

# Manitowoc

## TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

**3900T**

Model

**39967**

Serial Number

**GROUP A = Rotating Structure** (Includes rotating bed, operator's cab, cases, fuel tanks, transfer pump, counterweights, guards, platforms, catwalks, machinery enclosure, horn)

**GROUP B = Upperworks Machinery** (Includes front, rear, and auxiliary drums, boom hoist, swing and drive shafts, hand levers, foot pedals, control linkage, rotation indicators, upperworks hydraulic components, hydraulic piping, hydraulic oil reservoir, lubrication pump and piping, blowers)

**GROUP C = Air Components & Electrical** (Includes control console, air piping, electric wiring, auxiliary light plant and lighting, TV monitoring, compressor and air tank)

**GROUP D = Power Components - Upperworks** (Includes engine or motor, radiator, auxiliary power plant, take off converters and piping, controls, VICON power lowering, torque limiter, hydraulic pumps and piping, fuel piping, battery box)

**GROUP E = Lower Structure & Control** (Includes carbody, crawlers, travel shafts and control, steering travel locks, hydraulic travel, travel power outriggers, carrier, pedestal, lowerworks hydraulic piping, RINGER components, barge mounting and machinery, spud drums)

**GROUP F = Attachments** (Includes booms, jibs, masts, tower, wire rope guides, equalizer, gantry, fairlead, timber guards, boom angle indicator, block-up limit, tag line, hook block, weight ball, upper and lower boom point, wind speed indicator, crowd and retract dipper sticks, dippers, )

**O-NUMBER SECTION =** (Includes lacing drawings and purchased component parts drawings referenced in sections A through F)

*This manual is arranged in sections as listed above. Sections A through F are arranged by group numerical order with an index after each section tab. An alphabetical index for groups A Through F combined is located after the O-number Section. The O-number section is arranged in numerical order by O-number. Following this cover page are the Basic Specifications, Warranty Information, Tool List (if applicable) Outline Dimensions, Weights, and Dealer Listing.*

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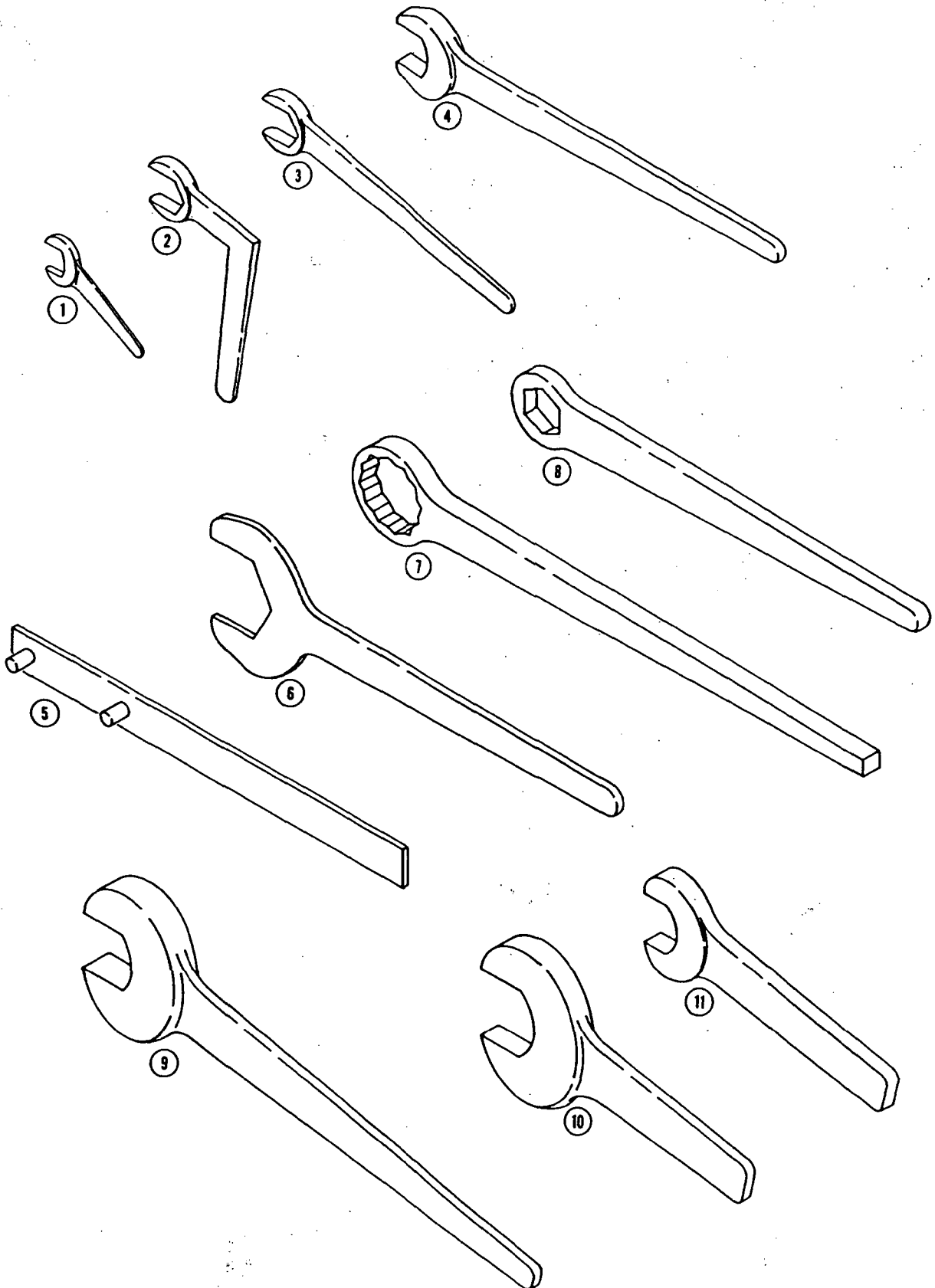
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Manitowoc, Wisconsin



0-480-1A

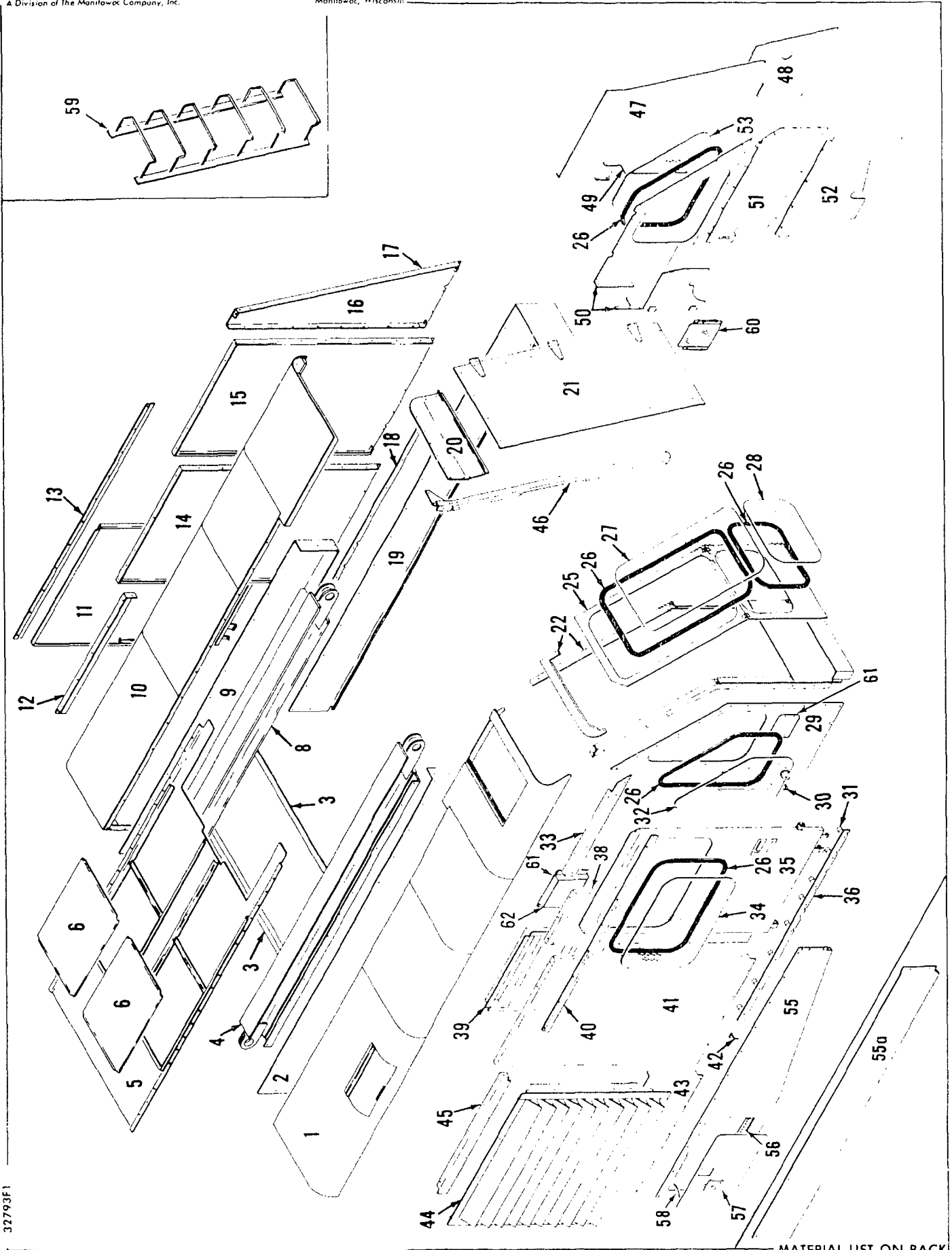
MATERIAL LIST ON BACK

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MASTER

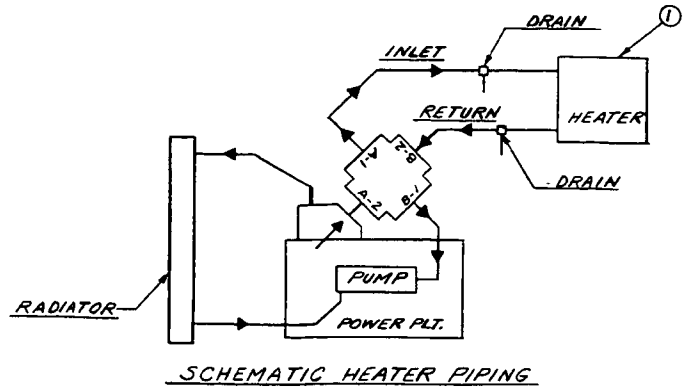


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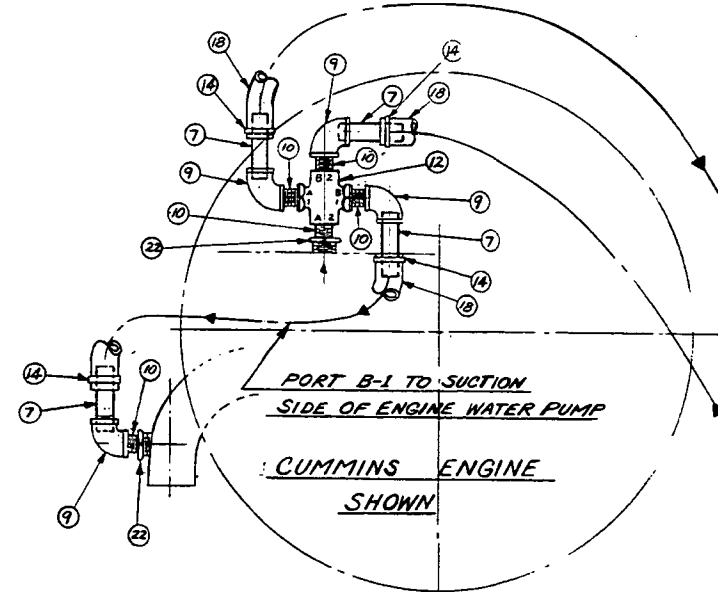
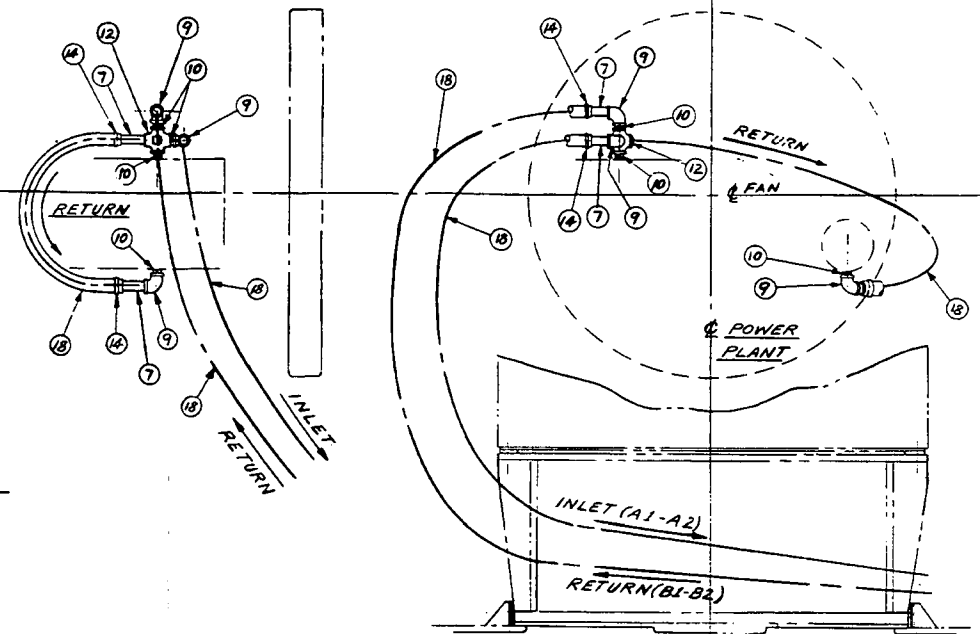
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CAB

