

Manitowoc

TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

4000W

Model

40615

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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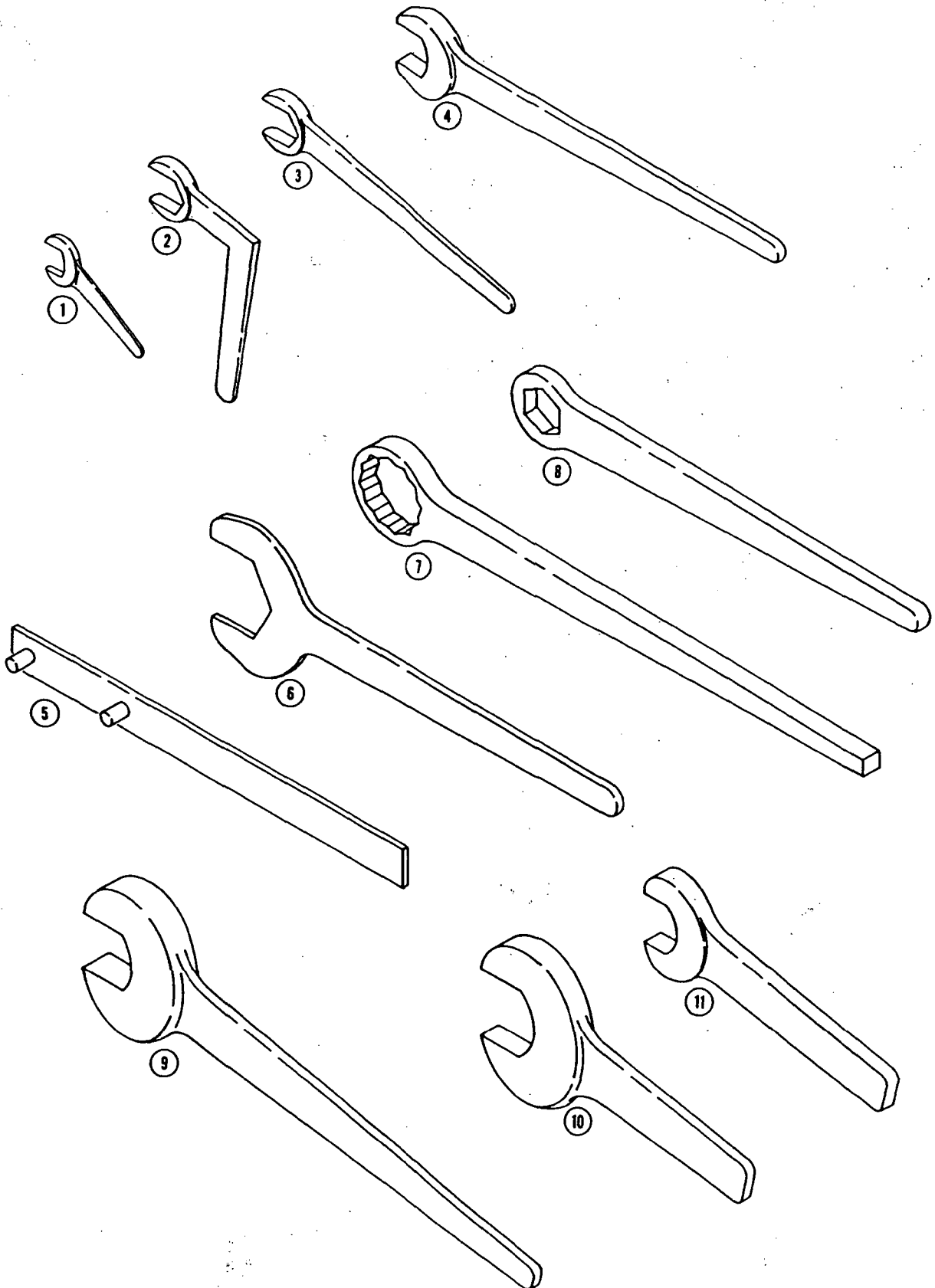
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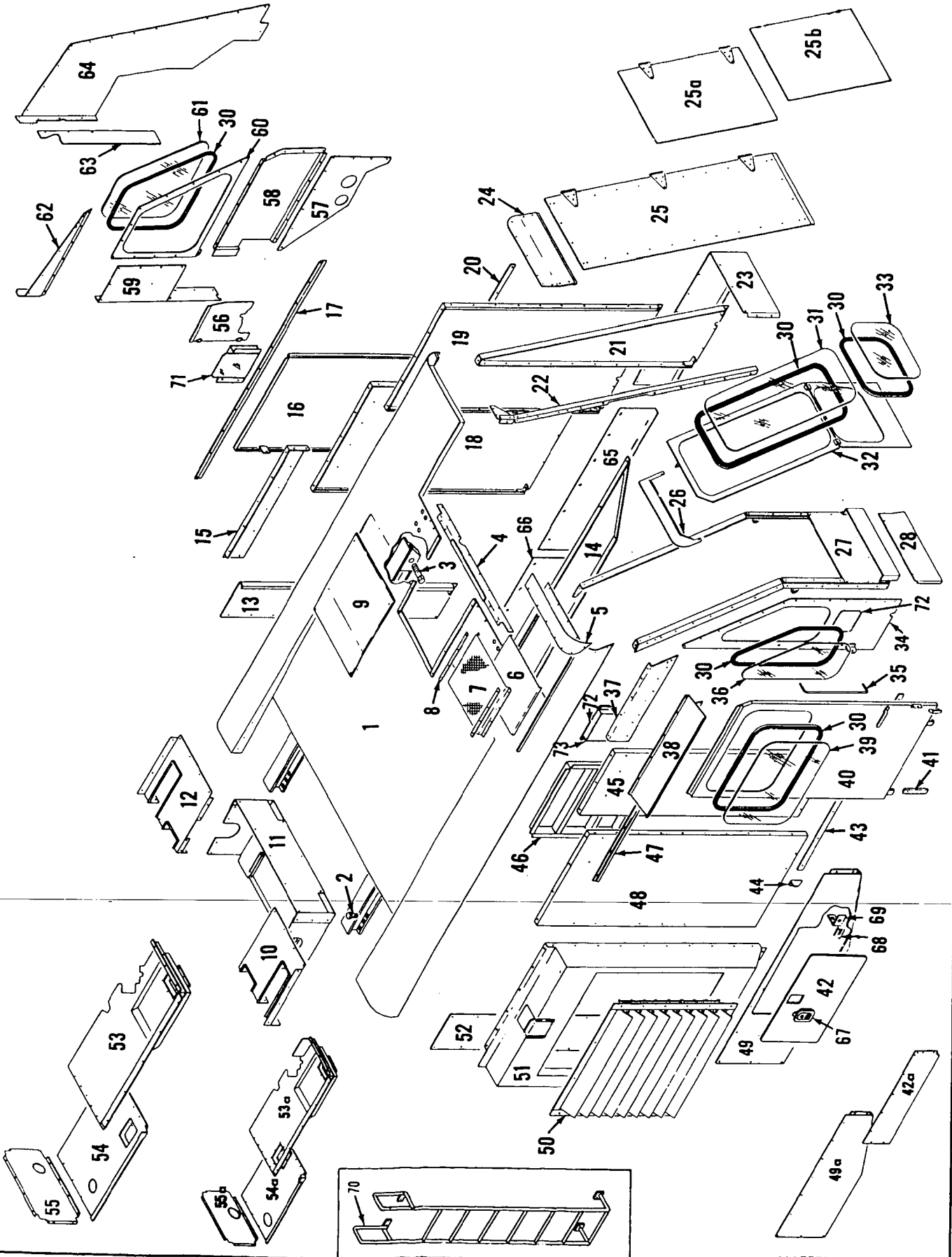
Manitowoc, Wisconsin



0-480-1A

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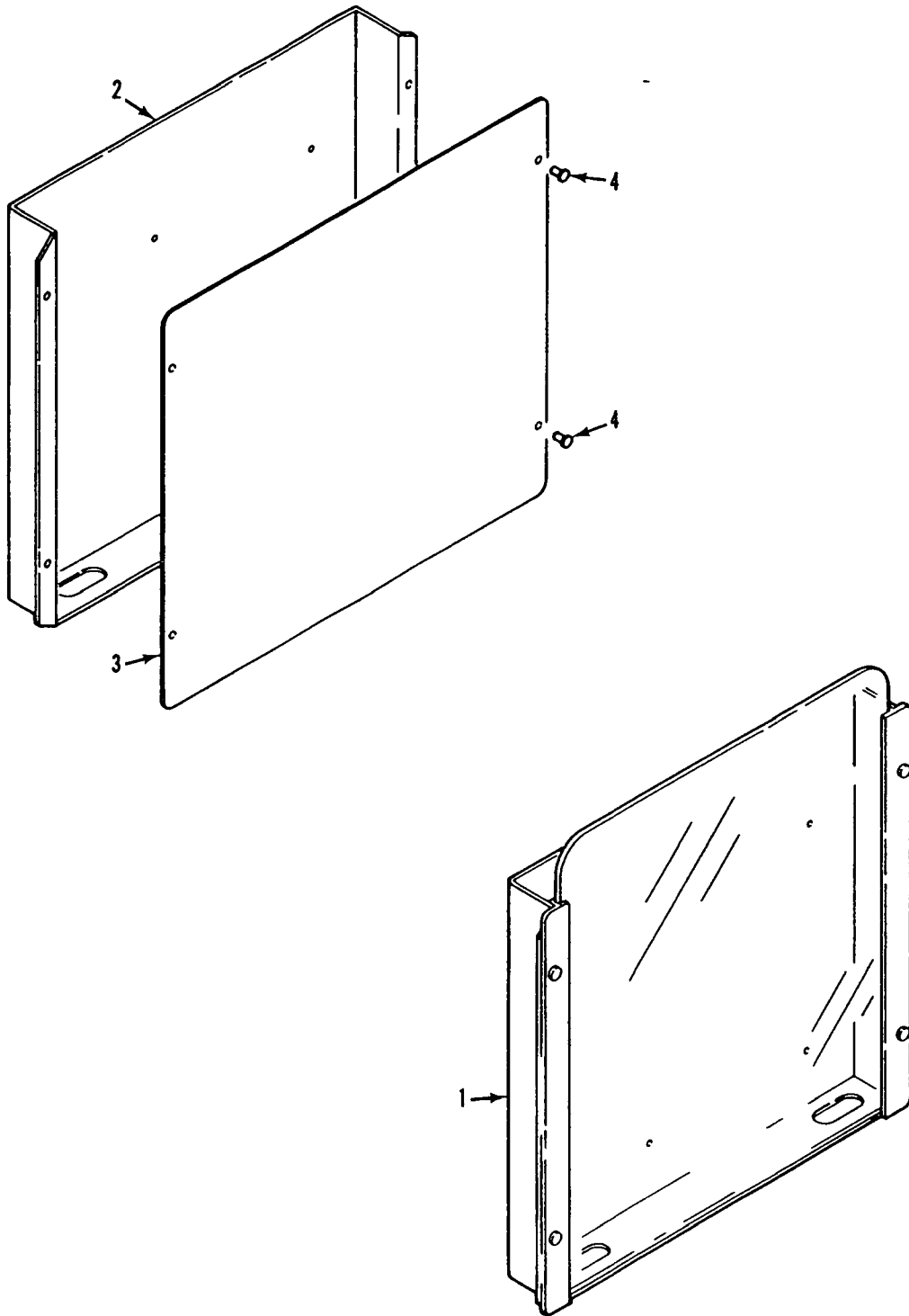
MASTER



33760F1

MATERIAL LIST ON BACK

CAB



94017A1

MATERIAL LIST ON BACK

CAPACITY CHART & SERVICE MANUAL HOLDERS

190048-1 cont.	REV. G	MODEL 4000W
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ROTATING BED

RUN AS FRONT

MASTER

190048 G1 cont.

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
47	72264	1	COVER W/capscrews and lockwashers	
48	74887	2	COVER W/capscrews and lockwashers	
49	146862	1	PLATE, Left Cover	
49	139611	1	PLATE, Right Cover	
50	74925	2	LUG, Load Block Hold Back (Optional)	
51	505803	1	LEVEL, Angle	
52	460324	1	GAUGE, Fuel	
55	692656	1	TRIMLOK, Black (1/8" - Specify length) (Left Side)	
55	70817	1	GROMMET (Right Side)	
56	289564	2	BUSHING (2.012 x 2.254 x 1")	
57	289568	1	BUSHING (3.261 x 3.502 x 1-1/2")	
58	289565	1	BUSHING (2.509 x 2.754 x 1-1/2") (In line W/#289568 on left side of bed)	
59	289594	3	BUSHING (1.512 x 1.754 x 1-1/4") (In line)	
60	289563	1	BUSHING (1.268 x 1.503 x 1")	
			<u>NOTE 1:</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	
			<u>NOTE 2:</u> <u>BEVEL GEAR HOUSING DESIGN CHANGES</u> After bevel gear housing revision of 5-23-79, twenty national coarse (NC) <u>grade 5</u> hex head capscrews and two NC socket head capscrews going into <u>twenty-two</u> NC <u>tapped</u> holes are used to hold housing to rotating bed. Torque these grade 5 NC hex head capscrews to 300 ft. lbs. using Never-Seez on threads and under heads. After bevel gear housing revision of 3-9-81 the mounting flange thickness was changed which eliminates the use of gasket 10493 and uses Loctite instead. This revised housing is identified as 41924-9 and has this number stamped on it. (Gasket 10493 remains available for use with old housings) Replacement housings will be 41924-9. Socket head capscrews, <u>grade 5</u> hex head capscrews, Loctite and Loctite primers are included to accommodate all previous methods of installation. M.E.C. Service Bulletin #236 must be referred to for installation instructions.	

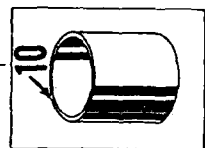
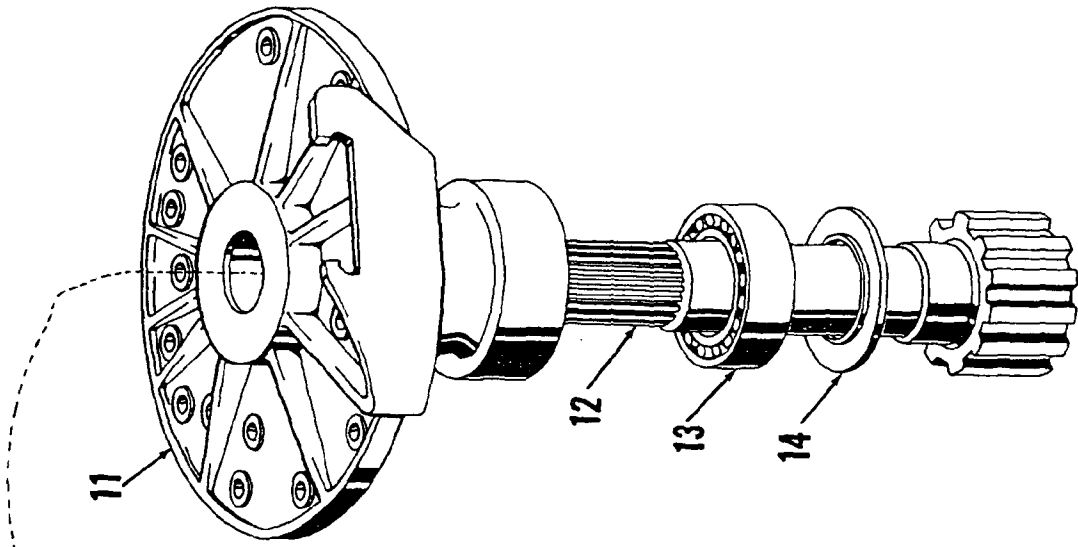
REV. G	190048-1
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PLEASE GIVE MACHINE S/N W/ORDER

