operations if it is tightened using a normal torque.

MAINTENANCE CONTINUED:

6. WING LIFT CYLINDER REMOVAL - See Fig. 15. If possible lower wings to field position if the wing lift cylinder hydraulic system must be serviced or repaired. If wing lift cylinders must be serviced or repaired with wings in folded position, install a safety chain between each wing frame and main frame to prevent wings from falling down. Always install a chain on both wings even if only one cylinder is being worked on.

Fig. 15



CAUTION: IF WING LIFT CYLINDER(S) OR WING LIFT HYDRAULIC HOSES ARE REMOVED WHEN WINGS ARE FOLDED INTO TRANSPORT POSITION, ALWAYS INSTALL A SAFETY CHAIN BETWEEN EACH WING FRAME AND MAIN FRAME TO PREVENT WINGS FROM FALLING. IF WINGS FELL SERIOUS INJURY OR DEATH COULD OCCUR TO PERSON(S) NEARBY AND MACHINE WOULD BE DAMAGED SEVERELY.

7. Keep all safety decals clean and in good condition to provide a constant reminder of safe operating procedures.
8. Replace any destroyed, missing or illegible decals and reflectors.
9. At the end of each season do following:
- a) Relieve pressure in all hydraulic cylinders. Disconnect hydraulic hoses from tractor and cap them.
 - (b) If disc is to be stored outdoors, cover hydraulic cylinders and hoses with weather proof material and coat all exposed cylinder shafts with grease.
 - (c) Set planks under each wheel.
 - (d) Lubricate all grease points.
 - (e) Check disc for worn or damaged parts. Replace damaged parts during the off season.
 - (f) Touch up any scratches with EZEE-ON paint.

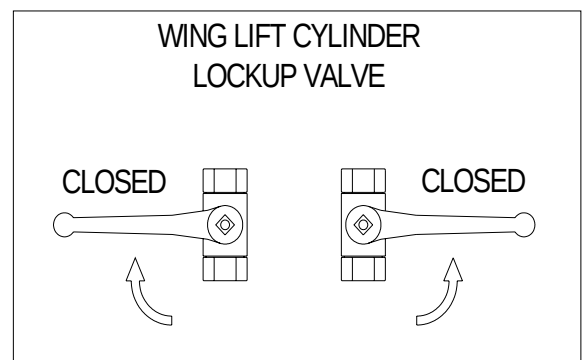


CAUTION: ALWAYS RELIEVE THE PRESSURE IN HYDRAULIC SYSTEM AND CLOSE BOTH HYDRAULIC LOCKUP VALVES WHEN DISC IS NOT BEING USED.

- (g) **VERY IMPORTANT:** WHEN STORING DISC DO NOT LEAVE CYLINDERS UNDER HYDRAULIC PRESSURE, ESPECIALLY IF CYLINDERS ARE ACTIVATED DURING COOL TEMPERATURES. THE THERMAL EXPANSION OF OIL WHICH TAKES PLACE WHEN THE MACHINE IS IN A WARMER ENVIRONMENT MAY CAUSE SERIOUS DAMAGE TO CYLINDER, LINES OR HOSES. ALWAYS RELEASE HYDRAULIC PRESSURE AND CLOSE LOCKUP VALVES BEFORE UNHITCHING FROM TRACTOR.



IMPORTANT: WINGS MAY UNFOLD DUE TO THERMAL EXPANSION OF HYDRAULIC OIL CAUSING DAMAGE TO CULTIVATOR, PROPERTY OR SEVERE INJURY OR DEATH TO PERSON(S) NEARBY. RELEASE PRESSURE IN ALL CYLINDERS AND CLOSE HYDRAULIC LOCKUP VALVES BEFORE UNHITCHING FROM TRACTOR OR WHEN PARKING WITH TRACTOR.



MAINTENANCE CONTINUED:

10. TIRE MAINTENANCE AND SAFETY:

- a) Keep the pressure equal on all wheels. See specifications on page 5 for correct tire pressure.
- b) Do not inflate tires above recommended pressure.
- c) Only experienced personal should attempt to repair a tire or mount tire on a wheel.
- d) Do not weld or heat tire and wheel assembly when tire is inflated. The heat may cause an increase in tire pressure causing tire to explode.
- e) Periodically check tires for cuts, bulges and damaged rims.

- f)  **CAUTION: WHEN INFLATING TIRES USE A CLIP ON CHUCK AND HOSE EXTENSION WHICH WILL ALLOW OPERATOR TO STAND CLEAR OF TIRE AND WHEEL ASSEMBLY. DO NOT STAND IN FRONT OF OR OVER TIRE WHEN INFLATING. EXPLODING TIRE AND WHEEL PARTS CAN CAUSE SERIOUS INJURY OR DEATH.**

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	REMEDY
OUTSIDE BLADES OF FRONT WINGS ARE CUTTING TOO DEEP CAUSING DISC TO RIDGE AT OUTSIDE	- wheels raised off ground causing front of disc to drop - tire pressure is low on outer wheels causing disc to cut deep at outside - disc is lower at front than at rear - wing wheel not adjusted for proper cutting depth - wing rockshaft cylinders are not synchronized with centre from rockshaft cylinders	- lower wheels to ground so they gauge discing depth, see section L of general operating instructions on page 8 - inflate tire, see tire pressures on page 5 - using levelling crank raise front of disc - see Fig. 10 on page 12 - raise outside of wing by adjusting lift cylinder l-bolt, see section 5 on page 13 - rephase rockshaft cylinders, section G on page 7
OUTSIDE BLADES OF FRONT WINGS ARE NOT CUTTING DEEP ENOUGH	- disc is higher at front than at rear	- using levelling crank raise front of disc - see Fig. 10 on page 12
OUTSIDE BLADES ON FRONT AND REAR GANGS ARE CUTTING TOO DEEP	- tire pressure is low for wing wheels causing wings too cut deeper - outside of wing frame is lower than main frame - wing rockshaft cylinder are not synchronized with main frame rockshaft cylinder	- check tire inflation for all wheels, see tire pressure on page 5 - raise outside of wing with wing rockshaft cylinder anchor bolt see section 5 on page 13 - rephase rockshaft cylinder, see section G on page 7
OUTSIDE BLADES ON FRONT AND REAR GANGS ARE NOT CUTTING DEEP ENOUGH	- tire pressure is lower on centre section wheels than wing section wheel causing centre section to cut deeper - outside of wing frame(s) is higher than main frame - wing rockshaft cylinder is not synchronized with main frame rockshaft cylinder	- check tire inflation for all wheels, see tire pressure on page 5 - lower outside of wing with wing rockshaft cylinder anchor bolt, see section 5 on page 13 - rephase rockshaft cylinder, see section G on page 7
DISC IS LEAVING A RIDGE AT CENTRE OF DISCING	- rear gangs are cutting deeper than front gangs - a high discing speed is causing disc to throw dirt further resulting in a pile at centre - rear gangs are too close together	- level disc using levelling crank - see Fig. 10 on page 12 - reduce discing speed - increase distance between rear gangs see section 1 on page 12

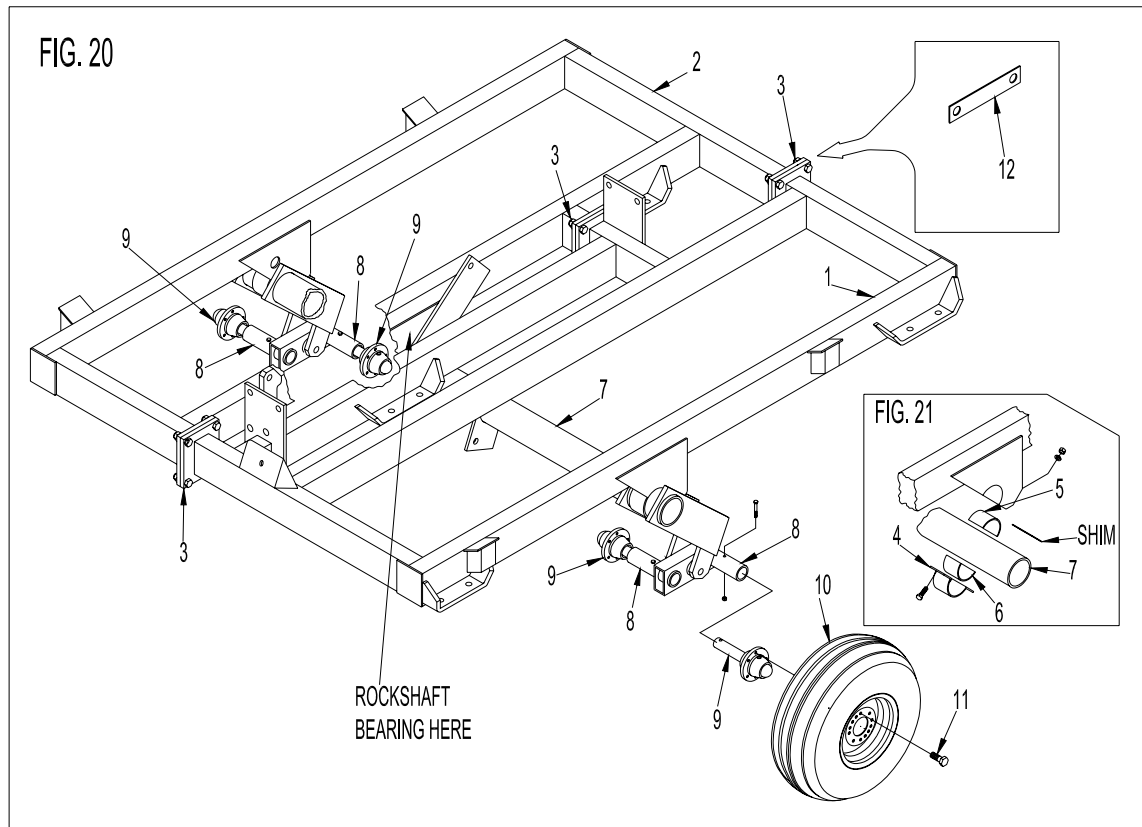
TROUBLE SHOOTING CONTINUED

PROBLEM	POSSIBLE CAUSE	REMEDY
REAR GANGS ARE NOT FILLING FURROW LEFT BY FRONT GANGS AT CENTRE OF DISC	- front gangs are cutting deeper than rear gangs - a low discing speed is causing disc to <i>not</i> throw dirt far enough to fill furrow left by front centre blades - rear gangs are too far apart	- level disc using levelling crank - see Fig. 10 on page 12 - increase discing speed - decrease distance between rear gangs - see section 1 on page 12
FRONT GANGS ARE LEAVING UNBROKEN GROUND AT CENTRE OF DISC	- front gangs are either overlapped too much or not enough	- adjust overlap of front gangs - see section 1 on page 12
DISC GANGS ARE PLUGGING	- scrapers are too far from blades - thrash conditions too heavy for your machine cylinder(s)	- adjust scrapers so they are contacting blades - contact your Ezee-On Dealer
WHEN RAISING DISC OUT OF GROUND, MAIN FRAME COMES OUT OF GROUND WHILE OUTSIDE OF WING(S) LAGS BEHIND OR DOES NOT COME OUT OF GROUND	- piston seals on wing rockshaft cylinder(s) are damaged	- replace piston seals of wing rockshaft cylinder
WHEN RAISING DISC OUT OF GROUND, OUTSIDE OF WING(S) COMES OUT OF GROUND WHILE MAIN FRAME LAGS BEHIND OR DOES NOT COME OUT OF GROUND	- piston seals on main frame rockshaft cylinder is damaged	- replace piston seals of main frame rockshaft cylinder
WHEN RAISING DISC OUT OF GROUND, MAIN FRAME ROCKSHAFT CYLINDER IS FULLY EXTENDED WHILE WING ROCKSHAFT CYLINDER(S) ARE NOT FULLY EXTENDED	- rockshaft cylinders are not synchronized	- rephrase rockshaft cylinders, see section G on page 7
WHEN RAISING DISC OUT OF GROUND WING ROCKSHAFT CYLINDER IS FULLY EXTENDED WHILE MAIN FRAME ROCKSHAFT CYLINDER(S) ARE NOT FULLY EXTENDED	- rockshaft cylinders are not synchronized	- rephrase rockshaft cylinders, see section G on page 7
DISC WILL NOT PENETRATE SOIL	- soil condition too hard for your machine	- contact your Ezee-On Dealer

ASSEMBLY INDEX

DESCRIPTION	PAGE
Assembling Main Frame	21
Assembling Hitch and Levelling Crank	23
Attaching Main Frame Gang Beams	24
Attaching Wing Frame and Wing Frame Gang Beams	25
Attaching Rockshaft Cylinders and Wing Lift Cylinders	27
Attaching Hydraulic Hoses to Rockshaft Cylinders & Wing Cylinders	31
How Main Lift Hydraulic System Works	32
Attaching Gang Assemblies	35
Warning Light Kit Assembly (Optional)	37
Reflector Decal Installation	39
Gang Beam Chart	40
Gang Patterns	41

**ILLUSTRATIONS NUMBERS FROM 16-19
HAVE BEEN INTENTIONALLY
LEFT OUT**



ASSEMBLY INSTRUCTIONS

1. See Fig. 20. Fasten L.H. main frame, arrow 1, and R.H. main frame half, arrow 2, together as shown. Main frame halves are fastened with four (4) 1" x 3-1/4" (25.4 mm x 82.6 mm) hex. bolts c/w nuts and lockwashers at the front, rear and inner connecting plates, arrow 3. Do not tighten bolts at this time. Bolt should be drawn to point where the lockwasher starts to collapse. Connecting plates should be fully in contact with each other.
2. See Fig. 20. Raise frame assembly, arrow 1 and 2, approximately 46" (1168 mm) from ground and block securely.
3. See Fig. 21. Locate six (6) plastic bearing liners, arrow 5 and 6, the one of the shipping cartons. Choose three (3) with 45 degree grease fittings and three (3) with straight grease fittings. Place a layer of grease on inside surface of each liner.
4. See Fig. 20 and 21. Remove cap, arrow 4, from each of the three rockshaft bearings. Next place one bearing liner, arrow 5, in each bearing using liner with 45 degree grease fitting. Install rockshaft, arrow 7, into the three bearings on main frame assembly. Position rockshaft so that outside bearings are positioned between wheel legs. Place bearing liner, arrow 6, over rockshaft using liner with straight grease fitting. Then secure rockshaft to each bearing with one bearing cap, arrow 4. Install necessary shims between bearing cap and bearing. See note below. Tighten bolts.

NOTE: *It will be necessary to install shims between half-clamp, arrow 4, and rockshaft bearing, to allow rockshaft to turn freely in bearing after bolts have been tightened. It is important to install correct number of shims. Normally 2 shims on top and 3 shims on bottom will provide correct clearance. Too many shims will leave a gap between bearing liners and rockshaft, not enough shims will cause bearing to be too tight resulting in premature liner wear. Rockshaft must be snug but free to turn.*

5. See Fig. 20. The rockshaft is now holding the frame level. Now check if each set of connection plates, arrow 3, are making full contact with each other. If there is a gap between the plates at the top or bottom, place 2" x 8" (50.8mm x 203mm) shim plate, arrow 12, between connector plates. After required shims are installed, tighten all 1" x 3-1/4" (25.4mm x 82.6mm) bolts.



WARNING: SUPPORT MAIN FRAME SECURELY BEFORE ASSEMBLING COMPONENTS. INADEQUATE SUPPORT MAY RESULT IN THE HEAVY COMPONENTS FALLING AND CAUSING SERIOUS INJURY TO YOU OR PERSON(S) NEARBY.

6. INSTALLING HUB ASSEMBLIES

- g) Walking Beam Type. See Fig. 20. Install four (4) eight bolt hub and spindle assemblies, arrow 9, into walking beam tubes, arrow 8. Fasten each spindle to the tube with one (1) 1/2" x 4" (12.7 mm x 102 mm) N.C. hex bolts complete with 1/2" (12.7 mm) nylon locknut.
- b) **Australia Only:** Non-Walking Beam Type. See Fig.22. Install four (4) eight bolt hub and spindle assemblies, arrow 8, into rockshaft, arrow 7. Fasten each spindle with one (1) 1/2" x 4" (12.7 mm x 102 mm) N.C. hex bolt complete with 1/2" (12.7 mm) nylon locknut.

7. INSTALLING TIRE AND WHEEL ASSEMBLIES

- a) Walking Beam Type. See Fig. 20 . Install one (1) eight bolt tire and wheel assembly, arrow 10, to hub assembly, arrow 9, on each side of each wheel leg. Centre frame uses 12.5L x 15 F1, load range F tires. Secure back wheel with eight (8) 9/16" x 1-11/16" (14.2 mm x 42.7 mm) wheel bolts, arrow 11. Tighten wheel bolts to 130 ft. lbs. (176.3 N·m). Lock each wheel bolt by installing one (1) 9/16" (14.2 mm) N.F. hex nut on thread that extends past hub. Tighten nuts.
- b) **Optional:** Non-Walking Beam Type. See Fig.22. Install one (1) eight bolt tire and wheel assembly, arrow 9, on each side of each wheel lug. Centre frame uses 40 x 19 x 19.5 off highway tires. Secure with eight (8) 9/16" x 1-11/16" (14.2 mm x 42.7 mm) wheel bolts, arrow 10. Tighten wheel bolts to 130 ft lbs. (176.3 N·m). Lock each wheel bolt by installing one (1) 9/16" (14.2 mm) N.F. hex nut on thread that extends past hub. Tighten nuts.



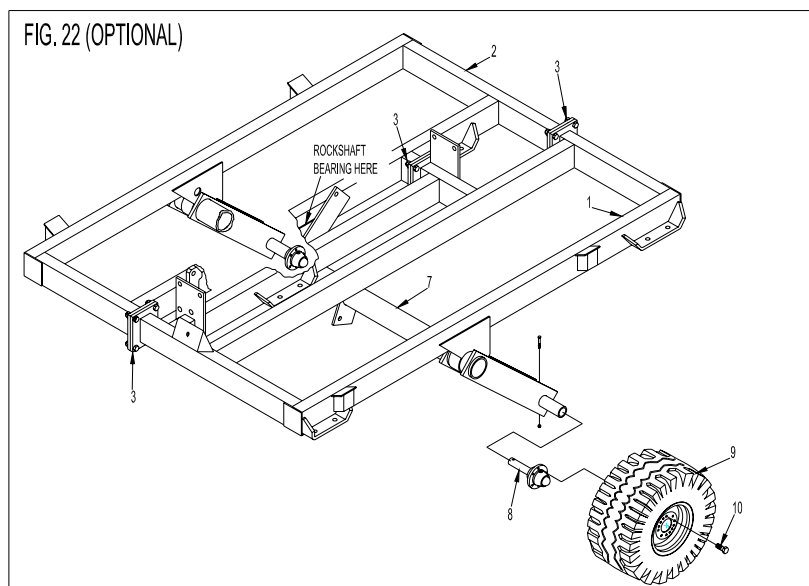
IMPORTANT: WHEEL BOLTS MUST BE KEPT TIGHT. IF BOLTS ARE NOT TIGHT THEY WILL LOOSEN CAUSING SEVERE DAMAGE TO HUB, WHEEL AND TIRE. CHECK WHEEL BOLTS PERIODICALLY, ESPECIALLY THE FIRST FEW HOURS OF OPERATION, EITHER TRANSPORT OR FIELD WORK.

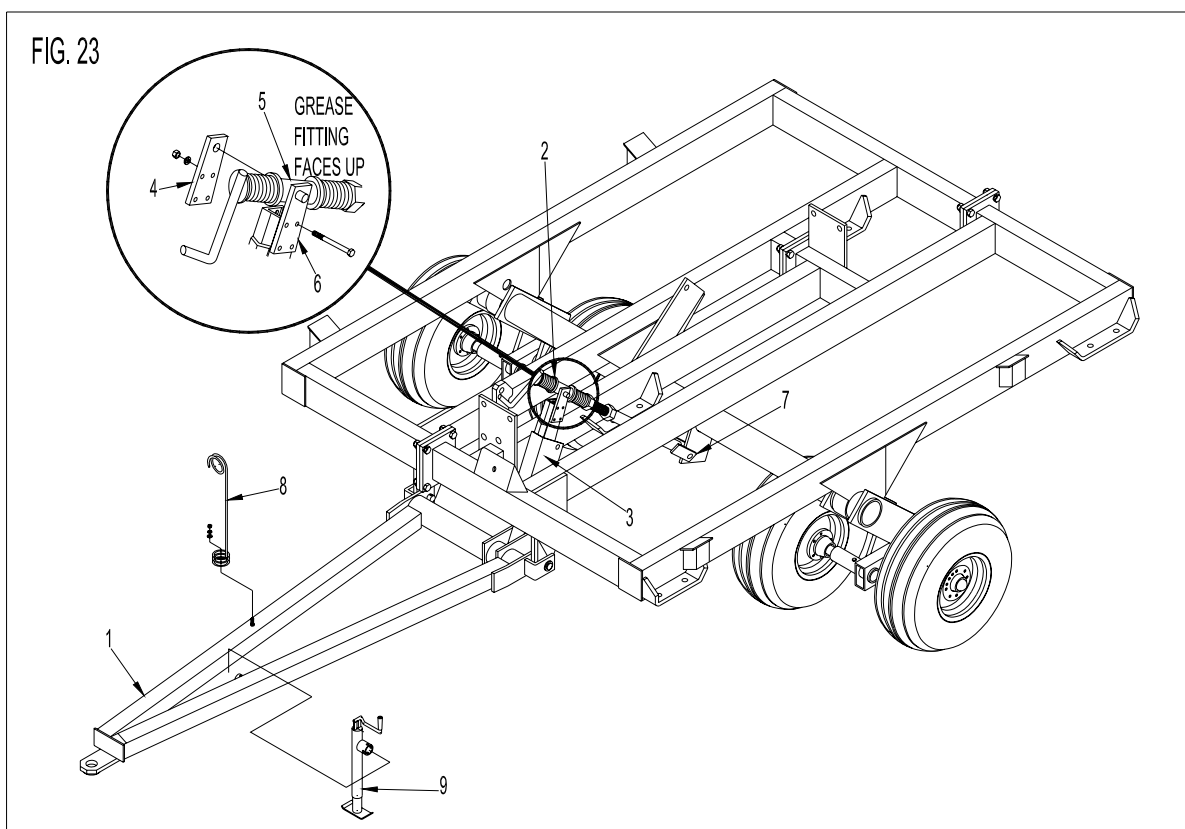


WARNING: USE ADEQUATE MANPOWER OR A HOIST TO LIFT HEAVY COMPONENTS IN PLACE. ATTEMPTING TO LIFT HEAVY COMPONENTS BY YOURSELF COULD CAUSE SERIOUS INJURY.



CAUTION: WHEN ASSEMBLING DISC USE ALIGNING PUNCHES TO LINE UP HOLES. KEEP FINGERS OUT OF HOLES.



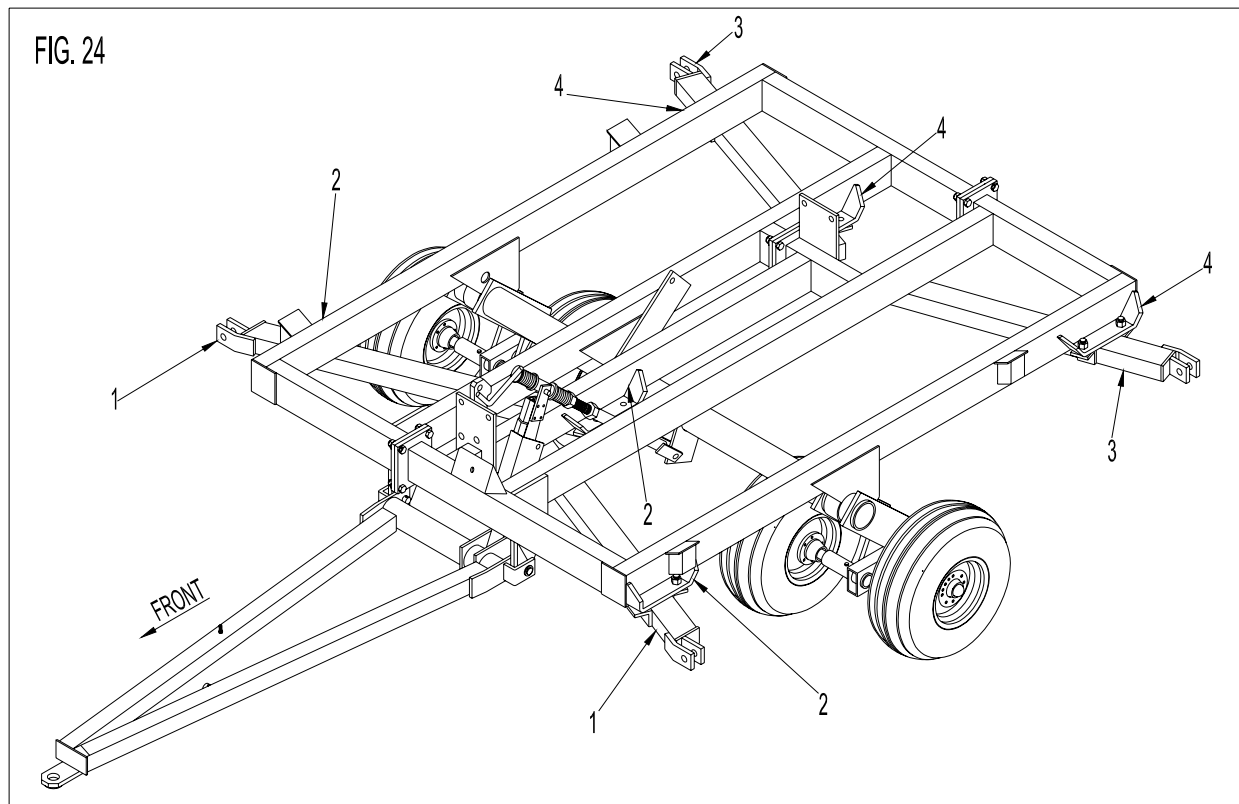


8. See Fig. 23. Attach hitch assembly, arrow 1, to hitch lugs on main frame with two (2) 1-1/2" dia. x 5" (38.1 mm dia. x 127 mm) pins. Secure each pin with one (1) 7/16" (10.9 mm) lynch pin.
9. See Fig. 23. To attach levelling crank, arrow 2, to levelling arm, arrow 3, remove bolt-on lug, arrow 4, of hitch levelling arm. Next, install 1" (25 mm) diameter pin of bearing tube, arrow 5, into weld-on lug, arrow 6, of levelling arm. Position bearing tube so grease fitting is facing up. Place bolt-on lug, arrow 4, over outside of levelling crank. Install 1" (25 mm) diameter pin of bearing tube into bolt-on lug. Fasten the bolt-on lug to the levelling arm with four (4) 1/2" x 5" (12.7 mm x 127 mm) N.C. hex bolts c/w nuts and lockwashers.
10. See Fig. 23. Attach clevis end of levelling link, arrow 2, to arm, arrow 7, on rockshaft. Fasten with one 1-1/4" x 4-3/4" (31.7 mm x 120.6 mm) bolt c/w nut and lockwasher. Tighten bolt to 840 ft. lbs. (1139 N · m).

NOTE: The 1-1/4" x 4-3/4" (31.7 mm x 120.6 mm) bolt must be tightened so that the clevis is drawn up tight against the ball joint in arm, arrow 7. Tighten bolt to 840 ft. lbs. (1139 N · m). Ball must also be free to pivot in socket. Lubricate ball with oil and turn in socket to make sure ball is free to pivot.

11. See Fig. 23. Fasten hose support, arrow 8, to a bolt welded to top of hitch. Secure with (1) 5/8" (15.7 mm) nut, (1) 11/16" (17.2 mm) I.D. flatwasher, and (1) 5/8" (15.7 mm) lockwasher.
12. See Fig. 23. Mount hitch jack, arrow 9, 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 while disc is in motion. Lock jack in desired position with pin.

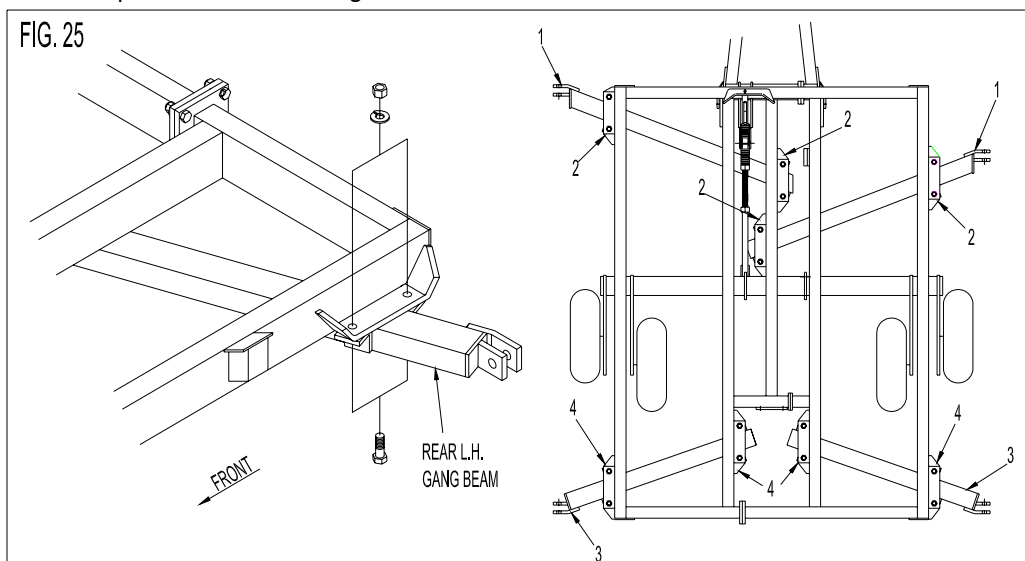
IMPORTANT: JACK MUST BE IN HORIZONTAL POSITION WHEN DISC IS IN MOTION. IF JACK IS IN VERTICAL POSITION WHEN DISC IS IN MOTION, JACK MAY STRIKE GROUND OR OBSTRUCTION ON GROUND, CAUSING SEVERE DAMAGE TO JACK, BE SURE CRANK OF JACK IS NOT HANGING BELOW HITCH WHEN JACK IS IN HORIZONTAL POSITION. PLACE CRANK ON TOP OF HITCH TO AVOID DAMAGE.

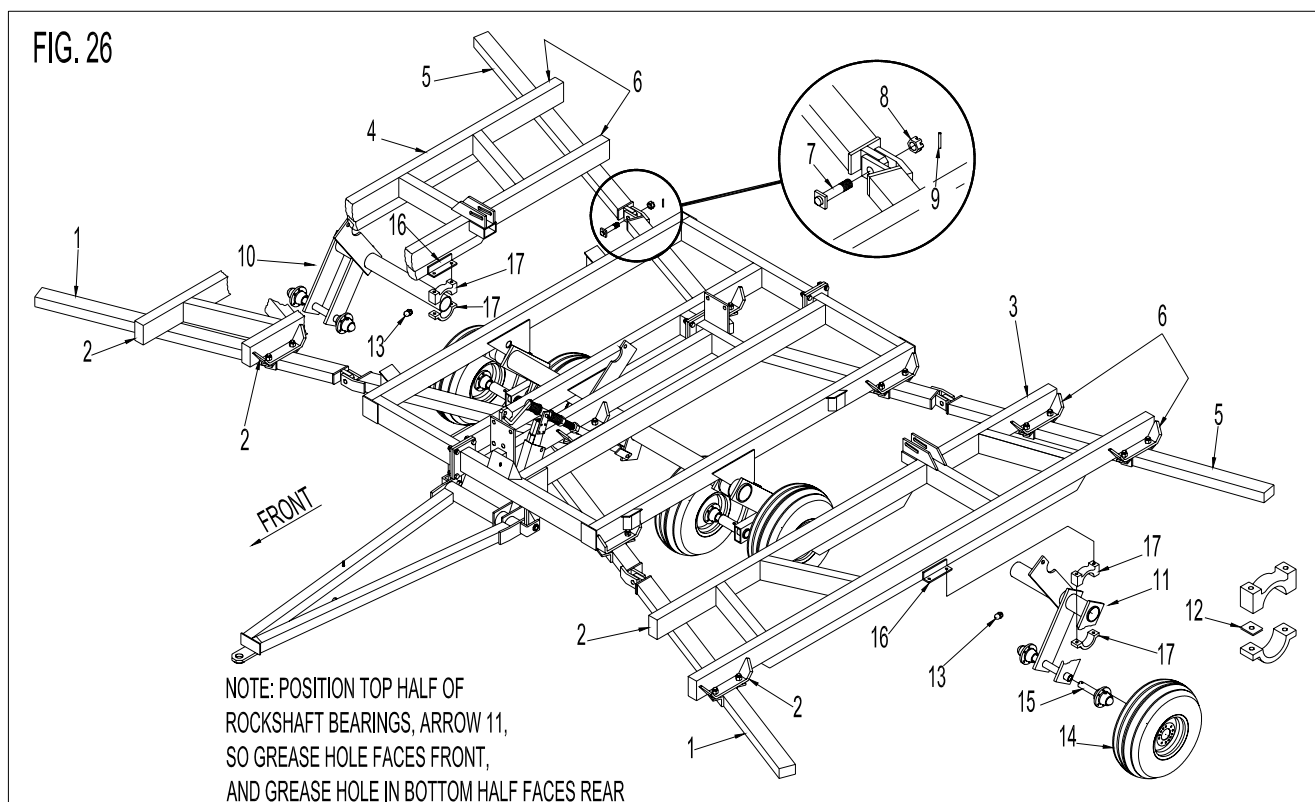


13. ATTACHING MAIN FRAME GANG BEAMS - See Fig. 24 and 25.

NOTE: Determine front and rear main frame gang beams by appearance and length. Main frame gang beams have clevis ends as shown in Fig. 24. The front gang beams are longer than the rear gang beams. For gang beam lengths refer to chart on page 40.

- a) Attach front gang beams, arrow 1, to mount brackets, arrow 2, welded to inside and outside frame members. Fasten each gang beam with two (2) 1-1/4" x 3-1/2" (31.7 mm x 88.9 mm) N.C. hex bolts c/w nuts and lockwashers at each mount bracket. Front gang beams are L.H. and R.H. and must be positioned as shown. Tighten bolts to 840 ft. lbs. (1139 N · m).
- b) Attach rear gang beams, arrow 3, to mount brackets, arrow 4, welded to inside and outside frame members. Fasten each gang beam with two (2) 1-1/4" x 3-1/2" (31.7 mm x 88.9 mm) N.C. hex bolts c/w nuts and lockwashers at each mount bracket. Rear gang beams are L.H. and R.H. and must be positioned as shown. Tighten bolts to 840 ft. lbs. (1139 N · m).





14. See Fig. 26. Raise wing frame assemblies, arrow 3 and 4, approximately 36" (914 mm) from ground and block securely. Locate one (1) wing frame on each side of main frame. Wing frames are L.H. and R.H. and must be positioned as shown.

15. ATTACHING WING FRAME GANG BEAMS - See Fig. 26.

NOTE: Determine front and rear gang beams by appearance and length. Wing frame gang beams have tongue type ends as shown in Fig. 27. The front gang beams are shorter than the rear gang beams. For gang beam lengths refer to chart on page 40.

a) Attach front gang beams, arrow 1, to mount brackets, arrow 2, welded to inside and outside frame members. Fasten each gang beam with two (2) 1-1/4" x 3-1/2" (31.7 mm x 88.9 mm) N.C. hex bolts c/w nuts and lockwashers at each mount bracket. Front gang beams are L.H. and R.H. and must be positioned as shown. Do not tighten bolts.

b) Attach rear gang beams, arrow 5, to mount brackets, arrow 6, welded to inside and outside frame members. Fasten each gang beam with two (2) 1-1/4" x 3-1/2" (31.7 mm x 88.9 mm) N.C. hex bolts c/w nuts and lockwashers at each mount bracket. Rear gang beams are L.H. and R.H. and must be positioned as shown. Do not tighten bolts.

16. See Fig. 26. Attach each wing frame assembly to main frame by connecting gang beams. Insert tongue of wing beams into clevis of main frame beams. Bolt each hinge assembly together with one (1) 1-1/2" x 5" (38.1 mm x 127 mm) threaded pin, arrow 7, and slotted nut, arrow 8. Secure slotted nut with one (1) 5/16" x 2" (7.8 mm x 50.8 mm) cotter pin, arrow 9.



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



WARNING: SUPPORT WING FRAMES SECURELY BEFORE ASSEMBLING COMPONENTS. HEAVY FRAMES COULD CAUSE SERIOUS INJURY IF IT FELL.



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

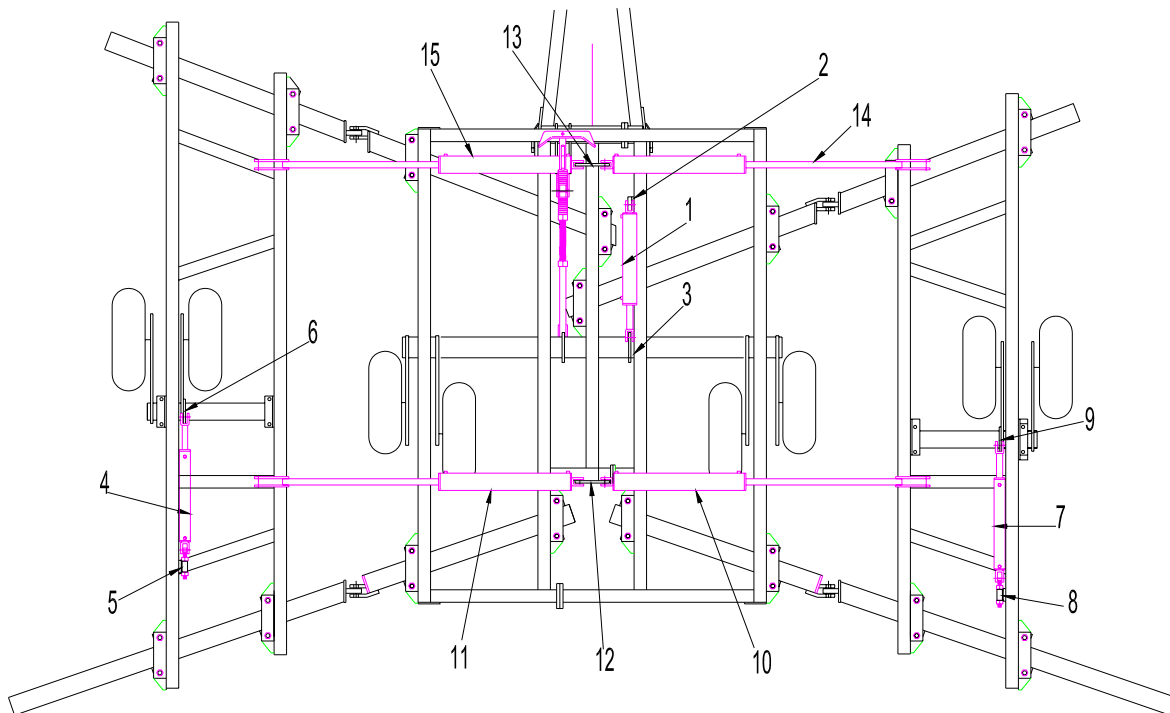
17. See Fig. 26. Fasten L.H. and R.H. wing rockshafts, arrow 10 and 11, to bottom of L.H. and R.H. wing frames. Be sure correct rockshaft is used. Wheel leg points forward with cylinder arm on top. Secure each rockshaft to two (2) bearing brackets, arrow 16, with two (2) sets of 5-1/2" (139.7 mm) rockshaft bearings, arrow 17. Fasten each rockshaft bearing set to bearing bracket with two (2) 3/4" x 6-1/2" (19 mm x 165 mm) hex bolts c/w nuts and lockwasher. Position top half of rockshaft bearing so grease hole faces front. Position bottom half of rockshaft bearing so grease holes faces the rear. After tightening rockshaft bearing bolts, rockshaft should be free to pivot in bearing.

