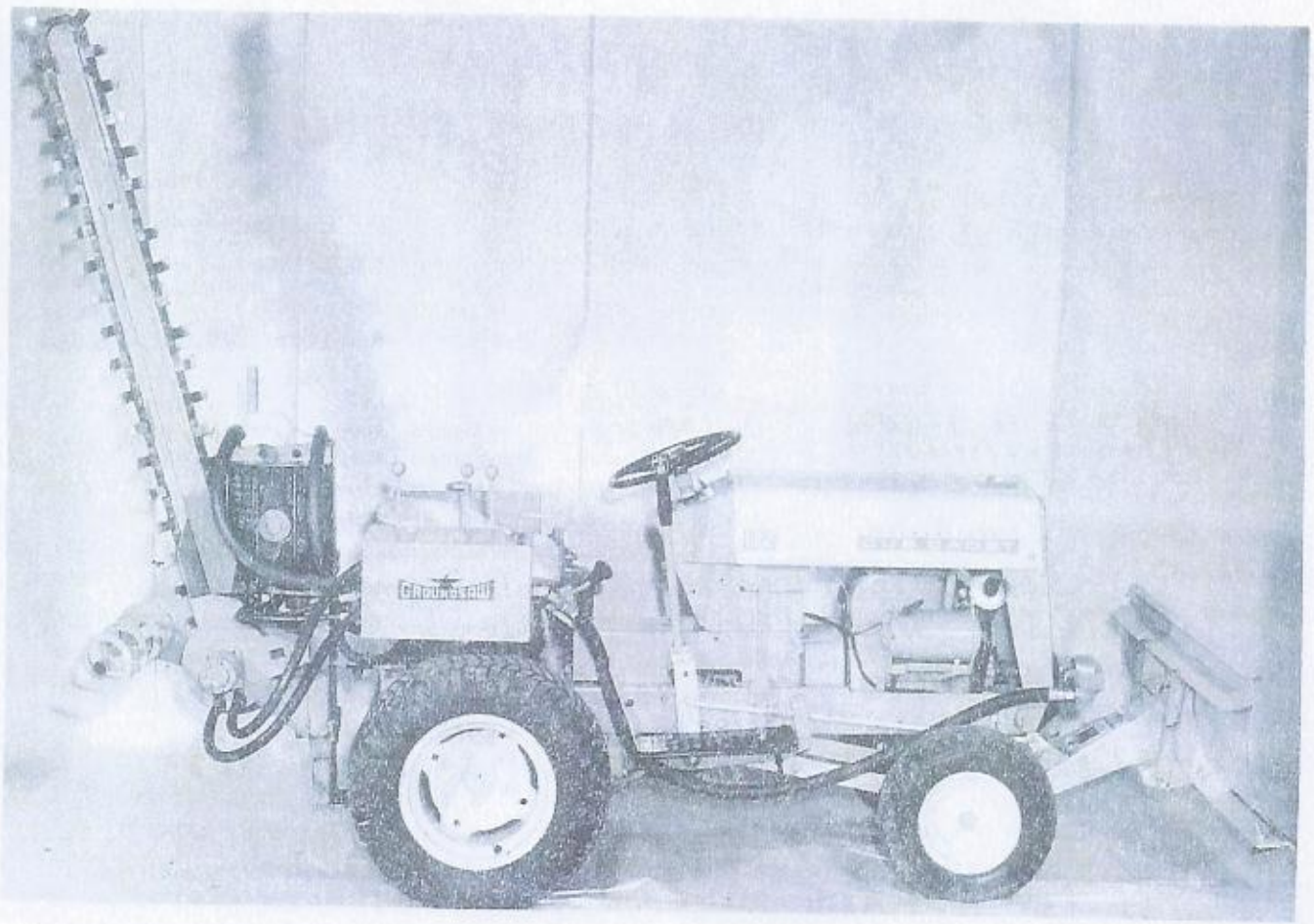
HAWK BILT

MANUAL SS363

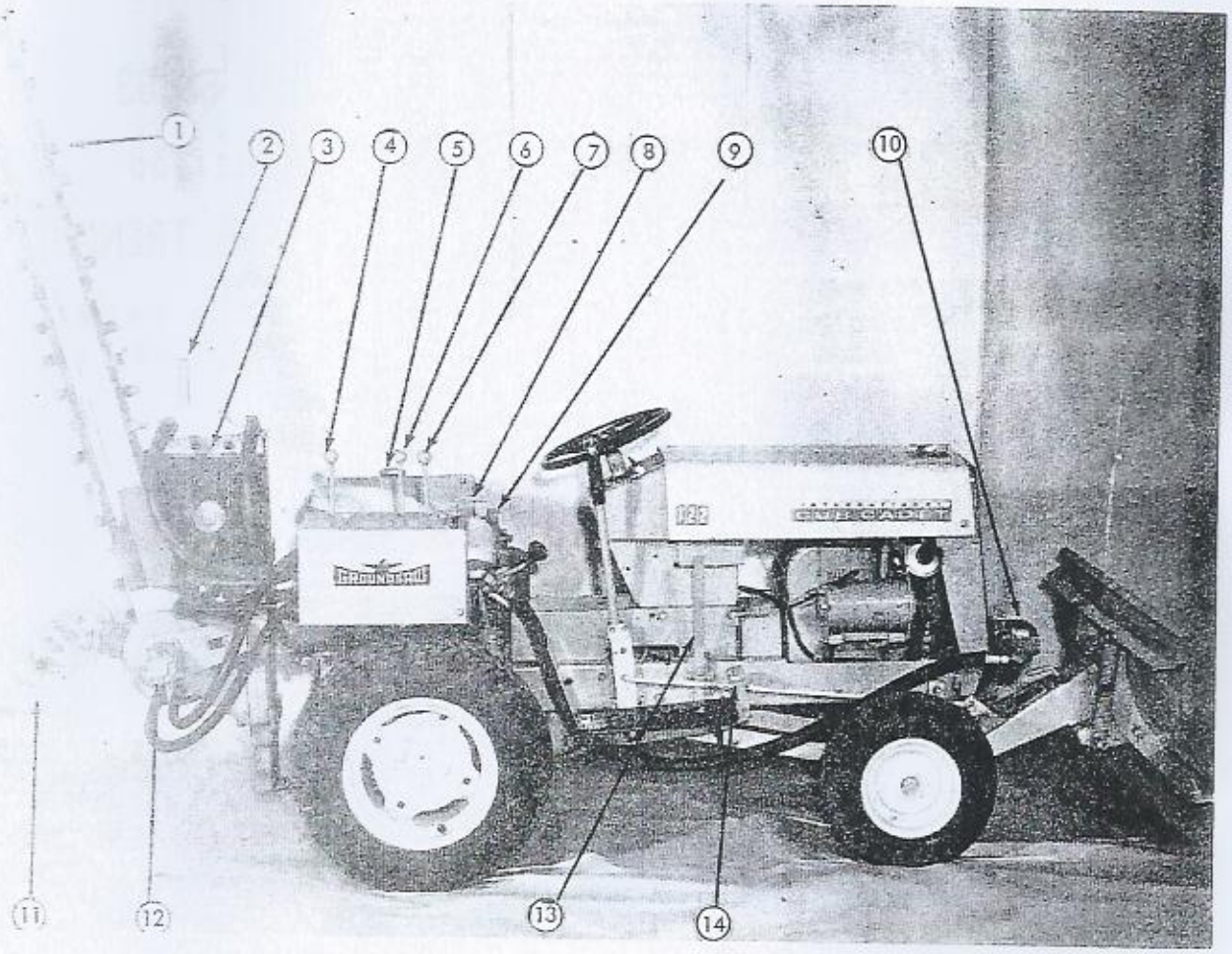
MODEL 1200

"GROUNDSAW" TRENCHER

FOR IHC CUB CADET
MODELS 100, 102, 122



HAWK BILT MFG. CORP.
VINTON, IOWA



1200 GROUNDSAW MOUNTED ON IHC 122

1 - Digger Chain. 2 - Height Adjusting Crank. 3 - Fan Switch. 4 - Boom Control Lever. 5 - Hydraulic Filler Cap. 6 - Traction Control Lever. 7- Digger Chain Control Lever. 8 - Automatic Traction Valve. 9 - Filter. 10 - Pump. 11 - Spoils Spreader. 12 - Digger Chain Drive Motor. 13 - Brake Lock. 14 - Brake Pedal.

Your decision to purchase a Hawk Bilt - 1200 Groundsaw-trencher was a wise decision. Undoubtedly, you studied many other trenching methods on the market today. None can compare with the Hawk Bilt method of trenching.

The Model 1200 Groundsaw has been tested successfully for several years. When we put the Hawk Bilt label on a product, you can be sure it has been thoroughly tested and is ready to give you full value for every dollar invested.

Please read the Warranty on page 2. Then, complete and return to us the Warranty Card which you will find in the sealed container with the manual. If we fail to receive this Warranty Card within 30 days following the purchase of a Model 1200 Groundsaw, the Warranty is null and void.

Once again, "Thanks" for buying Hawk Bilt.