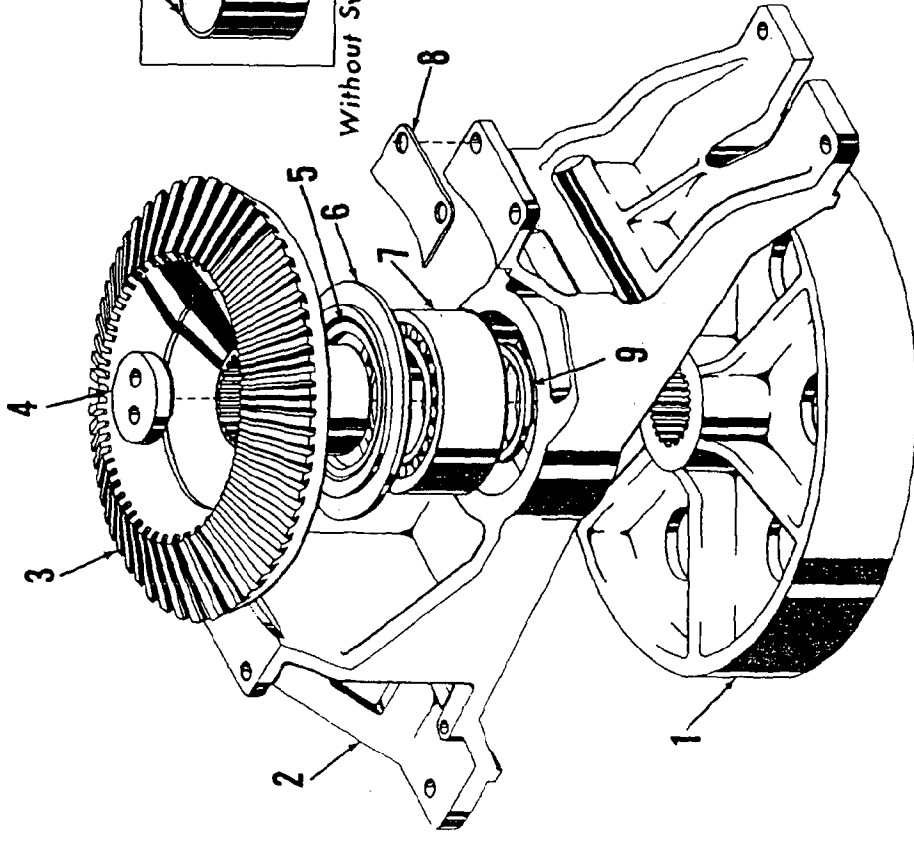
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Manitowoc, Wisconsin



Without Swing Brake



ILLUST. No. 23439-A-1

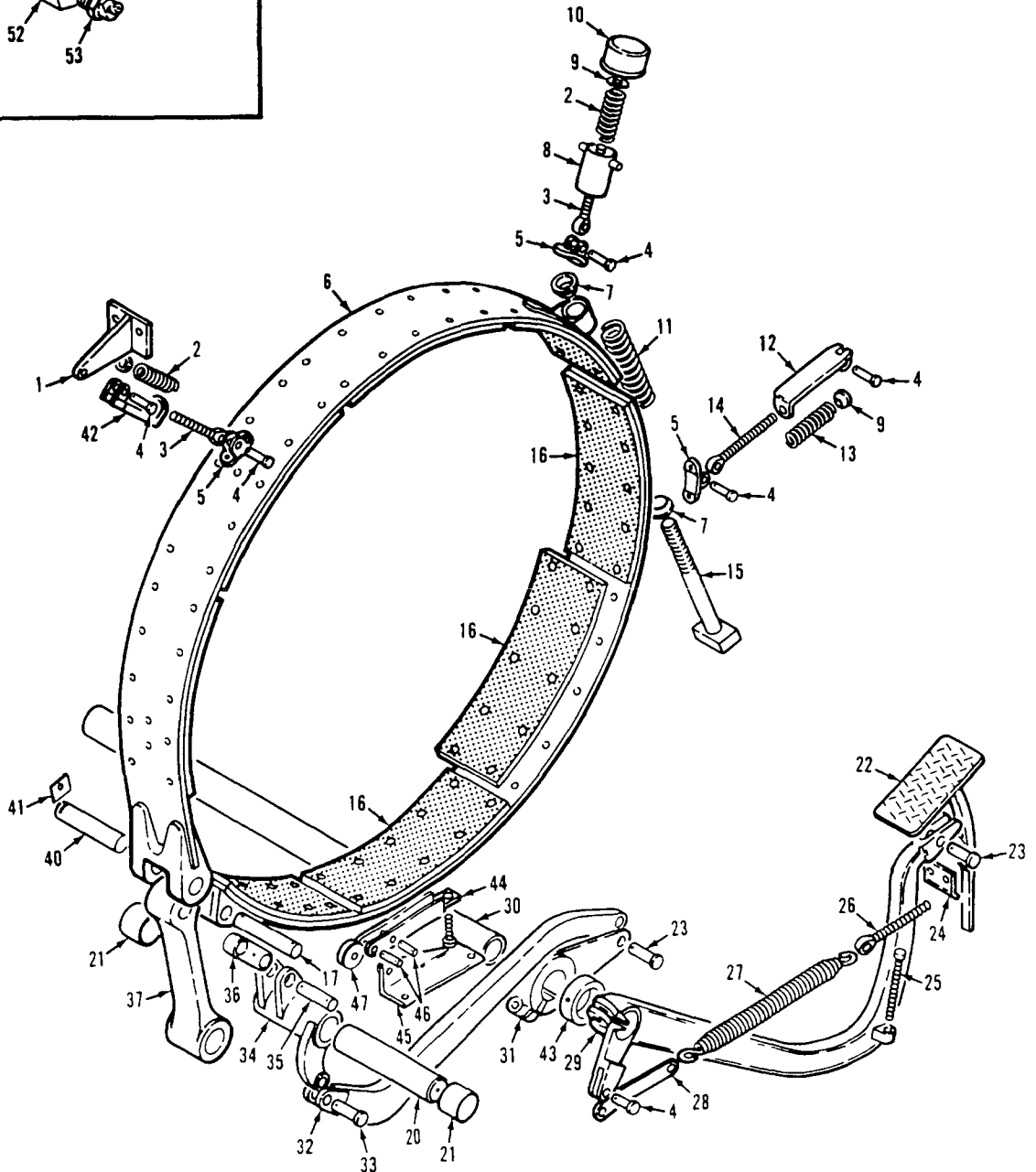
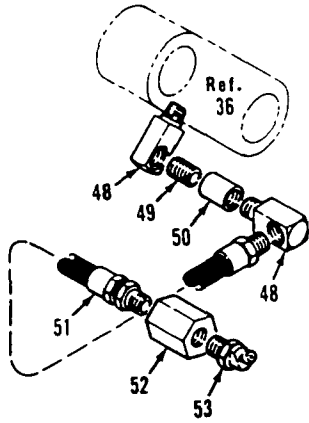
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VERTICAL DRIVE SHAFT

23439

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42183C1

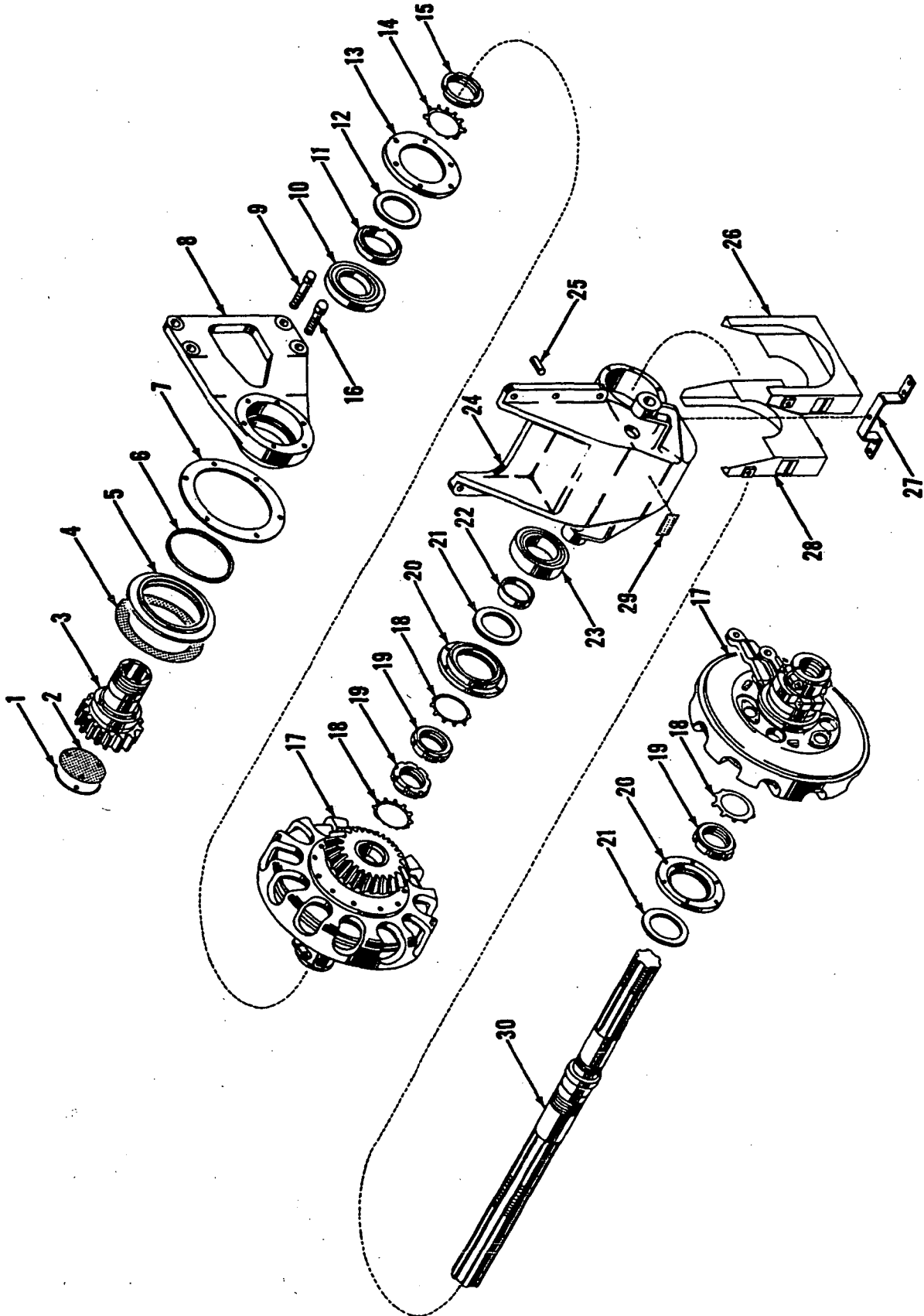
MATERIAL LIST ON BACK

RIGHT DRUM BRAKE

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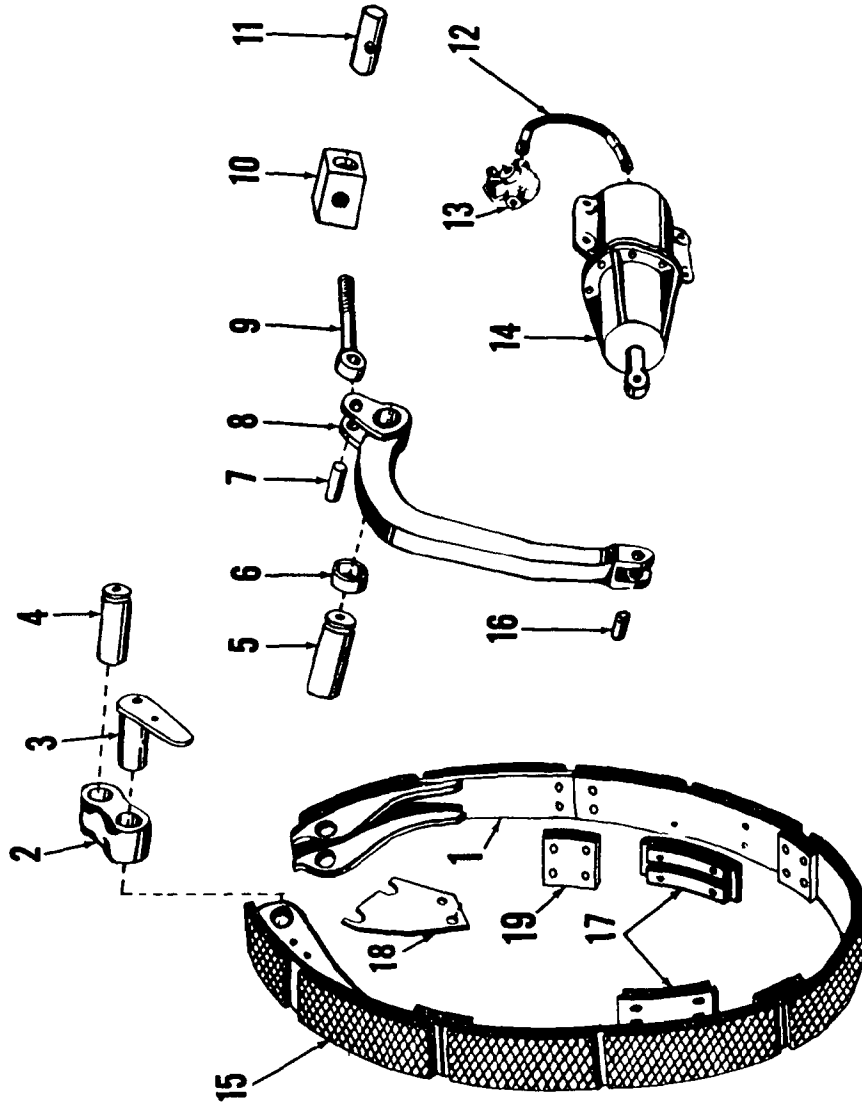
ILLUST. No. 42197 - A-1

