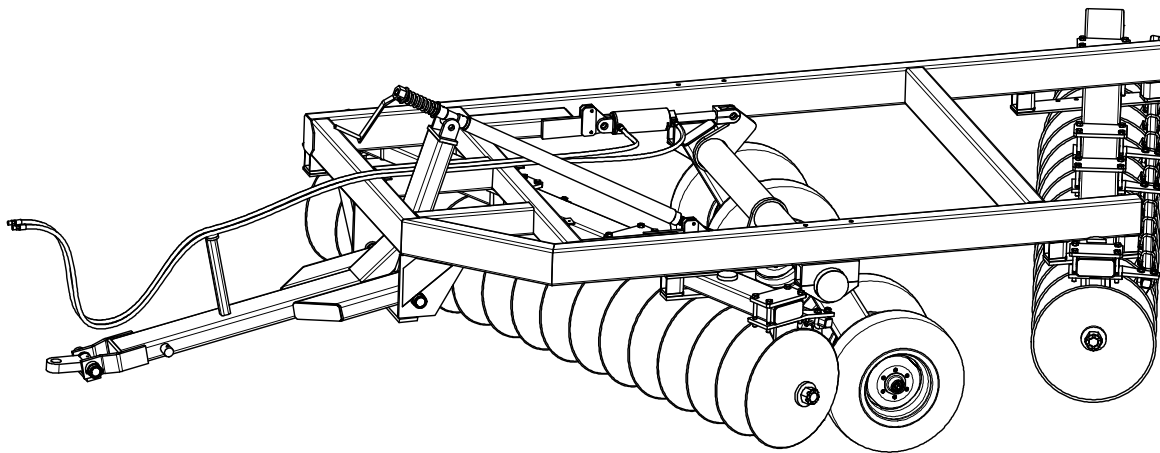


**1012, 1014, 1016 & 1018 RIGID DISCS**

REVISION C



**OPERATING INSTRUCTIONS  
AND  
PARTS CATALOG**

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# **BIG G OFFSET DISC USES**

Big G 1000 series offset discs are designed to incorporate crop residue and growing plants into the soil and prepare the field for further cultivation and planting.

Big G 1000 series offset disc gang angles are adjustable to produce a wide range of field finishes. The rear gang can be adjusted shallower to produce a finer finish. The front gang can be adjusted steeper for aggressively cutting into soil.

Big G 1000 series offset disc are designed with 4X8X1/4 rectangular tubing on the frame for the most rugged operations. The 6" Schedule 80 round steel tube and 4X8X3/8 rectangular tubing used in the rockshaft construction ensure that the wheel assembly can take the stresses caused by rough terrain and pulling operations.

## **INSPECTION PRIOR TO INITIAL USE**

1.   Make certain all bolts holding wheel to hub, torque to 125 FT/LBS.
2.   Check tightness of bolts which hold wheel spindles.
3.   Check Tire Pressure: Tire pressure meets tire ply rating specification.
4.   Check tightness of all bolts which hold the gangs to the disc frame.
5.   Check that both disc gangs are tightened properly.
6.   Check that the hydraulic lift cylinder fittings aren't leaking fluid.
7.   Check that the hydraulic lift cylinder lug bolts are tightened.
8.   Check that the leveling screw bolts are tightened.
9.   Check that the drawbar and tongue pins have retainer bolts.
10.   Check that all lubrication points have been lubricated.

# OPERATING INSTRUCTIONS

## PRIOR TO INITIAL USE:

- **LIFT CYLINDER PRIMING**

If the implement hydraulic system has never been used, stored over a period of time, or disassembled for any reason, unpin the rod end of the hydraulic cylinder so the rod end will clear frame members or lugs when fully extended during this procedure. Back the tractor to the front of the disc and connect the hydraulic hoses to the tractor. Check tractor hydraulic reservoir and make sure it is full of the manufacturer's recommended oil. If you are sure the implement hydraulic hose connections are tight, begin filling the system by extending and retracting the hydraulic cylinder. Hold the control lever open and pause at the end of each stroke of the cycles until the hydraulic cylinder responds with immediate solid actuation. When you are sure the system is free of air, pin the rod end of the hydraulic cylinder to the implement cylinder lug.



**DANGER**

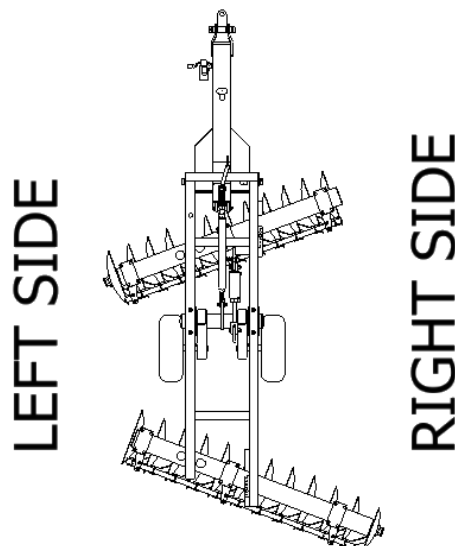
**DANGER: HIGH PRESSURE FLUID FLOW CAN PENETRATE SKIN. IF INJURED BY ESCAPING HYDRAULIC FLUID, SEE A DOCTOR AT ONCE. SERIOUS INFECTION OR REACTION CAN DEVELOP IF PROPER TREATMENT IS NOT ADMINISTERED IMMEDIATELY.**

- **TRACTOR DRAW BAR POSITION**

Big G offset discs perform best when tractor draw bar is pinned or "stiff-hitched." The offset disc is designed for tractor draw bar, height 12" to 18". Make necessary adjustments on tractor draw bar to arrive at this height.

- **IMPLEMENT ORIENTATION**

All parts and references to side of the disc are as shown below.



## MAINTANENCE:

- **GENERAL MAINTENANCE**

All nuts should be checked and tightened after the first half day of operation, and periodically thereafter. Keep tires inflated to recommended pressure, and check the wheel bolts until they are fully seated. Hydraulic hoses should be checked for worn and pinched areas and replaced if necessary.



**DANGER: ALWAYS SET IMPLEMENT ON THE GROUND BEFORE WORKING UNDER FRAME AND BLADES**

- **TIRE PRESSURE**

Tire air pressure should be maintained at the specified pressure for the load rating or ply of the tire. This can be found on the side wall of the tire. EX: Most offset discs have factory installed 8-ply 11.5L-15SL BKT tires. These 8-ply tires are rated to be filled to 36 psi. A tire pressure of 36 psi should be maintained.

- **LUBRICATION**

Gang bearings are a re-greasable, sealed unit bearing. One or two pumps of grease after every 16 hours of operation are recommended. Grease lift arm pins, wing hinges and hitch zerks daily. Wheels hubs should be periodically inspected to ensure that grease hasn't escaped through damaged seals and that contaminants have been repelled. If grease has escaped the damage should be repaired and grease added to hub. If contaminants are getting in the hub, the hub should be repaired and grease replaced as needed.

- **WHEEL BEARINGS**

Check for excessive end play each time bearings are greased. Once a year, clean and re-pack wheel bearings with WP#2 grease. Replace seals each time bearings are removed. Replace any worn or damaged parts. After re-packing replace hub with seal and rear bearings already assembled. Use light oil on seal surface and use extreme care when pushing seal over spindle. Install outer bearing, flat washer, and slotted hex nut. Tighten nut while turning hub until there is resistance to rotation. Then back off nut from 1 to 2 slots until hub turns freely without end play. Secure nut with clinched cotter pin.

- **GANG BEARINGS**

Gang bearings should be greased after the first 8 hours of operation, every subsequent 16 hours of operation, and at each usage after the machine has been idle for a long period of time. The bearing should be greased immediately following use in water, such as rice land, in amounts to purge the bearings of water and contaminated grease. Always make certain that the grease gun tip and the grease fittings are wiped clean before greasing so that no dirt is pumped into the bearing. Use No. 2 multi-purpose gun grease. Gang bearings are triple sealed ball bearings. There is no adjustment required in these bearings.

