

Manitowoc

TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

4000W

Model

40504

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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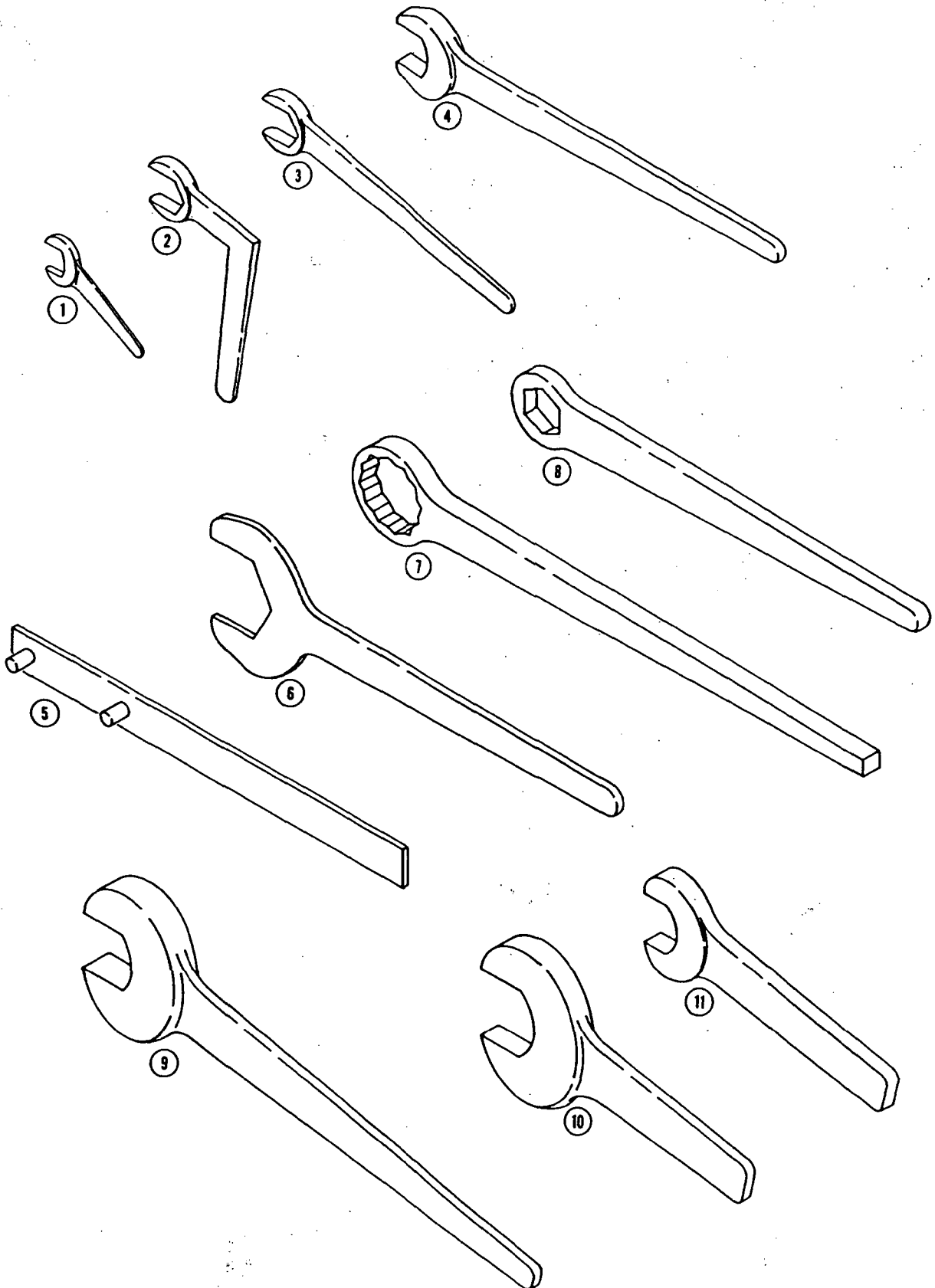
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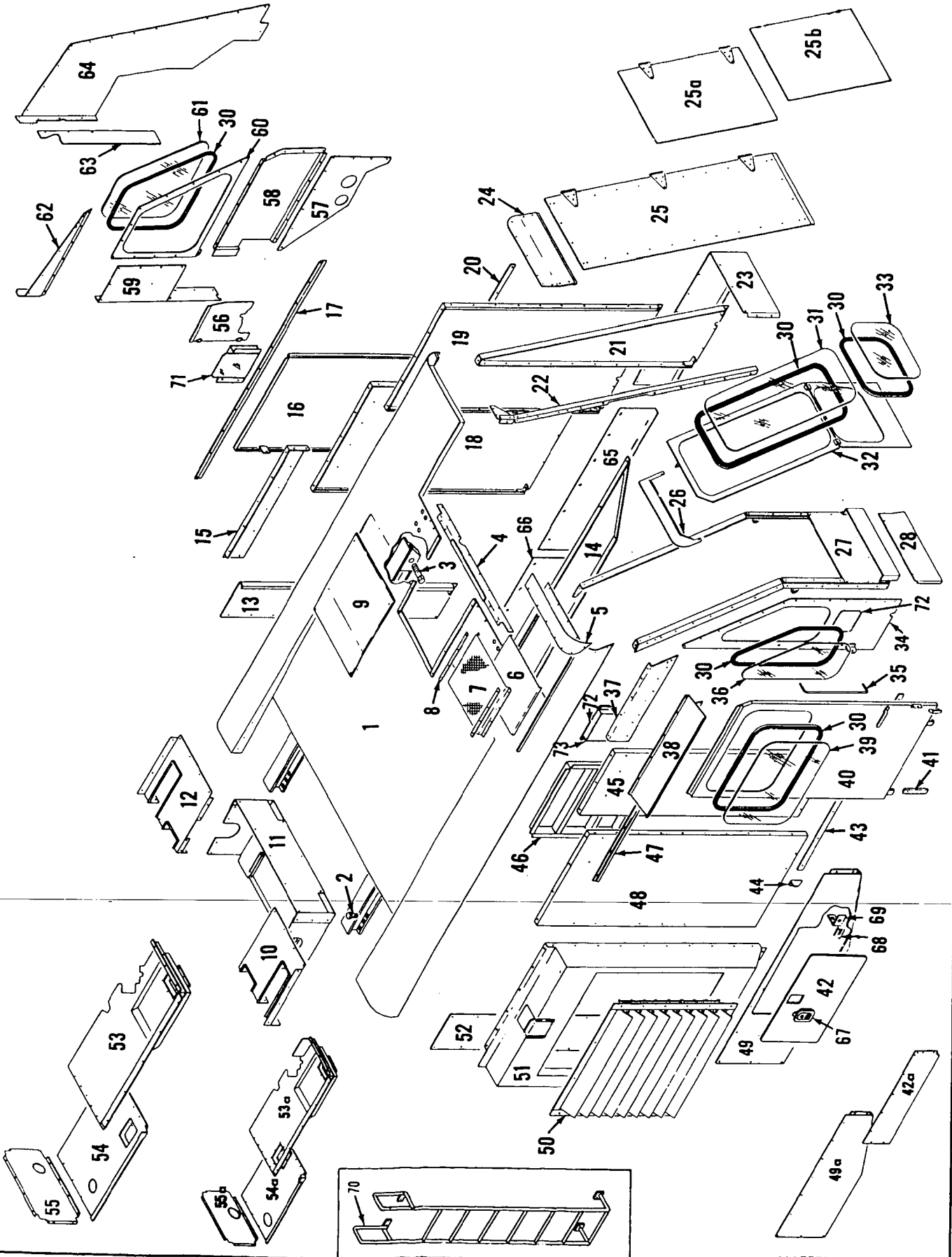
Manitowoc, Wisconsin



0-480-1A

MATERIAL LIST ON BACK

MASTER



33760F1

MATERIAL LIST ON BACK

CAB

42163-1 Cont.	REV. T	MODEL 4000, 4000W
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ROTATING BED

Run as Front

MASTER

42163-1 Cont. 1

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
36	70912	1	COVER, W/capscrews and lockwashers	
37	141409	2	PIN, Boom Hinge W/grease fitting	
38	17578	1	COVER, Rear Housing W/capscrews and lockwashers	
39	71203	1	STICK, Dip	
40	17579	1	GASKET	
41	10493	1	GASKET (See Note 3)	
43	71349	1	GASKET (Machine W/out swing brake)	
45	72260	1	COVER W/capscrews and lockwashers	
46	72263	2	COVER (One shown) W/capscrews and lockwashers (Delete after 1/6/70 revision)	
47	72264	1	COVER W/capscrews and lockwashers	
48	74887	2	PLATE, Cover	
49	72985	1	PLATE, Cover	
50	74925	2	LUG, Load Block Hold Back (Optional)	
51	505803	1	LEVEL (Tower crane before and all mach. after 11/30/72 rev.)	
56	289564	2	BUSHING (2.012 x 2.254 x 1")	
57	289568	1	BUSHING (On right side of rotating bed) (3.261 x 3.502 x 1½")	
58	289565	1	BUSHING (On left side of rotating bed and in line with bushing Ref. #57) (2.509 x 2.754 x 1½")	
59	289594	3	BUSHING (1.512 x 1.754 x 1½") (These 3 bushings are in line) (Quantity had been 4 before 1/6/70 revision but this fourth had not been in line with the three)	
60	289563	1	BUSHING (1.268 x 1.503 x 1") (Quantity of 3 before 11/30/72 revision and quantity of 4 before 1/6/70 revision)	
			<u>NOTE 1:</u> For machines with Fuel Gauge and Filter after 3/21/73 design change (delete Ref. No. 44) . . .	
52	460324	1	GAUGE, Fuel	
53	94738	1	FILTER, Fuel	
54	304449	1	CAP, Filler	
			<u>NOTE 2:</u> Machine W/collector ring for "Hazardous Locations" delete Ref. No. 14 and add . . .	
14	181881	1	COVER (3 parts) W/gaskets 17584 (Ref. #19), 17582 (Ref. #20), 141134 (Ref. #42) and capscrews, hex nuts and lockwashers	
8	71636	1	GASKET	

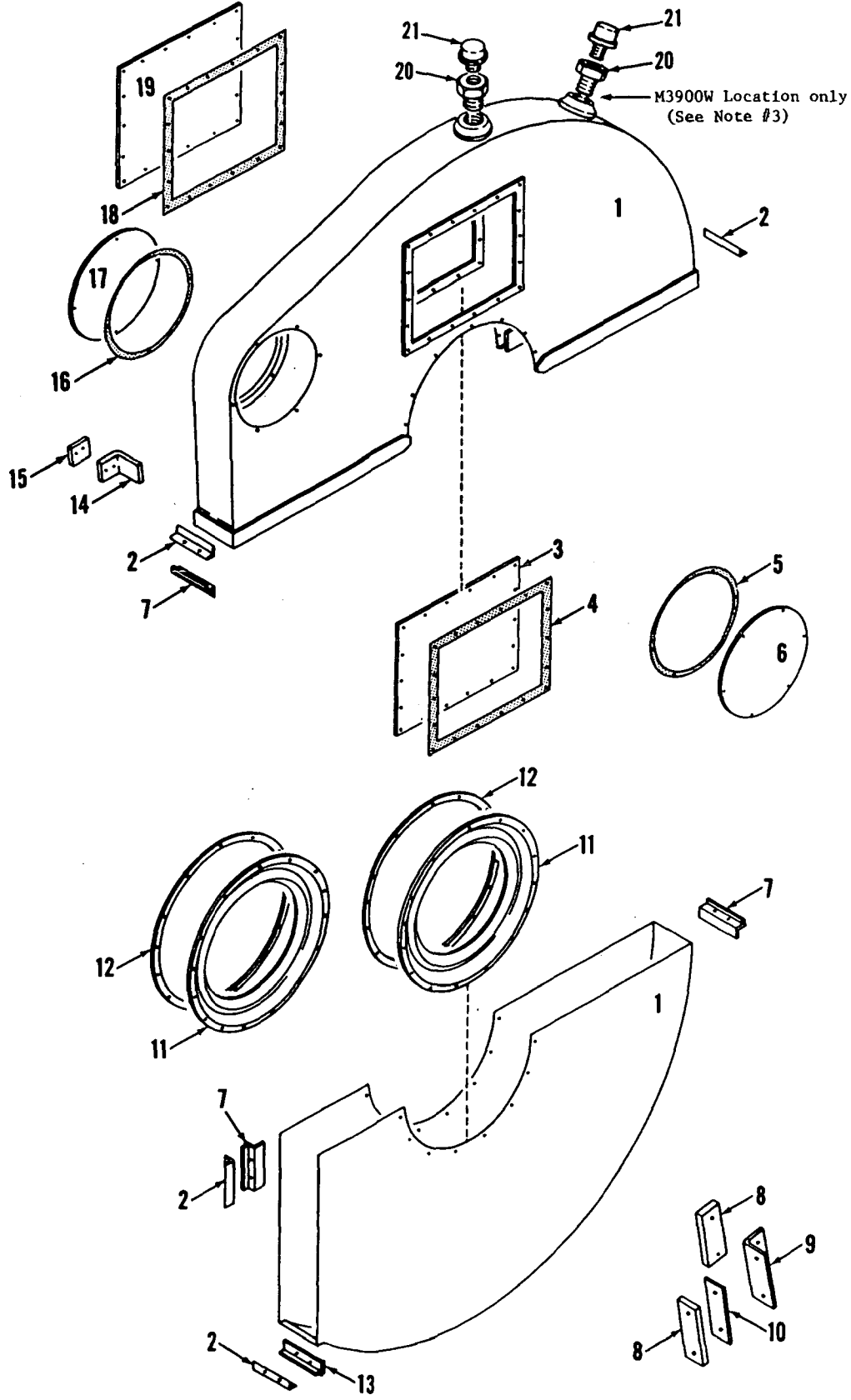
REV. T	42163-1 Cont.
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PLEASE GIVE MACHINE S/N W/ORDER

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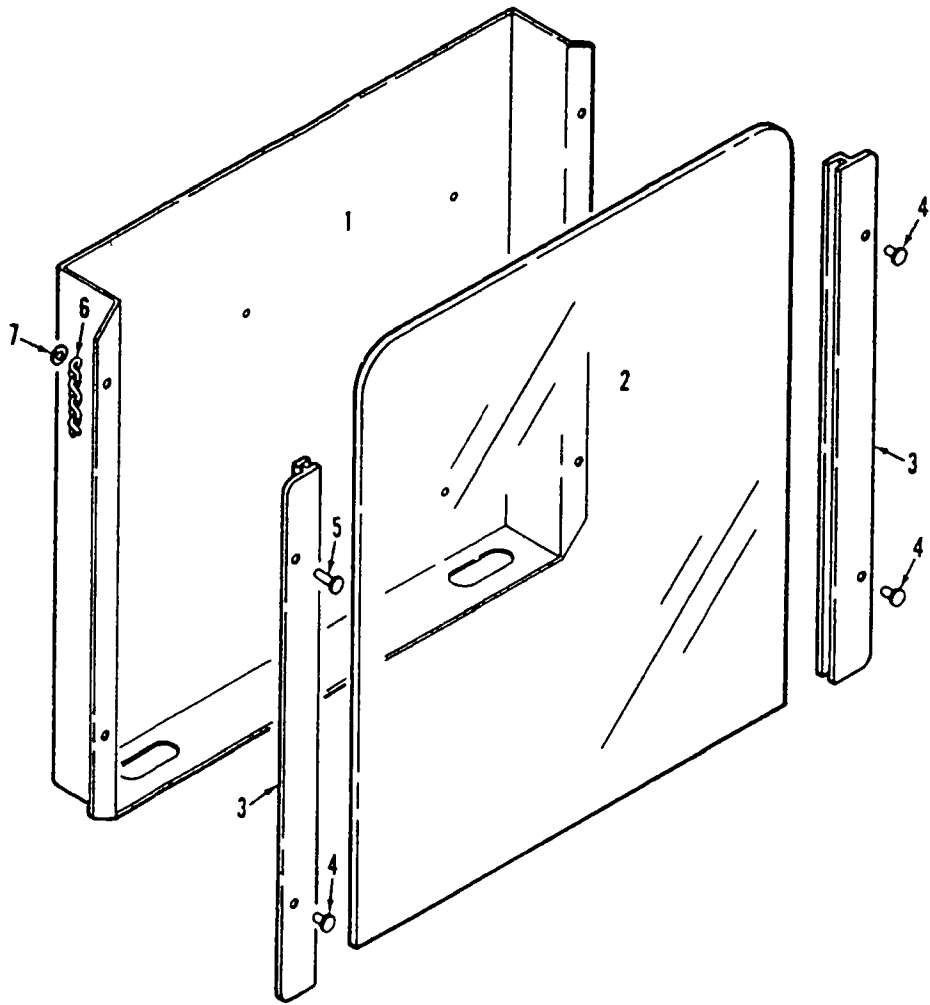
Manitowoc, Wisconsin