NOTE:

The serial number of this machine is located on the right of the seat mounting bracket.

GENERAL INFORMATION

The Model 1200 Groundsaw features a high speed, carbide tipped, digger chain. This self-cleaning, high tensile chain is designed to dig in what is ordinarily considered impossible soil conditions. Tree roots cause no problems and small rocks are either chipped up or rolled out of the trench. The closely spaced carbide tipped digger teeth saw through most obstructions. With the Groundsaw, wet and sticky cleaning devices are not needed.

The automatic traction control valve provides a very simple method for control of forward movement of the trencher. As digging conditions vary the automatic traction control valve will sense the variation and move the tractor accordingly. The sensitivity of this valve can be changed simply by changing the setting of the screw on the control panel.

The hydraulic system has a filter in it to insure long life and serviceability of the hydraulic components. This filter should be serviced after the first (5) five hours of operation and again every (20) twenty hours there after.

WARRANTY

Hawk Bilt Mfg. Corporation warrants to each purchaser of the Hawk Bilt Groundsaw Trencher that such equipment is free from defects in material and workmanship for a period of ninety (90) days from the date of delivery to the purchaser. However, the boom accessory parts (cutting or digging chain and teeth, sprockets, and bearing) are expendable and do not carry the 90 day warranty. The company makes no other warranty, express or implied, in fact or by law.

The company's obligation under this warranty is limited to repairing, or at its option, replacing any part that is authorized to be returned, transportation prepaid, to the the company's factory (or in case of engines, engine accessories, tires, hydraulic pumps, or hydraulic controls that are warranted by original manufacturers, to such place as directed by Hawk Bilt Mfg. Corp.) that in the company's judgement is defective. Except as specifically provided in this warranty the company shall have no obligation or liability of any kind on account of its Groundsaw Trencher and shall not be liable for special or consequential damages.

NO RETURNED GOODS WILL BE ACCEPTED, UNLESS AUTHORIZATION HAS BEEN RECEIVED FROM HAWK BILT AND SHIPMENT HAS BEEN PREPAID.

CONTENTS

SPECIFICATIONS

MOUNTS ON:	102, 110, 122 - Cub Cadet
DIGGING DEPTH BY CHAIN WIDTHS	2 1/4 — 24, 30, 36 3 1/4 — 24, 30, 36 4 — 24, 30, 36 6 — 24, 30
WEIGHT	375 lbs. Approx.
CONTROLS	Forward & Reverse travel, Depth of Digging, Forward & Reverse of Digger Chain
TYPE HYDRAULIC OIL	Type A Transmission Fluid
HYDRAULIC TRANK CAPACITY	6 1/2 Quarts
BEARINGS	Sealed Ball Bearings

ADJUSTMENTS

ENGINE:

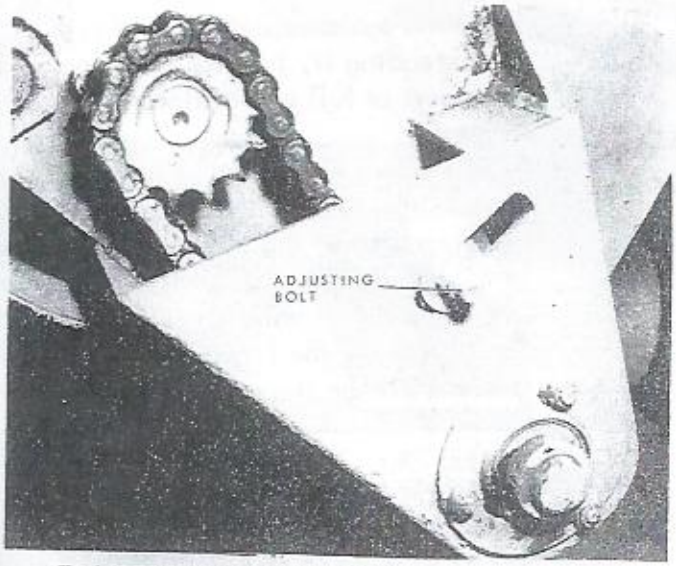
Refer to the Engine Mfg's Manuals for all information concerning engine operation.

DIGGER CHAIN:

The digger chain should be adjusted so there is 1 inch to 1 1/2 inch slack measured between the bottom side of the chain and the top of the boom, or between the top of the chain and the bottom of the boom. This adjustment can be made by loosening the two bolts on the idler yoke and sliding the yoke in the slot until the correct slack is obtained. A plate is used as a supplementary clamp in the boom slot to prevent the idler yoke from slipping during the digging operation.

SPOILS SPREADER DRIVE CHAIN:

The spoils spreader drive chain is tightened by loosening the attaching bolt and sliding the fiber block in the slot so there is some slack in the chain.

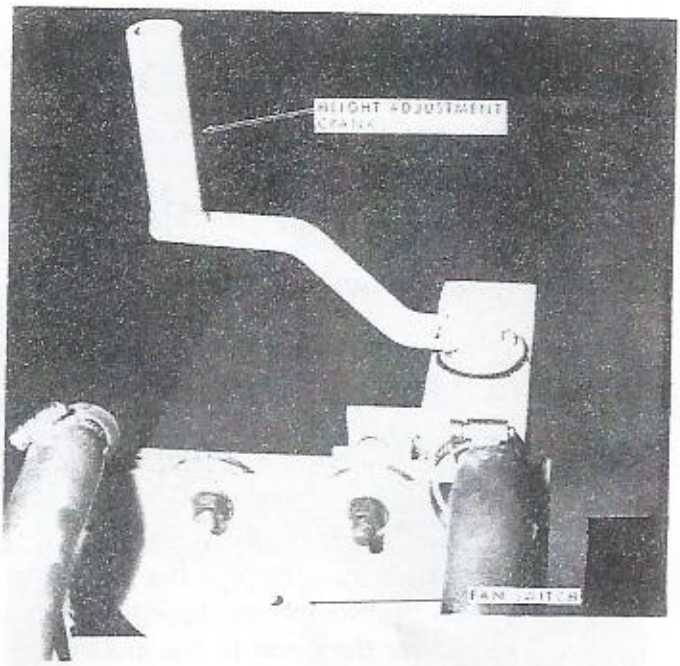


TRACTION DRIVE CHAIN:

The traction drive chain is adjusted by loosening the four bolts that attach the traction drive motor to the mounting bracket and moving the traction motor up or down to provide 1/2" slack in the chain.

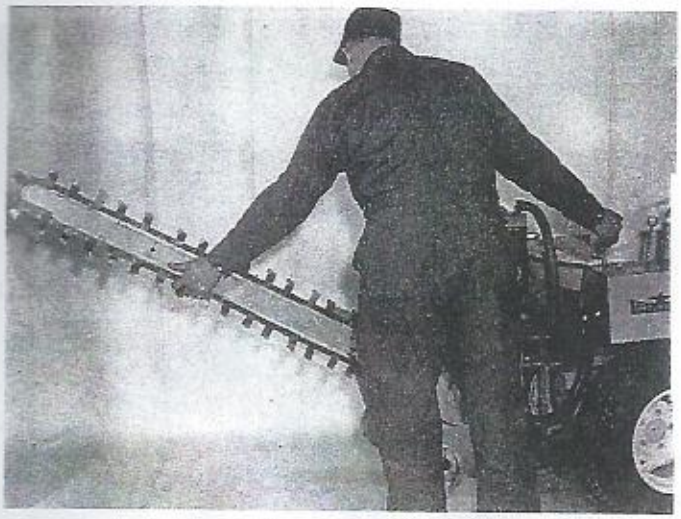
DEPTH OF DIGGING ADJUSTMENT:

The crank located behind the operators seat is used to vary the depth of digging from full depth up approximately 9 inches. It is also used to adjust for going over



hills and through swales. The standard boom length is 30 inches. The length of the boom can be increased to 36 inches by removing the short yoke and replacing it with a long yoke. If it is desired to decrease the length of the boom, the boom weldment will have to replaced by the short boom weldment. After the length of the boom has been changed a corresponding length of digger chain will have to be used. When trenching a 4 or 5 inch trench, boom stabilizers are required.and are installed to the boom in the holes provided.