NOTE: *If rockshaft bearing are too tight and don't allow rockshaft to turn freely, place necessary 2" x 3" (50.8 x 76.2) shims, arrow 12, (as required) between bearing halves. Shim(s) are packed in hydraulic hose and fitting box.*

NOTE: *Before installing rockshaft bearings place a coat of grease on bearing surface.*

18. See Fig. 27. Install one (1) grease fitting, arrow 13, in top half of each bearing assembly.
19. See Fig. 26. Install two (2) 6 bolt hub and spindle assemblies, arrow 15, into spindle mounting tubes at bottom of wheel leg of each rockshaft, arrows 10 and 11. Secure each spindle with one (1) 1/2" x 3-1/2" (12.5mm x 89mm) hex bolt c/w nylon lock nut.
20. See Fig. 26. Install one (1) six bolt tire and wheel assembly, arrow 14, to each hub assembly, arrow 15. Secure each wheel with six (6) 9/16" x 1-1/8" (14.2mm x 28.5mm) wheel bolts tighten wheel bolts to 130 ft. Lbs. (176.3 N · m.).

FIG. 27



21. See Fig. 27. Fasten one (1) 4" x 24" (101.6 mm x 610 mm) lift cylinder, arrow 1, to main frame and rockshaft arm. Fasten barrel end to cylinder lug, arrow 2. Position so ports face L.H.S. Fasten shaft end to cylinder arm, arrow 3, on rockshaft. Fasten each end of cylinder with one (1) 1-1/4" x 4-3/16" (31.7 mm x 106.4 mm) clevis pin. Secure cylinder pins with one (1) 5/16" x 2" (7.9 mm x 50.8 mm) cotter pin.
22. See Fig. 27. Fasten one (1) 3-1/2" x 24" (88.9 mm x 610 mm) rockshaft cylinder, arrow 4, to L.H. wing frame and rockshaft arm. Fasten barrel end to 1-1/4" x 8" (31.7 mm x 203 mm) I-Bolt, arrow 5. Position so ports face up. Fasten shaft end to cylinder arm, arrow 6, on rockshaft. Fasten each end of cylinder with one (1) 1-1/4" x 4-3/16" (31.7 mm x 106.4 mm) clevis pin. Secure cylinder pins with one (1) 5/16" x 2" (7.9 mm x 50.8 mm) cotter pin.
23. See Fig. 27. Fasten one (1) 3" x 24" (76.2 mm x 610 mm) rockshaft cylinder, arrow 7, to R.H. wing frame and rockshaft arm. Fasten barrel end to 1-1/4" x 8" (31.7 mm x 203 mm) I-Bolt, arrow 8. Position so ports face up. Fasten shaft end to cylinder arm, arrow 9, on rockshaft. Fasten each end of cylinder with one (1) 1-1/4" x 4-3/16" (31.7 mm x 106.4 mm) clevis pin. Secure cylinder pins with one (1) 5/16" x 2" (7.9 mm x 50.8 mm) cotter pin.

IMPORTANT: IF CYLINDER PIN ON BARREL END IS NOT POSITIONED PROPERLY, SERIOUS DAMAGE MAY OCCUR TO CYLINDER OR I-BOLT. IF CYLINDER BARREL IS TURNED SO AXIS OF CYLINDER PIN IS NOT HORIZONTAL, CYLINDER WILL NOT BE FREE TO PIVOT UP AND DOWN WHEN CYLINDER IS ACTUATED.

24. ATTACHING WING LIFT CYLINDERS - See Fig. 27.

NOTE: To determine if your machine has a narrow or wide wing frame, see *Specification Chart* on page 5.

- (A) NARROW AND WIDE WING FRAME - Fasten two (2) 5" x 36" (127 mm x 914 mm) wing lift cylinders, arrow 10 and 11, to lugs, at rear of main frame. Position each cylinder with ports facing towards centre of disc. Fasten barrel end of each cylinder to lug, arrow 12, with one (1) 1-1/4" x 4-3/16" (31.7 mm x 106.4 mm) clevis pin. Secure each pin with two (2) 5/16" x 2" (7.9 mm x 50.8 mm) cotter pins. Do not attach shaft ends at this time.
- (B) WIDE WING FRAME ONLY - Fasten two (2) 5" x 36" (127 mm x 914 mm) wing lift cylinders, arrow 14 and 15, at front of main frame. Position each cylinder with ports facing towards centre of disc. Fasten barrel end of each cylinder to lug, arrow 13, with one (1) 1-1/4" x 4-3/16" (31.7 mm x 106.4 mm) clevis pin. Secure each pin with one (1) 5/16" x 2" (7.9 mm x 50.8 mm) cotter pin. Attach shaft end of wing lift cylinder after cylinders have been filled with oil. Do not attach shaft ends at this time.



WARNING: 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.

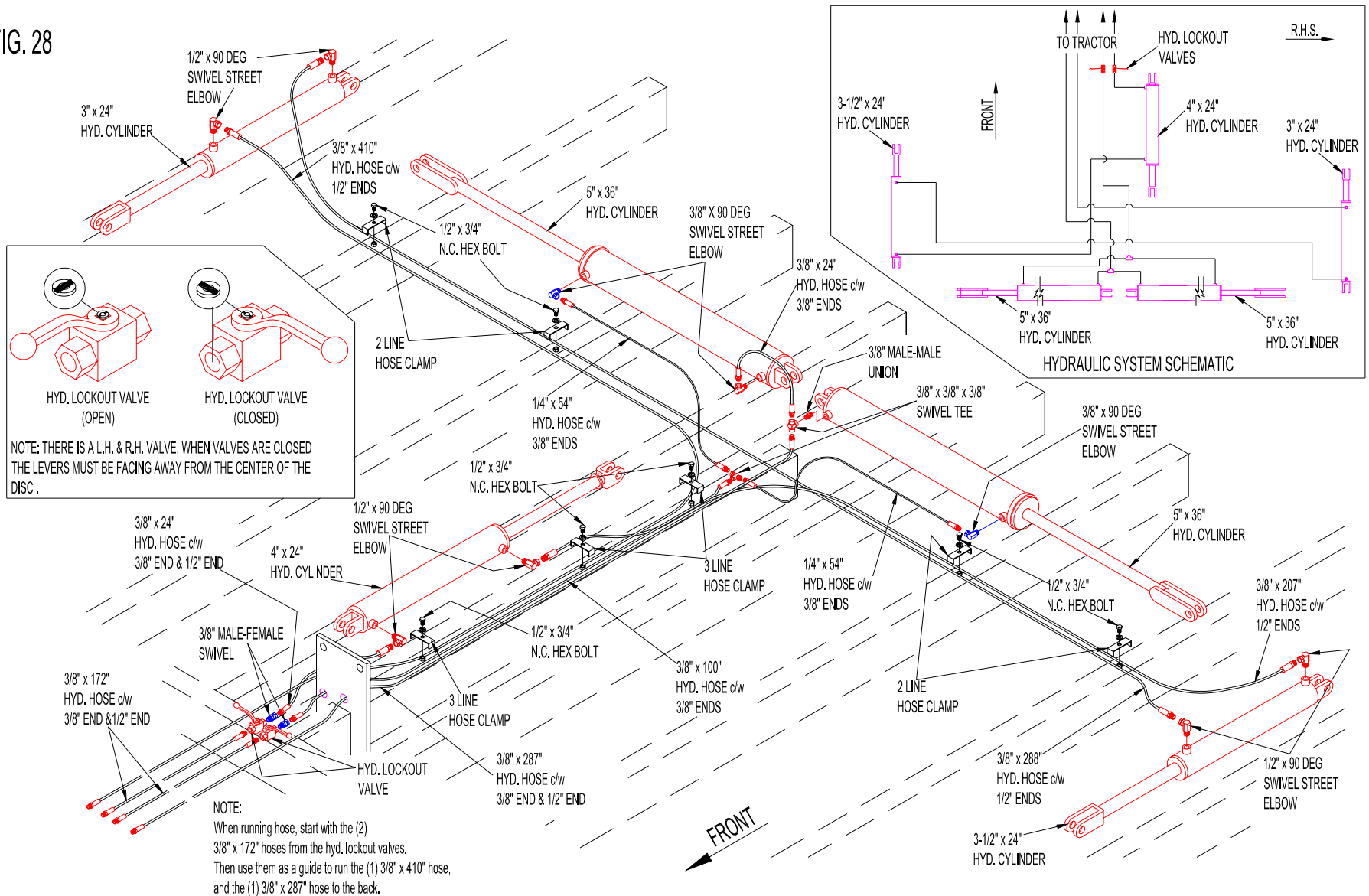


CAUTION: WINGS WILL FREE FALL IF WING CYLINDERS ARE NOT FULL OF OIL CAUSING SERIOUS DAMAGE TO MACHINE OR SERIOUS INJURY OR DEATH TO PERSON(S) NEARBY.

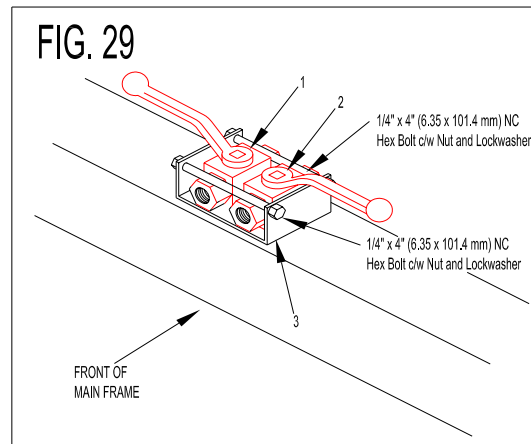


CAUTION: WHEN TRANSPORTING DISC ALWAYS PLACE HYDRAULIC LOCK UP VALVES IN "CLOSED" POSITION. IF HYDRAULIC LEVER WAS ACCIDENTALLY OPERATED, THE DISC COULD DROP OR WINGS COULD FALL.

FIG. 28



25. See Fig. 29. Place two (2) hydraulic lockup valves, arrow 1 and 2, in bracket, arrow 3, welded to front centre of main frame. Valves are assembled L.H. and R.H. Position valves as shown so handle moves out when closing valve (as shown) and forward when opening valves. Position valves between front and rear holes in bracket, arrow 3, then installing (2) 1/4" x 4" (6.35mm x 101.6mm) N.C. hex bolts c/w nuts and lockwashers in bracket to hold valves in place.



26. ATTACHING HYDRAULIC HOSES TO ROCKSHAFT CYLINDERS AND WING LIFT CYLINDERS - **NARROW WING FRAME ONLY**. - See Fig. 28. (See specifications on page 5 to determine wing width for your machine).

IMPORTANT: Do not use teflon tape to seal hydraulic hoses and fittings. If pieces of tape get into the hydraulic system they may plug small orifices.

NOTE: To determine if your machine has a narrow wing frame see Specification Chart on Page 5.

NOTE: To ensure the hydraulic system does not leak, seal fittings and hoses with sealing liquid.

- a) See Fig. 28. Install one (1) 1/2" x 90 degree (12.7 mm) swivel street elbow in the shaft end port of the R.H. 3" x 24" (76.2 mm x 610 mm) wing rockshaft cylinder. Connect one (1) 3/8" x 403" (9.39 mm x 10236 mm) hydraulic hose to same swivel street elbow. Then run the hose across the wing frame to the centre of the main frame, and to front of hitch.
- b) See Fig. 28. Install one (1) 1/2" x 90 degree (12.7 mm) swivel street elbow in shaft end, port of 3-1/2" x 24" (88.9 mm x 610 mm) L.H. wing rockshaft cylinder. Install one (1) 1/2" x 90 degree (12.7 mm) swivel street elbow, in the barrel end port of the R.H. 3" x 24" (76.2 mm x 610 mm) wing rockshaft cylinder. Connect one (1) 3/8" x 285" (9.39 mm x 7239 mm) hydraulic hose, to swivel elbow, on R.H. cylinder. Next run hose across frame to 1/2" x 90 degree (12.7 mm) swivel elbow, on L.H. cylinder.
- c) See Fig. 28. Install one (1) 1/2" x 90 degree (12.7 mm) swivel street elbow to barrel end port of L.H. 3-1/2" x 24" (88.9 mm x 610 mm) wing rockshaft cylinder. Install one (1) 1/2" x 90 degree (12.7 mm) swivel street elbow, to shaft end port of 4" x 24" (101.6 mm x 610 mm) main frame cylinder. Connect one (1) 3/8" x 195" (9.39 mm x 4953 mm) hydraulic hose, to swivel elbow, on main frame cylinder. Next run same hose across frame to 1/2" x 90 degree (12.7 mm) swivel elbow on L.H. 3-1/2" x 24" (88.9 mm x 610 mm) wing rockshaft cylinder.
- d) See Fig. 28. Install one (1) 1/2" x 90 degree (12.7 mm) swivel street elbow into the barrel end port of 4" x 24" (101.6 mm x 610 mm) main frame cylinder. Connect one (1) 3/8" x 24" (9.39 mm x 610 mm) hydraulic hose, to rear port of R.H. lock-up, with one (1) 3/8" (9.39 mm) male-female swivel. Next connect same hose to 1/2" x 90 degree (12.7 mm) swivel elbow, on front port of main frame cylinder.
- e) See Fig. 28. Install one (1) 3/8" (9.39 mm) male x 3/8" (9.39 mm) male union in the barrel end port of the L.H. 5" x 26" (127 mm x 660 mm) wing lift cylinder. Then install one (1) 3/8" x 3/8" x 3/8" (9.39 mm x 9.39 mm x 9.39 mm) tee, to the 3/8" (9.39 mm) union. Install one (1) 3/8" x 90 degree (9.39 mm) street elbow, into the shaft end of L.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder.
- f) See Fig. 28. Install one (1) 3/8" x 90 degree (9.39 mm) swivel street elbow into the barrel end port of the R.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder. Install one (1) 3/8" x 90 degree (9.39 mm) street elbow, into the shaft end port, of same cylinder.

FIG. 30

The diagram illustrates the hydraulic system for a backhoe loader, showing the main hydraulic layout and a detailed inset of the valve assembly.

Main Hydraulic Layout Components:

- Hydraulic Cylinders:** 5" x 36" HYD. CYLINDER, 3-1/2" x 24" HYD. CYLINDER, 4" x 24" HYD. CYLINDER, 3" x 24" HYD. CYLINDER, 5" x 36" HYD. CYLINDER, 3/8" x 20" HYD. CYLINDER, 3/8" x 100" HYD. CYLINDER, 3/8" x 106" HYD. CYLINDER, 3/8" x 172" HYD. CYLINDER, 3/8" x 178" HYD. CYLINDER, 3/8" x 30" HYD. CYLINDER, 3/8" x 402" HYD. CYLINDER, 3/8" x 253" HYD. CYLINDER.
- Hoses and Elbows:** 1/2" x 90 DEG SWIVEL STREET ELBOW, 3/8" x 489" HYD. HOSE c/w 1/2" ENDS, 1/2" x 3/4" N.C. HEX BOLT, 1/4" x 54" HYD. HOSE c/w 3/8" ENDS, 3/8" x 90 DEG SWIVEL STREET ELBOW, 3/8" x 24" HYD. HOSE c/w 3/8" ENDS, 3/8" x 100" HYD. HOSE c/w 3/8" ENDS, 3/8" x 106" HYD. HOSE c/w 3/8" ENDS, 3/8" x 172" HYD. HOSE c/w 3/8" END & 1/2" END, 3/8" x 178" HYD. HOSE c/w 3/8" END & 1/2" END, 3/8" x 30" HYD. HOSE c/w 3/8" ENDS, 3/8" x 402" HYD. HOSE c/w 1/2" ENDS, 3/8" x 253" HYD. HOSE c/w 1/2" ENDS.
- Clamps and Unions:** 2 LINE HOSE CLAMP, 3 LINE HOSE CLAMP, 3/8" MALE-MALE UNION, 3/8" x 3/8" x 3/8" SWIVEL TEE, 3/8" MALE FEMALE SWIVEL, 3/8" STEEL CROSS, 3/8" UNION.
- Valves:** HYD. LOCKOUT VALVE (OPEN), HYD. LOCKOUT VALVE (CLOSED), HYD. LOCKOUT VALVE.
- Other Components:** 1/2" x 90 DEG SWIVEL STREET ELBOW, 3/8" x 24" HYD. HOSE c/w 3/8" ENDS, 3/8" x 20" HYD. CYLINDER, 3/8" x 100" HYD. CYLINDER, 3/8" x 106" HYD. CYLINDER, 3/8" x 172" HYD. CYLINDER, 3/8" x 178" HYD. CYLINDER, 3/8" x 30" HYD. CYLINDER, 3/8" x 402" HYD. CYLINDER, 3/8" x 253" HYD. CYLINDER.

Hydraulic System Schematic:

The schematic shows the hydraulic system layout, including the main hydraulic line, the backhoe cylinder, the boom cylinder, and the dipperstick cylinder. It also shows the location of the hydraulic lockout valves and the direction of flow (TO TRACTOR, R.H.S., FRONT).

Note: THERE IS A L.H. & R.H. VALVE, WHEN VALVES ARE CLOSED THE LEVERS MUST BE FACING AWAY FROM THE CENTER OF THE DISC.

When running hose, start with the (2) 3/8" X 172" hoses from the hyd. lockout valves.
Then use them as a guide to run the (1) 3/8" x 410" hose, and the (1) 3/8" x 287" hose to the back.

HYDRAULIC SYSTEM FOR DISCS WITH WIDE WING FRAMES

- g) See Fig. 28. Install one (1) 1/4" x 54" (6.35 mm x 1372 mm) hydraulic hose, to the shaft end port of the L.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder, and fasten opposite end to one (1) 3/8" x 3/8" x 3/8" (9.39 mm x 9.39 mm x 9.39 mm) tee. Fasten one (1) 1/4" x 54" (6.35 mm x 1372 mm) hydraulic hose, to the shaft end port of the R.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder, and fasten opposite end to 3/8" x 3/8" x 3/8" (9.39 mm x 9.39 mm x 9.39 mm) tee.
 - h) See Fig. 28. Install one (1) 3/8" x 24" (9.39 mm x 610 mm) hydraulic hose, to the barrel end port of the L.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder and fasten opposite end to the barrel end port of the R.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder.
 - i) See Fig. 28. Install one (1) 3/8" (9.39 mm) male x 3/8" (9.39 mm) female swivel adapter, in to the L.H. lockup valve. Fasten one (1) 3/8" x 100" (9.39 mm x 2540 mm) hydraulic hose, in 3/8" (9.39 mm) tee, arrow 23. Fasten opposite end of same hose to the 3/8" (9.39 mm) male x 3/8" (9.39 mm) female swivel adaptor in lockup valve.
 - j) See Fig. 28. Install two (2) 3/8" x 172" (9.39 mm x 4369 mm) hydraulic hoses to the front port of hydraulic lockup valves, and run hoses to front of hitch.
 - k) See Fig. 28. Install one (1) 3/8" x 287" (9.39 mm x 7290 mm) hydraulic hose, from the 3/8" (9.39 mm) tee, to front of disc.
27. ATTACHING HYDRAULIC HOSES TO ROCKSHAFT CYLINDERS AND WING CYLINDERS - **WIDE WING FRAME ONLY** - See Fig. 30.
(See Specifications on page 5 to determine wing width for your machine).

IMPORTANT: DO NOT USE TEFLON TAPE TO SEAL HYDRAULIC HOSES AND FITTINGS. IF PIECES OF TAPE GET INTO THE HYDRAULIC SYSTEM THEY MAY PLUG SMALL ORIFICES.

NOTE: To determine if your machine has a wide wing frame. See Specification Chart on Page 5.

NOTE: To ensure that the hydraulic system does not leak, seal fittings and hoses with sealing liquid.

- a) See Fig. 30. Install one (1) 1/2" x 90 degree (12.7 mm) swivel street elbow, into the shaft end port of the R.H. 3" x 24" (76.2 mm x 610 mm) wing rockshaft cylinder. Connect one (1) 3/8" x 489" (9.39 mm x 12421 mm) hydraulic hose to 1/2" x 90 degree (12.7 mm) swivel street elbow. Then run the hose across the wing frame to the centre of the main frame, and to front of hitch.
- b) See Fig. 30. Install one (1) 1/2" x 90 degree (12.7 mm) swivel street elbow, in shaft end, port of 3-1/2" x 24" (88.9 mm x 610 mm) L.H. wing rockshaft cylinder. Install one (1) 1/2" x 90 degree (12.7 mm) swivel street elbow, in the barrel end port of the R.H. 3" x 24" (76.2 mm x 610 mm) wing rockshaft cylinder. Connect one (1) 3/8" x 402" (9.39 mm x 10211 mm) hydraulic hose, to 1/2" x 90 (12.7 mm) degree swivel elbow, on R.H. cylinder. Next run the hose across frame to 1/2" x 90 degree (12.7 mm) swivel elbow, on L.H. cylinder.
- c) See Fig. 30. Install one (1) 1/2" x 90 degree (12.7 mm) swivel street elbow, to barrel end port of L.H. 3-1/2" x 24" (88.9 mm x 610 mm) wing rockshaft cylinder. Install one (1) 1/2" x 90 degree (12.7 mm) swivel street elbow, to shaft end port of 4" x 24" (101.6 mm x 610 mm) main frame rockshaft cylinder. Connect one (1) 3/8" x 253" (9.39 mm x 6426 mm) hydraulic hose, to 1/2" x 90 degree (12.7 mm) swivel elbow, on main frame rockshaft cylinder. Next run the hose across frame to 1/2" x 90 degree (12.7 mm) swivel elbow on L.H. 3-1/2" x 24" (88.9 mm x 610 mm) wing rockshaft cylinder.
- d) See Fig. 30. Install one (1) 1/2" x 90 degree (12.7 mm) swivel street elbow, into the barrel end port of 4" x 24" (101.6 mm x 610 mm) main frame rockshaft cylinder. Connect one (1) 3/8" x 24" (9.39 mm x 610 mm) hydraulic hose, to rear port of R.H. lock-up valve, with one (1) 3/8" (9.39 mm) male-female swivel. Next connect same hose to 1/2" x 90 degree (12.7 mm) swivel elbow, on front port of main frame cylinder.
- e) See Fig. 30. Install one (1) 3/8" (9.39 mm) male x 3/8" (9.39 mm) male union, in the barrel end port of the rear L.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder. Then install one (1) 3/8" x 3/8" x 3/8" (9.39 mm x 9.39 mm x 9.39 mm) tee, to the 3/8" (9.39 mm) union. Install one (1) 3/8" x 90 degree (12.7 mm) street elbow, into the shaft end of L.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder.
- f) See Fig. 30. Install one (1) 3/8" x 90 degree (9.39 mm) swivel street elbow, into the barrel end port of the rear R.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder. Install one (1) 3/8" x 90 degree (12.7 mm) street elbow, into the shaft end port, of rear R.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder.
- g) See Fig. 30. Install one (1) 3/8" (9.39 mm) male union into one (1) 3/8" (9.39 mm) steel cross, and fasten into the rear port of the L.H. lockup valve. Then fasten one (1) 3/8" (9.39 mm) male-female swivel into the 3/8" (9.39 mm) steel cross. Fasten one (1) 3/8" x 106" (9.39 mm x 2692 mm) hydraulic hose to the 3/8" (9.39 mm) tee on the barrel end of the rear L.H. wing lift cylinder. Fasten opposite end of same hose to the 3/8" (9.39 mm) male-female adapter. Run this hose through the lower R.H. hole in the front wing lift cylinder lug.
- h) See Fig. 30. Install one (1) 3/8" x 90 degree (9.39 mm) swivel street elbow into the barrel end of the front L.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder. Install one (1) 3/8" x 90 degree (9.39 mm) swivel street elbow into the shaft end of the front L.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder.

- i) See Fig. 30. Install one (1) 3/8" x 90 degree (9.39 mm) swivel street elbow into the barrel end port of the front R.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder. Install one (1) 3/8" x 90 degree (9.39 mm) street elbow, into the shaft end port of front R.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder.
- j) See Fig. 30. Install one (1) 1/4" x 54" (6.35 mm x 1372 mm) hydraulic hose, to the 3/8" x 90 degree (9.39 mm) swivel street elbow on the shaft end port of the front L.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder, and fasten opposite end to one (1) 3/8" (9.39 mm) steel cross, placed on the L.H.S. of the L.H. lockup valve. Fasten one (1) 1/4" x 54" (6.35 mm x 1372 mm) hydraulic hose, to the 3/8" x 90 degree (9.39 mm) swivel street elbow on the shaft end port of the front R.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder and fasten opposite end of 3/8" (9.39 mm) steel cross.
- k) See Fig. 30. Install one (1) 3/8" x 100" (9.39 mm x 2540 mm) hydraulic hose to the 3/8" (9.39 mm) tee on the shaft end port of the rear L.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder and fasten opposite end to the 3/8" (9.39 mm) steel cross on front of frame. Run hose through the lower L.H. hole in the front wing lift cylinder lug.
- l) See Fig. 30. Install one (1) 3/8" x 30" (9.39 mm x 762 mm) hydraulic hose to the 3/8" x 90 degree (9.39 mm) swivel street elbow on the barrel end of the front L.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder, and fasten opposite end to the 3/8" (9.39 mm) steel cross attached to the L.H. lockup valve.
- m) See Fig. 30. Install one (1) 3/8" x 20" (9.39 mm x 508 mm) hydraulic hose to the 3/8" x 90 degree (9.39 mm) swivel street elbow on the barrel end of the front R.H. 5" x 36" (127 mm x 914 mm) wing lift cylinder, and fasten opposite end to the 3/8" (9.39 mm) steel cross attached to the L.H. lockup valve.
- n) See Fig. 30. Install two (2) 3/8" x 172" (9.39 mm x 4369 mm) hydraulic hoses to the front port of the hydraulic lockup valves, and run hoses to front of hitch.
- o) See Fig. 30. Install one (1) 3/8" x 178" (9.39 mm x 4521 mm) hydraulic hose, from the 3/8" (9.39 mm) steel cross, to the front of disc.

28. **SECURING HYDRAULIC HOSES TO FRAME** - See Fig. 28 for machines with narrow wings. See Fig. 30 for machines with wide wings. Fasten hoses to frame with one U-shaped hose clamp at each hose hold down point. Each hold down point has a 1/2" (12.7 mm) hex. nut welded to the top of frame. The hold down clips are supplied in two widths, one for two hoses and one for four hoses. Place hose clamp over hoses and fasten clamp to weld-on nut with one 1/2" x 3/4" (12.7 mm x 19.0 mm) bolt c/w lockwasher.

29. **HOW MAIN LIFT ROCKSHAFT HYDRAULIC SYSTEM WORKS** - See Fig. 28.

When raising the disc, oil is pumped into the barrel end port of centre frame cylinder causing the cylinder to extend. Oil is then forced from the shaft end port of same cylinder into the barrel end port of the 3-1/2" x 24" (88.9 mm x 610 mm) cylinder on L.H. side causing wing cylinder to extend. Oil is then forced from the shaft end port of the 3-1/2" x 24" (88.9 mm x 610 mm) cylinder into the piston end port of the 3" x 24" (76.2 mm x 610 mm) wing cylinder on R.H.S. causing wing cylinders to extend. The oil from shaft end port of the 3" x 24" (76.2 mm x 610 mm) cylinder on R.H.S. is returned to the tractor.

When lowering disc, oil flows from tractor to shaft end port of the 3" x 24" (76.2 mm x 610 mm) wing cylinder, causing wing cylinder to contract. Oil forced from piston end port of the 3" x 24" (76.2 mm x 610 mm) wing cylinder flows to shaft end port of L.H. 3-1/2" x 24" (88.9 mm x 610 mm) cylinder, causing cylinder to contract. The oil forced from the piston end port of the L.H. 3-1/2" x 24" (88.9 mm x 610 mm) wing cylinder flows to shaft end port of main frame 4" x 24" (101.6 mm x 610 mm) cylinder causing cylinder to contract. The oil from piston end port of the 4" x 24" (101.6 mm x 610 mm) cylinder is returned to the tractor.

NOTE: Lockup valve must be open to allow oil to flow to and from lift cylinders.

All cylinders extend and contract at the same rate because the amount of oil flowing between the shaft end ports and the piston end ports is equal in volume. For example, the 4" x 24" (101.6 mm x 610 mm) main frame cylinder has a 2" (50.8 mm) diameter piston shaft which displaces enough oil from the shaft side to fully extend the 3-1/2" x 24" (88.9 mm x 610 mm) L.H. wing cylinder. The same method is used between the 3-1/2" x 24" (88.9 mm x 610 mm) L.H. wing cylinder and the 3" x 24" (76.2 mm x 610 mm) R.H. wing cylinder.

Each lift (rockshaft) cylinder contains a by-pass to allow oil to flow past piston when each cylinder is fully extended. If all cylinders are not fully extended when disc is raised, continue to pump oil into lift cylinders until all cylinders are fully extended.

30. **NOTE:** *Before filling lift cylinders with oil, remove clevis pin from shaft end of each cylinder so that the cylinders may be extended and contracted WITHOUT ACTUATING rockshafts. Support cylinders so shafts pass over rockshaft arms and frame components.*

See Fig. 30. To fill rockshaft cylinders with oil remove depth control stops to allow cylinders to work full length of stroke. Next, pump oil into the cylinders, extending cylinders. Hold hydraulic lever for (3) minutes allowing all cylinders to fully extend. Next, fully retract all cylinders then fully extend them and hold hydraulic level another (3) minutes. This procedure will purge air from all cylinders and fully synchronize them. Attach shaft end of each cylinder to rockshaft arm with one (1) 1-1/4" x 4-3/4" (31.7 mm x 121 mm) pin. Secure each pin with two (2) 5/16" x 1-3/4" (7.57 mm x 44.4 mm) cotter pins.

31. **NOTE:** *Before filling wing cylinders with oil, support cylinder so shaft passes over cylinder lug on wing.*

See Fig. 30. Pump oil into all 36" (914 mm) stroke wing cylinders. Extend and contract cylinder shafts until cylinders are **completely filled** with oil. After cylinders are full of oil, fully extend all of them. Next, place shaft end of each cylinder between two cylinder lugs on each wing frame. Pin cylinder shaft to slotted hole in cylinder lugs with one (1) 1-1/4" x 4-3/4" (31.7 mm x 121 mm) pin and two (2) 1-9/32" I.D. flatwashers. Secure each pin with two (2) 5/16" x 1-3/4" (7.87 mm x 44.4 mm) cotter pins.



CAUTION: HYDRAULIC CYLINDERS CAN BE SERIOUSLY DAMAGED IF CLEVIS OF SHAFT STRIKES ROCKSHAFT ARM OR WING CYLINDER LUG AS CYLINDERS ARE BEING CYCLED TO FILL THEM WITH OIL.



CAUTION: IF HYDRAULIC CYLINDER SHAFTS ARE UNPINNED AND CYCLED TO FILL THE CYLINDERS WITH OIL, THEY CAN BE SERIOUSLY DAMAGED IF CLEVIS OF SHAFT STRIKES ROCKSHAFT ARM OR WING CYLINDER LUG.



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.



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 A BACKSTOP TO CHECK FOR ESCAPING HIGH PRESSURE OR HOT FLUID.



CAUTION: WINGS WILL FREE FALL IF WING CYLINDERS ARE NOT FULL OF OIL, CAUSING SERIOUS DAMAGE.



CAUTION: TO ASSEMBLE BALANCE OF DISC, EXTEND MAIN LIFT CYLINDERS RAISING FRAME. BE SURE MAIN LIFT CYLINDERS ARE COMPLETELY FILLED WITH OIL. THEN PLACE ADEQUATE SUPPORT UNDER MAIN FRAME AND EACH WING FRAMES.
DO NOT USE LOCK OUT VALVE AS SAFETY DEVICE TO PREVENT FRAME FROM FALLING. IF ANY HYDRAULIC COMPONENT FAILED DISC COULD DROP CAUSING SERIOUS INJURY OR DEATH TO THOSE NEARBY.

WARNING: DO NOT STAND UNDER WINGS WHILE WINGS ARE BEING RAISED OR LOWERED. IF ANY COMPONENTS OF HYDRAULIC SYSTEM SHOULD FAIL OR IF HYDRAULIC LEVER SHOULD ACCIDENTALLY BE OPERATED, WINGS COULD DROP CAUSING SERIOUS INJURY OR DEATH.

FIG. 31

DETAIL "D"
Offset Scraper Mount Plate
Scraper Bar
Gang Beam

DETAIL "E"
Scraper Bar
Scraper
6 x 4 Gang Beam
Std Scraper Mount Plate

IMPORTANT: SPACING BETWEEN WING GANGS AND CENTER FRAME GANGS, ARROWS "S", MUST NOT BE LESS THAN BLADE SPACING. IF GANGS ARE SET TOO CLOSE, THE TWO GANGS MAY INTERFERE WITH EACH OTHER OR CENTER FRAME, WHEN WING IS FOLDED.

DETAIL "C"
7/8" x 6" (22 x 152mm) U-Bolt
Gang Beam
Solid Bearing Hanger

DETAIL "B" (Solid Hanger)
Double nut end of 5/8" x 10" (15.7 x 254mm) Bearing Retainer Bolt
Optional Wear Guards
REAR

DETAIL "A" - (Stone Flex Hanger)
2
3
Double nut end of 5/8" x 10" (15.7 x 254mm) Bearing Retainer Bolt
REAR

Outrigger Blade
Scraper Bar
Scraper Mount Plate
S
2-1/2" (63.5mm)
2-1/2" (63.5mm)
4
"D"
NOTE: THE MAXIMUM SETTING BETWEEN REAR GANGS, DIMENSION "D", IS 24" (610mm).

32. ATTACHING GANG ASSEMBLIES - See Fig. 31.

NOTE: Find gang pattern for your disc on pages 41 to 52.

NOTE: Remove scraper assemblies and bundling tie bars from gang assemblies. The scraper assembly that is bundled with each gang will be assembled together on the disc. Be sure each gang and its scraper assembly is kept together. The 5/8" x 2" (15.7mm x 50.8mm) U-bolts used to bundle scraper assemblies must be saved to assemble scraper bar to gang beam later.

- a) USING GANG PATTERN FOR YOUR DISC - Identify the front and rear gangs. Next, determine which gangs are for R.H.S. and which are for L.H.S. For solid hangers L.H and R.H. is determined by the 5/8" x 10" bearing retainer bolt. When the blades are correctly orientated the double nut end of the 5/8" x 10" (15.7mm x 254mm) bolt will face the rear of the disc, see Detail B. If your disc is equipped with stone flex hangers, L.H. and R.H. can also be determined by the opening of the "C" shank. When blades are correctly orientated the open end of "C" shank will face the rear of disc, see Detail A.

- b) REAR GANGS - Roll rear gang assemblies in place under rear gang beams. The gang assemblies with outrigger blades (small diameter blades) must be positioned at the outside. See Fig. 31 for the direction rear gangs face.

Attach bearing hangers to gang beams with (2) two 7/8" x 6" U-bolts per bearing hanger. Details "B" and "C" illustrates how to attach solid hangers. Leave U-bolt loose. If disc is equipped with optional stone flex bearing hangers, see Step "D" to attach hangers.

- c) FRONT GANGS - Roll front gang assemblies in place under front gang beams. See Fig. 31 for the direction the front gangs face.

Attach bearing hangers to gang beams with (2) two 7/8" x 6" U-bolts per bearing hanger. Details "B" and "C" illustrates how to attach solid hangers. Leave U-bolts loose. If disc is equipped with optional stone flex bearing hangers, see Step "C" to attach hangers.

- d) See Detail "A", Fig. 31. If disc is equipped with optional stone flex bearing hangers, fasten each spring hanger assembly, arrow 1, to bottom of gang beam, arrow 2, with one backing plate, arrow 3, and 2 U-bolts. Be sure dowel pin of backing plate, arrow 3, is installed in slot of spring shank.
- e) See Fig. 31. Set front centre frame gangs, so that the leading edge of inside blades, arrow 4, are approximately 2-1/2" (63.5 mm) past centre of disc frame - centre line of centre frame is shown in Fig. 31.

- f) See Fig. 31. Set rear centre frame gangs, arrow 5, so that the distance between the rear edge of the two inside blades, dimension "D" is equal to 2" (50.8 mm) less than diameter of blade to a maximum of 24" (610mm). For example, if your disc is equipped with 26" (660 mm) diameter blades, dimension "D" would be set at 24"(610 mm). If your disc is equipped with 28" (711mm) or 30" (762mm) diameter blades, Dimension "D" would be set at a maximum of 26" (660mm). Be sure rear gangs are centered.

- g) See Fig. 31. Adjust blade to blade distance between individual gang assemblies. This distance should be the same as the blade spacing of your disc.

IMPORTANT: SPACE BETWEEN WING GANGS AND CENTRE FRAME GANGS **MUST NOT** BE LESS THAN BLADE SPACING. IF GANGS ARE SET TOO CLOSE, THE TWO GANGS MAY INTERFERE WITH EACH OTHER WHEN WINGS ARE FOLDED.

- h) Before tightening bearing hanger U-bolts, check each bearing hanger to make sure hanger is sitting square under gang beam. Next tighten U-bolts to 430 ft. lbs. (583.0 N · m).

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

33. ATTACHING SCRAPER ASSEMBLIES - See Fig. 31.

NOTE: Find gang pattern for your disc on pages 41 to 52.

- a) Identify scraper assembly for each gang. As indicated in Section 32 above, the gangs were bundled with their corresponding scraper assembly. Scraper assemblies are assembled L.H. and R.H. must be installed on appropriate side.

NOTE: Some gangs use a 90 degree scraper. Be sure the scraper assemblies with 90 degree scrapers are installed on the correct gangs.

- b) See Fig. 31. Position each scraper assembly on REAR side of it's gang with scraper placed against concave side of blades. Fasten scraper assembly to gang beam with ONE (1) scraper mount plate for each bearing hanger in the gang. Position outer scraper mount plates as close as possible to the end of the scraper bar. Position the inner scraper mount plate(s) close to a bearing hanger. Locate standard scraper mount plates on BOTTOM side of gang beam and secure with (1) 3/4" x 6" (19.0mm x 152.4mm) U-Bolt c/w nuts and lockwashers as shown in Detail "E". Place scraper bar assembly on TOP of scraper mount plates and secure scraper bar to plates with one (1) 5/8" x 2" (15.7mm x 50.8mm) U-Bolts c/w nuts and lockwashers.

NOTE: *In some cases the standard scraper mount plate, shown in Detail "E", can not be installed between frame and a bearing hanger. In these instances an offset scraper mount is provided. This mount plate is placed on top of the gang beam, as shown in Detail "D", allowing clearance for installation. All Models are supplied with six (6) offset mounts. If they are not used for tight locations, use them in normal locations.*

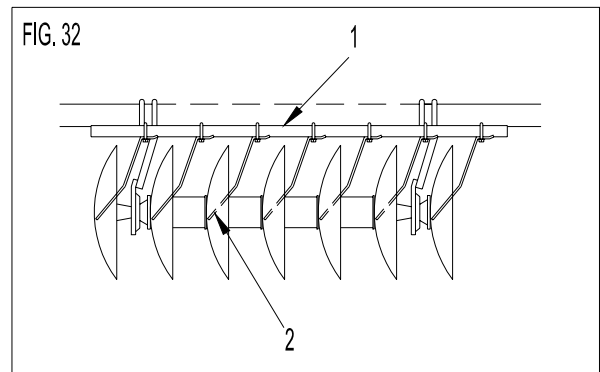
34. **IMPORTANT:** WHEN RAISING WINGS FOR TRANSPORT FOR FIRST TIME AFTER ADJUSTING GANGS, RAISE WINGS SLOWLY MAKING SURE WING GANGS CLEAR CENTRE FRAME GANGS.

35. See Fig. 32. 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 HORSE POWER TO PULL IF SCRAPERS ARE ADJUSTED PROPERLY.