- **LOOSE GANG NUTS**

Check the gang units regularly for tightness. If they become loose, tighten 2" nut with the provided knocker wrench. Lock in place with 3/8" bolt.



**WARNING: Loose gang nuts/loose blades will result in damage to blades, spools, gang shaft, and bearings under continued operation.**

- **PROCEDURE FOR CHANGING GANG BEARINGS AND DISC BLADES**

1. It is not necessary to disassemble entire gang to replace one or more bearings.
2. To replace bearings on either end of shaft, loosen gang nut with knocker wrench provided on disc frame and a 12 lb. sledge hammer.
3. Loosen bolts that hold bearing hanger assembly to gang beam.
4. Take gang nut off end of shaft followed by washers and half spools.
5. Slide bearing hanger off the end of shaft.
6. Install bearing housing onto bearing hanger.
7. Replace bearing hanger and bearing housing on gang shaft and replace bolts and tighten to where there is a gap about 1/8" from bottom of beam.
8. Loosen bolts on the remaining bearing hanger assemblies on that gang so there is a 1/8" gap between bearing hanger and gang beam.
9. Tighten gang nut on shaft to 1200 ft. lbs., or use knocker wrench and heavy sledge hammer.
10. To make sure gang is tight; blades will ring when tapped with a small hammer.
11. Make certain top of bearing hanger is parallel with bottom of gang beam before tightening clamp bolts. Note: If not done properly, bearings will be pre-loaded causing premature failure.
12. Tighten all bearing hanger clamp bolts making sure they are all tight and then re-tighten after 2 hours of operation in the field.
13. When changing center bearing hanger, it will be necessary to take scraper bar off as well as the end bearing hanger. Hold end of gang up by putting a chain around spools and hang to gang beam.
14. Re-tighten gang shaft after 30 minutes of operation.

Note: Use same procedure for replacing disc blades.

- **LOOSE WHEEL LUG BOLTS**

Frequently check to see that the wheel lug bolts are torqued 125 ft. lbs., particularly during the initial transporting and operation of the tillage tool.



**WARNING:** Loose lug bolts on wheels may result in the loss of a wheel and subsequent loss of control of the implement or tractor.

- **STORAGE**

Select a level area and set disc down on blocks to prevent the blades from settling into the ground. Retract all hydraulic cylinders to prevent cylinder rods from rusting. Coat the blades with a rust preventative. Inspect for worn or damaged parts and replace them as needed to avoid delays the next season. Check to be sure the hydraulic hose couplers are stored on top of the tongue and not left laying on the ground.

## IMPLEMENT ADJUSTMENTS:

- **LEVELING SCREW ADJUSTMENT**

If the rear of the disc is listing to the left, then lengthen the leveling screw to put the rear disc gang in deeper than it was previously. If the rear disc is listing to the right, then shorten the leveling screw to put the front disc gang in deeper than it was previously. When the implement is trailing straight the cutoff blade, the outer rear taper blade, will be running just outside of the ridge thrown by the outer blade on the front right. If this ridge is not reached properly, the machine will not do a level job. If it is over-reached, the ridge will be transferred instead of leveled.

- **DEPTH ADJUSTMENT**

Use stroke control collars (cylinder stops) to obtain the desired depth.

- **GANG ANGLE ADJUSTMENT**

The front gang is adjustable from 24° to 30° and the rear gang is adjustable from 12.2° to 23°. For breaking sod, sticky tough soil, and hard packed soils set the front gang forward using a greater gang angle to attack the soil and aggressively cut into the soil. For finer finishes the front gang should be in an average position and the rear should have a shallow gang angle.

- **GANG SHAFT TENSION**

The tightness of the gang shafts should be checked after the first hour of operation and at least every 6 hours thereafter. A gang knocker wrench is attached to the main frame to tighten the gang shaft nuts. A quick check of the blade tightness on the gang shaft, although not as satisfactory as checking nut tightness with the wrench, can be made by striking the blade with a hammer when the blades are off the ground. A tight blade will have a sharp ringing sound when struck by the hammer while a loose blade will have a dull ring when struck. It is extremely important that the shaft tightness be maintained. A loose shaft will damage blades, spools, shaft, and bearings if allowed to remain loose.

- **SCRAPER ADJUSTMENT**

For the best cleaning action in difficult conditions, the blade of the scraper should be set snug against the disc blade. The U-bolt of the scraper can be loosened to allow the side movement of the scraper on the scraper bar. In easy cleaning conditions, it may be desirable to have the end of the scraper against the disc blade. Trash guard type action may be had by moving the entire scraper somewhat away from the disc blade.

No scraper will do its best work until the disc blades are scoured on a new machine. A new machine needs to run shallow for a period of time to remove the paint and scour the insides of the blades before running deep. Never start operation of the machine while the blades are already in the ground. This is especially true in sticky soils. The spinning action of the blades is very helpful in ejecting soil from the blades. For this reason it is very important the machine be lowered into the soil after the tractor is at speed and not before. If the tractor has insufficient power or traction to keep the machine at speed in difficult conditions, the machine will have much more difficulty in keeping the disc blades clean.

## IMPLEMENT OPERATION:

- **ROADING SPEED**

Never road the machine at excessive speeds. MAXIMUM ROAD SPEED IS 20 MPH, AND SLOWER ON ROUGH ROADS. The Big G is a heavy unit, sudden impact at high road speeds will result in unusual pressure on the axle assembly and main frame of unit which can damage the implement.



NOTE: Wings should be pinned up and tie backs fastened at all times during roading.

- **FIELD SPEED**

Operating speeds in the field is 3 MPH to 6 MPH. In rocky conditions, the slower speed is recommended.

- **FIELD CORNERS**

Always raise the disc on corners when turning to the right.



WARNING: Damage to the disc can occur if disc is left in the ground while turning to the right.

- **FIELD OPERATION**

With the tractor moving at operational speeds, lower the disc into the soil using the remote hydraulic lever that corresponds to the port that the disc hydraulic hoses were attached. Proceed to work the field in a fashion that allows the right hand side of the disc to throw soil over the left side of the previous worked pass. Correct placement would be to have the right front disc blade just inside of the furrow left by the previous disc pass. Raise the disc when the work or pass is complete.



DANGER: MAINTAIN VISUAL OBSERVATION AHEAD OF THE TRACTOR AND IMPLEMENT TO AVOID ALL HAZARDS THAT LIE AHEAD OF THE IMPLEMENT'S PATH OF WORK.



DANGER: DO NOT OPERATE WITH PEOPLE STANDING IN THE IMMEDIATE VICINITY OF THE FIELD OPERATION. DEATH OR SERIOUS INJURY CAN RESULT FROM COLLISION.

# **1012 - 1018 OFFSET DISC SPECIFICATIONS**

- **TIRES:**

11L-15SL 8-PLY tire on a 15X10LB rim inflated to 36 PSI.

- **HYDRAULIC HOSE**

All hose should be ½" hose with minimum 3250 PSI pressure rating. The hoses installed at the factory and arriving with new units use Gates 8M3K Mega3000 hose with a 3250 PSI rating.