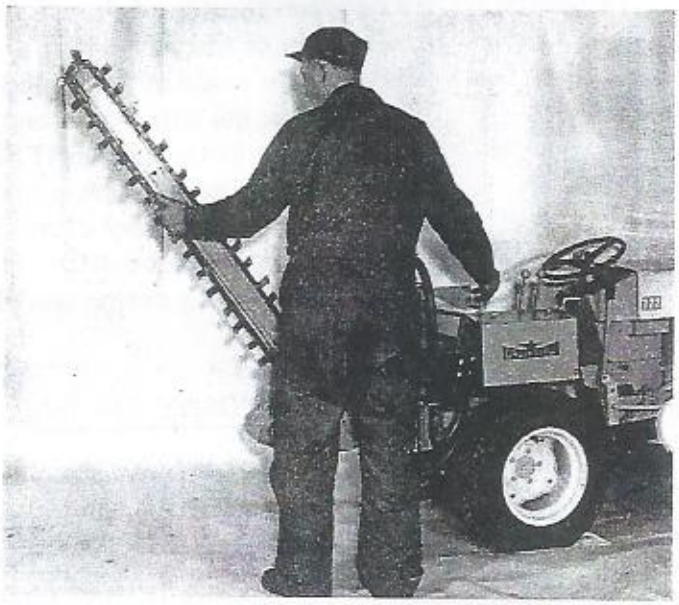
The Model 1200 Groundsaw is operated by the use of hydraulic pumps, motors, and valves. The forward and reverse movement of the tractor and digger chain is controlled by the levers on the control panel that are so marked. The hydraulic cylinder is also controlled by a lever on the control panel. The forward movement of the tractor while trenching, is controlled by the automatic sensing valve. This valve senses the variations in digging conditions and moves the tractor accordingly. The arrows and words "faster" and "slower" indicate the direction to turn the adjusting screw for the desired ground travel speed.



Position the trencher at the start of the proposed trench. Engage the PTO shaft drive on the tractor and lock the clutch out. Lower the boom to the ground and start the digger chain. As the digger chain cuts into the ground, lower the boom by use of the hydraulic cylinder until the boom is in the full down position. Put the tractor in first or second gear and turn the adjusting screw, on the control panel, down until the desired ground speed is obtained. If the screw is turned down too far, the forward movement will stop. Turn the screw back out until the forward movement starts again. If this doesn't correct the situation, simply move the transport lever to cause a differential in pressures in the system and it will then operate properly.

When starting a trench, the back wall can be made vertical by simply moving the tractor backwards as the boom is lowered. This method is made use of primarily when starting a trench next to a sidewalk or foundation.

The trenching boom is placed in transport position by retracting the cylinder

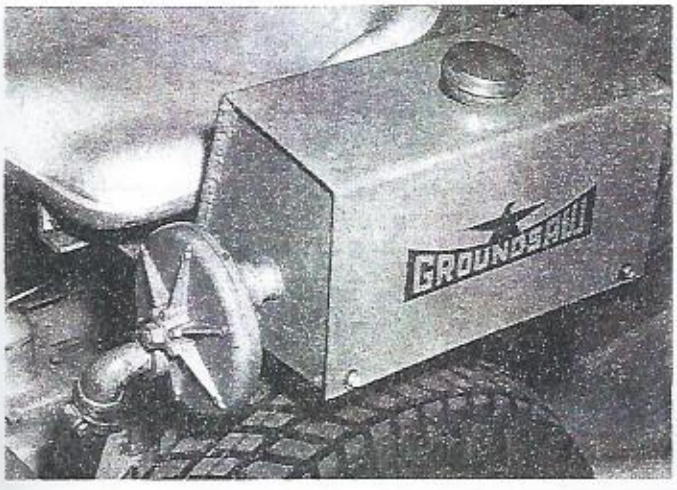


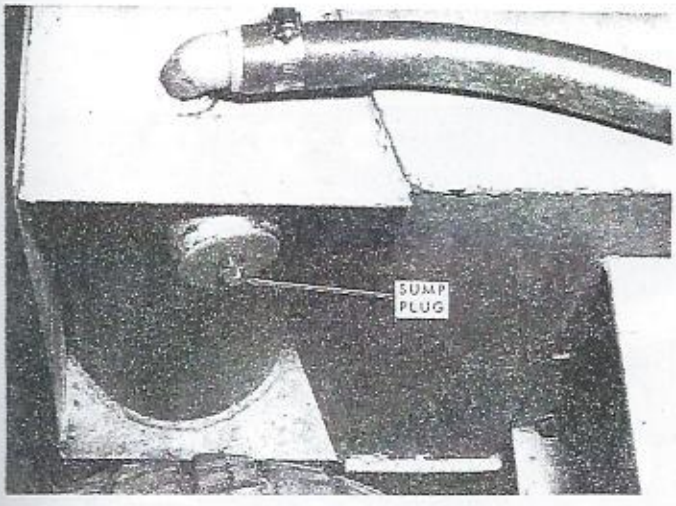
fully, then raise the boom, by hand, until the cylinder can be used again, by extending it, to raise the boom to its transport or full up position.

The depth of digging adjustment is used mainly to keep the spoils spreader from rubbing against the ground in rough areas. If the spoils spreader is allowed to come in contact with untrenched ground with enough drag, the forward movement of the tractor will be stopped.

BEFORE OPERATING, BE SURE OIL LEVEL IN RESERVOIR IS WITHIN 2 INCHES OF THE TOP. USE TYPE "A" AUTOMATIC TRANSMISSION FLUID.

The hydraulic system on the Groundsaw has a filter located to the left of the operators seat and on the outlet port of the hydraulic reservoir. This filter should be cleaned after the first 5 hours of operation and every 20 hours there after. To service the filter, first drain the oil from the hydraulic reservoir by removing the plug in the bottom of the reservoir as shown.



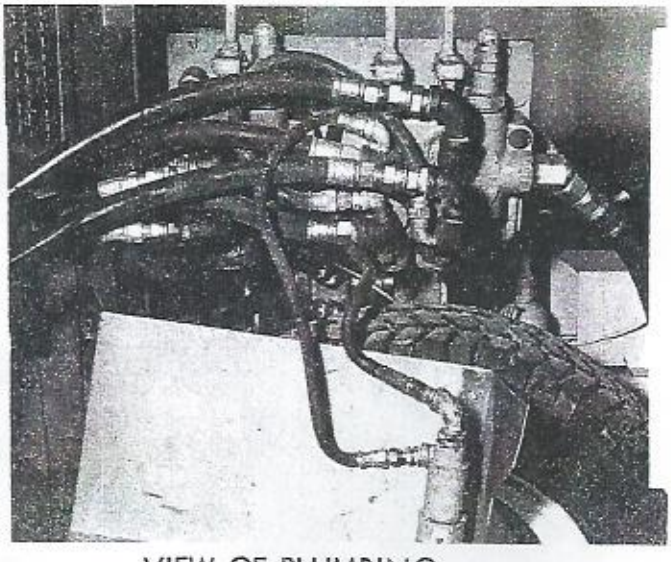


After the oil has been drained, remove the bolt in the center of the filter. This will allow the filter body to be separated and the filter screen removed. Clean the filter screen thoroughly and reinstall it in the filter body, being careful not to introduce dirt into the hydraulic system..

"KEEP IT CLEAN"

If at any time the hydraulic connections are removed, maximum care must be exercised to keep foreign material from entering the system.

The hydraulic pump supplies the different functions with pressure oil. The pressure of this oil is controlled by relief valves, one of which is located in the cylinder control valve and the other one in the transport and digger chain valve. The relief valve in the cylinder control circuit is set at 500 PSI and the relief valve in the transport and digger chain circuit is set at 1500 PSI. These are factory settings and should not be changed.



VIEW OF PLUMBING

The hydraulic system has an oil cooler used to keep the hydraulic oil within operating temperature range. Turn the fan on when the oil temperature reaches 120° and stop the trencher if the oil temperature exceeds 180°. If the oil temperature does exceed 180° the oil cooler fins have probably become clogged with dirt and washing them out with water will correct the situation. Foreign material in the system will cause premature wear in the pump

which will reduce efficiency and convert energy to heat. In case you have allowed foreign material to wear the pumps, motors, and valves to this point, they will have to be replaced.

The hydraulic motors used on the "Groundsaw" trencher are supplied by Char-Lynn Co. and the instructions printed by them and supplied with the trencher contain all the information on care and maintenance of these units. When ordering parts for the Char-Lynn motors, order only by the number shown in th this manual.

The hydraulic valves used on the "Groundsaw" trencher are supplied by Gresen Mfg. Co. When ordering parts for these valves, use only the part numbers shown in this manual. The instructions printed by Gresen for their valves are included with this trencher.

When ordering parts for the hydraulic pump, use only the part number found in this manual.

The pump can be completely disassembled by removing four bolts and the snap ring holding the seal in the housing. Extreme care must be exercised to keep any dirt from entering the pump while servicing.

The bearings used on the "Groundsaw" trencher are sealed ball bearing mounted in stamped retainers, and are easily replaced by the removal of three bolts and the bearing locking collar. When removing the digger chain shaft from the boom assembly, the right bearing should be removed first. Next remove the locking collar from the left locking bearing. This will allow the shaft to be removed from the boom assembly. The sprocket can be slipped from the shaft. The spoils spreader shaft is removed by first removing the spoils spreader. Next remove the right bearing. Loosen the set screw in the sprocket hub and remove the locking collar from the left bearing. The shaft can now be removed from the boom assembly.