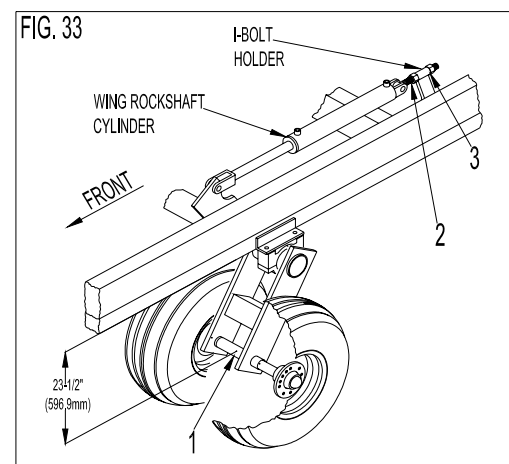


CAUTION: WHEN ATTACHING GANG ASSEMBLIES, WEAR PROTECTIVE GLOVES TO HELP PREVENT INJURY FROM CUTTING EDGES OF BLADES.



36. See Fig. 33. Level frames with main frame as follows:

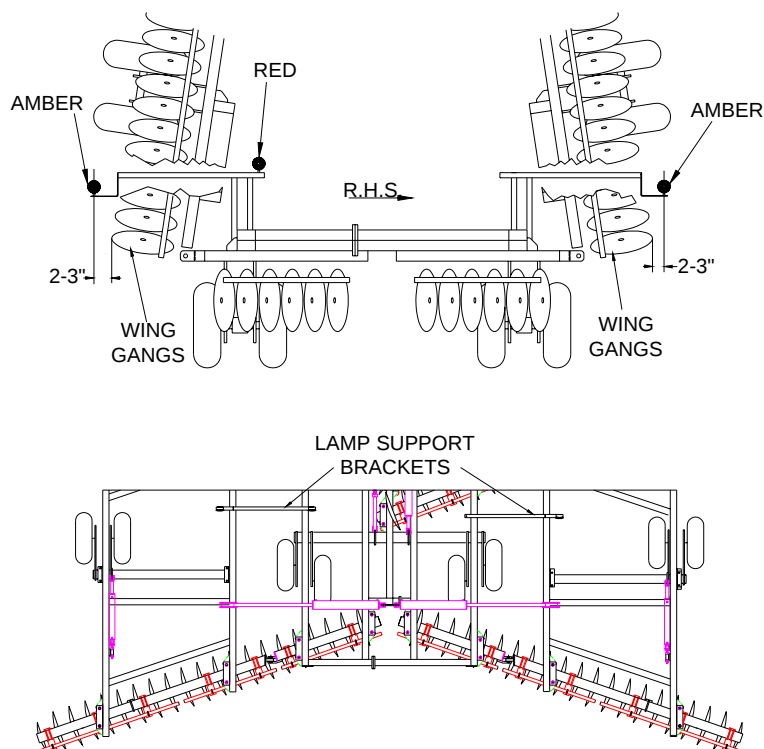
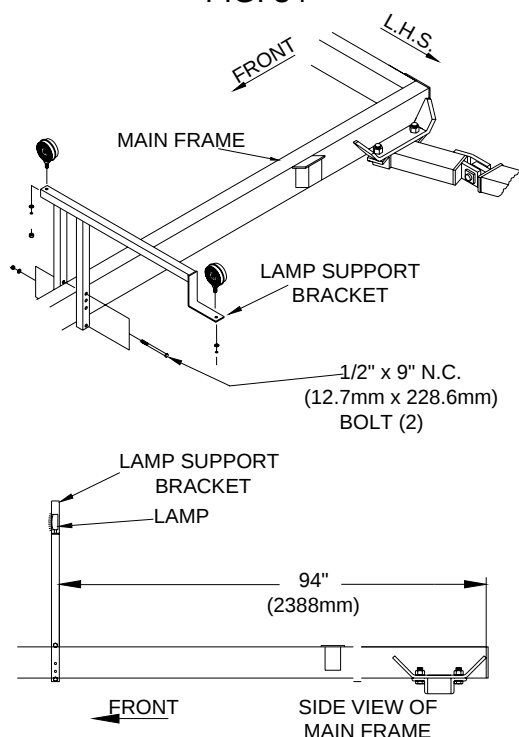
- Raise disc by extending rockshaft cylinders, be sure wing rockshaft cylinders are fully extended.
- Check position of the spindle mounting tube, arrow 1, (welded to bottom of rockshaft wheel leg). This distance should be 23-1/2" (596.9mm) from the bottom of wing frame to top of spindle mounting tube.
- If spindle mounting tube locatin is not correct, adjust length of wing cylinder I-Bolt, arrow 2. Extending I-Bolt will move spindle mount tube further away from bottom of frame while contracting I-Bolt will move it closer.
- After adjustments are complete, lock I-Bolt by tightening rear nut, arrow 3, against I-Bolt holder.



NOTE: The above wheel leg settings are initial settings only. If wing gangs do not cut at same depth as main frame gangs, further wing cylinder adjustment will be required.

IMPORTANT: BE SURE AXIS OF CLEVIS PIN IS HORIZONTAL AND CYLINDER PORTS ARE FACING UP. IF CYLINDER AND I-BOLT ARE NOT POSITIONED PROPERLY, CYLINDER WILL NOT BE FREE TO PIVOT WHEN ACTIVATED CAUSING SERIOUS DAMAGE.

FIG. 34



37. WARNING LIGHT KIT MOUNT INSTRUCTIONS - OPTIONAL - See Fig. 34

WARNING: DO NOT STAND UNDER FOLDED WINGS WHEN WORKING ON DISC. IF HYDRAULIC SYSTEM FAILED OR IF HYDRAULIC LEVER WAS ACCIDENTALLY OPERATED, WINGS MAY FALL RESULTING IN SERIOUS INJURY OR DEATH TO PERSON(S) NEAR DISC.

- With disc folded, install one lamp support bracket on each side of main frame. Locate each bracket 94" (2387mm) from rear of main frame. Fasten each lamp bracket by placing the vertical legs over the outside tube of frame. Secure with (2) 1/2" x 9" N.C. (12.7mm x 228.6mm) hex bolts c/w nuts and lockwashers. Install the bolts in the top and bottom holes of vertical legs. Tighten bolts.
- Fasten one (1) amber lamp and one (1) red lamp to the L.H. lamp support bracket. Position amber and red lamps so they face the rear with the amber lamp on the outside. Install lamps through 3/4" (19.1mm) holes in lamp support bracket. Secure with nuts. Leave nut loose on amber lamp so ring connector on wiring can be installed later.
- Fasten one (1) amber lamp to outer 3/4" (19.1mm) hole in R.H. lamp support bracket. Position so amber lamp faces rear. Install lamp through 3/4" hole in mount plate. Secure with nuts.

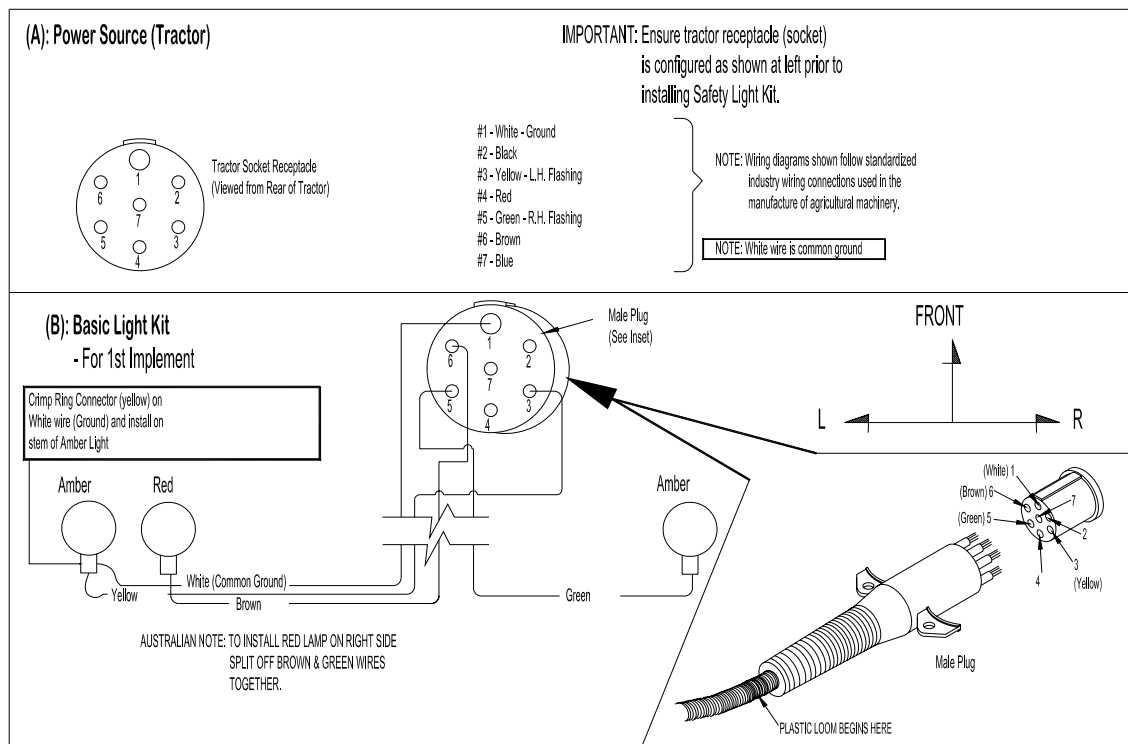
IMPORTANT: Paragraphs "B" and "C" and Fig. 34 describe and show lamp position for North American public roads. For other countries such as Australia, check local laws and regulations for required warning lamp mounting positions

CAUTION: WHEN TRANSPORTING 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 HEIGHT MAXIMUMS.

F) INSTALL ELECTRICAL WIRING AS FOLLOWS:

- F1) See Fig. 35- Run four (4) wire cables (brown, white, yellow, and green) from tractor socket receptacle to rear of disc. Split off green wire and run it to the R.H. amber lamp. Next, run white wire to amber lamp on L.H. side, then run yellow wire to L.H. amber lamp and run brown wire to red lamp on L.H. side. Strip wires and fasten ring connector to each wire. Install ring connector of each wire to threaded stem of each lamp as shown in Fig. 35. Tighten nut on each lamp.
- F2) Next, disassemble male plug, then insert all wires through spring end of male plug. Strip wires and insert each wire into specific terminal of outer half of male plug. Use Fig. 35 to match wire color to proper terminal number. Reassemble both halves of male plug.
- F3) Insert male plug into tractor's socket receptacle. Activate warning light switch and check if all lamps are flashing.
- F4) **IMPORTANT:** Run wires along frame member. Do not run wires across open spaces. Wires that are run across open space will be damaged during discing operations or by people working on the disc.
- F5) Install a 1/2" I.D. x 9' (12.7mm x 2.74m) long plastic loom over wires that lead from male plug shown in Fig. 35. The plastic loom is installed by pushing the wires into the opening that runs the length of the loom.

FIG. 35

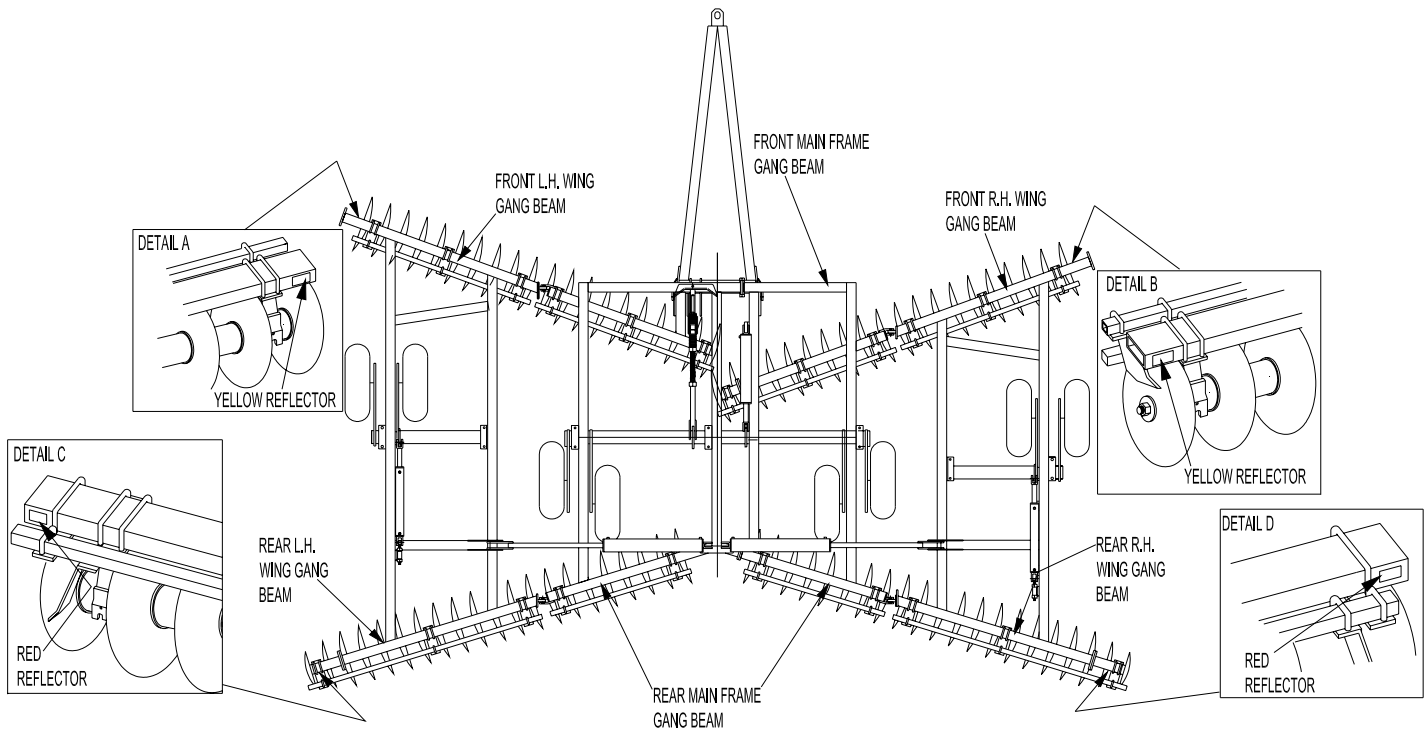


COMPONENTS: BASIC LIGHT KIT

- 1 - 7 pin male plug c/w 55ft(13.7m) 14/4 rib wire
- 3 - Nylon connectors (closed end)
- 2 - Lamps - amber both sides
- 1 - Lamp - red one side

- 10 - Cable ties
- 1 - Ground Connector - ring type (7/16" - 1/2")
- 1 - 8' (24.4m) 1/2" plastic loom

FIG. 36



38. REFLECTOR DECAL INSTALLATION - See Fig. 36

NOTE: Before installing decals, clean the area they will be placed on.

- Place one 2" x 9" (50.8 mm x 228.6 mm) red reflector decal on rear side of each rear gang beam. Locate decals approximately 1" (25.4 mm) from end of gang beam. See detail "C" and "D".
- Place one 2" x 9" (50.8 mm x 228.6 mm) yellow reflector decal on front side of each front gang beam. Locate decals approximately 1" (25.4mm) from end of gang beam. See detail "A" and "B".

GANG BEAM CHART
(Model 4600 Disc)

9" (230 mm) SPACING

DISC	L.H. & R.H. FRONT CENTRE FRAME BEAM	L.H. & R.H. REAR CENTRE FRAME BEAM	L.H. & R.H. FRONT WING FRAME BEAM	L.H. & R.H. REAR WING FRAME BEAM
66B (Super Narrow Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	62" (1574 mm)	89" (2260 mm)
70B (Super Narrow Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	70" (1778 mm)	97" (2463 mm)
74B (Narrow Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	79" (2007 mm)	107" (2718 mm)
86B (Narrow Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	107" (2718 mm)	135" (3429 mm)
94B (Wide Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	128" (3251 mm)	153" (3886 mm)
102B (Wide Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	145" (3683 mm)	173" (4394 mm)
106B (Wide Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	154" (3912 mm)	181" (4569 mm)
110B (Wide Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	163" (4140 mm)	188" (4775 mm)

10-1/2" (267 mm) SPACING

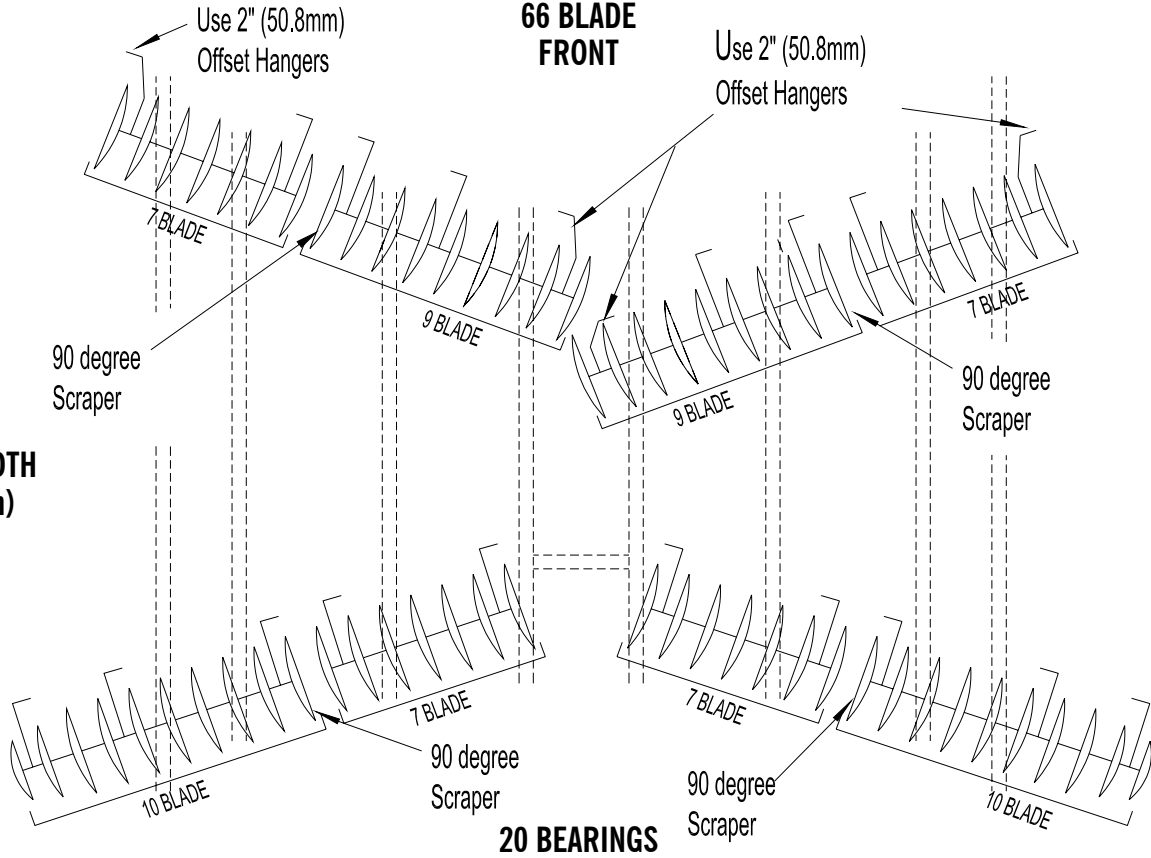
DISC	L.H. & R.H. FRONT CENTRE FRAME BEAM	L.H. & R.H. REAR CENTRE FRAME BEAM	L.H. & R.H. FRONT WING FRAME BEAM	L.H. & R.H. REAR WING FRAME BEAM
58B (Super Narrow Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	64" (1625 mm)	90" (2286 mm)
62B (Super Narrow Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	72" (1828 mm)	100" (2540 mm)
66B (Narrow Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	85" (2159 mm)	113" (2870 mm)
74B (Narrow Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	107" (2718 mm)	135" (3429 mm)
82B (Wide Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	128" (3250.8 mm)	156" (3962 mm)
90B (Wide Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	150" (3810 mm)	178" (4521 mm)
94B (Wide Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	161" (4089 mm)	189" (4801 mm)
98B (Wide Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	168" (4267 mm)	197" (5001 mm)

12" (305 mm) SPACING

DISC	L.H. & R.H. FRONT CENTRE FRAME BEAM	L.H. & R.H. REAR CENTRE FRAME BEAM	L.H. & R.H. FRONT WING FRAME BEAM	L.H. & R.H. REAR WING FRAME BEAM
50B (Super Narrow Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	62" (1574 mm)	85" (2159 mm)
54B (Super Narrow Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	66" (1676 mm)	97" (2463 mm)
58B (Narrow Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	79" (2007 mm)	110" (2794 mm)
62B (Narrow Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	92" (2337 mm)	123" (3124 mm)
66B (Narrow Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	104" (2642 mm)	135" (3429 mm)
74B (Wide Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	129" (3277 mm)	160" (4064 mm)
78B (Wide Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	142" (3607 mm)	173" (4394 mm)
82B (Wide Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	155" (3937 mm)	186" (4724 mm)
86B (Wide Wing)	86-1/2" (2197 mm)	69-1/2" (1765 mm)	166" (4216 mm)	195" (4953 mm)

DISC GANG PATTERN - 9" (230 mm) SPACING - Super Narrow Wing

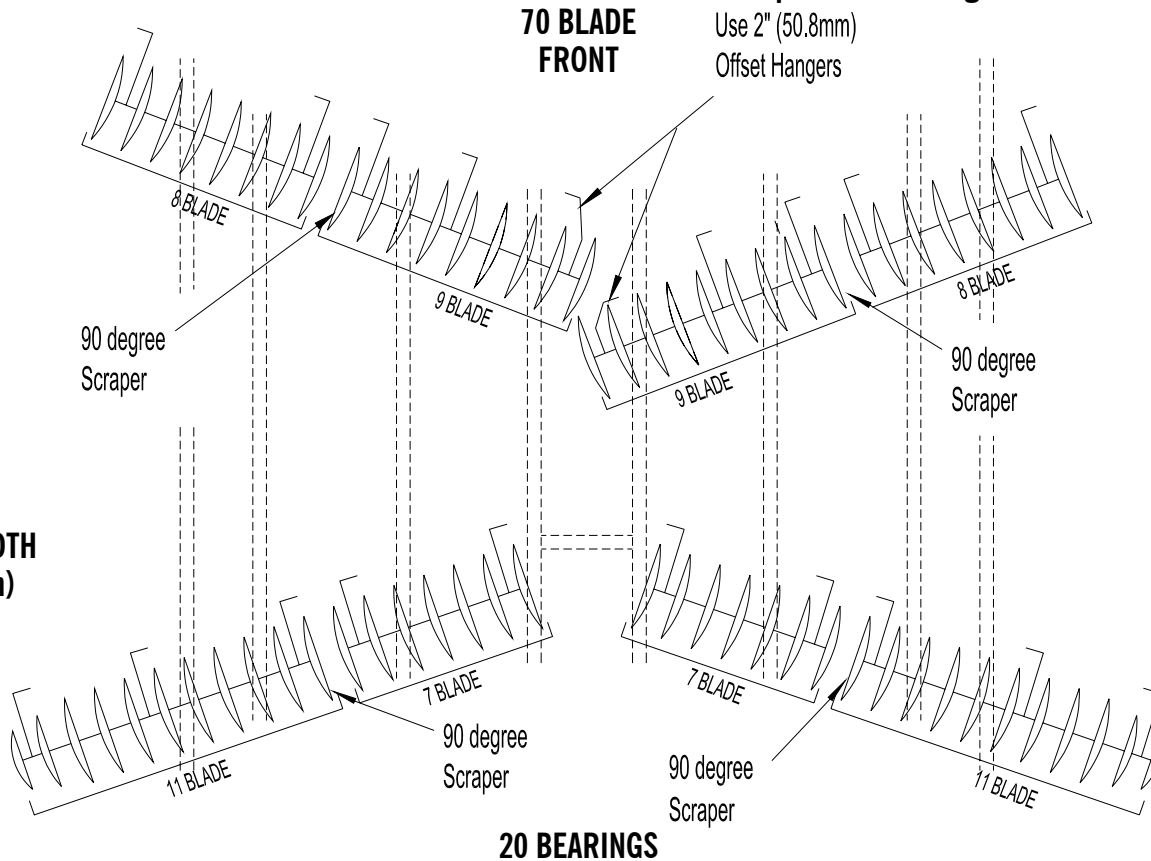
**66 BLADE
FRONT**



**APPROX. WIDTH
25 ft. (7.62 m)**

DISC GANG PATTERN - 9" (230 mm) SPACING - Super Narrow Wing

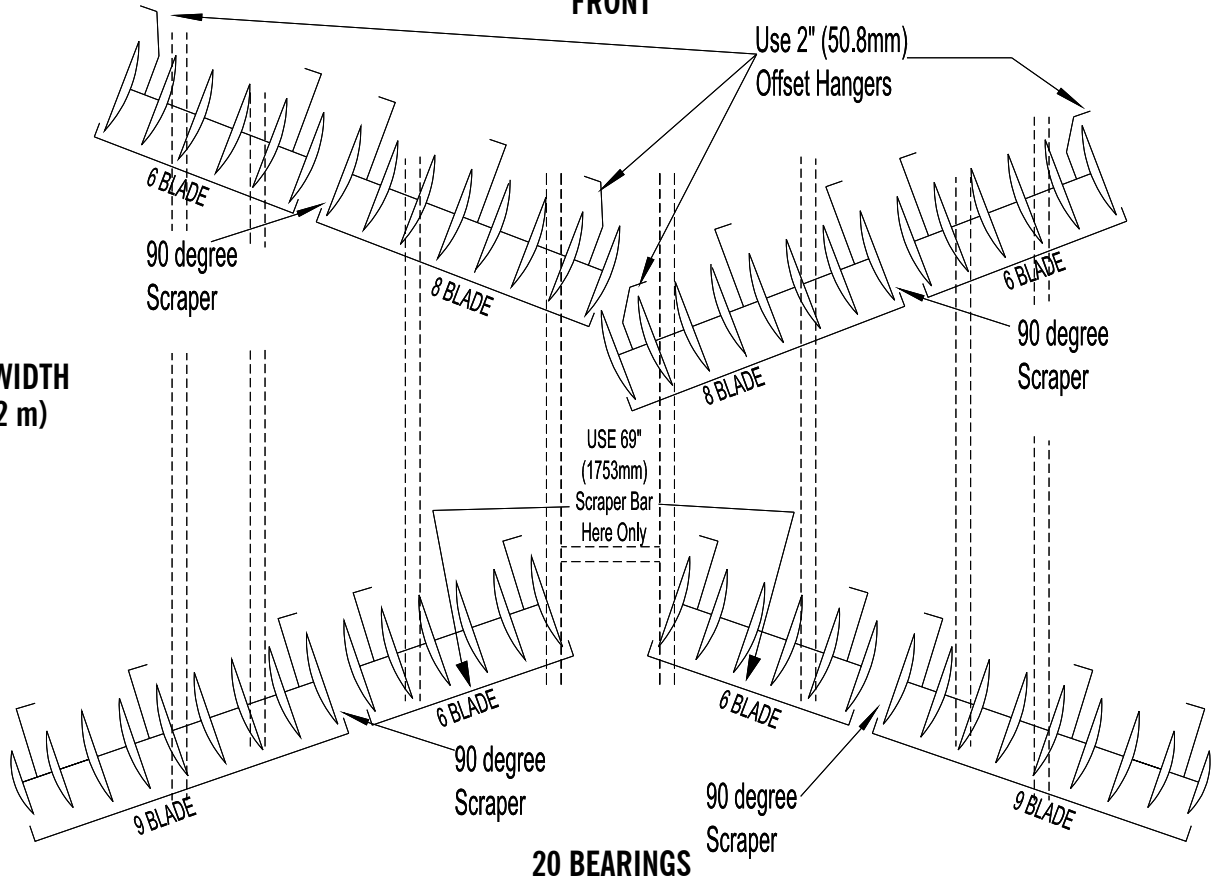
**70 BLADE
FRONT**



**APPROX. WIDTH
26 ft. (7.92 m)**

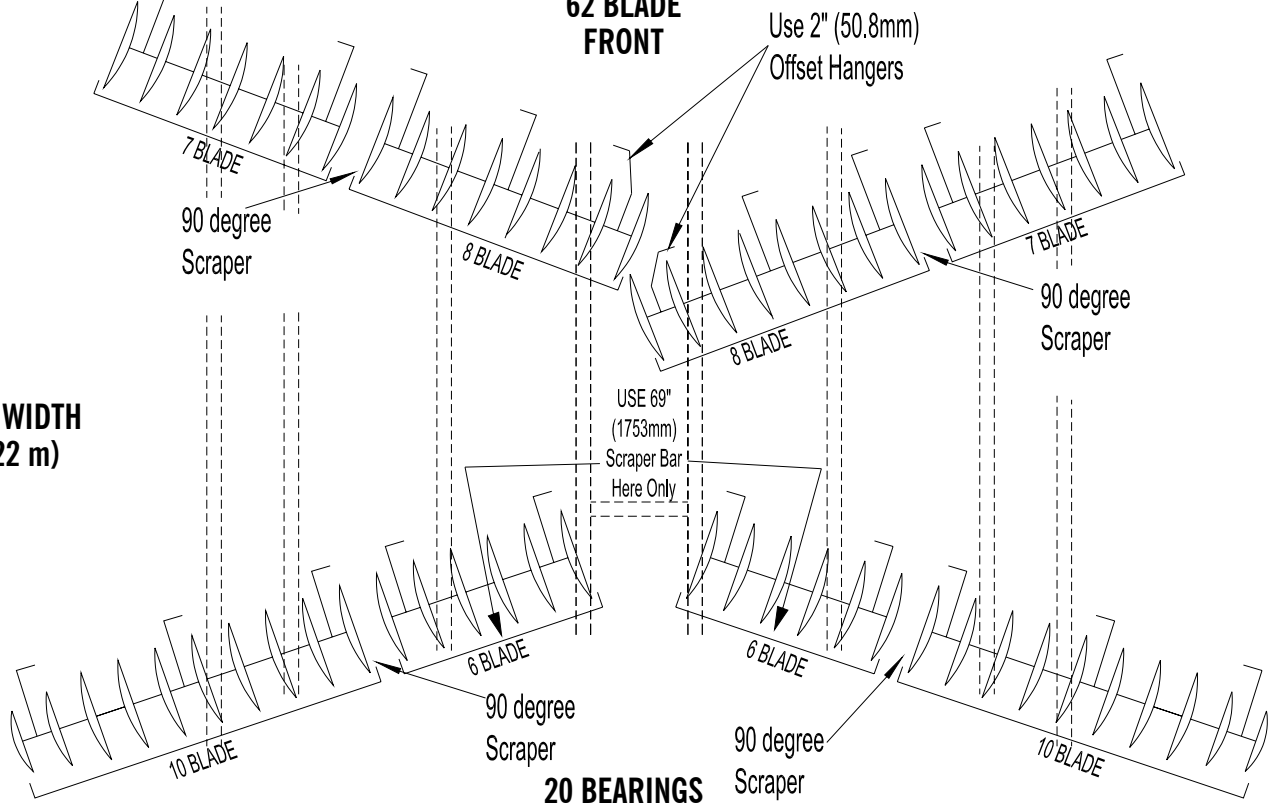
DISC GANG PATTERN - 10-1/2" (266 mm) SPACING - Super Narrow Wing
58 BLADE
FRONT

APPROX. WIDTH
25 ft. (7.62 m)



DISC GANG PATTERN - 10-1/2" (266 mm) SPACING - Super Narrow Wing
62 BLADE
FRONT

APPROX. WIDTH
27 ft. (8.22 m)

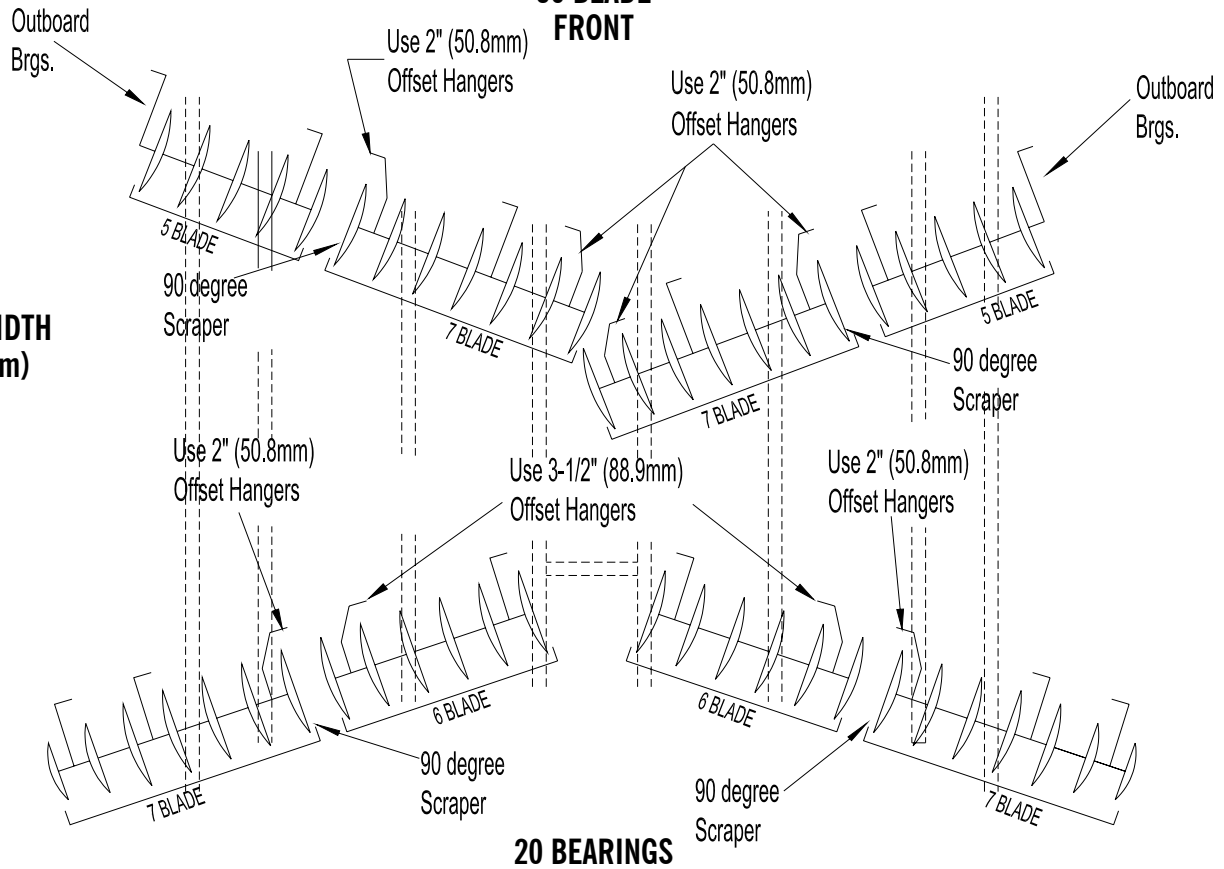


DISC GANG PATTERN - 12" (304 mm) SPACING - Super Narrow Wing

50 BLADE

FRONT

**APPROX. WIDTH
24 ft. (7.31 m)**

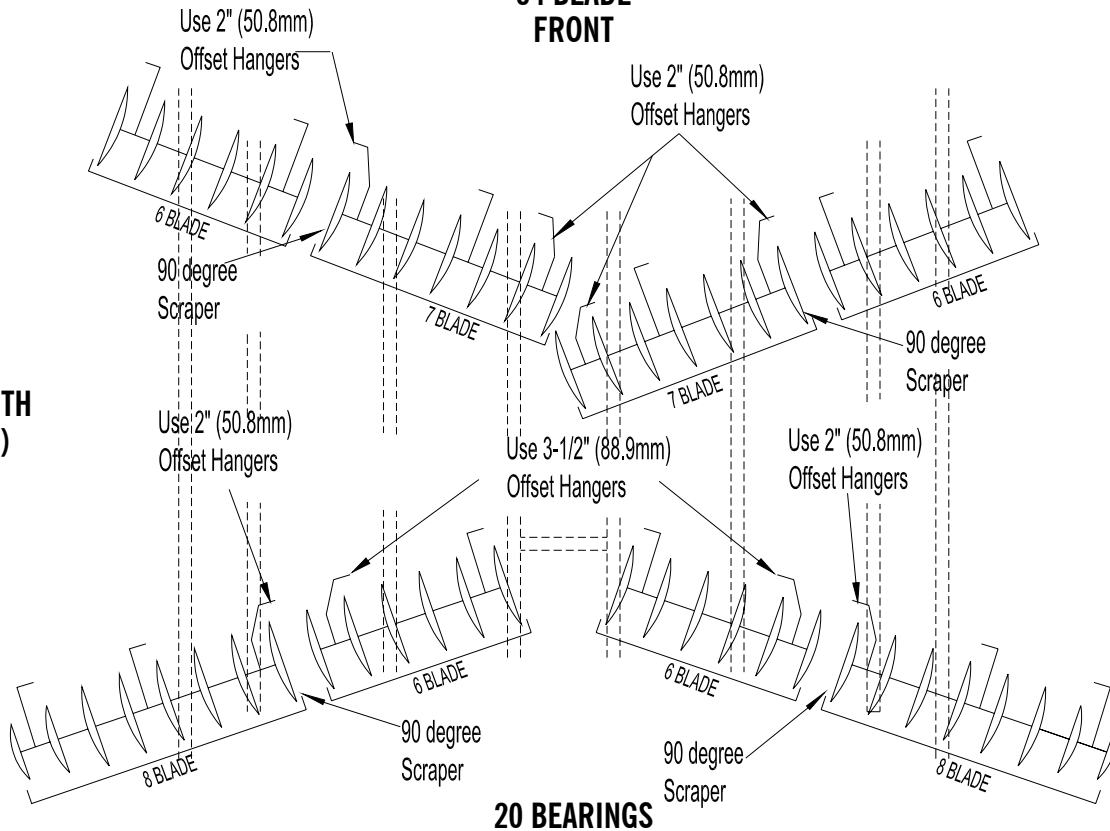


DISC GANG PATTERN - 12" (304 mm) SPACING - Super Narrow Wing

54 BLADE

FRONT

**APPROX. WIDTH
26 ft. (7.92 m)**

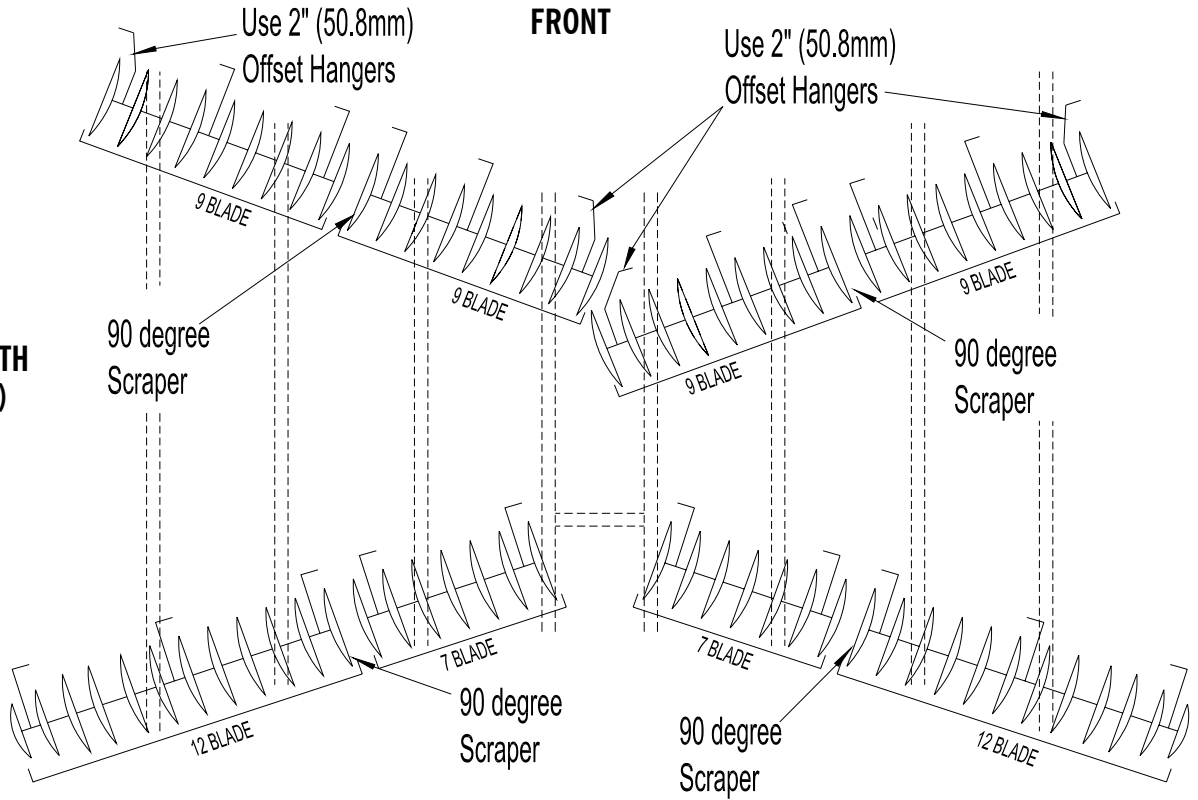


DISC GANG PATTERN - 9" (230 mm) SPACING

74 BLADE

FRONT

APPROX. WIDTH
28 ft. (8.53 m)



