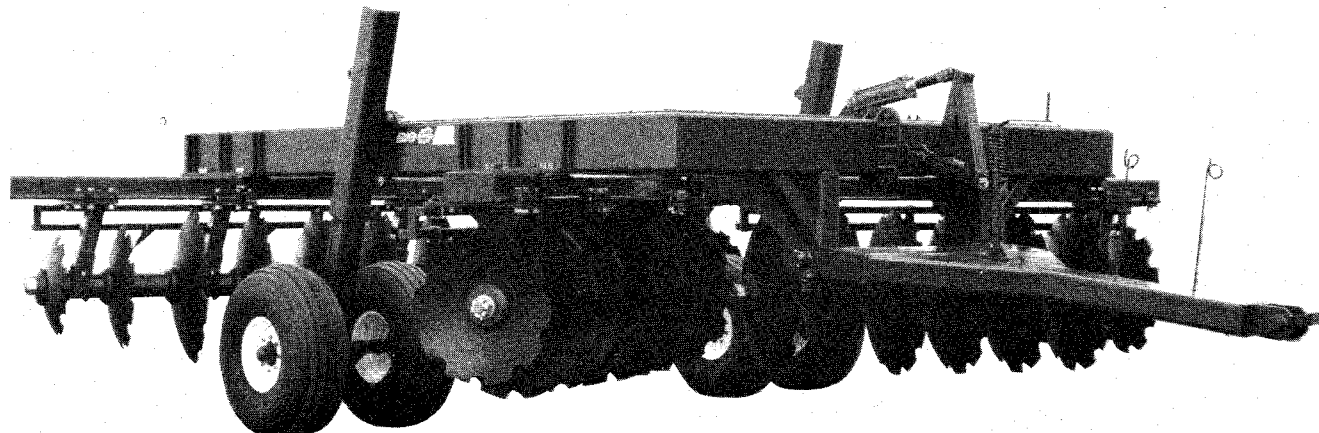




SUPER DUTY 1800 SERIES RIGID DOUBLE OFFSET DISC



OPERATING INSTRUCTIONS AND PARTS CATALOG

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MACHINE INSPECTION PRIOR TO INITIAL USAGE

1. Make certain that all bolts which hold the wheel to the hub are torqued to 125 ft. lbs.
2. Check tightness of the bolts which hold the wheel spindles into the spindle tube.
3. Check tire pressures. Pressure should be 90 psi if equipped with 24 ply or more aircraft tire.
4. Check tightness of bolts which hold the main carrier wheel to the side of the disc frame.
5. Check tightness of all nuts on the clamp units which hold the gang sections to the disc frame on both sides of the gang beams.
6. The top plate on all gang bearing hangers must be setting flat to the gang beams. If not setting flat, loosen the clamping bolts and move the upper end of that bearing hanger bracket with a hammer and a wood block to achieve the best possible fit. Re-tighten the clamp bolts.
7. Check the gang shaft nuts. They should be torqued to 1500 ft. lbs.
8. With the exception of the gang bearings and wheel bearings that have been pre-lubricated, make certain that all other lubrication points have been lubricated prior to operation.

OPERATING INSTRUCTIONS

TRACTOR DRAW BAR

4-wheel drive tractors cause severe side strain on tractor and disc unless the drawbar is free to swing. Always allow drawbar to swing during field operation.

ROAD SPEED

Never road the machine at excessive speeds. Maximum road speed is 20 MPH and slower on rough roads. The Big 5 is an extremely heavy unit and sudden impact at high road speeds will result in unusual pressure on the axle assembly and main frame of the unit. Road lock pins should be put in vertical struts for transport. Tractor drawbar must also be pinned for transport.

FIELD SPEED

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

ON FIELD CORNERS

Always raise the disc on corners.

SERVICING

GENERAL MAINTENANCE

All nuts should be checked and tightened after the first 1/2 day of operation, and periodically thereafter. Keep tires inflated to the recommended pressure, and check the wheel bolts until they are firmly seated. Hydraulic hoses should be checked for worn and pinched areas and replaced if necessary.

LUBRICATION

The initial lubrication of grease fittings will assure long life and satisfactory performance from the disc. Use a multi-purpose type grease at all grease zerk locations after each 6 hours of operation.

WHEEL BEARINGS

Grease wheel bearings every 2 hours of use. 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 the 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 pins.

GANG BEARINGS

Gang bearings should be greased after the first 8 hours of operation, each subsequent 16 hours, and at each usage after the machine has been idle for a long period of time. The bearings should be greased immediately following use in water such as riceland 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 put into the bearing. Use a good multi-purpose gun grease. Gang bearings are a double row timken bearing in a sealed housing. There is no adjustment required in the bearing.

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. The bolts may work loose resulting in the loss of a wheel and subsequent loss of control of the tool and/or tractor.

TIRE PRESSURES

Tire pressures should be maintained at 90 PSI.

DISC SHAFT TIGHTNESS

The tightness of the gang shafts should be checked after the first hour of operation and at least every 6 hours thereafter. A large 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 striking the blades with a hammer when the blades are off of 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.

SCRAPERS

For the best cleaning action in difficult conditions, the blade of the scraper should be set snug against the disc blade. The two upper clamp bolts loosen to allow side movement of the scraper on the beam. In easy cleaning conditions, it may be desirable to have the point of the scraper blade against the disc blade with the rear portion set away from the blade to allow trash clearance. Trash guard type action may be had by moving the entire shank unit somewhat away from the disc blade.

NOTE: 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 disc blades is very helpful in ejecting soil from the blades. For this reason it is very important that the machine be lowered into the soil after the tractor is at speed and not before. If a 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. The machine must also be trailing straight for the blades to clean properly.

HYDRAULICS

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 cylinder and support the cylinder so the rod end will clear frame members or lugs when fully

extended. 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 cylinder. Hold the control lever open and pause at the end of each stroke of the cycles until the cylinder responds with immediate solid actuation. When you are sure the system is free of air, pin the rod end of the cylinder to the implement cylinder lug.

WARNING!!!

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.

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.