- **HYDRAULIC FLUID**

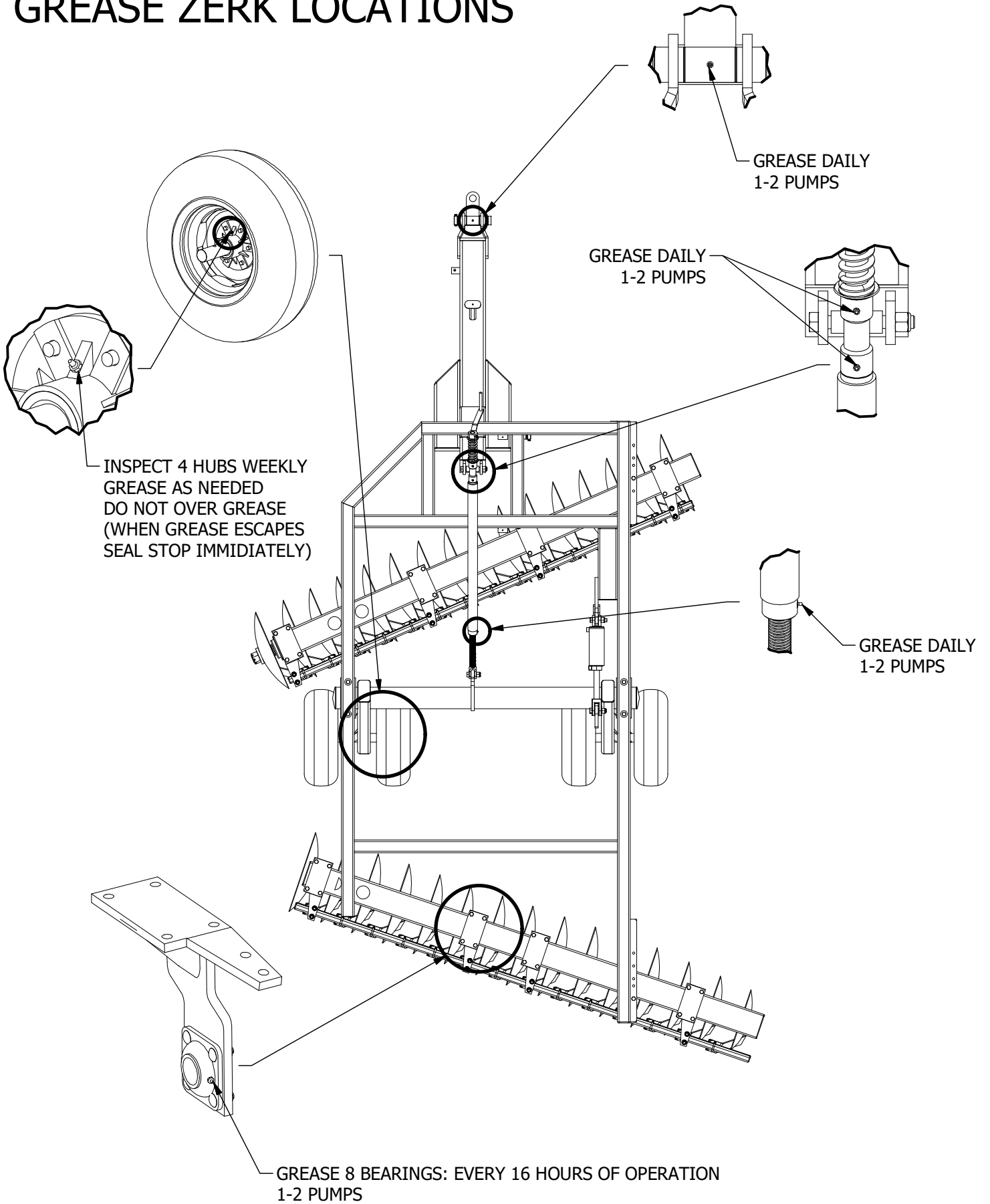
Recommended hydraulic fluid for system use is any SAE 20W hydraulic fluid

- **GREASE**

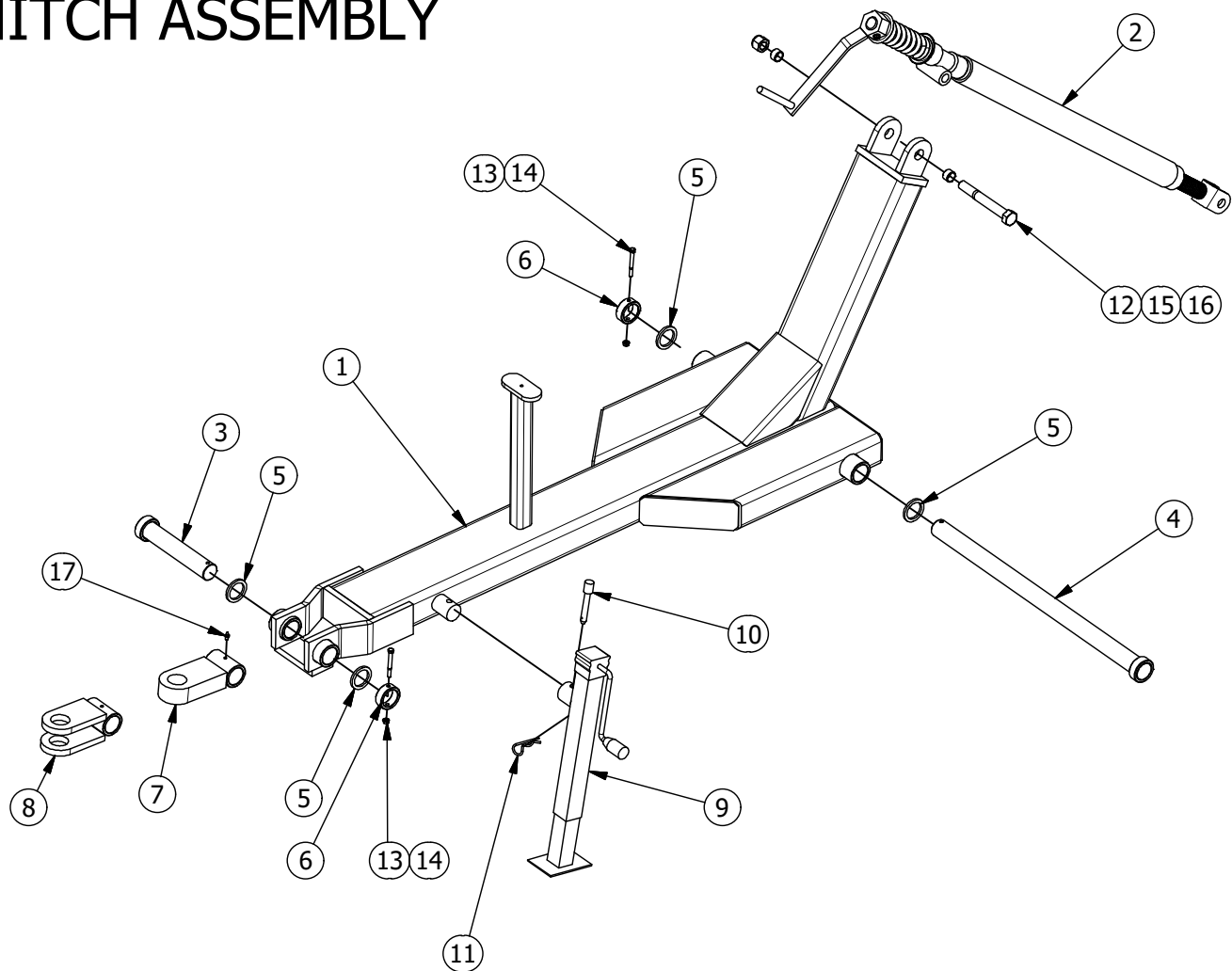
Recommended grease to use on bearings and grease points is any No. 2 multi-purpose grease