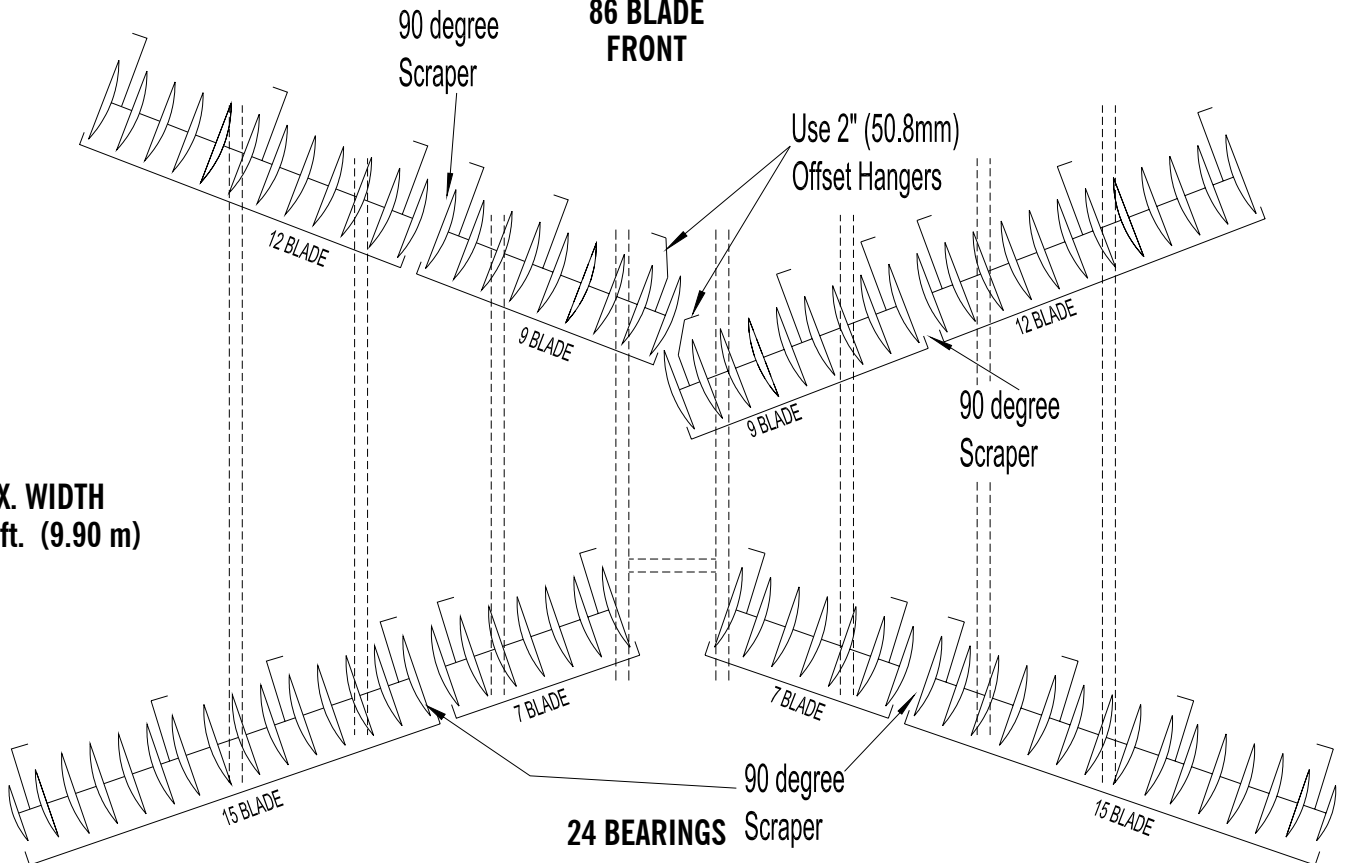
22 BEARINGS

DISC GANG PATTERN - 9" (230 mm) SPACING

86 BLADE

FRONT

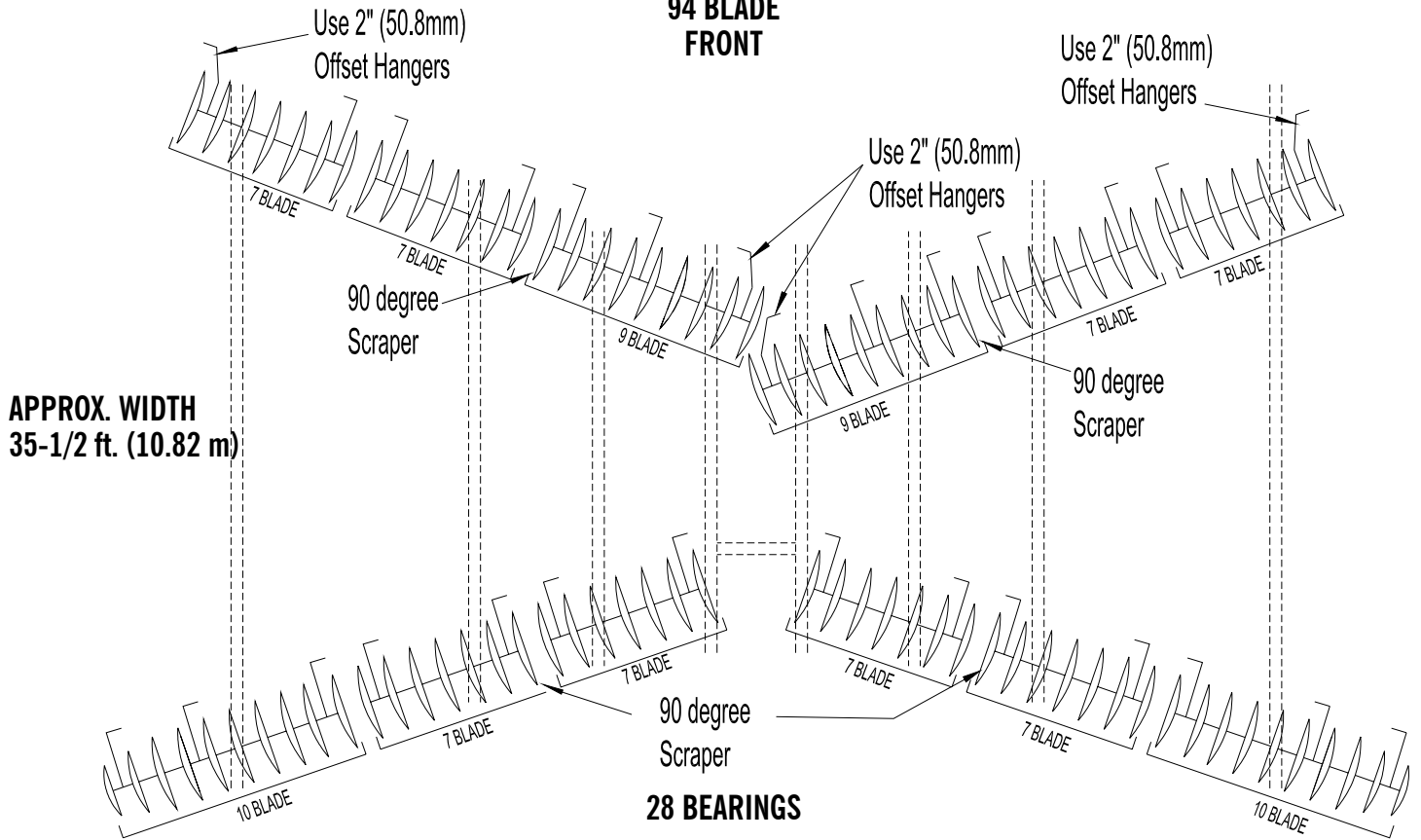
APPROX. WIDTH
32-1/2 ft. (9.90 m)



24 BEARINGS

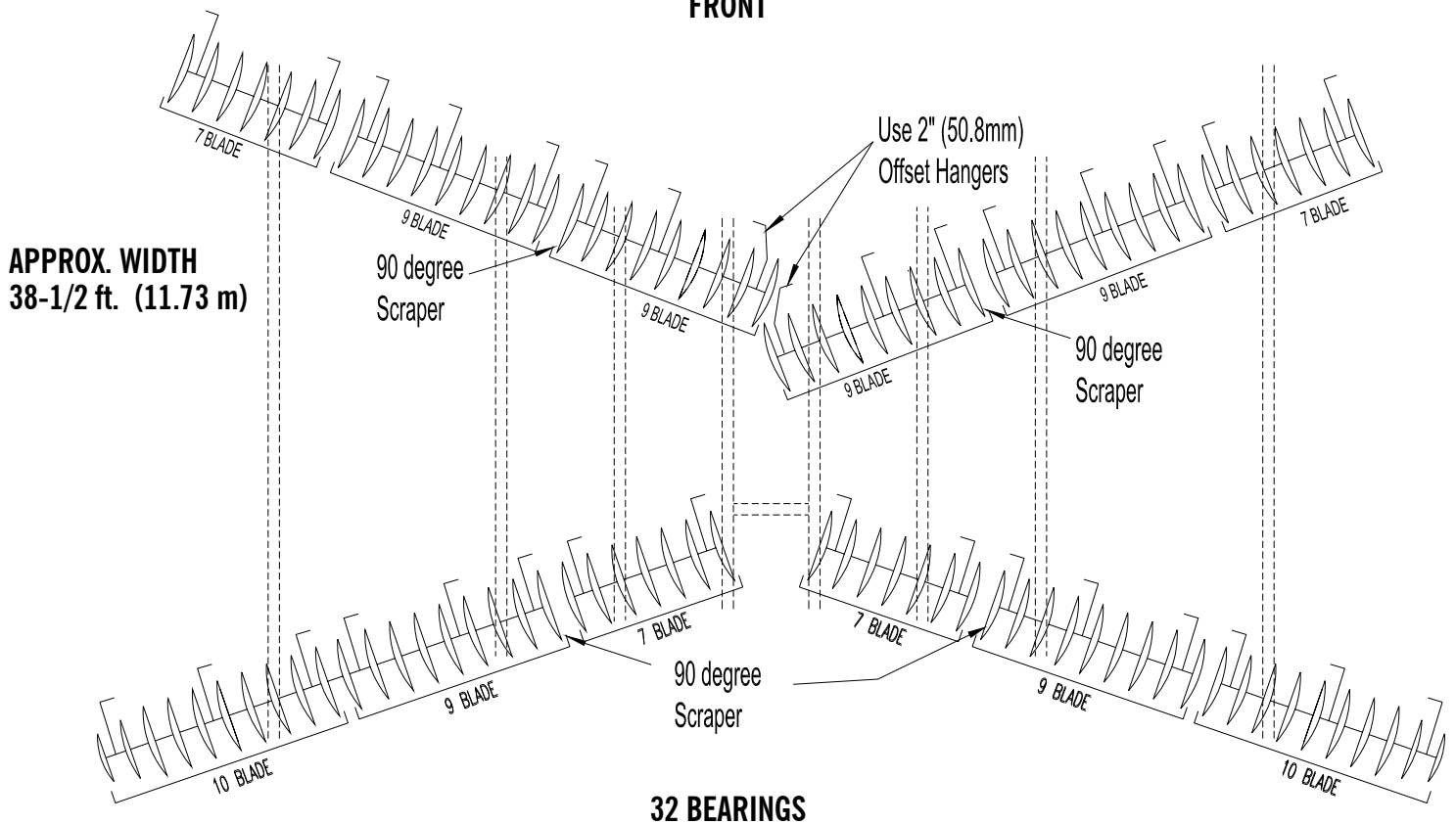
DISC GANG PATTERN - 9" (230 mm) SPACING

94 BLADE FRONT



DISC GANG PATTERN - 9" (230 mm) SPACING

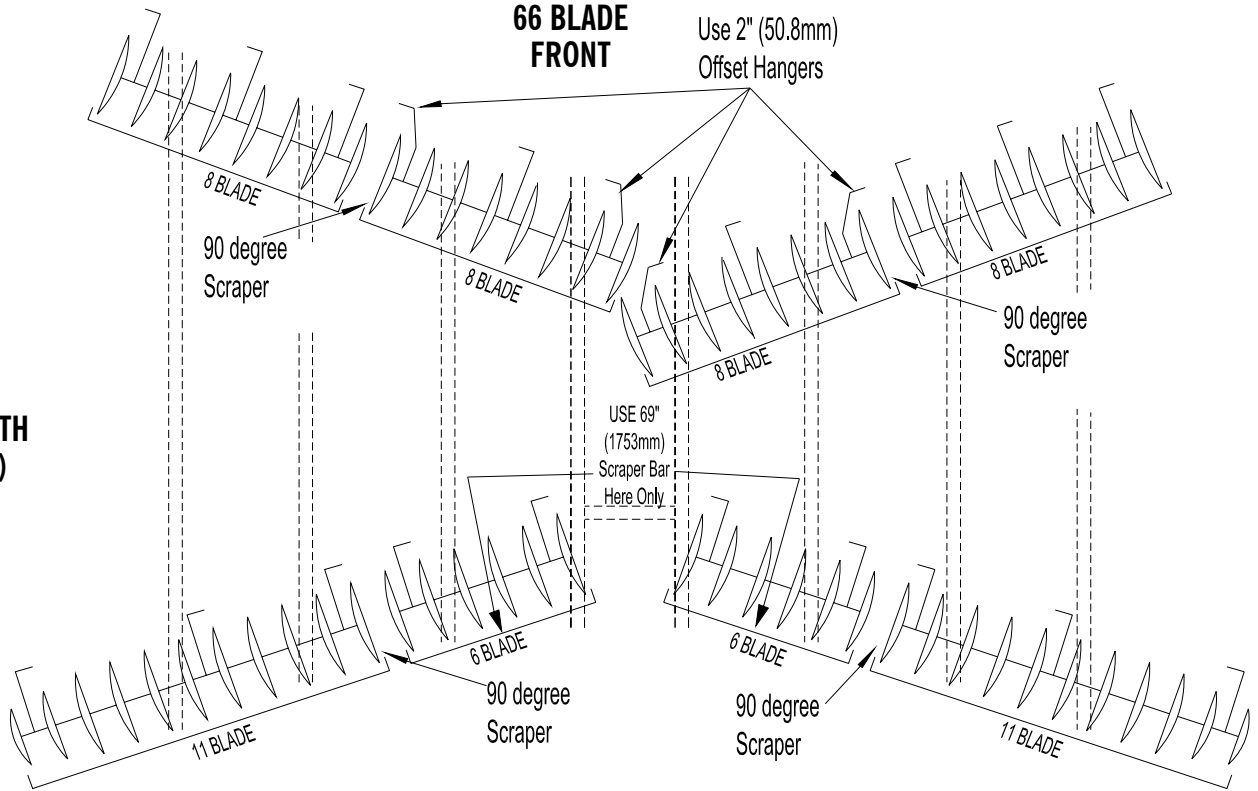
102 BLADE FRONT



DISC GANG PATTERN - 10-1/2" (267 mm) SPACING

**66 BLADE
FRONT**

Use 2" (50.8mm)
Offset Hangers



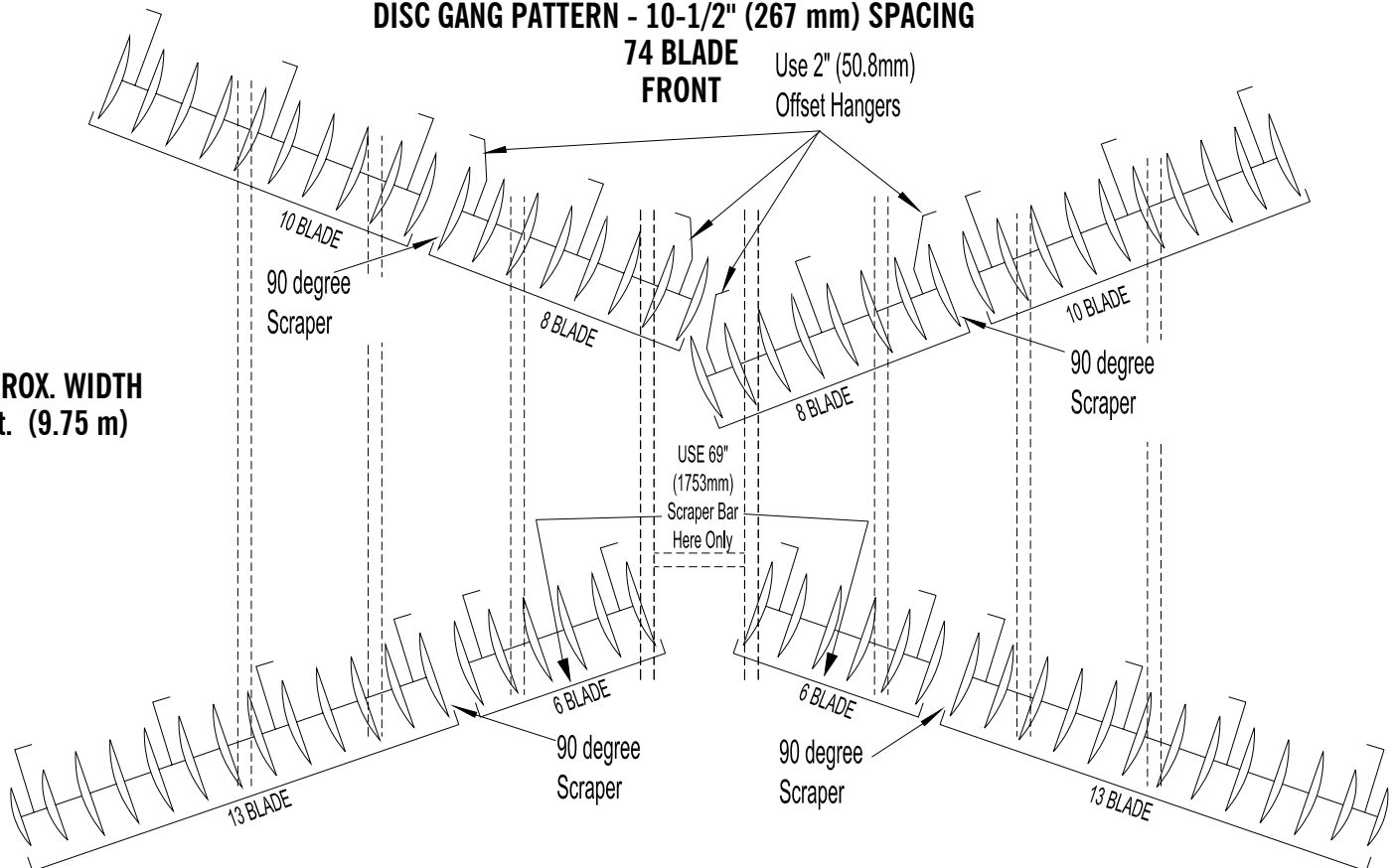
**APPROX. WIDTH
29 ft. (8.83 m)**

22 BEARINGS

DISC GANG PATTERN - 10-1/2" (267 mm) SPACING

**74 BLADE
FRONT**

Use 2" (50.8mm)
Offset Hangers



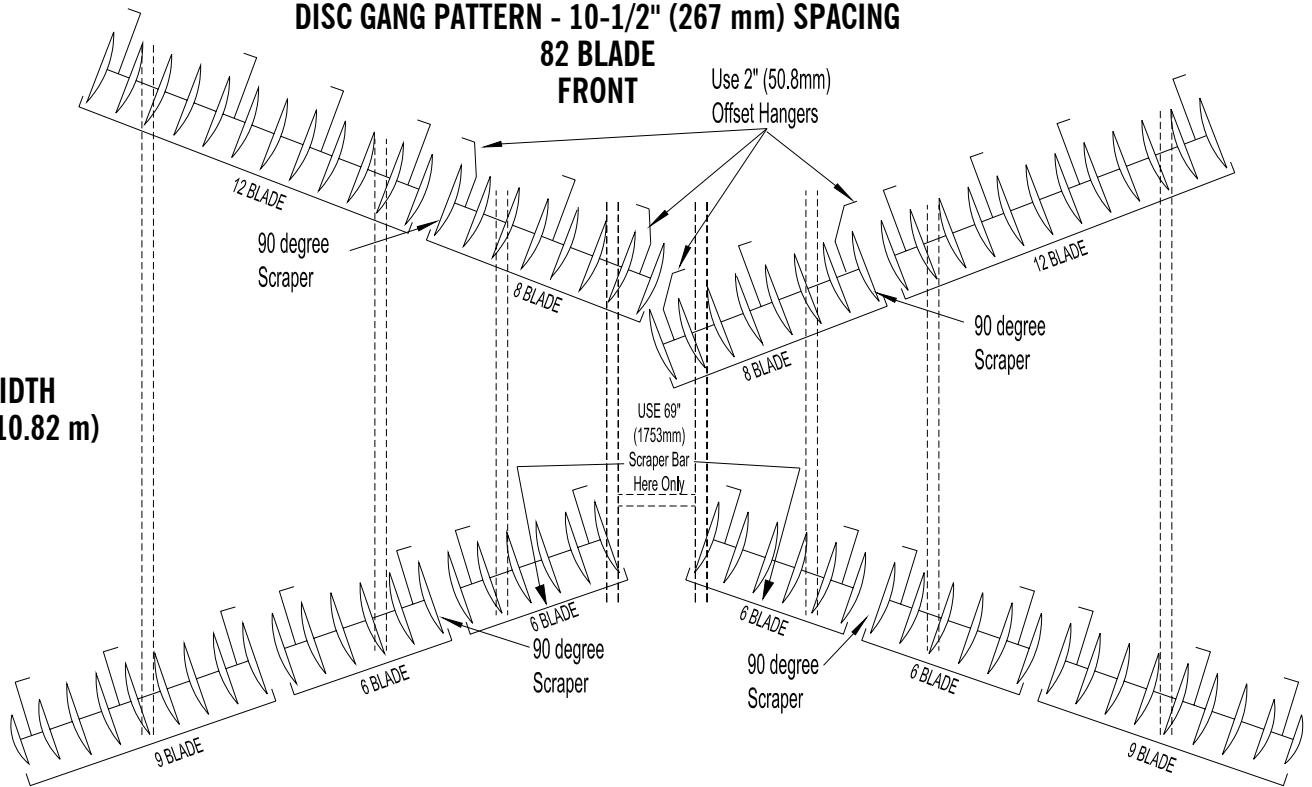
**APPROX. WIDTH
32 ft. (9.75 m)**

24 BEARINGS

DISC GANG PATTERN - 10-1/2" (267 mm) SPACING

82 BLADE FRONT

APPROX. WIDTH
35-1/2 ft. (10.82 m)

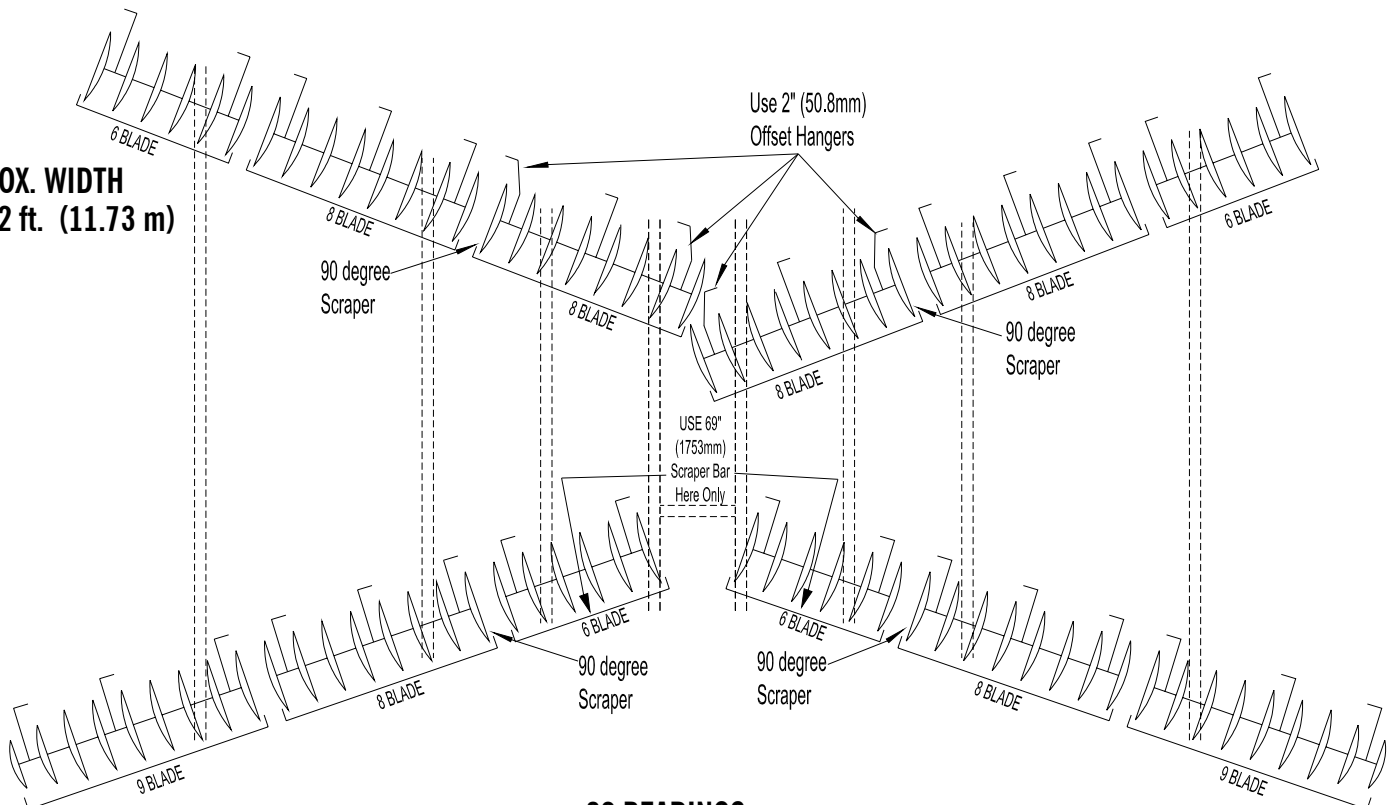


28 BEARINGS

DISC GANG PATTERN - 10-1/2" (267 mm) SPACING

90 BLADE FRONT

APPROX. WIDTH
38-1/2 ft. (11.73 m)

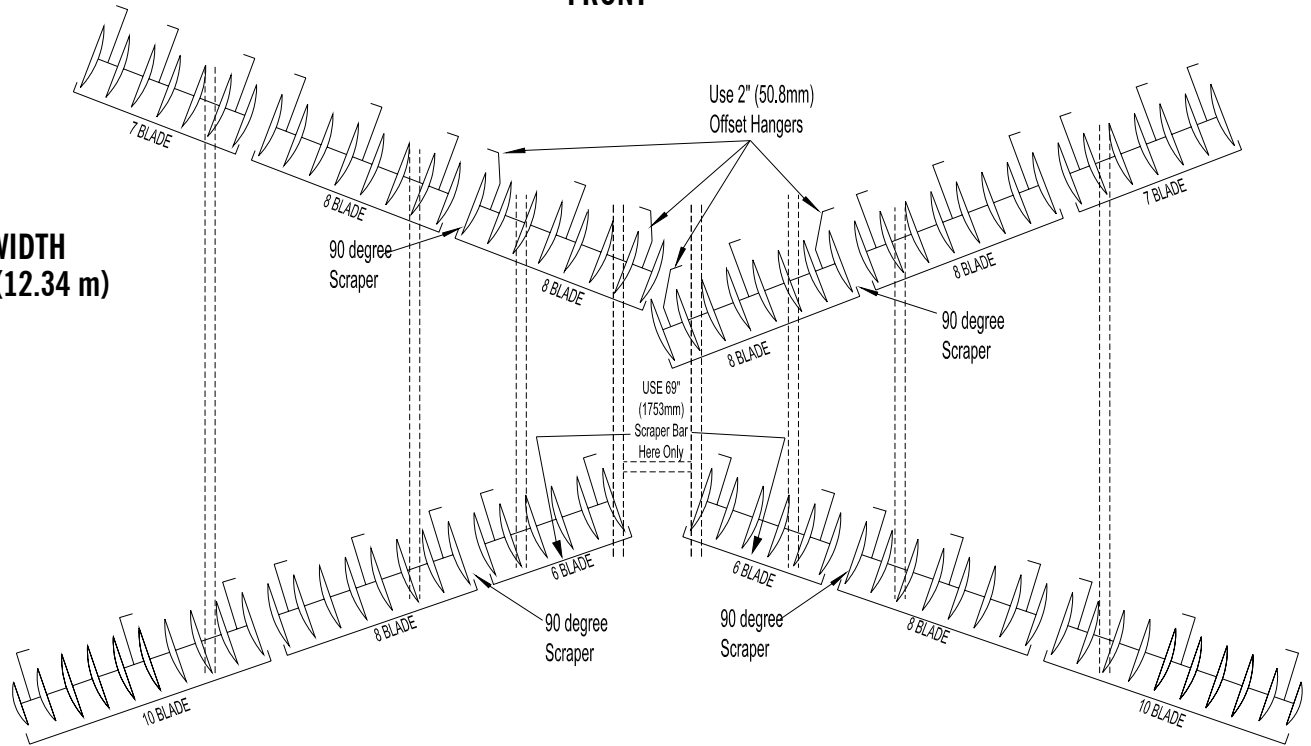


32 BEARINGS

DISC GANG PATTERN - 10-1/2" (267 mm) SPACING

94 BLADE FRONT

APPROX. WIDTH
40-1/2 ft. (12.34 m)

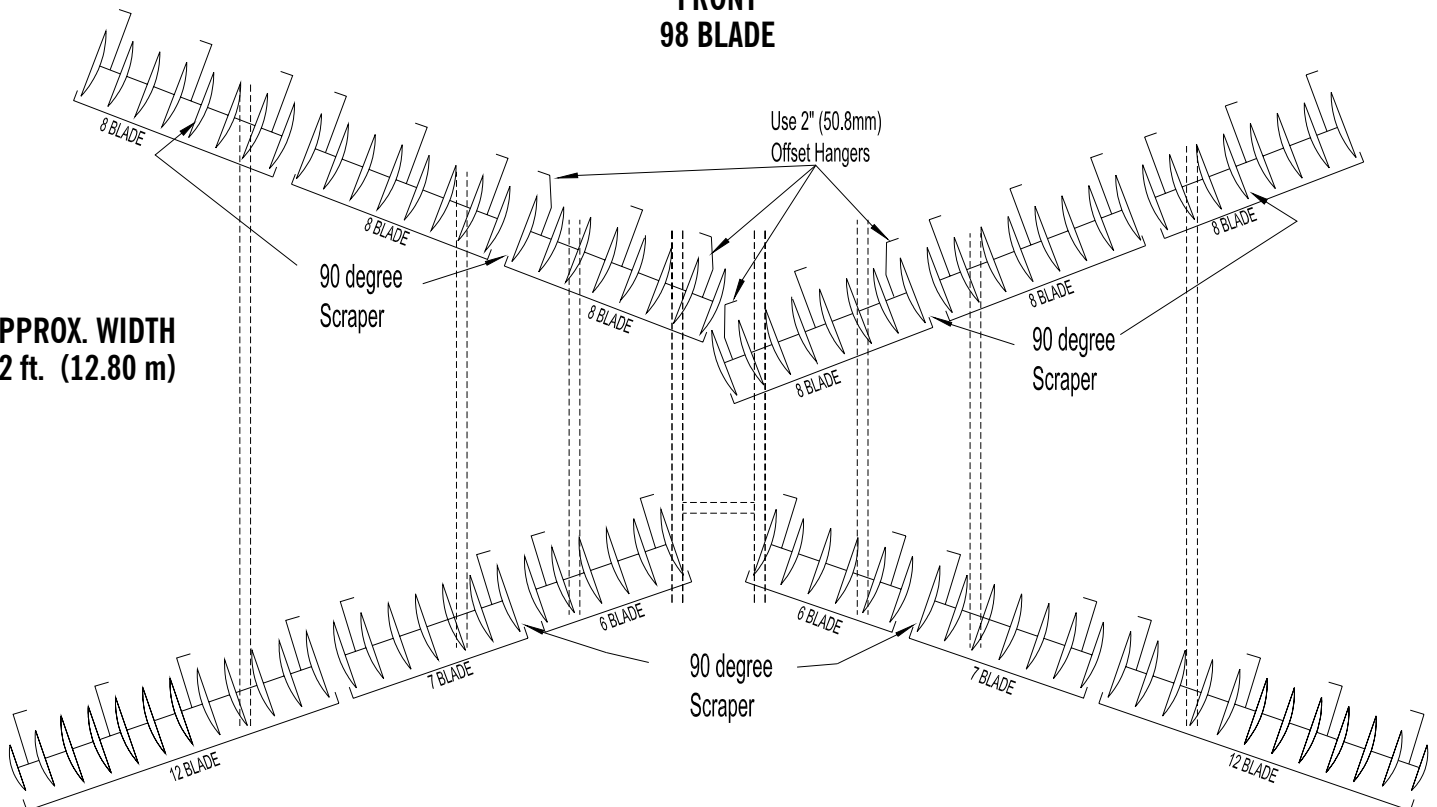


34 BEARINGS

DISC GANG PATTERN - 10-1/2" (267 mm) SPACING

98 BLADE FRONT

APPROX. WIDTH
42 ft. (12.80 m)



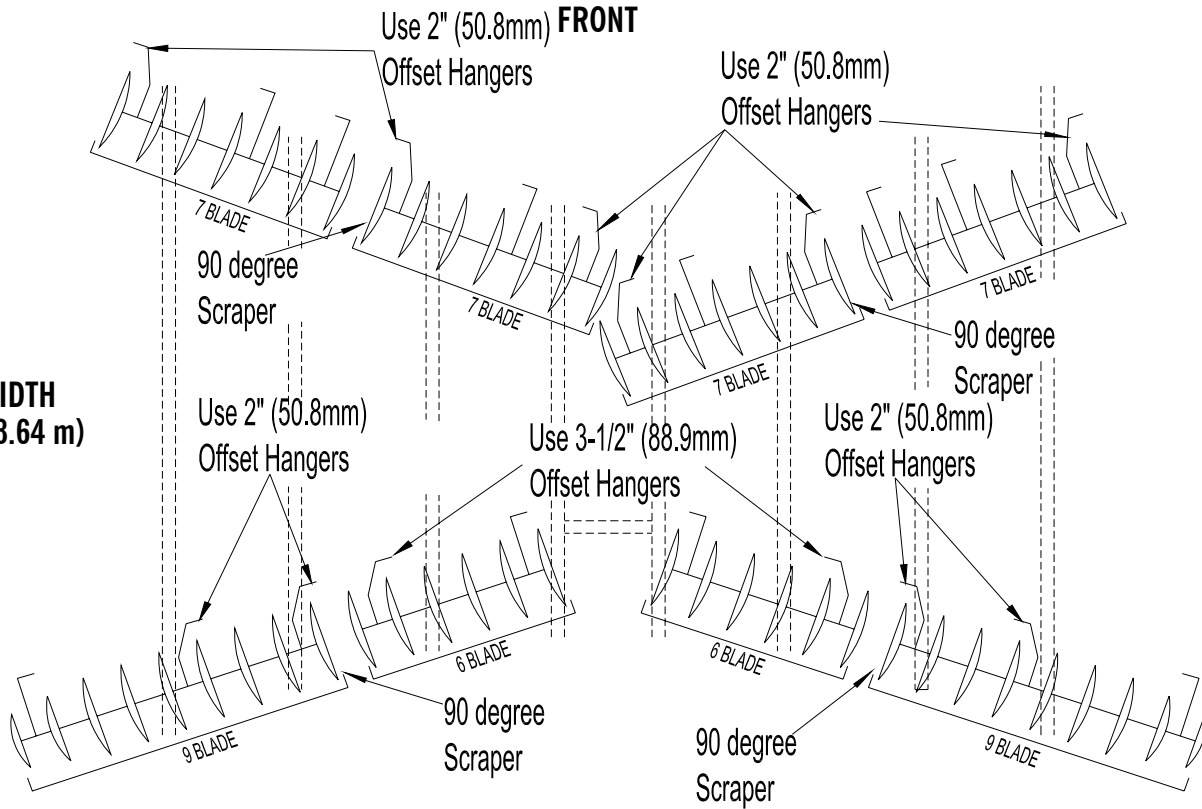
34 BEARINGS

DISC GANG PATTERN - 12" (305 mm) SPACING

58 BLADE

FRONT

APPROX. WIDTH
28-1/2 ft. (8.64 m)



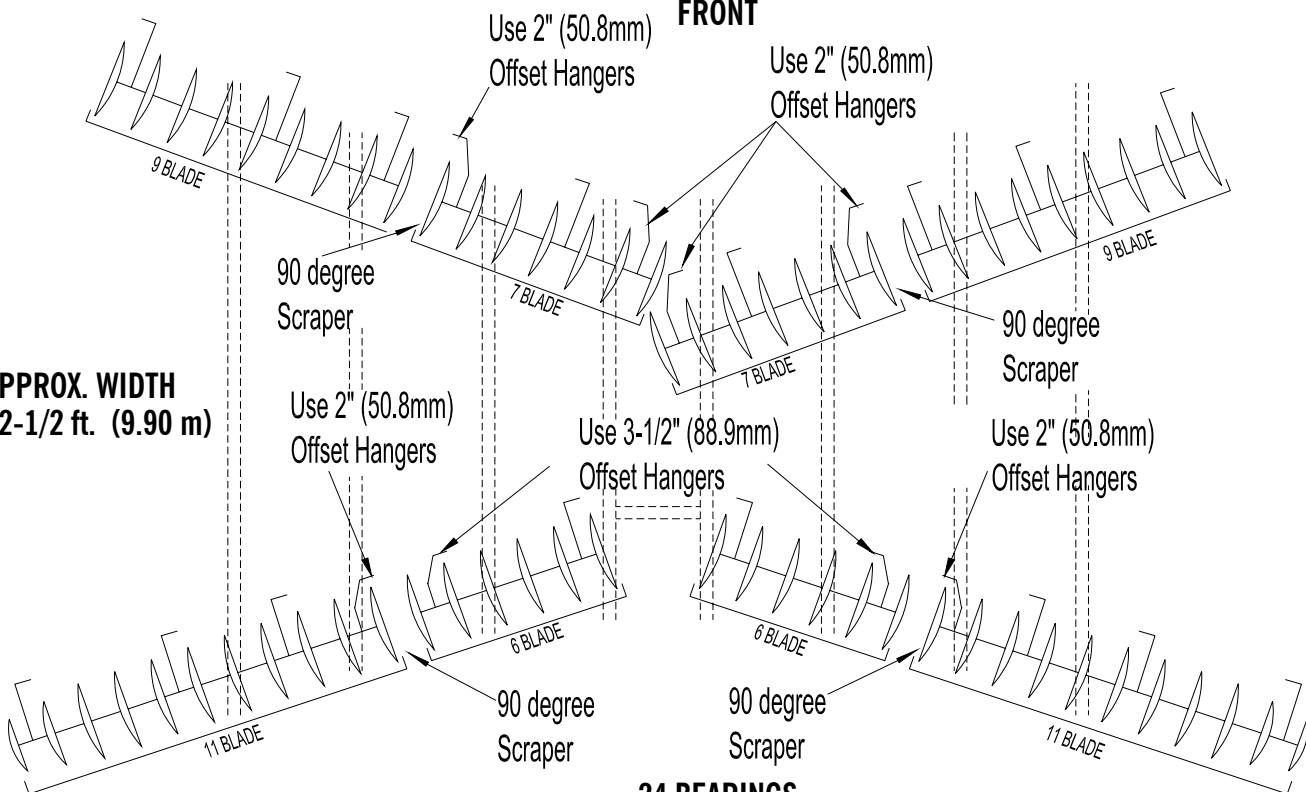
22 BEARINGS

DISC GANG PATTERN - 12" (267 mm) SPACING

66 BLADE

FRONT

APPROX. WIDTH
32-1/2 ft. (9.90 m)