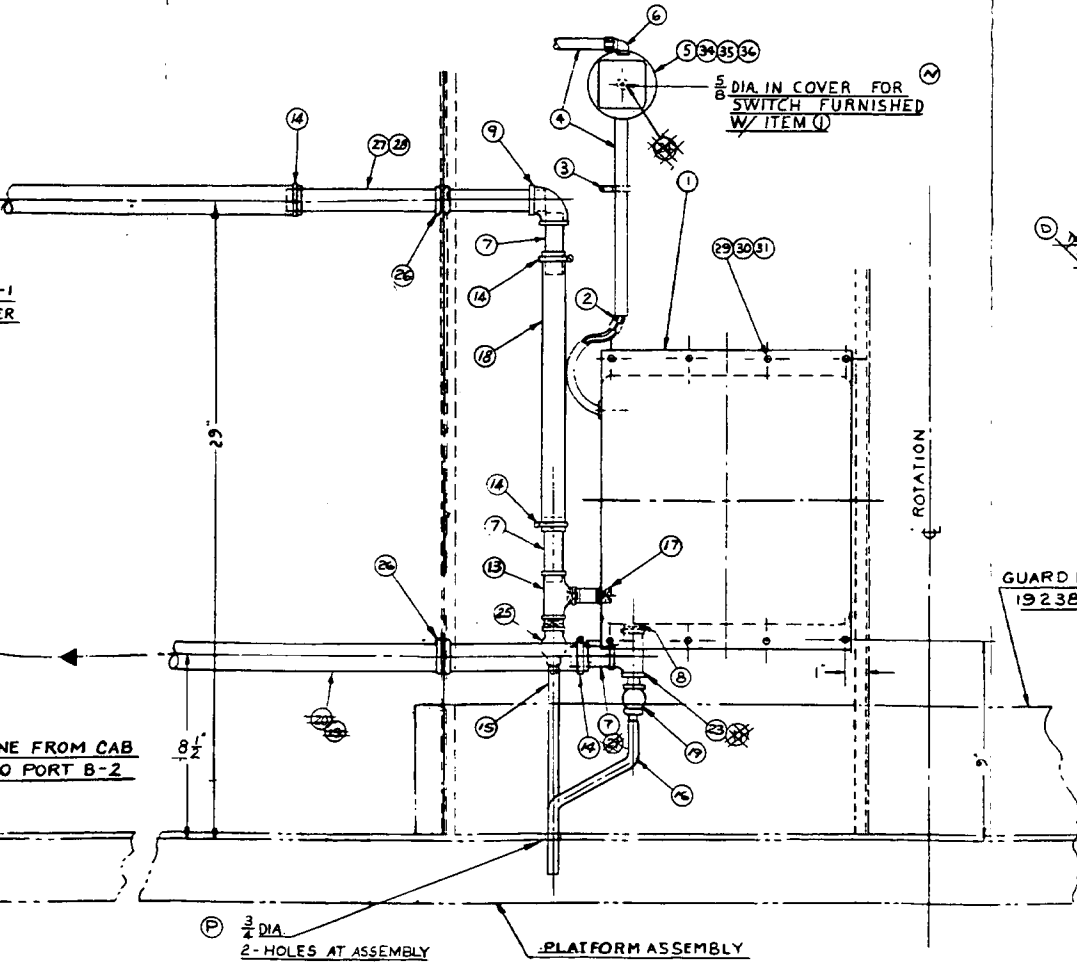




**IMPORTANT ASSEMBLY NOTE:**  
NO STEAM OR STOP COCKS ARE TO BE INSTALLED IN THE HEATER PIPING SYSTEM OTHER THAN ITEMS 12, 17, 25 AS SHOWN.



FITTINGS USED WITH CAT. & G.M. POWER PLANTS



BILL OF MATERIAL						APPROVED
ITEM NO.	QTY	SIZE	MATERIAL	CODE NO.	REMARKS	USED ON
1	1	KYSOR M-1075 24V HTR	480016		W/SWITCH	
2	2	IGNITION CABLE	296696		ON HEATER	
3	3	STRAP	667204		ONE HOLE	
4	1	1/4" LOOM X12	510706			
5	1	HANDY BOX & COVER	268508			
6	1	CONNECTOR	364155			
7	7	1/2" X 3" LG. STD. PIPE	566120		THD. ONE END	
8	1	3/8" CLOSE NIPPLE	543403			
9	5	1/2" X 90° ELBOW	406953			
10	5	1/2" CLOSE NIPPLE	543404			
11	1	1/2" X 3" LG. STD. PIPE	566120		THD. ONE END	
12	1	HEATER DUAL SHUT-OFF COCK	138934			
13	1	1/2" X 1/2" X 3/8" TEE	679352			
14	8	HOSE CLAMP	345337			
15	1	1/2" PLASTIC HOSE	485845			
16	1	3/8" PLASTIC HOSE	485844			
17	1	3/8" X 1/2" LG. NIPPLE	543709			
18	1	3/4" I.D. HOSE	485505			
19	1	1/2" PETCOCK	355453			
20	1	1/2" X 3" LG. STD. PIPE	566120		THD. ONE END	
21	1	1/2" X 1/2" X 3/8" TEE	679352			
22	2	3/4" X 1/2" RED BUSHING	288753		WITH CUMMINS ENGINE ONLY	
23	1	3/8" X 3/8" X 1/2" TEE	679348			
24	1	ROCKWELL SWITCH	673357			
25	1	1/2" PETCOCK	355454			
26	2	GROMMET	472025			
27	1	1/2" X 12" LG. STD. PIPE	565949		THD. ONE END	
28	1	1/2" X 12" LG. NIPPLE	543716		SEE NOTE 3	
29	8	1/4" - 20 NC X 1/2" LG. STOVE BOLTS	254549		OVEN HD.	
30	8	1/4" - 20 N.C. HEX. NUT	546052			
31	8	1/4" LOCKWASHER	710302			
32	1	3/8" B X CONNECTOR 90°	364168			
33	16	#14-1 TYREX CORD	371829			
34	1	15 AMP. FUSE	453230			
35	1	BLANK COVER	570103			
36	1	FUSE HOLDER	575502			
37						
38						
39						
40						
41						
42						

~~NOT FOR USE IN THE 12 VOLT APPLICATION~~

**NOTE 1 - IMPORTANT**  
DO NOT USE EXCESSIVE FORCE IN APPLYING PIPE FITTING TO HEATER INLET & OUTLET. IF PIPE THREADS IN HEATER ARE OVERSIZE OR DEFECTIVE IN ANY WAY RETURN HEATER TO VENDOR FOR CORRECTION.

**NOTE 2**  
FOR 12 VOLT APPLICATION SUBSTITUTE KYSOR 12 VOLT HEATER M.E.C. CODE NO. 480017 FOR ITEM 1

**NOTE 3**  
WHEN GAS ENGINE WATER HEATER IS USED IN CONJUNCTION WITH CAB HEATER DELETE ITEM 27 & ADD ITEM 28. CONNECT ITEM 28 TO TEE ITEM 26 ON GAS WATER HEATER ASSEM. NO. 31135.

M.F.R.'S. RATING  
48000 B.T.U.  
523 C.F.M.

REDESIGNED AS 190144  
SUPERSEDES 48762 OF 11-21-69

ALSO SUPERSEDES 180284 OF 8-10-71 FOR M-2900-NC. ONLY

NOTICE  
THE NEW STAND BY DESIGN OF  
MANITOWOC ENGINEERING CO.

SCALE	UNLESS NOTED
3" = 1'-0"	
LPW	
CHJ	
RJS	

48762	MANITOWOC ENGINEERING CO.	CAB HEATER ASSEMBLY

48762

REVISION DATE

DATE

6-16-70

PATTERN NO.

CODE NO.