# GREASE ZERK LOCATIONS

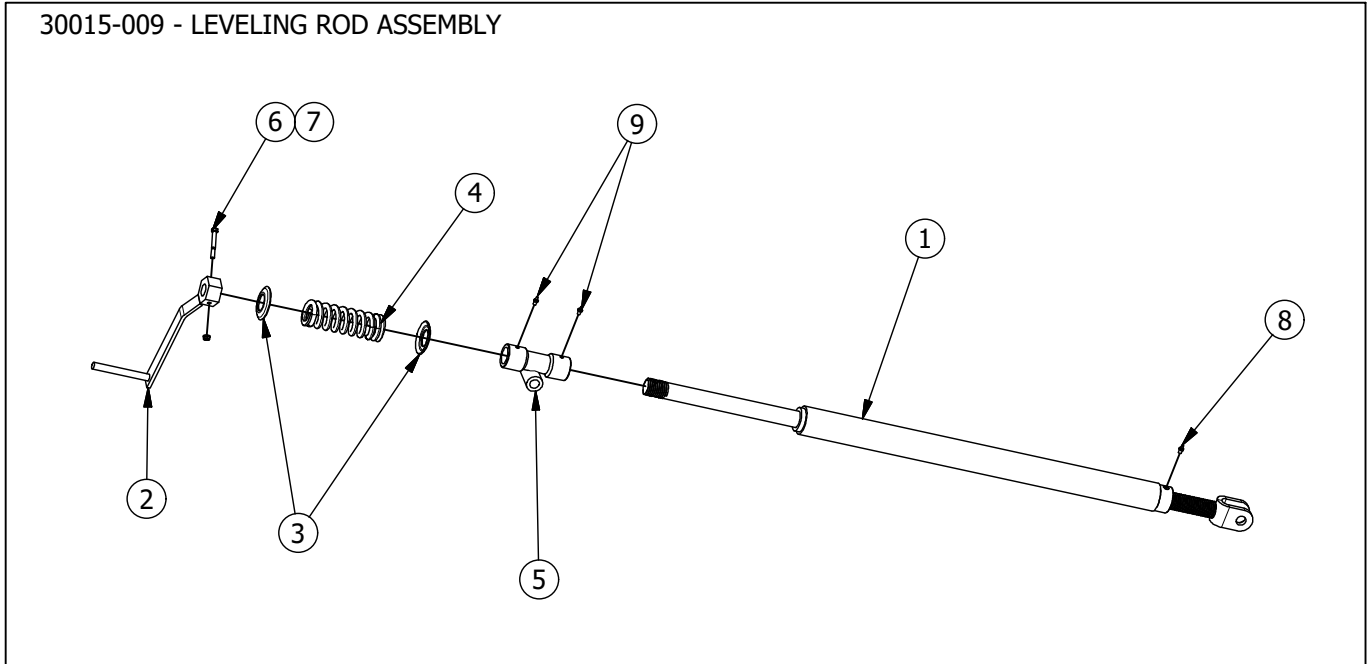


# HITCH ASSEMBLY



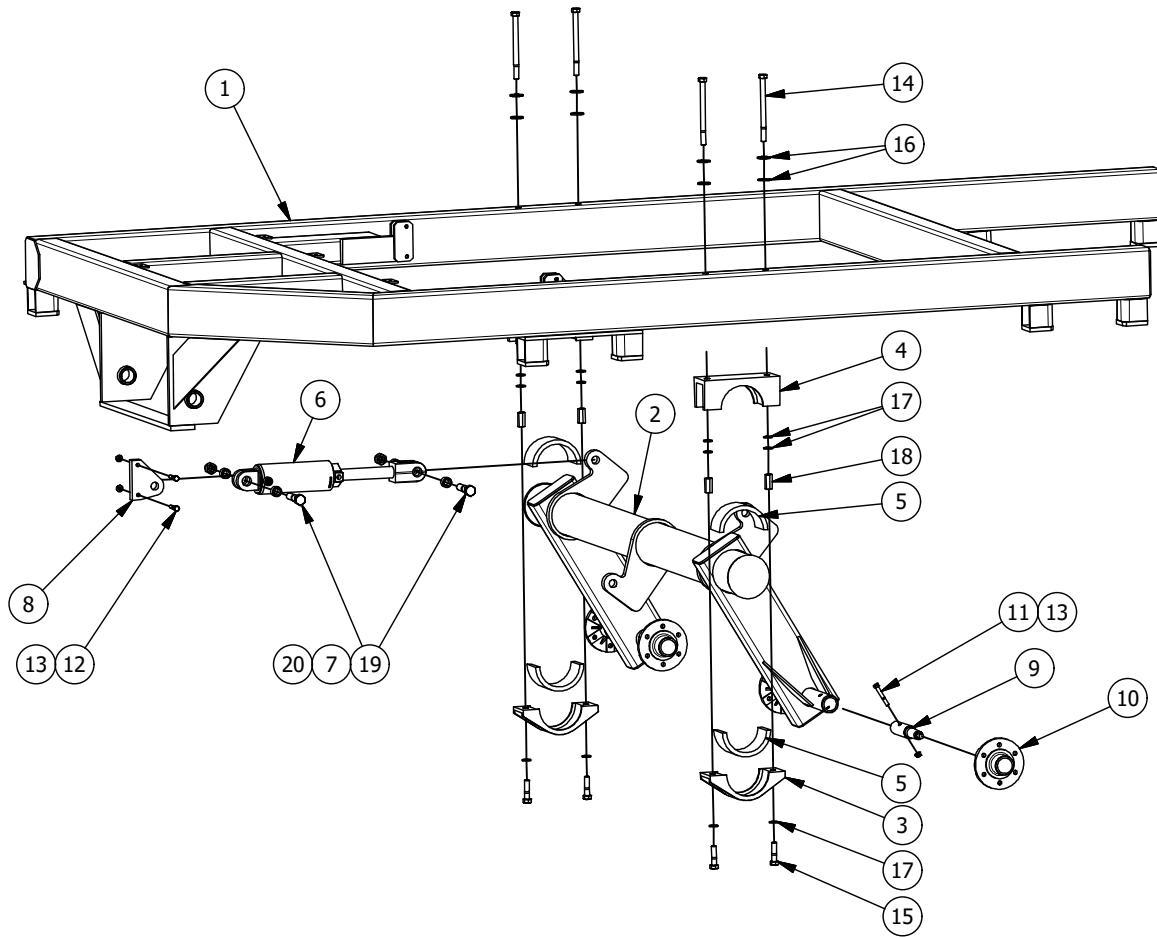
PARTS LIST			
ITEM	PART NUMBER	ITEM QTY	DESCRIPTION
1	10006-009	1	1000 SERIES TONGUE WELDMENT
2	30015-009	1	LEVELING ROD ASSEMBLY
3	10023-007	1	HITCH PIN
4	10023-008	1	DRAW BAR PIN
5	30025-006	4	2" BUSHING
6	12023-008	2	2" COLLAR
7	10006-010	1	BAR HITCH
8	10006-011	OPTIONAL	CLEVIS HITCH
9	HD 500	1	NORTHFIELD 5000# JACK
10	GLM - JACK PIN	1	JACK PIN
11	17056-002	1	HAIR PIN CLIP
12	CYL-1014	2	CYLINDER BUSHING 1 1/4" ( 1 X 1 1/4 X 1)
13	3/8-16 UNC X 3 1/2	2	HEX BOLT
14	3/8-16 UNC	2	HEX NUT
15	1-8 UNC X 8	1	HEX BOLT
16	1-8 UNC LOCK NUT	1	NYLOCK LOCK NUT
17	1/8-27 NPT	1	GREASE ZERK

# LEVELING ROD ASSEMBLY



PARTS LIST			
ITEM	PART NUMBER	ITEM QTY	DESCRIPTION
1	10015-008	1	LINKAGE TUBE WELDMENT
2	10015-002	1	LEVELING SCREW HANDLE
3	10015-003	2	SPRING RETAINER
4	10015-005	1	SPRING
5	10005-010	1	PIVOT TUBE
6	3/8-16 UNC X 3 1/2	1	HEX BOLT
7	3/8-16 UNC	1	HEX FLANGE NUT
8	1/4-28 STR. ZP	1	GREASE ZERK
9	1/8-27 NPT	2	GREASE ZERK