MATERIAL LIST ON BACK

CLUTCH SHAFT ASSEMBLY

STER

MASTER



4170282

MATERIAL LIST ON BACK

CLUTCH BAND ASSEMBLY

Use 4238 E2 Back

43132-1 cont.	REV. F	MODEL 3000W-3100-3400-3600-3900-3900T-3900W-4000-4000W
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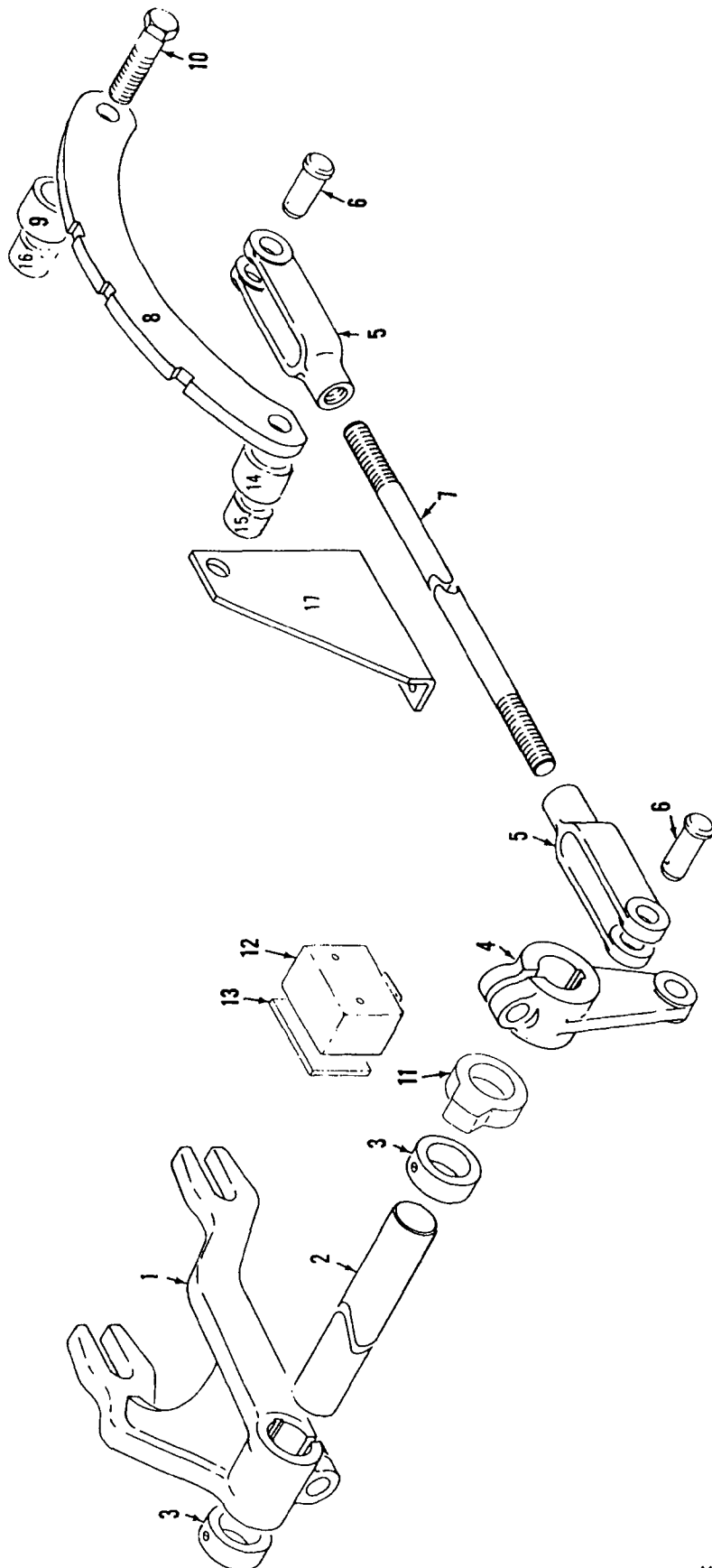
MAIN DRIVE SHAFT
(VICON)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
34	21733	1	COVER, Bearing w/capscrews, hex nuts, lockwashers and gr. fitting	
	257202	2	BOLT, Coupling	
35	22482	1	HOUSING, Bearing w/capscrews, hex nuts and lockwashers	
36	224909	1	BEARING, Roller	
37	15535	1 set	SHIM (1/16" set)	
38	21734	1	COVER, Bearing w/capscrews, hex nuts, lockwashers and gr. fitting	
	257202	2	BOLT, Coupling	
39	15548	1	SPACER	
40	15551	1	NUT, Split w/capscrews and elastic stop nuts	
41	73236	1	SPACER	
45	224323	1	BEARING, Ball	
46	20163	1	HOUSING, Bearing w/gr. fitting (M3000-3600 incl.)	
46	23697	1	HOUSING, Bearing w/gr. fitting (M3900-3900W-3900T-4000-4000W)	
47	11535	1	NUT, Lock	
48	11536	1	PLATE, Locking w/capscrews (See Note 2)	
49	10526	1	COVER, Bearing w/capscrews and lockwashers (See Note 2)	
50	71084	2	BOLT, Coupling w/elastic stop nut (Housing No. 23697-M3900-3900T-4000-4000W)	
50	12020	1	BOLT, Coupling w/hex nuts (Housing No. 23697-M3900W)	
50	71084	1	BOLT, Coupling w/elastic stop nut (Housing No. 23697-M3900W)	
50	16786	2	BOLT, Coupling w/elastic stop nut (Housing No. 20163)	
55	596934	1	RING, Spirolox	
<u>THE FOLLOWING PARTS ARE FOR CRANE, DRAG, CLAM TRENCH HOE ONLY. FOR SHOVEL CLUTCH SEE SH. NO. 3</u>				
42	18872	1	GUARD, Spline	
43	18731	1	SPACER	
44	10525	1	COVER, Bearing w/capscrews and lockwashers	
<u>FOR INDEPENDENT SWING (NOT INCL. M3900T)</u>				
51	24718	1	SPROCKET, Drive (bolt to outer sprocket) (46T.)	
52	256245	6	BOLT, Coupling	
	548367	6	NUT, Elastic Stop	
51	91684	1	SPROCKET, Drive (bolt to outer sprocket) (71T.)	
52	257247	6	BOLT, Coupling	
	548367	6	NUT, Hex	
<u>FOR CHAIN DRIVEN IND. BOOM HOIST (NOT INCL. M3900T)</u>				
51	90618	1	SPROCKET, Drive (1-1/2"P. - 2 strand 59T) (bolt to outer sprocket)	
52	257247	6	BOLT, Coupling	
	548367	6	NUT, Elastic stop	
51	90637	1	SPROCKET, Drive (1-1/4"P. - 2 strand 45T) (bolt to outer sprocket)	
52	257247	6	BOLT, Coupling	
	548367	6	NUT, Elastic Stop	

REV. F	43132-1 cont.
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PLEASE GIVE MACHINE S/N W/ORDER

CPT
Run as a Front
43132 Fl Cont -1



48187C1

MATERIAL LIST ON BACK

SLIDE PINION CONTROL

65195-1 Cont.	REV. L	MODEL 3900-4000W-SC150
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IND. BOOM HOIST

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
45	225288	1	BEARING, Roller	
46	225121	1	WASHER, Lock	
47	225112	1	NUT, Lock	
48	622378	1	SEAL, Oil	
49	71052	1	ADAPTER w/gr. fitting, capscrews and lockwashers	
50	93680	1	DRUM, Brake (5-1/4" dia. recess for end plate, Ref. No. 53) (See Note 2)	
51	92179	1	DRUM, Aux. Brake	
52	257238	6	BOLT, Coupling	
	548367	6	NUT, Elastic Stop (5/8" - 18)	
53	144103	1	PLATE, End (5" dia. - See Note 2)	
	612555	4	CAPSCREW (1/2" - 13 NC x 1-1/4")	
	613875	2	CAPSCREW (1/2" - 13 NC x 2" - Grade 5)	
	710306	6	LOCKWASHERS (1/2")	
54	12581	1	SPACER	
55	181465	1	RATCHET (12T.)	
56	93837	1	GASKET	
57	181474	1	COVER, Access w/capscrews and lockwashers	
58	539551	1	PLATE, Identification	
61	98119	1	ASSEMBLY, Pawl control (Apr. 9, 1980 and on) (See separate sheet) (Supersedes assembly 95401)	
61	95401	1	SUB-ASSEMBLY, Pawl Control (Mach. Feb. 24-77 thru Jan. 31, 1980) (Ref. B2.2 95401 for individual parts)	
62	142361	3	PAD, Mounting (Machines after 2-24-77 Revision)	
63	355006	1	STEAMCOCK (3/4") (added July 27, 1979)	
			<p><u>NOTE 1:</u> Per design change of June 20, 1975, drum 182543 supersedes and will be used as replacement for drum 181437. Drum 182543 will accept a Lebus lagging if desired.</p> <p><u>NOTE 2:</u> Prior to design change of Sept. 16, 1976, the following were used:</p>	
50A	93680	1	DRUM, Brake (4-1/4" Recess for End Plate, Ref. No. 53A)	
53A	17328	1	PLATE, End (4" dia.)	
	613875	2	CAPSCREW (1/2" - 13 NC x 2" - Grade 5)	
	710306	2	LOCKWASHER (1/2")	
60	72004	1	PLATE, Cover (Any replacement of Drum 93680 must use End Plate 144103)	
			<p><u>NOTE 3:</u> From design change of 6-20-76 through 5-18-77, Drum 182543 was std. for M4000W and SC150. Per design change of 6-22-77 for these models, Drum 183201 w/Lebus laggings is std. See lagging list below.</p>	

REV. L	65195-1 Cont.
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CPT
REV. AS FRONT
65195-1 L.I. CONT. 1

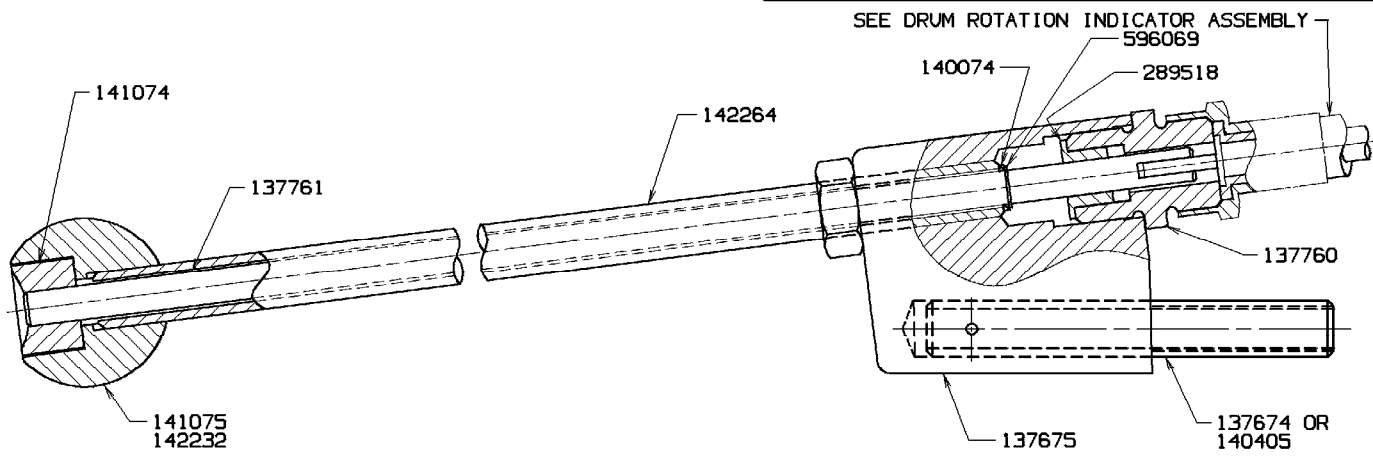
BILL OF MATERIAL

ITEM NO.	REC'D	SEC-TION	DESCRIPTION	LENGTH IN.	MATERIAL	CODE NO. OR DWG. NO.	△
1			RETAINER RING			140074	
1			KNOB			141074	
1			HANDLE			137674	4
1			ADAPTOR			137675	
1			ADAPTOR			137760	
1			SHAFT			137761	
1			BUSHING			289518	
1			SNAP RING			596069	
1			KNOB			141075	1
1			HANDLE			142264	
A			KNOB			142232	2
B			HANDLE			140405	3

ASSEMBLIES USED ON
182239
190086
190089
190892
190896

REVISIONS
12-6-74 DS A ADDED
12-1-76 JCS B ADDED
4-25-83 DWB REDRAW CADAM CK. DS APP. CWH
6-10-92 JS A ADDED

- 1 FOR MACHS. W/OUT FULL RANGE VICON POWER LOAD LOWERING.
- 2 FOR MACHS. WITH FULL RANGE VICON POWER LOAD LOWERING.
- 3 FOR MACHS. WITH MANITOWOC VALVES ONLY.
- 4 FOR MACHS. WITH FLEXAIR VALVES ONLY.



SCALE	1/2" = 1"
DR.	LPW
CK.	CWH
APP.	
DWG. NO.	95131

Manitowoc Crane, Inc. Manitowoc, Wisconsin	HAND LEVER ASSEMBLY FOR DRUM ROTATION INDICATOR
MODEL 3900, 4600	