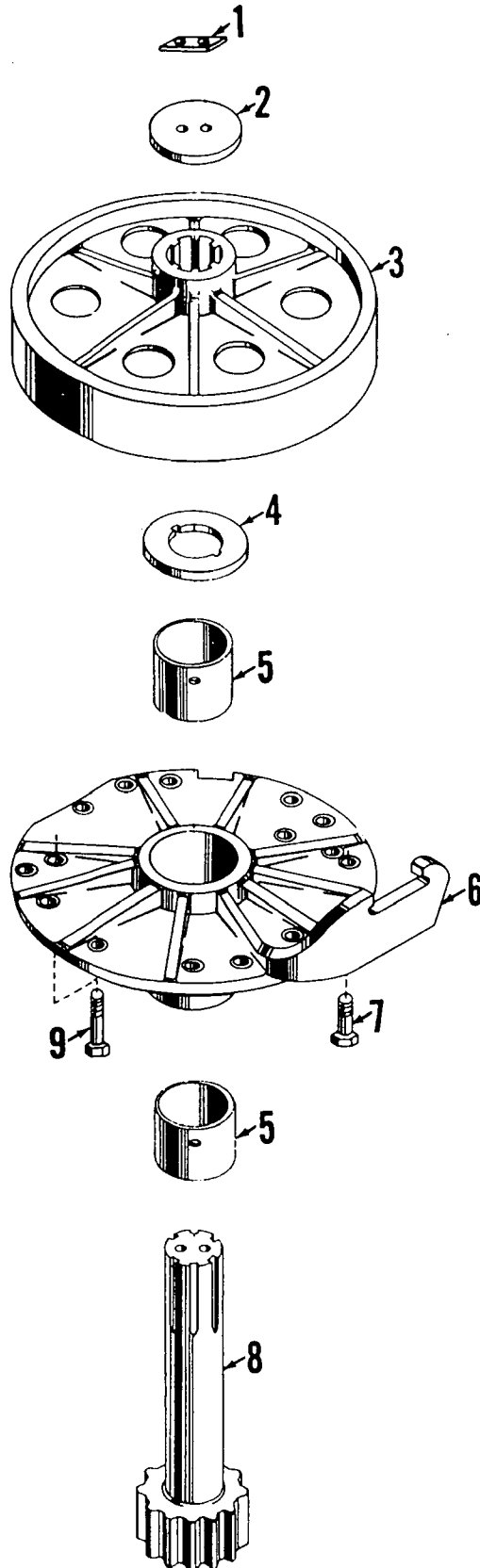
48762

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MASTER



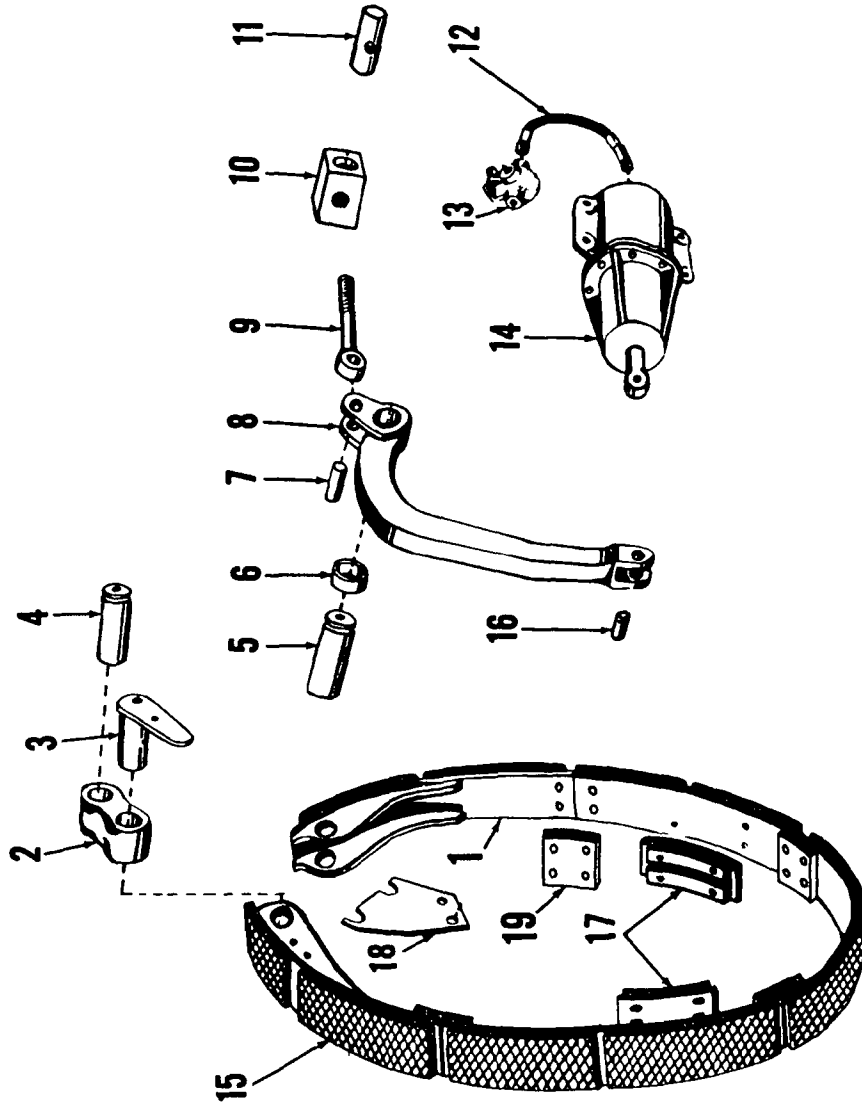
ILLUST. No. 20572 - B-1

MATERIAL LIST ON BACK

SWING BRAKE SHAFT



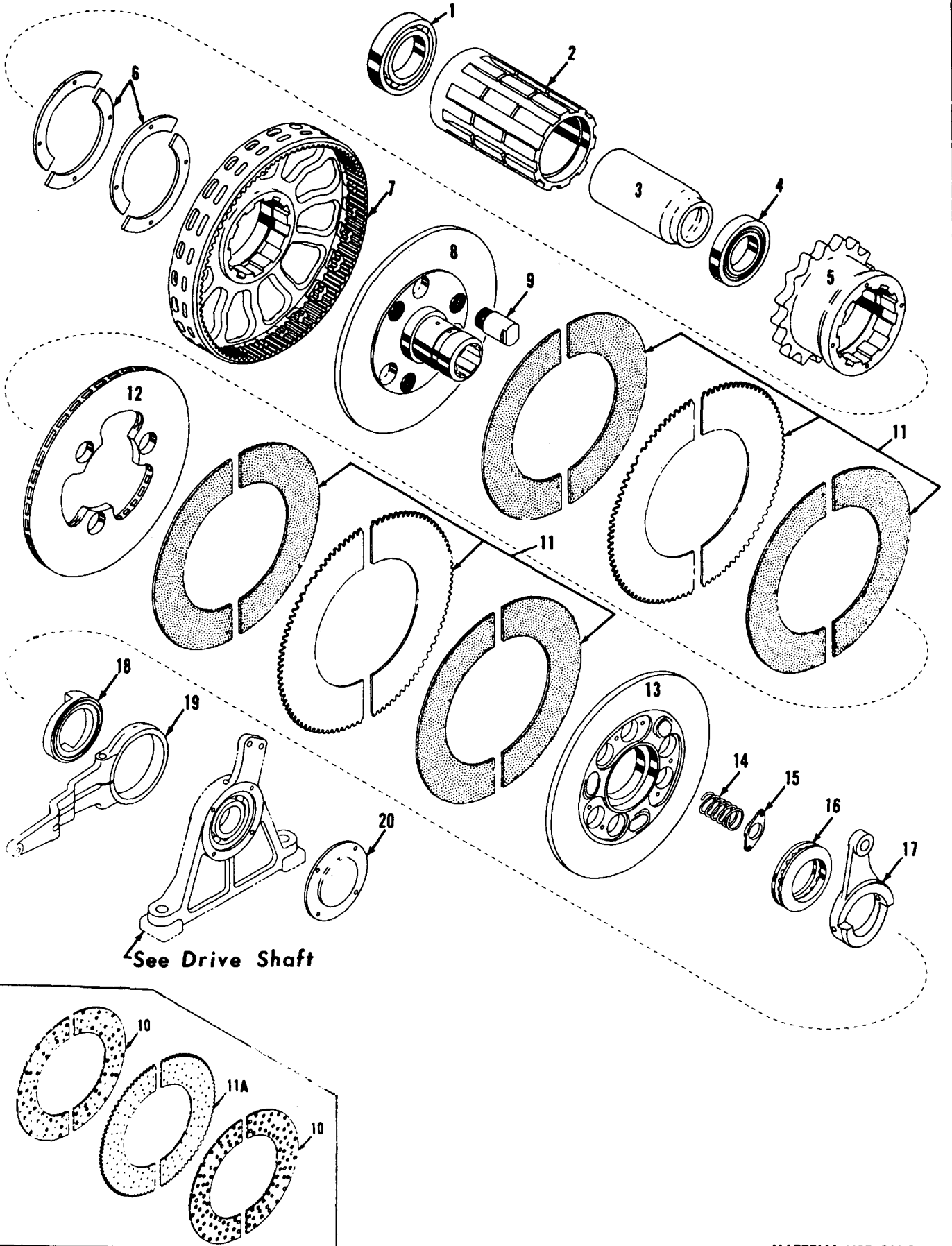
Use 4238 E2 Back MASTER



4170282

MATERIAL LIST ON BACK

CLUTCH BAND ASSEMBLY

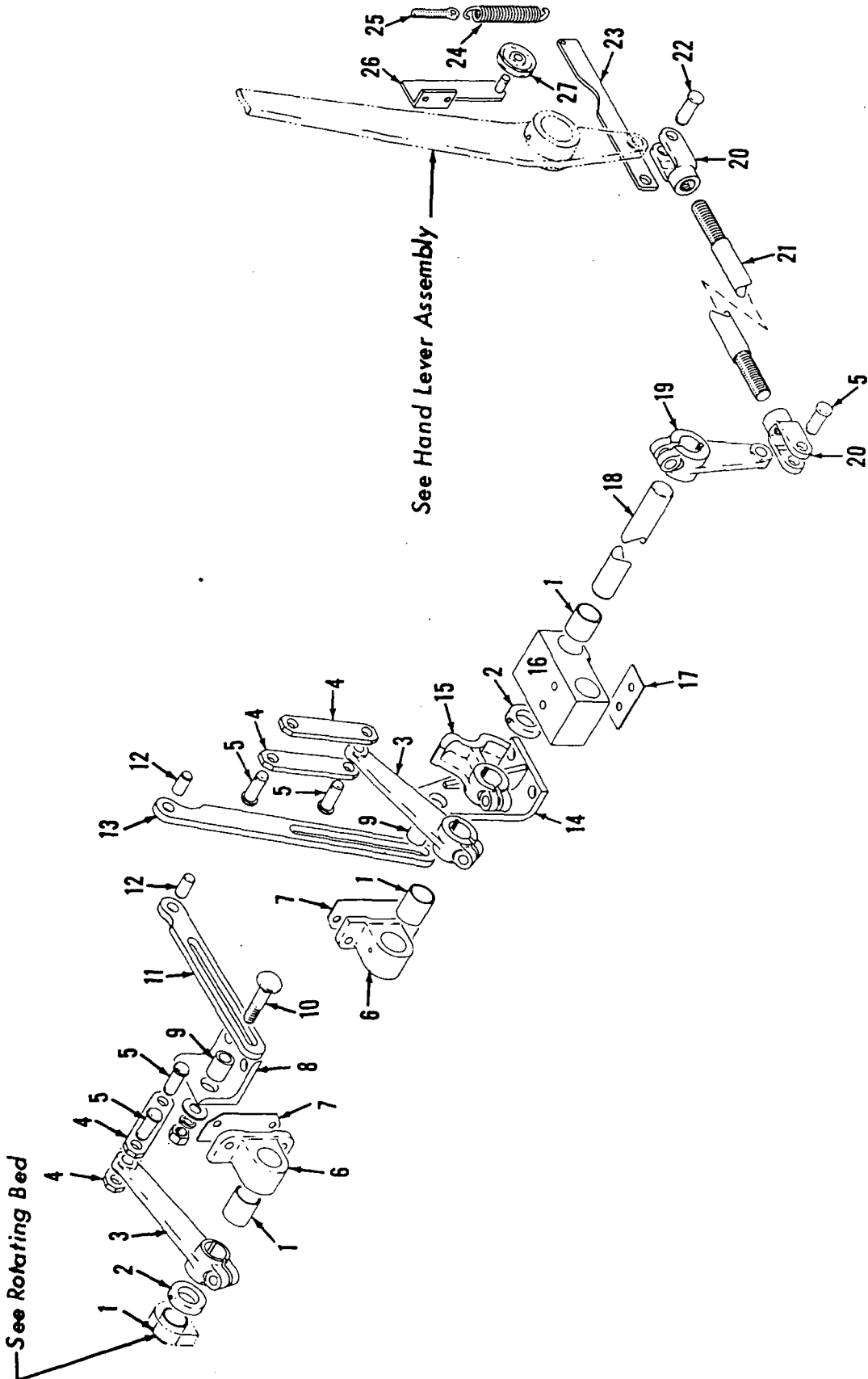


43137A3

MATERIAL LIST ON BACK

MAIN DRIVE SHAFT

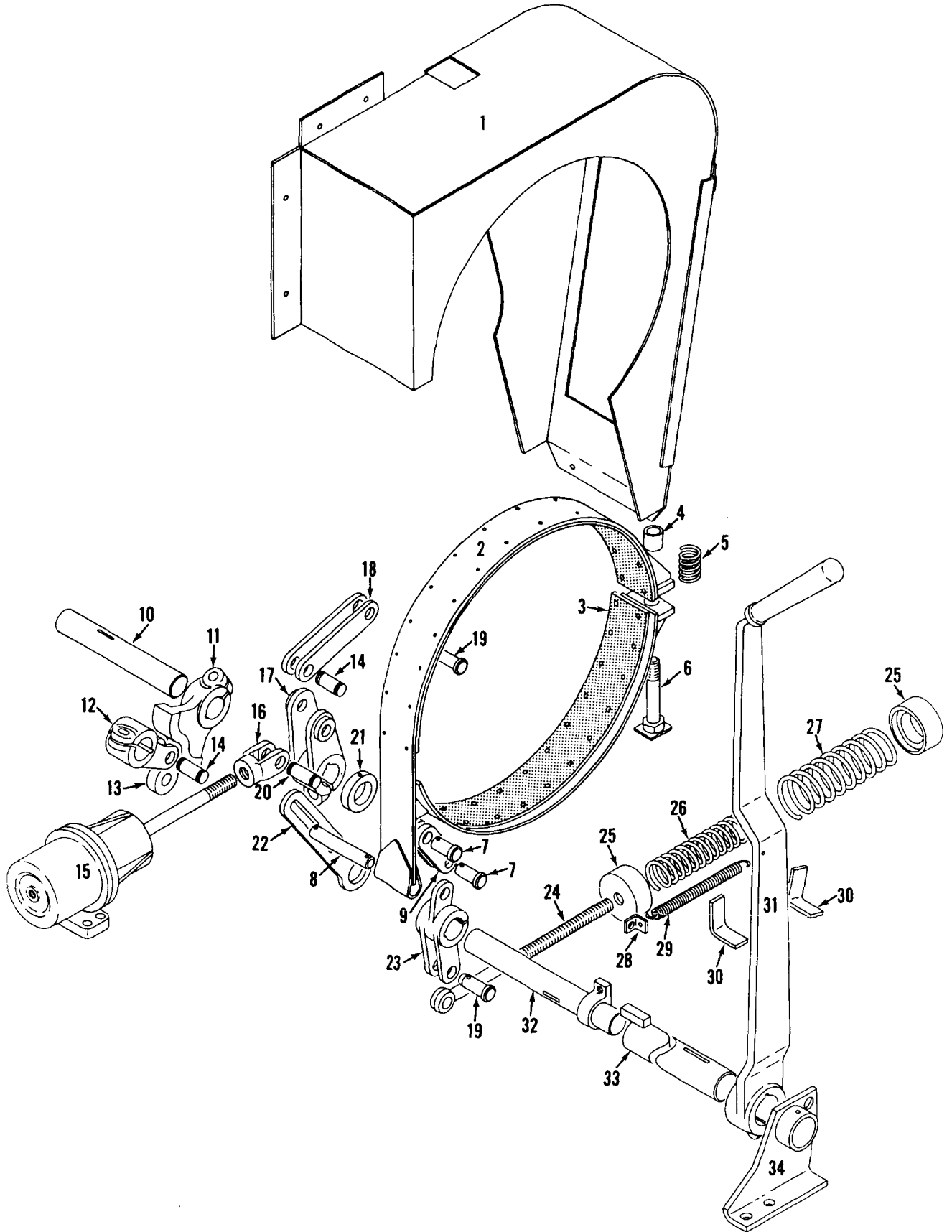
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43499 A1