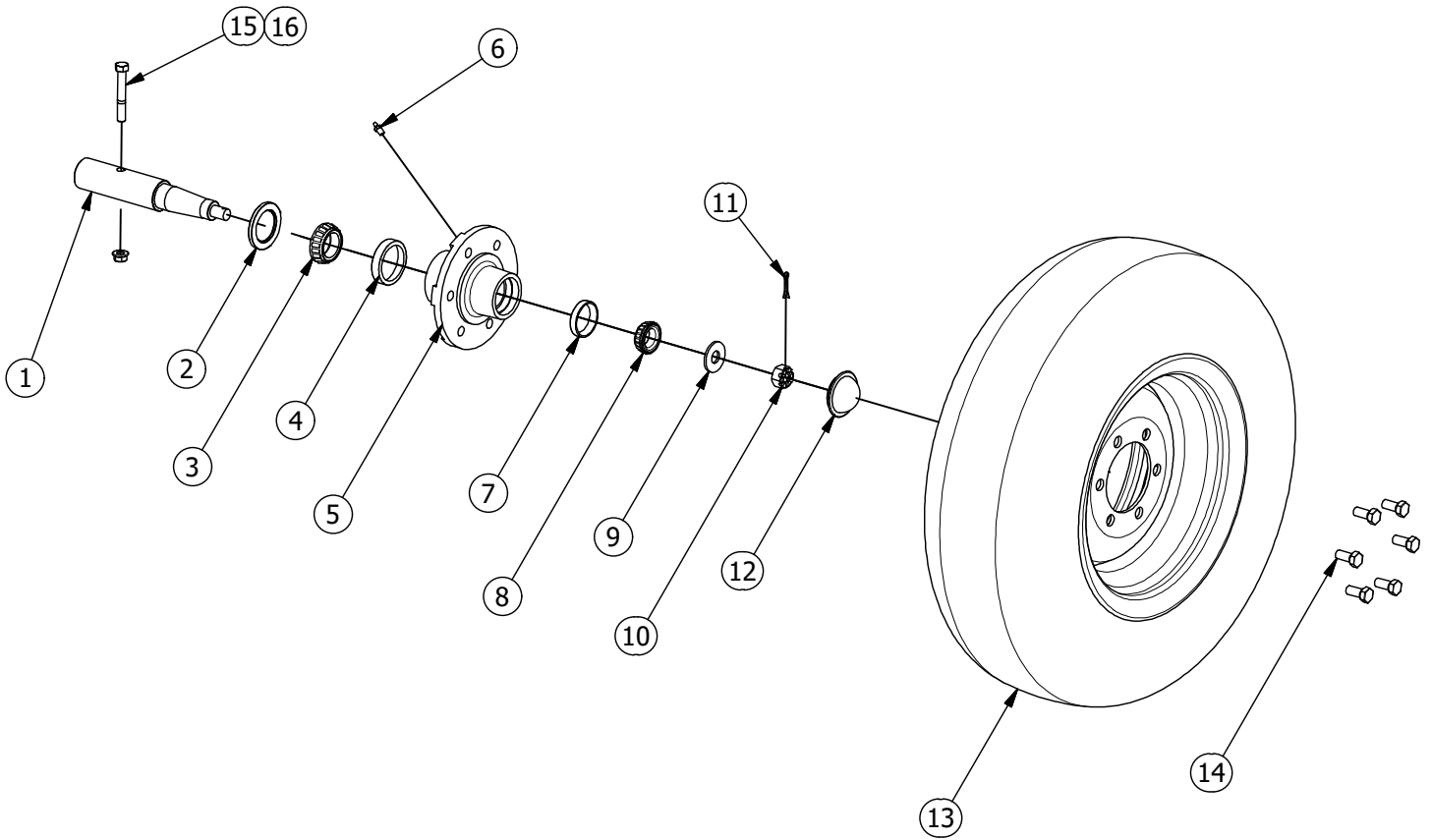
# ROCKSHAFT ASSEMBLY



PARTS LIST			
ITEM	PART NUMBER	ITEM QTY	DESCRIPTION
1	10001-009	1	MAIN FRAME - 1012, 1014, 1016 & 1018
2	10010-009	1	ROCKSHAFT - 1012
	10010-010	1	ROCKSHAFT - 1014, 1016 & 1018
3	1075-004NC	2	ROCKER SHAFT BEARING - CAP
4	1075-003NB	2	ROCKER SHAFT BEARING - BASE
5	MC-907 (PAIR)	4	ROCKER SHAFT BEARING - INSERT
6	4008-175	1 OR 2	4X8 HYDRAULIC CYLINDER
	5008-200*	OPTIONAL	5X8 HYDRAULIC CYLINDER
7	CYL-1000	4	CYLINDER BUSHING 1" (1 X 1 1/2 X 1)
8	10014-003	1	CYLINDER LUG PLATE
9	106169A	4	SPINDLE 2"
10	10018-018	4	COMPLETE HUB ASSEMBLY 6-BOLT
11	1/2-13 UNC X 3 1/2	4	HEX BOLT
12	1/2-13 UNC X 2 3/4	2	HEX BOLT
13	1/2-13 UNC	6	HEX FLANGE NUT
14	3/4-10 UNC X 10	4	HEX BOLT
15	3/4-10 UNC X 3	4	HEX BOLT
16	3/4 FLAT WASHER	7	FLAT WASHER
17	3/4 WEDGELOCK WASHER	12	WEDGELOCK WASHER
18	3/4 NC ZP	4	COUPLING UNIT
19	1-8 UNC X 4 1/2	2	HEX BOLT
20	1-8 UNC LOCKNUT	2	NYLOCK LOCKNUT