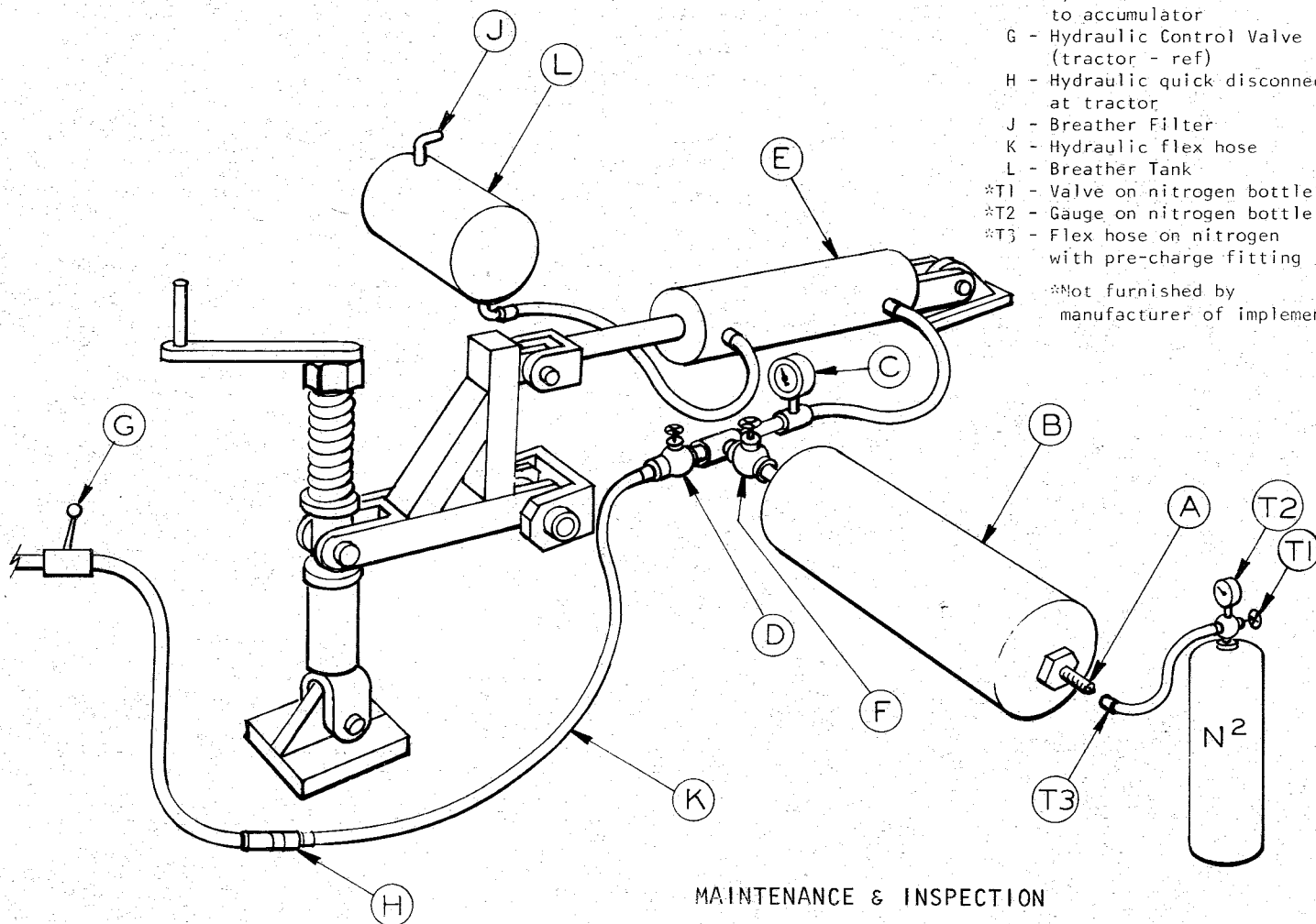
PROCEDURE FOR CHANGING GANG BEARINGS AND DISC BLADES

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 and a 12 lb. sledge hammer.
3. Loosen 1 1/4" bolts that hold bearing hanger assembly to gang beam.
4. Take 2 3/4" gang nut off end of shaft followed by washers and half spools.
5. Slide bearing hanger off the end of shaft.
6. Install trunion mount and bearing housing onto bearing hanger.
7. Replace bearing hanger and bearing housing on gang shaft and replace 1 1/4" bolts and tighten to where there is a gap about 1/8" from bottom of beam.
8. Loosen 1 1/4" bolts on the remaining bearing hanger assemblies on that gang so there is 1/8" gap between bearing hanger and gang beam.
9. Tighten gang nut on shaft to 1500 ft. lbs. or use knocker wrench and heavy sledge hammer.
10. To make sure the 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 1 1/4" 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 the scraper bearing hangers off as well as the end bearing hanger. Hold end of gang up by putting a chain around spools and hanging to hang beam.
14. Re-tighten gang shaft after 30 minutes of operation. Note: Use same procedure for replacing disc blades.

OPTIONAL HYDRAULIC ACCUMULATOR

ITEM DESCRIPTION

- A - Nitrogen Pressure Port & shutoff valve
 - B - Accumulator
 - C - 3000 PSI Oil Gauge
 - D - Hydraulic Shutoff valve to tractor
 - E - Hydraulic Cylinder
 - F - Hydraulic Shutoff Valve to accumulator
 - G - Hydraulic Control Valve (tractor - ref)
 - H - Hydraulic quick disconnect at tractor
 - J - Breather Filter
 - K - Hydraulic flex hose
 - L - Breather Tank
 - *T1 - Valve on nitrogen bottle
 - *T2 - Gauge on nitrogen bottle
 - *T3 - Flex hose on nitrogen with pre-charge fitting
- *Not furnished by manufacturer of implement