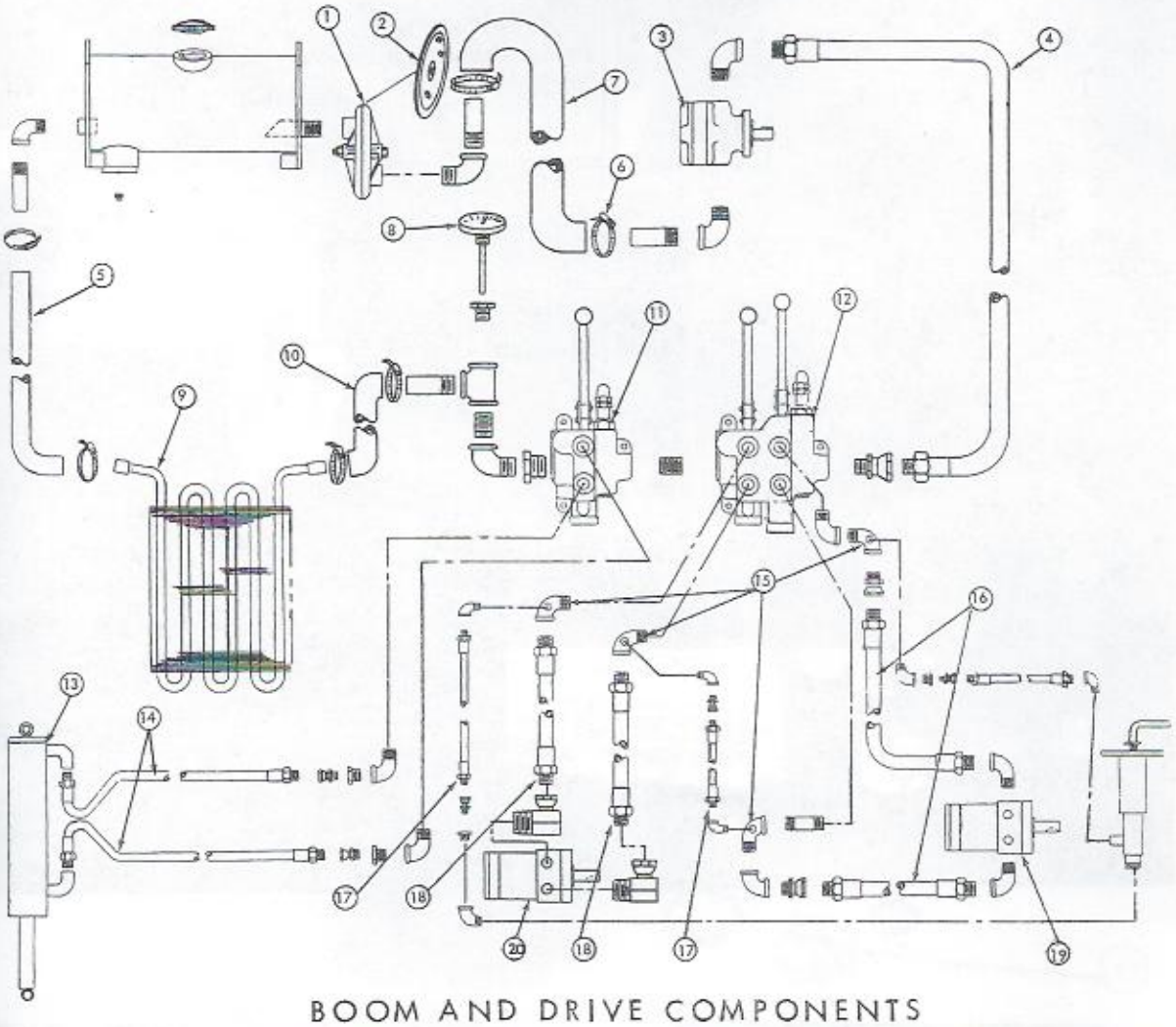
CAUTION!!!!!!

DO NOT PUT FEET NEAR MOVING CHAINS.

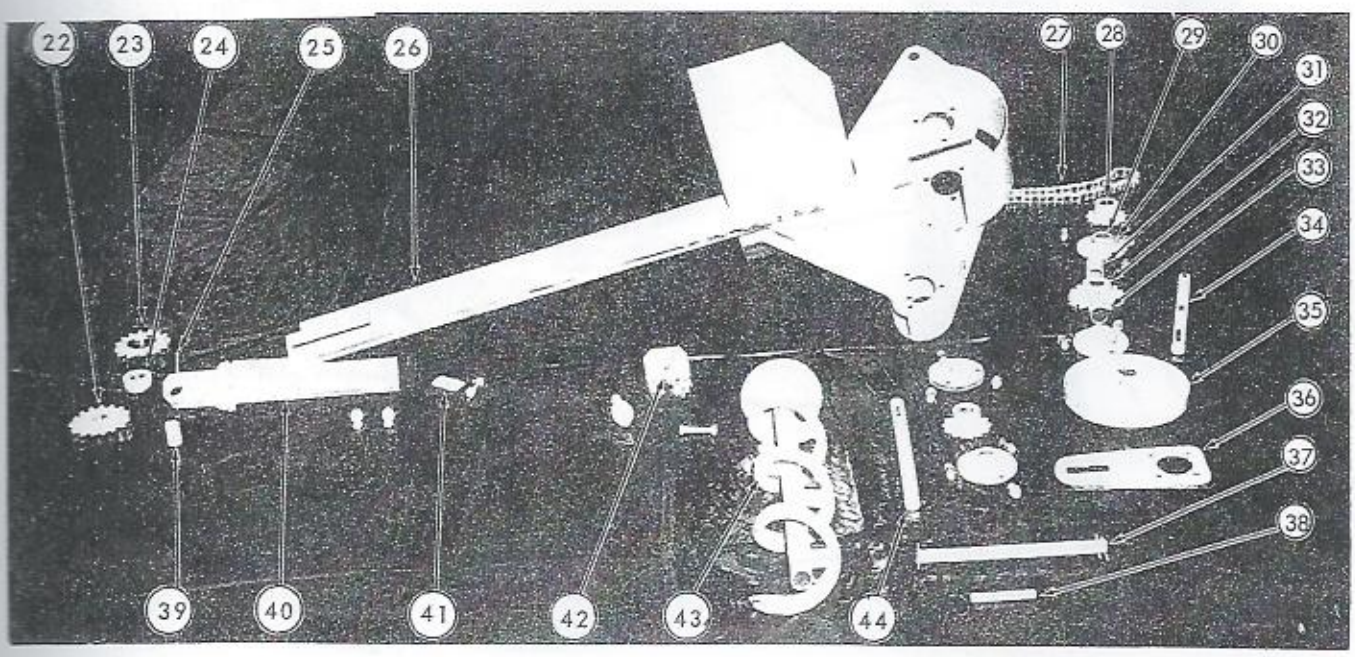
SHUT THE MACHINE OFF WHILE SERVICING.

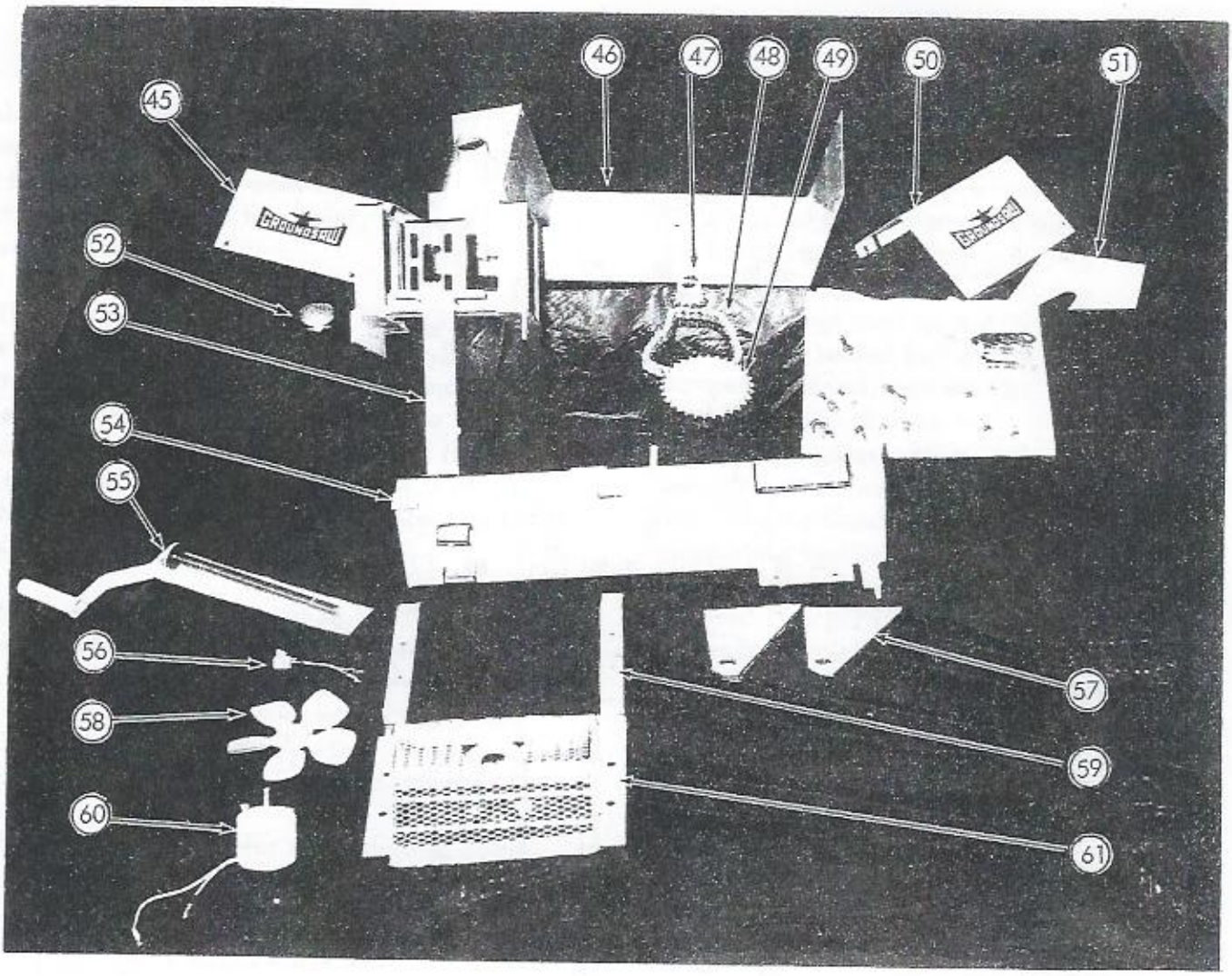
KEEP HANDS AND LOOSE CLOTHING AWAY FROM MOVING PARTS.