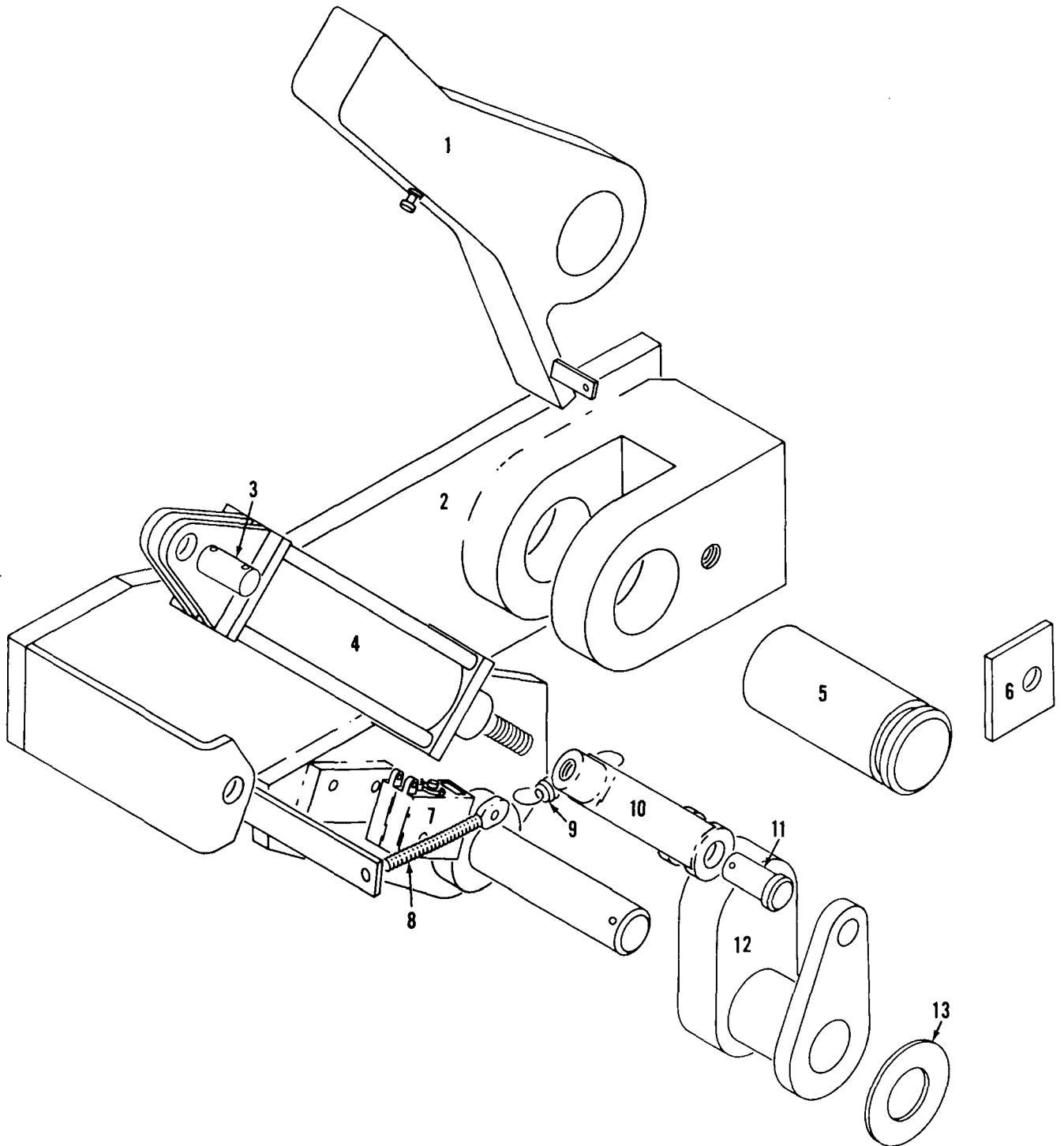
MASTER



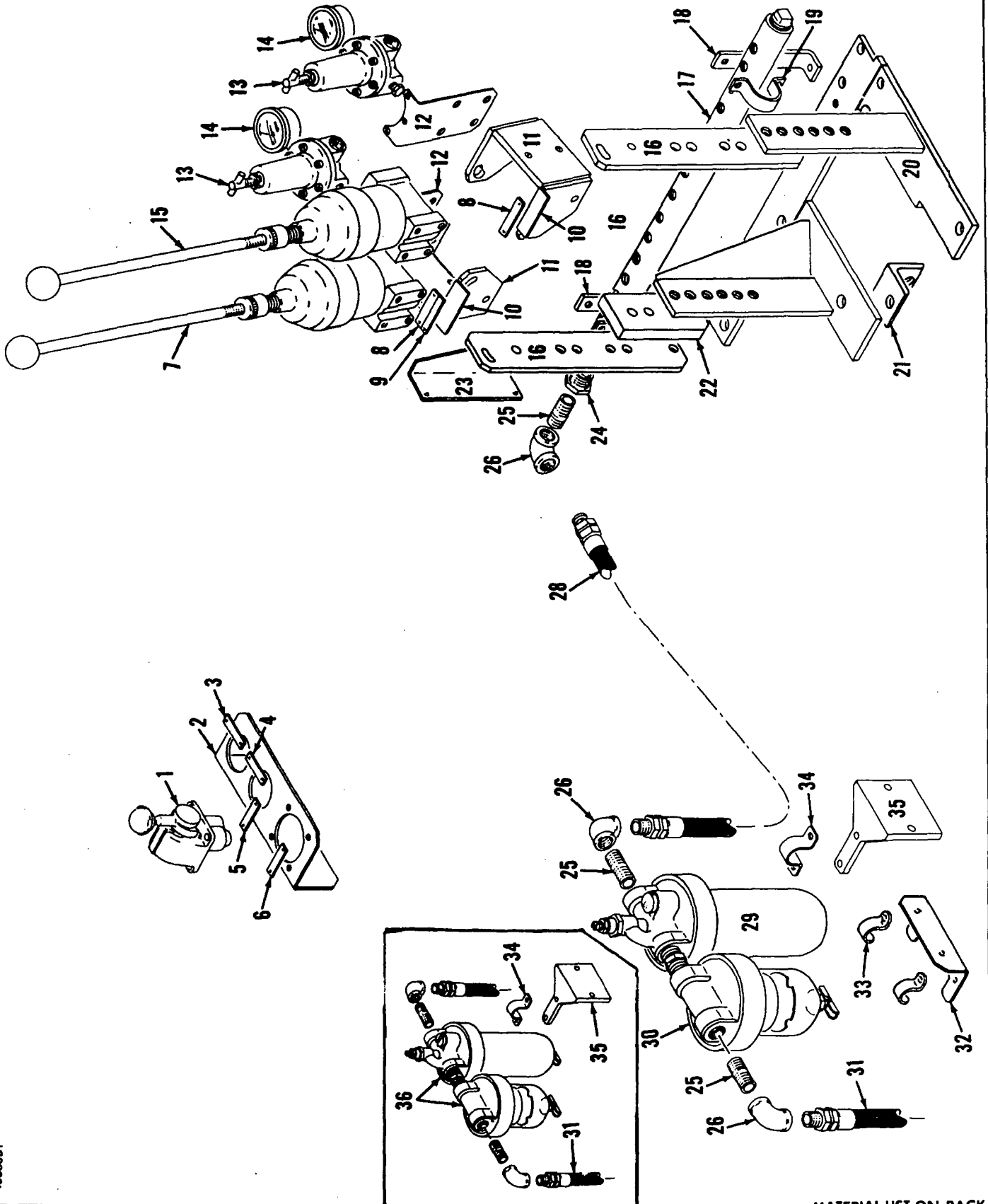
49250A1

MATERIAL LIST ON BACK

AUXILIARY DRUM CONTROL



MASTER



4338381

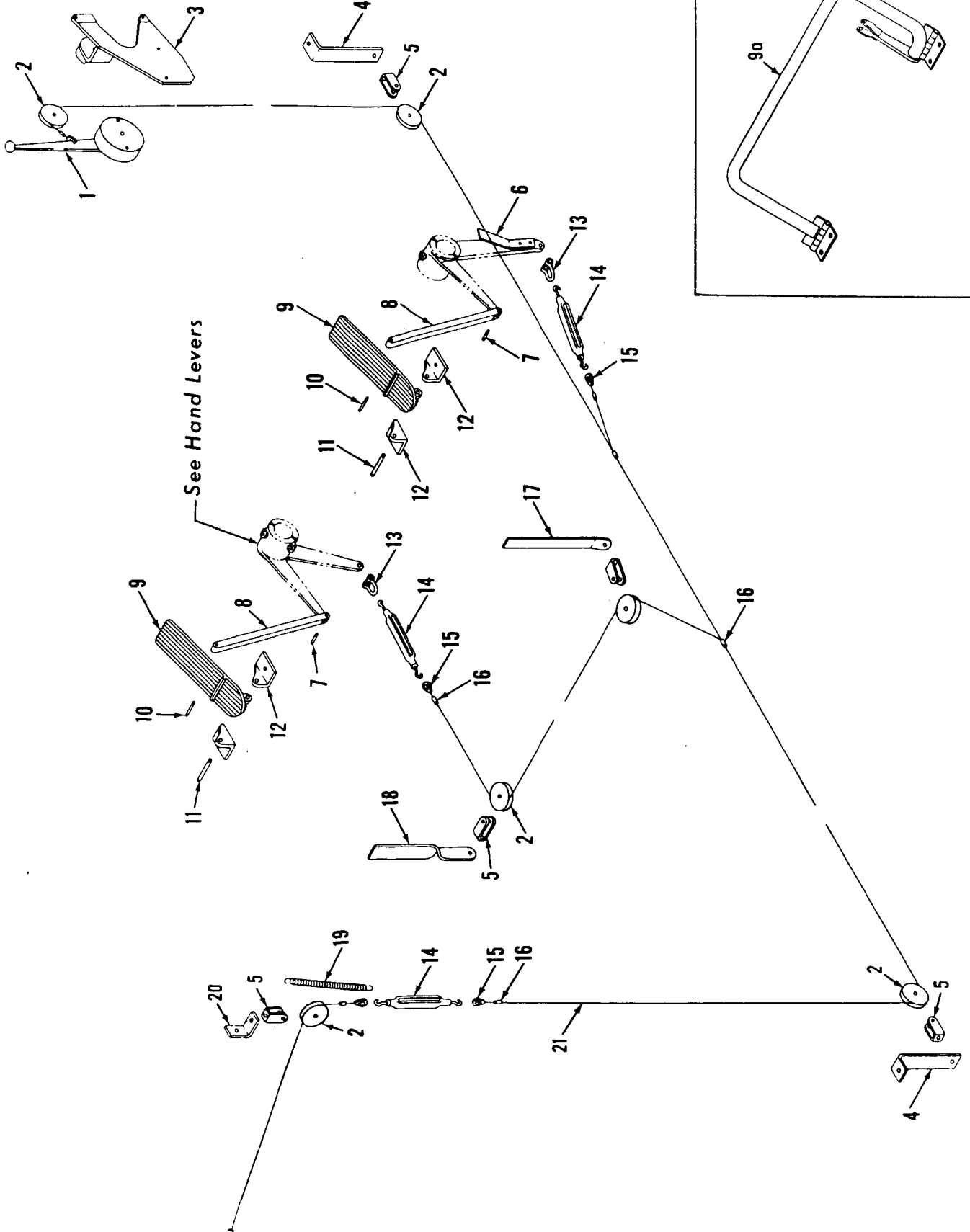
MATERIAL LIST ON BACK

VALVE BOARD ASSEMBLY

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32498 C1

32498C1

MATERIAL LIST ON BACK

ENGINE CONTROL

43091-1 Cont.	REV. G	MODEL VICON 3900T
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FRONT CONVERTER MANUAL CONTROL

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
30	96323	1	LEVER, Hand (Electric Control Power Load Lowering)	
30A	93778	1	LEVER, Hand (Electric Control Power Load Lowering)(Superseded by #96323)	
30A	24899	1	LEVER, Hand (w/Boom Hoist Control)	
			NOTE 1: As shown above for levers #96319, 96322 and 96323. For levers #93735, 90195, 93777, 93739, 93778 and 24899 delete parts #140334, 143985, 138597 and use the following: (See boxed items)	
4	140197	1	PIN w/cotter pin	
21A	140884	1	PIN w/cotter pin	
22A	18937	1	BAR, Roller	
23	10222	1	WASHER	
27A	229	1	SPRING	
Use one of the following as checked - 96322, 93777, 93739, 96323, 93778, 24899				
				REV. G
				43091-1