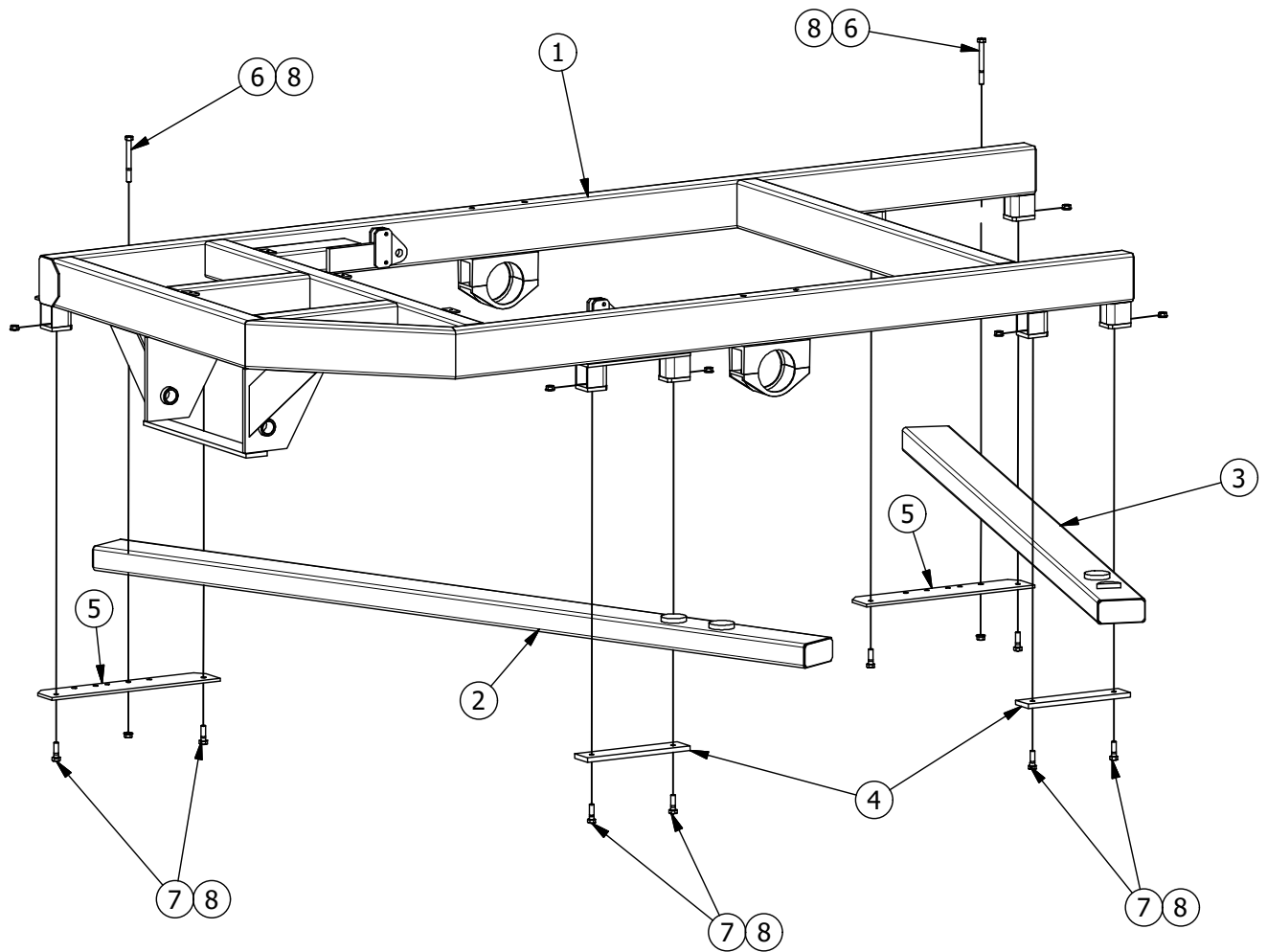
\* - 5X8 HYDRAULIC CYLINDER IS IDENTIFIED BY 2" DIAMETER CYLINDER ROD

# 35LM HUB ASSEMBLY



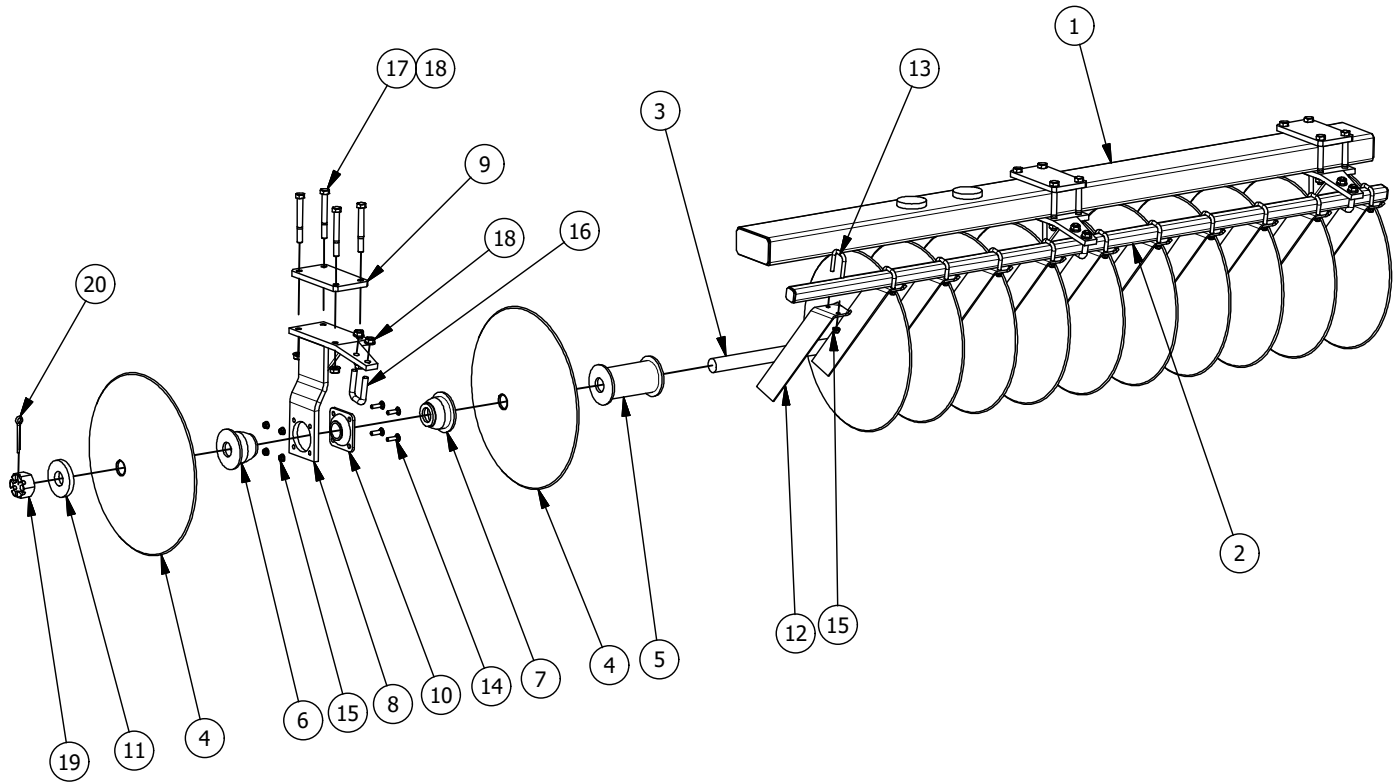
PARTS LIST			
ITEM	PART NUMBER	ITEM QTY	DESCRIPTION
1	106169A	1	SPINDLE - 2"
2	106166	1	TIMKEN 473463 SEAL
3	105771	1	TIMKEN LM501349 CONE
4	105770	1	TIMKEN LM501310 CUP
5	106164	1	HUB 6-BOLT (35LM 2")
6	1/4-28 STR. ZP	1	GREASE ZERK
7	104081	1	TIMKEN LM67010 CUP
8	104082	1	TIMKEN LM67048 CONE
9	104581	1	WASHER - 13/16" FLAT
10	103289	1	LOCK NUT - 3/4" (LM35/45)
11	5957	1	COTTER PIN (3/16 X 1 1/2)
12	103969	1	SMALL DUST CAP
13	11L-15 TIRE/WHEEL	1	TIRE/WHEEL ASSEMBLY
14	105144	6	LUG BOLT - 9/16-18 SAE
15	1/2-13 UNC X 3 1/2	1	HEX BOLT
16	1/2-13 UNC	1	HEX FLANGE NUT
1-14	10018-009		COMPLETE AXLE ASSEMBLY 6-BOLT
1-12	10018-019		HUB & SPINDLE ASSEMBLY 6-BOLT 2"
2-4, 7-12	10035LM WBA		WHEEL BEARING ASSEMBLY - CONES, CUPS, SEAL, CAP, WLNCP

# GANG BEAM ASSEMBLY



PARTS LIST			
ITEM	PART NUMBER	ITEM QTY	DESCRIPTION
1	10001-009	1	1012, 1014, 1016 & 1018 FRAME
2	SPECIFY BY LENGTH & MODEL	1	FRONT GANG BEAM
3	SPECIFY BY LENGTH & MODEL	1	REAR GANG BEAM
4	10022-008	2	GANG CLAMP PLATE
5	10024-001	2	ADJUSTABLE GANG CLAMP PLATE
6	3/4-10 UNC X 7	2	HEX BOLT
7	3/4-10 UNC X 2 1/2	8	HEX BOLT
8	3/4-10 UNC	10	HEX FLANGE NUT