KEEP THE HYDRAULIC SYSTEM CLEAN.



BOOM AND DRIVE COMPONENTS

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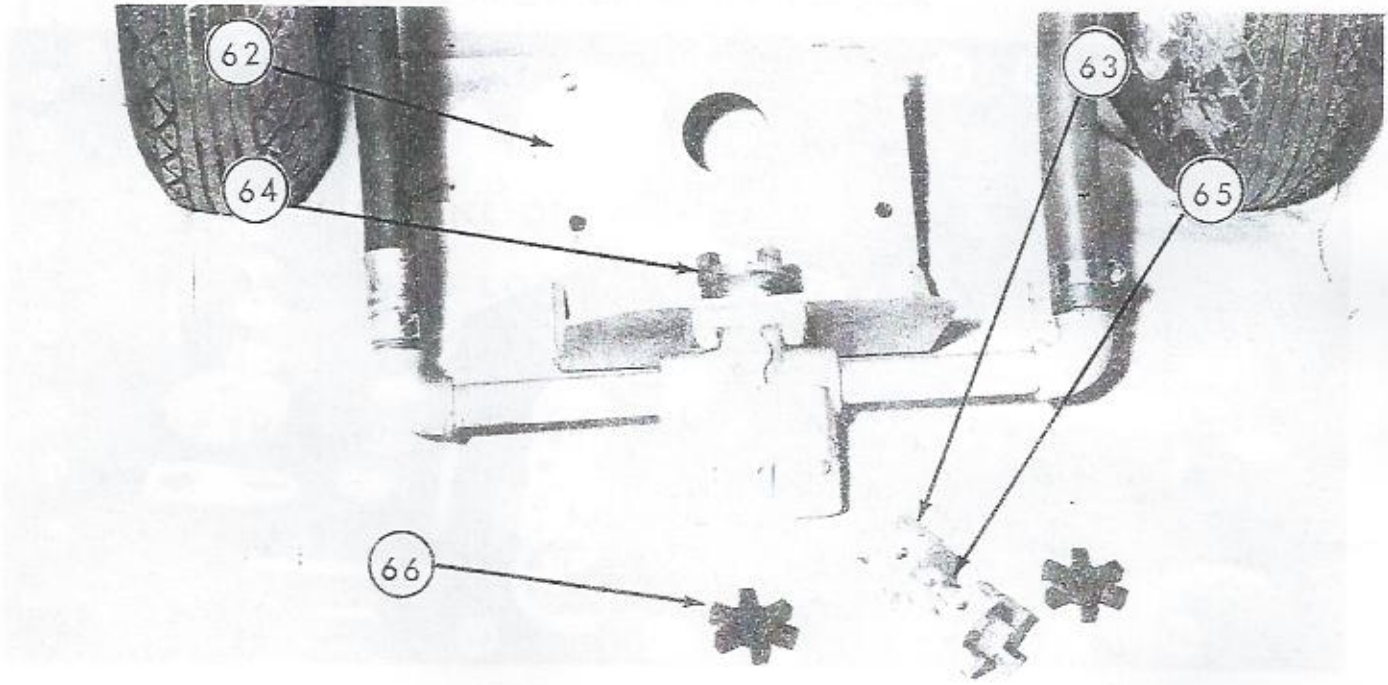
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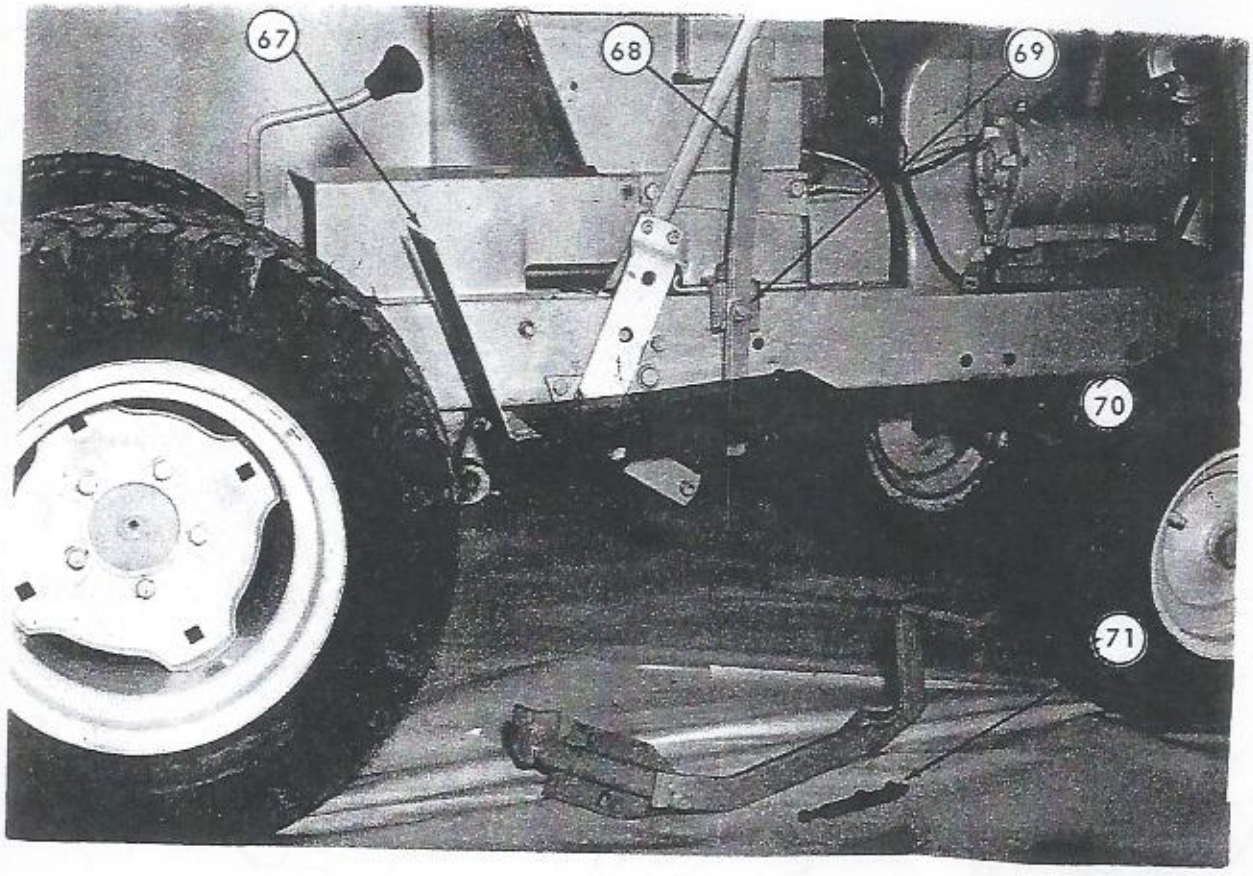
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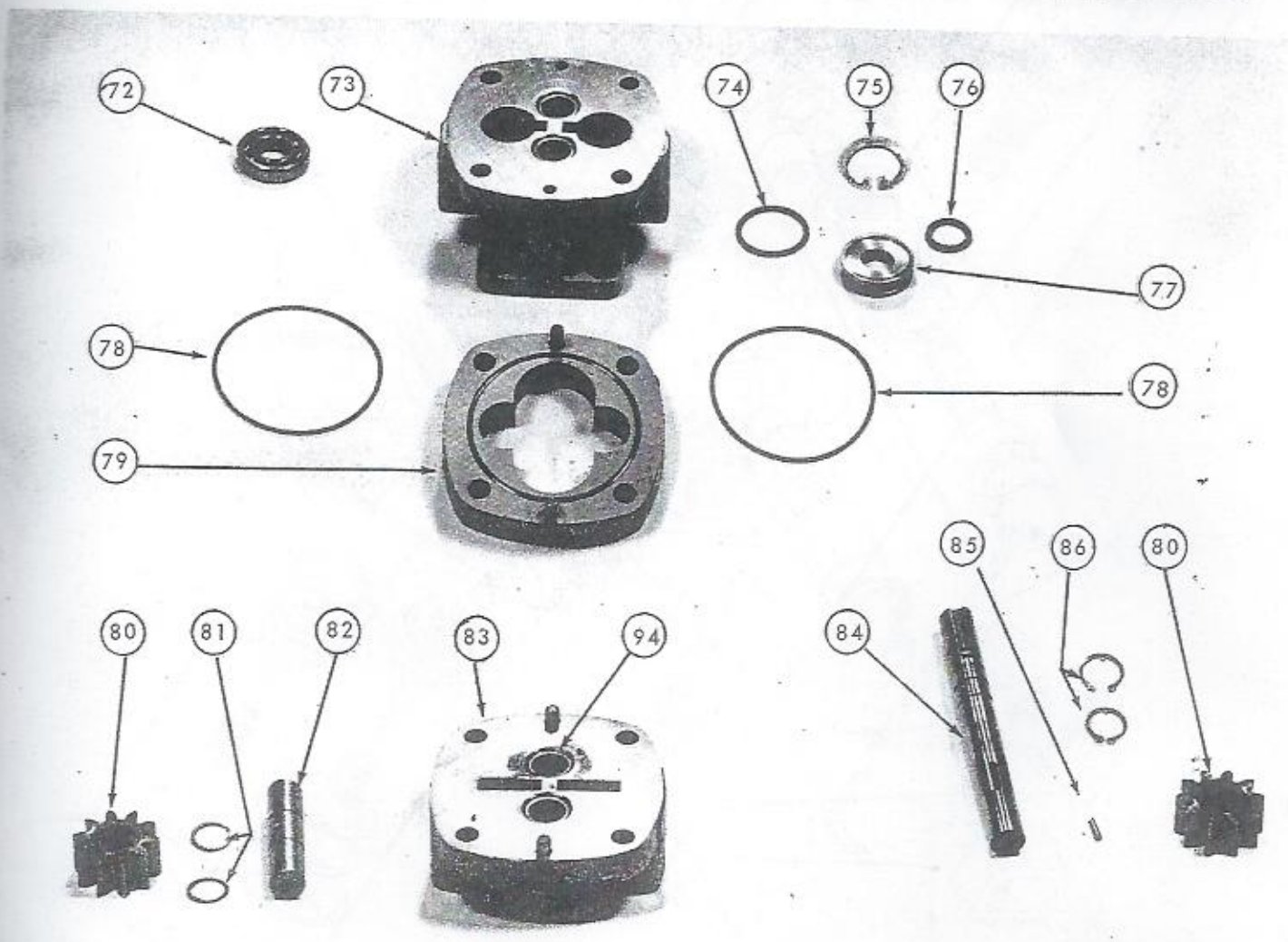