24 BEARINGS

DISC GANG PATTERN - 12" (305 mm) SPACING

74 BLADE FRONT

Use 2" (50.8mm)
Offset Hangers

Use 2" (50.8mm)
Offset Hangers

90 degree
Scraper

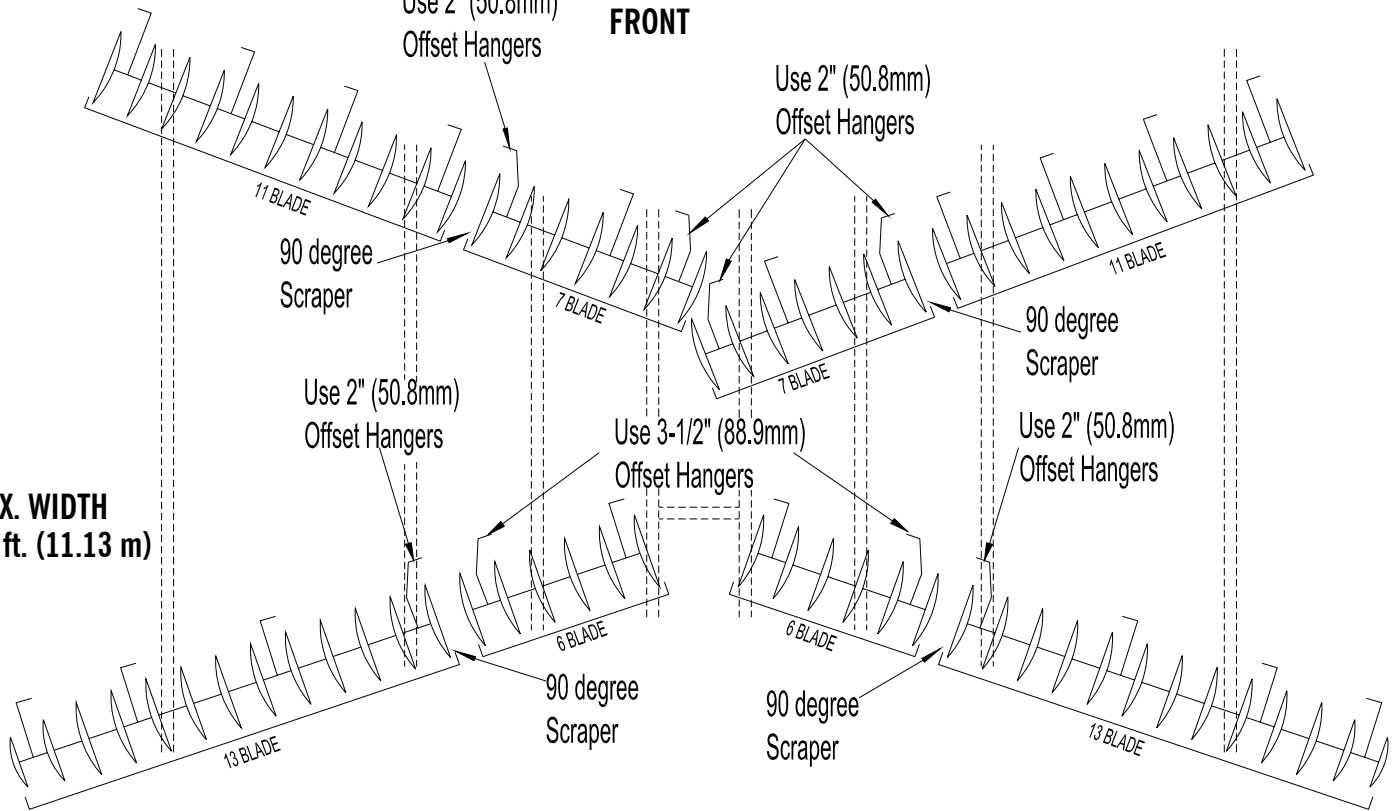
90 degree
Scraper

Use 2" (50.8mm)
Offset Hangers

Use 3-1/2" (88.9mm)
Offset Hangers

Use 2" (50.8mm)
Offset Hangers

APPROX. WIDTH
36-1/2 ft. (11.13 m)



34 BEARINGS

DISC GANG PATTERN - 12" (267 mm) SPACING

78 BLADE FRONT

Use 2" (50.8mm)
Offset Hangers

Use 2" (50.8mm)
Offset Hangers

90 degree
Scraper

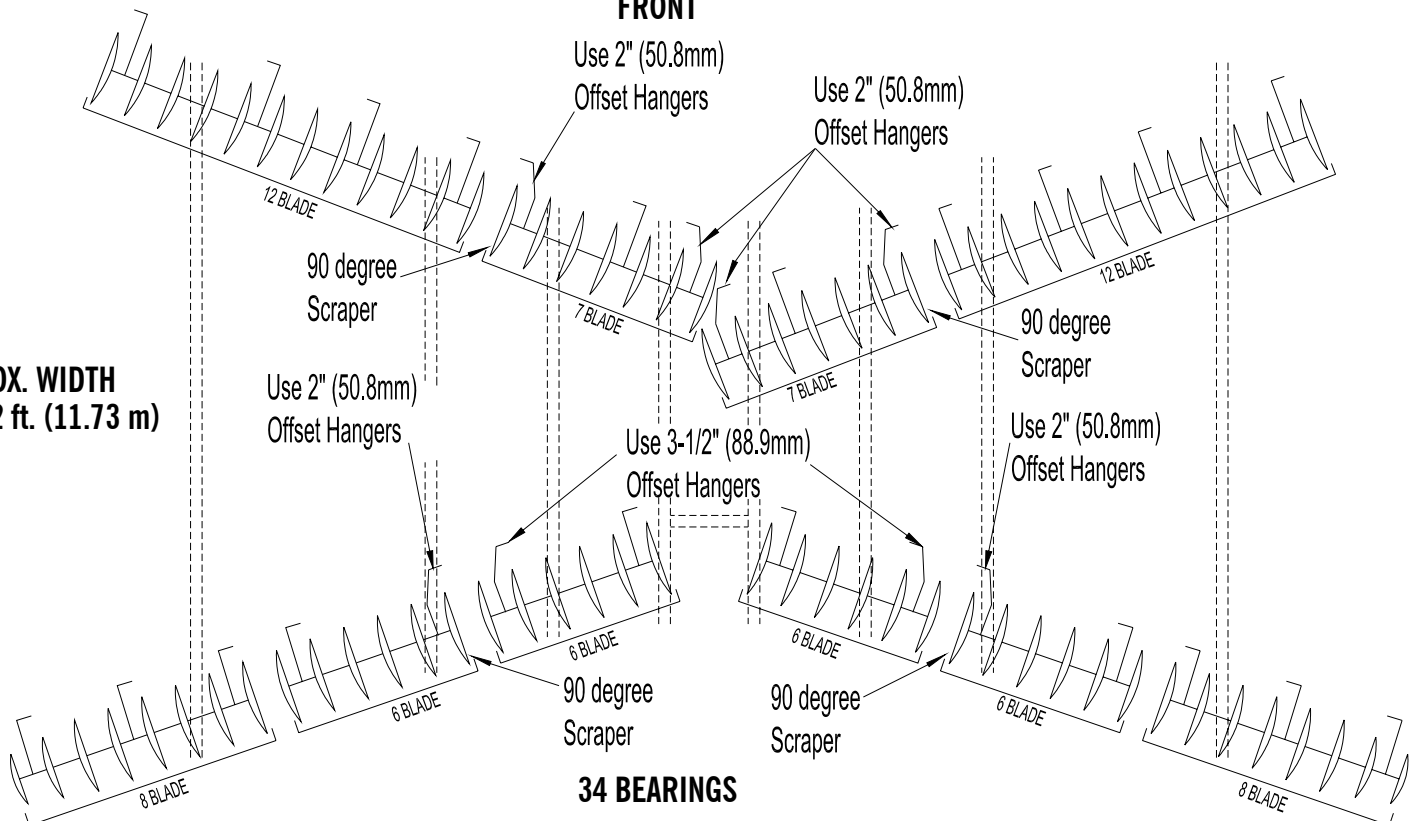
90 degree
Scraper

Use 2" (50.8mm)
Offset Hangers

Use 3-1/2" (88.9mm)
Offset Hangers

Use 2" (50.8mm)
Offset Hangers

APPROX. WIDTH
38-1/2 ft. (11.73 m)

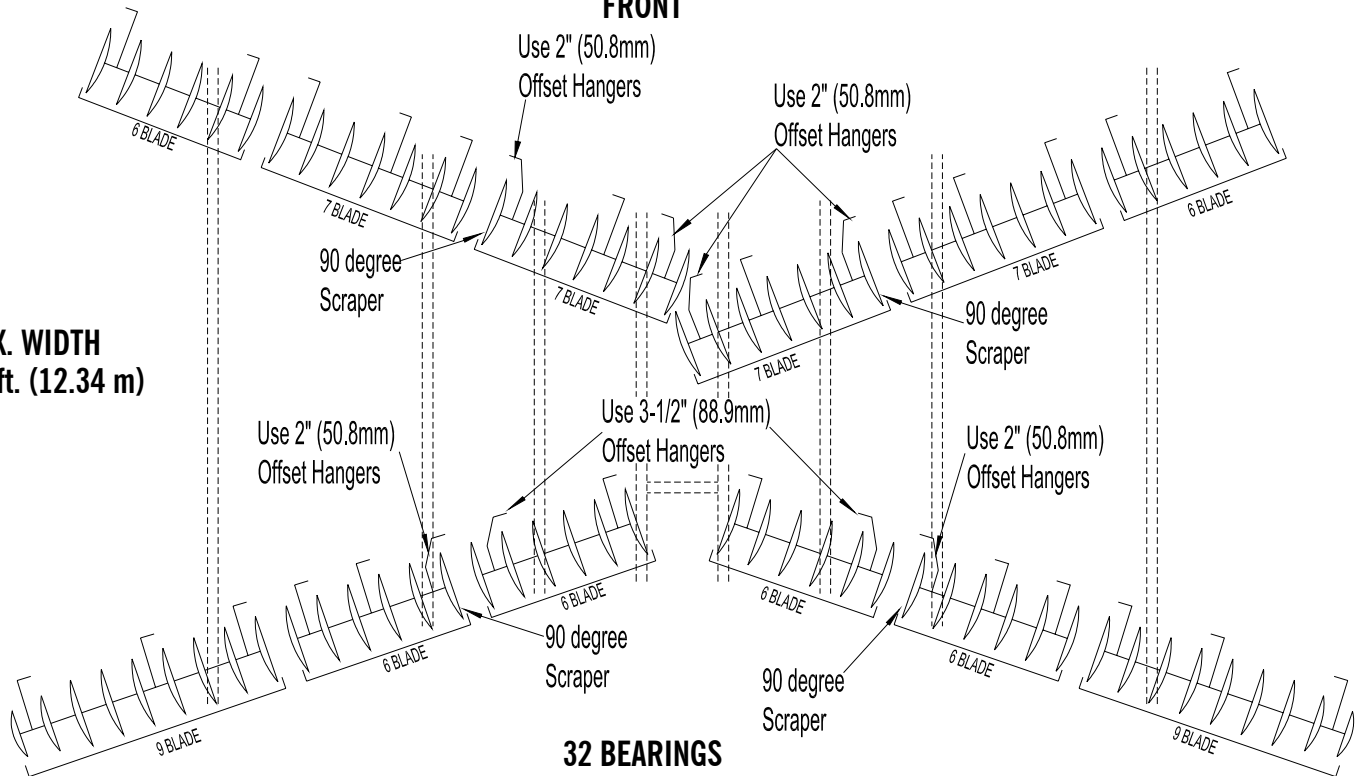


34 BEARINGS

DISC GANG PATTERN - 12" (305 mm) SPACING

82 BLADE FRONT

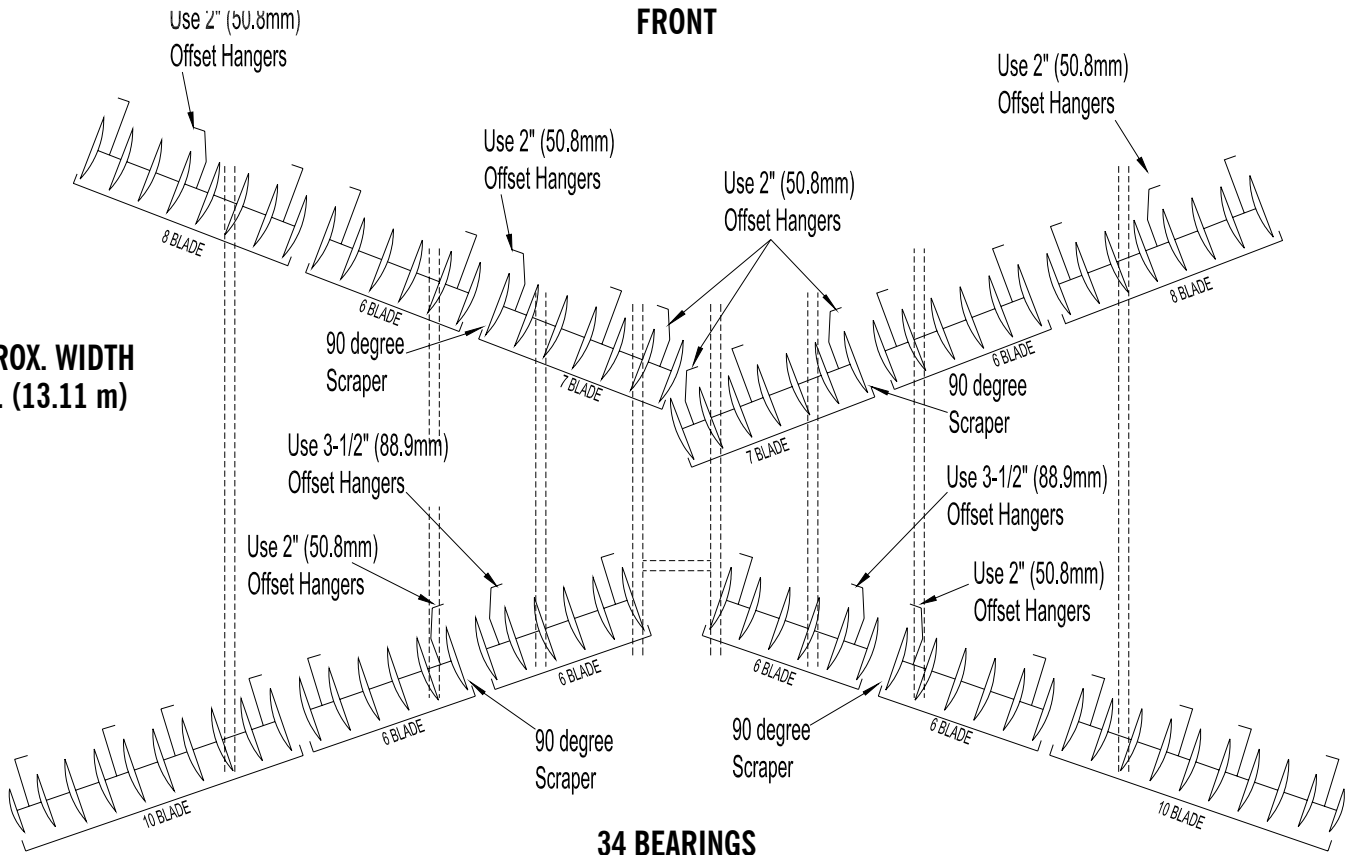
APPROX. WIDTH
40-1/2 ft. (12.34 m)



DISC GANG PATTERN - 12" (305 mm) SPACING

86 BLADE FRONT

APPROX. WIDTH
43 ft. (13.11 m)

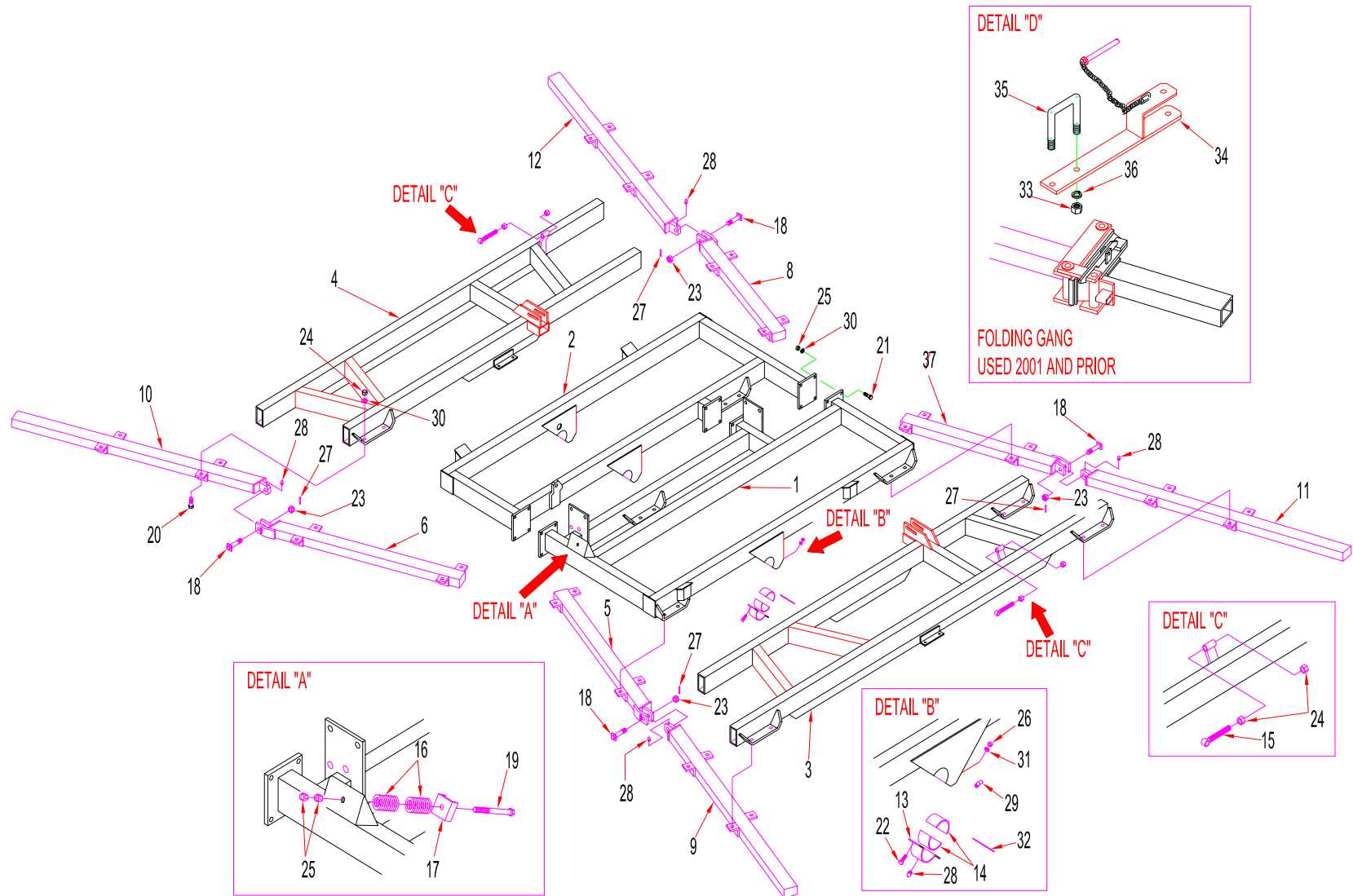


**PAGE 53 HAS BEEN
LEFT OUT INTENTIONALLY**

4600 DISC PARTS INDEX
(w/HANGER MOUNTED SCRAPER BAR)

	PAGE
Frame & Gang Beam Assembly	57
Decals and Paint	58
Hitch & Leveling Crank Assembly	58
Rockshaft & Wheel Assembly - w/Main Frame Walking Beam	59
Rockshaft & Wheel Assembly - w/Off Highway Tires	60
Hydraulic Assembly - Narrow Wing	61
Hydraulic Assembly - Wide Wing	62
Disc Gang- Standard Bearing For 410 Bearings	63
Disc Gang- Standard Bearing Hangers For T2-215 Bearings	64
Stone Flex Hanger For 410 Series Bearings (Optional)	66
Stone Flex Hanger For T2-215 Series Bearings (Optional)	67
Scraper & Scraper Bar Assembly	69
Light Bracket Assembly (Optional)- 2001 and prior	73
Light Bracket Assembly (Optional) - 2002 to Sept 2005	74
Light Bracket Assembly (Optional) - After Sept 2005	75
Rockshaft Cylinders	76
Wing Lift Cylinder - 4" x 36" & 5" x 36" Cylinders	77
Seal Kit	77
4-1/2" x 24" Low Pressure Main Rockshaft Cylinder	78

MODEL 4600 DISC



MODEL 4600 DISC

FRAME & GANG BEAM ASSEMBLY

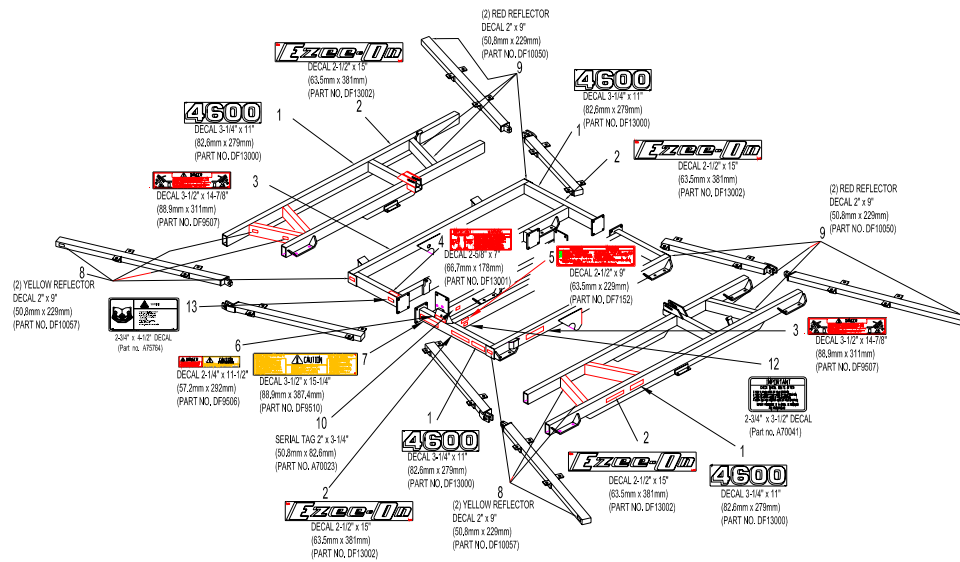
REF. NO.	PART NO.	DESCRIPTION	QTY REQ'D
1	DF13018	L.H. Main Frame half less rockshaft bearing cap & spring cushion assembly	1
2	DF13019	R.H. Main Frame half less rockshaft bearing caps	1
3	DF13020	L.H. Wide Wing Frame - 85" (2159mm) overall width less cylinder lug I-bolt, & wing lift cylinder pins	1
	DF13021	L.H. Narrow Wing Frame - 42-1/2" (1080mm) overall width less cylinder lug I-bolt & wing lift cylinder pins	1
	DF13139	L.H. Super Narrow Wing Frame - 29-1/4" (742mm) overall width less cylinder lug I-bolt & wing lift cylinder pins	1
4	DF13022	R.H. Wide Wing Frame - 85" (2159mm) overall width less cylinder lug I-bolt & wing lift cylinder pins	1
	DF13023	R.H. Narrow Wing Frame - 42-1/2" (1080mm) overall width less cylinder lug I-bolt & wing lift cylinder pins	1
	DF13138	R.H. Super Narrow Wing Frame - 29-1/4" (742mm) overall width less cylinder lug I-bolt & wing lift cylinder pins	1
5	DG13024	L.H. Front Main Frame Gang Beam - 86-1/2" (2197mm) long	1
6	DG13025	R.H. Front Main Frame Gang Beam - 86-1/2" (2197mm) long	1
7	DG13026	L.H. Rear Main Frame Gang Beam - 69-1/2" (1765mm) long	1
8	DG13027	R.H. Rear Main Frame Gang Beam - 69-1/2" (1765mm) long	1
9		9" (230mm) SPACING	
		L.H. Front Wing Gang Beam (Solid Type) - 62" (1574mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 70" (1778mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 79" (2007mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 107" (2718mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 128" (3251mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 145" (3683mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 154" (3912mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 163" (4140mm) long	*
		L.H. Front Wing Gang Beam (Folding Type) - 128" (3251mm) & 35" (889mm) long	*
		10-1/2" (267mm) SPACING	
		L.H. Front Wing Gang Beam (Solid Type) - 64" (1626mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 72" (1828mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 85" (2159mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 107" (2718mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 128" (3251mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 150" (3810mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 161" (4089mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 163" (4140mm) long	*
		L.H. Front Wing Gang Beam (Folding Type) - 128" (3251mm) & 35" (889mm) long	*
		12" (305mm) SPACING	
		L.H. Front Wing Gang Beam (Solid Type) - 62" (1574mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 72" (1828mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 79" (2007mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 92" (2337mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 104" (2642mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 129" (3277mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 142" (3607mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 155" (3937mm) long	*
		L.H. Front Wing Gang Beam (Solid Type) - 166" (4216mm) long	*
10		9" (230mm) SPACING	
		R.H. Front Wing Gang Beam (Solid Type) - 62" (1574mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 70" (1778mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 79" (2007mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 85" (2159mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 107" (2718mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 128" (3251mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 145" (3683mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 154" (3912mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 163" (4140mm) long	*
		R.H. Front Wing Gang Beam (Folding Type) - 128" (3251mm) & 35" (889mm) long	*
		10-1/2" (267mm) SPACING	
		R.H. Front Wing Gang Beam (Solid Type) - 64" (1626mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 72" (1828mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 85" (2159mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 107" (2718mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 128" (3251mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 150" (3810mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 161" (4089mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 168" (4267mm) long	*
		R.H. Front Wing Gang Beam (Folding Type) - 128" (3251mm) & 35" (889mm) long	*
		12" (305mm) SPACING	
		R.H. Front Wing Gang Beam (Solid Type) - 62" (1574mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 72" (1828mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 79" (2007mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 92" (2337mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 104" (2642mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 129" (3277mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 142" (3607mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 155" (3937mm) long	*
		R.H. Front Wing Gang Beam (Solid Type) - 166" (4216mm) long	*

REF. NO.	PART NO.	DESCRIPTION	QTY REQ'D
11		9" (230mm) SPACING	
		L.H. Rear Wing Gang Beam (Solid Type) - 89" (2260mm) long	*
		L.H. Rear Wing Gang Beam (Solid Type) - 97" (2463mm) long	*
	DG13060	L.H. Rear Wing Gang Beam (Solid Type) - 107" (2718mm) long	*
	DG13061	L.H. Rear Wing Gang Beam (Solid Type) - 135" (3429mm) long	*
	DG13062	L.H. Rear Wing Gang Beam (Solid Type) - 153" (3886mm) long	*
	DG13063	L.H. Rear Wing Gang Beam (Solid Type) - 173" (4394mm) long	*
	DG13064	L.H. Rear Wing Gang Beam (Solid Type) - 181" (4597mm) long	*
	DG13172	L.H. Rear Wing Gang Beam (Solid Type) - 188" (4775mm) long	*
	DG13065	L.H. Rear Wing Gang Beam (Folding Type) - 125" (3175mm) & 63" (1600mm) long	*
		10-1/2" (267mm) SPACING	
		L.H. Rear Wing Gang Beam (Solid Type) - 90" (2286mm) long	*
		L.H. Rear Wing Gang Beam (Solid Type) - 100" (2540mm) long	*
		L.H. Rear Wing Gang Beam (Solid Type) - 113" (2870mm) long	*
	DG13066	L.H. Rear Wing Gang Beam (Solid Type) - 135" (3429mm) long	*
	DG13061	L.H. Rear Wing Gang Beam (Solid Type) - 156" (3962mm) long	*
	DG13067	L.H. Rear Wing Gang Beam (Solid Type) - 178" (4521mm) long	*
	DG13068	L.H. Rear Wing Gang Beam (Solid Type) - 189" (4801mm) long	*
	DG13069	L.H. Rear Wing Gang Beam (Solid Type) - 197" (5004mm) long	*
	DG13173	L.H. Rear Wing Gang Beam (Folding Type) - 134" (3404mm) & 63" (1600mm) long	*
	DG13070		
		12" (305mm) SPACING	
		L.H. Rear Wing Gang Beam (Solid Type) - 85" (2159mm) long	*
		L.H. Rear Wing Gang Beam (Solid Type) - 97" (2464mm) long	*
		L.H. Rear Wing Gang Beam (Solid Type) - 110" (2794mm) long	*
	DG13071	L.H. Rear Wing Gang Beam (Solid Type) - 123" (3124mm) long	*
		L.H. Rear Wing Gang Beam (Solid Type) - 135" (3429mm) long	*
	DG13061	L.H. Rear Wing Gang Beam (Solid Type) - 160" (4064mm) long	*
	DG13072	L.H. Rear Wing Gang Beam (Solid Type) - 173" (4394mm) long	*
	DG13063	L.H. Rear Wing Gang Beam (Solid Type) - 186" (4724mm) long	*
	DG13073	L.H. Rear Wing Gang Beam (Solid Type) - 195" (4953mm) long	*
	DG13074		
12		9" (230mm) SPACING	
		R.H. Rear Wing Gang Beam (Solid Type) - 89" (2260mm) long	*
		R.H. Rear Wing Gang Beam (Solid Type) - 97" (2463mm) long	*
	DG13075	R.H. Rear Wing Gang Beam (Solid Type) - 107" (2718mm) long	*
	DG13076	R.H. Rear Wing Gang Beam (Solid Type) - 135" (3429mm) long	*
	DG13077	R.H. Rear Wing Gang Beam (Solid Type) - 153" (3886mm) long	*
	DG13078	R.H. Rear Wing Gang Beam (Solid Type) - 173" (4394mm) long	*
	DG13079	R.H. Rear Wing Gang Beam (Solid Type) - 181" (4597mm) long	*
	DG13174	R.H. Rear Wing Gang Beam (Solid Type) - 188" (4775mm) long	*
	DG13080	R.H. Rear Wing Gang Beam (Folding Type) - 125" (3175mm) & 63" (1600mm) long	*
		10-1/2" (267mm) SPACING	
		R.H. Rear Wing Gang Beam (Solid Type) - 90" (2286mm) long	*
		R.H. Rear Wing Gang Beam (Solid Type) - 100" (2540mm) long	*
		R.H. Rear Wing Gang Beam (Solid Type) - 113" (2870mm) long	*
	DG13076	R.H. Rear Wing Gang Beam (Solid Type) - 135" (3429mm) long	*
	DG13081	R.H. Rear Wing Gang Beam (Solid Type) - 156" (3962mm) long	*
	DG13082	R.H. Rear Wing Gang Beam (Solid Type) - 178" (4521mm) long	*
	DG13083	R.H. Rear Wing Gang Beam (Solid Type) - 189" (4801mm) long	*
	DG13175	R.H. Rear Wing Gang Beam (Solid Type) - 197" (5004mm) long	*
	DG13084	R.H. Rear Wing Gang Beam (Folding Type) - 134" (3404mm) & 63" (1600mm) long	*
		12" (305mm) SPACING	
		R.H. Rear Wing Gang Beam (Solid Type) - 85" (2159mm) long	*
		R.H. Rear Wing Gang Beam (Solid Type) - 97" (2464mm) long	*
	DG13085	R.H. Rear Wing Gang Beam (Solid Type) - 110" (2794mm) long	*
		R.H. Rear Wing Gang Beam (Solid Type) - 123" (3124mm) long	*
		R.H. Rear Wing Gang Beam (Solid Type) - 135" (3429mm) long	*
	DG13086	R.H. Rear Wing Gang Beam (Solid Type) - 160" (4064mm) long	*
	DG13087	R.H. Rear Wing Gang Beam (Solid Type) - 173" (4394mm) long	*
	DG13078	R.H. Rear Wing Gang Beam (Solid Type) - 186" (4724mm) long	*
	DG13088	R.H. Rear Wing Gang Beam (Solid Type) - 195" (4953mm) long	*
	DG13089		
13	DFA5041	Rockshaft Bearing Cap - plain, non-reinforced type	3
14	DR5259	Rockshaft Bearing Liner Half	6
15	DFA9564	1-1/4" (31.7mm) N.C. I-Bolt Cylinder Lug	2
16	DG5187	5" (127mm) Long Compression Spring	1
17	DFA10536	Spring Cushion Plate	4
18	DG13009	1-1/2" (38.1mm) Dia. x 5" (127mm) (Under Head) Wing Hinge Pin	1
19	B100140	1" (25.4mm) x 14" (356mm) N.C. Hex Bolt	32
20	B125035	1-1/4" (31.7mm) x 3-1/2" (88.9mm) N.C. Hex Bolt	12
21	B100325	1" (25.4mm) x 3-1/4" (82.6mm) N.C. Hex Bolt	6
22	B075025	3/4" (19mm) x 2-1/2" (63.5mm) N.C. Hex Bolt	4
23	DH5165	1-1/2" (38.1mm) N.C. Slotted Hex Nut	36
24	BN125	1-1/4" (31.7mm) N.C. Hex Nut	
25	BN100	1" (25.4mm) N.C. Hex Nut	14
26	BN075	3/4" (19mm) N.C. Hex Nut	6
27	BP31225	5/16" (7.8mm) x 2-1/4" (57mm) Cotter Pin	4
28	10GN1	1/4" (6.35mm) - 28 Straight Grease Fitting - bottom	3
29	10GN2	1/4" (6.35mm) - 28 - 45 Degree Grease Fitting - top	32
30	BW125L	1-1/4" (31.7mm) Lockwasher	6
31	BW075L	3/4" (19mm) Lockwasher	6
32	DF5063	Rockshaft Bearing Cap Shim	
33	BN087	7/8" (22.2mm) N.C. Hex Nut	4
34	D13137	Retainer Bracket - Folding Gang Beam	4
35	DG5379	7/8" (22.2mm) x 7" (178mm) x 5-7/8" (111mm) U-Bolt	4
36	BW0876	7/8" (22.2mm) Lockwasher	

* As Required

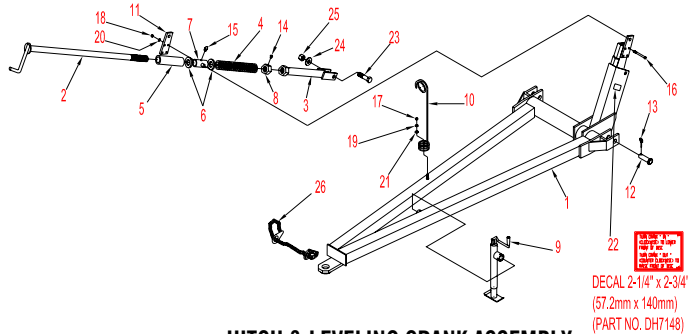
NOTE: To determine gang beam lengths for your machine, see gang chart on page 40.