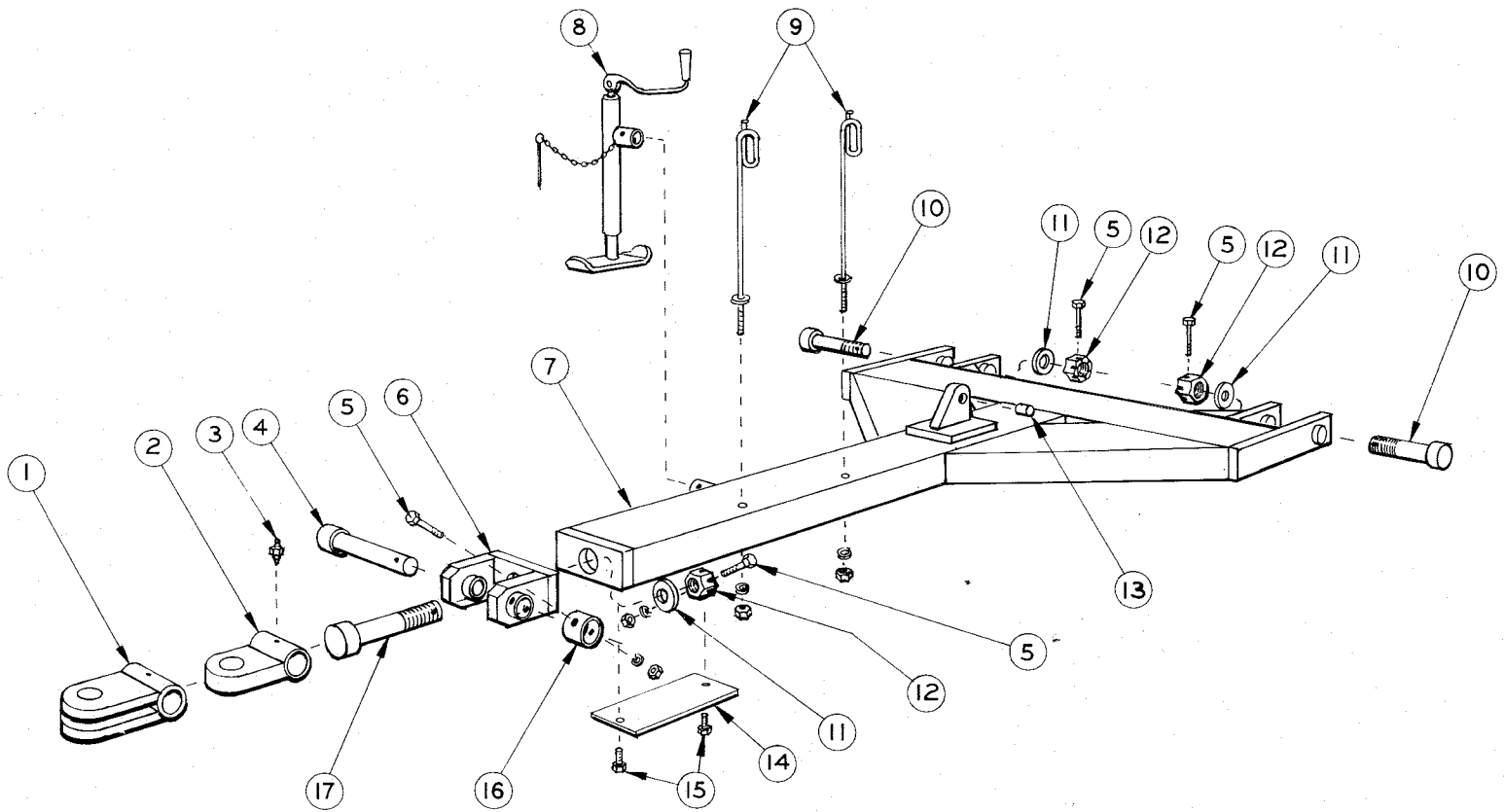
CHARGING ACCUMULATOR

Connect flex hose (K) to tractor hydraulics by coupling connector (H)
 Connect (T3) to valve stem (A)
 Open valve A, D & F
 Open valve (T1) to obtain 600 PSI on (T2). Then close to observe '0' pressure gauge 'C'. Close valve 'D'
 Close valve (A) to lock up the 600 PSI on the accumulator 'B'
 Disconnect flex hose (T3) with tractor running open (G) to extend cylinder 'E'
 pressurize to 1200 PSI on gauge 'C'
 Close valve (D) securely. This closes system & is ready for operation.

MAINTENANCE & INSPECTION

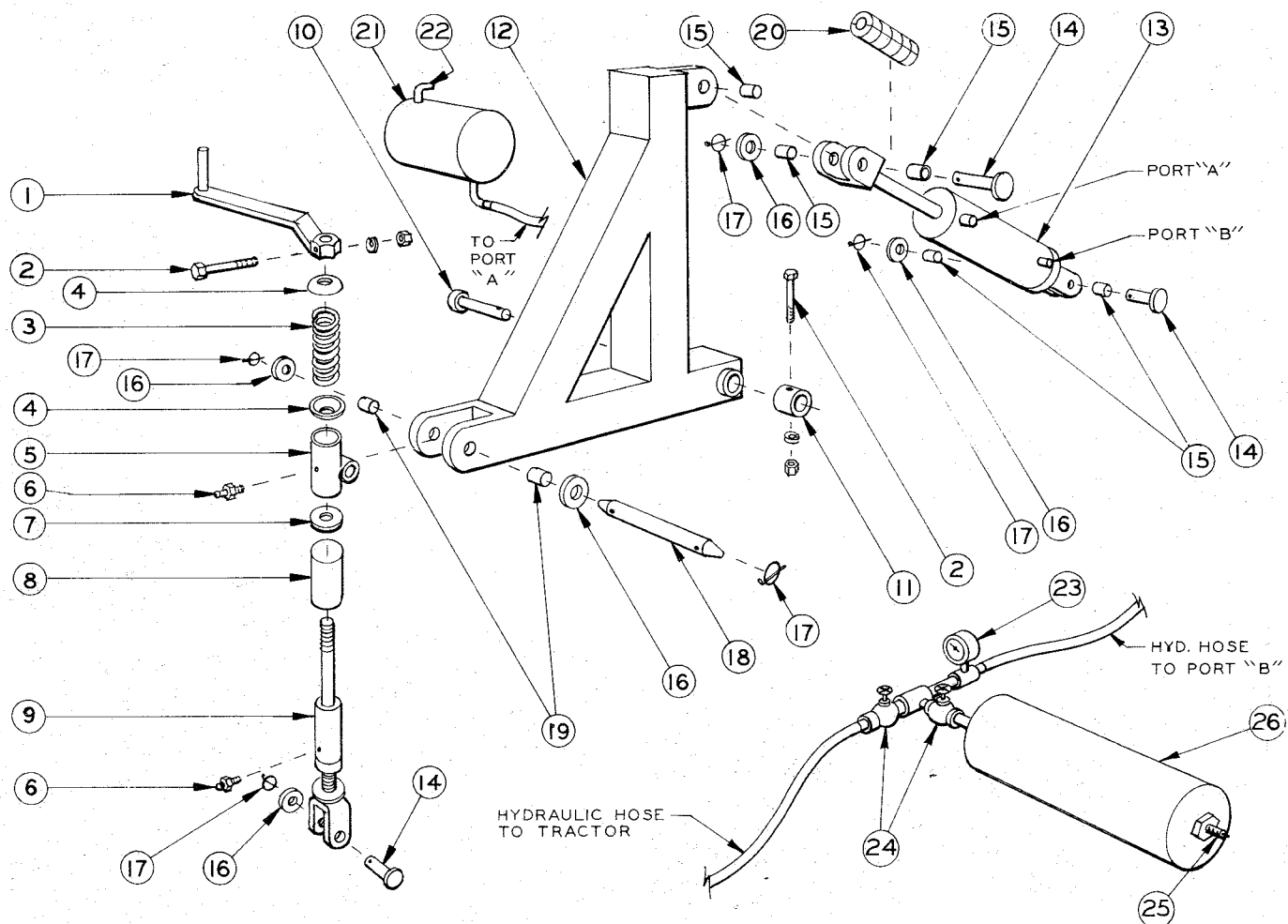
1. Verify front of disc picks up level as the transportation wheels are extended
2. Verify cylinder 'E' oscillates freely in field operation
3. Reservoir (L) is approximately 1/2 full of hydraulic oil & breather (J) is clean
4. Verify Gauge 'C' is maintaining the desired pressure daily.