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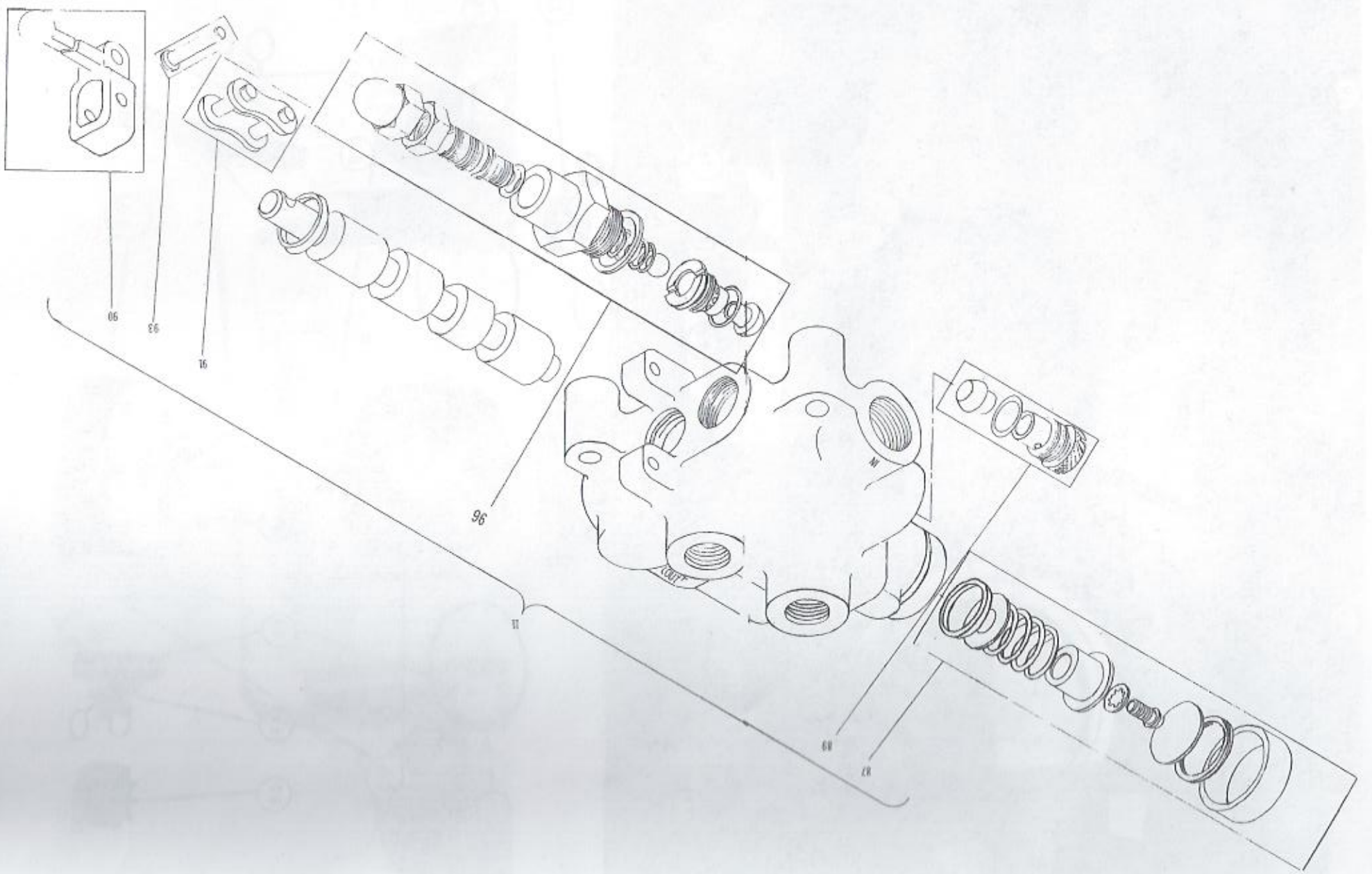
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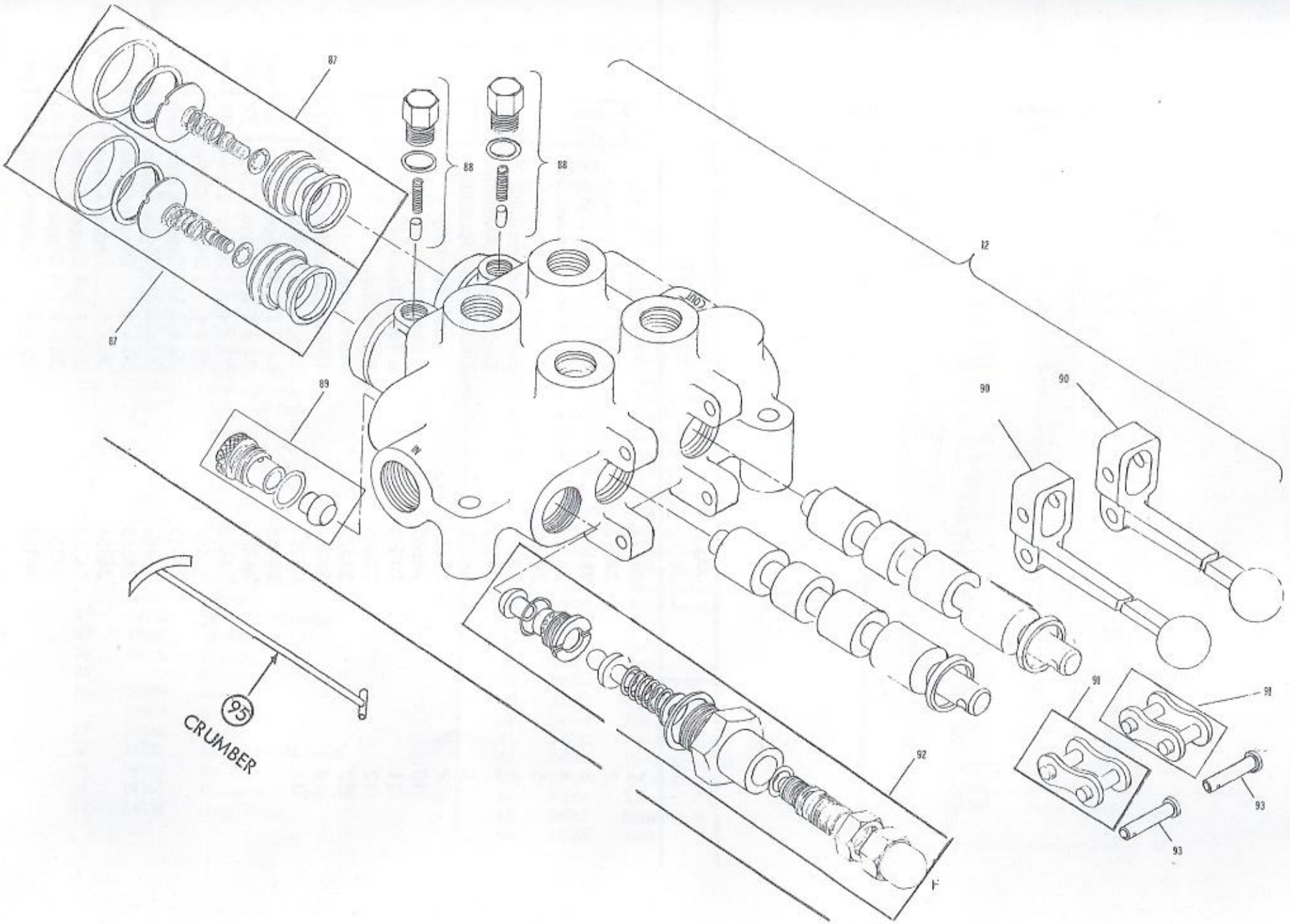
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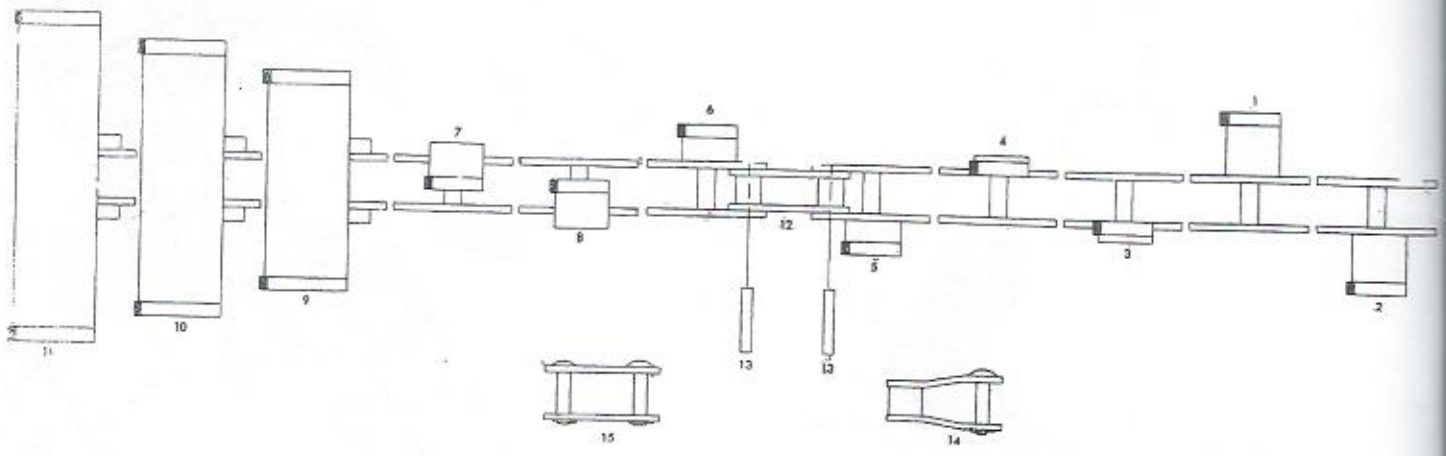
CRUMBER