MODEL 4600 DISC



DECALS (FRAME AND GANG BEAM)

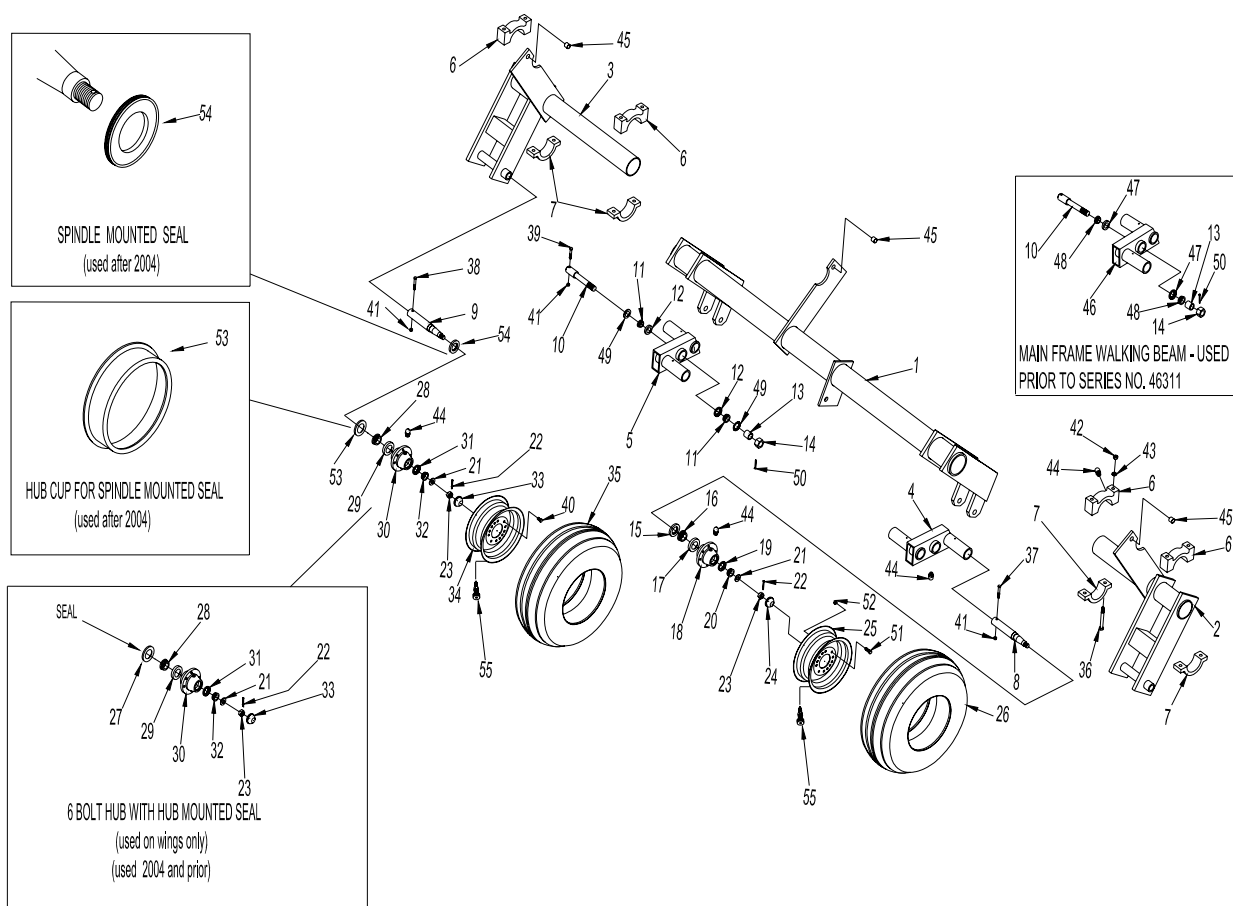
REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	DF13000	4600 Decal (3-1/4" (82.6mm) x 11" (279mm))	4
2	DF13002	Ezee-On Decal (2-1/2" (63.5mm) x 15" (381mm))	4
3	DF9507	Danger Decal (3-1/2" (88.9mm) x 14-7/8" (311mm))	2
4	DF13001	Hydraulic Lockup Decal (2-5/8" (66.7mm) x 7" (178mm))	1
5	DF7152	Maintenance Decal (2-1/2" (63.5mm) x 9" (229mm))	1
6	DF9506	Danger, Caution Decal (2-1/4" (57.2mm) x 11-1/2" (292mm))	1
7	DF9510	Caution Decal (3-1/2" (88.9mm) x 15-1/4" (387mm))	1
8	DF10057	Yellow Reflector (2" (50.8mm) x 9" (229mm))	6
9	DF10050	Red Reflector (2" (50.8mm) x 9" (229mm))	6
10	A70023	Serial Tag (2" (50.8mm) x 3-1/4" (82.6mm))	1
11	A75764	Read Manual Decal (2-5/16" (58.6mm) x 4-1/2" (114.3mm))	1
12	A70041	Check whl bolt decal - 2-1/4" x 3-1/2" (57.2mm x 88.9mm)	1
13	A75764	Read manual decal - 2-3/4" x 4-1/2" (69.8mm x 114.3mm)	1
	L001	Ezee-On Yellow Paint - 1 quart	*
	L002	Ezee-On Yellow Paint - 1/2 pint	*
	L015	Black Paint - 1 liter	*
	L016	Black Paint - 1/2 pint	*



HITCH & LEVELING CRANK ASSEMBLY

REF. NO	PART. NO	DESCRIPTION	QTY. REQ'D
1	DHB13097	Hitch c/w item 11, 12, 13 & 18	1
2	DCA9970	Leveling Crank - 50" (1270mm) Long	1
3	DCA5195	Leveling Link (16-3/4" (60.4mm) Pipe Length)	1
4	DC9618	Compression Spring	1
5	DC13098	Spacer Tube (2-3/8" (60.2mm) O.D. x 3/16" (4.76mm) I.D. x 11" (279mm) Long)	1
6	DC15	Thrust Bearing - Timken #T199	2
7	DCA5184	Bearing Tube - leveling crank	1
8	DH5	2" (50.8mm) N.C. Heavy Hex Nut - drilled for set screw	1
9	DHB5170	Hitch Jack	1
10	DH9961	Hose Support - spring coil type	1
11	DH5146	Leveling Arm Lug	1
12	DHA9605	Hitch Pin - 1-1/2" (38.1mm) Dia. x 5" (127mm)	2
13	DH12517	7/16" (10.9mm) x 1-7/16" (36.3mm) Lynch Pin	2
14	B050010S	1/2" (12.7mm) x 1" (25.4mm) N.C. Square Head Set Screw	1
15	10GN1	1/4" (6.35mm) - 28 Straight Grease Fitting	1
16	B050050	1/2" (12.7mm) x 5" (127mm) N.C. Hex Bolt	4
17	BN062	5/8" (15.7mm) N.C. Hex Nut	1
18	BN050	1/2" (12.7mm) N.C. Hex Nut	4
19	BW062L	5/8" (15.7mm) Lockwasher	1
20	BW050L	1/2" (12.7mm) Lockwasher	4
21	BW17568706F	11/16" (17.2mm) I.D. x 1-3/4" (44.4mm) O.D. Flatwasher	1
22	DH7148	Crank Decal (2-1/4" (57.2mm) x 2-3/4" (140mm))	1
23	DR5215	1-1/4" (31.7mm) x 4-3/4" (120.6mm) N.C. Hex Bolt w/special thread length	1
24	BW125L	1-1/4" (31.7mm) Lockwasher	1
25	BN125	1-1/4" (31.7mm) N.C. Hex Nut	1
26	D13090	Safety Chain 20200 lbs up to 32 ft. (9165 Kgs for up to 9.75m)	1
	D13091	Safety Chain 30400 lbs for 35 to 42 ft. (13793 Kgs for 10.67m to 12.8m)	1

MODEL 4600 DISC

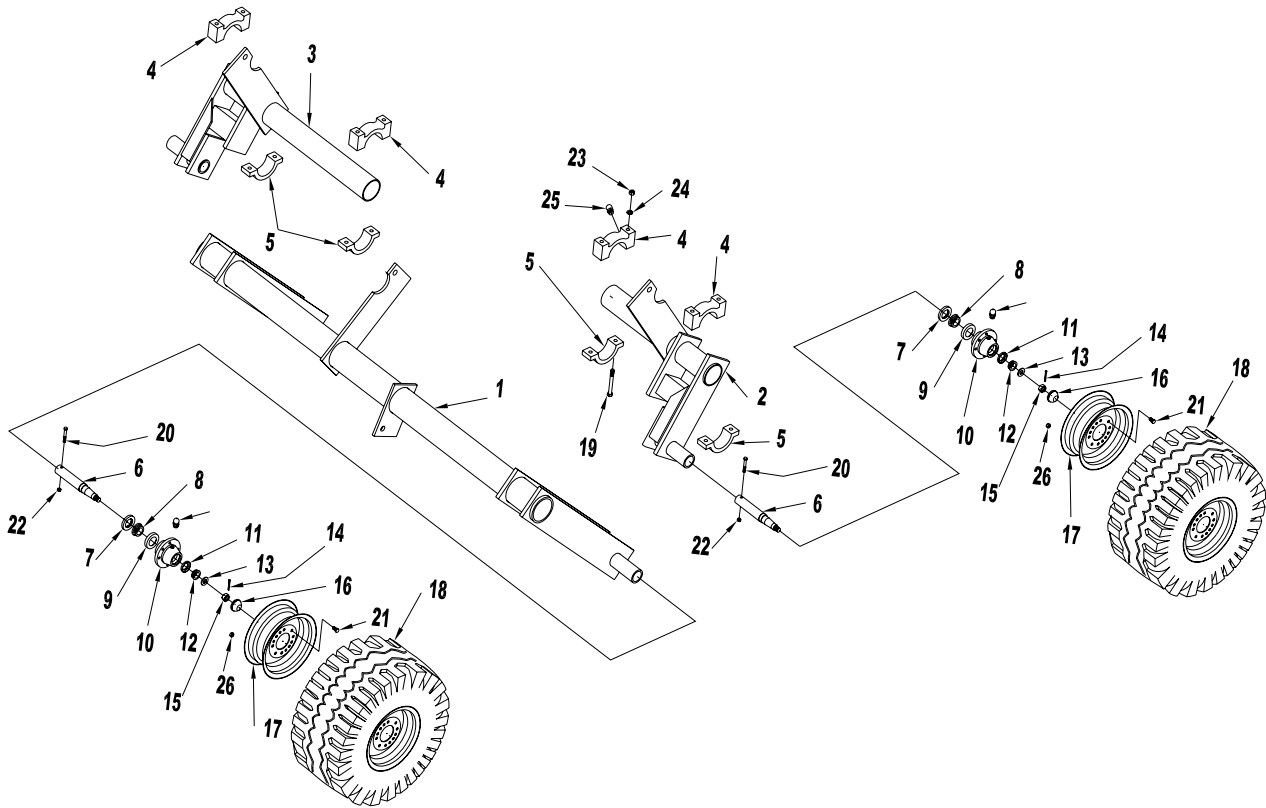


ROCKSHAFT & WHEEL ASSEMBLY - w/MAIN FRAME WALKING BEAMS

REF. NO	PART. NO	DESCRIPTION	QTY. REQ'D	REF. NO	PART. NO	DESCRIPTION	QTY. REQ'D
1	DRA13092	Main Frame Rockshaft	1	29	DR118	Cup - #LM25520	4
2	DRA13093	L.H. Narrow and Wide Wing Rockshaft - 41" (used after Sept/01)	*	30	DRA9	618 Hub c/w Cups	4
	DRA13094	L.H. Wide Wing Rockshaft - 84" (used prior to Sept/01)	*	31	DR92	Cup - #LM48510	4
3	DRA13095	R.H. Narrow and Wide Wing Rockshaft - 41" (used after Sept/01)	*	32	DR91	Cone Bearing - #LM48548	4
	DRA13096	R.H. Wide Wing Rockshaft - 84" (used prior to Sept/01)	*	33	DR123	Hub Cap	4
4	DRA13131	L.H. Walking Beam Main Frame- S/N 46311 and Later	1	34	DR5261	15" (381mm) x 8" (203mm) - 6 Bolt Rim - (requires metal valve stem)	4
5	DRA13130	R.H. Walking Beam Main Frame- S/N 46311 and Later	1	35	---	12.5L x 15 "D" F1 Tire	4
6	DR8601T	Rockshaft Bearing - bottom half	4	36	B075065	3/4" (19mm) x 6-1/2" (165mm) N.C. Hex Bolt	4
7	DR8601B	Rockshaft Bearing - top half	4	37	B050045	1/2" (12.7mm) x 4-1/2" (114.3mm) N.C. Hex Bolt	4
8	DR13004	812 Spindle - 13-3/4" (348mm)	4	38	B050035	1/2" (12.7mm) x 3-1/2" (88.9mm) N.C. Hex Bolt (plated)	4
9	DR7156	618 Spindle - 14-1/2" (368mm)	4	39	B050030	1/2" (12.7mm) x 3" (76.2mm) N.C. Hex Bolt (plated)	4
10	DR13007	Walking Beam Pivot Bolt - Main Frame	2	40	DR125	9/16" (14.2mm) N.F. x 1-1/8" (28.5mm) Wheel Bolt	56
11	DR13124	Cone Bearing #25877	4	41	BN050L	1/2" (12.7mm) N.C. Nylon Locknut (plated)	10
12	DR13125	Bearing Cup #25821	4	42	BN075	3/4" (19mm) N.C. Hex Nut (plated)	8
13	DR13008	Sleeve Pivot Pin	2	43	BW075L	3/4" (19mm) Lockwasher (plated)	8
14	DR13126	1-1/4" (31.7mm) N.F. Slotted Hex Nut	2	44	10GN1	1/4" (6.35mm) - 28 Straight Grease Fitting	18
15	DR9680	Grease Seal #SE-17	4		10GN3	Grease Fitting - Press in Type	*
16	DR9684	Inner Cone Bearing #3780	4	45	DR13120	1-1/4" (31.8mm) I.D. x 1-1/4" (31.8mm) Long Steel Insert	3
17	DR9682	Inner Cup #3720	4	46	DRA13006	L.H. Walking Beam - For S/N prior to 46311	1
18	DRA9679	Hub c/w cups - 8 bolt	4		DRA13005	R.H. Walking Beam - For S/N prior to 46311	1
19	DR9683	Outer Cup #2720	4	47	DR92	Bearing Cup #48510 - For S/N prior to 46311	4
20	DR9685	Outer Cone Bearing #2790	4	48	C50707	Cone Bearing LM4850LA - For S/N prior to 46311	4
21	BW20010614F	2" (50.8mm) O.D. x 1-1/16" (25.5mm) I.D. x .140" (3.55mm) Flatwasher	4	49	DR13121	Seal - P/N 18823	4
22	BP18125	3/16" (4.76mm) x 1-1/4" (31.7mm) Cotter Pin	4	50	BP31200	5/16" (7.8mm) x 2" (50.8mm) Cotter Pin	2
23	DR110	1" (25.4mm) N.F. Hex Slotted Nut	4	51	DR9671	9/16" (14.2mm) N.F. x 1-11/16" (42.7mm) Wheel Bolt	32
24	DR9681	Hub Cap	4	52	DR9670	9/16" (14.2mm) N.F. Hex Nut	32
25	S81509	15" (381mm) x 10" (254mm) x 8 Bolt Rim	4	53	DR13191	Seal Cup - Spindle Mount Type Seal - (used after 2004)	4
26	---	12.5L x 15 "F" F1 Tire	4	54	DR13190	Seal - Spindle Mount Type - (used after 2004)	4
27	DR122	Grease Seal - (used 2004 and prior)	4	55	C60154	Valve Stem - Metal	8
28	DR120	Cone Bearing - #LM25580	4				

* As Required

MODEL 4600 DISC



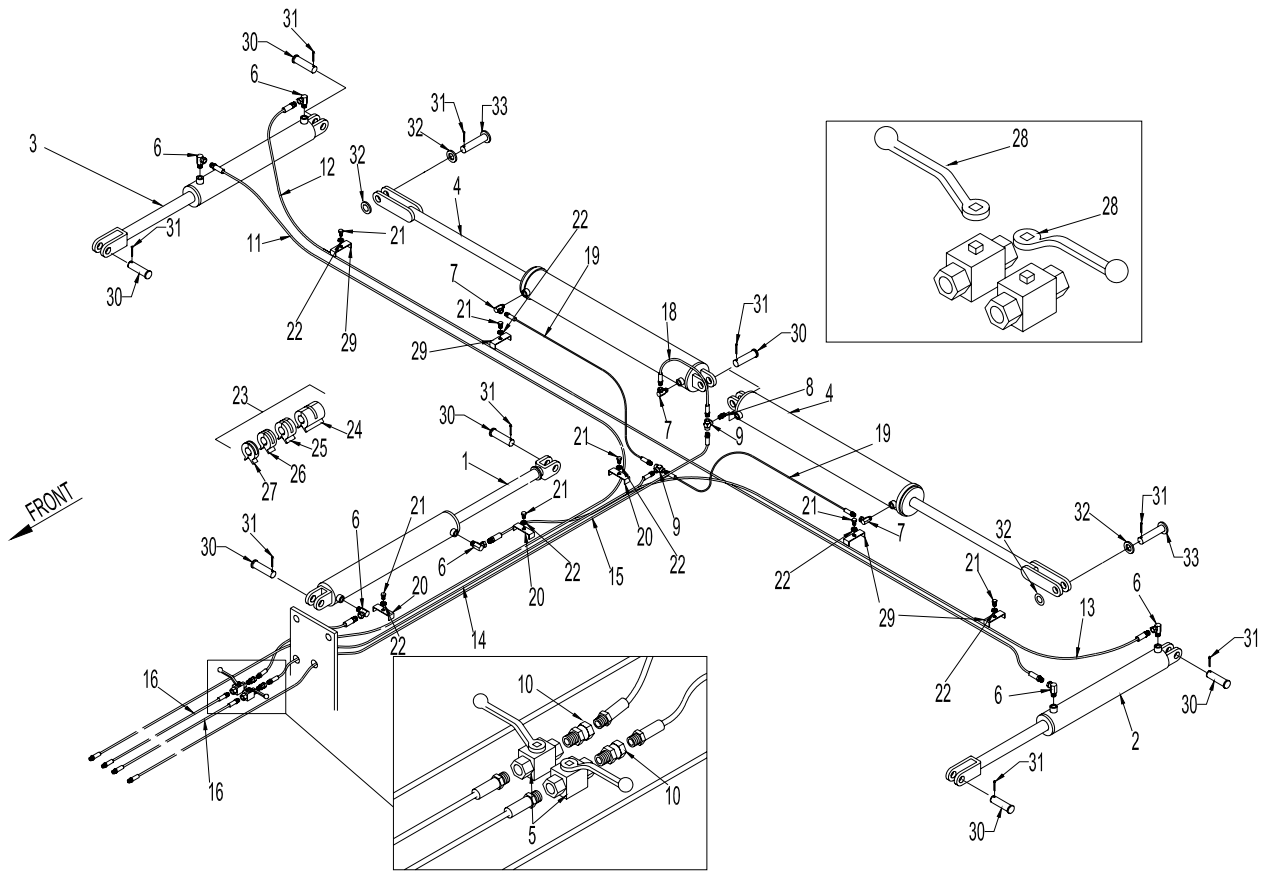
ROCKSHAFT & WHEEL ASSEMBLY (AUSTRALIA ONLY)

REF. NO	PART. NO	DESCRIPTION	QTY. REQ'D
1	DRA13107	Main Frame Rockshaft (Australia Only)	1
2	DRA13108	L.H. Narrow Wing Assembly (Australia Only)	*
	DRA13109	L.H. Wide Wing Assembly (Australia Only)	*
3	DRA13110	R.H. Narrow Wing Assembly (Australia Only)	*
	DRA13111	R.H. Wide Wing Assembly (Australia Only)	*
4	DR8601T	Rockshaft Bearing - bottom half	4
5	DR8601B	Rockshaft Bearing - top half	4
6	A75881	812 Spindle - 18"	6
7	DR9680	Grease Seal #SE-17	6
8	DR9684	Inner Cone Bearing #3780	6
9	DR9682	Inner Cup #3720	6
10	DRA9679	Hub c/w cups - 8 bolt	6
11	DR9683	Outer Cup #2720	6
12	DR9685	Outer Cone Bearing #2790	6

REF. NO	PART. NO	DESCRIPTION	QTY. REQ'D
13	BW20010618F	2" O.D. x 1-1/16" I.D. x 3/16" (50.8mm x 26.9mm x 4.6mm) Flatwasher	6
14	BP18125	3/16" x 1-1/4" (4.6mm x 31.7mm) Cotter Pin	6
15	DR110	1" (25.4mm) N.F. Hex Slotted Nut	6
16	DR9681	Hub Cap	6
17	DR9668	14.00 x 19.5 - 8 Bolt Wheel	6
18	---	40 x 19 x 19.5 Off/Highway Tire	6
19	BO75065	3/4" x 6-1/2" N.C. (19.0mm x 165.1mm) Hex Bolt Gr.5	8
20	BO50040	1/2" x 4" N.C. (12.7mm x 101.6mm) Hex Bolt	6
21	DR9671	9/16" N.F. x 1-11/16" (14.2mm x 42.7mm) Wheel Bolt	48
22	BN050L	1/2" N.C. (12.7mm) Nylon Locknut	6
23	BN075	3/4" N.C. (19.0mm) Hex Nut	8
24	BN075L	3/4" (19.0mm) Lockwasher	8
25	10GN1	1/4" (6.35mm) - 28 Straight Grease Fitting	8
26	DR9670	9/16" N.F. (14.2mm) Wheel Nut	48

* As Required

MODEL 4600 DISC

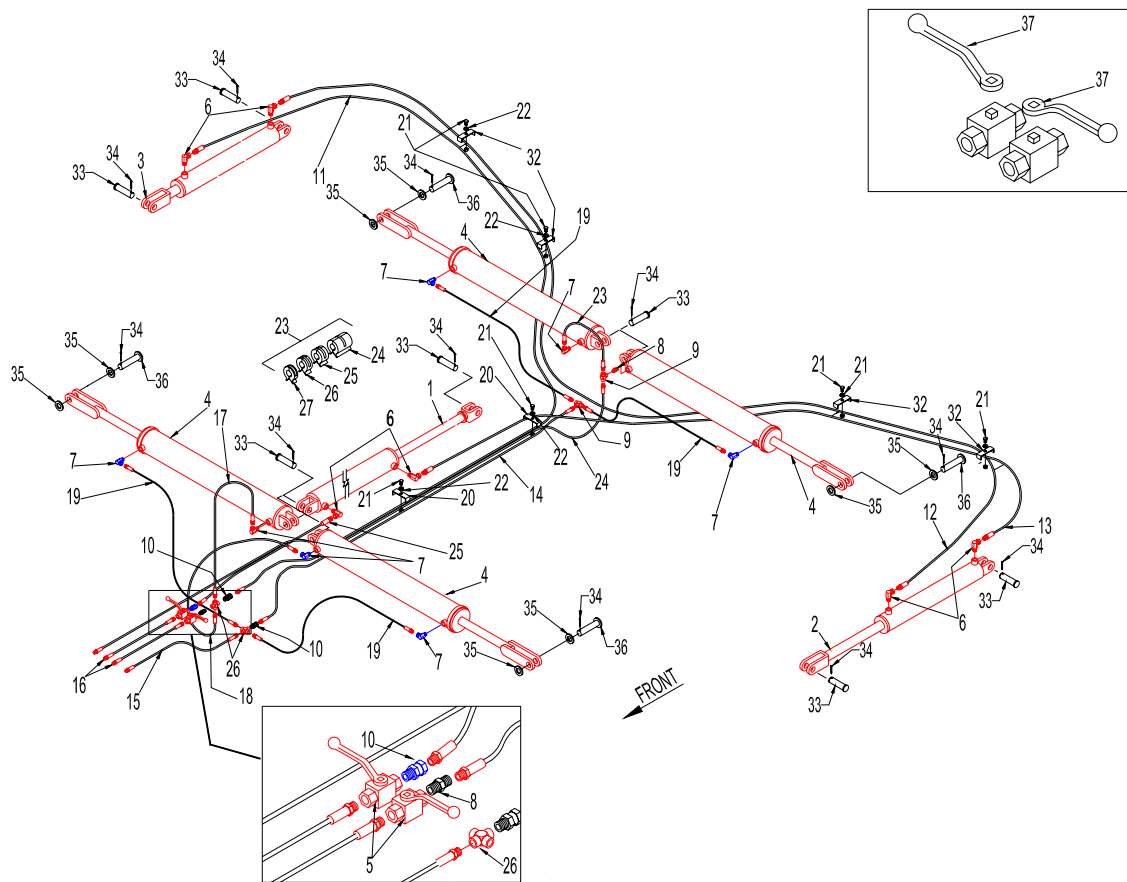


HYDRAULIC ASSEMBLY - NARROW WING

REF. NO	PART. NO	DESCRIPTION	QTY. REQ'D
1	306	4" x 24" (101.6mm x 610mm) Hydraulic Cylinder	1
2	305	3-1/2" x 24" (88.9mm x 610mm) Hydraulic Cylinder	1
3	304	3" x 24" (76.2mm x 610mm) Hydraulic Cylinder	1
4	248	4" x 36" (101.6mm x 914mm) Wing Lift Cylinder - (used on Models 24' to 26-1/2')	2
	242	5" x 36" (127mm x 914mm) Wing Lift Cylinder - (used on 28' Models and up)	2
5	DL13099	Hydraulic Lockout Valve	2
6	DL9775	1/2" (12.7mm) x 90 Degree Swivel Street Elbow	2
7	DL9769	3/8" (9.39mm) x 90 Degree Swivel Street Elbow	6
8	S82371	3/8" (9.39mm) Male-Male Union	3
9	DL9767	3/8" x 3/8" x 3/8" (9.39mm x 9.39mm x 9.39mm) Swivel Tee	1
10	L1619	3/8" (9.39mm) Male-Female Swivel	2
11	P4330	3/8" x 410" (9.39mm x 10414mm) Hydraulic Hose c/w 1/2" (12.7mm) Ends	2
12	P4331	3/8" x 288" (9.39mm x 7315mm) Hydraulic Hose c/w 1/2" (12.7mm) Ends	1
13	P4332	3/8" x 207" (9.39mm x 5258mm) Hydraulic Hose c/w 1/2" (12.7mm) Ends	1
14	P4333	3/8" x 100" (9.39mm x 2540mm) Hydraulic Hose c/w 1/2" (12.7mm) Ends	1
15	P4333	3/8" x 287" (9.39mm x 7290mm) Hydraulic Hose c/w 1/2" (12.7mm) Ends	1
16	P4335	3/8" x 172" (9.39mm x 4369mm) Hydraulic Hose c/w 1/2" and 3/8" (12.7mm and 9.39mm) Ends	2

REF. NO	PART. NO	DESCRIPTION	QTY. REQ'D
17	P4336	3/8" x 24" (9.39mm x 610mm) Hydraulic Hose c/w 3/8" (9.39mm) End & 1/2" End	1
18	L2939	3/8" x 24" (9.39mm x 610mm) Hydraulic Hose c/w 3/8" (9.39mm) Ends	1
19	P3027	1/4" x 54" (6.35mm x 1372mm) Hydraulic Hose c/w 3/8" (9.39mm) Ends	2
20	DL13186	4 Line Hose Clamp	3
21	B050075	1/2" x 3/4" (12.7mm x 19mm) N.C. Hex Bolt (Plated)	7
22	BW050L	1/2" (12.7mm) Lockwasher (Plated)	7
23	C50716	Wadler Universal Stroke Control Segments (8-3/4" (222mm) package)	2
24	C50717	4-1/4" (108mm) Depth Stop	2
25	C50714	2" (50.8mm) Depth Stop	2
26	C50712	1-1/2" (38.1mm) Depth Stop	2
27	C50711	1" (25.4mm) Depth Stop	2
28	DL13122	Handle Only - Hyd. Valve Lockout Valve - HBVH040608	2
29	DL9766	2 Line Hose Clamp - 1/2" (12.7mm) Hose	4
30	DR5262	1-1/4" dia. x 4-3/16" (31.7mm x 106.4mm) Clevis Pin	8
31	BP31175	5/16" x 2" (7.87mm x 50.8mm) Cotter Pin	10
32	DF5068	2" O.D. x 1-5/16" I.D. x 1/4" (50.8mm x 33.3mm x 6.35mm) Flatwasher	4
33	S81856	1-1/4" Dia. X5-13/16" (31.7mm x 147.6mm) long (under head to centre of hole) Cylinder Pin	2

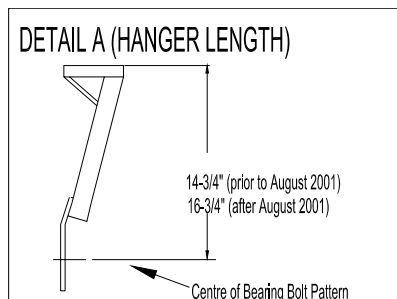
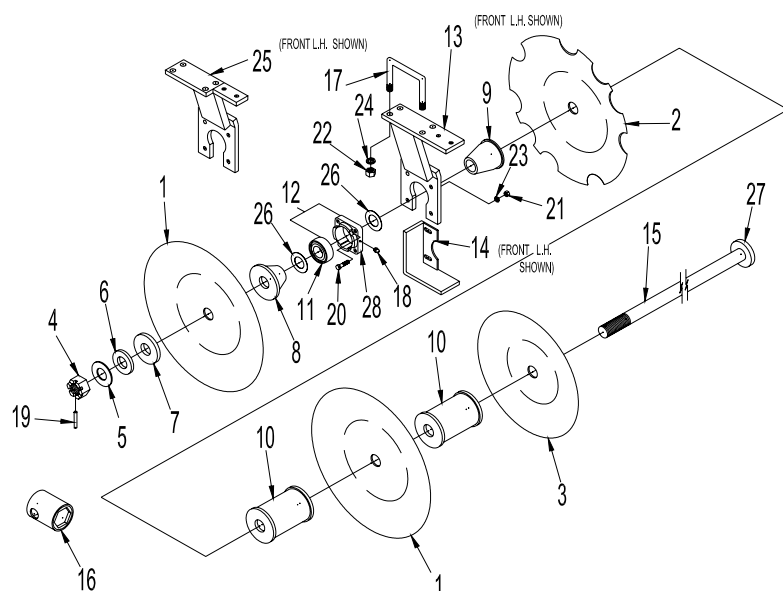
MODEL 4600 DISC



HYDRAULIC ASSEMBLY - WIDE WING

REF. NO	PART. NO	DESCRIPTION	QTY. REQ'D	REF. NO	PART. NO	DESCRIPTION	QTY. REQ'D
1	306	4" x 24" (101.6mm x 610mm) Hydraulic Cylinder	1	17	P4342	3/8" x 20" (9.39mm x 508mm) Hydraulic Hose c/w 3/8" (9.39mm) End & 1/2" (12.7mm) End	1
2	305	3-1/2" x 24" (88.9mm x 610mm) Hydraulic Cylinder	1	18	L2937	3/8" x 30" (9.39mm x 762mm) Hydraulic Hose c/w 3/8" (9.39mm) Ends	4
3	304	3" x 24" (76.2mm x 610mm) Hydraulic Cylinder	1	19	P3027	1/4" x 54" (6.35mm x 1372mm) Hydraulic Hose c/w 3/8" (9.39mm) Ends	1
4	242	5" x 36" (127mm x 914mm) Wing Lift Cylinder	4	20	DL13186	4 Line Hose Clamp	2
5	DL13099	Hydraulic Lockout Valve	2	21	B050075	1/2" x 3/4" (12.7mm x 19mm) N.C. Hex Bolt (Plated)	6
6	DL9775	1/2" (12.7mm) x 90 Degree Swivel Street Elbow	6	22	BW050L	1/2" (12.7mm) Lockwasher (Plated)	6
7	DL9769	3/8" (9.39mm) x 90 Degree Swivel Street Elbow	7	23	L2939	3/8" x 24" (9.39mm x 610mm) Hydraulic Hose c/w 3/8" (9.39mm) Ends	1
8	S82371	3/8" (9.39mm) Male-Male Union	2	24	P4344	3/8" x 106" (9.39mm x 2692mm) Hydraulic Hose c/w 3/8" (9.39mm) Ends	1
9	DL9767	3/8" x 3/8" x 3/8" (9.39mm x 9.39mm x 9.39mm) Swivel Tee	2	25	P4336	3/8" x 24" (9.39mm x 610mm) Hydraulic Hose c/w 3/8" (9.39mm) End	1
10	L1619	3/8" (9.39mm) Male-Female Swivel	3	26	DL9761	3/8" (9.39mm) Steel Cross	2
11	P4338	3/8" x 489" (9.39mm x 12421mm) Hydraulic Hose c/w 1/2" (12.7mm) Ends	1	27	DR13127	Wadler Universal Stroke Control Segments (8-3/4" (222mm) package)	2
12	P4339	3/8" x 402" (9.39mm x 10211mm) Hydraulic Hose c/w 1/2" (12.7mm) Ends	1	28	C50717	4-1/4" (108mm) Depth Stop	2
13	P4340	3/8" x 253" (9.39mm x 6426mm) Hydraulic Hose c/w 1/2" (12.7mm) Ends	1	29	C50714	2" (50.8mm) Depth Stop	2
14	P4333	3/8" x 100" (9.39mm x 2540mm) Hydraulic Hose c/w 1/2" (12.7mm) Ends	1	30	C50712	1-1/2" (38.1mm) Depth Stop	2
15	P4341	3/8" x 178" (9.39mm x 4521mm) Hydraulic Hose c/w 1/2" and 3/8" (12.7mm and 9.39mm) Ends	1	31	C50711	1" (25.4mm) Depth Stop	2
16	P4335	3/8" x 172" (9.39mm x 4369mm) Hydraulic Hose c/w 1/2" and 3/8" (12.7mm x 9.39mm) Ends	2	32	DL9766	2 Line Hose Clamp	4
				33	DR5262	1-1/4" Dia. x 4-3/16" (31.7mm x 106.4mm) Clevis Pin	10
				34	BP31175	5/16" x 2" (7.87mm x 50.8mm) Cotter Pin	14
				35	DF5068	2" O.D. x 1-5/16" I.D. x 1/4" (50.8mm x 33.3mm x 6.35mm)	8
				36	S81856	1-1/4" Dia. x 5-13/16" (31.7mm x 147.6mm) Long (under head to centre of hole) Cylinder Pin	4
				37	DL13122	Handle Only - Hyd. Lock Out Valve - HBVH040608	2

MODEL 4600 DISC

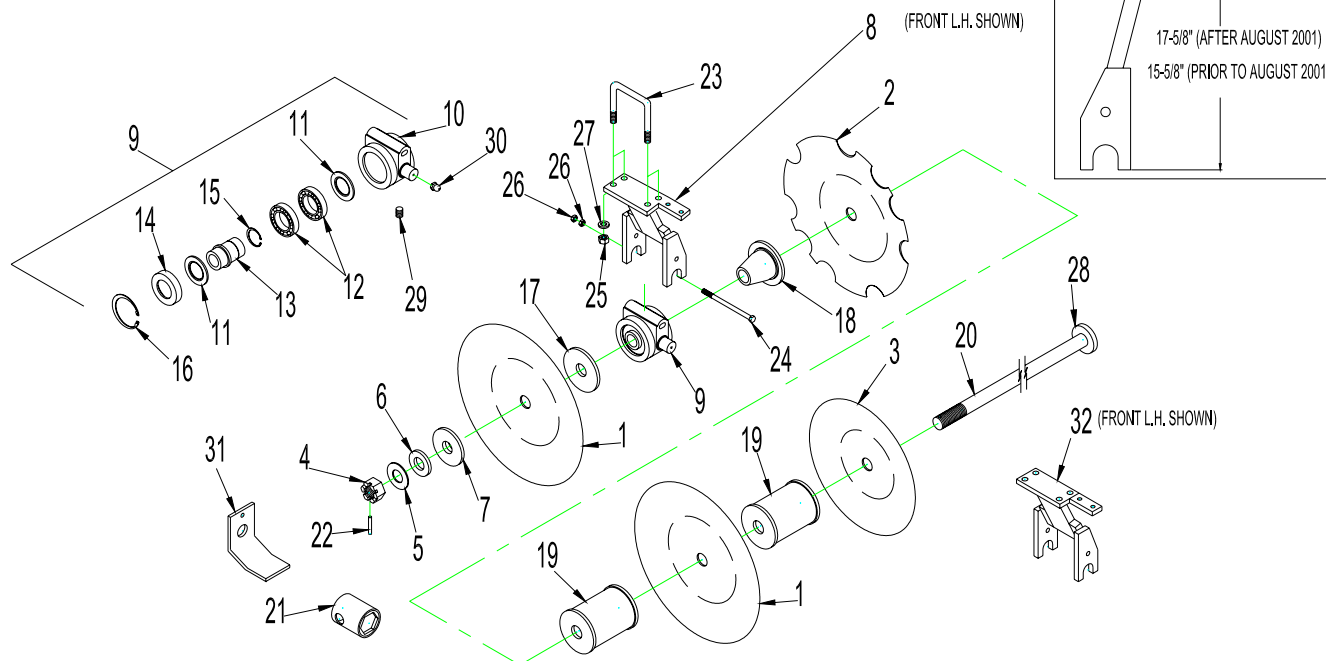


DISC GANG (WITH STANDARD HANGERS FOR EZ410N BEARINGS) - 9" & 10-1/2" (230mm & 267mm) SPACING (used on earlier Models Only)

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D	REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	DG76 DG137 DG74 DG107 DG157 DG130	24" (610mm) x 9/32" (7mm) Plain Blade 24" (610mm) x 5/16" (8mm) Plain Blade 26" (660mm) x 5/16" (8mm) Plain Blade 26" (660mm) x 3/8" (9mm) Plain Blade 26" (660mm) x 5/16" (8mm) Plain Cone Blade 28" (711.2mm) x 3/8" (9mm) Plain Blade (2" (50.8mm) hole)	* * * * * *	15		GANG BOLT FOR 9" (230mm) SPACING CONTINUED	
2	DG138 DG75 DG87 DG159 DG20051	24" (610mm) x 5/16" (8mm) Notched Blade 26" (660mm) x 5/16" (8mm) Notched Blade 26" (660mm) x 3/8" (9mm) Notched Blade 26" (660mm) x 9mm (.354) Notched Cone Blade 28" (711.2mm) x 3/8" (9mm) Notched Blade (2" (50.8mm) hole)	* * * * *		DGA70 DGA71 DGA72 DGA74 DGA129	10 Blade Gang Bolt - 89-1/2" (2273mm) Long 11 Blade Gang Bolt - 98-3/4" (2508mm) Long 12 Blade Gang Bolt - 108" (2743mm) Long 14 Blade Gang Bolt - 127-1/2" (3239mm) Long 15 Blade Gang Bolt - 135-3/4" (3448mm) Long	* * * * *
3	DG149 DG64 DG76	20" (508mm) x 6mm (.236") Plain Outrigger Blade 22" (559mm) x 6mm (.236") Plain Outrigger Blade 24" (610mm) x 7mm (.275") Plain Outrigger Blade	* * *		DGA109 DGA76 DGA77 DGA78 DGA79 DGA80 DGA81 DGA82 DGA83	GANG BOLT FOR 10-1/2" (267mm) SPACING 4 Blade Gang Bolt - 38" (965mm) Long 6 Blade Gang Bolt - 60" (1524mm) Long 7 Blade Gang Bolt - 70-1/2" (1791mm) Long 8 Blade Gang Bolt - 81-1/4" (2064mm) Long 9 Blade Gang Bolt - 92" (2337mm) Long 10 Blade Gang Bolt - 103" (2616mm) Long 11 Blade Gang Bolt - 113-3/4" (2889mm) Long 12 Blade Gang Bolt - 124-3/4" (3169mm) Long 13 Blade Gang Bolt - 135-1/2" (3442mm) Long	* * * * * * * * *
4	DG82	2" (50.8mm) N.C. Heavy Hex. Slotted Nut	2				
5	DG89	1/4" (6.35mm) Shim Washer	*	16	DGA35	Socket Wrench	1
6	DG88	1/2" (12.7mm) Shim Washer	*	17	DG5379	7/8" (22.2mm) x 6" (152.4mm) x 5-7/8" (149mm) Long U-Bolt (Plated)	*
7	DG78	5-1/2" (138mm) O.D. x 2" (50.8mm) I.D. x 5/8" (15.7mm) Head Washer - (used prior to 2004)	2	18	10GN1	1/4" (6.35mm) - 28 Grease Fitting	2
	DG13185	5-1/2" (138mm) O.D. x 2" (50.8mm) I.D. x 3/4" (19.0mm) Head Washer (used w/24" blades) used 2003 and later)	*	19	DG10310	7/16" (10.9mm) x 3" (76.2mm) Lock Pin	*
	DG13184	6" (152mm) O.D. x 2" (50.8mm) I.D. x 1" (25.4mm) Head Washer (used w/26" & 28" blades) used 2003 and later)	*	20	B062022	5/8" (15.7mm) x 2-1/4" (57.2mm) N.C. Hex. Bolt - Gr.5 (Plated)	*
8	DGA106	9" (230mm) & 10-1/2" (267mm) Spacing Short Half Spool For EZ410N BRG. - 3-1/4" (82.6mm) Long (Convex Side) w/6" (152mm) Washer	*		B062028	5/8" (15.7mm) x 2-1/2" (57.2mm) N.C. Hex. Bolt - Gr.5 (Plated) - used with bearing guard	*
9	DGA103	9" (230mm) Spacing Long Half Spool For EZ410N Bearings, 4-3/16" (106mm) Long (Concave Side)	*	21	BN062	5/8" (15.7mm) N.C. Hex. Nut - (Plated)	*
	DGA105	10-1/2" (267mm) Spacing Long Half Spool For EZ410N Bearings, 5-11/16" (144mm) Long (Concave Side)	*	22	BN087	7/8" (22.2mm) N.C. Hex. Nut - (Plated)	*
10	DGA100	9" (230mm) Spacing Spool - 6" (152mm) Dia. Both Ends	*	23	BW062L	5/8" (15.7mm) Lockwasher - (Plated)	*
11	DGA101	10-1/2" (267mm) Spacing Spool - 6" (152mm) Dia. Both Ends	*	24	BW088L	7/8" (22.2mm) Lockwasher - (Plated)	*
12	DG5364	EZ410N Greaseable Bearing (1-9/16" (39.6mm) Wide)	*	25	DGA5322	2" (50.8mm) Offset Hanger - Frt. R.H. & Rear L.H. - EZ410N Bearing - (14-3/4" Top to centre of Brg)	*
	DGB5363	Bearing c/w Housing And Grease Fitting (1-9/16" (39.6mm) Bearing Width)	*		DGA5323	2" (50.8mm) Offset Hanger - Frt. R.H. & Rear L.H. - EZ410N Bearing - (14-3/4" Top to centre of Brg)	*
13	DGA5318	Straight Bearing Hanger - Frt L.H. & Rear R.H. - EZ410N Bearing - (14-3/4" Top to centre of Brg)	*		DGA13152	2" (50.8mm) Offset Hanger - Frt. L.H. & Rear R.H. - EZ410N Series Bearing - (16-3/4" Top to centre of Brg)	*
	DGA5319	Straight Bearing Hanger - Frt R.H. and Rear L.H. - EZ410N Bearing - (14-3/4" Top to centre of Brg)	*		DGA13153	2" (50.8mm) Offset Hanger - Frt R.H. & Rear L.H. - EZ410N Series Bearing - (16-3/4" Top to centre of Brg)	*
	DGA13150	Straight Bearing Hanger - Frt L.H. & Rear R.H. - EZ410N Series Bearing - (16-3/4" Top to centre of Brg)	*	26	DG237	4-1/2" (114mm) O.D. x 2" (50.8mm) I.D. x 1/16" (1.59mm) Bearing Shield - EZ410N Bearing	*
	DGA13151	Straight Bearing Hanger - Frt R.H. and Rear L.H. - EZ410N Series Bearing - (16-3/4" Top to centre of Brg)	*	27	DGA5370	5" (127mm) Gang Washer- Weld-On	*
14	DGA40 DGA39	Front L.H. & Rear R.H. Bearing Guard - EZ410N Bearing Rear L.H. & Front R.H. Bearing Guard - EZ410N Bearing	* *	28	DG96	Housing - EZ410N Bearing	*
15		GANG BOLT FOR 9" (230mm) SPACING					
	DGA127	4 Blade Gang Bolt - 33-1/2" (851mm) Long	*				
	DGA67	7 Blade Gang Bolt - 61-3/4" (1568mm) Long	*				
	DGA68	8 Blade Gang Bolt - 71" (1803mm) Long	*				
	DGA69	9 Blade Gang Bolt - 80" (2032mm) Long	*				