43331A2

MATERIAL LIST ON BACK

GEAR CASE



93994A1

MATERIAL LIST ON BACK

CHART HOLDER

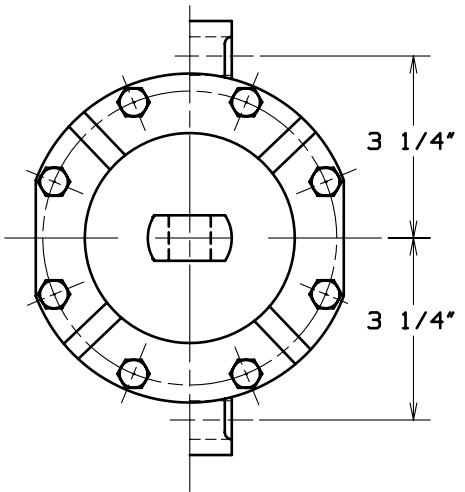
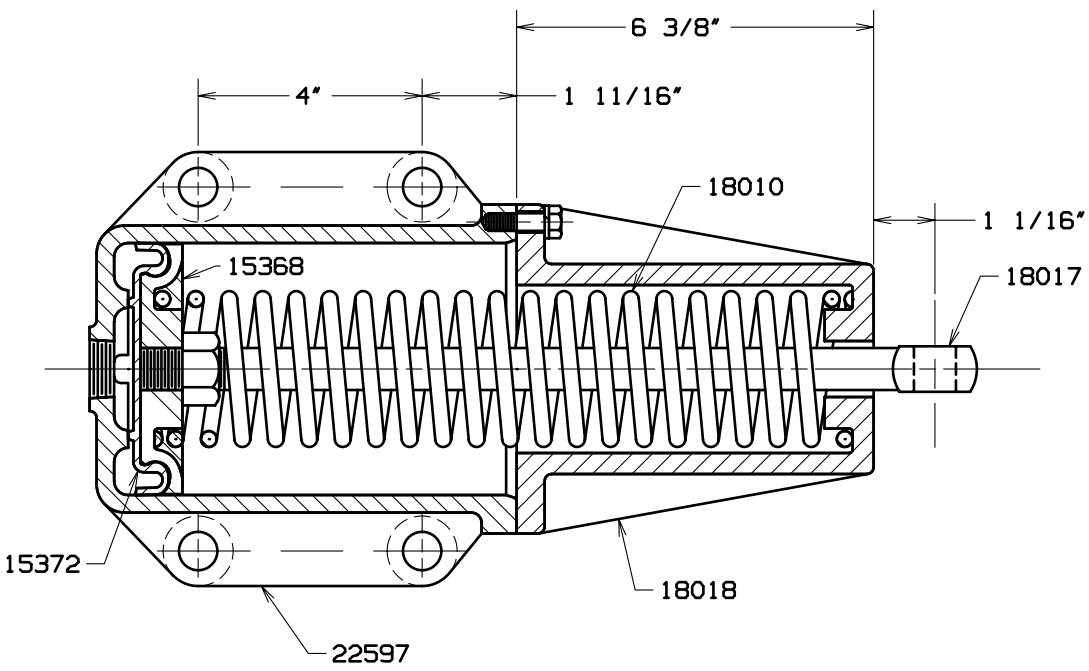
BILL OF MATERIAL							
ITEM NO.	NO. RECD	SECTION	DESCRIPTION	LENGTH		MATERIAL	CODE NO. OR DMS. NO.
				FT.	IN.		
	1		PISTON				15368
	1		PACKING CUP				15372
A	1		SPRING				18010
C	1		PISTON ROD				18017
E	1		COVER				18018
	1		AIR CYLINDER				22597

ASSEMBLIES USED ON	
41461	49401
41566	49872
41702	65643
42348	
42607	
43990	
43975	
48437	
48463	
50865	

REVISIONS

10-22-52
A WAS 2624
E WAS 17938
C WAS 17939

10-8-81 RVP
REDRAW CADAM
CK NJK
APP TLP



SCALE
1" = 1"
DR. DOS
CK. JK
APP

DMS. NO.
22596

Manitowoc Cranes, Inc.
Manitowoc, Wisconsin

MODEL 3900

4 1/2" X 6" AIR
CYLINDER ASSEMBLY
WITH SNAP ON
PACKING CUP

DATE
9-3-52

PATTERN NO.

DMS. NO.
22596

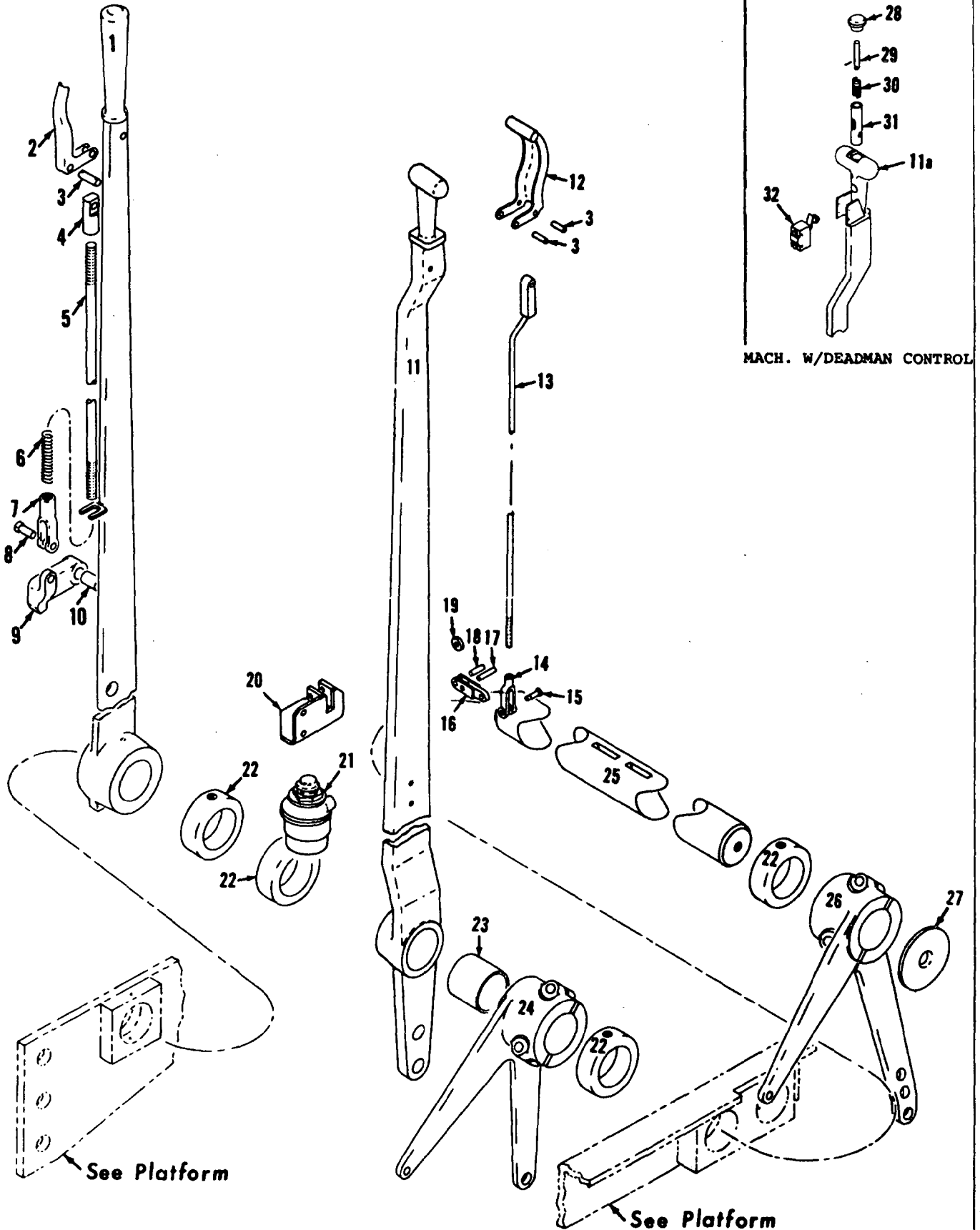
DO NOT SCALE THIS DRAWING

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Manitowoc, Wisconsin

MASTER



MACH. W/DEADMAN CONTROL

3279981

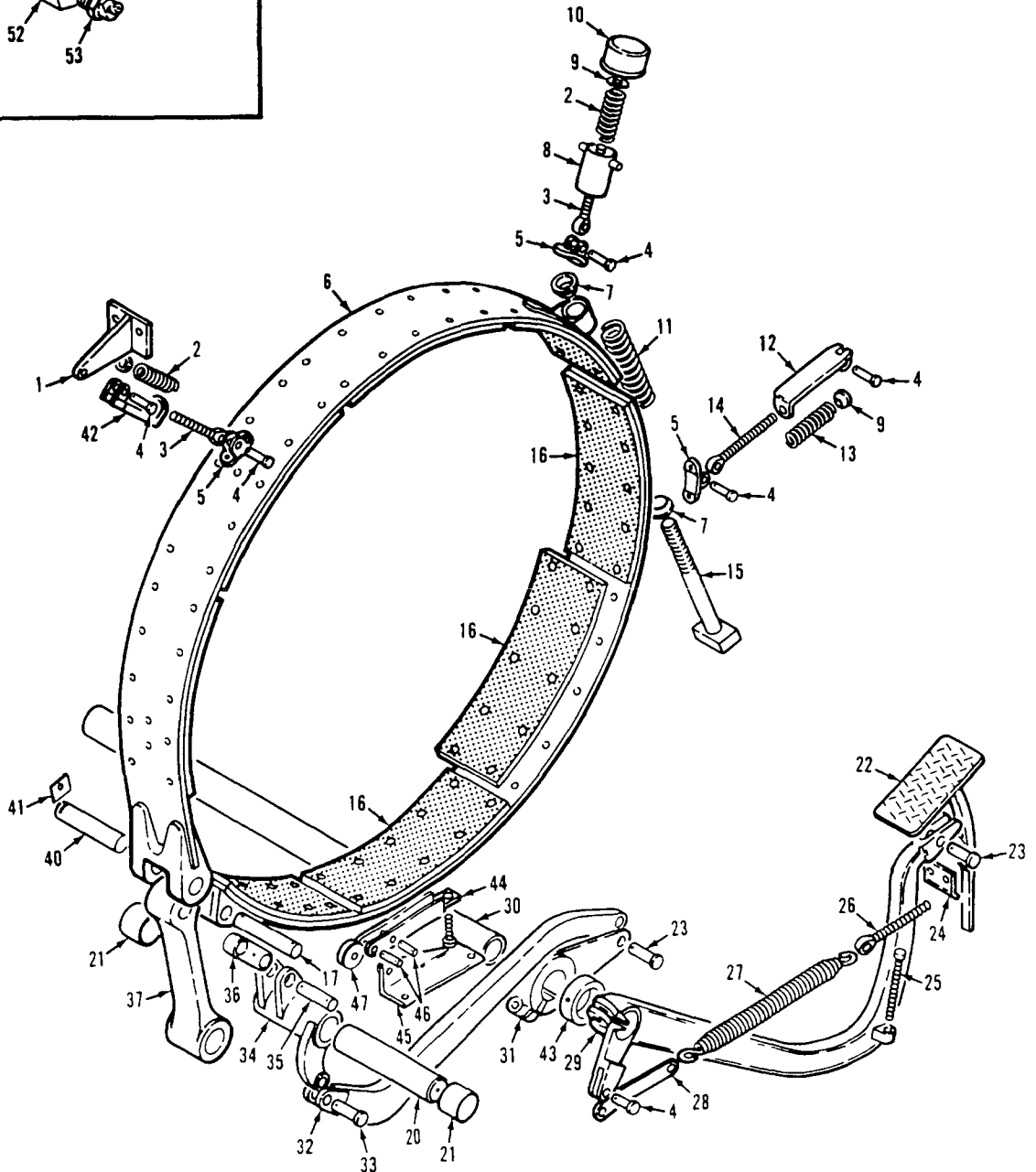
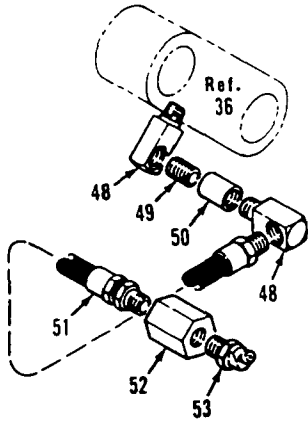
32799 61

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HAND LEVERS

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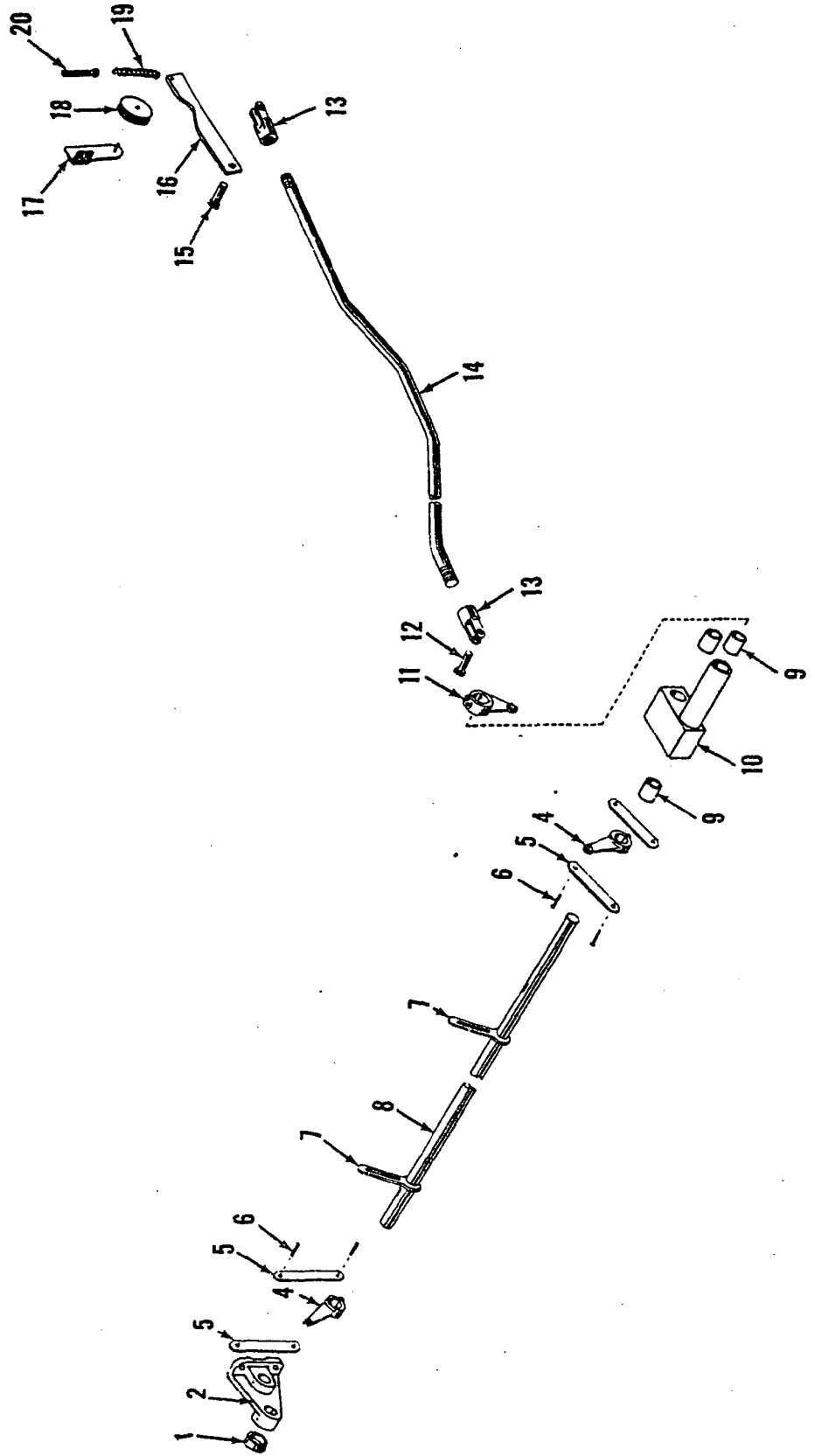
Manitowoc, Wisconsin