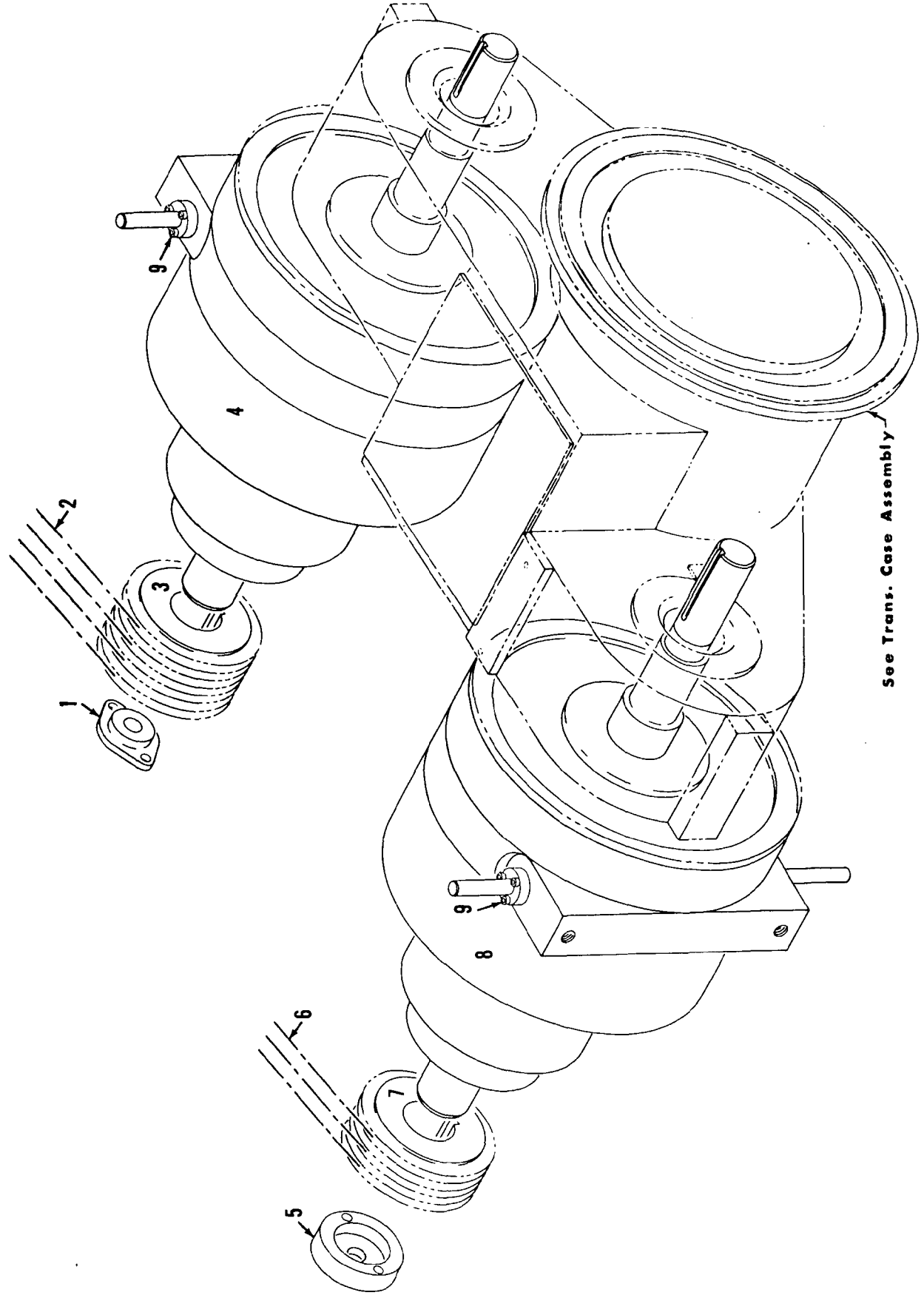
PLEASE GIVE MACHINE S/N W/ORDER

CP

Run as Front

43091 G1 Cont.

MASTER



See Trans. Case Assembly

42749 A2

42749A2

MATERIAL LIST ON BACK

POWER TAKE - OFF ASSEMBLY

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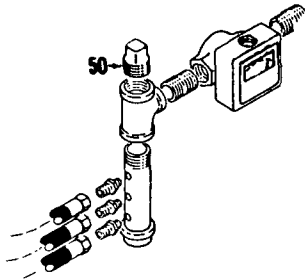
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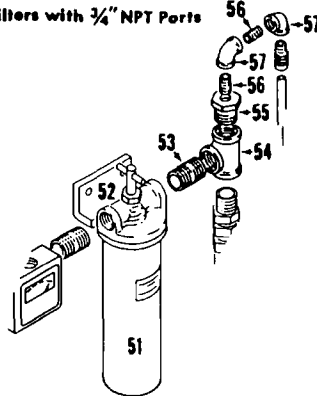
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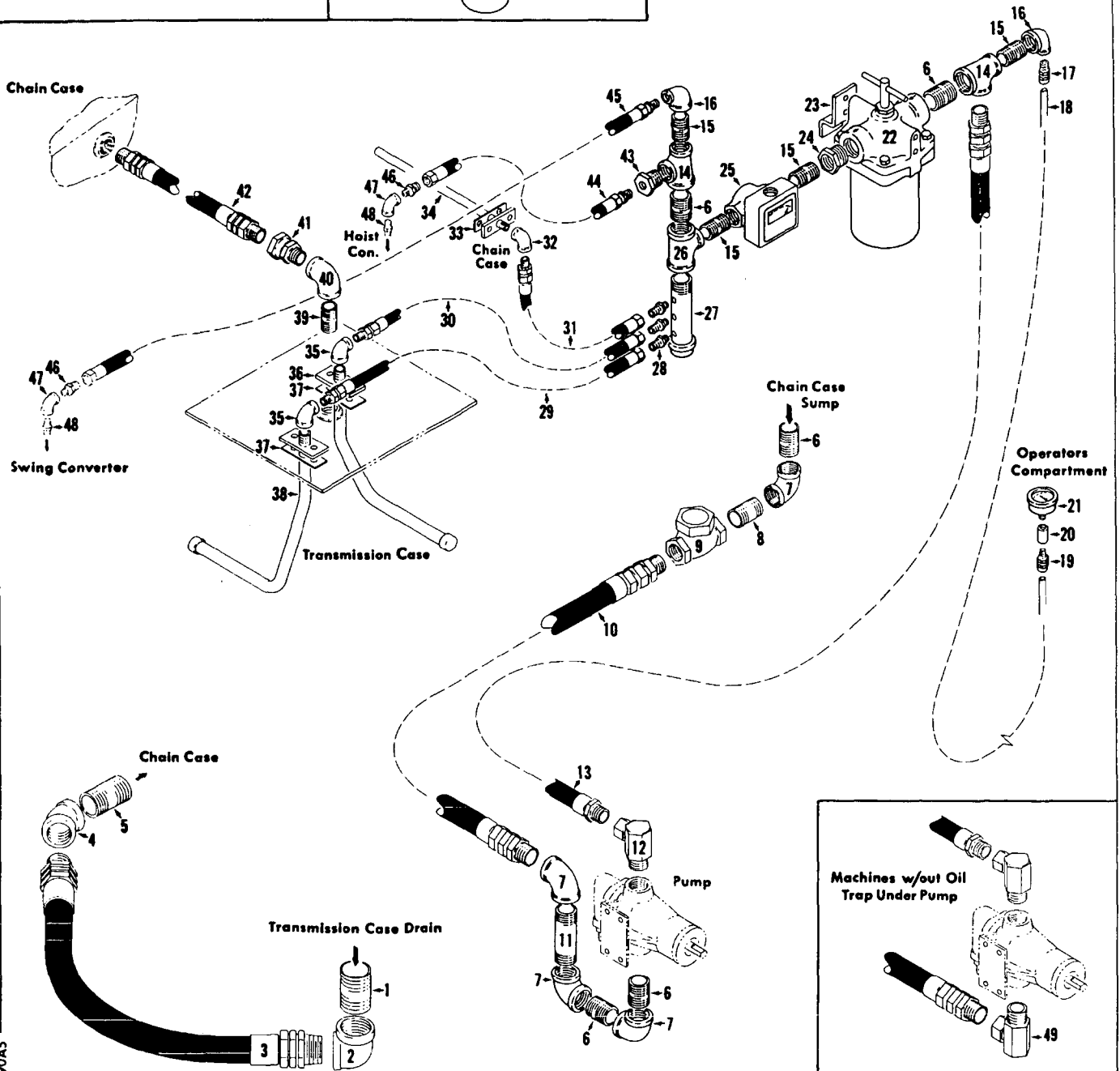
**Machines w/out Forced Oil Lubrication to Converters**



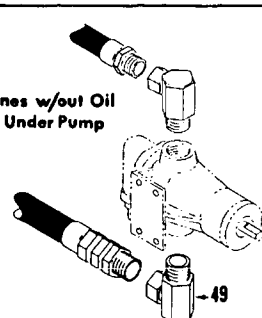
**Filters with 3/4" NPT Ports**



**Chain Case**



**Machines w/out Oil Trap Under Pump**



48090A5

**MATERIAL LIST ON BACK**

**LUBRICATION PIPING**

**PARTS MANUAL ALPHABETICAL INDEX**  
**Group E - Lower Structure & Control**

<b>DESCRIPTION</b>	<b>PUBLICATION</b>	<b>REV</b>	<b>START DATE</b>	<b>END DATE</b>	<b>GROUP</b>
Carrier	50323	K1	06/06/63	02/15/79	E2701
Hydraulic Outriggers	50478	-	05/13/66	10/16/08	E2801
Hydraulic Outriggers	50478	B0	05/13/66	05/06/85	E2801
Hydraulic Outriggers	50478	C1	05/13/66	09/15/80	E2801
Hydraulic Outriggers	50478	E2	05/13/66	06/18/73	E2801

50478-1 Cont	REV C	MODEL 3900T
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HYDRAULIC OUTRIGGER CONTROL

REF NO	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO
	695466	1	TUBE, Preformed (Center Section)	
	695892-2	1	TUBE, Preformed (Rear Section)	
F	695891-0	1	TUBE, Preformed (Left Rear Jack Up)	
	695891-1	1	TUBE, Preformed (Front Section)	
G	695466	1	TUBE, Preformed (Center Section)	
	695891-2	1	TUBE, Preformed (Rear Section)	
	695890-0	1	TUBE, Preformed (Left Rear Beam Out)	
	695890-1	1	TUBE, Preformed (Front Section)	
H	695466	1	TUBE, Preformed (Center Section)	
	695890-2	1	TUBE, Preformed (Rear Section)	
	695889-0	1	TUBE, Preformed (Left Rear Beam In)	
	695889-1	1	TUBE, Preformed (Front Section)	
J	695466	1	TUBE, Preformed (Center Section)	
	695889-2	1	TUBE, Preformed (Rear Section)	
J	695888	1	TUBE, Preformed (Right Front Jack Up)	
K	695887	1	TUBE, Preformed (Right Front Jack Down)	
L	695886	1	TUBE, Preformed (Right Front Beam In)	
M	695885	1	TUBE, Preformed (Right Front Beam Out)	
N	695884	1	TUBE, Preformed (Left Front Jack Down)	
P	695883	1	TUBE, Preformed (Left Front Jack Up)	
Q	695882	1	TUBE, Preformed (Left Front Beam Out)	
R	695881	1	TUBE, Preformed (Left Front Beam In)	
			NOTE 1 Per design change of March 4, 1971, Oil Tank now furnished by Hendrickson Mfg Co	
			NOTE 2 Per design change of June 4, 1976 the following changes were made Delete Ref Nos 7, 8 and add	
7	429552	1	FITTING, 90°	
8	485754	1	HOSE, Flex (7'0" - 2 134 m)	
			USE 0-244	
				REV C
				50478 - 1