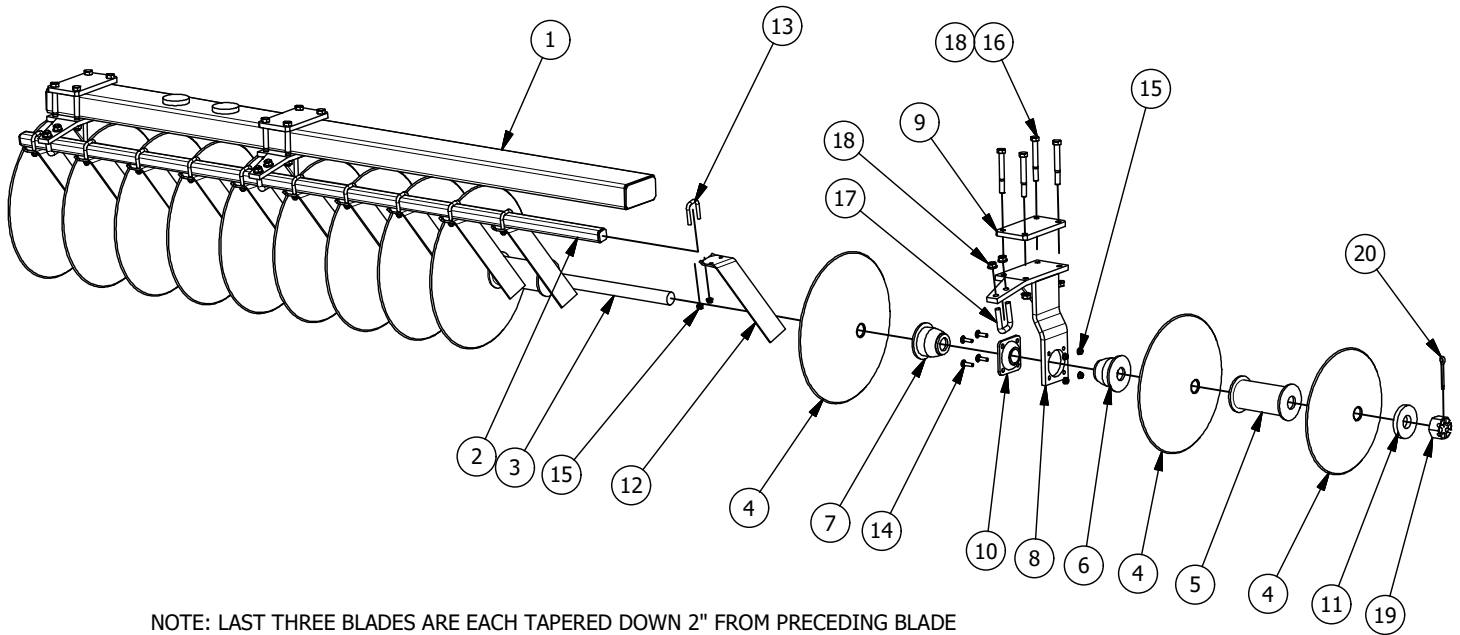
# FRONT DISC GANG ASSEMBLY



PARTS LIST			
ITEM	PART NUMBER	ITEM QTY	DESCRIPTION
1	SPECIFY BY LENGTH NEEDED & MODEL	1	FRONT GANG BEAM
2	SPECIFY BY LENGTH NEEDED	1	FRONT SCRAPER BAR
3	SPECIFY BY LENGTH NEEDED	1	GANG SHAFT
4	20-2844P 20-2843P	VARIES	26" BLADE - PLAIN 6 GA 24" BLADE - PLAIN 6 GA
5	1080-001 1081-001	VARIES	SPOOL 9" SPACING SPOOL 10" SPACING
6	1080-003U	VARIES	HALF SPOOL CONVEX UNI-BEARING
7	1080-002 1080-004	VARIES	HALF SPOOL CONCAVE 9" SPACING HALF SPOOL CONCAVE 10" SPACING
8	10007-029	VARIES	BEARING HANGER WELDMENT L.H. (211)
9	10007-001	VARIES	HANGER PLATE
10	10007-UNI	VARIES	211 UNI-BEARING
11	850-001 215175*	2 ALTERNATIVE	END WASHER (1") END WASHER (3/4")
12	10019-003	VARIES	L.H. SCRAPER
13	1/2 X 3 U-BOLT NC ZP	VARIES	U-BOLT
14	1/2-13 UNC X 1 3/4	VARIES	CARRIAGE BOLT
15	1/2-13 UNC	VARIES	HEX FLANGE NUT
16	3/4 X 3 1/2 U-BOLT	VARIES	U-BOLT
17	3/4-10 UNC X 6 1/2	VARIES	HEX BOLT
18	3/4-10 UNC	VARIES	HEX FLANGE NUT
19	10019-007	2	SLOTTED HEX NUT (2")
20	3/8 X 3 1/2 ZP	2	COTTER PIN