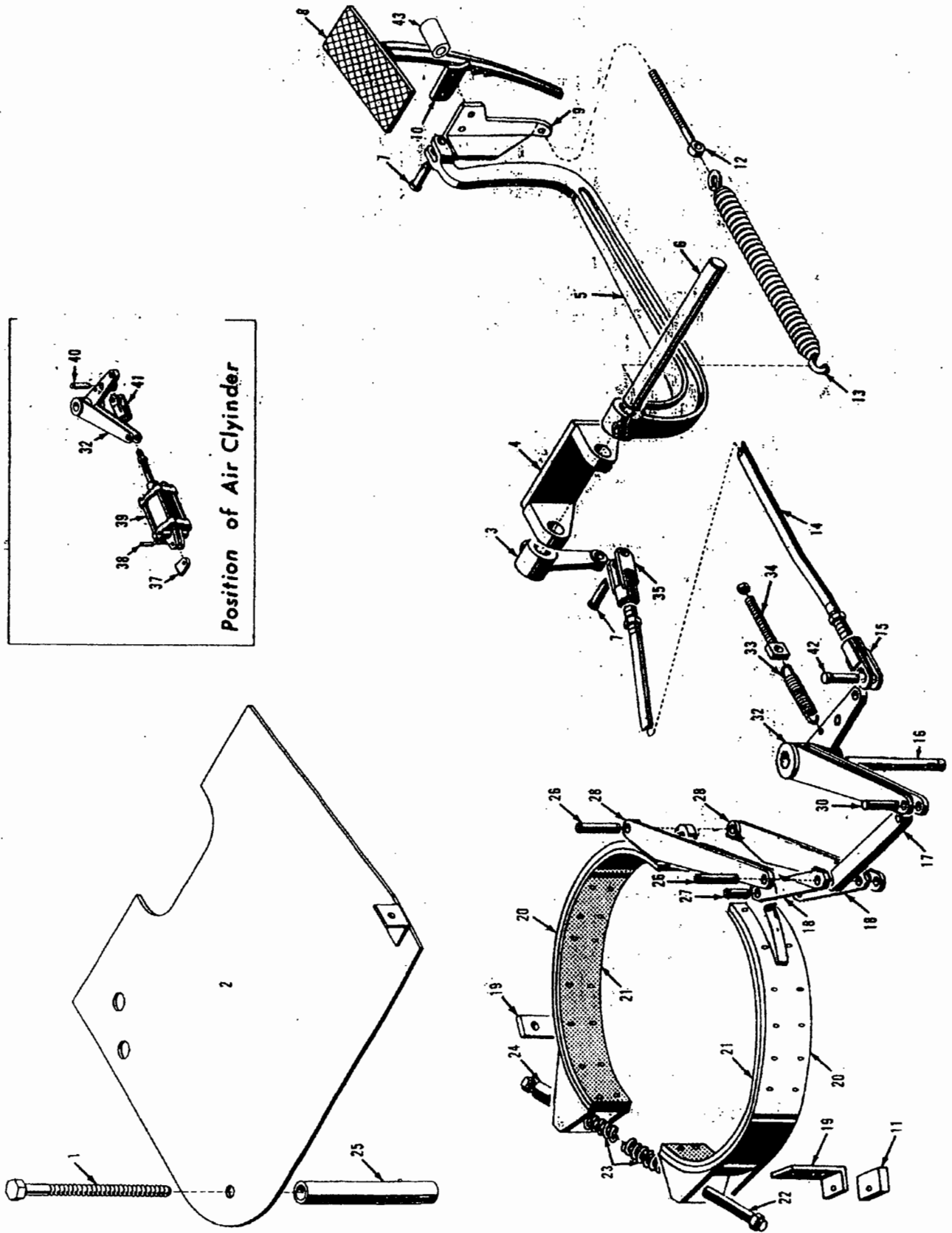
42183C1

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RIGHT DRUM BRAKE



MASTER



42394C1

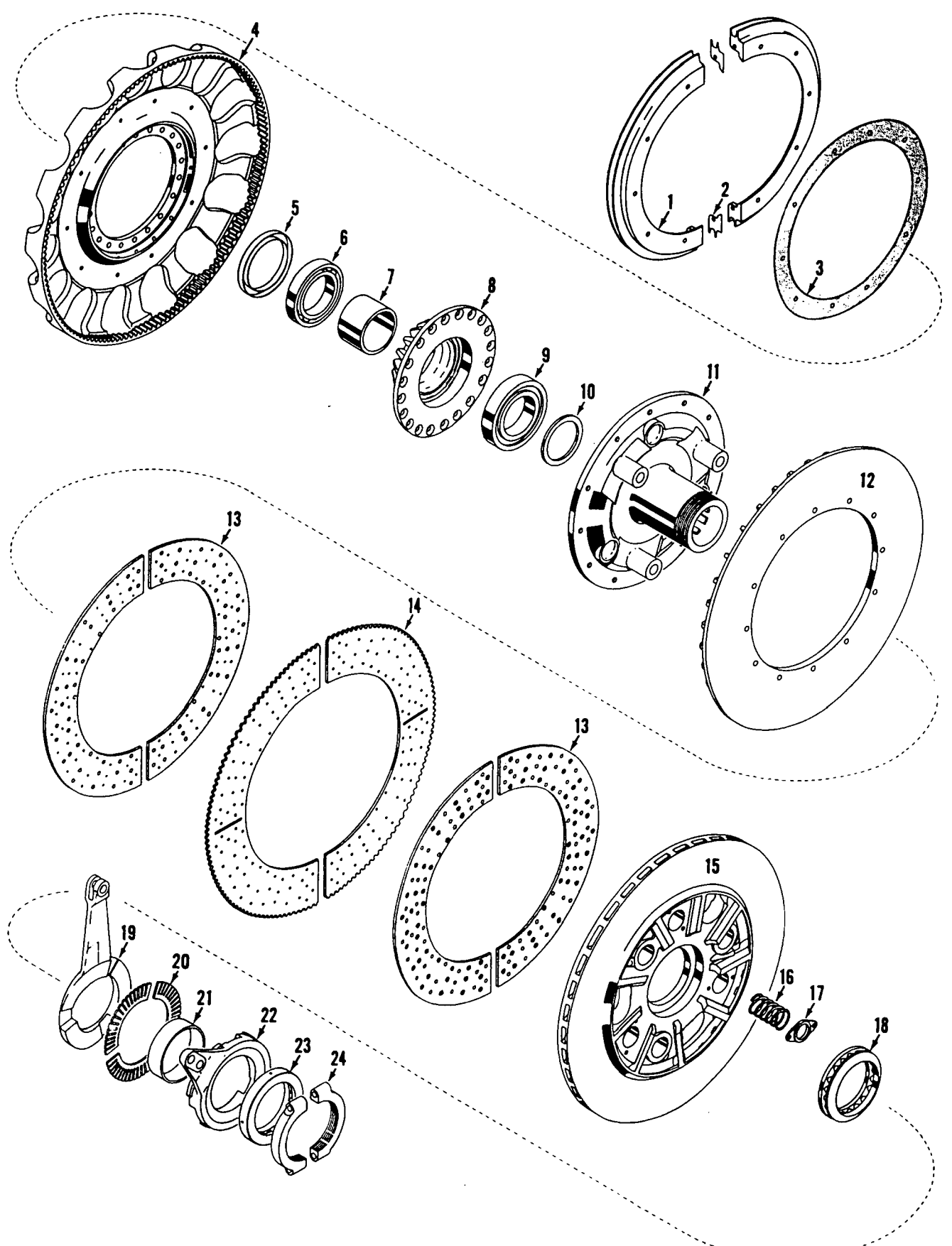
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SWING BRAKE

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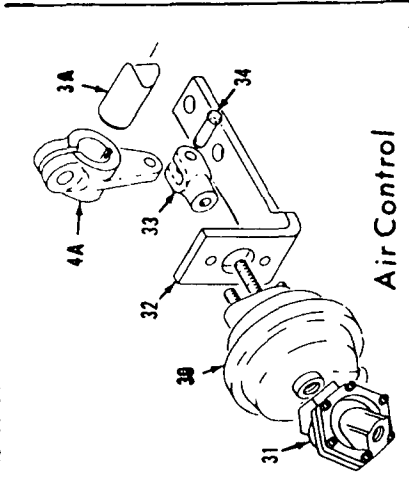
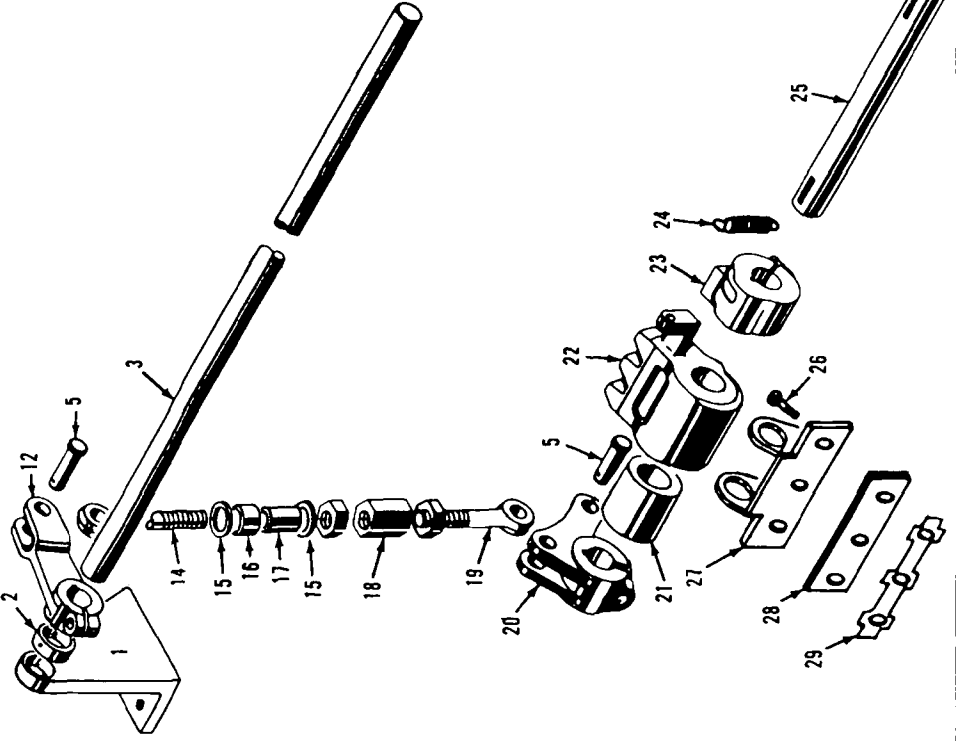
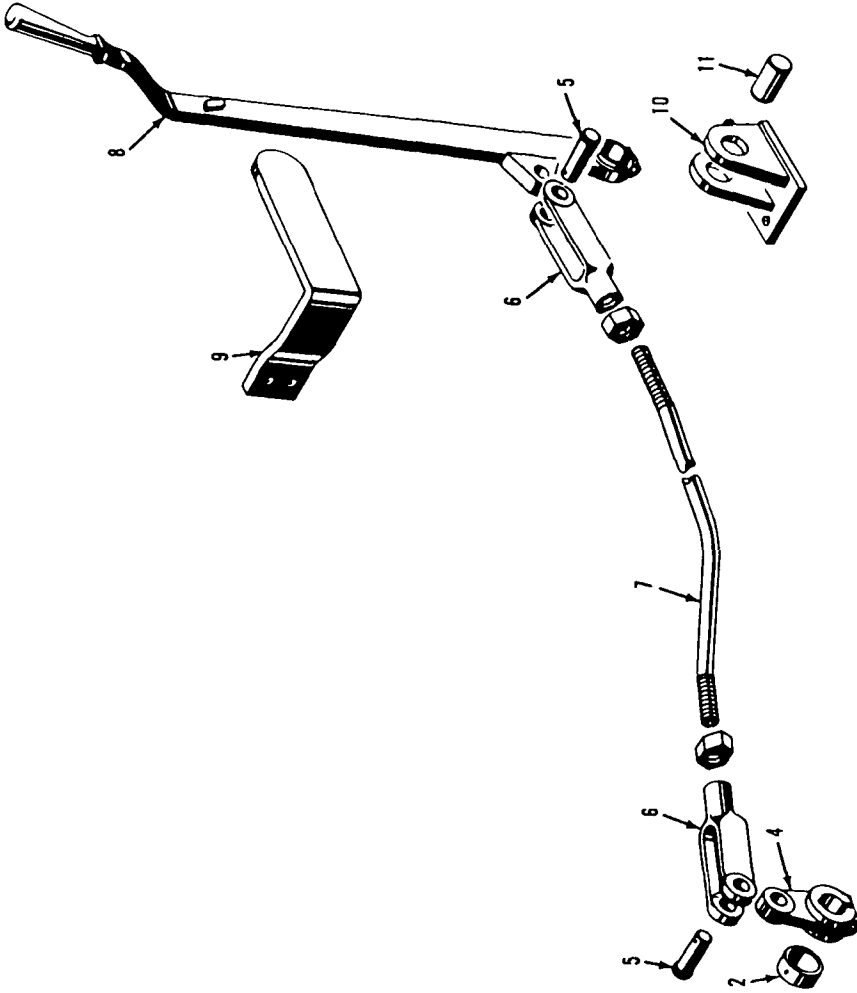
Manitowoc, Wisconsin



43132A2

MATERIAL LIST ON BACK

MAIN DRIVE CLUTCH



Air Control

SWING LOCK CONTROL

48963 C1

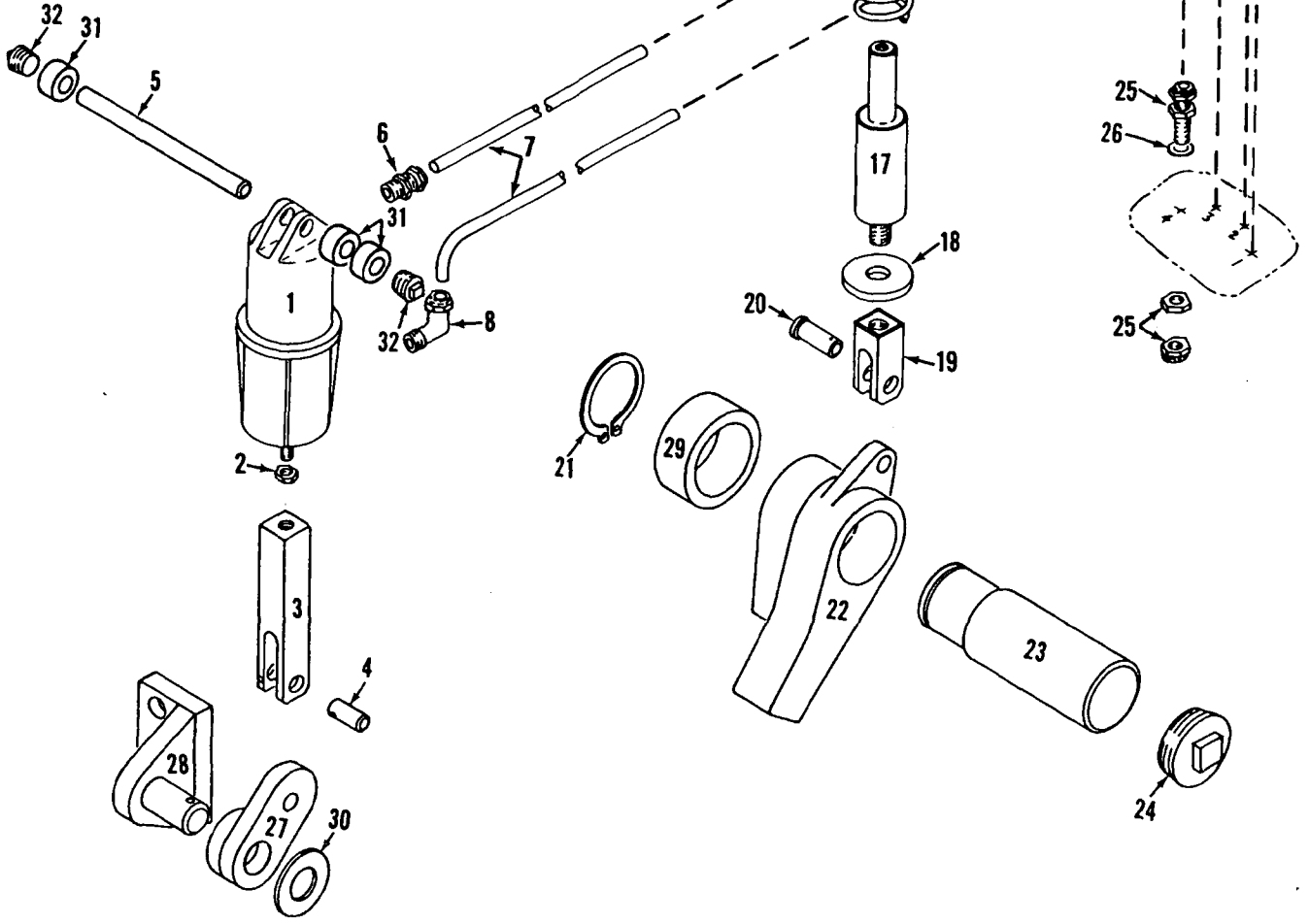
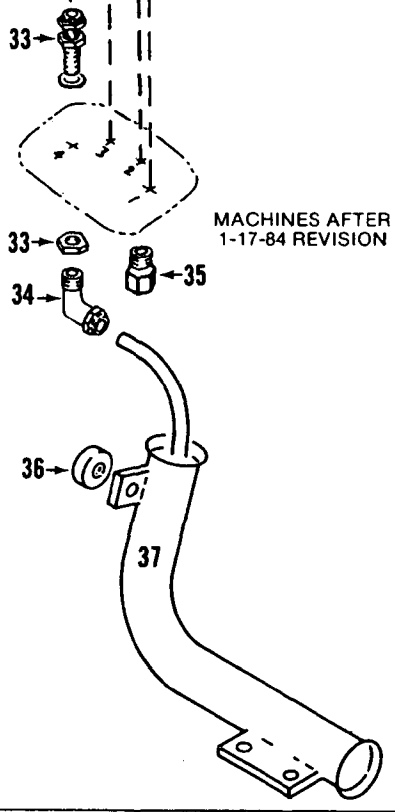
MATERIAL LIST ON BACK