NOTE: If front of disc is not penetrating satisfactorily - reduce pressure on hydraulic side by open valve (D) and tractor hydraulic valve (G) and vary pressure on Gauge 'C' while operating in field condition. When desired performance is obtained close valve 'D' to lock up pressure in the system. Observe pressure on gauge 'C' and record.



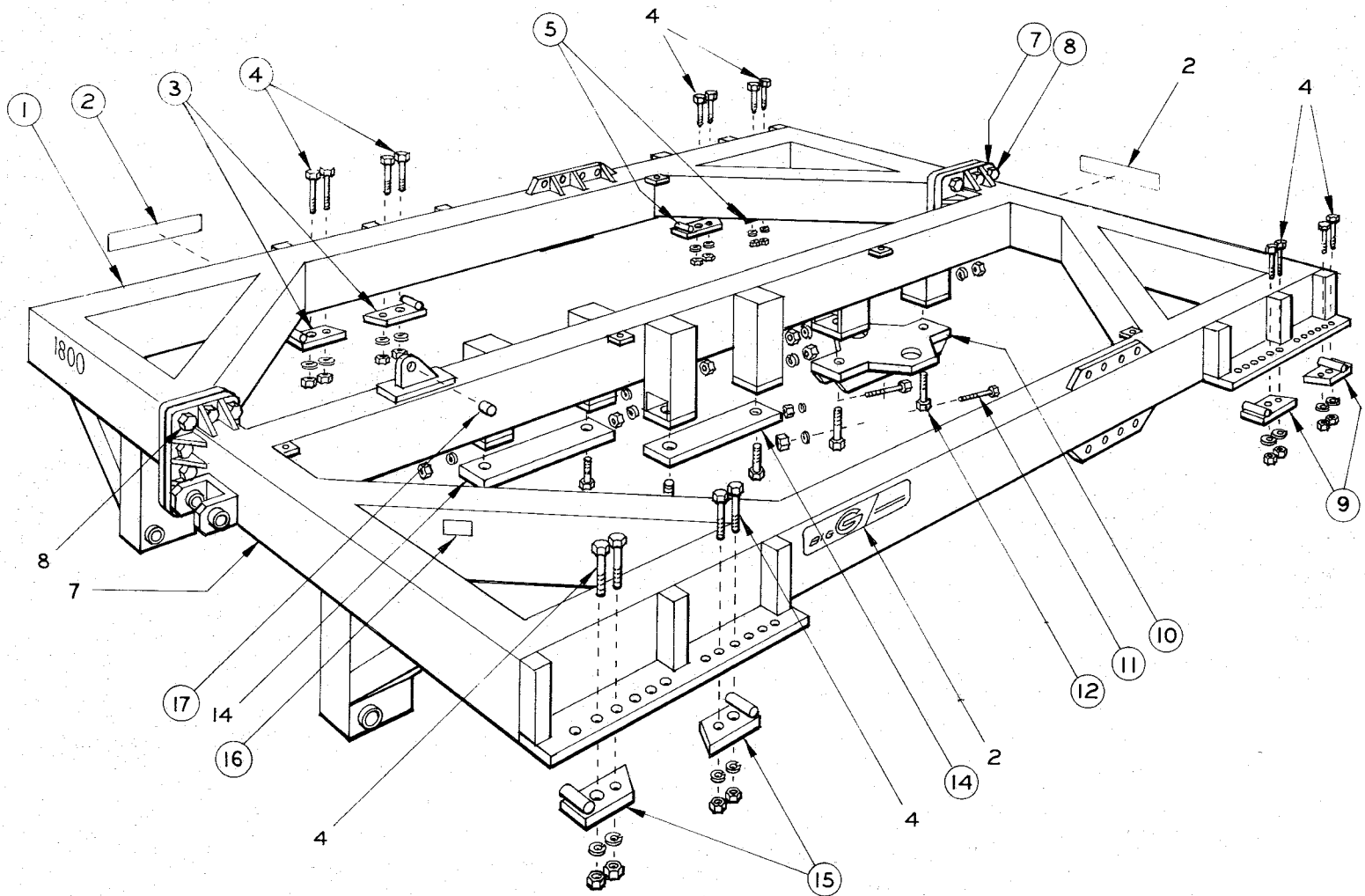
DRAW BAR ASSEMBLY

ITEM	PART NO.	NO. REQ'D	DESCRIPTION
1	30006 - 020	OPTIONAL	CLEVIS HITCH
2	30006 - 019	1	BAR HITCH
3	1/8 - 27 NPT ZP	1	ZERK
4	18023 - 009	1	HITCH PIN
5	3/8 X 3 1/2 NC ZP	4	BOLT, NUT & LOCK WASHER
6	18023 - 010	1	HITCH SWIVEL
7	18006 - 009	1	TONGUE WELDMENT
8	5TM - 15 - 0	1	JACK
9	10006 - 012	2	HOSE CARRIER, NUT & LOCK WASHER
10	18039 - 003	2	DRAW BAR PIN
11	2" ZP	3	FLAT WASHER
12	2 - 4 1/2 NC ZP	3	SLOTTED HEX NUT
13	10014 - 004	1	1" BUSHING
14	18022 - 019	1	BOTTOM COVER PLATE
15	3/8 X 1 1/2	4	BOLT & LOCK WASHER
16	12023 - 008	1	HITCH PIN COLLAR
17	18039 - 009	1	2" SWIVEL PIN