DATE	4-17-74
PATTERN NO.	
DWG. NO.	95131

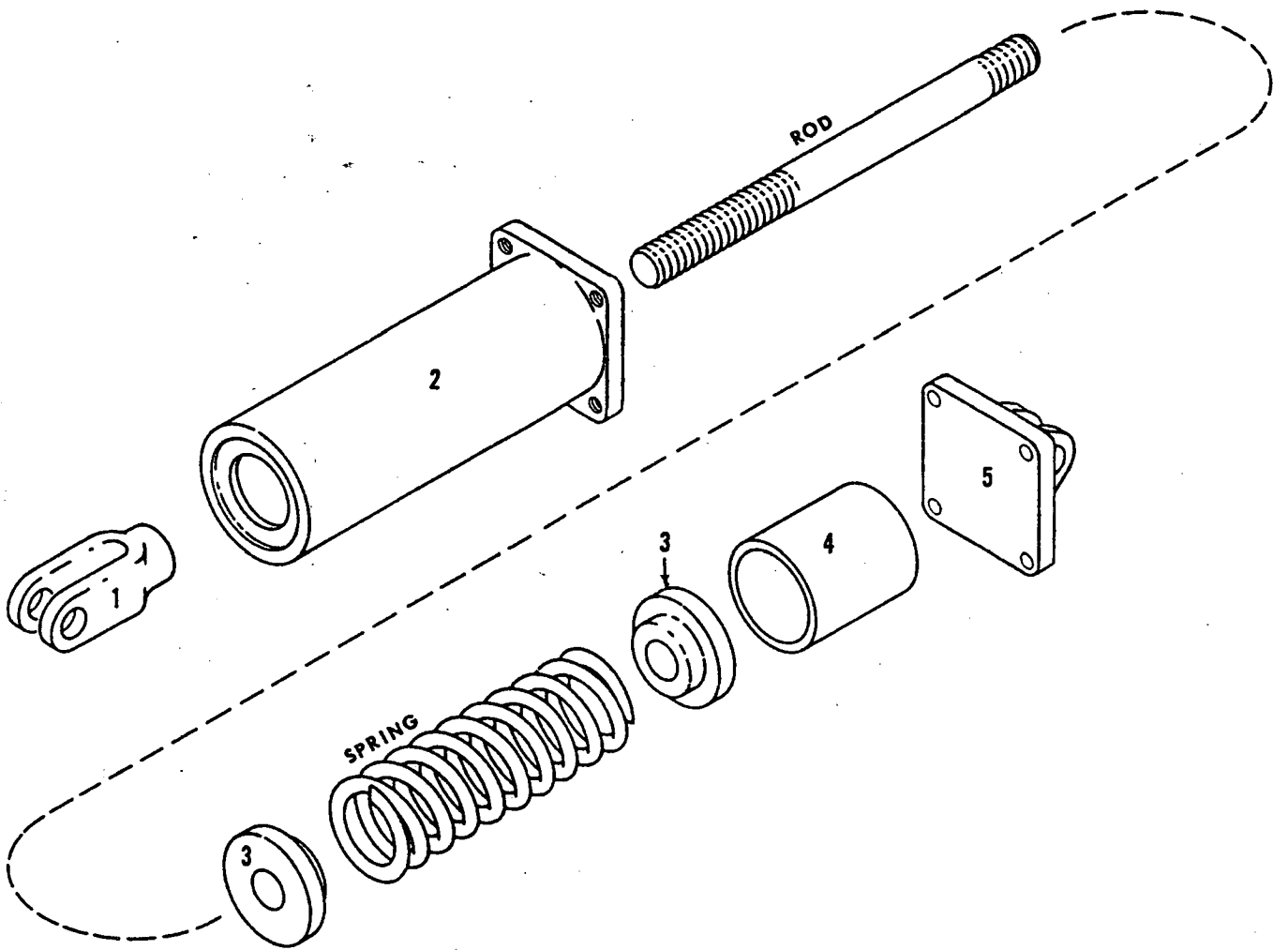
DO NOT SCALE THIS DRAWING

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MASTER



181533A1

MATERIAL LIST ON BACK

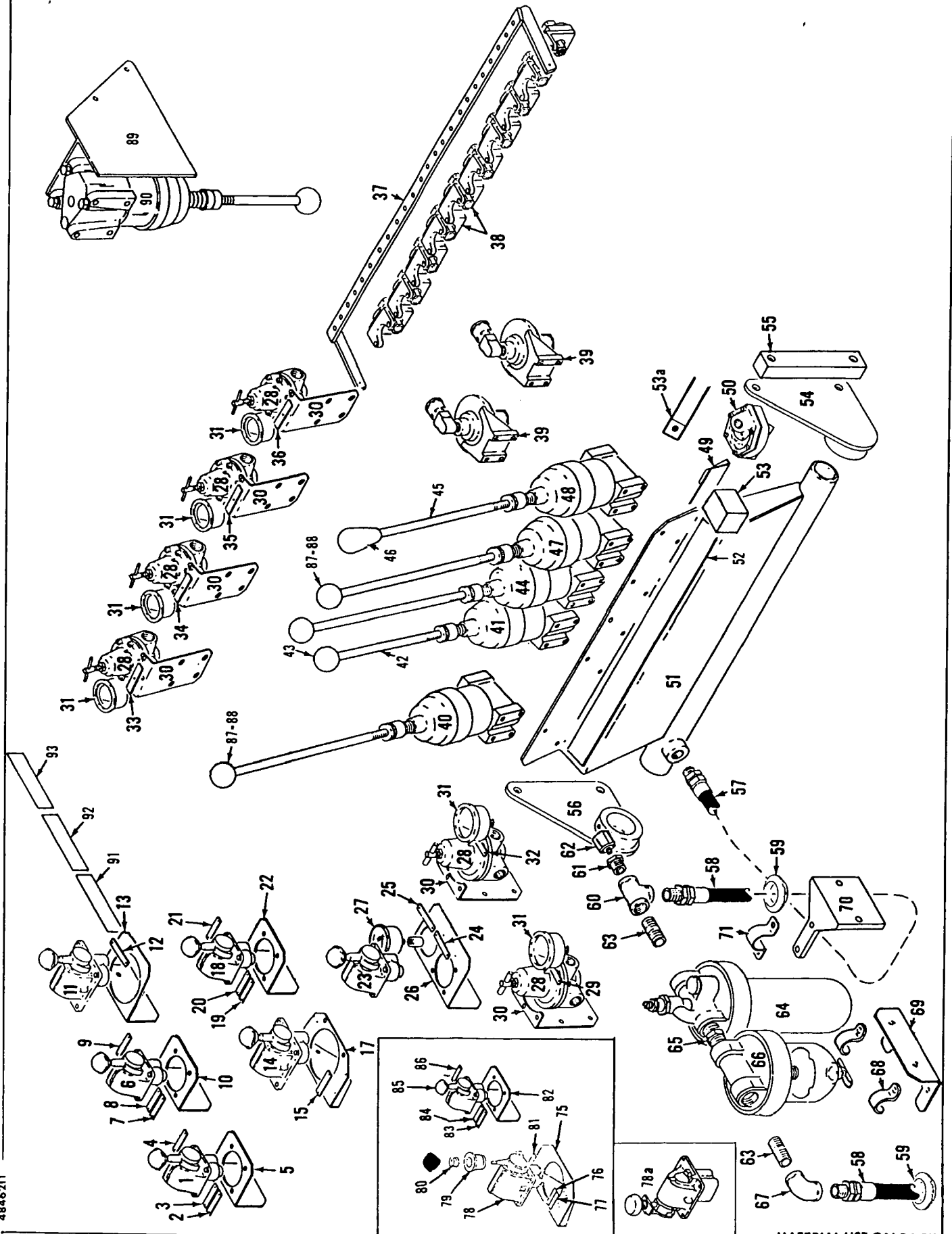
CENTERING DEVICE

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MANITOWOC

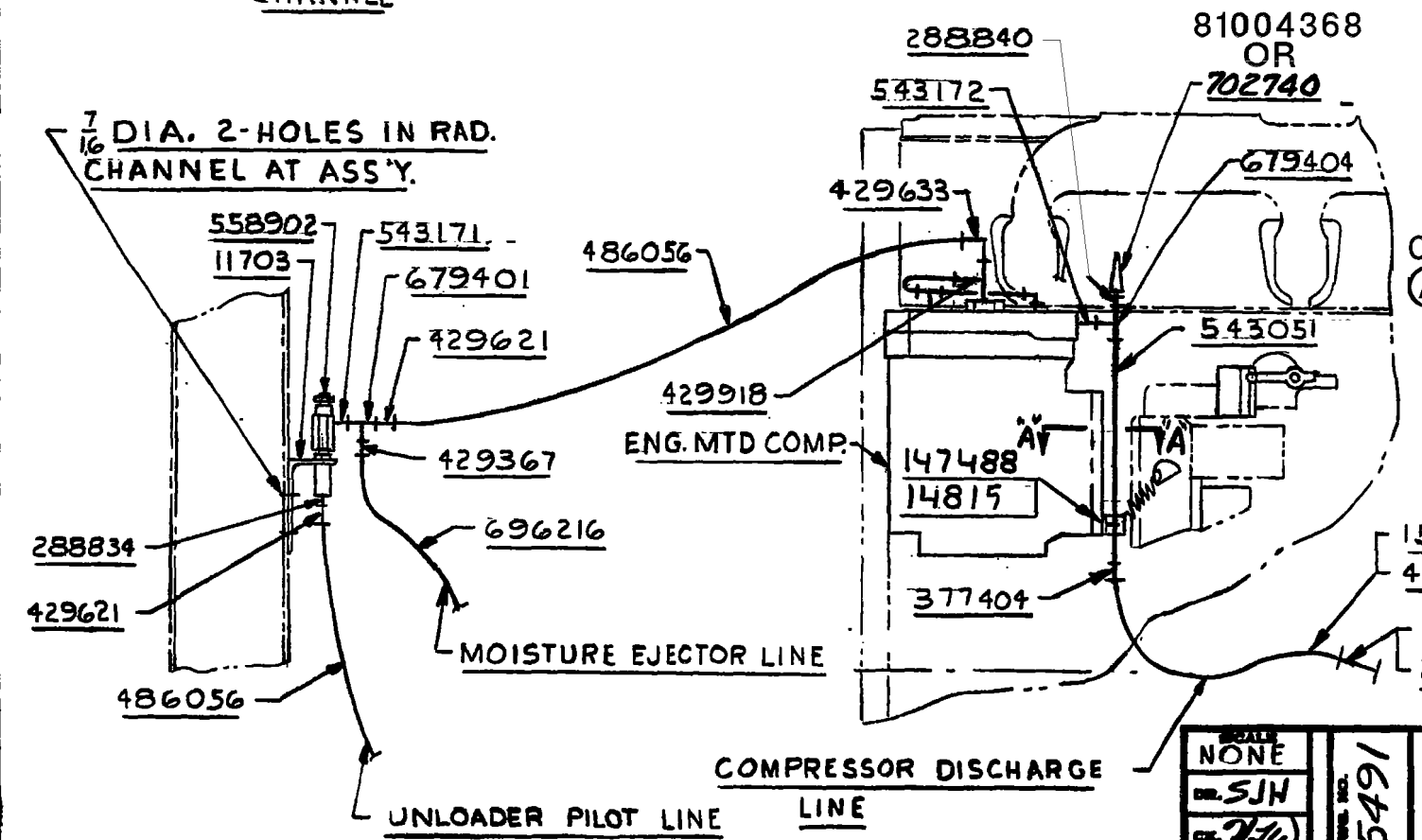
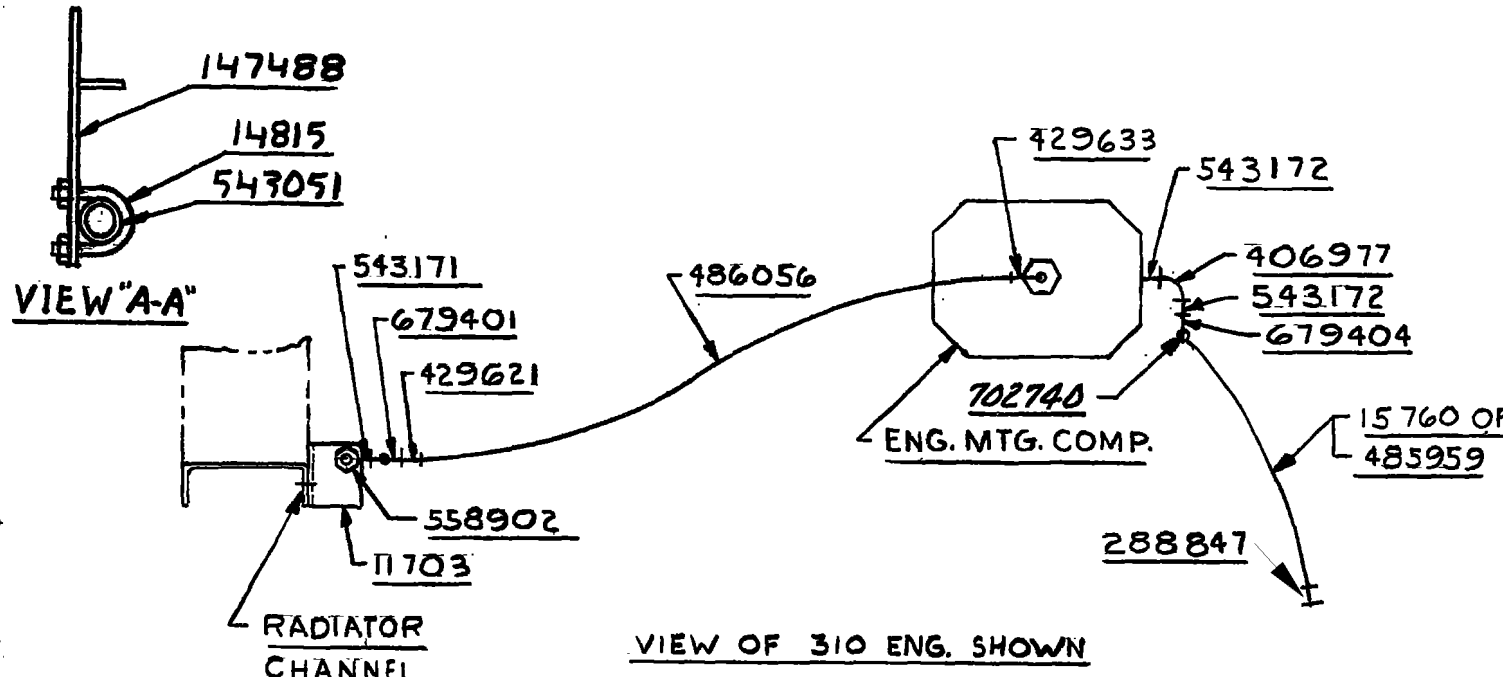


4846211

MATERIAL LIST ON BACK

CONTROL CONSOLE

NOTE 3
 REMOVE ANGLE BRACKET SUPPLIED W/ENG.
 REASS'Y W/ 147488 SUPPORT.



BILL OF MATERIAL							ASSEMBLIES USED ON
ITEM NO.	NO. RES'D	SECTION	DESCRIPTION	LENGTH FT. IN.	MATERIAL	CODE NO. OR DWG. NO.	REMARKS
1			BRACKET			11703	
1			3/4 X 8 FT. LG. HOSE			15760	4000W & 390 HOIST
1			SUPPORT			147488	SEE NOTE 3
1			1/2 X 1/4 NUT BUSHING			288834	
1			3/4 X 1/2 NUT BUSHING			288840	
1			1 1/4 X 3/4 NUT BUSHING			288847	
1			3/4 PIPE COUPLING			377404	
1			3/4 X 90° ELBOW			406977	
1			3/8 X 1/4 TUBE CONNECTOR			429367	
2			3/8 X 1/4 MALE CONNECTOR			429621	
1			3/8 X 3/8 MALE ELBOW			429633	
1			3/4 X 70 LG. HOSE			485959	3900, 3900W, 4100W
AS REQ'D			3/8 O.D. PLASTIC HOSE			486056	
1			3/4 X 8 1/4 LG. NIPPLE			543051	
1			1/4 X 7/8 LG. NIPPLE			543171	
2			3/4 X 1 3/8 LG. NIPPLE			543172	
1			TEE			429918	I.E. 53 F
1			UNLOADER PILOT			558902	
1			CLAMP (U-BOLT)			14815	
1			1/4 TEE			679401	
1			3/4 TEE			679404	
AS REQ'D			3/8 COPPER TUBE			696216	
1			3/4 X 1 NUT BUSH.			288757	390 ONLY
1			1/2 SAFETY VALVE			702740	165 PSI.
1			VALVE RELIEF 165 PSI. 500 NPT			81004368	165 PSI.

49591
 49946
 49592
 49874
 90724
 191150

REVISIONS
 07-16-08 TMO
 (A) ADDED

NOTE 1
 COMP. DISCHARGE PRESSURE 125 PSIG - 137 PSIG.

NOTE 2
 FOR PIPING TO THE TANK SEE AIR TANK AND PIPING ASS'Y.

SUPERSEDES 95491 OF 6-15-75

SCALE NONE	DWG. NO. 95491	MANITOWOC ENGINEERING CO.	POWER PLANT SUB-ASSY	DATE 1-23-81
DR. SJH		MANITOWOC, WISCONSIN	COMPRESSOR - ENG. MTD.	PATTERN NO.
CL. J.W.		MODEL 3900-3900W	30 CFM ON CUMMINS	CODE NO.
APP.		4000W-4100W-390	NT-855 OR NTA-855 ENGINE	DWG. NO. 95491

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>

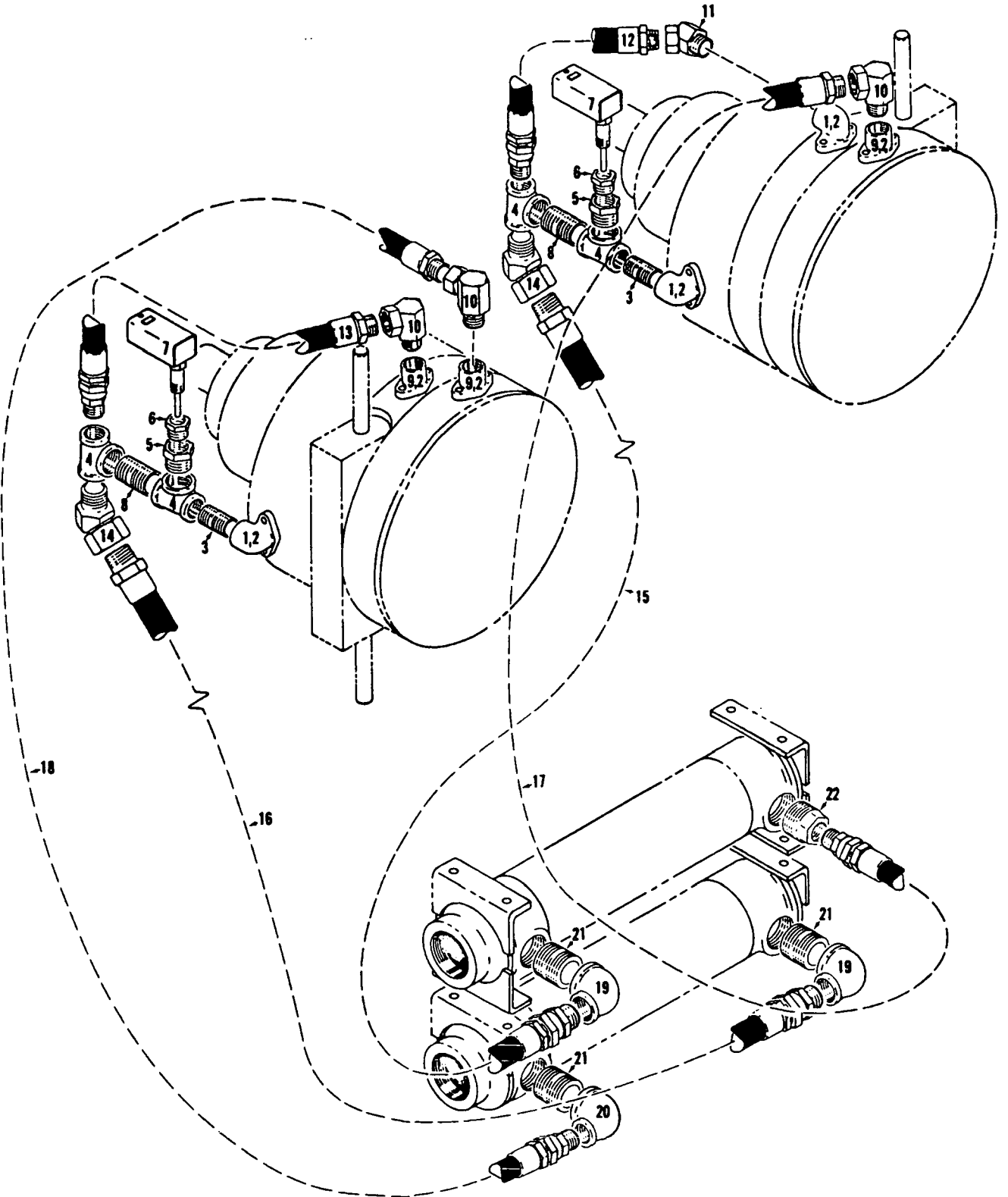
ASSEMBLY	PAGE	REV.
42749	3 of 3	P-1

MANITOWOC ENGINEERING CO.