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B2.2



65195C2

MATERIAL LIST ON BACK

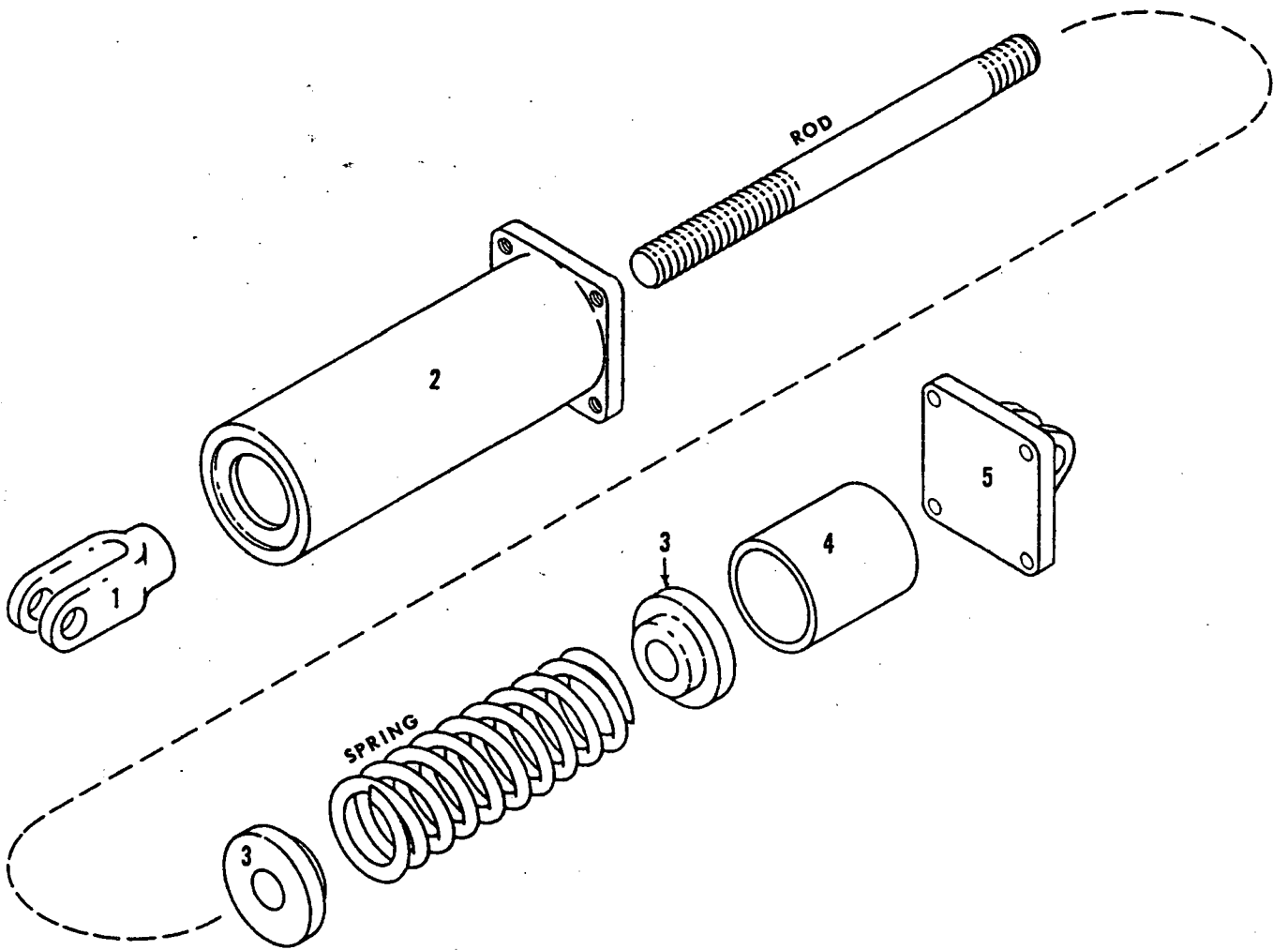
INDEPENDENT BOOM HOIST PAWL

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MASTER



181533A1

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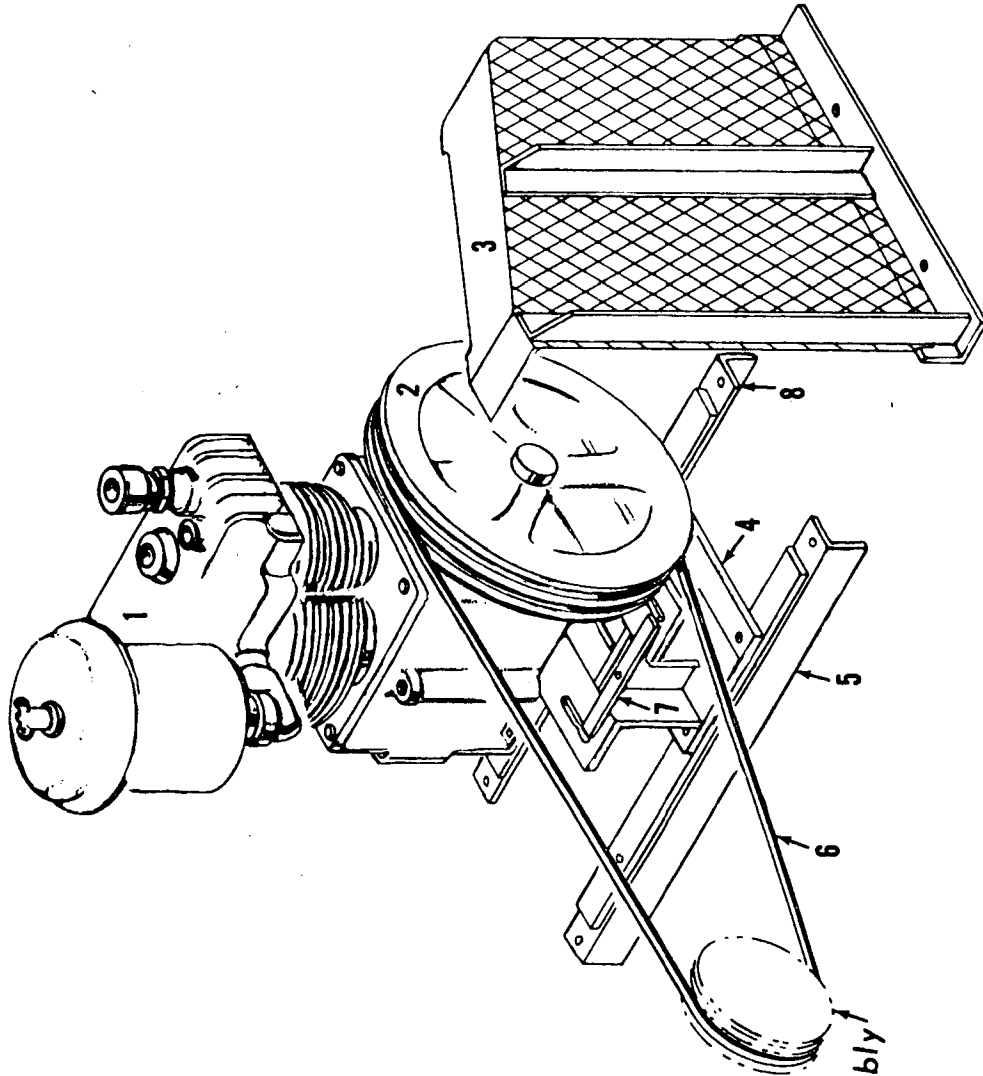
CENTERING DEVICE

GROUP C - Air Components & Electrical

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See Power Plant Assembly

MASOR

41994 A2

4199A2

MATERIAL LIST ON BACK

COMPRESSOR

GROUP D - Power Components

MODEL

3000W-3600-3900-3900W-3950W-3950D-4000W-4100W

TRANSMISSION CASE
(VICON MACHINE)

ITEM	PART #	QTY.	DESCRIPTION OF PART
			<p><u>Note 3</u> For machines with electric drive, delete Ref. #26-27 above and add:</p>
26	352022	1	SPIDER, Drive
27	352021	1	RING, Drive
	352715	26	BLOCK, Rubber (not shown)
			<p><u>Note 4</u> Clean splines of shafts and sprockets thoroughly with Loctite Safety Solvent (MEC 622296). Apply Loctite Retaining Compound #620 (MEC 622285) to engine shaft and converter input shafts. Allow to cure 24 hours.</p>
			<p align="center">PLEASE GIVE MACHINE SERIAL NUMBER WITH ORDER</p>

ASSEMBLY

42749

PAGE

3 of 3

REV.

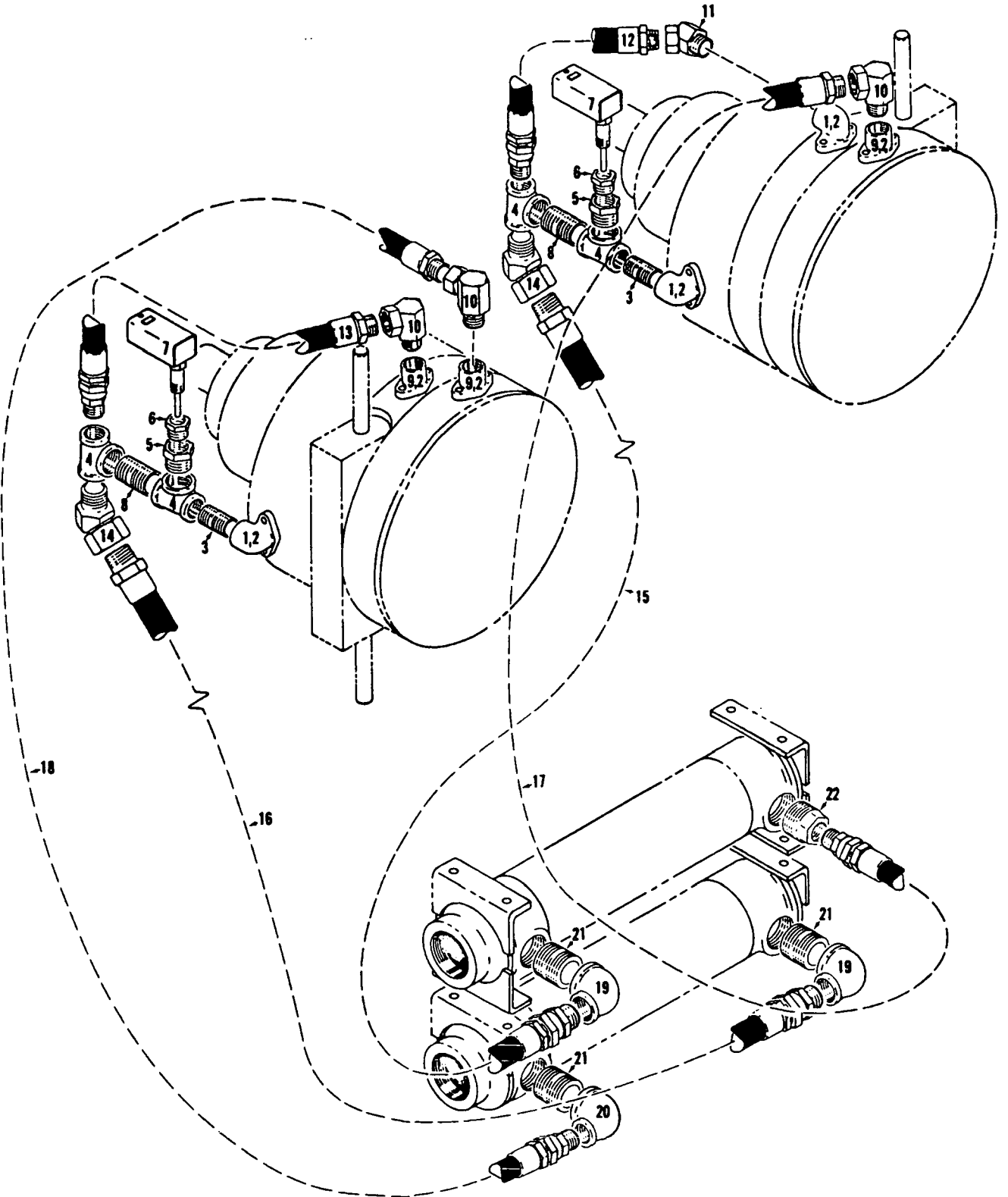
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MASTER



48648 A3

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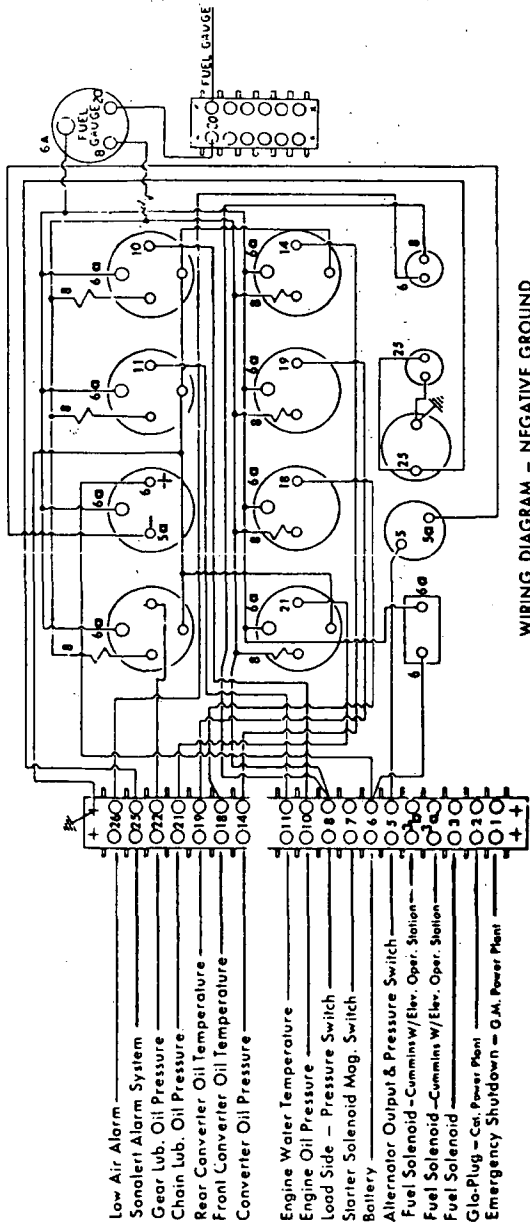
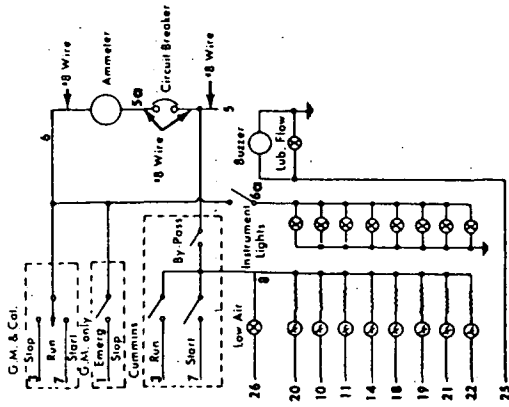
CONVERTER COOLING

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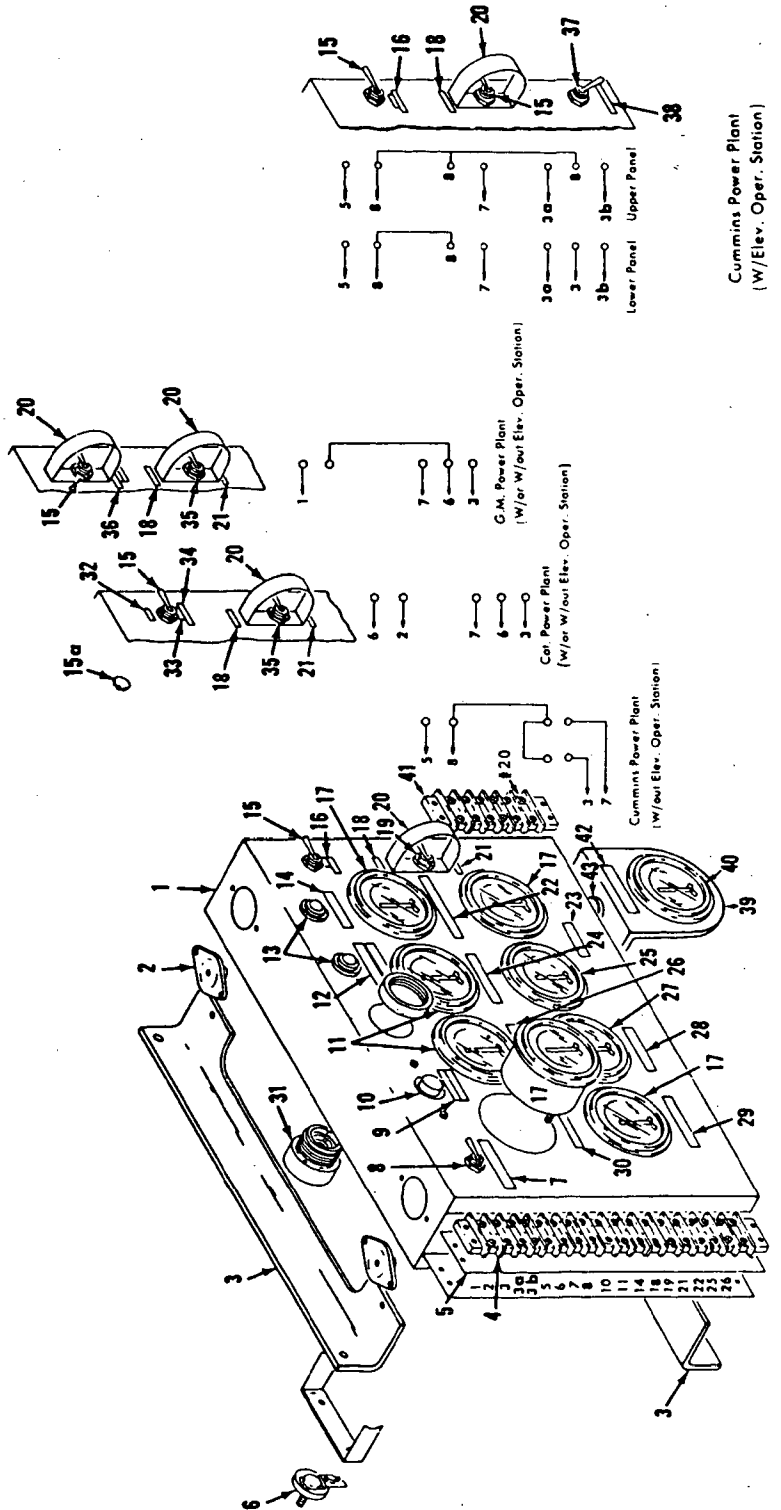
Manitowoc, Wisconsin

49301C1



WIRING DIAGRAM - NEGATIVE GROUND FOR POSITIVE GROUND REVERSE AMMETER TERMINALS REAR VIEW

SCHMATIC (Unless noted all wire to be 14.)