PLEASE GIVE MACHINE S/N W/ORDER

MASTER

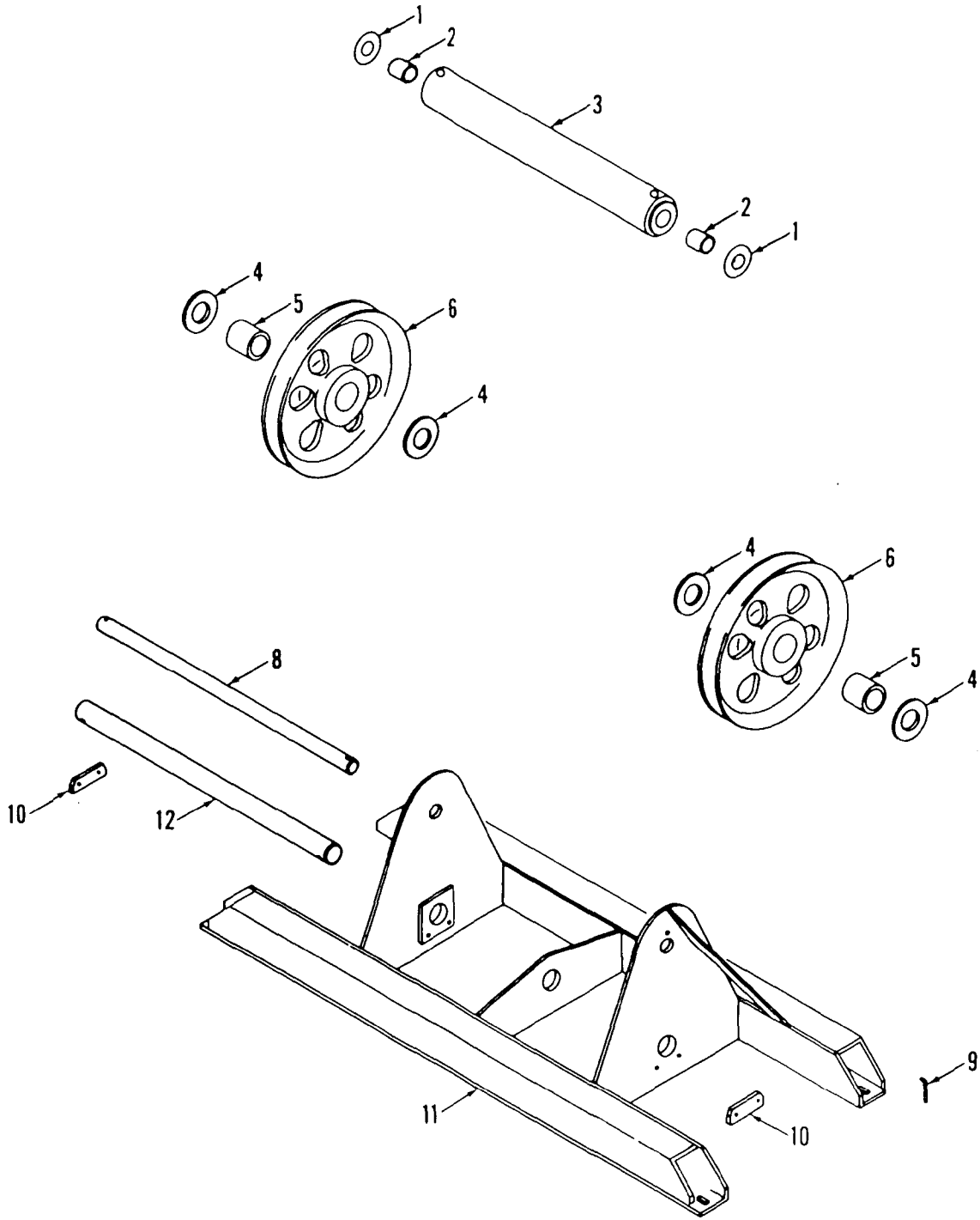
run as a IRO

478 C1 Cont

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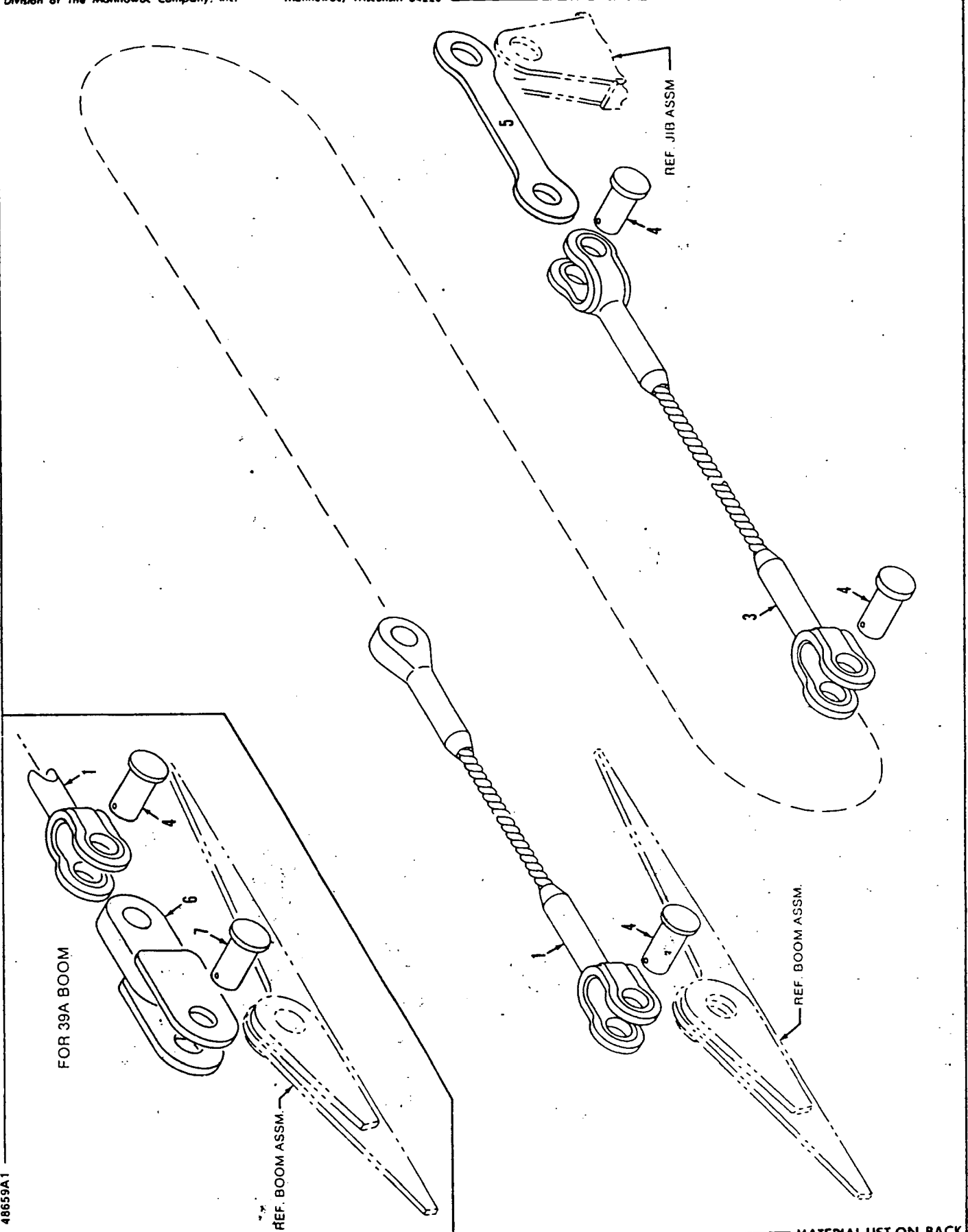
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32889C1

MATERIAL LIST ON BACK

CABLE GUIDE



48659A1

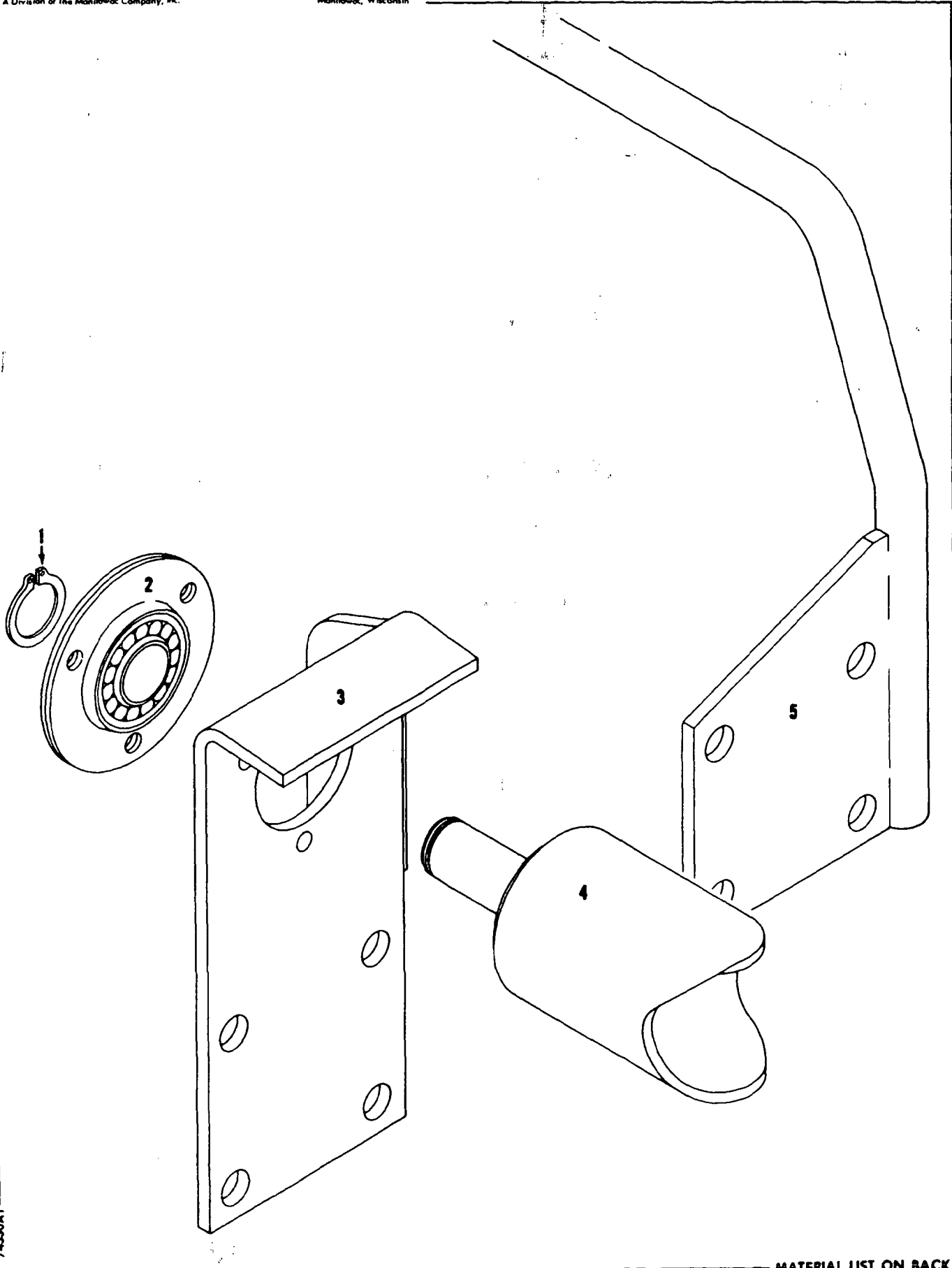
MATERIAL LIST ON BACK

JIB BACKSTAY

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74550A1

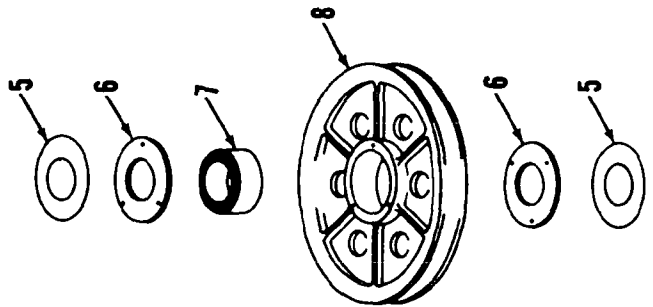
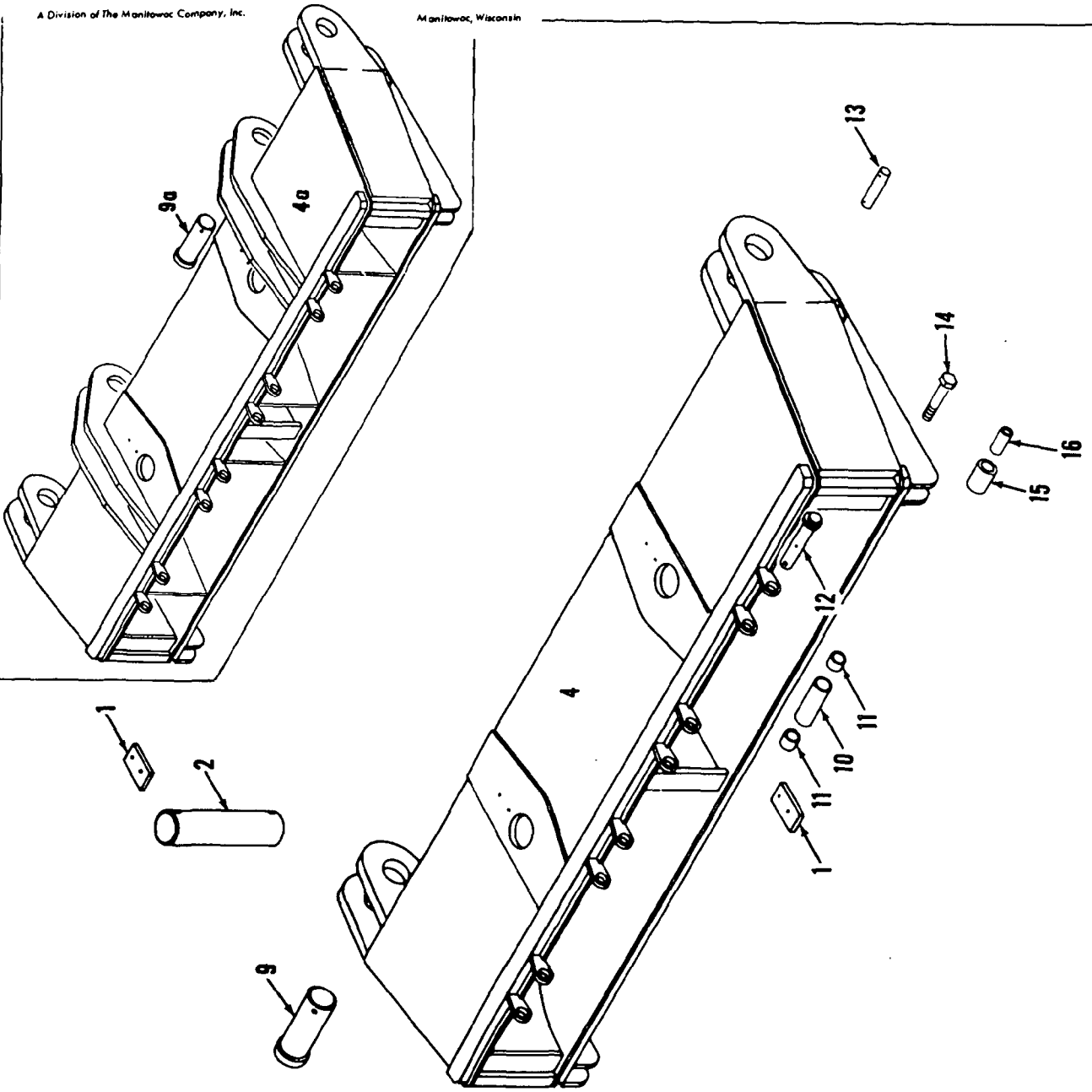
MATERIAL LIST ON BACK

CABLE ROLLER GUIDE ASSEMBLY

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91481C1

MATERIAL LIST ON BACK

EQUALIZER

0-69 - 1 Cont.	REV. C.	MODEL 2300-4600 Incl.
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AIR CONTROL VALVE  
 (MANITOWOC #714493 - WESTINGHOUSE #P59331 NEW : P54424-0101 OLD) (2-HA-1)  
 (MANITOWOC #714418 - WESTINGHOUSE #P59333 NEW : P54424-0301 OLD) (2-HA-LR)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
13		1	CAM	P54192
14		1	FOLLOWER, Cam	P54197
15		2	SCREW, Truss Head	P49861-3
16		2	LOCKWASHER	506608
17		1	FLANGE, Valve Retaining	P54463
18	714504	1	RING, "0" (15/16" O.D.)*	P49708-16
19		1	GUIDE, Plunger	P54147
20	714506	1	RING, "0" (7/16" O.D.)*	P49708-11
21		1	PLUNGER, Valve	P54146
22	714525	1	SPRING, Exhaust Valve*	P54144
23		1	SEAT, Inlet Valve*	P54145
24	714441	1	RING, "0" (7/8" O.D.)*	P49708-115
25		1	WASHER	P53455-3
26	714442	1	VALVE, Inlet*	P5125
27	714526	1	SPRING, Inlet Valve	539115
28		1	SPACER, Valve	P54794
29		1	SCREEN	P54194
30		1	BODY	P54305
31		2	WASHER	506607
32		2	SCREW, Fillet Head	P49835

\*Recommended to be stocked at all times.