DIGGER CHAIN & COMPONENT PARTS



KEY NO.	PART NO.	DESCRIPTION
1	24574	3 1/4 Tooth Assembly
2	24573	3 1/4 Tooth Assembly
3	24569	1 1/4 Tooth Assembly
4	24567	1 1/4 Tooth Assembly
5	24568	2 1/4 Tooth Assembly
6	24570	2 1/4 Tooth Assembly
7	24572	Center Tooth Assembly
8	24571	Center Tooth Assembly
9	24564	4 Tooth Assembly
10	24565	5 Tooth Assembly
11	24566	6 Tooth Assembly
12	24586	Roller Link
13	24575	Pin Riveted
14	24138	Offset Connector Link W/Pin
15	24213	Connector Link W/Pins
	24406	24 x 2 1/4 Digger Chain - 32 Teeth
	24407	24 x 3 1/4 Digger Chain - 32 Teeth
	24486	24 x 4 Digger Chain - 44 Teeth
	24488	24 x 6 Digger Chain - 44 Teeth
	24335	30 x 2 1/4 Digger Chain - 36 Teeth
	24352	30 x 3 1/4 Digger Chain - 36 Teeth
	24353	30 x 4 Digger Chain - 48 Teeth
	24354	30 x 6 Digger Chain - 48 Teeth
	24355	36 x 2 1/4 Digger Chain - 40 Teeth
	24356	36 x 3 1/4 Digger Chain - 40 Teeth
	24357	36 x 4 Digger Chain - 52 Teeth

WHEN ORDERING REPLACEMENT PARTS BE SURE TO STATE:

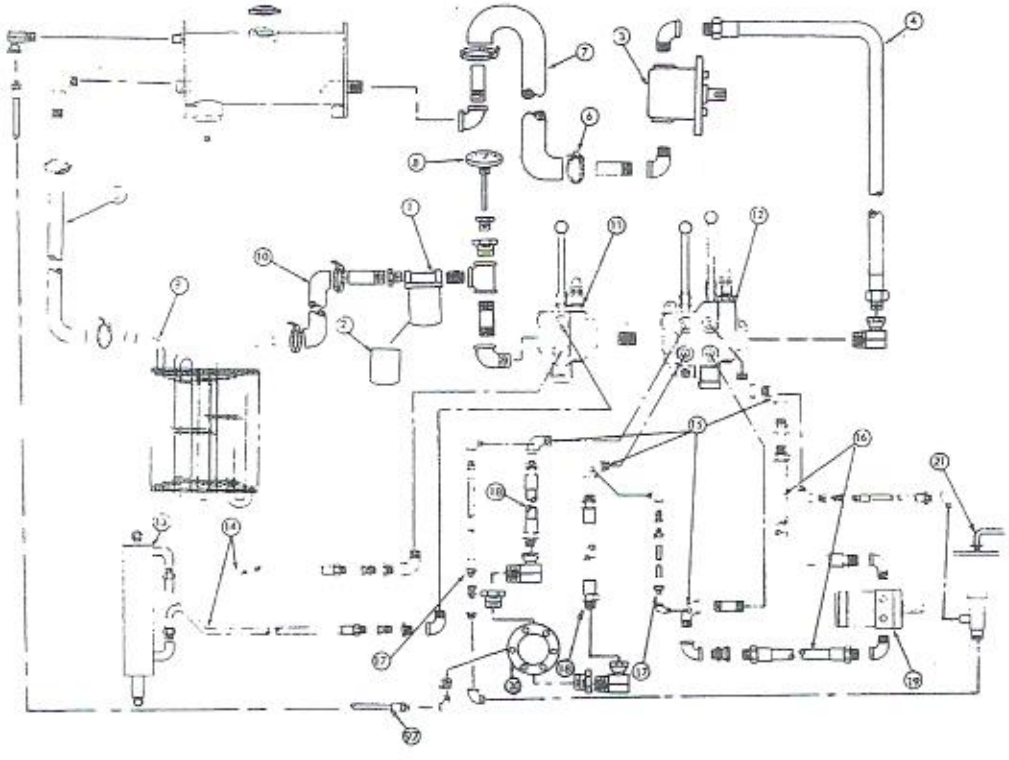
A. Part Number B. Machine Model No. C. Machine Serial No.