MATERIAL LIST ON BACK

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GROUP E - Lower Structure & Control

32233-1 Cont.	REV. B	MODEL 3900-4000
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LUBRICATING PIPING
(CARBODY)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
7			<u>SPRING THRUST WASHER-RIGHT</u>	
	696216	1	TUBE, Copper (3/8" O.D.) (Specify Length)	
	429020	1	EXTENSION (1/8")	
	429373	1	ELBOW (3/8" x 1/8")	
	429367	2	CONNECTOR (3/8" x 1/4")	
	429010	1	GR. FITTING (1/4")	
	543564	1	NIPPLE (1/4" x 3")	
	377202	2	COUPLING (1/4")	
8			<u>SPRING THRUST WASHER-LEFT</u>	
	696216	1	TUBE, Copper (3/8" O.D.) (Specify Length)	
	429020	1	EXTENSION (1/8")	
	429373	1	ELBOW (3/8" x 1/8")	
	429367	2	CONNECTOR (3/8" x 1/4")	
	429010	1	GR. FITTING (1/4")	
	543564	1	NIPPLE (1/4" x 3")	
	377202	2	COUPLING (1/4")	
9			<u>TRAVEL SHAFT OUTER-LEFT</u>	
	696216	1	TUBE, Copper (3/8" O.D.) (Specify Length)	
	429020	1	EXTENSION (1/8")	
	429373	1	ELBOW (3/8" x 1/8")	
	429367	2	CONNECTOR (3/8" x 1/4")	
	429010	1	FITTING, Grease (1/4")	
	543564	1	NIPPLE (1/4" x 3")	
	377202	2	COUPLING (1/4")	
10			<u>TRAVEL SHAFT OUTER-RIGHT</u>	
	696216	1	TUBE, Copper (3/8" O.D.) (Specify Length)	
	429020	1	EXTENSION (1/8")	
	429373	1	ELBOW (3/8" x 1/8")	
	429367	2	CONNECTOR (3/8" x 1/4")	
	429010	1	FITTING, Grease (1/4")	
	543564	1	NIPPLE (1/4" x 3")	
	377202	2	COUPLING (1/4")	
11			<u>TRAVEL SHAFT (OUTER BEARING) (ONE EACH SIDE)</u>	
	429032	2	BUSHING, Reducing (1/4" x 1/8")	
	429000	2	GR. FITTING (1/8")	
12			<u>TRAVEL SHAFT (PILOT BEARING) (ONE EACH SIDE)</u>	
	429032	2	BUSHING, Reducing (1/4" x 1/8")	
	429000	2	GR. FITTING (1/8")	
13	23935	1	SUPPORT W/capscrews, hex nuts and lockwashers	

0-147

REV. B	32233 - 1
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PLEASE GIVE MACHINE S/N W/ORDER

RUN AS FRONT

32233 B1 Cont.

42396-2 Cont	REV C	MODEL 3000W-3400-3600-3900-3900W-4000W
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STEERING CONTROL
(CARBODY)

REF NO	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO
11	647552	1	SPACER	
12	548632	1	NUT, Hex	
14	22924	1	YOKE, Plunger	
<u>FOR AIR TRAVEL LOCKS PRIOR TO DESIGN CHANGE OF SEPT 21, 1966</u>				
22	18843	1	GASKET	
23	18840	1	HEAD, Plunger Shaft W/capscrews and flatwasher (see note 1)	
24	552686	2	PACKING, Vee Block	
25	18838	1	BASE W/mach screw, jam nut and lockwasher	
26	18839	1	COVER	
27	543442	1	NIPPLE	
28	18841	1	GUIDE W/capscrews, hex nuts and lockwashers	
NOTE 1 Per design change of Oct 16, 1961, capscrew and washer deleted Part #18840 grooved for snap ring #596663				
NOTE 2 For machine W/Manual Travel Lock Control, delete Ref Nos 7, 27, and 28, and plug air passage with 1/4" pipe plug				

REV C	42396 - 2
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PLEASE GIVE MACHINE S/N W/ORDER

MASTER

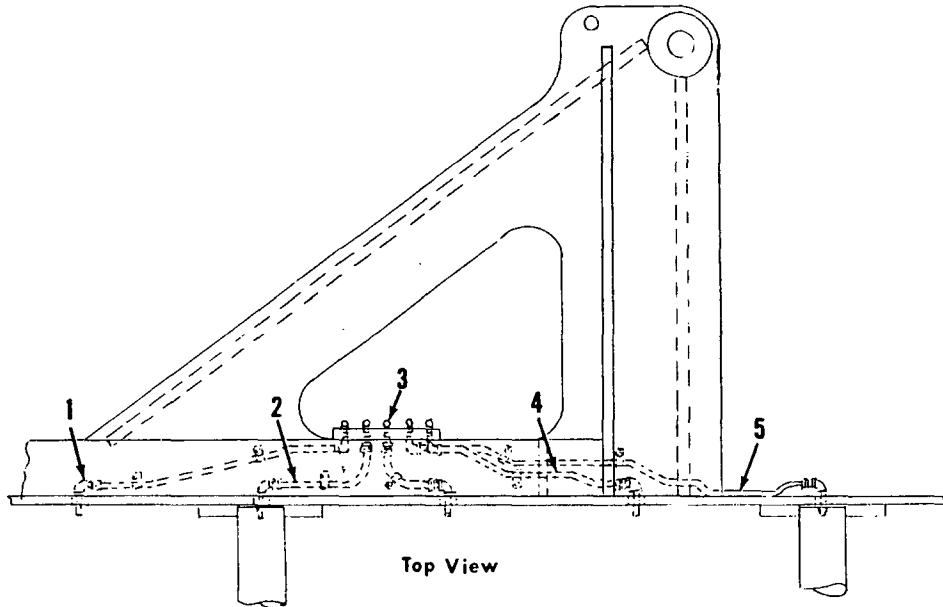
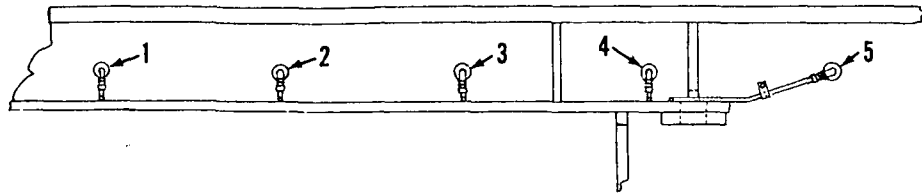
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42396 Cont

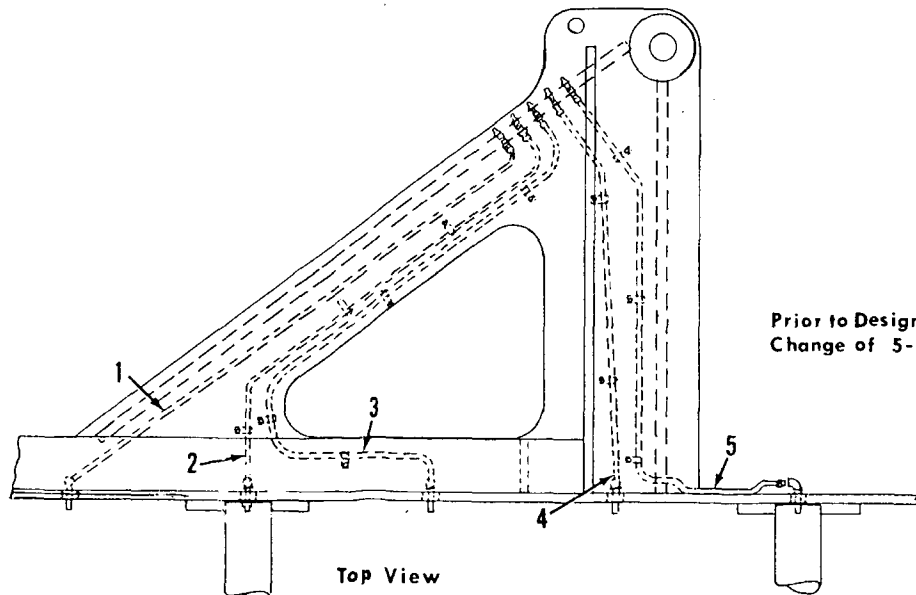
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Manitowoc, Wisconsin



Top View



Prior to Design Change of 5-18-71

Top View

18023982

MATERIAL LIST ON BACK

CRAWLER LUB. PIPING

MASTER

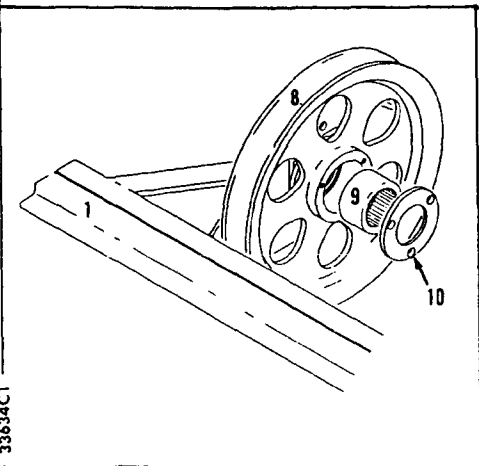
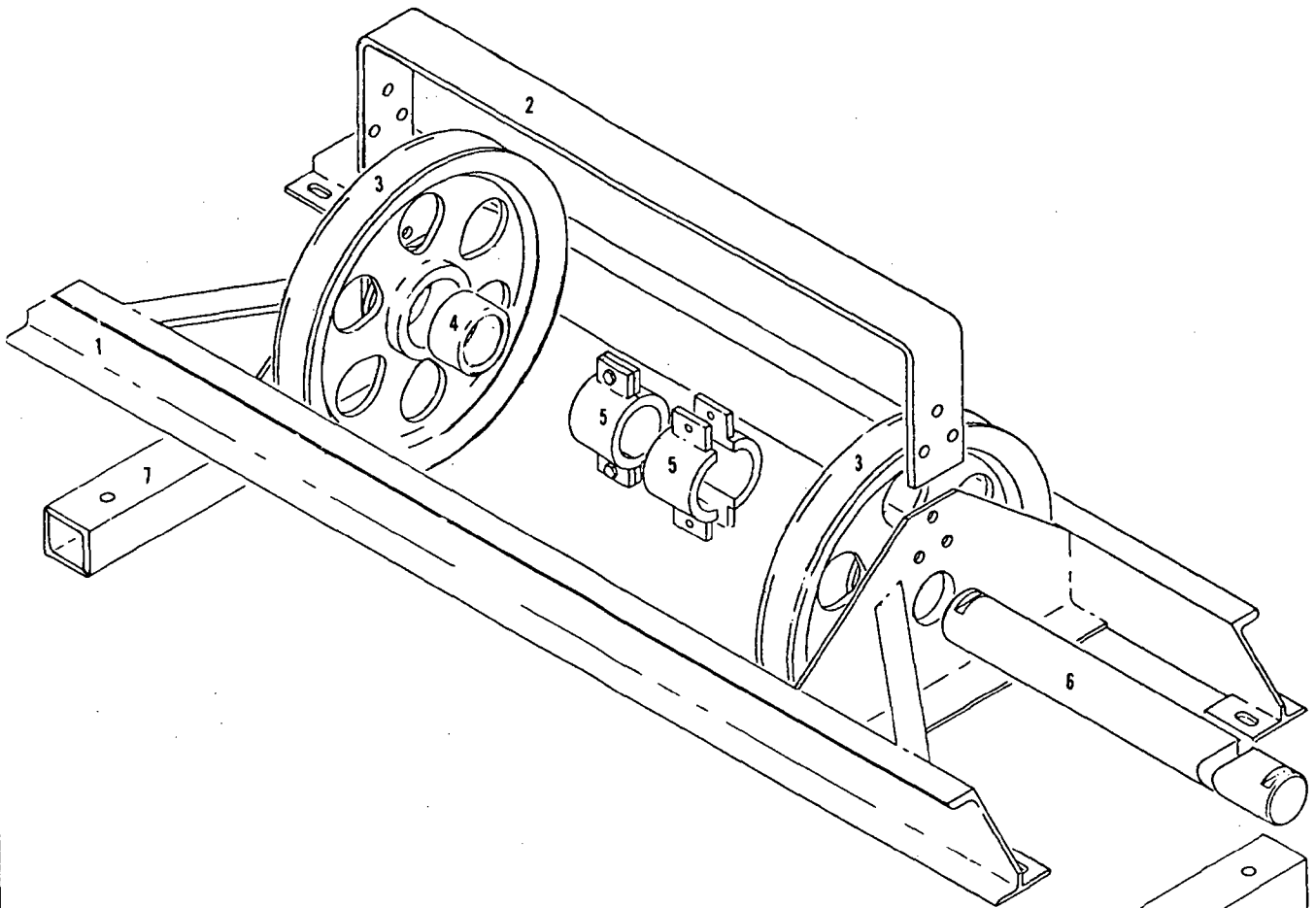
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MASTER



33634C1

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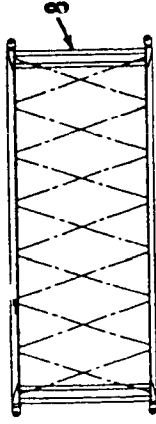
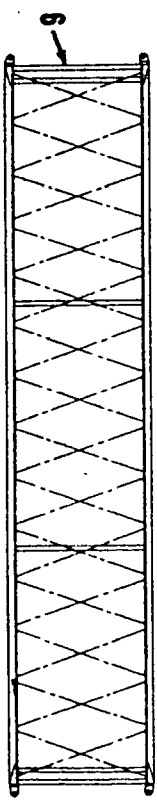
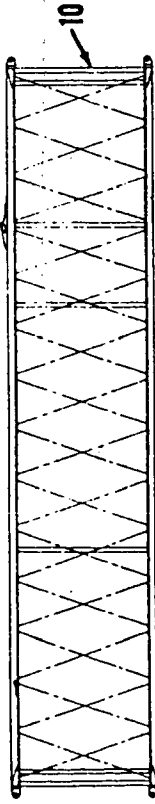
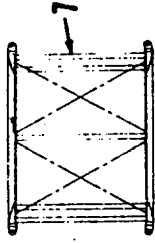
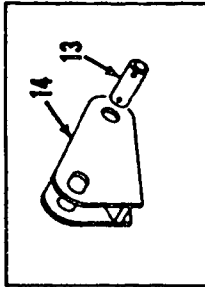
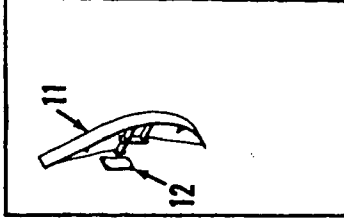
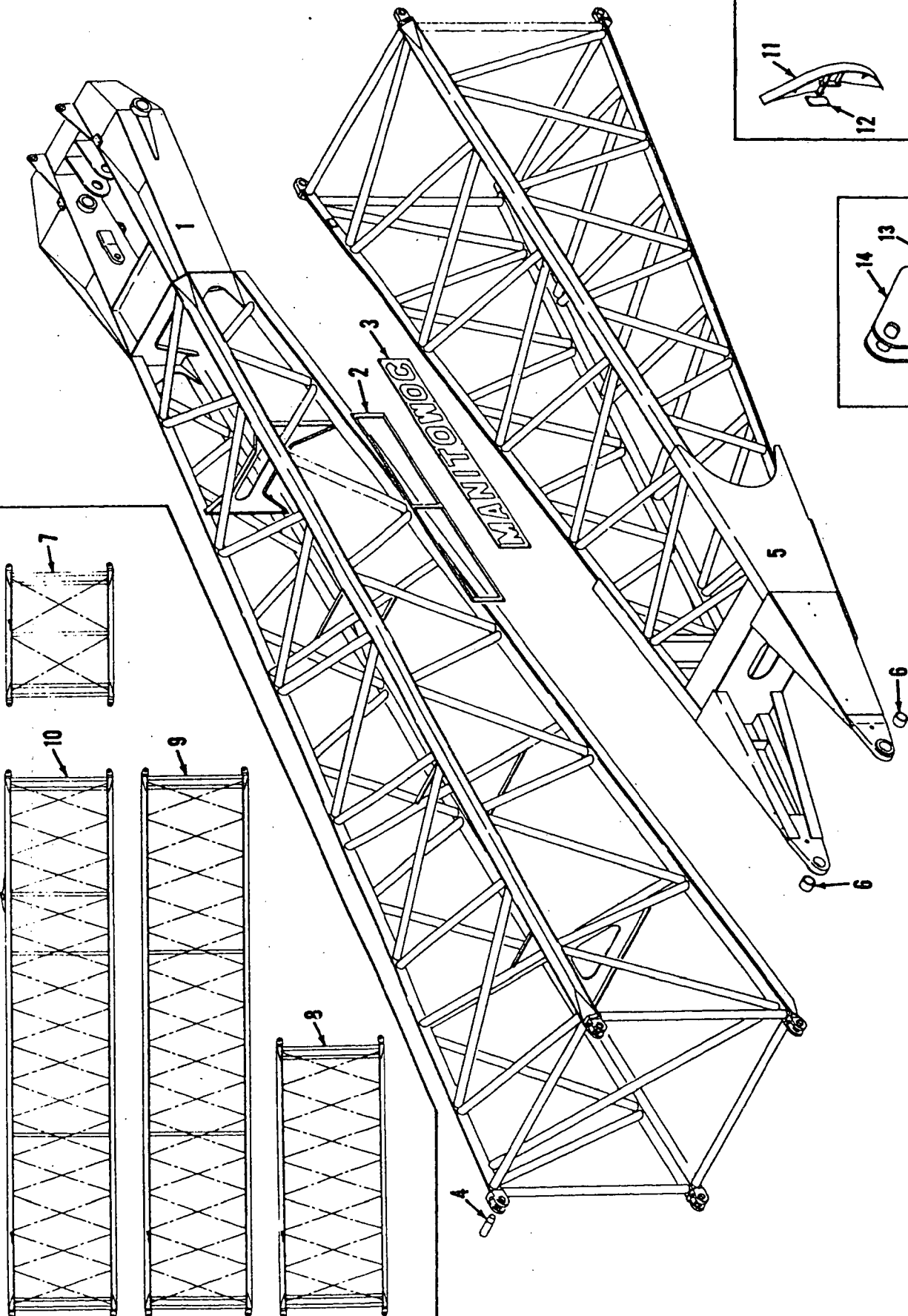
WIRE ROPE GUIDE