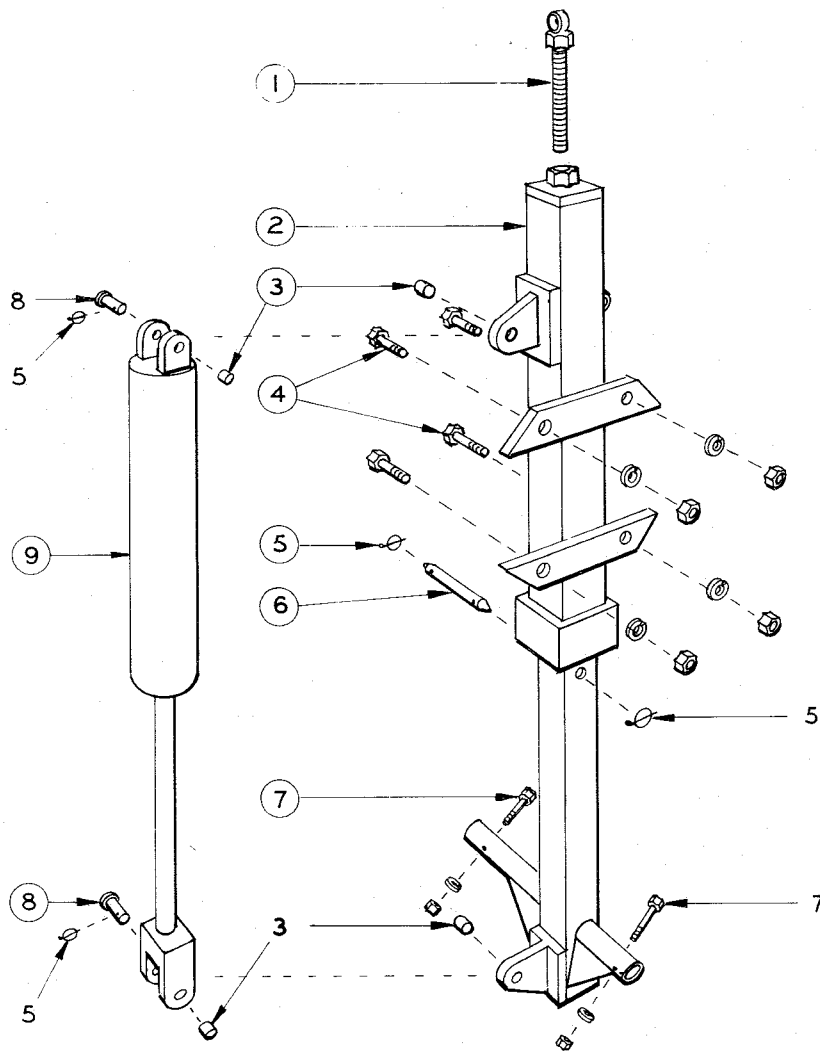
LEVELING ASSEMBLY

ITEM	PART NO.	NO. REQD.	DESCRIPTION
1	10015 - 002	1	LEVELING SCREW HANDLE
2	3/8 X 3 1/2 NC ZP	2	BOLT, NUT & LOCK WASHER
3	10015 - 005	1	SPRING
4	10015 - 003	2	SPRING RETAINER
5	10005 - 010	1	PIVOT TUBE
6	1/4 - 28 STR. ZP	2	ZERK
7	1 5/8 ZP	1	FLAT WASHER
8	18015 - 003	1	DUST COVER
9	18015 - 009	1	LINKAGE TUBE WELDMENT
10	18039 - 009	1	HINGE PIN
11	12023 - 008	1	COLLAR
12	18015 - 010	1	LEVELING PIVOT ARM WELDMENT
13	4008 - 175	1	HYDRAULIC CYLINDER 4 X 8
14	1 X 2 5/8 ZP	3	CLEVIS PIN
15	1 1/2 X 1 X 1	4	TENSION BUSHING
16	1" ZP	5	FLAT WASHER
17	P - 794 1/4 ZP	5	CLIP PIN
18	18042 - 010	1	PIVOT PIN
19	1 1/4 X 1 X 3/4	2	TENSION BUSHING
20	PM - SLCS - 7.5	1	STROKE CONTROL SET
21	18048 - 009	OPTIONAL	BREATHER TANK
22	18048 - 010	"	BREATHER
23	18048 - 019	"	PRESSURE GAUGE 0 - 3000 PSI
24	18048 - 020	"	SHUTOFF VALVE
25	18048 - 029	"	NITROGEN PRESSURE PORT
26	18048 - 030	"	ACCUMULATOR