NOTE: Part numbers at right are Westinghouse. Please so specify if ordering.  
 Valve changed approx. July 1969. Check nameplate for identification of valve.

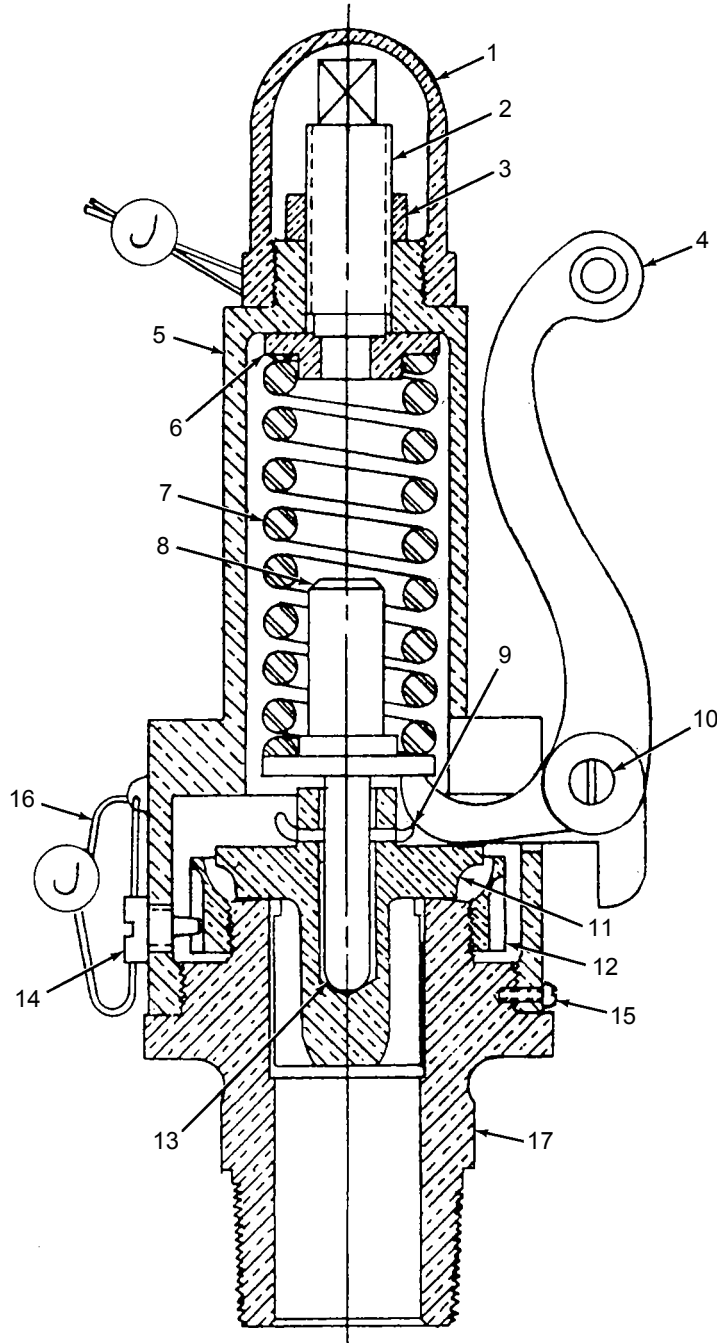
REV. C	0 - 69 -1
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PLEASE GIVE MACHINE S/N W/ORDER

Run as front

MASTER

0-69 Cont.



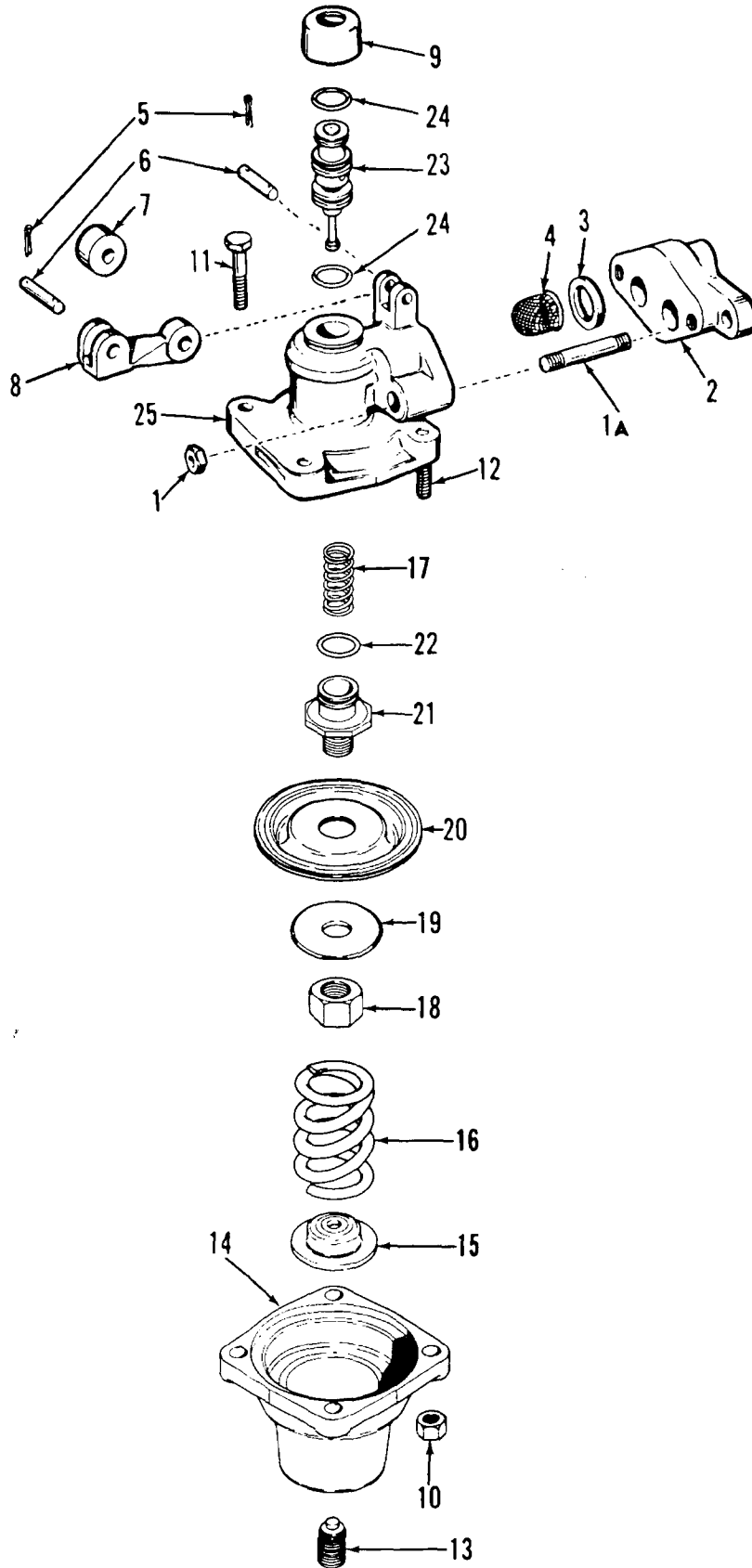
ASSEMBLY	REVISION
<b>O-156</b>	<b>D</b>

**SAFETY VALVE**

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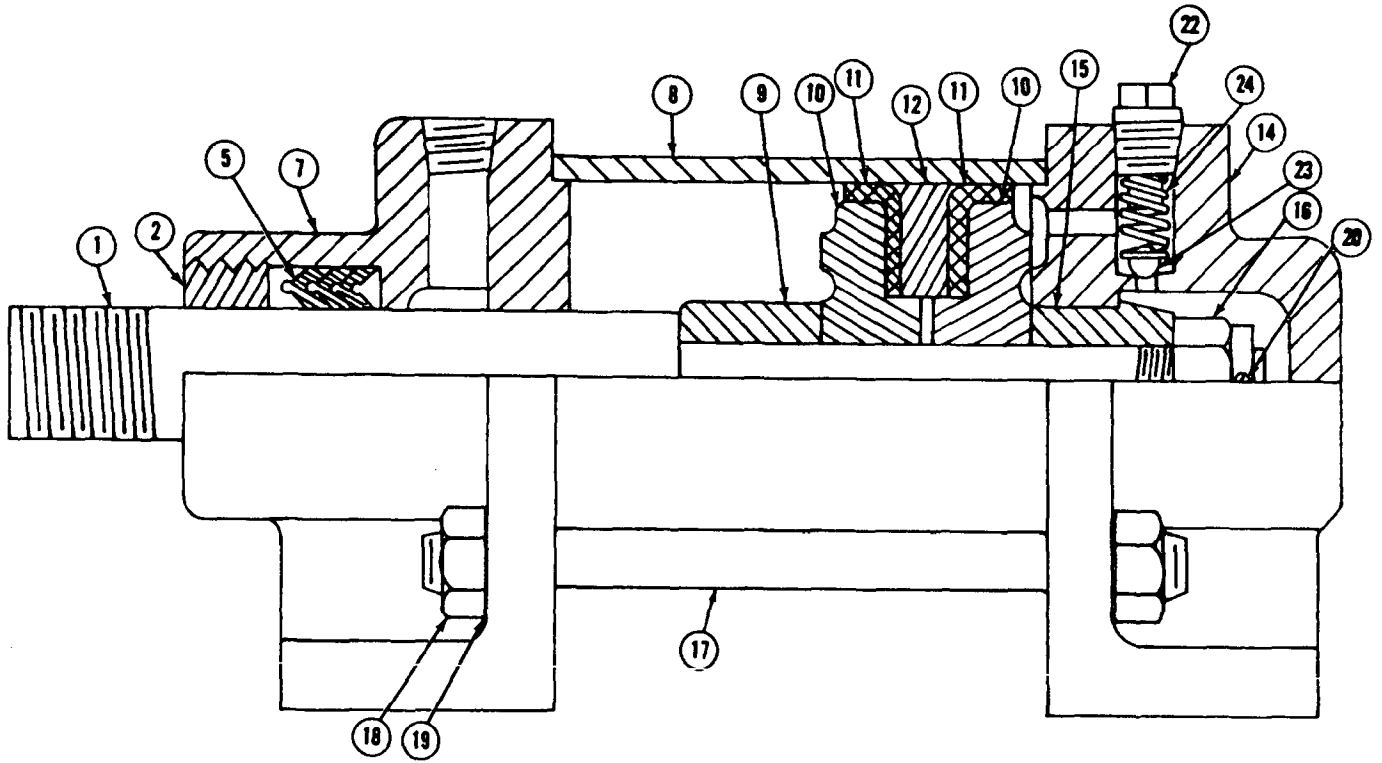