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Manitowoc, Wisconsin

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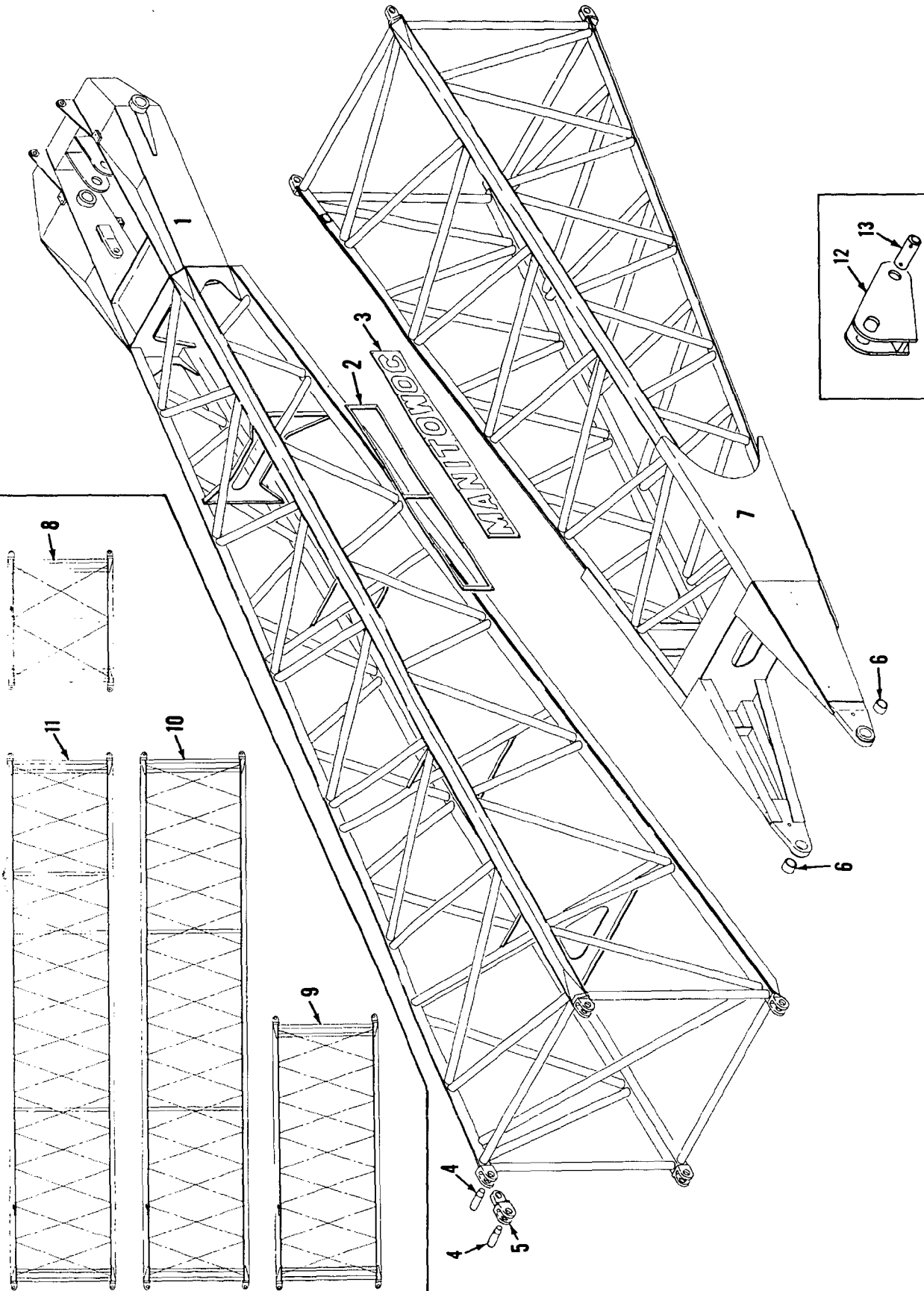


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BOOM NO. 22

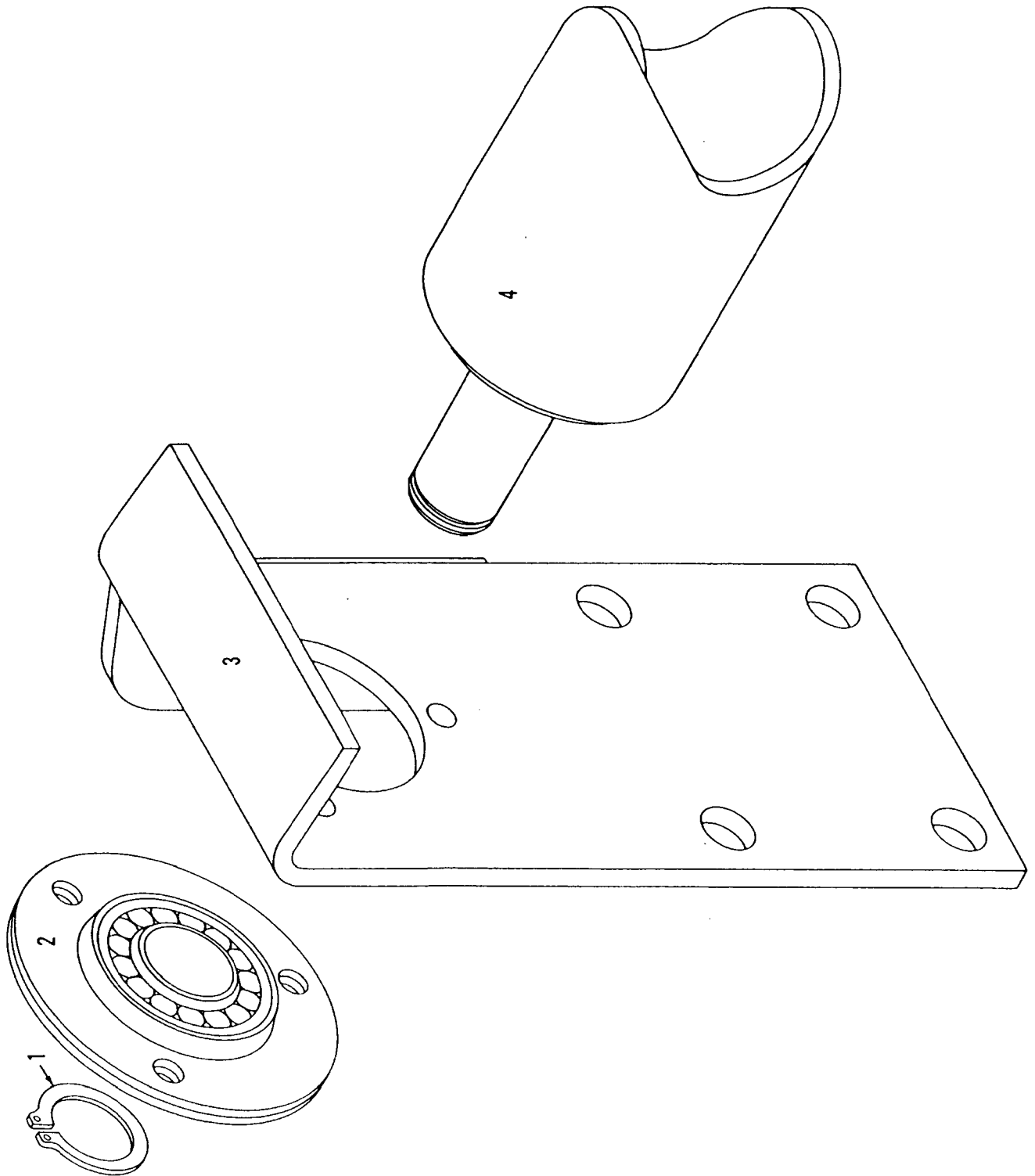
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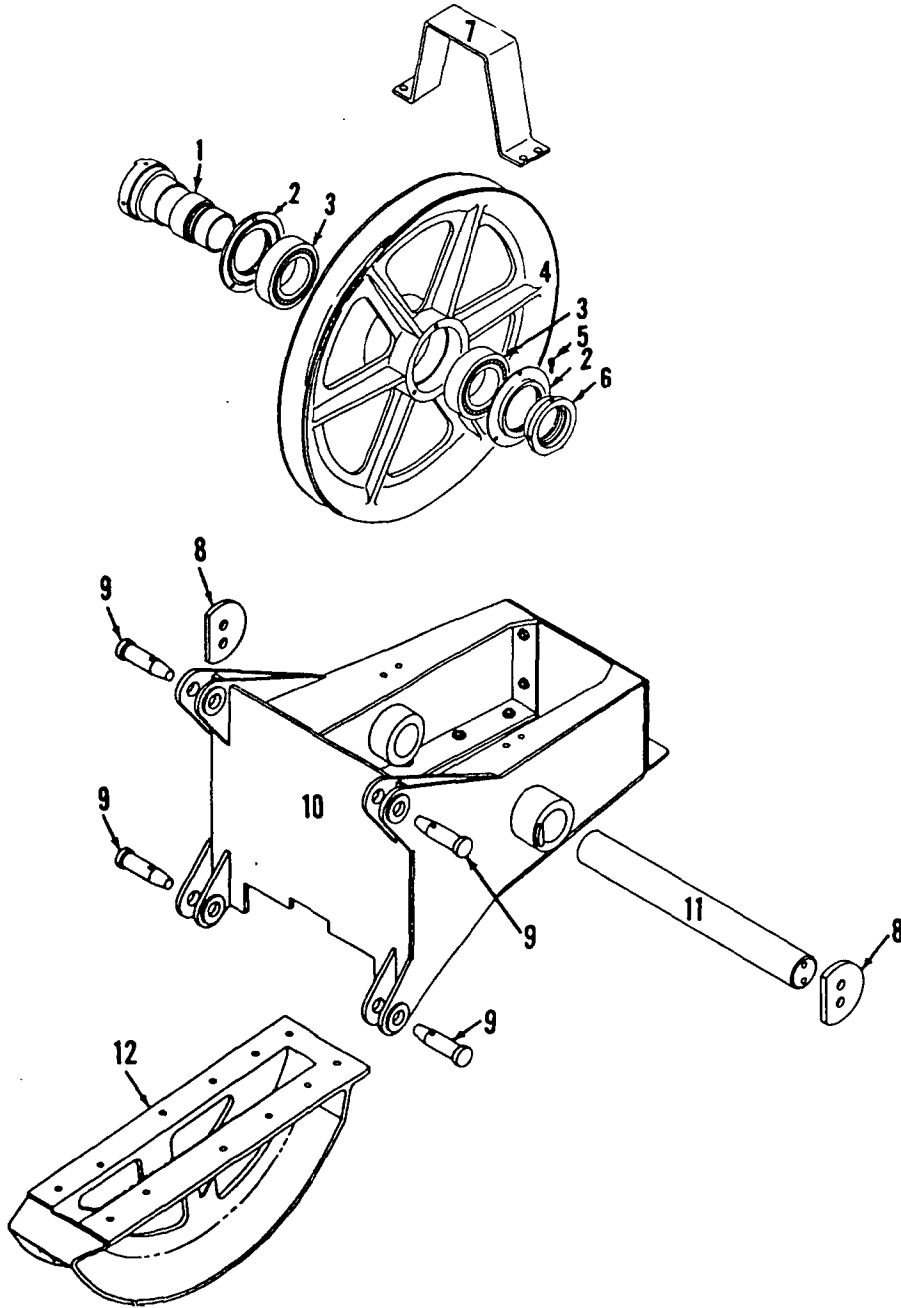


ASIER

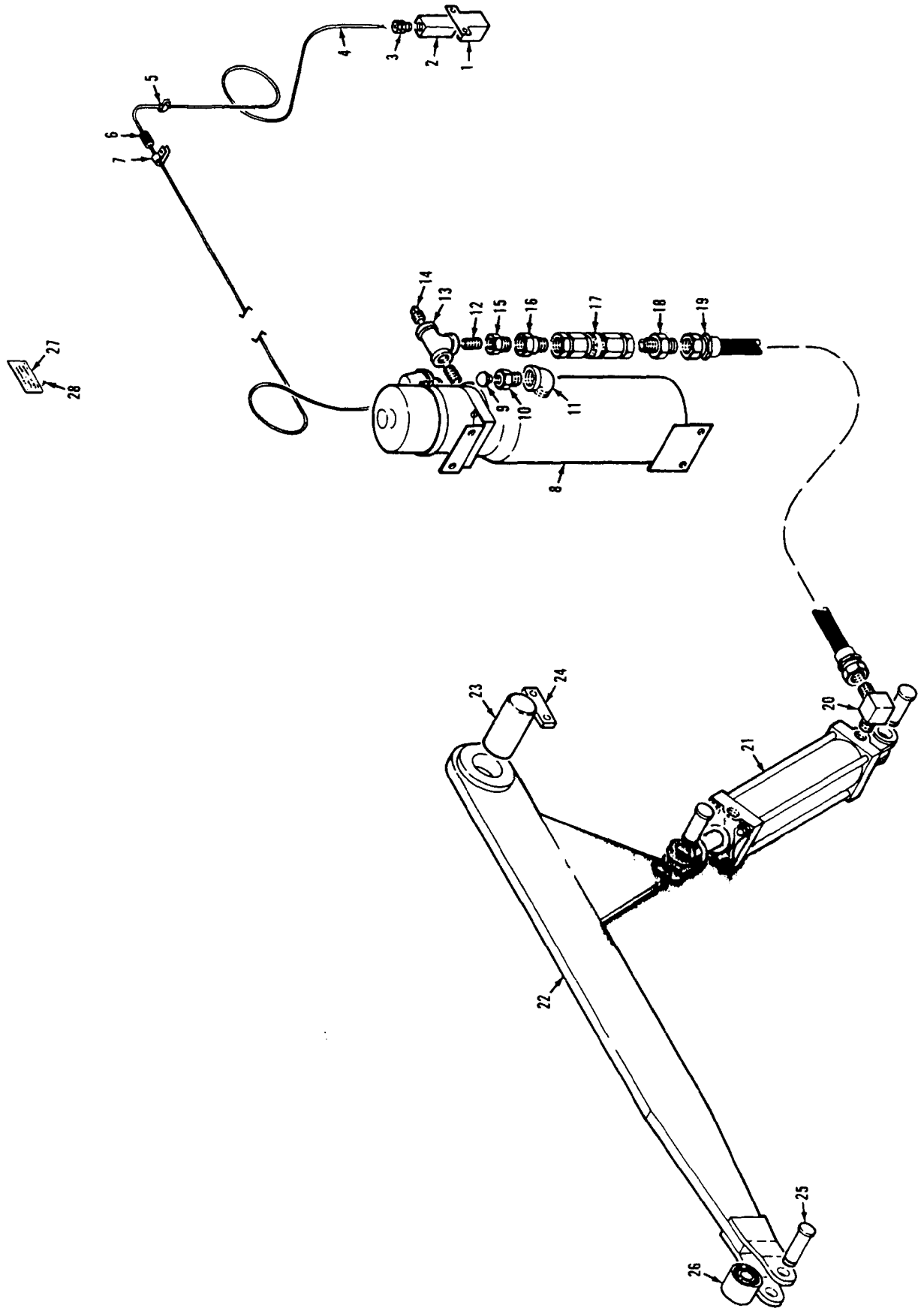
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MATERIAL LIST ON BACK

CABLE ROLLER GUIDE ASSEMBLY



MASTER



181193B1

MATERIAL LIST ON BACK

GANTRY LIFTING DEVICE

O-Number

MANITOWOC ENGINEERING CO.

Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin 54220



TUBING (soft copper)

Code No.	Tube O.D.
696205	3/16
696210	1/4
696214	5/16
696216	3/8
696218	1/2
696219	5/8
696220	3/4



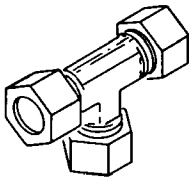
NUT

Code No.	Tube O.D.
424603	3/8
424604	1/2
424605	3/4
424633	5/16
424634	1/4
424635	3/16



FERRULE

Code No.	Tube O.D.
424600	1/4
424601	3/4
424602	3/8
424616	5/16
424617	1/2
424618	1/8
424619	3/16



UNION TEE

Code No.	Tube O.D.
429315	1/4
429316	3/8
429317	5/16



UNION

Code No.	Tube O.D.
429349	3/8
429361	1/4
429362	1/2
429397	5/16



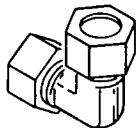
FEMALE CONNECTOR

Code No.	Tube O.D.	Pipe Thread
429312	3/16	1/8
429407	1/4	1/8
429830	1/4	1/4



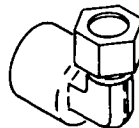
MALE CONNECTOR

Code No.	Tube O.D.	Pipe Thread
429324	3/4	3/4
429328	3/8	1/2
429351	5/16	1/8
429358	1/2	3/4
429359	1/2	3/8
429363	1/4	1/8
429364	1/4	1/4
429365	3/16	1/8
429366	3/8	1/8
429367	3/8	1/4
429368	3/8	3/8



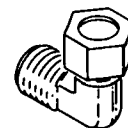
UNION ELBOW

Code No.	Tube O.D.
429372	3/8
429378	1/2
429381	1/4



FEMALE ELBOW

Code No.	Tube O.D.	Pipe Thread
429066	1/4	1/8
429825	1/4	1/4



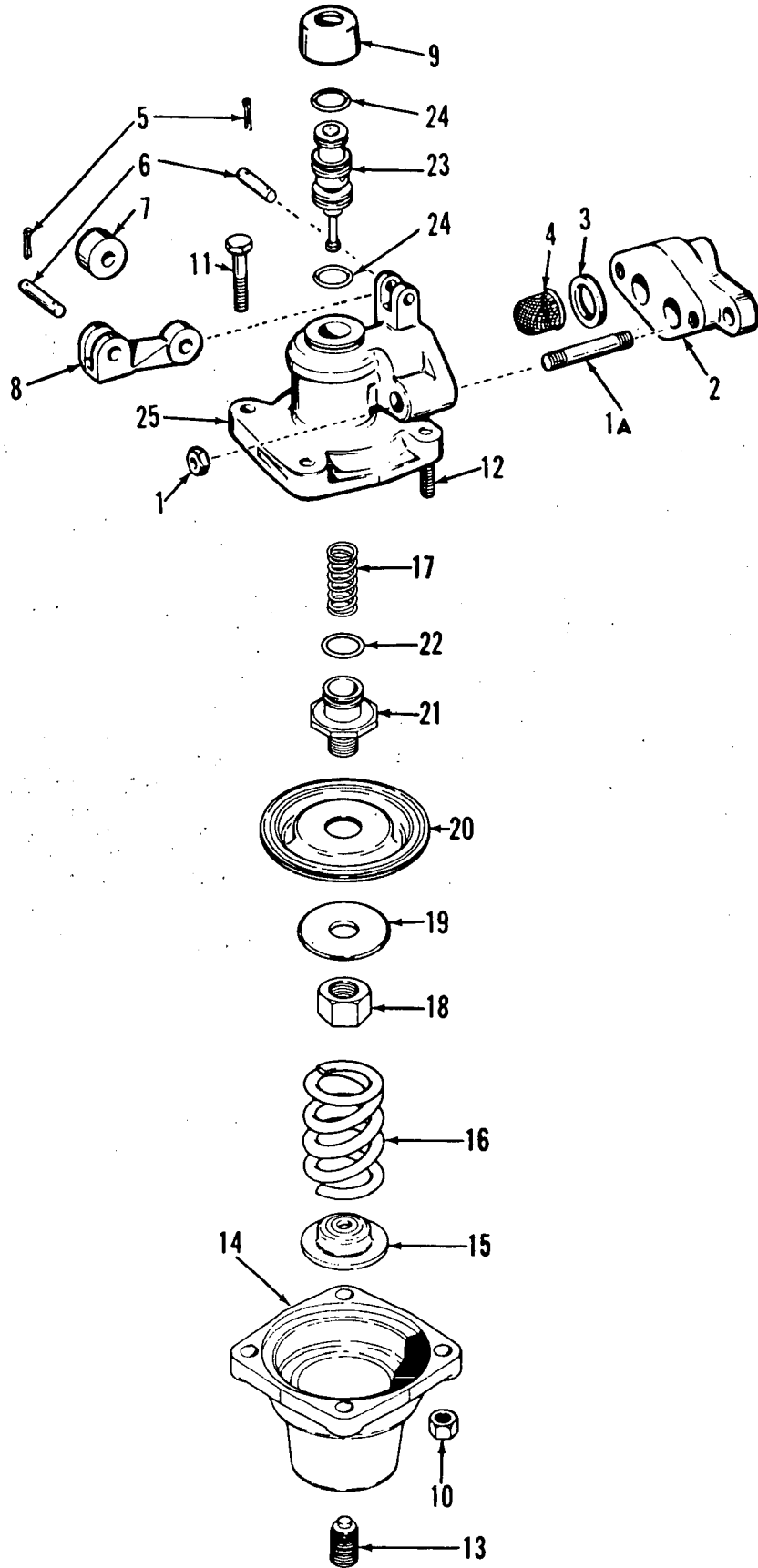
MALE ELBOW

Code No.	Tube O.D.	Pipe Thread
429371	1/2	1/2
429373	3/8	1/8
429374	1/4	1/4
429375	3/8	1/4
429376	1/2	3/8
429380	1/4	1/8
429384	3/8	1/2
429385	5/16	1/8
429386	3/16	1/8
429401	1/2	3/4
429422	3/8	3/8
429453	3/4	3/4

MANITOWOC ENGINEERING CO.

A Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin



MASTER

VALVE ASSEMBLY

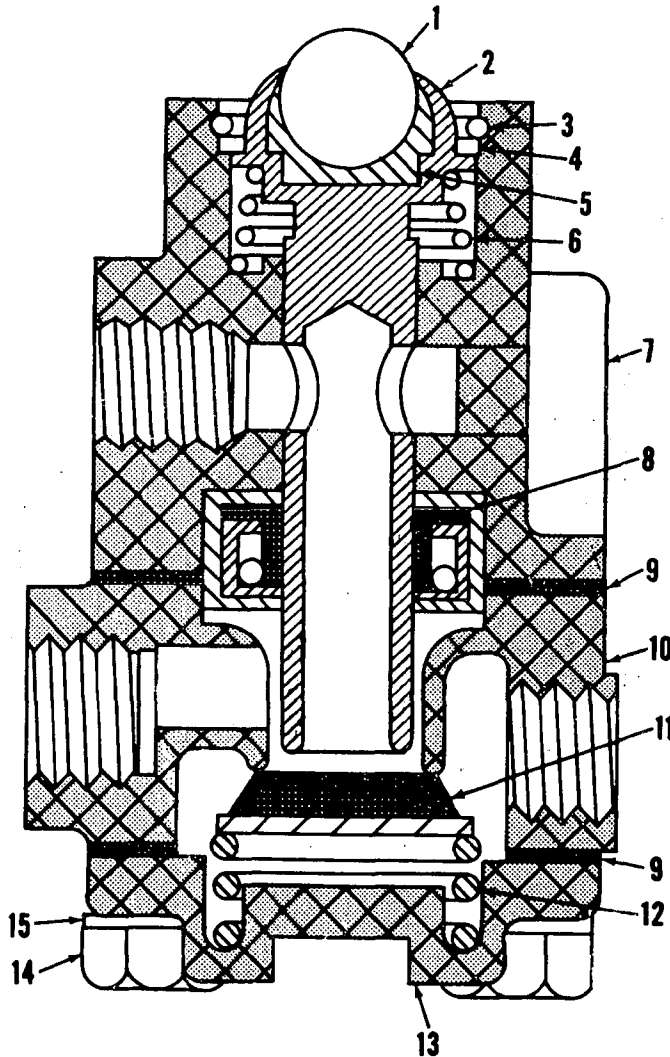
0-243

MANITOWOC ENGINEERING CO.

A Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin

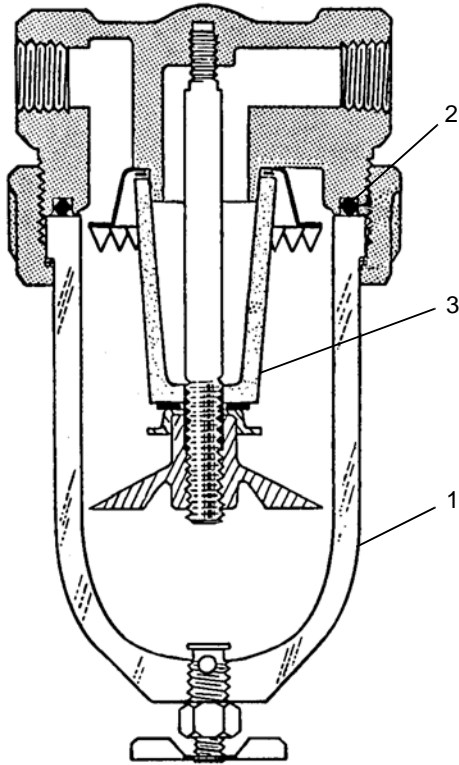
MASTER



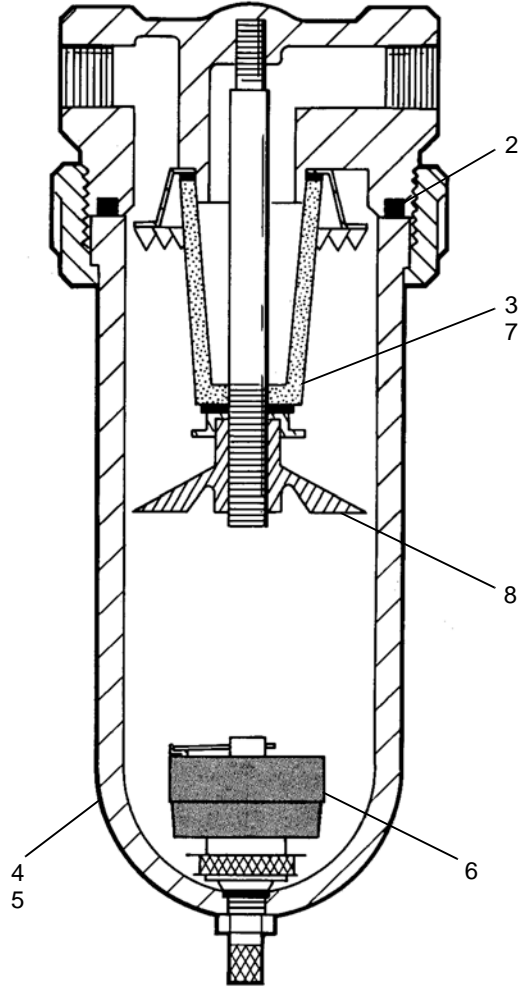
0 250 A 1

O-250A1

MATERIAL LIST ON BACK

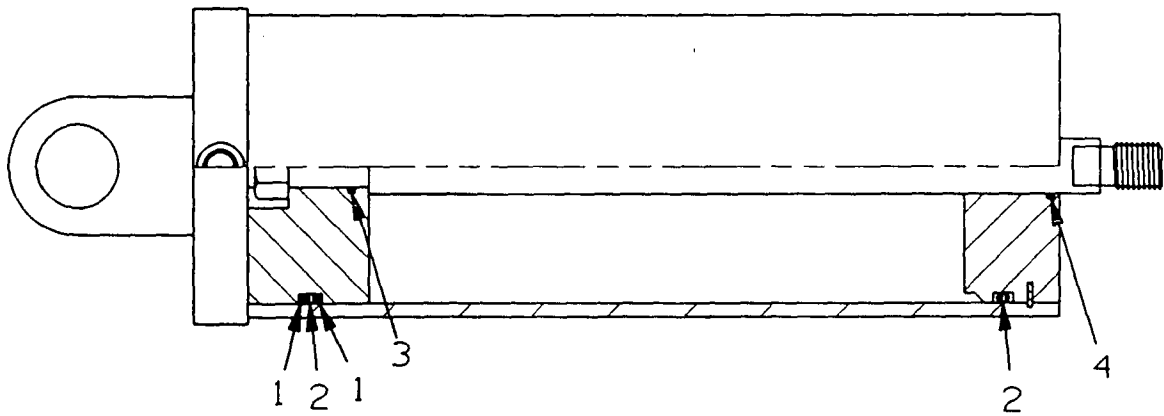


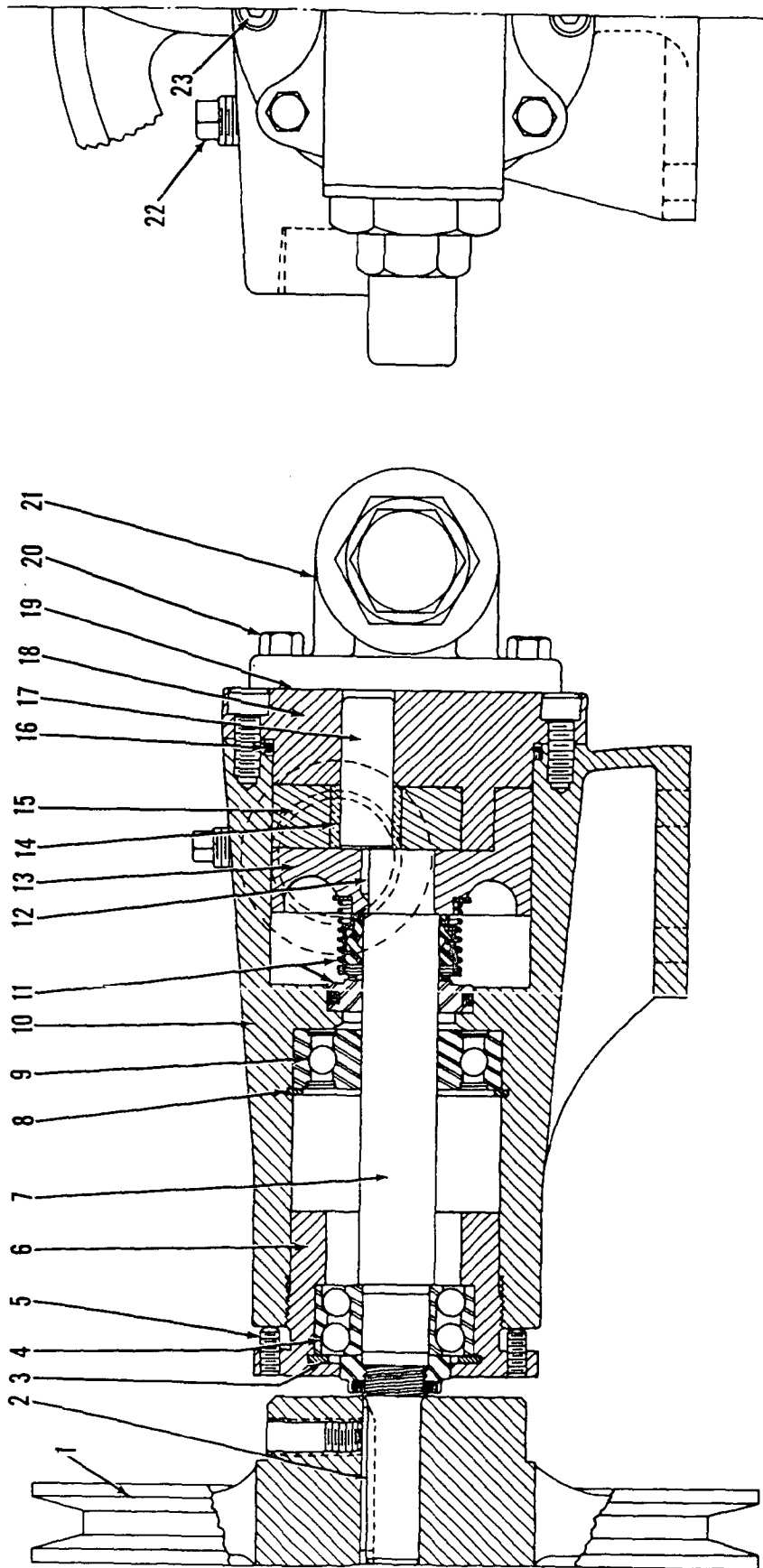
427066



427130

ASSEMBLY	REVISION
O-289	F



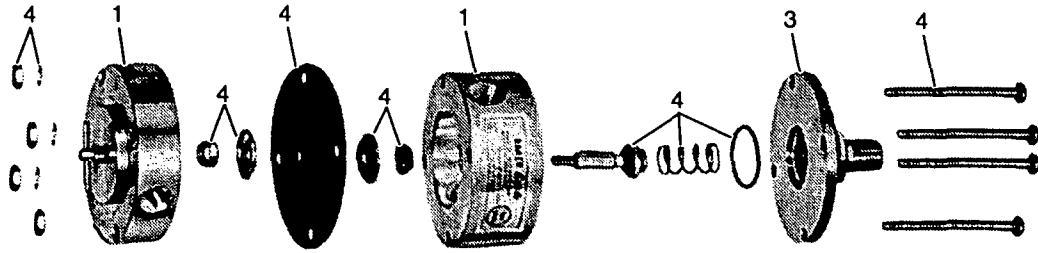


43051B7

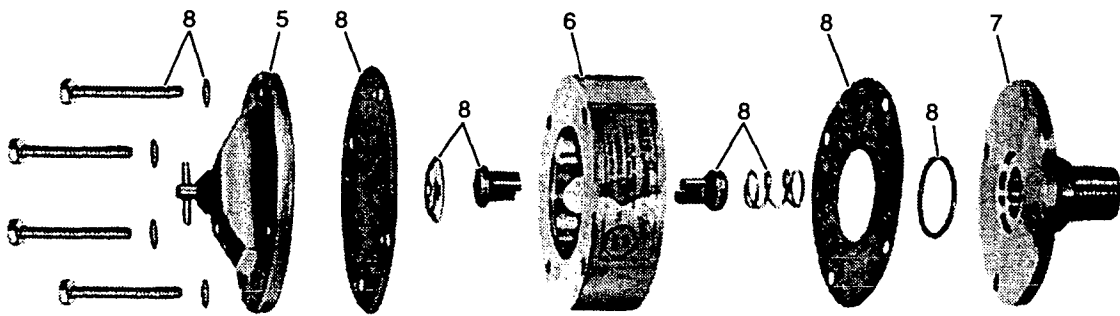
MATERIAL LIST ON BACK

OIL PUMP

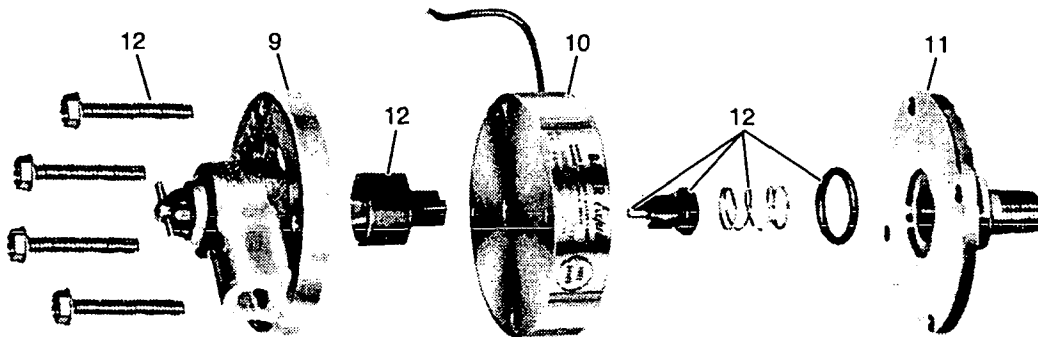
0-407 B7



Models # 17332
(Discontinued)



Models # 16240
(Discontinued)



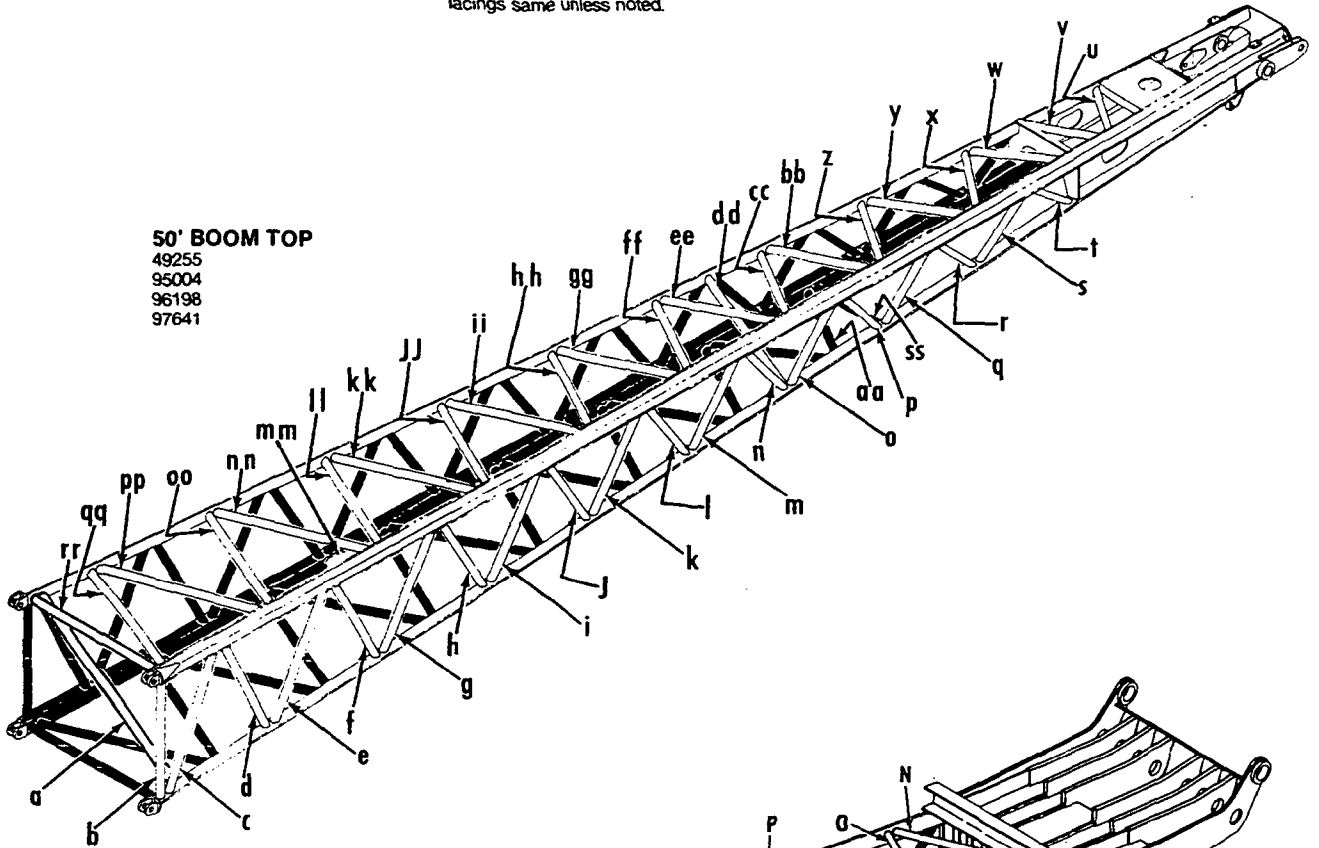
Models # 15120 & 15243.1

BOOMS #22 & 22A TOP SECTIONS

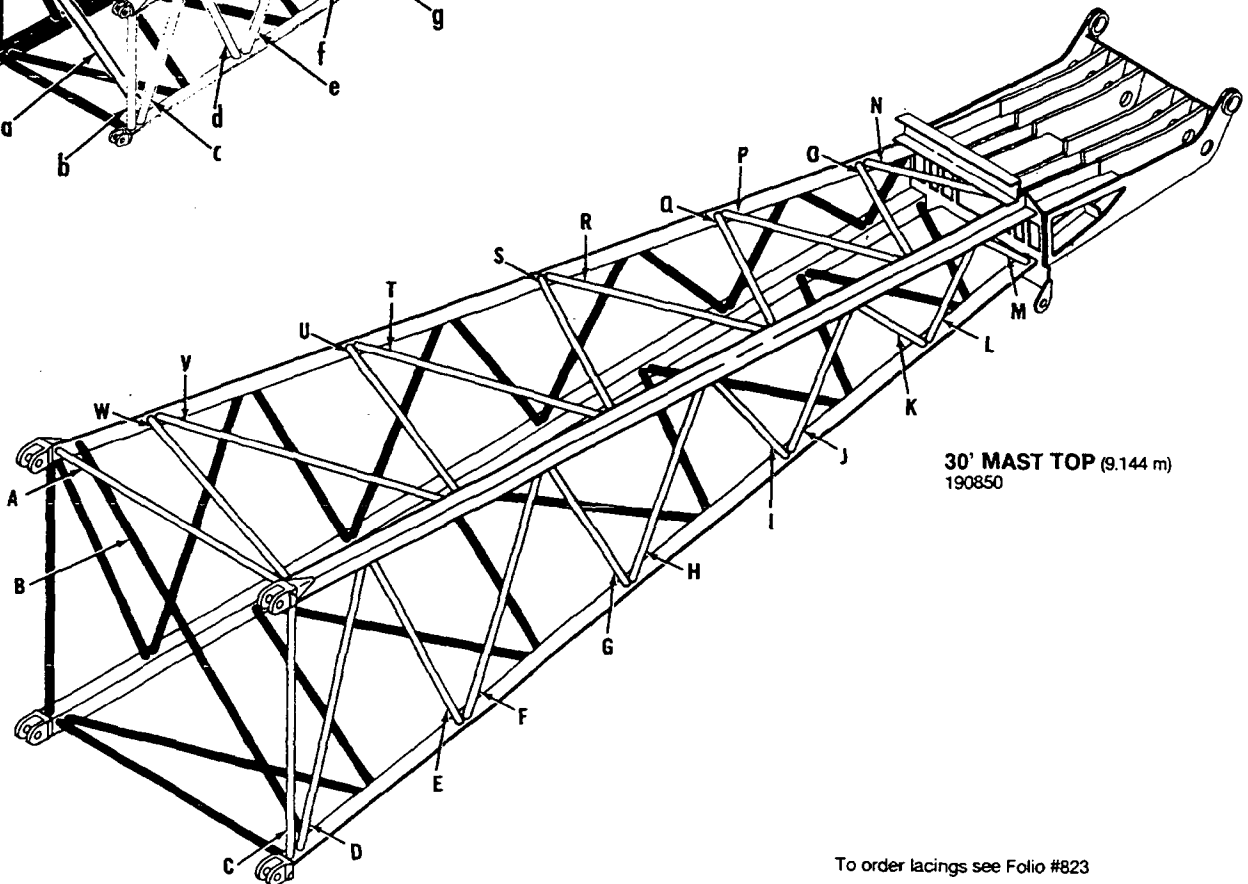
Left side and bottom lacings black. Opposite lacings same unless noted.

50' BOOM TOP

49255
95004
96198
97641

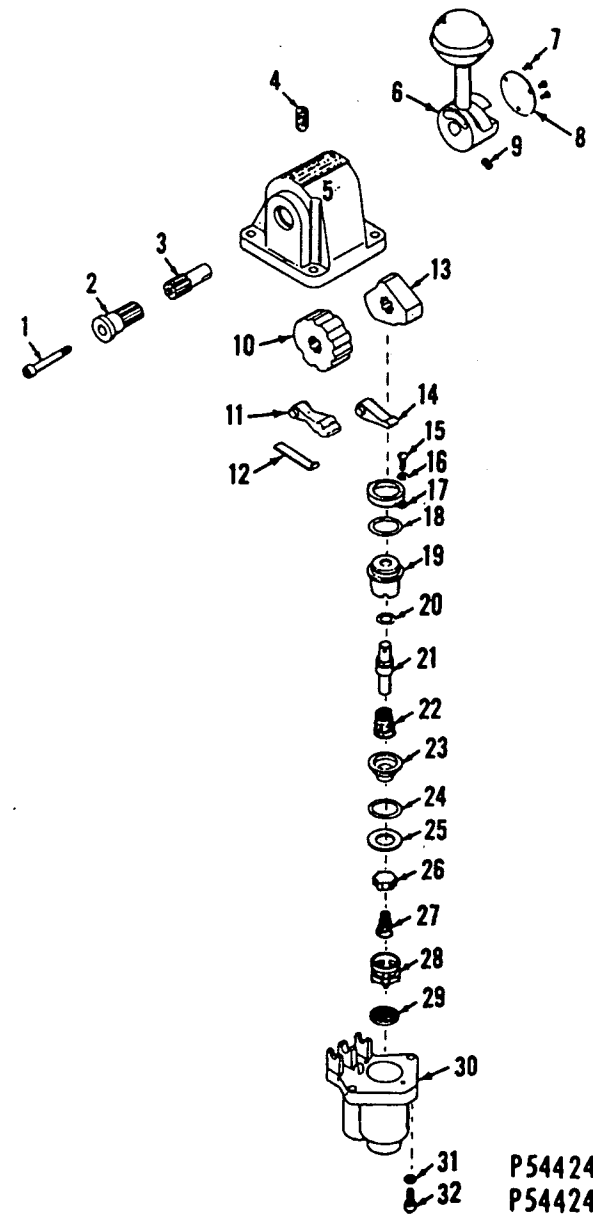
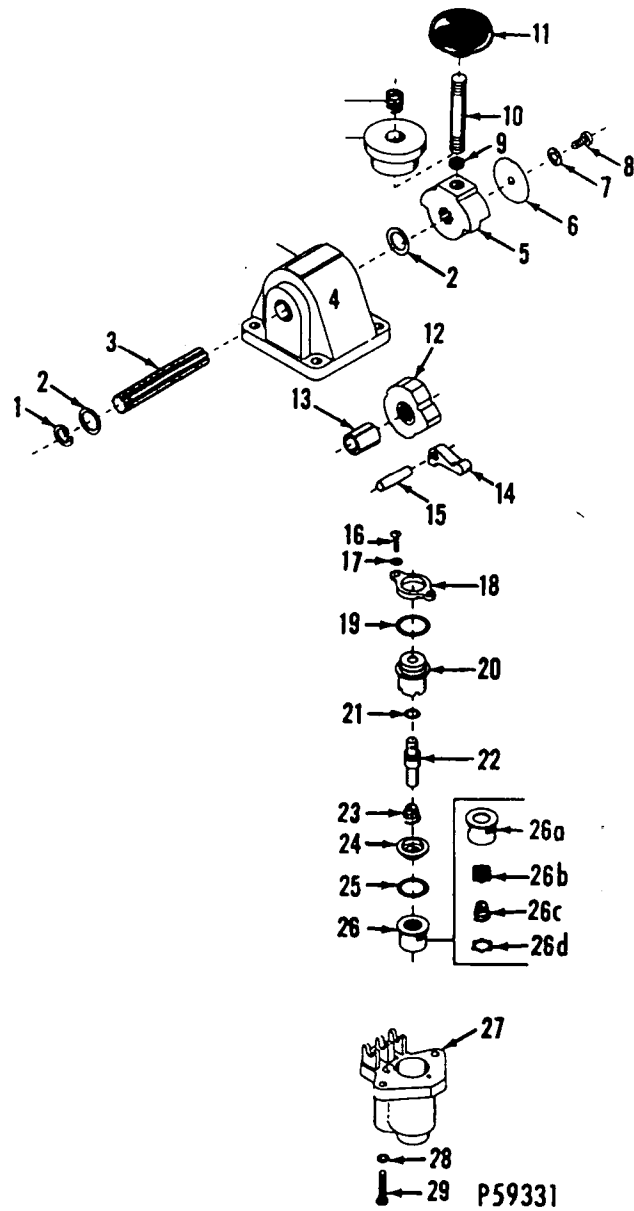


30' MAST TOP (9.144 m)
190850



To order lacings see Folio #823

0-69



MATERIAL LIST ON BACK

CONTROL VALVE

0-96 - 1 Cont.	REV. C	MODEL ALL
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AIR CONTROL VALVE
 (MANITOWOC #714494)
 (WESTINGHOUSE #P59335 - NEW)
 (WESTINGHOUSE #P54426-0312 OLD)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
12	714527	1	SPRING, Detent	P54420
13		2	CAM	P54192
14		2	FOLLOWER, Cam	P54197
15		4	SCREW, Truss Head	P49861-3
16		4	WASHER, Lock	506608
17		2	FLANGE, Valve Retaining	P54463
18	714430	2	RING, "O" (15/16" O.D.)	P49708-16
19		2	GUIDE, Plunger	P54147
20	714506	2	RING, "O" (7/16" O.D.)	P49708-11
21		2	PLUNGER, Valve	P54146
22	714525	2	SPRING, Exhaust Valve	P54144
23		2	SEAT, Inlet Valve	P54145
24	714441	2	RING, "O" (7/8" O.D.)	P49708-115
25		2	WASHER	P53455-3
26	714442	2	VALVE, Inlet	P5125
27	714526	2	SPRING, Inlet Valve	539115
28		2	SPACER, Valve	P54794
29		2	BODY	P54306
30		2	WASHER, Lock	506607
31		2	SCREW	P49835

NOTE: Part numbers at right are Westinghouse. Please so specify if ordering.

Valves changed approx. July 1969. Check nameplate (Ref. #7) for accurate identification of valve.

REV. C	0 - 96 - 1
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PLEASE GIVE MACHINE S/N W/ORDER

Run as a Front

0-96 Cont.

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