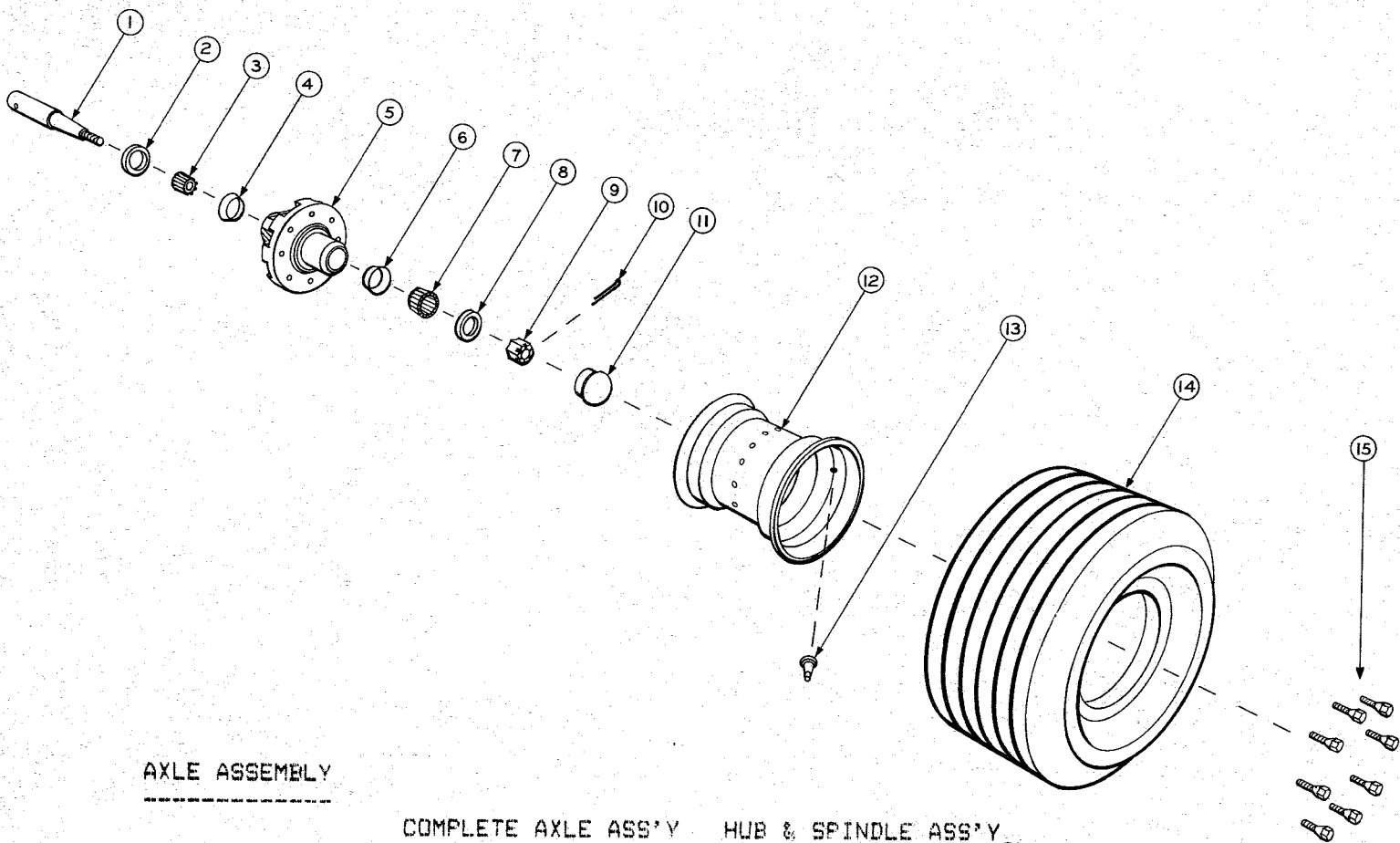
FRAME ASSEMBLY

ITEM	PART NO.	NUMBER REQUIRED		DESCRIPTION
		14' & 16'	18' & 20'	
1	18001 - 009	1	-	SINGLE FRAME WELDMENT
	18001 - 010	-	1	DOUBLE FRAME WELDMENT R.H.
2	10025 - 003	3	3	BIG G DECAL
3	18044 - 010	2	2	RIGHT FRONT GANG CLAMP
4	1 X 4 1/2 NC ZP	16	16	BOLT, NUT & LOCK WASHER
5	18044 - 020	2	2	RIGHT REAR GANG CLAMP
7	18001 - 011	-	1	DOUBLE FRAME WELDMENT L.H.
8	3/4 X 2 1/2 NC ZP	-	20	BOLT, NUT & LOCK WASHER
9	18044 - 019	2	2	LEFT REAR GANG CLAMP
10	18043 - 009	1	1	REAR GANG CENTER CLAMP
11	3/8 X 3 1/2 NC ZP	2	2	BOLT, NUT & LOCK WASHER
12	1 X 4 1/2 NC ZP	6	6	BOLT, NUT & LOCK WASHER
14	18022 - 009	2	2	FRONT GANG CENTER CLAMP PLATE
15	18044 - 009	2	2	LEFT FRONT GANG CLAMP
16	10029 - 002	1	1	SERIAL NUMBER PLATE
17	10014 - 004	1	1	BUSHING