*As Required

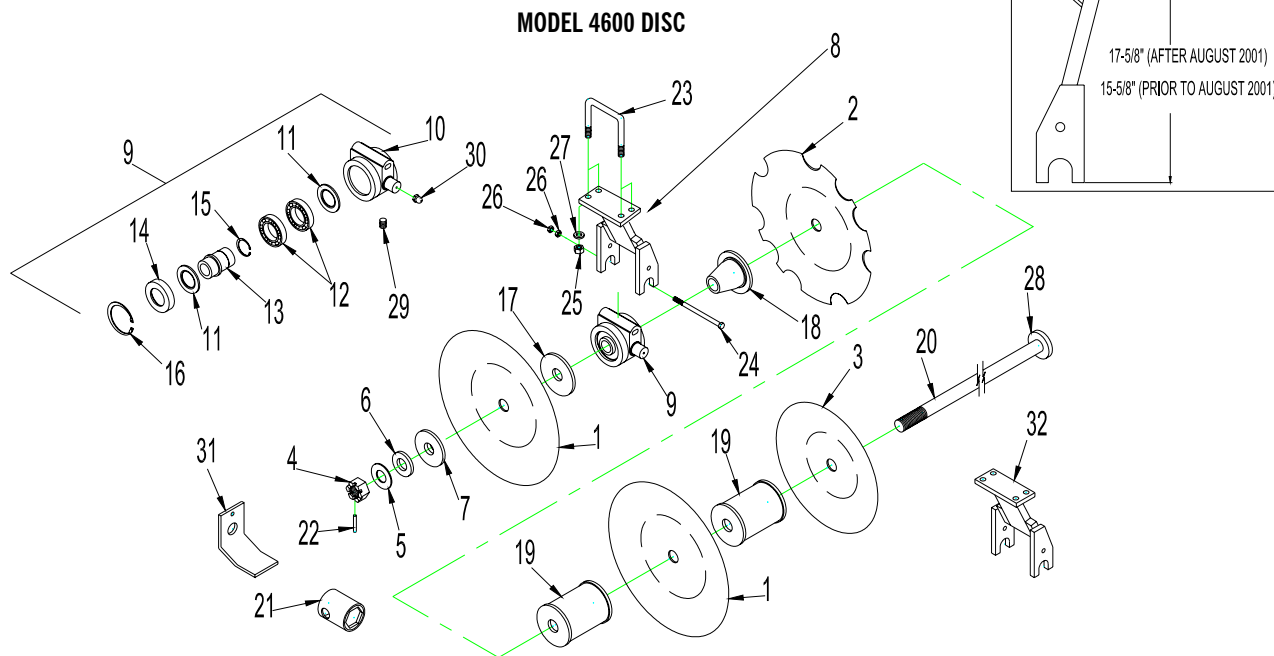
MODEL 4600 DISC



DISC GANG (WITH STANDARD HANGERS FOR T2-215 BEARINGS) - 9" (230mm), 10-1/2" (267mm) & 12" (305mm) SPACING (used with Hanger Mounted Scraper Bars - used prior to S/N 51463)

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D	REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	---	Refer to Ref. No. 1 on Page 63 for Plain Blades		20		Refer to Ref. No. 15 on Page 62 for Gang Bolts For 9" (230mm) and 10-1/2" (267mm) Spacing	
2	---	Refer to Ref. No. 2 on Page 63 for Notched Blades				GANG BOLT FOR 12" (305mm) SPACING	
3	---	Refer to Ref. No. 3 on Page 63 for Outrigger Blades			DGA114	4 Blade Gang Bolt - 43-1/4" (1099mm) Long	*
4	DG82	2" (50.8mm) UNC Heavy Hex Slotted Nut	*		DGA115	6 Blade Gang Bolt - 67-3/4" (1721mm) Long	*
5	DG89	1/4" (6.35mm) Shim Washer	*		DGA69	7 Blade Gang Bolt - 80" (2032mm) Long	*
6	DG88	1/2" (12.7mm) Shim Washer	*		DGA79	8 Blade Gang Bolt - 92" (2337mm) Long	*
7	DG78	5-1/2" (138mm) O.D. x 2" (50.8mm) I.D. Head Washer - used prior to 2003	*		DGA118	9 Blade Gang Bolt - 104-3/4" (2661mm) Long	*
	DG13185	5-1/2" (138mm) O.D. x 2" (50.8mm) I.D. x 3/4" (19.0mm) Head Washer (used w/24" blades) - used 2003 and later	*		DGA119	10 Blade Gang Bolt - 117" (2972mm) Long	*
	DG13184	6" (152mm) O.D. x 2" (50.8mm) I.D. x 1" (25.4mm) Head Washer (used w/26" & 28" blades) - used 2003 and later	*		DGA120	11 Blade Gang Bolt - 129" (3277mm) Long	*
8	DGA10566	Front R.H. & Rear L.H. Trunion Mounted Bearing Hanger - Models prior to Aug 2001 (See Detail A above for lengths)	*		DGA121	12 Blade Gang Bolt - 141-3/4" (3600mm) Long	*
	DGA10567	Front L.H. & Rear R.H. Trunion Mounted Bearing Hanger - Models prior to Aug 2001 (See Detail A above for lengths)	*		DGA122	13 Blade Gang Bolt - 153-3/4" (3905mm) Long	*
	DGA13155	Front R.H. & Rear L.H. Trunion Mounted Bearing Hanger - Models after Aug 2001 (See Detail A above for lengths)	*	21	DGA35	Socket Wrench	*
	DGA13154	Front L.H. & Rear R.H. Trunion Mounted Bearing Hanger - Models after Aug 2001 (See Detail A above for lengths)	*	22	DG10310	7/16" (10.9mm) x 3" (76.2mm) Lock Pin	*
9	DG9900	Housing c/w Bearings, Seals, Sleeve, Snap Ring, & Cap (T2-215 Series)	*	23	DG5379	7/8" (22.2mm) x 6" (152mm) x 5-7/8" (149mm) Long U-Bolt (Plated)	*
10	DG9901	Housing Only (T2-215 Series)	*	24	BO62100	5/8" (15.7mm) x 10" (254mm) N.C. Hex Bolt Gr.5 (Plated) - Used on machines less bearing	*
11	DG9905	Bearing Seal (National #200322)	*		BO62110	5/8" (15.7mm) x 11" (279.4mm) N.C. hex bolt Gr. 5 (Plated) - Used on machines equipped w/bearing	*
12	DG9904	#6215 Ball Bearing (Modified)	*	25	BN087	7/8" (22.2mm) N.C. Hex Nut (Plated)	*
13	DG9906	5" (127mm) Sleeve	*	26	BN062	5/8" (15.7mm) N.C. Hex Nut (Plated)	*
14	DG9902	Bearing Housing Cap	*	27	BW087L	7/8" (22.2mm) Lockwasher (Plated)	*
15	DG9911	External Snap Ring (Philip French #D1400-75)	*	28	DGA5370	5-1/2" (139.7mm) Gang Washer - Weld On	*
16	DG9910	Internal Snap Ring (Philip French #D1300-130)	*	29	DG9912	Set Screw - 1/4" (6.35mm) N.C. x 1/2" (12.7mm) Long	*
17	DGA10563	9" (230mm) & 10-1/2" (267mm) Spacing, Short Half, 1-3/8" (34.9mm) Long (Convex Side) w/6" (152mm) Washer Spool	*	30	10GN1	1/4" (6.35mm) - 28 Straight Grease Fitting	*
	DGA10572	12" (305mm) Spacing, Short Half, 2-7/8" (73mm) Long (Convex Side) w/6" (152mm) Washer Spool	*	31	DG10590	Bearing Guard - T2-215 Bearing	*
18	DGA10571	9" (230mm) Spacing, Long Half, 2-11/16" (68mm) Long (Concave Side)	*	32	DGA10568	2" (50.8mm) Offset Trunion Mounted Bearing Hanger (Front R.H. & Rear L.H.) - Models prior to Aug 2001 (See Detail A above for lengths)	*
	DGA103	10-1/2" (267mm) & 12" (305mm) Spacing, Long Half, 4-3/16" (106mm) Long (Concave Side)	*		DGA10569	2" (50.8mm) Offset Trunion Mounted Bearing Hanger (Front L.H. & Rear R.H.) - Models prior to Aug 2001 (See Detail A above for lengths)	*
19	DGA100	9" (230mm) Spacing, Full Spool w/6" (152mm) Dia. Washer on Both Ends, Spool	*		DGA13157	2" (50.8mm) Offset Trunion Mounted Bearing Hanger (Front R.H. & Rear L.H.) - Models after Aug 2001 (See Detail A above for lengths)	*
	DGA101	10-1/2" (267mm) Spacing, Full Spool w/6" (152mm) Dia. Washer on Both Ends, Spool	*		DGA13156	2" (50.8mm) Offset Trunion Mounted Bearing Hanger (Front L.H. & Rear R.H.) - Models after Aug 2001 (See Detail A above for lengths)	*
	DGA111	12" (305mm) Spacing, Full Spool w/6" (152mm) Dia. Washer on Both Ends, Spool	*		DGA13158	3-1/2" (88.9mm) Offset Trunion Mounted Bearing Hanger (Front R.H. & Rear L.H.) - Models after Aug. 2001 (See Detail A above for lengths)	*
					DGA13159	3-1/2" (88.9mm) Offset Trunion Mounted Bearing Hanger (Front L.H. & Rear R.H.) - Models after Aug. 2001 (See Detail A above for lengths)	*

* As Required

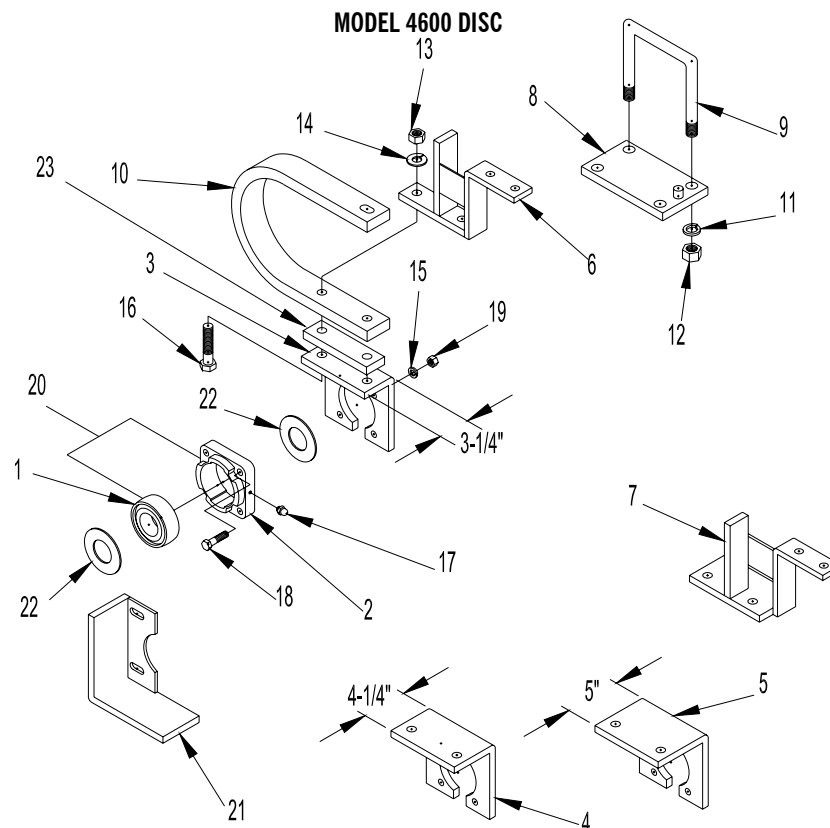


DISC GANG (WITH STANDARD HANGERS FOR T2-215 BEARINGS) - 9" (230mm), 10-1/2" (267mm) & 12" (305mm) SPACING
(Independently Mounted Scraper Bar - used after S/N 51462)

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D	REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	---	Refer to Ref. No. 1 on Page 63 for Plain Blades		20		Refer to Ref. No. 15 on Page 62 for Gang Bolts For 9" (230mm) and 10-1/2" (267mm) Spacing	
2	---	Refer to Ref. No. 2 on Page 63 for Notched Blades				GANG BOLT FOR 12" (305mm) SPACING	
3	---	Refer to Ref. No. 3 on Page 63 for Outrigger Blades			DGA114	4 Blade Gang Bolt - 43-1/4" (1099mm) Long	*
4	DG82	2" (50.8mm) UNC Heavy Hex Slotted Nut	*		DGA115	6 Blade Gang Bolt - 67-3/4" (1721mm) Long	*
5	DG89	1/4" (6.35mm) Shim Washer	*		DGA69	7 Blade Gang Bolt - 80" (2032mm) Long	*
6	DG88	1/2" (12.7mm) Shim Washer	*		DGA79	8 Blade Gang Bolt - 92" (2337mm) Long	*
7	DG78	5-1/2" (138mm) O.D. x 2" (50.8mm) I.D. Head Washer - used prior to 2003	*		DGA118	9 Blade Gang Bolt - 104-3/4" (2661mm) Long	*
	DG13185	5-1/2" (138mm) O.D. x 2" (50.8mm) I.D. x 3/4" (19.0mm) Head Washer - (used w/24" blades) - used 2003 and later	*		DGA119	10 Blade Gang Bolt - 117" (2972mm) Long	*
	DG13184	6" (152mm) O.D. x 2" (50.8mm) I.D. x 1" (25.4mm) Head Washer - (used w/26" & 28" blades) - used 2003 and later	*		DGA120	11 Blade Gang Bolt - 129" (3277mm) Long	*
8	DGA13162	Std. Trunion Mounted Bearing Hanger - (See Detail A above for length) - (w/o scraper tail)	*		DGA121	12 Blade Gang Bolt - 141-3/4" (3600mm) Long	*
9	DG9900	Housing c/w Bearings, Seals, Sleeve, Snap Rings, & Cap (T2-215 Series)	*		DGA122	13 Blade Gang Bolt - 153-3/4" (3905mm) Long	*
10	DG9901	Housing Only (T2-215 Series)	*	21	DGA35	Socket Wrench	*
11	DG9905	Bearing Seal (National #200322)	*	22	DG10310	7/16" (10.9mm) x 3" (76.2mm) Lock Pin	*
12	DG9904	#6215 Ball Bearing (Modified)	*	23	DG5379	7/8" (22.2mm) x 6" (152mm) x 5-7/8" (149mm) Long U-Bolt (Plated)	*
13	DG9906	5" (127mm) Sleeve	*	24	B062100	5/8" (15.7mm) x 10" (254mm) N.C. Hex Bolt Gr.5 (Plated) - Used on machines less bearing guard	*
14	DG9902	Bearing Housing Cap	*		B062110	5/8" (15.7mm) x 11" (279.4mm) N.C. hex bolt Gr. 5 (Plated) - Used on machines equipped w/bearing guard	*
15	DG9911	External Snap Ring (Philip French #D1400-75)	*	25	BN087	7/8" (22.2mm) N.C. Hex Nut (Plated)	*
16	DG9910	Internal Snap Ring (Philip French #D1300-130)	*	26	BN062	5/8" (15.7mm) N.C. Hex Nut (Plated)	*
17	DGA10563	9" (230mm), 10-1/2" (267mm) and 12" (305mm) Spacing, Short Half, 1-3/8" (34.9mm) Long (Convex Side) w/6" (152mm) Washer Spool +	*	27	BW087L	7/8" (22.2mm) Lockwasher (Plated)	*
	DGA10572	12" (305mm) Spacing, Short Half, 2-7/8" (73mm) Long (Convex Side) w/6" (152mm) Washer Spool +	*	28	DGA5370	5-1/2" (139.7mm) Gang Washer - Weld On	*
18	DGA10571	9" (230mm) Spacing, Long Half, 2-11/16" (68mm) Long (Concave Side)	*	29	DG9912	Set Screw - 1/4" (6.35mm) N.C. x 1/2" (12.7mm) Long	*
	DGA103	10-1/2" (267mm) & 12" (305mm) Spacing, Long Half, 4-3/16" (106mm) Long (Concave Side) +	*	30	10GN1	1/4" (6.35mm) - 28 Straight Grease Fitting	*
	DGA131	12" (305mm) Spacing Long Half, 5-1/4" (133mm) Long (Concave Side) +	*	31	DG10590	Bearing Guard - T2-215 Bearing	*
19	DGA100	9" (230mm) Spacing, Full Spool w/6" (152mm) Dia. Washer on Both Ends, Spool	*	32	DGA13163	2" (50.8mm) Offset Trunion Mounted Bearing Hanger - (See Detail A above for length) - (w/o scraper tail)	*
	DGA101	10-1/2" (267mm) Spacing, Full Spool w/6" (152mm) Dia. Washer on Both Ends, Spool	*		DGA13164	3-1/2" (88.9mm) Offset Trunion Mounted Bearing Hanger - (See Detail A above for length) - (w/o scraper tail)	*
	DGA111	12" (305mm) Spacing, Full Spool w/6" (152mm) Dia. Washer on Both Ends, Spool	*				

+ When ordering 12" (305mm) Spacing 1/2 Spools, Measure Length to Determine Correct Spool.

* As Required

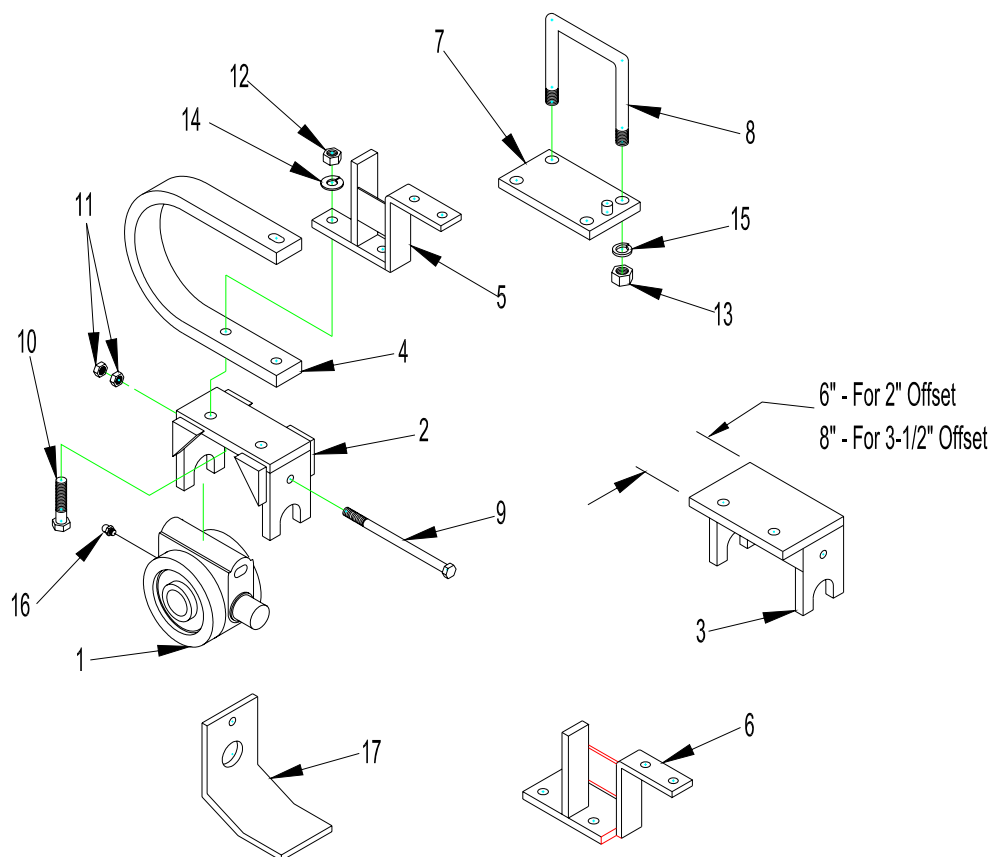


STONE FLEX HANGER FOR EZ410N BEARINGS (OPTIONAL)
(used on Earlier Models Only)

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	DG5364	EZ410N Series Greaseable Bearing (1-9/16" (39.6mm) Wide)	*
2	DG96	Housing - EZ410N Bearing	*
3	DG5324	Standard Mounting Bracket For EZ410N Bearing	*
4	DGA5376	1-1/2" (38.1mm) Offset Mounting Bracket - EZ410N Bearing- Used w/26" (660mm) Cone Blades	*
5	DGA5341	2" (50.8mm) Offset Mounting Bracket - EZ410N Bearing- Used w/26" (660mm) Cone Blades	*
6	DGA5361	Scraper Bar Support - Standard Mounting Bracket - Front R.H. & Rear L.H.	*
	DGA5362	Scraper Bar Support - Standard Mounting Bracket - Front L.H. & Rear R.H.	*
7	DGA5336	Scraper Bar Support Bracket - For 2" (50.8mm) Offset Mounting Bracket - Frt. L.H. & Rear R.H.	*
	DGA5337	Scraper Bar Support Bracket - For 2" (50.8mm) Offset Mounting Bracket - Frt. R.H. & Rear L.H.	*
8	DGA5328	Backing Plate - Hanger Mounted Scraper Only	*
9	DG5378	7/8" (22.2mm) x 6" (152.4mm) x 7-1/8" (181mm) Long U-bolt (Plated)	*
10	DG5313	1-1/4" (31.7mm) x 2-1/2" (63.5mm) Spring Shank	*
11	BW087L	7/8" (22.2mm) Lockwasher (Plated)	*
12	BN087	7/8" (22.2mm) N.C. Hex. Nut (Plated)	*
13	BN075	3/4" (19mm) N.C. Hex. Nut (Plated)	*
14	BW075L	3/4" (19mm) Lockwasher (Plated)	*
15	BW0621	5/8" (15.7mm) Lockwasher (Plated)	*
16	B075035	3/4" (19mm) x 3-1/2" (88.9mm) N.C. Hex. Bolt (Plated) - Used when spacer, Item 23, is NOT supplied	*
	B075045	3/4" (19.1mm) x 4-1/2" (114.3mm) N.C. Hex Bolt (Plated) - Used when spacer, Item 25 is supplied	*
17	10GN1	1/4" (6.35mm) - 28 Straight Grease Fitting	*
18	B062022	5/8" (15.7mm) x 2-1/4" (57.2mm) N.C. Hex. Bolt (Plated)	*
	B062025	5/8" (15.7mm) x 2-1/2" (63.5mm) N.C. Hex. Bolt (Plated) - used with bearing guard	*
19	BN062	5/8" (15.7mm) N.C. Hex. Nut (Plated)	*
20	DGB5363	EZ410N Bearing c/w Housing and Grease Fitting (1-9/16" (39.6mm) Bearing Width)	*
21	DGA40	Front Bearing Guard - EZ410N Bearing	*
	DGA39	Rear Bearing Guard - EZ410N Bearing	*
22	DG237	4-1/2" (114mm) O.D. x 2" (50.8mm) I.D. x 1/16" (1.59mm) Bearing Shield EZ410N Bearing	*
23	DG5332	Spacer Plate - 3/4" x 2" x 7" (19.1mm x 50.8mm x 177.8mm) - Used with 26" (660.4mm) blades on 9" (228.6mm) Spacing and 26" (660.4mm) cone blades on 10-1/2" (266.7mm) Spacing	*

* As Required

MODEL 4600 DISC

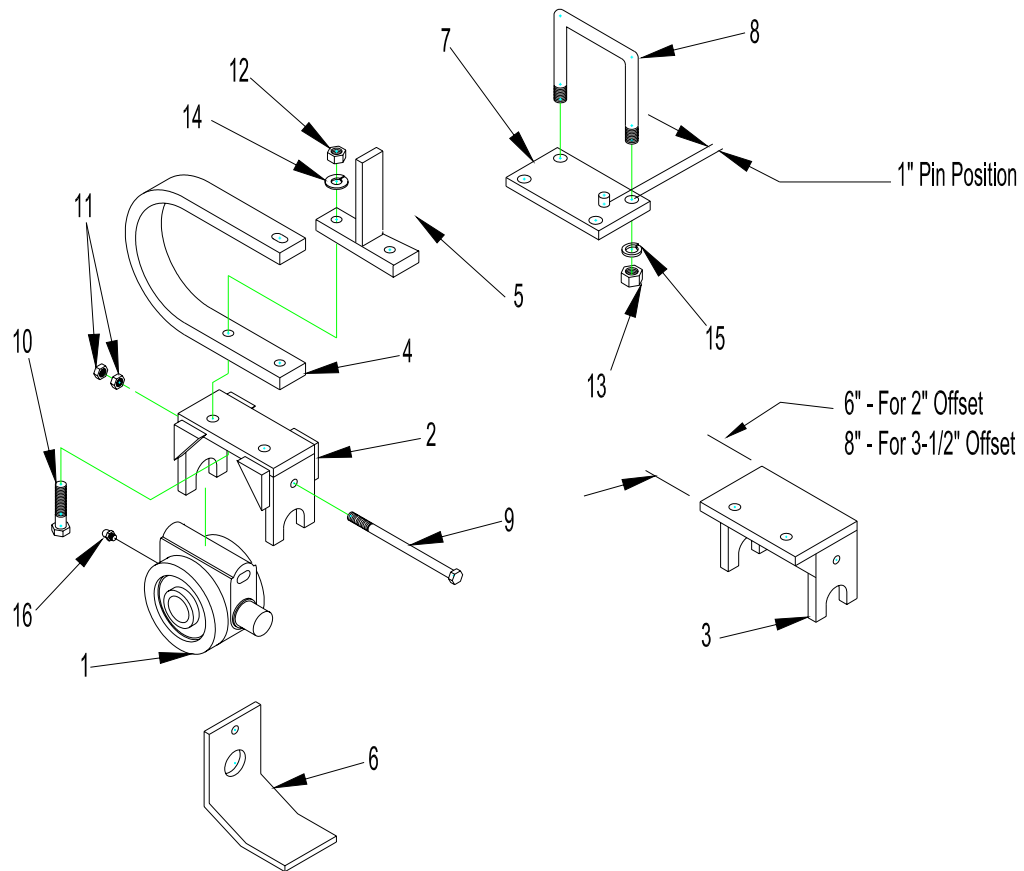


STONE FLEX HANGER FOR T2-215 SERIES BEARINGS (OPTIONAL) (Hanger Mounted Scraper Bar - used prior to S/N 51377)

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	DGB9900	T2-215 Bearing Assembly (See Page 53 for T2-215 Bearing Breakdown)	*
2	DGA10570	Standard Mounting Bracket	*
3	DGA10575	2" (50.8mm) Offset Mounting Bracket	*
	DCA10576	3-1/2" (88.9mm) Offset Mounting Bracket	*
4	DG5313	1-1/4" (31.8mm) x 2-1/2" (63.5mm) Spring Shank	*
5	DGA5361	Scraper Bar Support Bracket - Standard Mounting Bracket - Front R.H. & Rear L.H.	*
	DGA5362	Scraper Bar Support Bracket - Standard Mounting Bracket - Front L.H. & Rear R.H.	*
6	DGA5336	Scraper Bar Support Bracket - For 2" (50.8mm) Offset Mounting Bracket - Frt. L.H. & Rear R.H.	*
	DGA5337	Scraper Bar Support Bracket - For 2" (50.8mm) Offset Mounting Bracket - Frt. R.H. & Rear L.H.	*
7	DGA5328	Backing Plate - Hanger Mounted Scraper Only	*
8	DG5378	7/8" (22.2mm) x 7" (178mm) x 7-1/8" (181mm) Long U-bolt (Plated)	*
9	BO62100	5/8" (15.7mm) x 10" (254mm) N.C. Hex. Bolt- GR.5 (Plated)	*
10	BO75035	3/4" (19mm) x 3-1/2" (88.9mm) N.C. Hex. Bolt- GR.5 (Plated)	*
11	BN062	5/8" (15.7mm) N.C. Hex. Nut (Plated)	*
12	BN075	3/4" (19mm) N.C. Hex. Nut (Plated)	*
13	BN087	7/8" (22.2mm) N.C. Hex. Nut (Plated)	*
14	BW075L	3/4" (19mm) Lockwasher (Plated)	*
15	BW087L	7/8" (22.2mm) Lockwasher (Plated)	*
16	10GN1	1/4" (6.35mm) - 28 Straight Grease Fitting	*
17	DG10590	Bearing Guard - T2-215 Bearing	*

*As Required

MODEL 4600 DISC

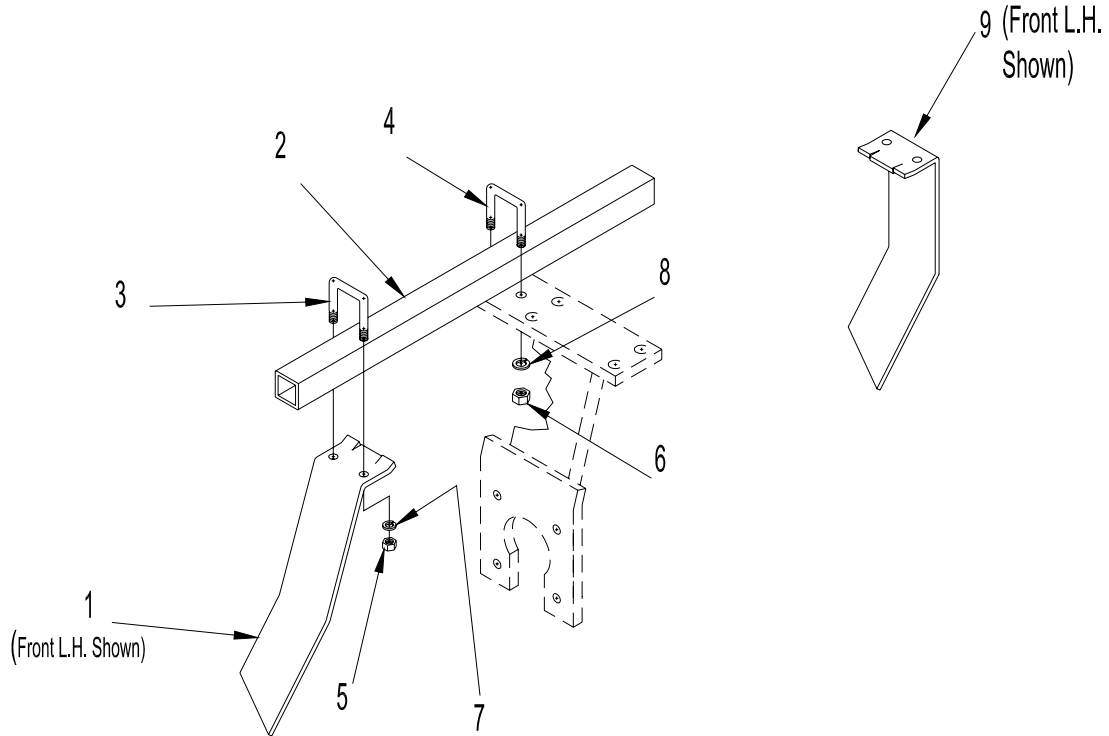


STONE FLEX HANGER FOR T2-215 SERIES BEARINGS (OPTIONAL) (Independently Mounted Scraper Bar)

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	DGB9900	T2-215 Bearing Assembly (See Page 53 for T2-215 Bearing Breakdown)	*
2	DGA10570	Standard Mounting Bracket	*
3	DGA10575 DCA10576	2" (50.8mm) Offset Mounting Bracket 3-1/2" (88.9mm) Offset Mounting Bracket	*
4	DG5313	1-1/4" (31.8mm) x 2-1/2" (63.5mm) Spring Shank	*
5	DGA5338	Shank Stop - Independently Mounted Scrapers Only	*
6	DG10590	Bearing Guard - T2-215 Bearing	*
7	DGA5327	Backing Plate - Independently Mounted Scraper Only	*
8	DG5378	7/8" (22.2mm) x 7" (178mm) x 7-1/8" (181mm) Long U-bolt (Plated)	*
9	B062100	5/8" (15.7mm) x 10" (254mm) N.C. Hex. Bolt- GR.5 (Plated)	*
10	B075035	3/4" (19mm) x 3-1/2" (88.9mm) N.C. Hex. Bolt- GR.5 (Plated)	*
11	BN062	5/8" (15.7mm) N.C. Hex. Nut (Plated)	*
12	BN075	3/4" (19mm) N.C. Hex. Nut (Plated)	*
13	BN087	7/8" (22.2mm) N.C. Hex. Nut (Plated)	*
14	BW075L	3/4" (19mm) Lockwasher (Plated)	*
15	BW087L	7/8" (22.2mm) Lockwasher (Plated)	*
16	10GN1	1/4" (6.35mm) - 28 Straight Grease Fitting	*

*As Required

MODEL 4600 DISC



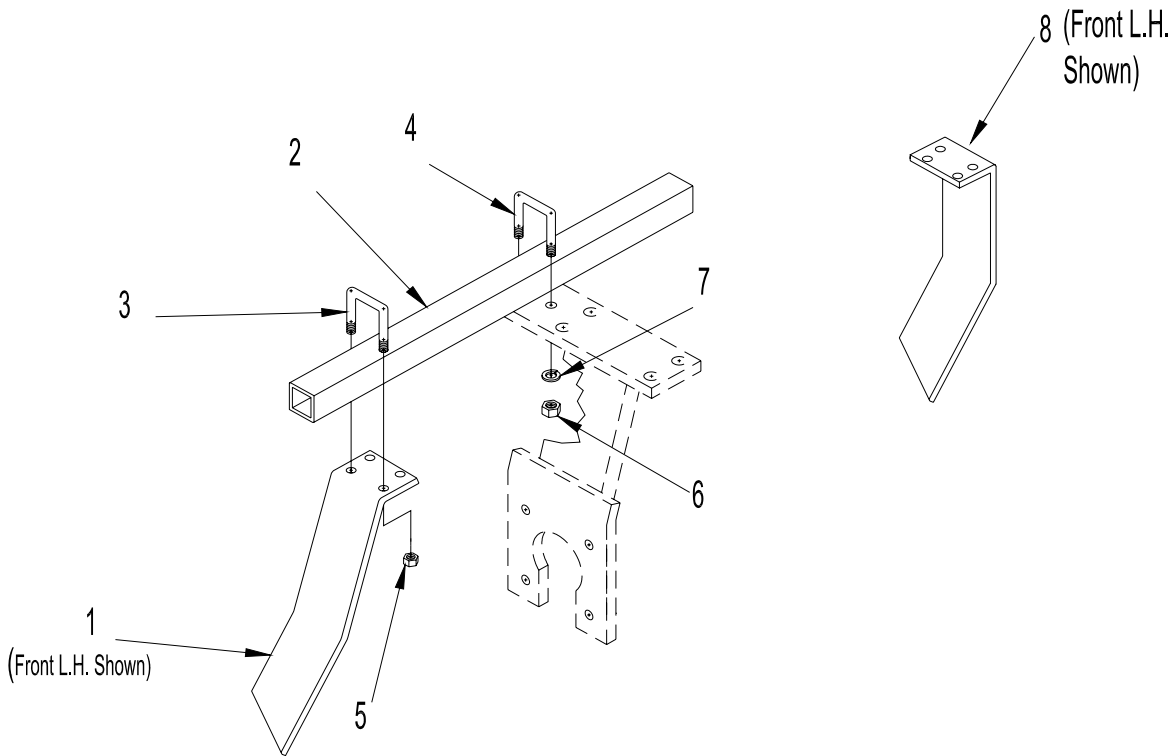
STANDARD SCRAPER AND SCRAPER BAR ASSEMBLY

(Hanger Mounted Scraper Bar - used prior to S/N 51463 for Std Hangers and prior to S/N 51377 for Stone Flex Hangers)

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	DG5300 DG5301 DG5304 DG5305	Scraper - Front L.H. & Rear R.H. (5/16" (7.8mm) x 4" (101.6mm)) Scraper - Front R.H. & Rear L.H. (5/16" (7.8mm) x 4" (101.6mm)) Scraper (For Cone Blades ONLY) - Front L.H. & Rear R.H. (5/16" (7.8mm) x 4" (101.6mm)) Scraper (For Cone Blades ONLY) - Front R.H. & Rear L.H. (5/16" (7.8mm) x 4" (101.6mm))	* * * *
2	DS45 DS64 DS73 DS82 DS92 DS101 DS110 DS129 DS139	SCRAPER BARS FOR 9" (230mm) SPACING 4 Blade Gang Scraper Bar - 45-1/2" (1156mm) 7 Blade Gang Scraper Bar - 64" (1626mm) 8 Blade Gang Scraper Bar - 73-1/4" (1861mm) 9 Blade Gang Scraper Bar - 82" (2083mm) 10 Blade Gang Scraper Bar - 92" (2337mm) 11 Blade Gang Scraper Bar - 101-1/2" (2578mm) 12 Blade Gang Scraper Bar - 110" (2794mm) 14 Blade Gang Scraper Bar - 129-1/2" (3289mm) 15 Blade Gang Scraper Bar - 139" (3531mm)	* * * * * * * * *
	DS41 DS62 DS73 DS84 DS94 DS105 DS115 DS127 DS138	SCRAPER BARS FOR 10-1/2" (267mm) SPACING 4 Blade Gang Scraper Bar - 41" (1041mm) 6 Blade Gang Scraper Bar - 62-1/2" (1588mm) 7 Blade Gang Scraper Bar - 73-1/2" (1867mm) 8 Blade Gang Scraper Bar - 84" (2134mm) 9 Blade Gang Scraper Bar - 94-1/2" (2400mm) 10 Blade Gang Scraper Bar - 105" (2667mm) 11 Blade Gang Scraper Bar - 115-1/2" (2934mm) 12 Blade Gang Scraper Bar - 127-1/2" (3239mm) 13 Blade Gang Scraper Bar - 138" (3505mm)	* * * * * * * * *
	DS45 DS70 DS82 DS94 DS107 DS120 DS132 DS144 DS156 DS152	SCRAPER BARS FOR 12" (305mm) SPACING 4 Blade Gang Scraper Bar - 45-1/2" (1156mm) 6 Blade Gang Scraper Bar - 70" (1778mm) 7 Blade Gang Scraper Bar - 82" (2083mm) 8 Blade Gang Scraper Bar - 94-1/2" (2400mm) 9 Blade Gang Scraper Bar - 107" (2718mm) 10 Blade Gang Scraper Bar - 120" (3048mm) 11 Blade Gang Scraper Bar - 132" (3353mm) 12 Blade Gang Scraper Bar - 144" (3658mm) 13 Blade Gang Scraper Bar - 156" (3962mm) 13 Blade Gang Scraper Bar - 152" (3861mm) - (90 deg Scraper)	* * * * * * * * *
3	DG5308	1/2" (12.7mm) x 2" (50.8mm) U-bolt (Plated)	*
4	DG5309	5/8" (15.7mm) x 2" (50.8mm) U-bolt (Plated)	*
5	BN050	1/2" (12.7mm) N.C. Hex. Nut (Plated)	*
6	BN062	5/8" (15.7mm) N.C. Hex. Nut (Plated)	*
7	BW050L	1/2" (12.7mm) Lockwasher (Plated)	*
8	BW062L	5/8" (15.7mm) Lockwasher (Plated)	*
9	DG9698 DG9697 DG9784 DG9783	L.H. 90 degree Scraper Std. (5/16" (7.8mm) x 4" (101.6mm)) R.H. 90 degree Scraper Std. (5/16" (7.8mm) x 4" (101.6mm)) R.H. 90 degree Scraper (5/16" (7.8mm) x 4" (101.6mm)) (cone blades only) L.H. 90 degree Scraper (5/16" (7.8mm) x 4" (101.6mm)) (cone blades only)	* * * *