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MASTER

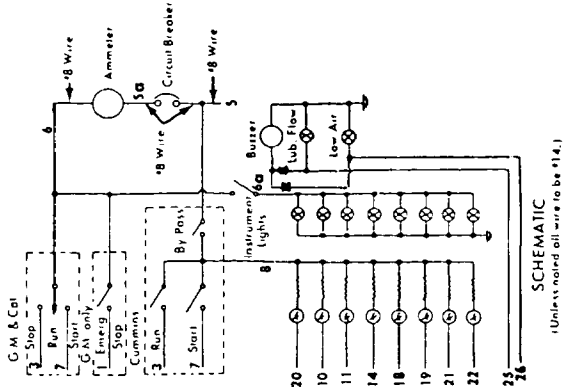


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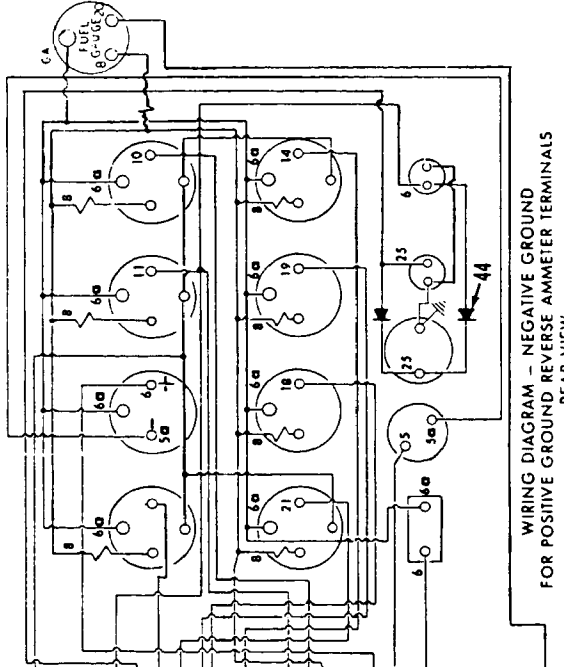
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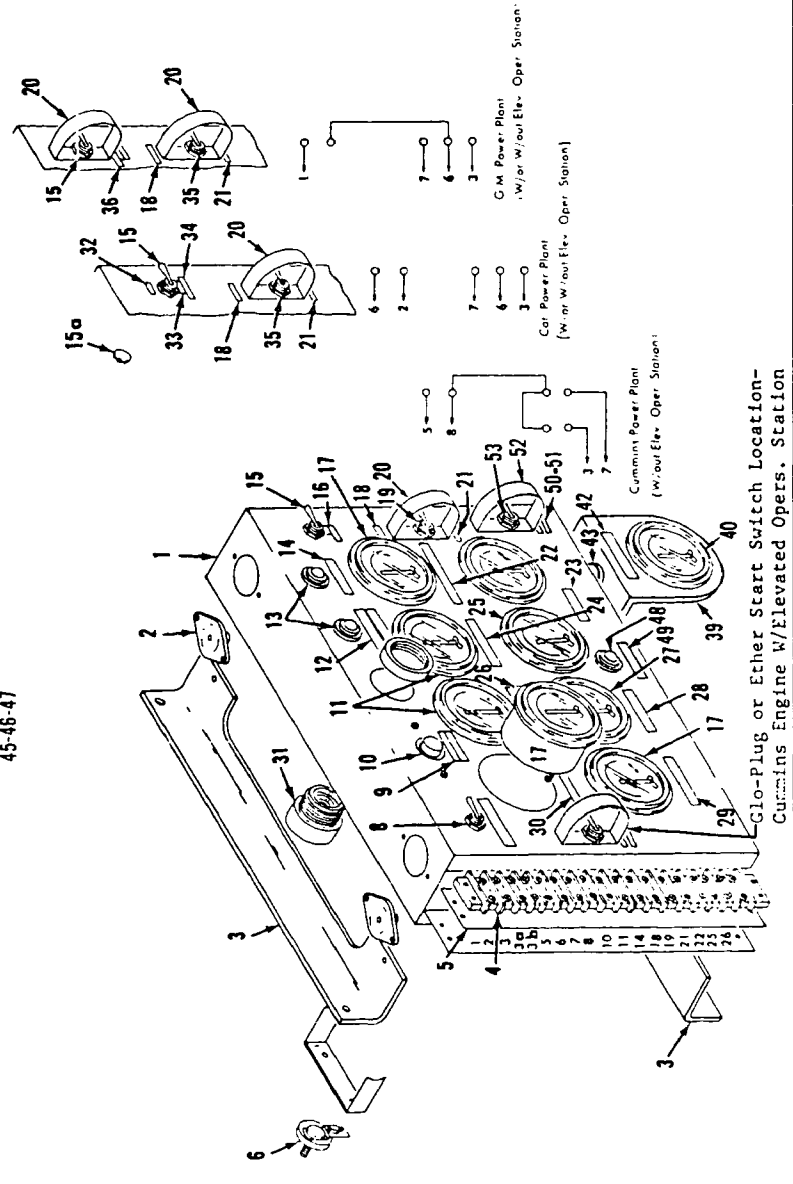
CONVERTER COOLING



SCHEMATIC
(Unless noted all wire to be #14.)



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



Cummins Power Plant
(W/Elev. Oper. Station)

G.M. Power Plant
(W/Out Elev. Oper. Station)

G.M. Power Plant
(W/Out Elev. Oper. Station)

Cummins Power Plant
(W/Out Elev. Oper. Station)

Glo-Plug or Ether Start Switch Location-
Cummins Engine W/Elevated Oper. Station

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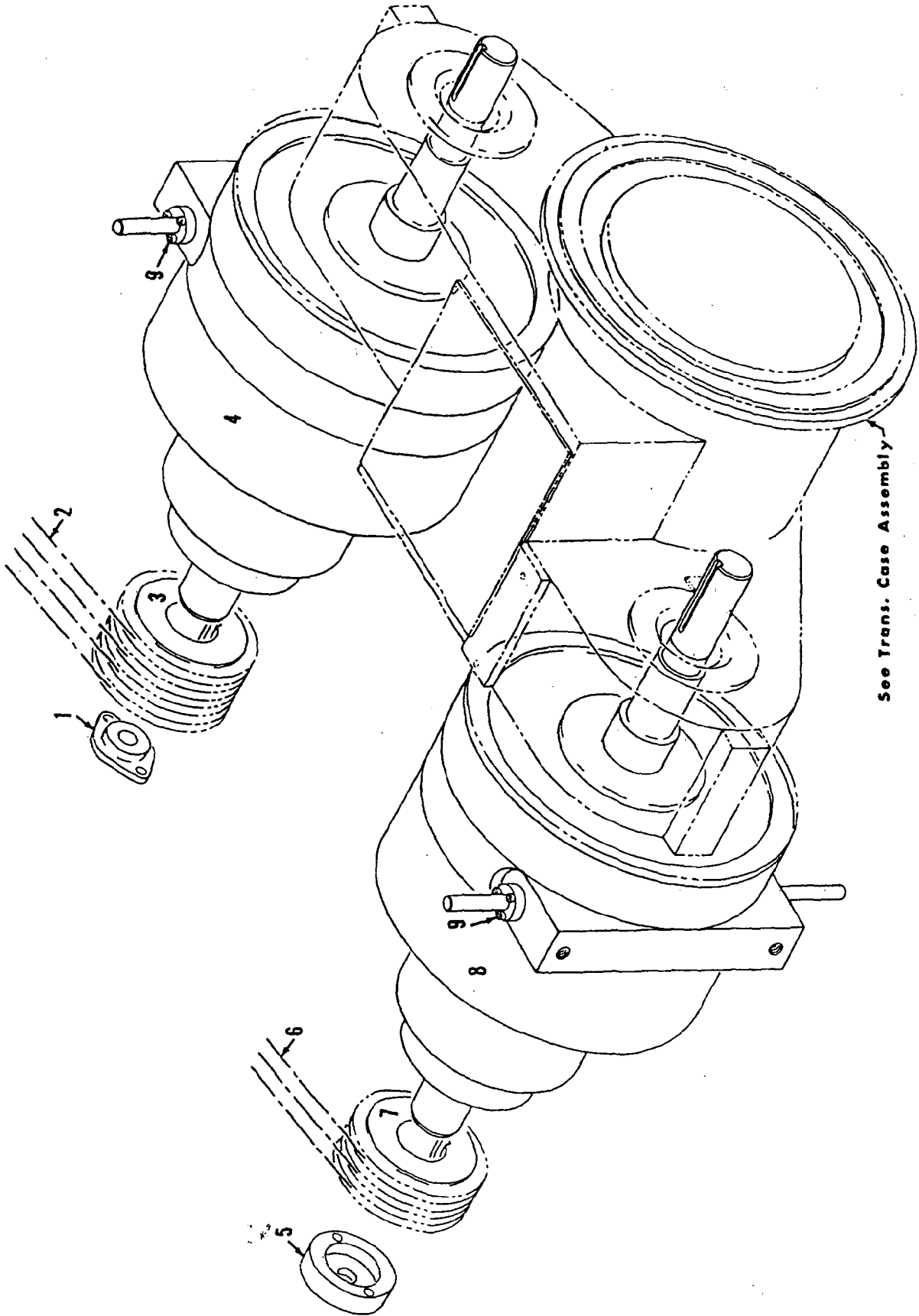
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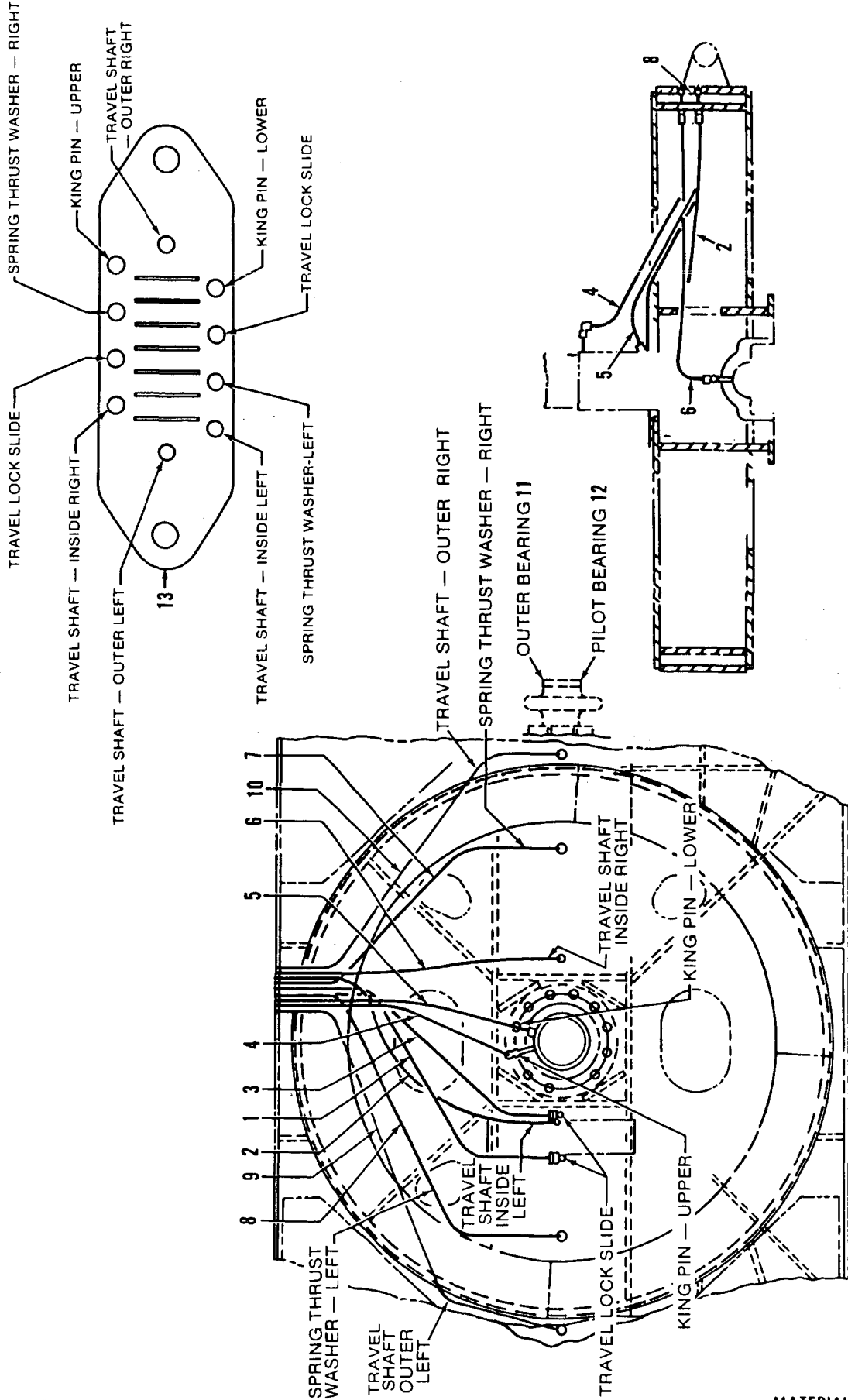
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MASTER