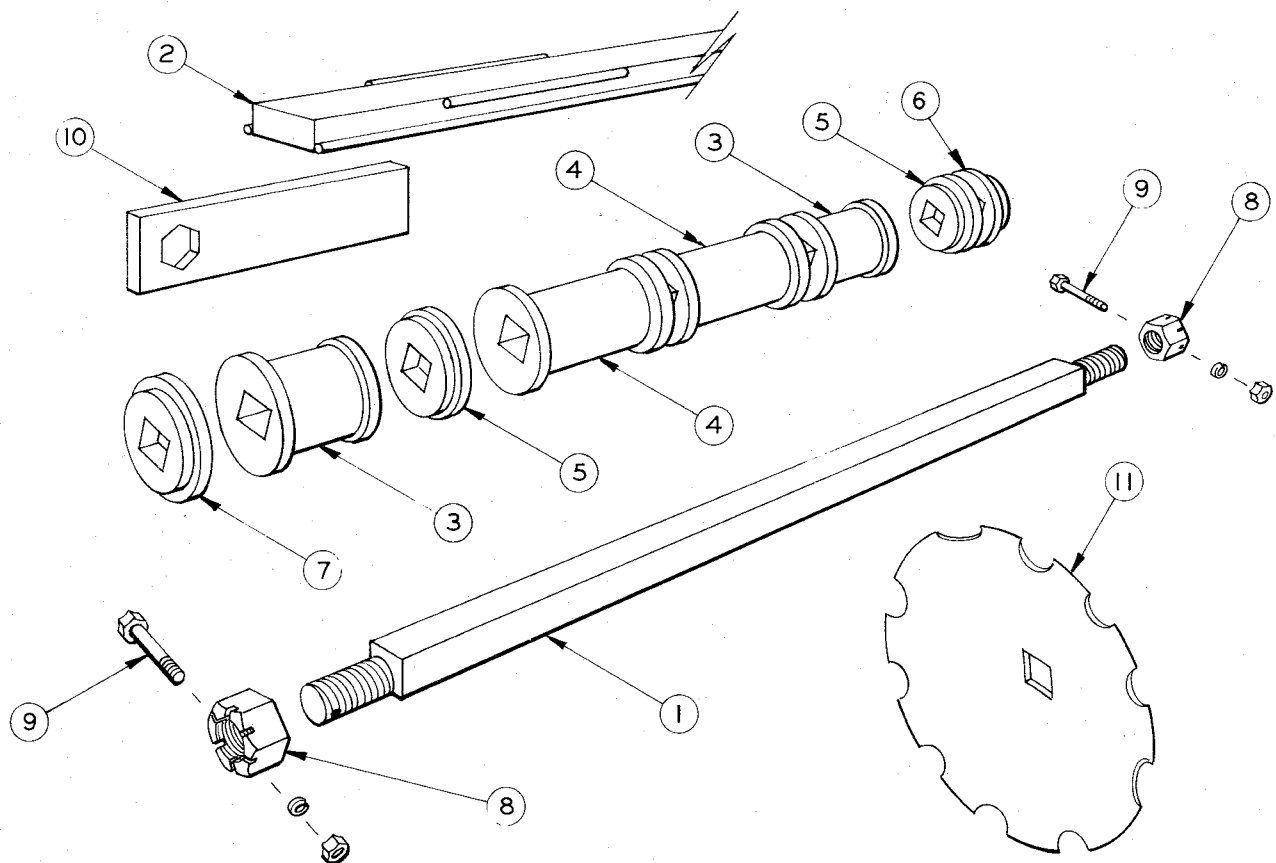
TELESCOPING WHEEL STRUT ASSEMBLY L.H. SHOWN

ITEM	PART NO.	NO. REQ'D.	DESCRIPTION
1	18041 - 009	1	CYLINDER STOP
2	18040 - 009 18040 - 010	1	WHEEL STRUT WELDMENT L.H. WHEEL STRUT WELDMENT R.H.
3	10014 - 004	6	BUSHING 1"
4	1 X 4 1/2 NC ZP	4	BOLT, NUT & LOCK WASHER
5	P - 794 1/4 ZP	4	CLIP PIN
6	18042 - 009	1	ROAD LOCK PIN
7	1/2 X 3 1/2 NC ZP	2	BOLT, NUT & LOCK WASHER
8	1 X 2 5/8 ZP	2	CLEVIS PIN
9	4030 - 200	1	HYDRAULIC CYLINDER 4 X 30



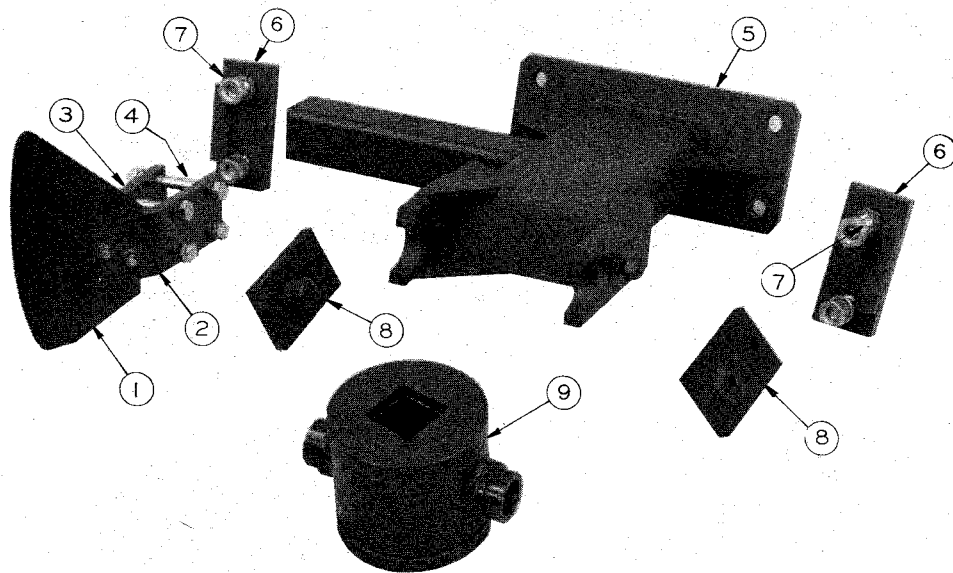
AXLE ASSEMBLY

ITEM	PART NO.	COMPLETE AXLE ASS'Y PART NO. 18018-009		DESCRIPTION
		NO. REQUIRED	HUB & SPINDLE ASS'Y PART NO. 18018-019 NO. REQUIRED	
1	107 007A	1	1	SPINDLE
2	107 012	1	1	SEAL
3	107 011	1	1	INNER CONE BEARING
4	107 010	1	1	INNER CUP
5	108 121	1	1	HUB
6	105 770	1	1	OUTER CUP
7	105 771	1	1	OUTER CONE BEARING
8	106 247	1	1	FLAT WASHER
9	106 248	1	1	CASTELATED NUT
10	4899	1	1	COTTER PIN
11	103 212	1	1	CAP
12		1	-	16 X 11-8 HOLE WHEEL
13	TR-415	1	-	VALVE STEM & CAP
14		1	-	40 X 14-24 FLY TIRE
15	102 069	8	-	SAE LUG BOLT
	102 070	8	-	SAE LUG NUT