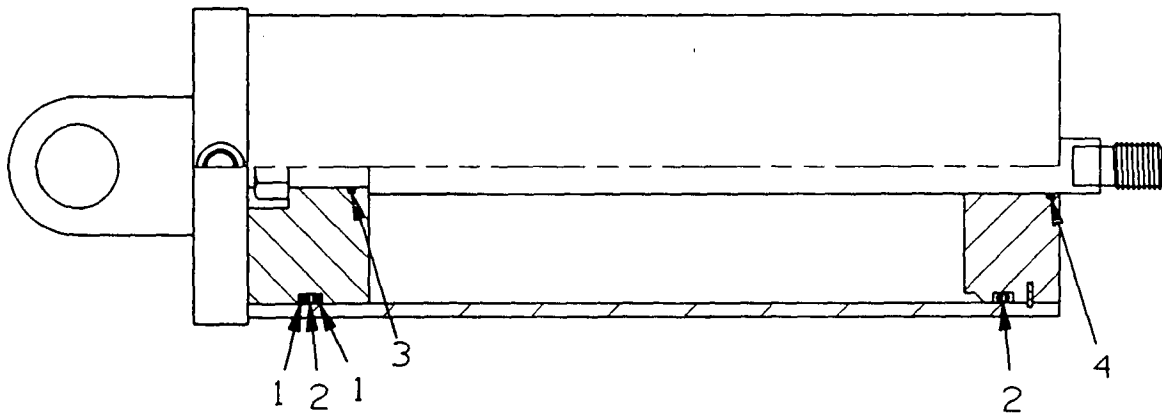
O243

MATERIAL LIST ON BACK

VALVE ASSEMBLY

MASTER

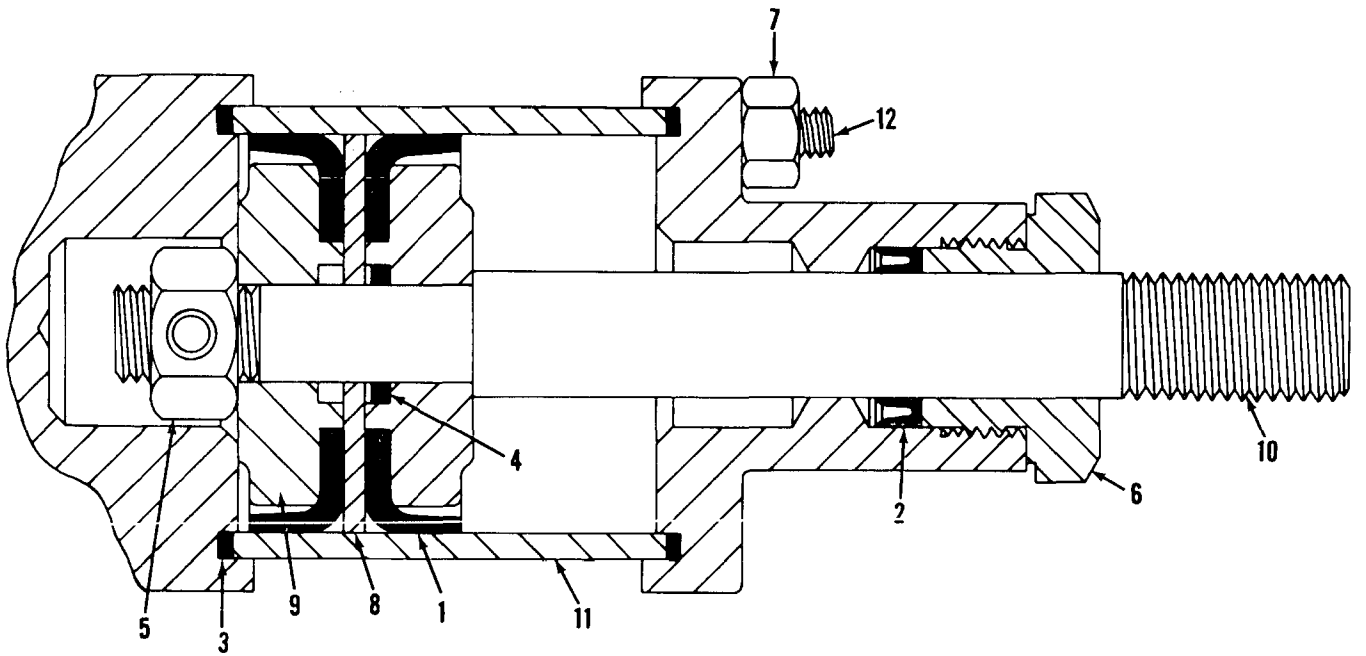




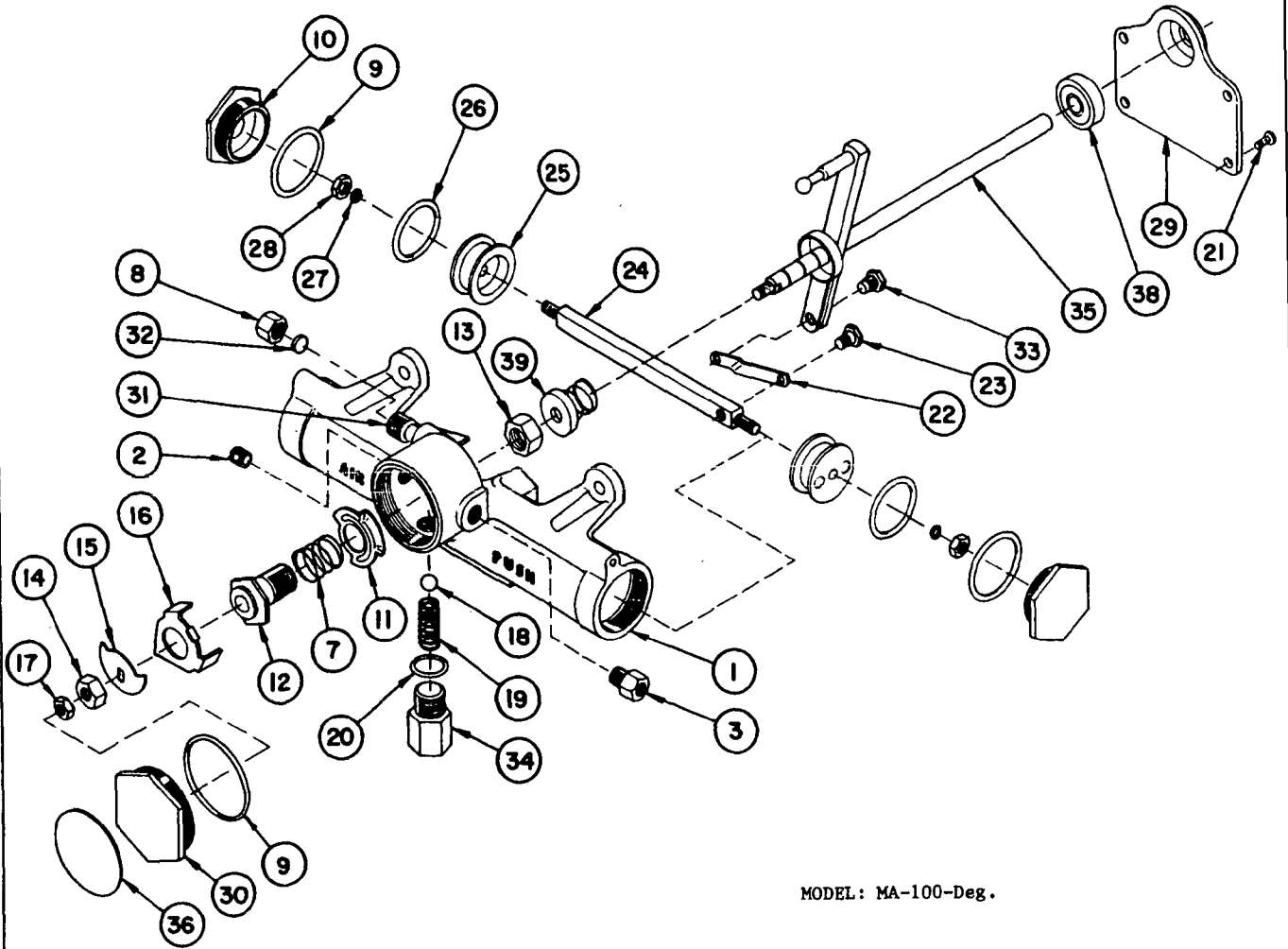
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MASTER

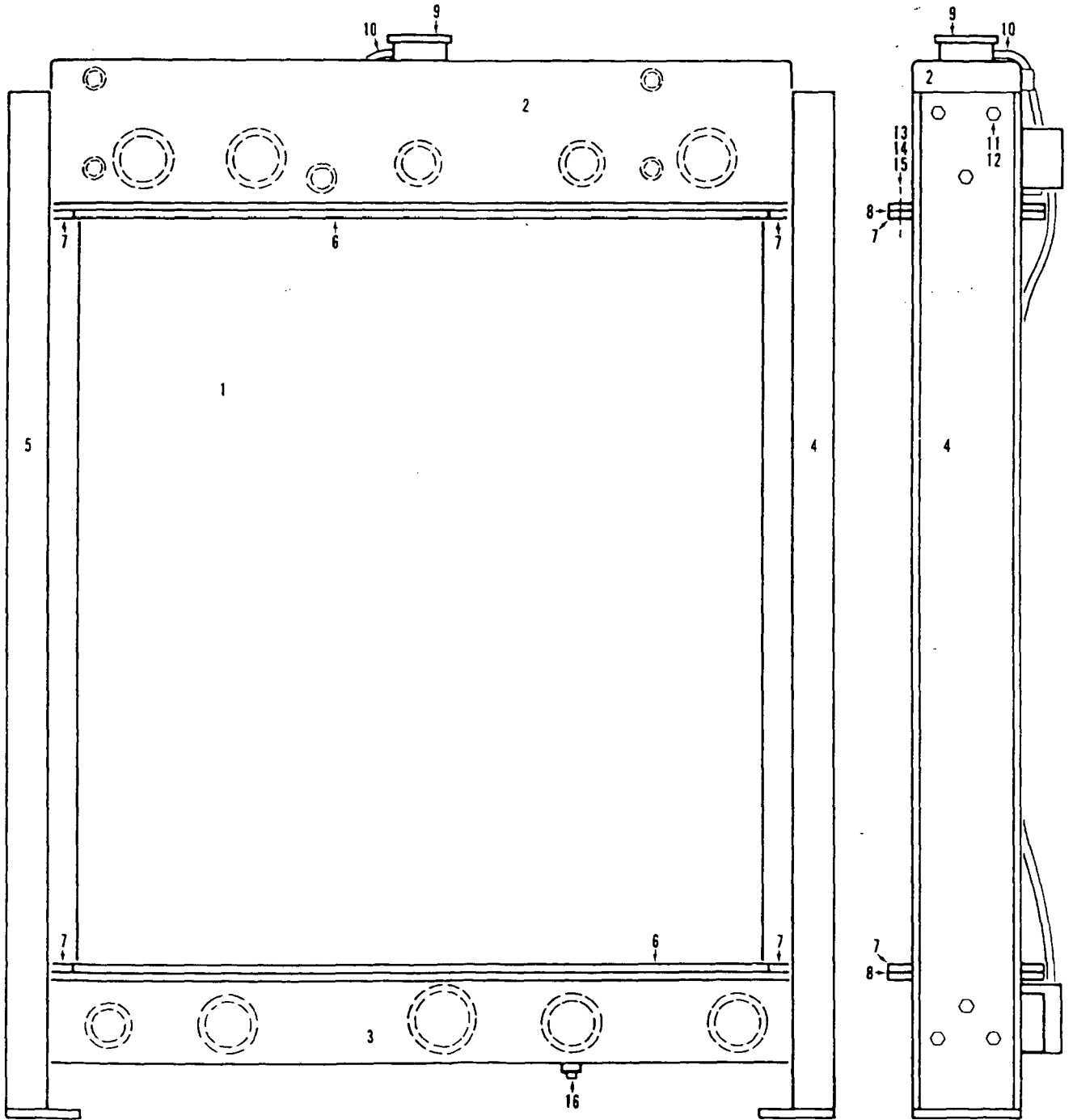


MODEL: MA-100-Deg.

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0-45181

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RADIATOR

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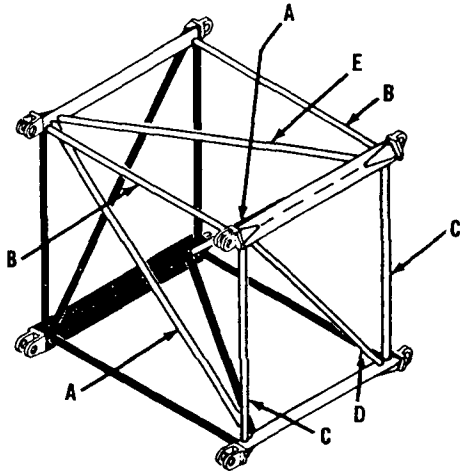
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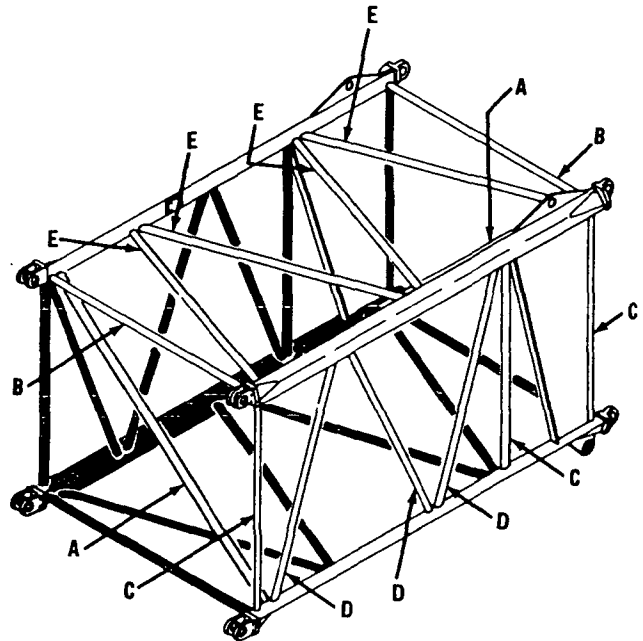
Boom #9, 9A, 24

Opposite lacings (black) same unless noted.

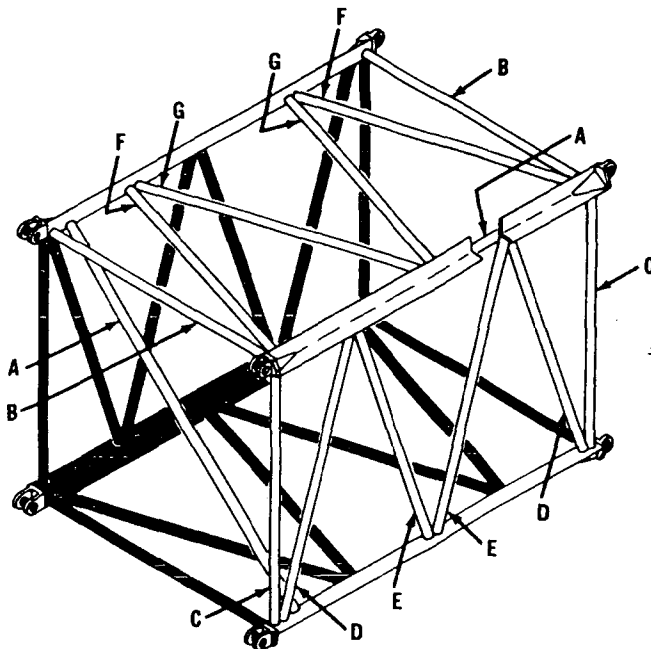
MASTER



5' (1.524m) Insert  
#48930  
49135  
49384



10' (3.048m) Insert  
#180789



10' (3.048m) Insert  
#32803  
420665

To order lacings see Folio #823

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