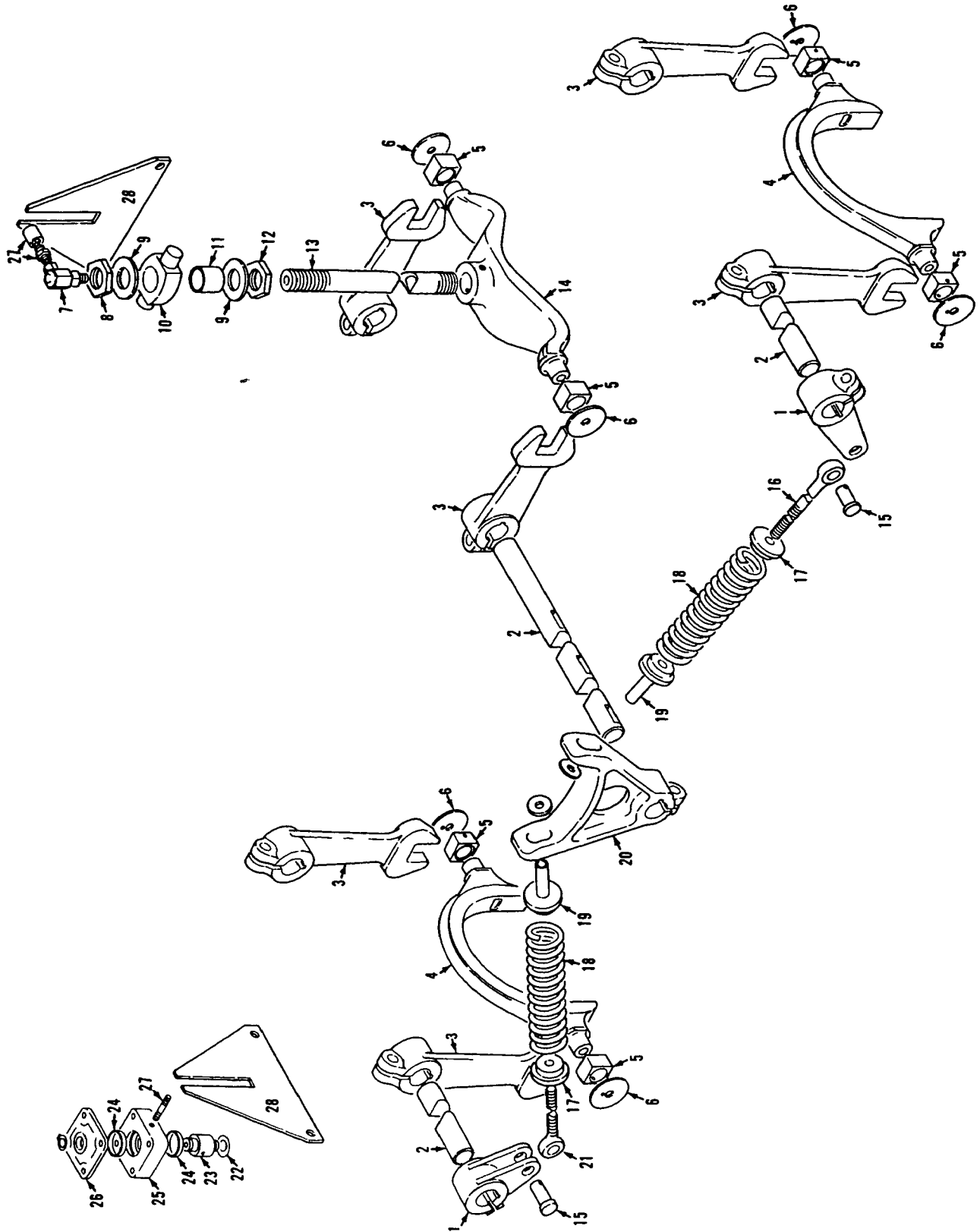
See Trans. Case Assembly



32233B1

MATERIAL LIST ON BACK

LUBRICATION PIPING ASSM. - CARBODY



40218B2

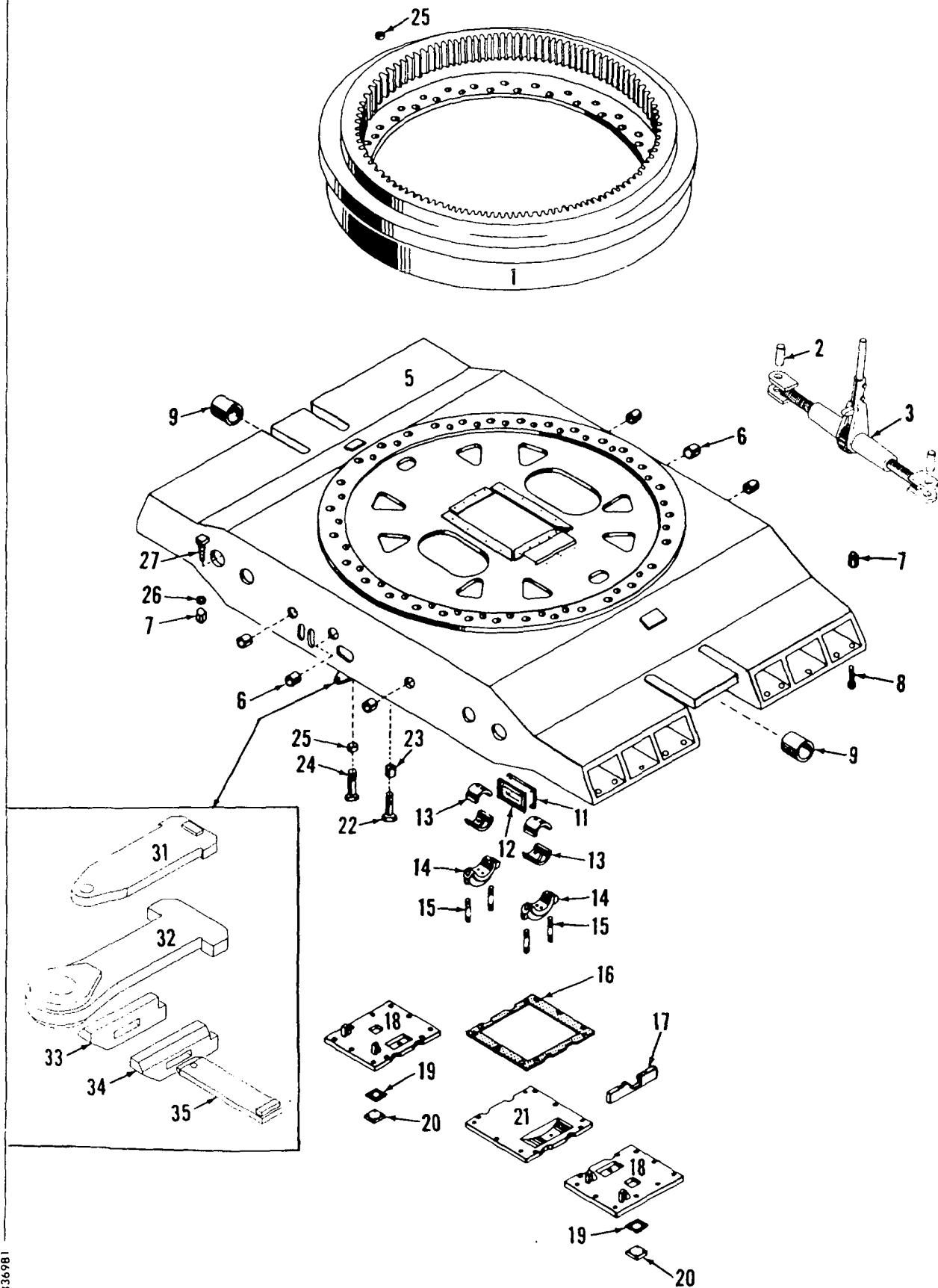
MATERIAL LIST ON BACK

Steering Control Carbody

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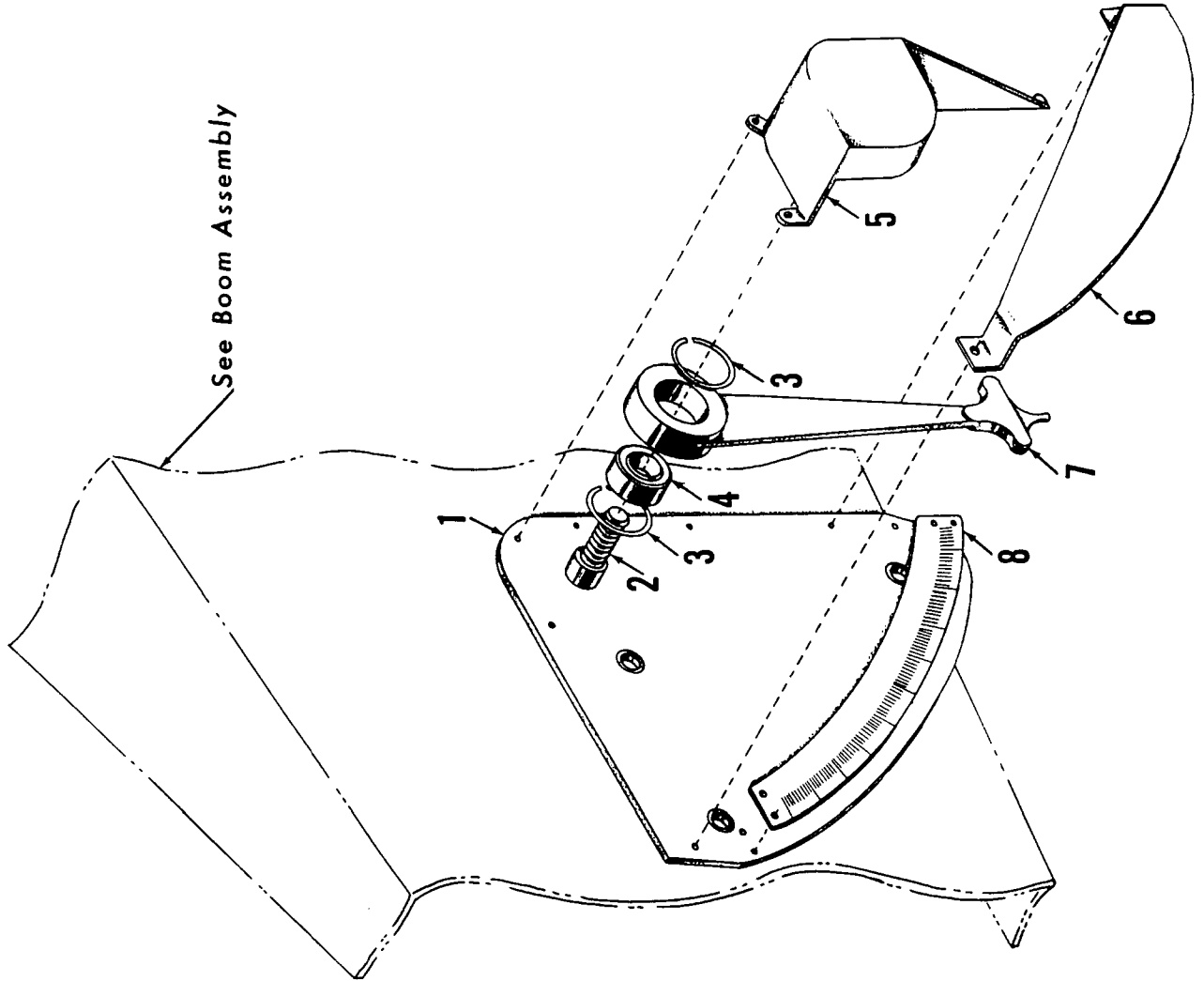
Manitowoc, Wisconsin



4336981

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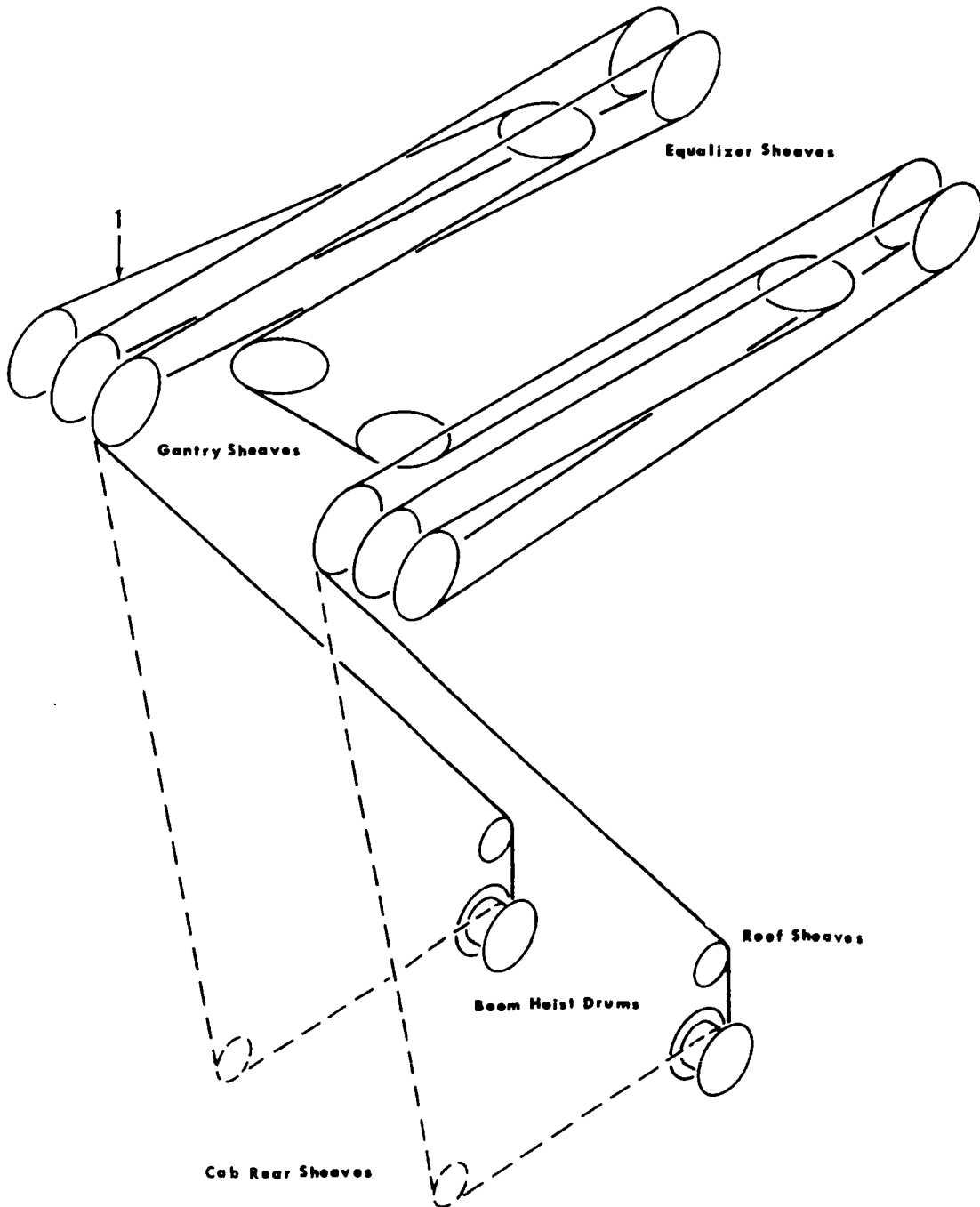
CARBODY



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A Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin