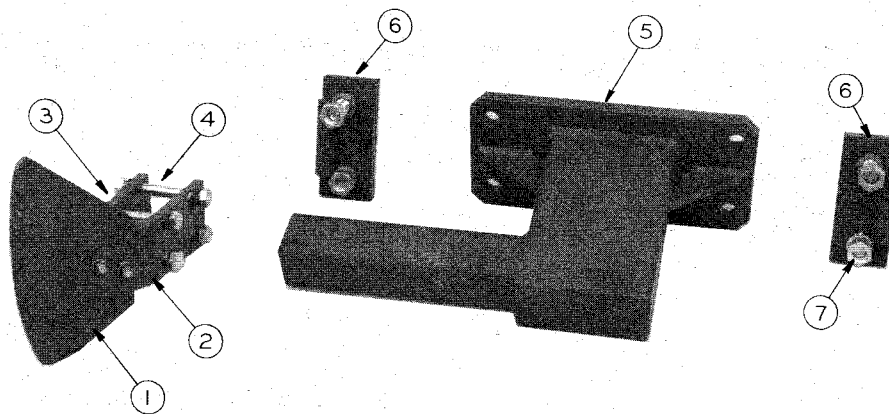
GANG ASSEMBLIES

ITEM	NO. OF BLADES	14" SPACING		16" SPACING		18" SPACING		20" SPACING	
		PART NO	LENGTH	PART NO	LENGTH	PART NO	LENGTH	PART NO	LENGTH
1 GANG SHAFT	4	18028-001	51"	18028-002	57"	18028-003	63"	18028-004	69"
	5	18028-005	65"	18028-006	73"	18028-007	81"	18028-008	89"
	6	18028-011	79"	18028-012	89"	18028-013	99"	18028-014	109"
	7	18028-015	93"	18028-016	105"	18028-017	117"	18028-018	129"
	8	18028-021	103"	18028-022	121"	-	-	-	-
	4	18016-001	67"	18016-002	73"	18016-003	79"	18016-004	85"
	5	18016-005	81"	18016-006	89"	18016-007	97"	18016-008	105"
	6	18016-011	95"	18016-012	105"	18016-013	115"	18016-014	125"
2 FRONT BEAM	7	18016-015	109"	18016-016	121"	18016-017	133"	-	-
	8	18016-021	123"	-	-	-	-	-	-
	4	18017-001	80"	18017-002	86"	18017-003	92"	18017-004	98"
	5	18017-005	94"	18017-006	102"	18017-007	110"	18017-008	118"
	6	18017-011	108"	18017-012	118"	18017-013	128"	18017-014	138"
	7	18017-015	122"	18017-016	134"	18017-017	146"	-	-
	8	18017-021	136"	-	-	-	-	-	-
	3	LONG HALF SPOOL CONCAVE	18052-002	18052-003	18052-004	18052-005			
4	FULL SPOOL	18052-006	18052-007	18052-008	18052-011				
5	18052-001	SHORT HALF SPOOL CONVEX							
6	18012-003	END WASHER CONCAVE							
7	18012-004	END WASHER CONVEX							
8		2 1/2" NCZF SLOTTED LOCK NUT							
9		1/2" X 4 1/2" NCZF-BOLT, NUT, & LOCK WASHER							
10	18025-009	GANG KNOCKER WRENCH							
11		42" NOTCHED BLADE - 1/2" THICK							
		40" NOTCHED BLADE - 1/2" THICK							
		36" NOTCHED BLADE - 3/8" THICK							
		32" NOTCHED BLADE - 3/8" THICK							



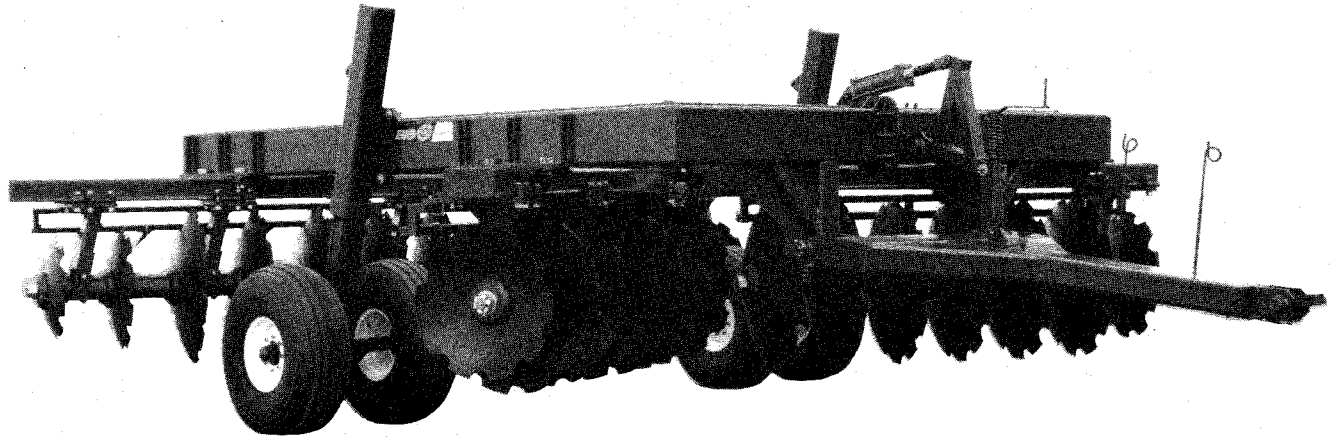
BEARING HANGER ASSY.

ITEM	PART NO.	DESCRIPTION
1	18019-009 18019-010	SCRAPER BLADE L.H. SCRAPER BLADE R.H.
2	18019-019	SCRAPER BRACKET
3	18019-020	SCRAPER CLAMP BRACKET
4		3/4" X 5 1/2" NCZP BOLT, NUT & L.W.
5	18007-029 18007-030	BEARING HANGER L.H. BEARING HANGER R.H.
6	18007-010	BEAM CLAMP PLATE
7		1" X 4 1/2" NCZP BOLT, NUT & L.W.
8	18007-020	TRUNION HOLDER
9		TIMKEN GANG BEARING ASSEMBLY
10		3/4" X 2 1/2" NCZP BOLT, NUT & L.W.
NS	18007-019	DUST SHIELD PLATE



SCRAPER HANGER ASSY.

ITEM	PART NO.	DESCRIPTION
1	18019-009 18019-010	SCRAPER BLADE L.H. SCRAPER BLADE R.H.
2	18019-019	SCRAPER BRACKET
3	18019-020	SCRAPER CLAMP BRACKET
4		3/4" X 5 1/2" NCZP BOLT, NUT & L.W.
5	18007-001 18007-002	SCRAPER HANGER L.H. SCRAPER HANGER R.H.
6	18007-010	BEAM CLAMP PLATE
7		1" X 4 1/2" NCZP BOLT, NUT, & L.W.



WARRANTY

Green Line, 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 proof is 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 has 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 event 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.



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