*As Required

MODEL 4600 DISC



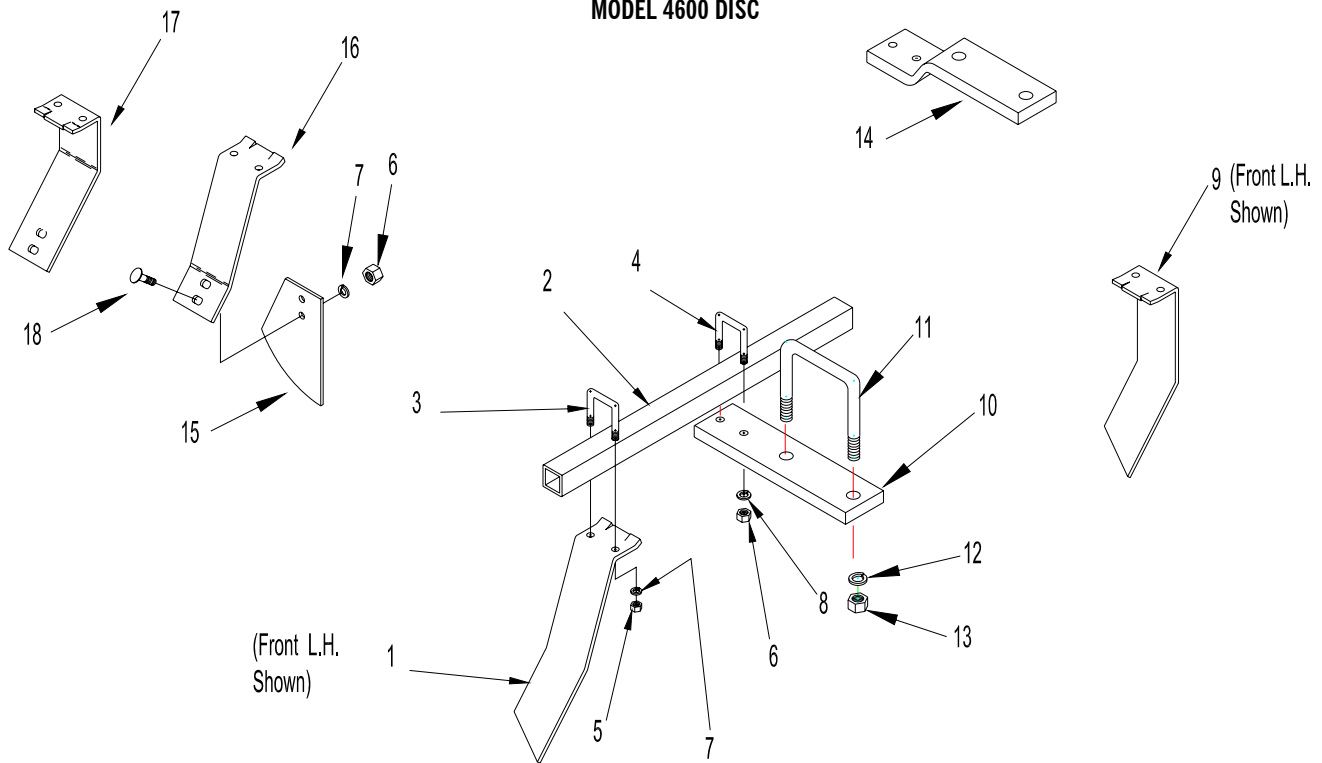
HEAVY DUTY SCRAPER AND SCRAPER BAR ASSEMBLY

(Hanger Mounted Scraper Bar - used prior to S/N 51463 for Solid Hangers and prior to S/N 51377 for Stone Flex Hangers)

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	DG13010 DG13011	Heavy Duty Scraper - 1/2" x 4" (12.7 x 101.6mm) - Front R.H. & Rear L.H. Heavy Duty Scraper - 1/2" x 4" (12.7 x 101.6mm) - Front L.H. & Rear R.H.	* *
2		<u>SCRAPER BARS FOR 9" (230mm) SPACING - 3/16" WALL TUBING</u> 4 Blade Gang Scraper Bar - 45-1/2" (1156mm) 7 Blade Gang Scraper Bar - 64" (1626mm) 8 Blade Gang Scraper Bar - 73-1/4" (1861mm) 9 Blade Gang Scraper Bar - 82" (2083mm) 10 Blade Gang Scraper Bar - 92" (2337mm) 11 Blade Gang Scraper Bar - 101-1/2" (2578mm) 12 Blade Gang Scraper Bar - 110" (2794mm) 14 Blade Gang Scraper Bar - 129-1/2" (3289mm) 15 Blade Gang Scraper Bar - 139" (3531mm)	* * * * * * * * *
		<u>SCRAPER BARS FOR 10-1/2" (267mm) SPACING - 3/16"WALL TUBING</u> 4 Blade Gang Scraper Bar - 41" (1041mm) 6 Blade Gang Scraper Bar - 62-1/2" (1588mm) 7 Blade Gang Scraper Bar - 73-1/2" (1867mm) 8 Blade Gang Scraper Bar - 84" (2134mm) 9 Blade Gang Scraper Bar - 94-1/2" (2400mm) 10 Blade Gang Scraper Bar - 105" (2667mm) 11 Blade Gang Scraper Bar - 115-1/2" (2934mm) 12 Blade Gang Scraper Bar - 127-1/2" (3239mm) 13 Blade Gang Scraper Bar - 138" (3505mm)	* * * * * * * * *
		<u>SCRAPER BARS FOR 12" (305mm) SPACING - 3/16" WALL TUBING</u> 4 Blade Gang Scraper Bar - 45-1/2" (1156mm) 6 Blade Gang Scraper Bar - 70" (1778mm) 7 Blade Gang Scraper Bar - 82" (2083mm) 8 Blade Gang Scraper Bar - 94-1/2" (2400mm) 9 Blade Gang Scraper Bar - 107" (2718mm) 10 Blade Gang Scraper Bar - 120" (3048mm) 11 Blade Gang Scraper Bar - 132" (3353mm) 12 Blade Gang Scraper Bar - 144" (3658mm) 13 Blade Gang Scraper Bar - 156" (3962mm) 13 Blade Gang Scraper Bar - 152" (3861mm) - (90 deg Scraper)	* * * * * * * * * *
3	DG5308	1/2" (12.7mm) x 2" (50.8mm) U-bolt (Plated)	*
4	DG5309	5/8" (15.7mm) x 2" (50.8mm) U-bolt (Plated)	*
5	BN050	1/2" (12.7mm) N.C. Hex. Nut (Plated)	*
6	BN062	5/8" (15.7mm) N.C. Hex. Nut (Plated)	*
7	BW062L	5/8" (15.7mm) Lockwasher (Plated)	*
8	DG13012 DG13013	R.H. 90 degree Scraper - 1/2" x 4" (12.7 x 101.6mm) L.H. 90 degree Scraper - 1/2" x 4" (12.7 x 101.6mm)	* *

*As Required

MODEL 4600 DISC

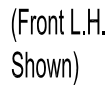


STANDARD SCRAPER AND SCRAPER BAR ASSEMBLY

(Independently Mounted Scraper Bar - used after S/N 51462 for Solid Hangers and after S/N 51376 for Stone Flex Hangers)

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	DG5292 DG5293	Scraper (Std) - Front L.H. & Rear R.H. Scraper (Std) - Front R.H. & Rear L.H.	* *
2	DS48 DS67 DS76 DS85 DS95 DS104 DS113 DS132 DS142	SCRAPER BARS FOR 9" (230mm) SPACING 4 Blade Gang Scraper Bar - 48-1/2" (1232mm) 7 Blade Gang Scraper Bar - 67" (1702mm) 8 Blade Gang Scraper Bar - 76-1/4" (1937mm) 9 Blade Gang Scraper Bar - 85" (2159mm) 10 Blade Gang Scraper Bar - 95" (2413mm) 11 Blade Gang Scraper Bar - 104-1/2" (2654mm) 12 Blade Gang Scraper Bar - 113" (2870mm) 14 Blade Gang Scraper Bar - 132-1/2" (3366mm) 15 Blade Gang Scraper Bar - 142" (3607mm)	* * * * * * * * *
	DS43 DS65 DS69 DS76 DS87 DS97 DS108 DS118 DS130 DS141	SCRAPER BARS FOR 10-1/2" (267mm) SPACING 4 Blade Gang Scraper Bar - 43" (1092mm) 6 Blade Gang Scraper Bar - 65-1/2" (1664mm) 6 Blade Gang Scraper Bar - 69" (1753mm) - for Rear Centre M/F 6 Blade Gang Only 7 Blade Gang Scraper Bar - 76-1/2" (1943mm) 8 Blade Gang Scraper Bar - 87" (2210mm) 9 Blade Gang Scraper Bar - 97-1/2" (2477mm) 10 Blade Gang Scraper Bar - 108" (2743mm) 11 Blade Gang Scraper Bar - 118-1/2" (3010mm) 12 Blade Gang Scraper Bar - 130-1/2" (3315mm) 13 Blade Gang Scraper Bar - 141" (3581mm)	* * * * * * * * * *
	DS48 DS73 DS85 DS97 DS110 DS123 DS135 DS147 DS159 DS155	SCRAPER BARS FOR 12" (305mm) SPACING 4 Blade Gang Scraper Bar - 48-1/2" (1232mm) 6 Blade Gang Scraper Bar - 73" (1854mm) 7 Blade Gang Scraper Bar - 85" (2159mm) 8 Blade Gang Scraper Bar - 97-1/2" (2477mm) 9 Blade Gang Scraper Bar - 110" (2794mm) 10 Blade Gang Scraper Bar - 123" (3124mm) 11 Blade Gang Scraper Bar - 135" (3429mm) 12 Blade Gang Scraper Bar - 147" (3734mm) 13 Blade Gang Scraper Bar - 159" (4039mm) 13 Blade Gang Scraper Bar - 155" (3937mm) - (90 deg Scraper)	* * * * * * * * * *
3	DG5308	1/2" (12.7mm) x 2" (50.8mm) U-bolt (Plated)	*
4	DG5309	5/8" (15.7mm) x 2" (50.8mm) U-bolt (Plated)	*
5	BN050	1/2" (12.7mm) N.C. Hex. Nut (Plated)	*
6	BN062	5/8" (15.7mm) N.C. Hex. Nut (Plated)	*
7	BW050L	1/2" (12.7mm) Lockwasher (Plated)	*
8	BW062L	5/8" (15.7mm) Lockwasher (Plated)	*
9	DG5297 DG5298	90 degree Scraper Std. - Frt. L.H. & Rear R.H. 90 degree Scraper Std. - Frt. R.H. & Rear L.H.	* *
10	DG5296	Straight Scraper Mount Plate	*
11	DG13145	3/4" x 6-7/8" cc x 5-3/4" (19.0mm x 174.5mm x 146.0mm) U-Bolt	*
12	BW075L	3/4" (19.0mm) Lockwasher	*
13	BN075	3/4" (19.0mm) N.C. Hex Nut	*
14	DG5303	Offset Scraper Mount Plate	*
15	DG7190	Wide Pan Scraper	*
16	DG7191	Scraper Holder - Wide Pan	*
17	DG7192	90 Deg. Scraper Holder - Wide Pan	*
18	B050012C	1/2" x 1-1/4" (12.7mm x 32mm) N.C. Carriage Bolt	*

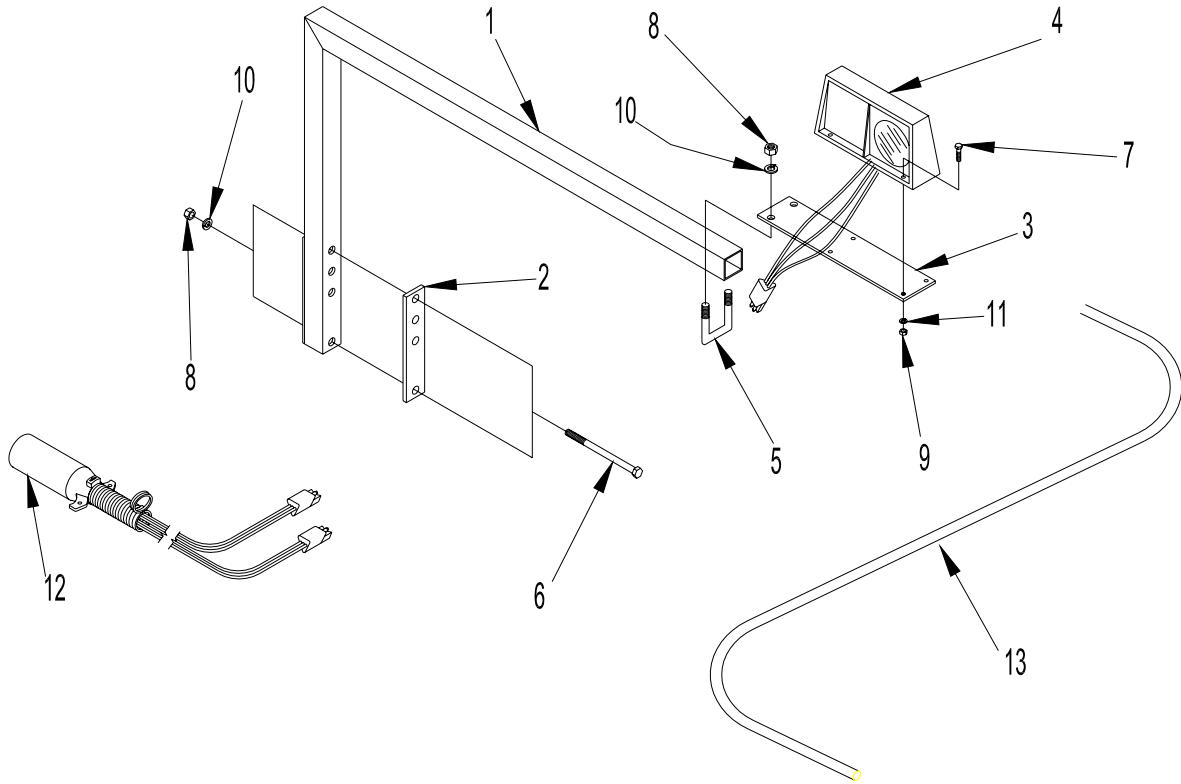
*As Required



(Independently Mounted Scraper Bar - used after S/N 51462 for Solid Hangers and after S/N 51376 for Stone Flex Hangers)

*As Required

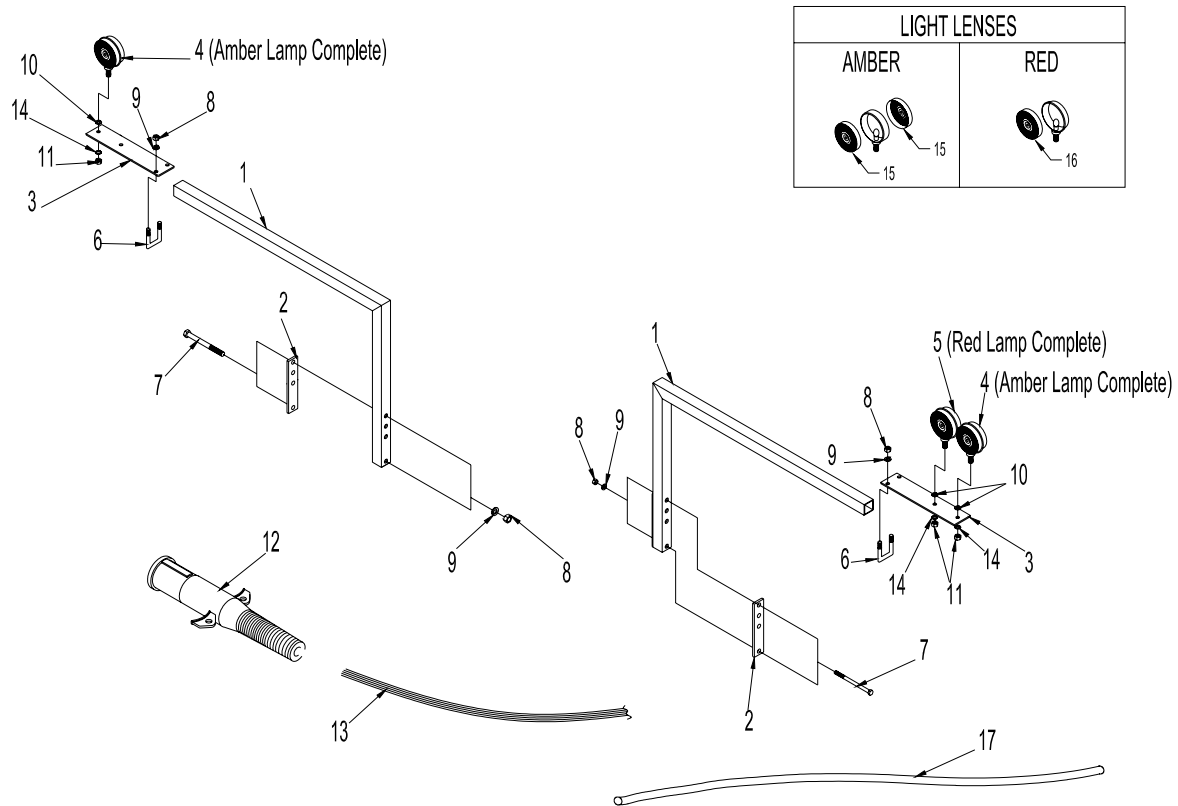
MODEL 4600 DISC



WARNING LIGHT KIT (OPTIONAL) - (used 2001 and Prior)

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	D13101	Light Bracket	2
2	D13102	Backing Plate	2
3	D13103	Light Mount Plate	2
4	D13104	Light Fixture - L.H. Amber/Red (Amber on L.H.S.)	1
5	D13115	Light Fixture - R.H. Red/Amber (Amber on R.H.S.)	1
6	DG5308	1/2" (12.7mm) x 2" (50.8mm) x 3" (76.2mm) U-Bolt	2
7	B050075	1/2" (12.7mm) x 7-1/2" (191mm) N.C. Hex Bolts (Plated)	4
8	B025012	1/4" (6.35mm) x 1-1/4" (31.8mm) N.C. Hex Bolts (Plated)	8
9	BN050	1/2" (12.7mm) N.C. Hex Nut (Plated)	8
10	BN025	1/4" (6.35mm) N.C. Hex Nut (Plated)	8
11	BW050L	1/2" (12.7mm) Lockwasher (Plated)	8
12	BW025L	1/4" (6.35mm) Lockwasher (Plated)	8
13	D13105	Electrical Harness (46ft.)	1
14	D13106	Protective Cover	1

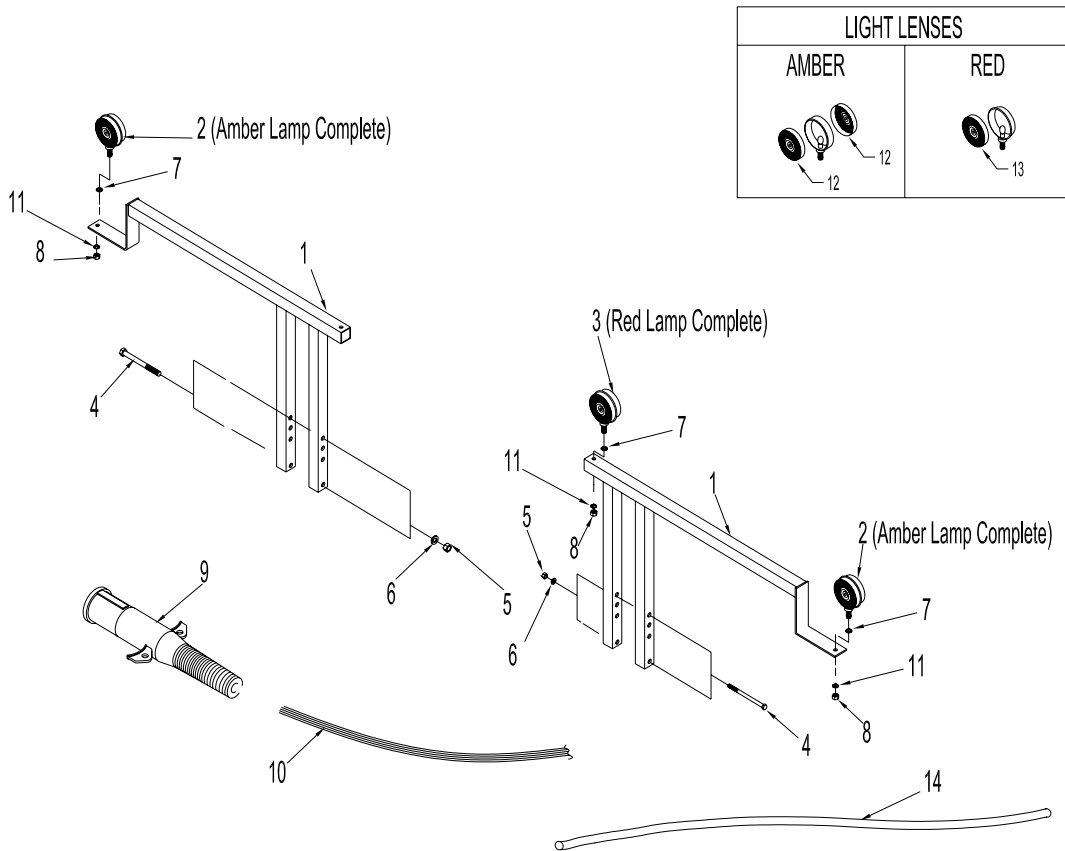
MODEL 4600 DISC



WARNING LIGHT KIT (OPTIONAL) - (used 2002 to Sept. 2005)

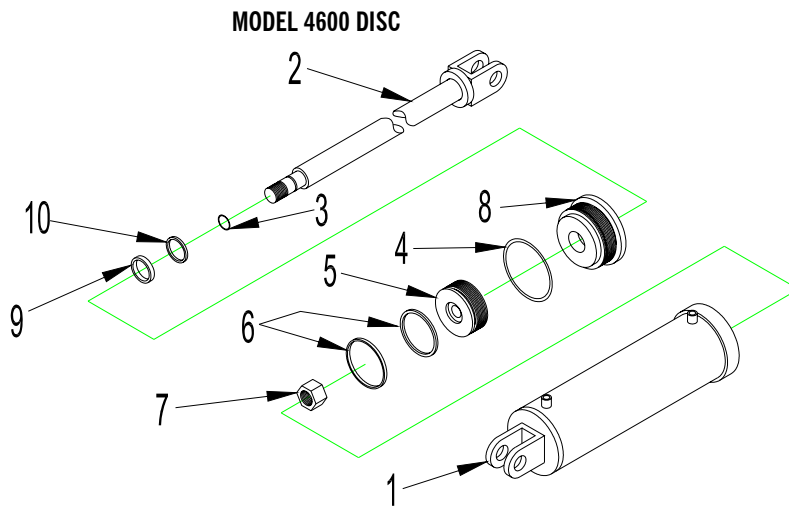
REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	LK6403	Light Bracket	2
2	LK6404	Backing Plate	2
3	D13102	Light Mount Plate	2
4	LK6422	Amber Lamp c/w Washers and Nut	2
5	LK6401	Red Lamp c/w Washers and Nut	1
6	DG5308	1/2" (12.7mm) x 2" (50.8mm) x 3" (76.2mm) U-Bolt	2
7	B050078	1/2" (12.7mm) x 7-1/2" (191mm) N.C. Hex Bolts (Plated)	4
8	BN050	1/2" (12.7mm) N.C. Hex Nut (Plated)	8
9	BW050L	1/2" (12.7mm) Lockwasher (Plated)	8
10	LK6406	1-1/8" (28.6mm) x 1/2" 1/2" (12.7mm) Rubber Washer	3
11	LK6407	1/2" (12.7mm) Hex Nut - N.F. Fine Thread	3
12	LK6423	Male Plug Complete	1
13	LK6408	55 Ft. Electrical Wire (white/yellow/brown/green) - Supplied in bulk - Stripping and Cutting required	1
14	---	1/2" (12.7mm) Starwasher	3
15	LK6409	Amber Lens - For Amber Lamps	4
16	LK6410	Red Lens - For Red Lamps	1
17	D13117	Plastic Loom - 8' (2.43m) Long	1

MODEL 4600 DISC



WARNING LIGHT KIT (OPTIONAL) - (used After Sept. 2005)

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	LK6411	Light Bracket	2
2	LK6422	Amber Lamp c/w Washers and Nut	2
3	LK6401	Red Lamp c/w Washers and Nut	1
4	B050085	1/2" (12.7mm) x 8-1/2" (216mm) N.C. Hex Bolts (Plated)	4
5	BN050	1/2" (12.7mm) N.C. Hex Nut (Plated)	8
6	BW050L	1/2" (12.7mm) Lockwasher (Plated)	8
7	LK6406	1-1/8" (28.6mm) x 1/2" 1/2" (12.7mm) Rubber Washer	3
8	LK6407	1/2" (12.7mm) Hex Nut - N.F. Fine Thread	3
9	LK6423	Male Plug Complete	1
10	LK6408	55 Ft. Electrical Wire (white/yellow/brown/green) - Supplied in bulk - Stripping and Cutting required	1
11	---	1/2" (12.7mm) Starwasher	3
12	LK6409	Amber Lens - For Amber Lamps	4
13	LK6410	Red Lens - For Red Lamps	1
14	D13117	Plastic Loom - 8' (2.43m) Long	1



MAIN ROCKSHAFT CYLINDER - 4" (101.6mm) x 24" (610mm) CYLINDER - #306

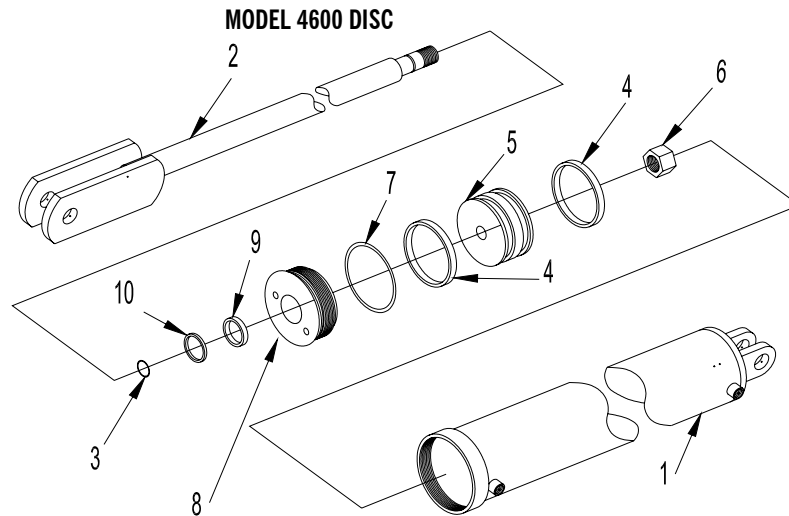
REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	40TU10	Tube Assembly - 4" (101.6mm) x 24" (610mm)	1
2	10SH60	Shaft - 2" (50.8mm) x 24" (610mm)	1
3	100R18	1" (25.4mm) O.D. x 7/8" (22.2mm) I.D. O-Ring	1
4	100R17	4" (101.6mm) O.D. x 3/16" (4.76mm) O-Ring	1
5	40PB8	Piston - 4" (101.6mm) O.D. x 1" (25.4mm) I.D.	1
6	40PS1	4" (101.6mm) O.D. Piston Seal Assembly	1
7	10NU4	1" (25.4mm) - 14 N.F. Hex Nut	1
8	40HP5	Head Plate - 4" (101.6mm) O.D. x 2" (50.8mm) I.D.	1
9	10RS2	Rod Seal - 2-3/8" (60.2mm) O.D. x 2" (50.8mm) I.D. x 3/8" (9.39mm)	1
10	10WS6	Wiper Seal - 2-1/2" (63.5mm) O.D. x 2" (50.8mm) I.D. x 3/8" (9.39mm) - All Urethane	1

L.H. WING ROCKSHAFT CYLINDER - 3-1/2" (88.9mm) x 24" (610mm) CYLINDER - #305

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
	35TU15	Tube Assembly - 3-1/2" (88.9mm) x 24" (610mm)	1
	10SH59	Shaft - 1-3/4" (44.4mm) x 24" (610mm)	1
	100R18	1" (25.4mm) O.D. x 7/8" (22.2mm) I.D. O-Ring	1
	100R8	3-1/2" (88.9mm) O.D. x 3/16" (4.76mm) O-Ring	1
	35PB8	Piston - 3-1/2" (88.9mm) O.D. x 1" (25.4mm) I.D.	1
	35PS1	Piston Seal Assembly	1
	10NU4	1" (25.4mm) - 14 N.F. Hex Nut	1
	35HP9	Head Plate - 3-1/2" (88.9mm) O.D. x 1-3/4" (44.4mm) I.D.	1
	10RS3	Rod Seal - 1-3/4" (44.4mm) I.D. x 2-1/8" (54.0mm) O.D. x 3/8" (9.39mm)	1
	10WS10	All Urethane Wiper Seal - 1-3/4" (44.4mm) I.D. x 2-1/8" (54.0mm) O.D. x 1/4" (6.35mm) All Urethane Wiper Seal	1

R.H. WING ROCKSHAFT CYLINDER - 3" (76.2mm) x 24" (610mm) CYLINDER - #304

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	30TU34	Tube Assembly - 3" (76.2mm) x 24" (610mm)	1
2	10SH59	Shaft - 1-3/4" (44.4mm) x 24" (610mm)	1
3	100R18	1" (25.4mm) O.D. x 7/8" (22.2mm) I.D. O-Ring	1
4	100R3	3" (76.2mm) O.D. x 3/16" (4.76mm) O-Ring	1
5	30PB4	Piston - 3" (76.2mm) O.D. x 1" (25.4mm) I.D.	1
6	30PS1	Piston Seal Assembly	1
7	10NU4	1" (25.4mm) - 14 N.F. Hex Nut	1
8	30HP15	Head Plate - 3" (76.2mm) O.D. x 1-3/4" (44.4mm) I.D.	1
9	10RS3	Rod Seal - 1-3/4" (44.4mm) I.D. x 2-1/8" (54.0mm) O.D. x 3/8" (9.39mm)	1
10	10WS10	All Urethane Wiper Seal - 1-3/4" (44.4mm) I.D. x 2-1/8" (54.0mm) O.D. x 1/4" (6.35mm) All Urethane Wiper Seal	1



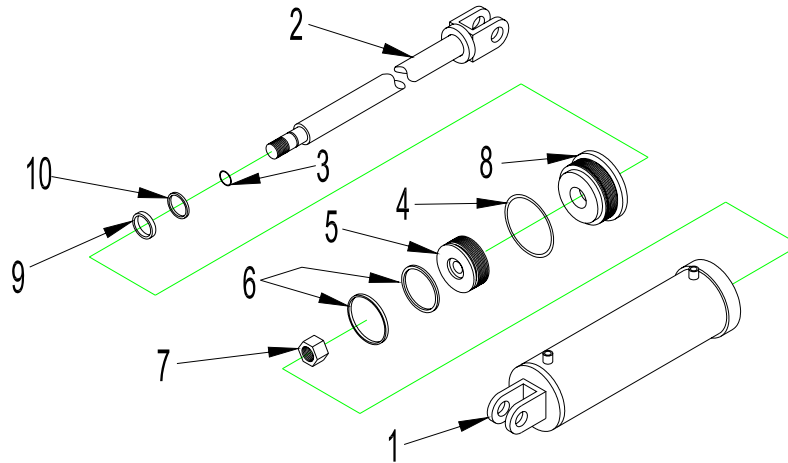
WING LIFT CYLINDER - 4" x 36" (102 x 914mm) CYLINDER - #248
- 5" x 36" (127 x 914mm) CYLINDER - #242

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D	
			Cyl. #242	Cyl. #248
1	50TU8	Tube Assembly - 5" x 36" (127 x 914mm)	1	---
2	40TU8	Tube Assembly - 4" x 36" (102 x 914mm)	---	1
3	10SH36	Shaft - 1-3/4" x 36" (44.4 x 914mm)	1	1
4	100R19	1-1/8" I.D. x 1-1/4" O.D. (28.5 x 31.8mm) O-Ring	1	1
5	50CU1	4-1/2" I.D. x 5" O.D. x 1/2" (29.9 x 127 x 12.7mm) U-Cup	2	---
6	40CU3	4" (101.6mm) U-Cup	---	2
7	50PB2	5" O.D. x 1-1/4" I.D. (127 x 31.8mm) Piston	1	---
8	40PB7	4" O.D. x 1-1/4" I.D. (101.6 x 31.7mm) Piston	---	1
9	10NU3	1-1/4" (31.8mm) U.N.F. Hex Lock Nut	1	1
10	100R14	4-1/2" I.D. x 5" O.D. (29.9 x 127mm) O-Ring	1	---
	100R17	3-5/8" I.D. x 4" O.D. (92.1 x 101.6mm) O-Ring	---	1
	50HP1	5" O.D. x 1-3/4" I.D. (127 x 44.4mm) Head Plate	1	---
	40HP4	4" O.D. x 1-3/4" I.D. (101.6 x 44.4mm) Head Plate	---	1
	10RS3	1-3/4" I.D. x 2-1/8" O.D. x 3/8" (44.4 x 54.0 x 9.39mm) Rod Seal	1	1
	10WS3	1-3/4" I.D. x 2-1/8" O.D. x 3/16" (44.4 x 54.0 x 4.76mm) Wiper Seal	1	1

SEAL KIT

PART NO.	DESCRIPTION	QTY. REQ'D	CYLINDER NO.
5017N4	50CU1 - 4-1/2" I.D. x 5" O.D. x 1/2" (114 x 127mm x 12.7mm) U-Cup 100R14 - 4-1/2" I.D. x 5" O.D. (114 x 127mm) O-Ring 100R19 - 1-1/8" I.D. x 1-1/4" O.D. (28.5 x 31.8mm) O-Ring 100RS3 - 1-3/4" I.D. x 2-1/8" O.D. x 3/8" (44.4 x 54.0 x 9.39mm) Rod Seal 10WS3 - 1-3/4" I.D. x 2-1/8" O.D. x 3/16" (44.4 x 54.0 x 4.76mm) Wiper Seal 100R13 - 1" O.D. x 1-1/4" O.D. O-Ring (25.4 x 31.8mm)	2 1 1 1 1 1	242
4017N4	40CU3 - 4" (101.6mm) U-Cup 100R17 - 3-5/8" I.D. x 4" O.D. (92.1 x 101.6mm) O-Ring 100R19 - 1-1/8" I.D. x 1-1/4" O.D. (28.4 x 31.7mm) O-Ring 100RS3 - 1-3/4" I.D. x 2-1/8" O.D. x 3/8" (44.4 x 54.0 x 9.39mm) Rod Seal 10WS3 - 1-3/4" I.D. x 2-1/8" O.D. x 3/16" (44.4 x 54.0 x 4.76mm) Wiper Seal 100R13 - 1" O.D. x 1-1/4" O.D. O-Ring (25.4 x 31.8mm)	2 1 1 1 1 1	248
4020N4-0	100R18 - 1" O.D. x 7/8" I.D. (25.4 x 22.2mm) O-Ring 100R17 - 4" O.D. x 3/16" (101.6 x 4.76mm) O-Ring 40PS1 - 4" (101.6mm) Piston Seal Assembly 10RS2 - 2-3/8" O.D. x 2" I.D. x 3/8" (60.2 x 50.8 x 9.39mm) Rod Seal 10WS6 - 2-1/2" O.D. x 2" I.D. x 3/8" (63.5 x 50.8 x 9.39mm) All Urethane Wiper Seal	1 1 1 1 1	306
3517N4-0	100R18 - 1" O.D. x 7/8" I.D. (25.4 x 22.2mm) O-Ring 100R8 - 3-1/2" O.D. x 3/16" (88.9 x 4.76mm) O-Ring 35PS1 - 3-1/2" (88.9mm) Piston Seal Assembly 10RS3 - 1-3/4" I.D. x 2-1/8" O.D. x 3/8" (44.4 x 54.0 x 9.39mm) Rod Seal 10WS10 - 1-3/4" I.D. x 2-1/8" O.D. x 1/4" (44.4 x 54.0 x 6.35mm) All Urethane Wiper Seal	1 1 1 1 1	305
3017N4-0	100R18 - 1" O.D. x 7/8" (25.4 x 22.2mm) I.D. O-Ring 100R3 - 3" O.D. x 3/16" (76.2 x 4.76mm) O-Ring 30PS1 - 3" (76.2mm) Piston Seal Assembly 10RS3 - 1-3/4" I.D. x 2-1/8" O.D. x 3/8" (44.4 x 54.0 x 9.39mm) Rod Seal 10WS10 - 1-3/4" I.D. x 2-1/8" O.D. x 1/4" (44.4 x 54.0 x 6.35mm) All Urethane Wiper Seal	1 1 1 1 1	304

MODEL 4600 DISC



MAIN ROCKSHAFT CYLINDER - 4-1/2" (114.3mm) x 24" (610mm) CYLINDER - #330

REF. NO.	PART NO.	DESCRIPTION	QTY. REQ'D
1	45TU1	Tube Assembly - 4-1/2" (114.3mm) x 24" (610mm)	1
2	10SH60	Shaft - 2" (50.8mm) x 24" (610mm)	1
3	100R18	1" (25.4mm) O.D. x 7/8" (22.2mm) I.D. O-Ring	1
4	100R37	4-1/2" (114.3mm) O.D. x 3/16" (4.76mm) O-Ring	1
5	45PB1	Piston - 4-1/2" (114.3mm) O.D. x 1" (25.4mm) I.D.	1
6	45PS1	4-1/2" (114.3mm) O.D. Piston Seal Assembly	1
7	10NU4	1" (25.4mm) - 14 N.F. Hex Nut	1
8	45HP5	Head Plate - 4-1/2" (114.3mm) O.D. x 2" (50.8mm) I.D.	1
9	10RS2	Rod Seal - 2-3/8" (60.2mm) O.D. x 2" (50.8mm) I.D. x 3/8" (9.39mm)	1
10	10WS6	Wiper Seal - 2-1/2" (63.5mm) O.D. x 2" (50.8mm) I.D. x 3/8" (9.39mm) - All Urethane	1

SEAL KIT

PART NO.	DESCRIPTION	QTY. REQ'D	CYLINDER NO.
4520N4-0	100R18 - 1" (25.4mm) O.D. x 7/8" (22.2mm) I.D. O-Ring	1	330
	100R37 - 4-1/2" (114.3mm) O.D. x 3/16" (4.76mm) O-Ring	1	
	45PS1 - 4-1/2" (114.3mm) Piston Seal Assembly	1	
	10RS2 - 2-3/8" (60.2mm) O.D. x 2" (50.8mm) I.D. x 3/8" (9.39mm) Rod Seal	1	
	10WS6 - 2-1/2" (63.5mm) O.D. x 2" (50.8mm) I.D. x 3/8" (9.39mm) All Urethane Wiper Seal	1	

NOTE: ABOVE CYLINDER IS USED ON LOW PRESSURE SYSTEMS ONLY. WHEN USED, IT IS INSTALLED ON THE MAIN FRAME WITH 4" x 24" (101.6mm x 609.6mm) AND 3-1/2" X 24" (88.9mm x 609.6mm) CYLINDER USED ON WINGS.