KEY NO.	PART NO.	DESCRIPTION
1	24251	Filter Assy.
2	24187	Screen
3	21528	Pump
4	24544	3/4 x 60 Hose
5	24773	3/4 x 45 Hose
6	24284	Hose Clamp
7	24581	1 x 60 Hose
8	24786	Temperature Gauge
9	24632	Coil
10	24772	3/4 x 28 Hose
11	24883	Cylinder Control Valve
12	~~24884~~	Motor Valve
13	24296	Lift Cylinder
14	24297	1/4 x 32 Hose
15	24785	Tapped Street L
16	24771	1/2 x 40 Hose
17	24751	1/8 x 18 Hose
18	24232	1/2 x 28 Hose
19	24228	Traction Motor
20	24314	Digger Motor
21	24264	Automatic Valve
	24275	"O" Ring
	24386	Back Up Ring
	24265	Piston
22	24948	Sprocket Assembly
23	24055	Sprocket
24	24056	Bearing
25		3/16 x 2 Roll Pin
26	24298	Boom
	24403	Short Boom
27	24545	Chain
28	24325	Sprocket - 14 Teeth
29	24043	Bearing
30	24169	Flangette (2 Required per bearing)
31	24320	Long Spacer
32	24045	Drive Sprocket
33	24321	Short Spacer
34	24319	Shaft
35	24322	Flywheel
36	24315	Torque Arm
37	24332	Cylinder Pin
38	24294	Cylinder Pin
39	24057	Shaft
40	24042	Short Yoke
	24094	Long Yoke
41	24059	Yoke Block
42	24582	Chain Tightener
43	24327	Spoils Spreader
44	24326	Spoils Spreader Shaft
45	24736	Cover
46	24726	Seat Mount
47	24229	Sprocket - 12 Teeth
48	24203	Drive Chain
49	24768	PTO Sprocket
50	~~24737~~	Cover
51	24738	Cover End Plate
52	26002	Filler Cap
53	24619	Main Mounting Bracket
54	24481	Pivot Bracket
55	24478	Crank
56	24745	Switch
57	24475	Boom Support
58	24744	Fan Blade
59	24645	Coil Support
60	24743	Fan Motor
61	24740	Fan Mounting
62	24746	Pump Mounting
63	24905	1 Coupling
64	24906	5/8 Coupling
65	24767	Drive Shaft
66	24766	Insert
67	24777	Heel Guard
68	24763	Brake Lock
69	24764	Lever Pivot Bracket
70	24757	Brake Pedal
71	21022	Spring
72	24902	Bearing
73	24888	Drive Plate
74	24897	"O" Ring
75	24894	Snap Ring
76	24898	Quad Ring
77	24893	Seal Retainer
78	24896	"O" Ring
79	24887	Case
80	24890	Gear
81	24901	Retaining Ring
82	24892	Idler Shaft
83	24889	End Plate
84	24891	Drive Shaft
85	24899	Dowel Key
86	24895	Retaining Ring
87	24965	Detent Spool Assy (1-Spool)
87	24937	Detent Spool Assy (2-Spool)
88	~~24938~~	Detent
89	24939	Check Plug
90	24747	Control Lever
91	24941	Link
92	24942	Relief Valve (2-Spool)
93	24943	Pin
	24394	4" Boom Stabilizer
	24395	6" Boom Stabilizer
94	24900	Needle Bearing
95	24551	Crumber for 2 1/4 Inch Trench
95	24552	Crumber for 3 1/4 Inch Trench
96	25044	Relief Valve (1-Spool)

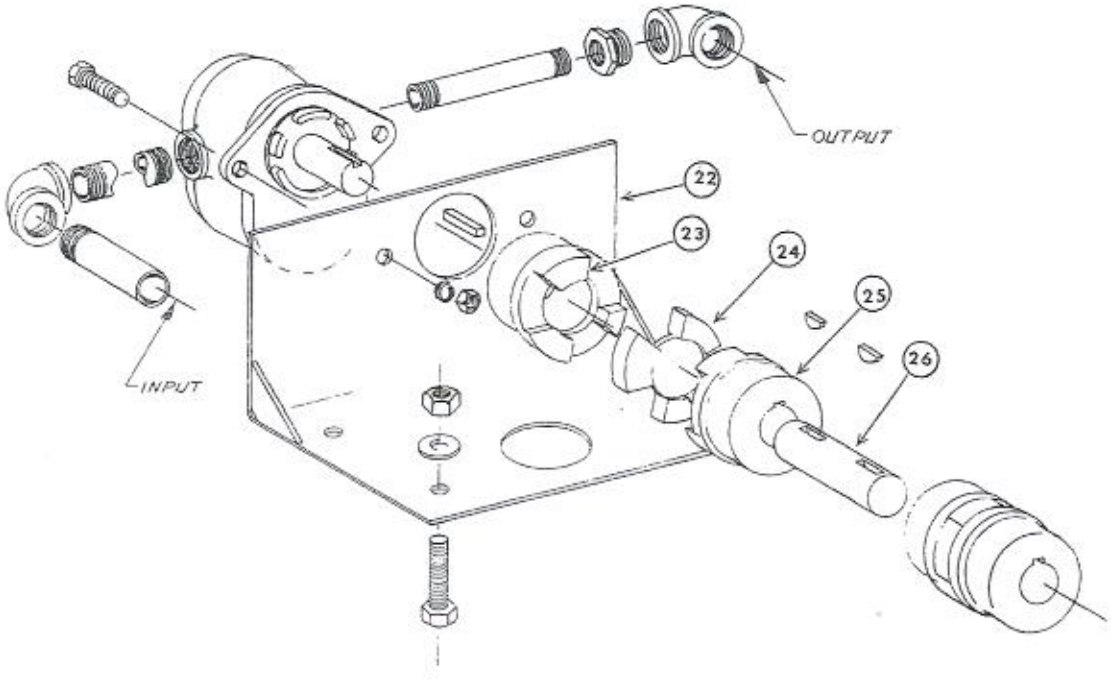
THIS SUPPLEMENT FOR USE
AFTER SERIAL # 914

SUPPLEMENT # 19262
TO MANUAL 363

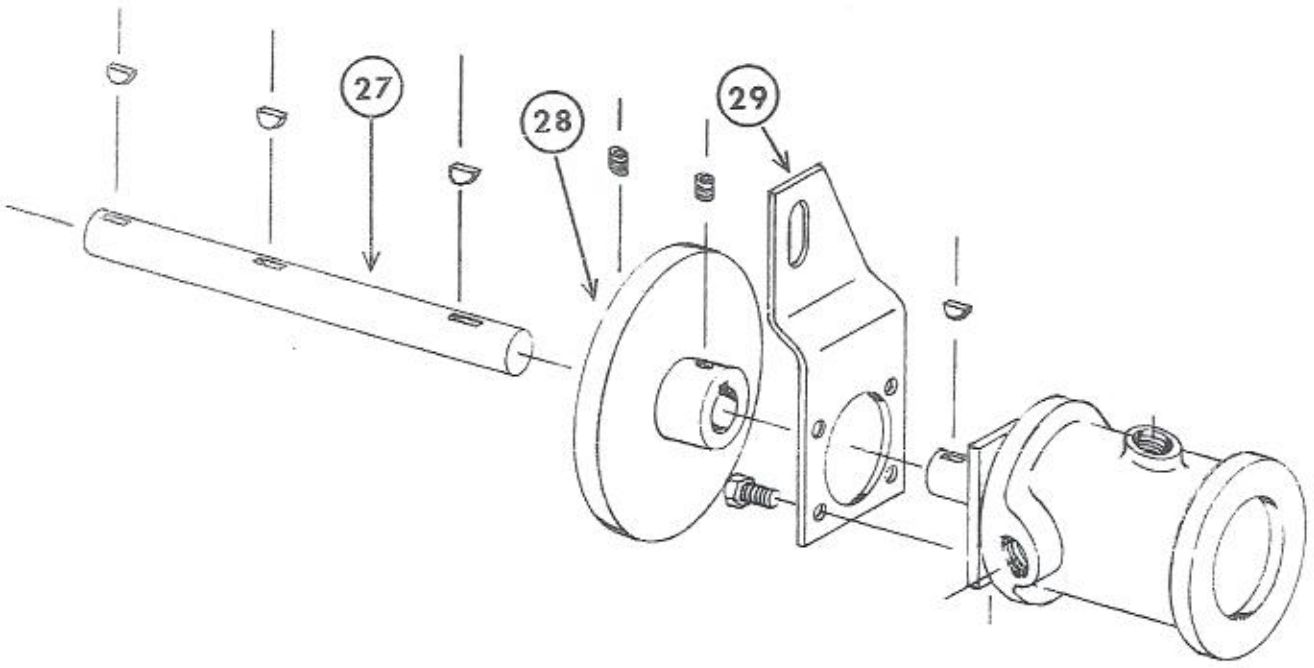
HYDRAULIC SYSTEM MOUNTING AND COMPONENTS FOR INTERNATIONAL HARVESTER IH - 100 - 102 - 122



SCHEMATIC OF HYDRAULIC SYSTEM



PUMP MOUNTING AND COMPONENTS



DIGGER MOTOR ASSEMBLY

AND COMPONENTS

FOR HOSES, FILTER, AND FITTINGS SEE HYDRAULIC SCHEMATIC

PARTS LIST

1.	25975	Filter
2.	25976	Filter Element
3.	25977	Pump
4.	SEE MANUAL 363	
5.	SEE MANUAL 363	
6.	SEE MANUAL 363	
7.	SEE MANUAL 363	
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17.	SEE MANUAL 363	
18.	SEE MANUAL 363	
19.	SEE MANUAL 363	
20.	25978	Digger Motor
21.	SEE MANUAL 363	
22.	25982	Pump Mount
23.	25883	Coupler
24.	SEE MANUAL 363	
25.	SEE MANUAL 363	
26.	SEE MANUAL 363	
27.	25987	Drive Shaft
28.	25980	Fly Wheel
29.	25981	Torque Arm
97.	25979	1/4 x 50 Hose

HAWK BILT

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