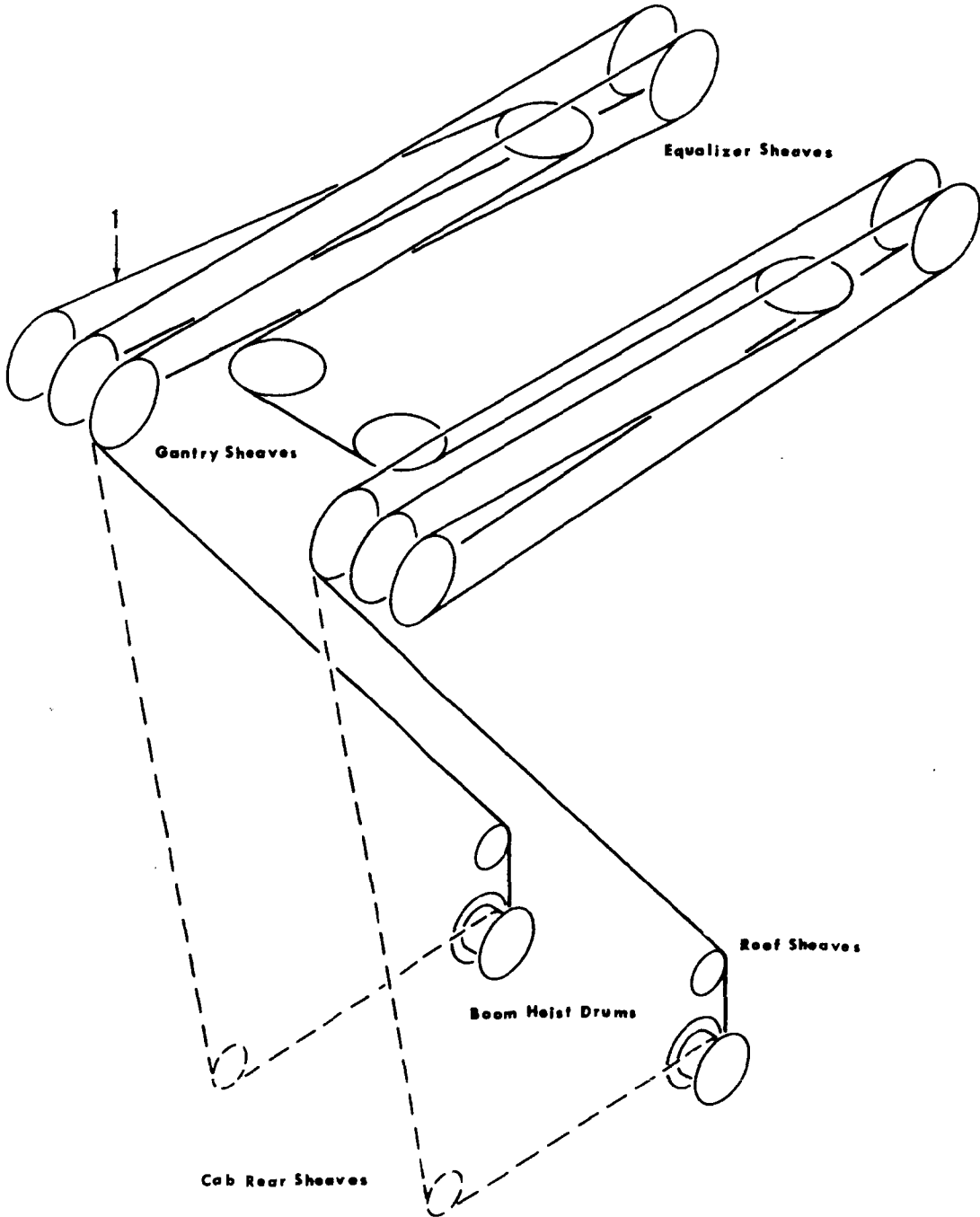


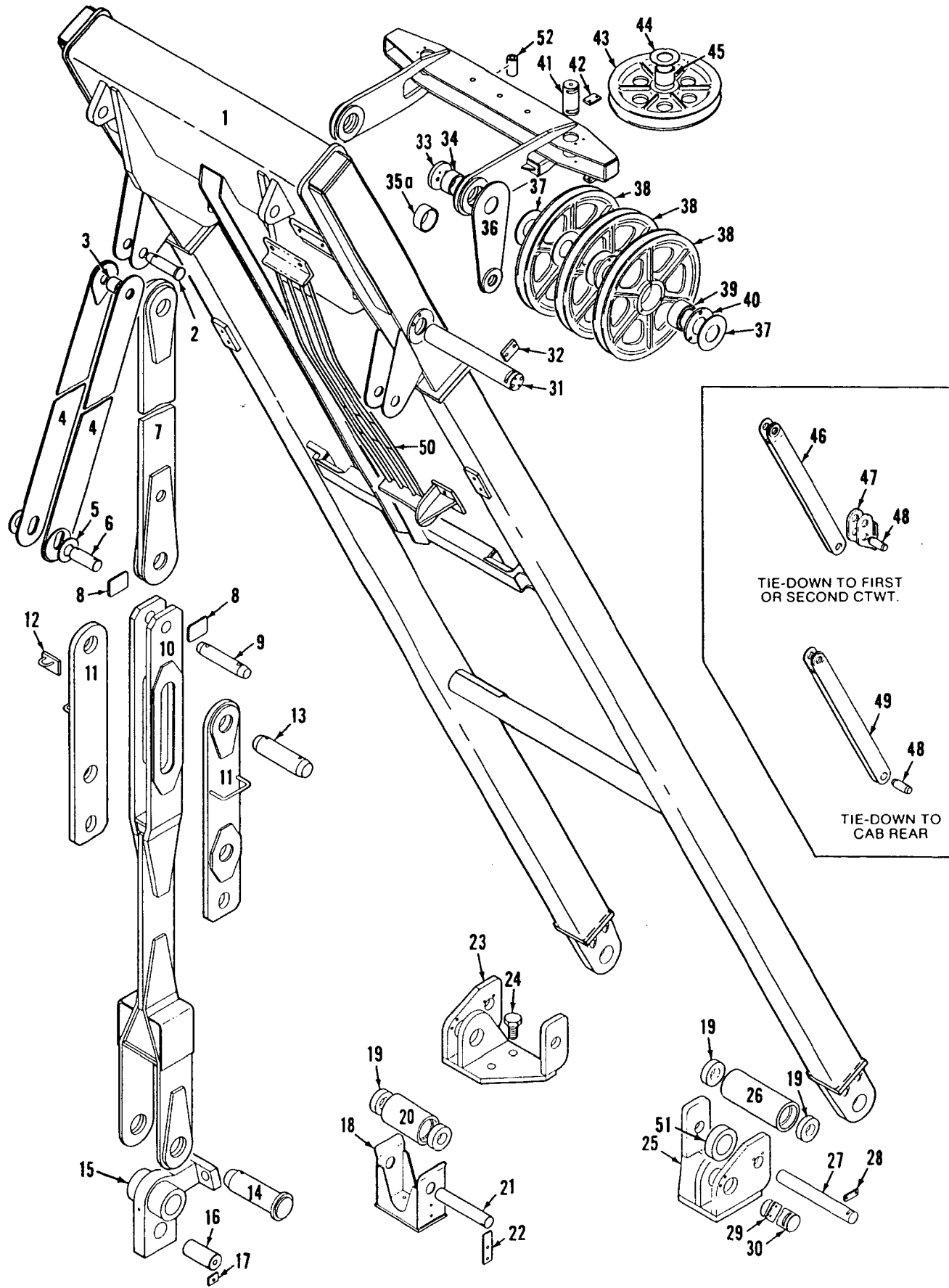
48168A2

MATERIAL LIST ON BACK

BOOM HOIST REEVING

MASTER



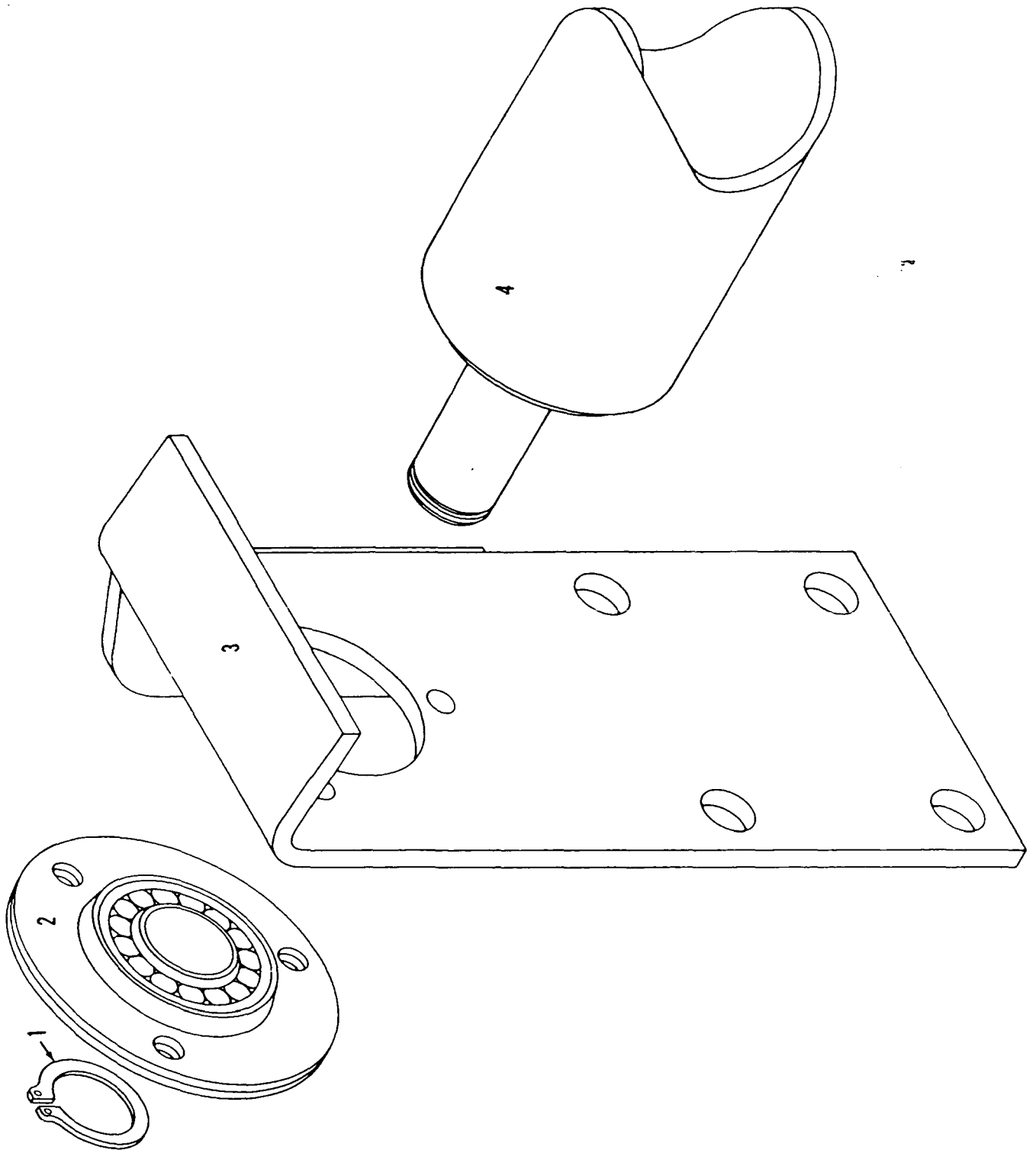


49621B1

MATERIAL LIST ON BACK

GANTRY AND BACKHITCH

MASTER



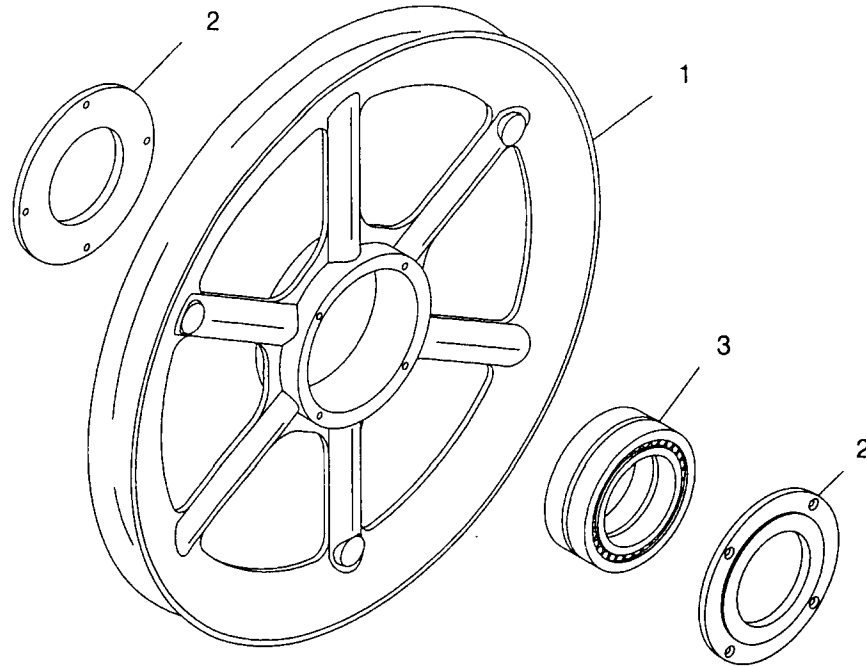
77728A1

MATERIAL LIST ON BACK

CABLE ROLLER GUIDE ASSEMBLY

MANITOWOC ENGINEERING CO.

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MODEL

888

SHEAVE
(for 1-1/8" diameter rope)

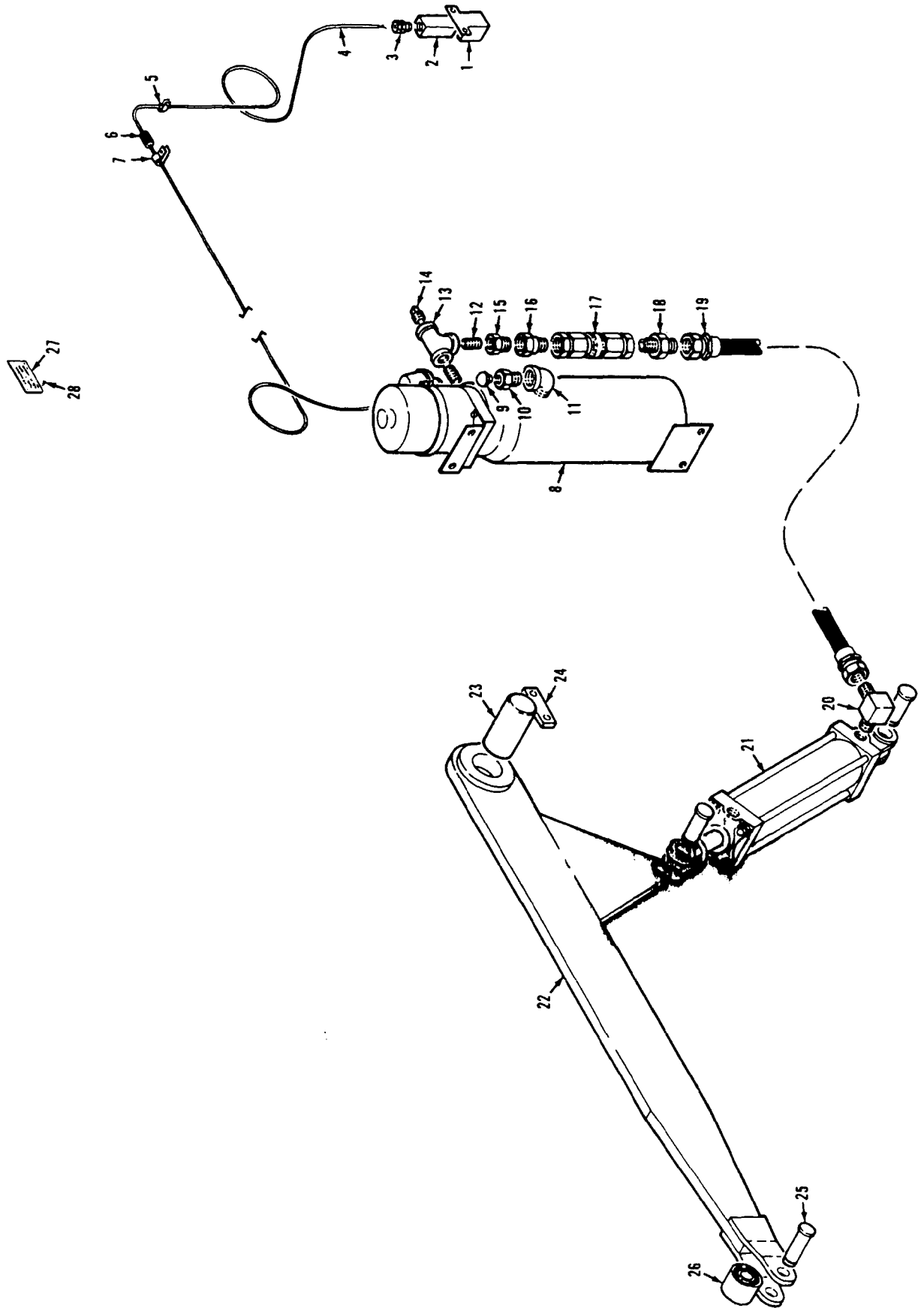
ITEM	PART #	QTY.	DESCRIPTION OF PART
	91130-1	1	SHEAVE ASSEMBLY
1	91129	1	SHEAVE (casting)
	429000	1	FITTING, Grease (1/8")
2	75599	2	PLATE, Retaining
	617648	4	CAPSCREW, Flat Head (5/16-18 UNC-2A x 3/4" long) (see Note)
3	224150	1	BEARING
	91130-3	1	SHEAVE ASSEMBLY
1	97188	1	SHEAVE (fabrication)
2	75599	2	PLATE, Retaining
	617648	4	CAPSCREW, Flat Head (5/16-18 UNC-2A x 3/4" long) (see Note)
3	224150	1	BEARING

Note: Apply LOCTITE #242 (MEC 622293) to both screw and hole threads at assembly.