\* - BIG G DRAWING NUMBER

# REAR DISC GANG ASSEMBLY



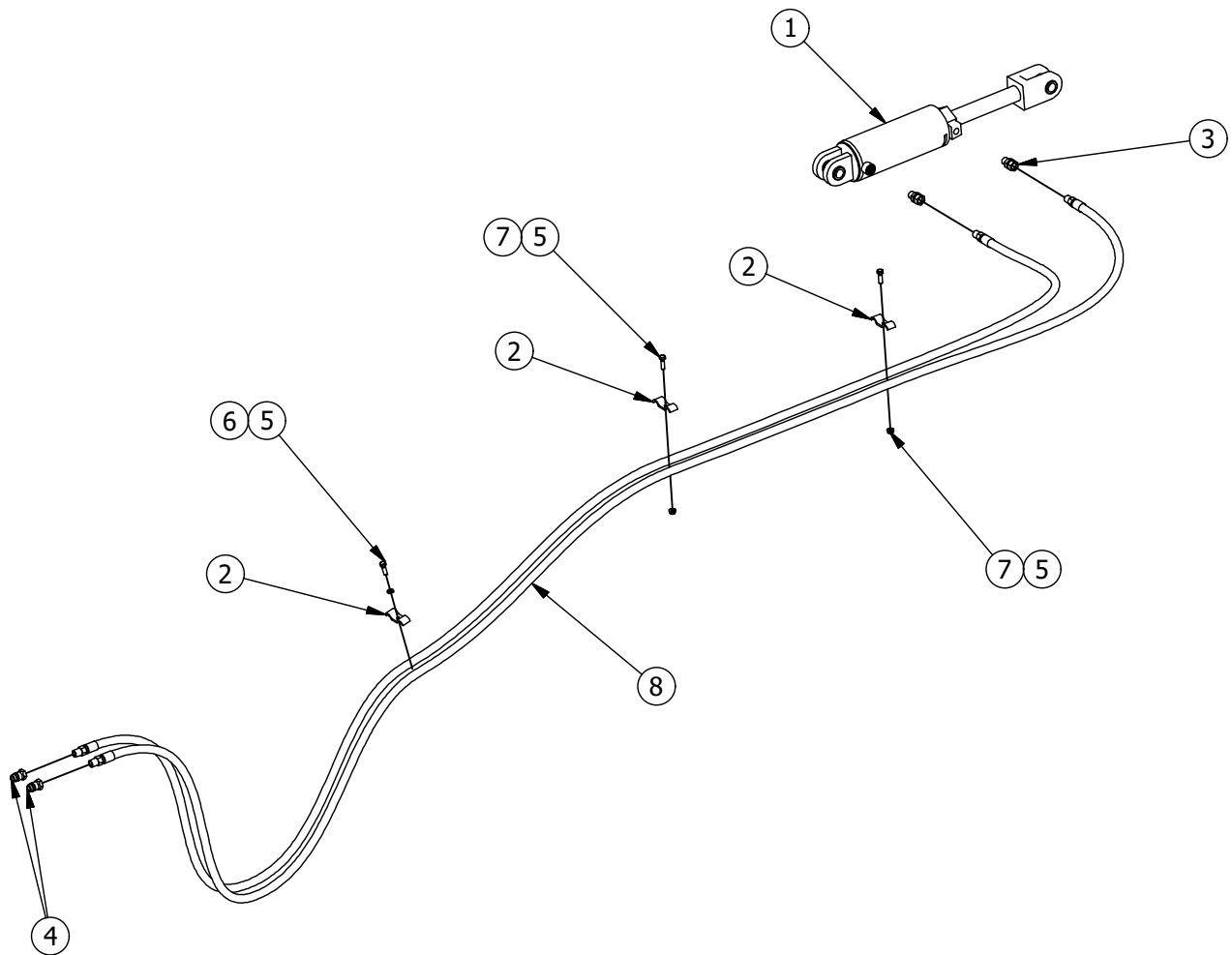
NOTE: LAST THREE BLADES ARE EACH TAPERED DOWN 2" FROM PRECEDING BLADE

PARTS LIST			
ITEM	PART NUMBER	ITEM QTY	DESCRIPTION
1	SPECIFY BY LENGTH NEEDED & MODEL	1	REAR GANG BEAM
2	SPECIFY BY LENGTH NEEDED	1	REAR SCRAPER BAR
3	SPECIFY BY LENGTH NEEDED	1	GANG SHAFT
4	20-2844P 20-2843P 20-2873P 21-2965P 21-8267P 20-6036N 20-2985N	VARIABLES	26" BLADE - PLAIN 6 GA 24" BLADE - PLAIN 6 GA 22" BLADE - PLAIN 6 GA 20" BLADE - PLAIN 6 GA 18" BLADE - PLAIN 6 GA 26" BLADE - NOTCHED 1/4 24" BLADE - NOTCHED 1/4
5	1080-001 1081-001	VARIABLES	SPOOL 9" SPACING SPOOL 10" SPACING
6	1080-003U	VARIABLES	HALF SPOOL CONVEX UNI-BEARING
7	1080-002 1080-004	VARIABLES	HALF SPOOL CONCAVE - 9" SPACING HALF SPOOL CONCAVE - 10" SPACING
8	10007-030	VARIABLES	BEARING HANGER WELDMENT R.H. (211)
9	10007-001	VARIABLES	HANGER PLATE
10	10007-UNI	VARIABLES	211 UNI-BEARING
11	850-001 215175*	2 ALTERNATIVE	END WASHER (1") END WASHER (3/4")
12	10019-004	VARIABLES	R.H. SCRAPER
13	1/2 X 3 U-BOLT NC ZP	VARIABLES	U-BOLT
14	1/2-13 UNC X 1 3/4	VARIABLES	CARRIAGE BOLT
15	1/2-13 UNC	VARIABLES	HEX FLANGE NUT
16	3/4-10 UNC X 6 1/2	VARIABLES	HEX BOLT
17	3/4 X 3 1/2 U-BOLT	VARIABLES	U-BOLT
18	3/4-10 UNC	VARIABLES	HEX FLANGE NUT
19	10019-017	2	SLOTTED HEX NUT (2")
20	3/8 X 3 1/2 ZP	2	COTTER PIN

\* - BIG G DRAWING NUMBER



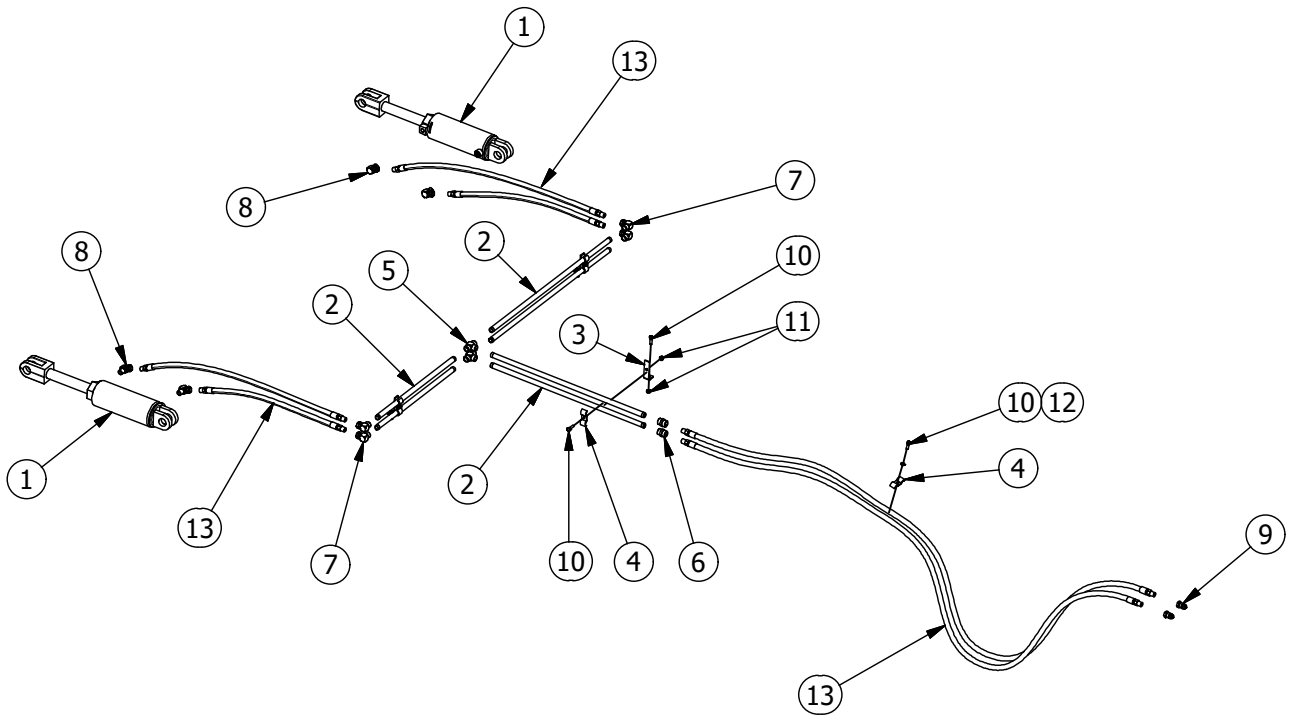
# HYDRAULIC ASSEMBLY



PARTS LIST			
ITEM	PART NUMBER	ITEM QTY	DESCRIPTION
1	4008-175 5008-200*	1 OPTIONAL	4X8 HYDRAULIC CYLINDER 5X8 HYDRAULIC CYLINDER
2	10025-002	3	PIPE CLAMP
3	2H0108-08	2	1/2 MALE NPTF TO 1/2 FEMALE NPSM STRAIGHT ADAPTER
4	GLM-000PC	2	PIONEER COUPLER - MALE
5	3/8-16 UNC X 1 1/4	3	HEX BOLT
6	3/8 LOCK WASHER	1	LOCK WASHER
7	3/8-16 UNC	2	HEX FLANGE NUT
8	SPECIFY BY LENGTH & ENDS	2	1/2" HYDRAULIC HOSE

\*- 5X8 HYDRAULIC CYLINDER IS IDENTIFIED BY 2" CYLINDER ROD

# 2-CYLINDER HYDRAULIC ASSEMBLY



PARTS LIST			
ITEM	PART NUMBER	ITEM QTY	DESCRIPTION
1	4008-175 5008-200*	2 OPTIONAL	4X8 HYDRAULIC CYLINDER 5X8 HYDRAULIC CYLINDER
2	SPECIFY BY LENGTH NEEDED	2	1/2 BLACK PIPE - 1/2 MALE NPTF BOTH ENDS
3	30025-005	4	PIPE BRACKET - SHORT
4	10025-002	5	PIPE CLAMP
5	FOFF-08-08-08	2	1/2 FEMALE NPTF PIPE TEE
6	2H128F-8F	2	1/2 FEMALE NPTF TO 1/2 FEMALE NPTF UNION
7	2H0408-08	4	1/2 FEMALE NPTF TO 1/2 FEMALE NPSM 90 ELBOW
8	2H0308-08	4	1/2 MALE NPTF TO 1/2 FEMALE NPSM 90 ELBOW
9	GLM-000PC	2	PIONEER COUPLER - MALE
10	3/8-16 UNC X 1 1/4	9	HEX BOLT
11	3/8 - 16 UNC	8	HEX FLANGE NUT
12	3/8 LOCK WASHER	1	3/8 LOCK WASHER
13	SPECIFY BY LENGTH AND ENDS	1	1/2 HYDRAULIC HOSE ASSEMBLY

\*- 5X8 HYDRAULIC CYLINDER IS IDENTIFIED BY A 2" DIAMETER CYLINDER ROD

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## WARRANTY

Greenline, Inc. warrants each product (except tires) manufactured by it shall be free from defects in material and workmanship. This warranty shall be limited to making good, F.O.B. Factory, any part which under normal and proper use and maintenance proves defective in material and workmanship within one year (12 months) after date of delivery to original buyer, provided that notice of such defect and satisfactory proofis promptly given by the Buyer to the Seller and such part is returned with transportation charges prepaid and Factory examination proves such part to have been defective. It is understood that Buyer shall bear the expense of installation and will pay for travel time if he chooses to have product repaired at another location. This warranty does not apply to any product that been subject to overloading, misuse, negligence or accident, nor to any part that shall have been repaired, altered, or using parts not sold or approved by Green Line, Inc. This warranty is the only warranty applicable and is expressly in lieu of any warranties otherwise implied, and in no even shall the Seller or the Manufacturer be liable for consequential or special damages and neither assumes nor authorizes anyone to assume for any of them any additional liability in connection therewith.



In the interest of technical development, we reserve the right to make changes without notice at anytime in design, equipment, specifications, materials and prices, without obligation to incorporate such improvements in any products which have been shipped or are in service.