PLEASE GIVE MACHINE SERIAL NUMBER WITH ORDER

ASSEMBLY 091130	REVISION A
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SHEAVE



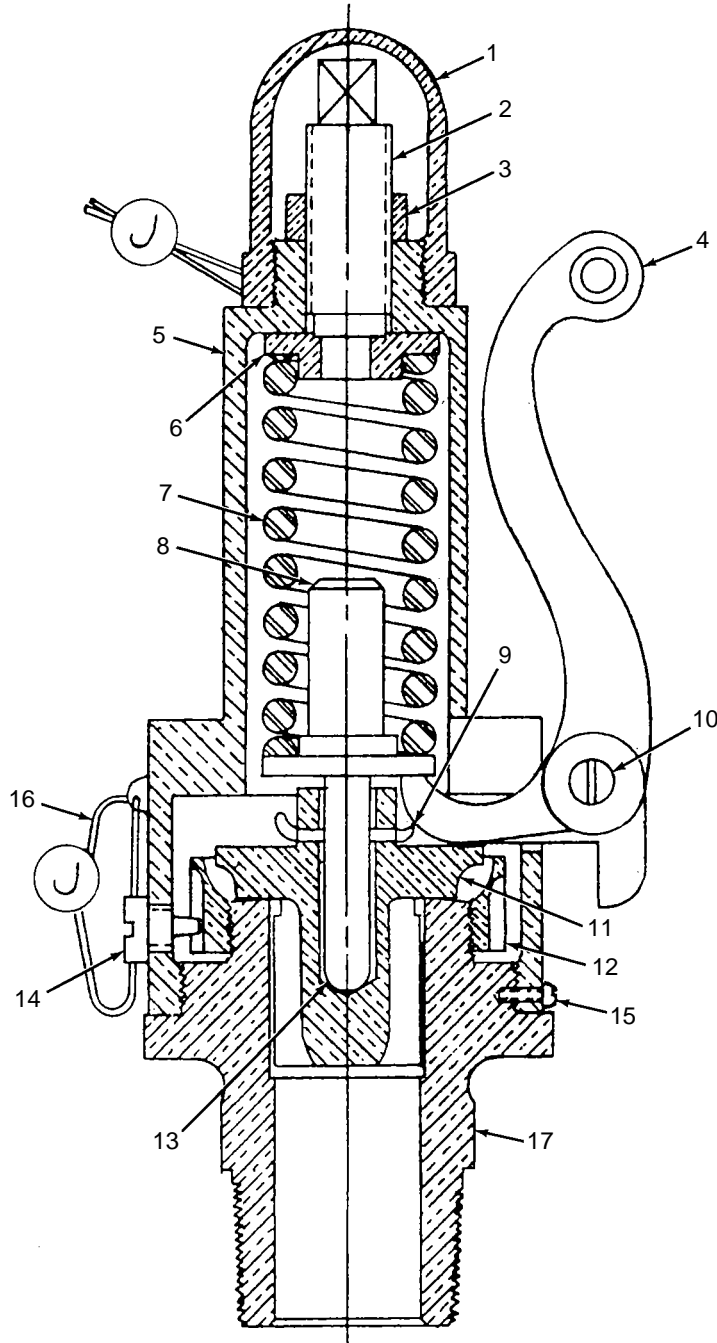
181193B1

MATERIAL LIST ON BACK

GANTRY LIFTING DEVICE

O-NUMBER NUMERICAL INDEX

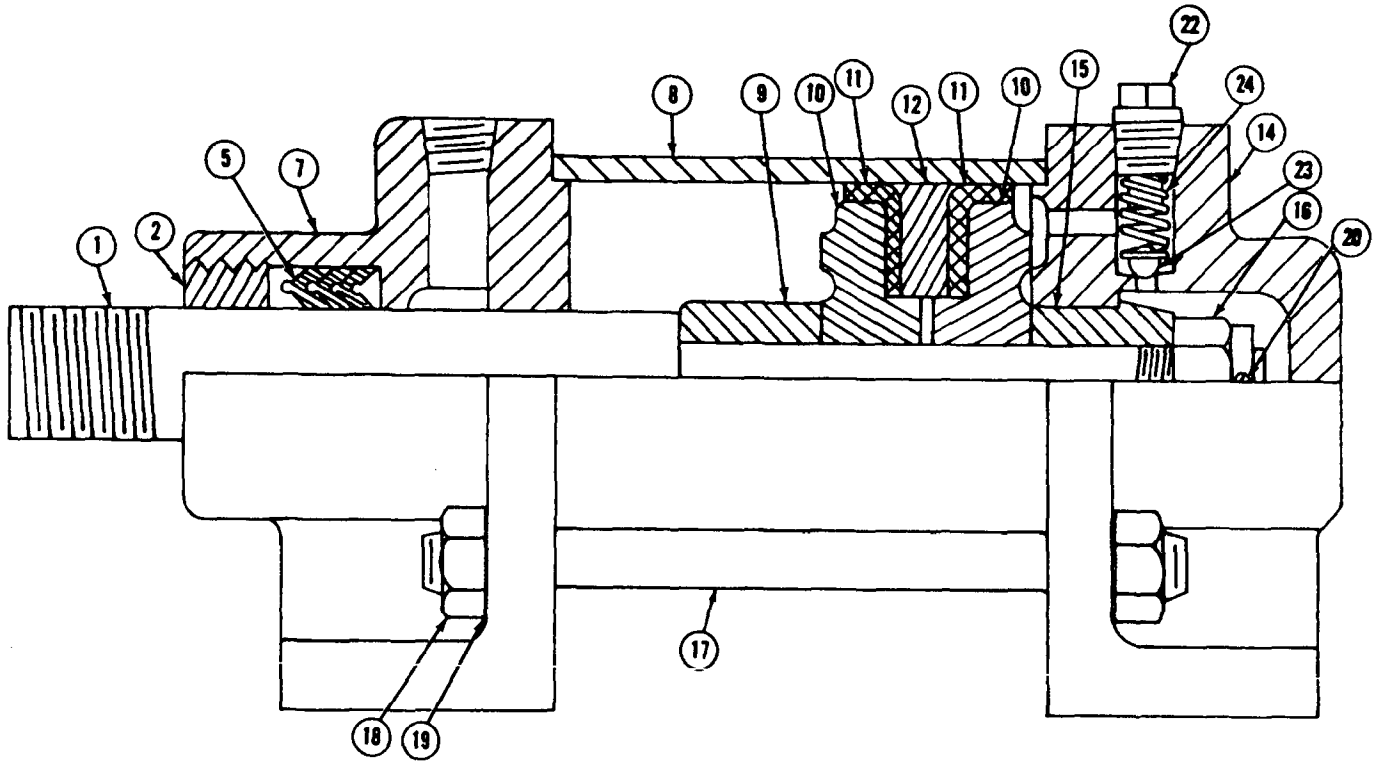
PUBLICATION	REV
0-123	A1
0-123	A2
0-147	D2
0-148	-
0-156	D
0-157	C
0-173	A
0-246	C1
0-279	B1
0-284	A
0-286	A
0-288	C
0-289	F
0-290	F1
0-294	A
0-294	E
0-304	J1
0-307	-
0-307	F
0-337	B
0-340	F1
0-407	B
0-407	B1
0-415	B1
0-441	A4
0-441	C2
0-451	AA1
0-451	CA1
0-451	DA1
0-469	E1
0-471	A1
0-503	-
0-512	-
0-63	C
0-64	B
0-69	C
0-71	-
0-72	B
0-96	C1

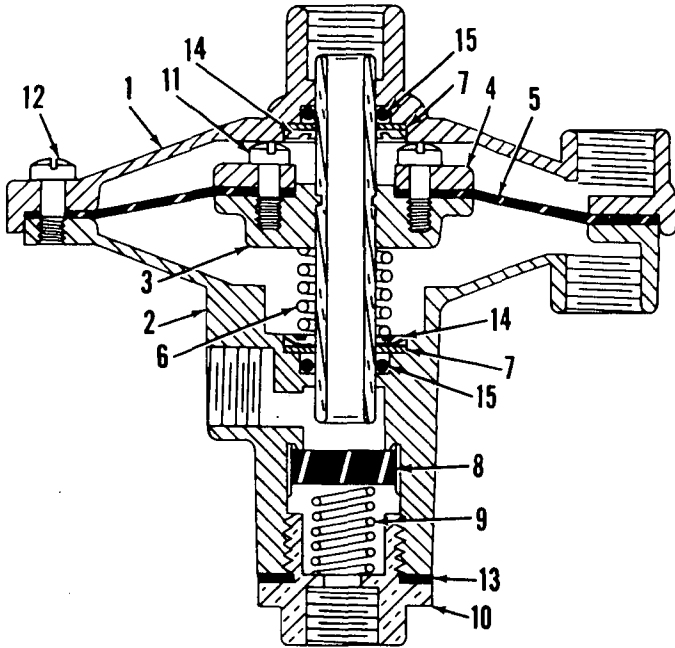


ASSEMBLY	REVISION
O-156	D

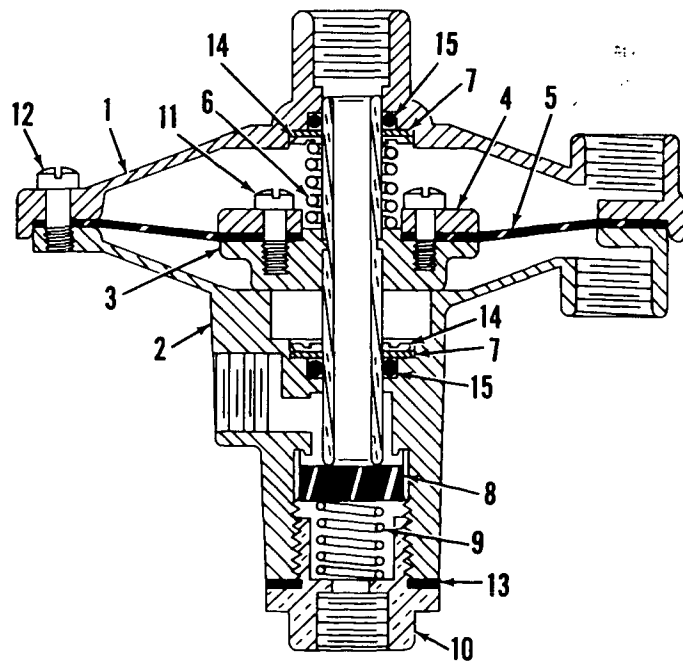
SAFETY VALVE

MASTER



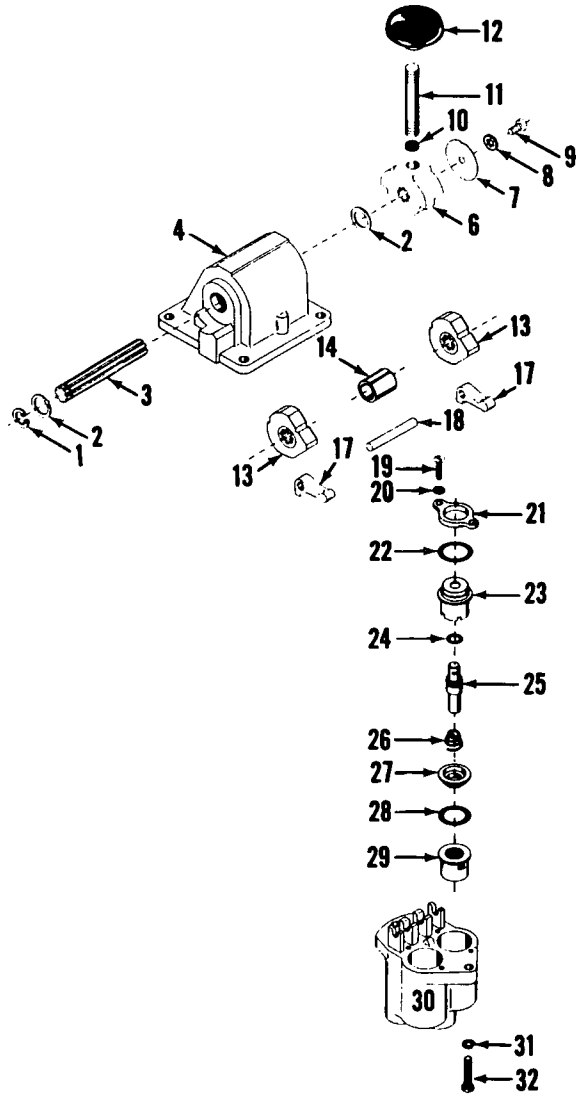


Normally Closed

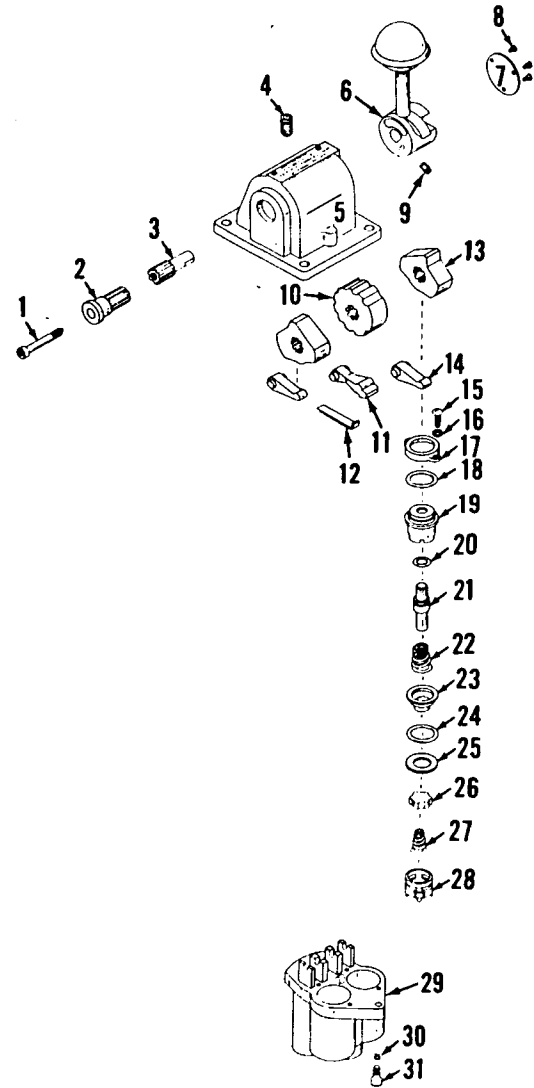


Normally Open

MASTER



P59340

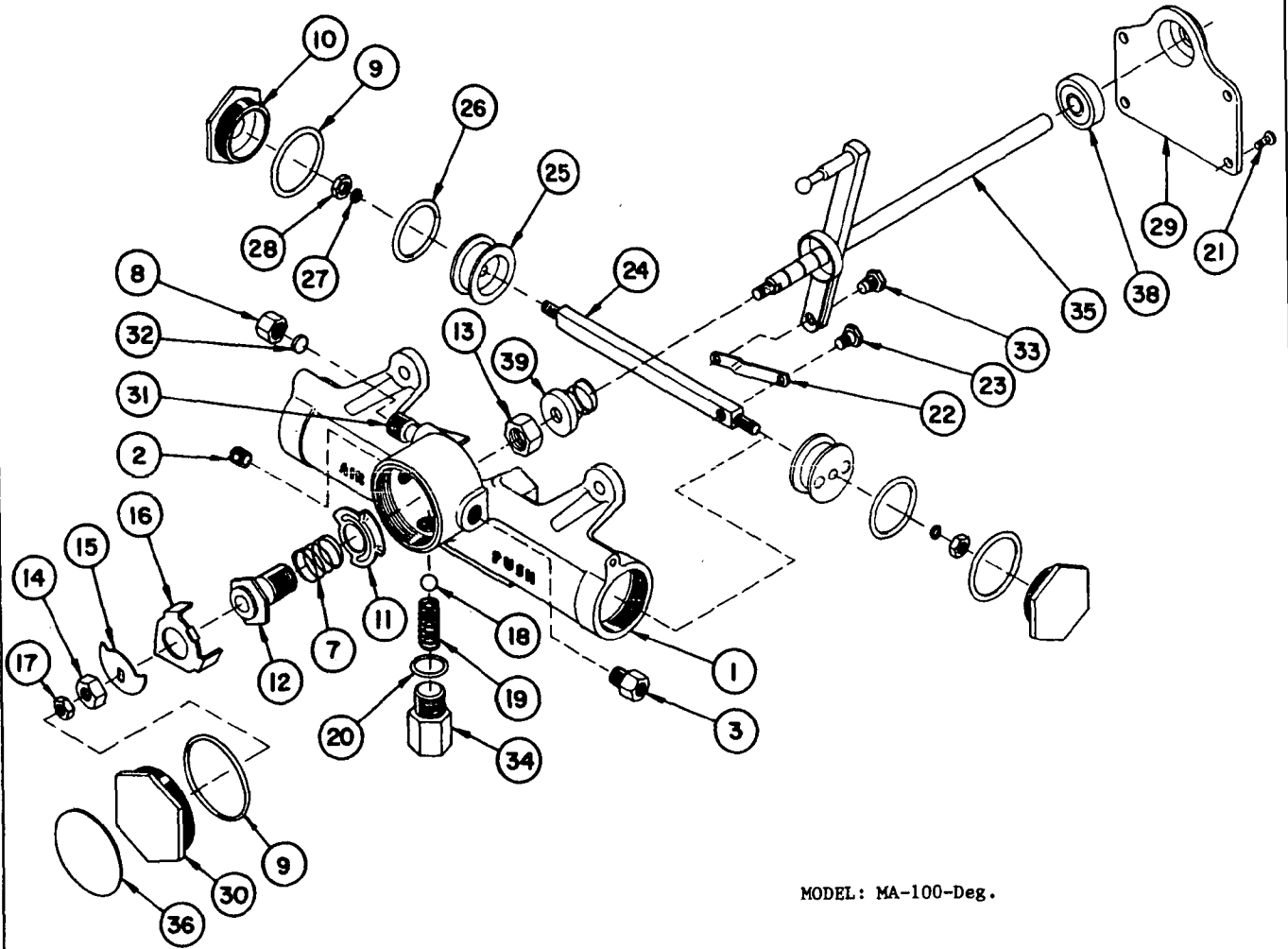


P54426-0241

MATERIAL LIST ON BACK

CONTROL VALVE

MASTER

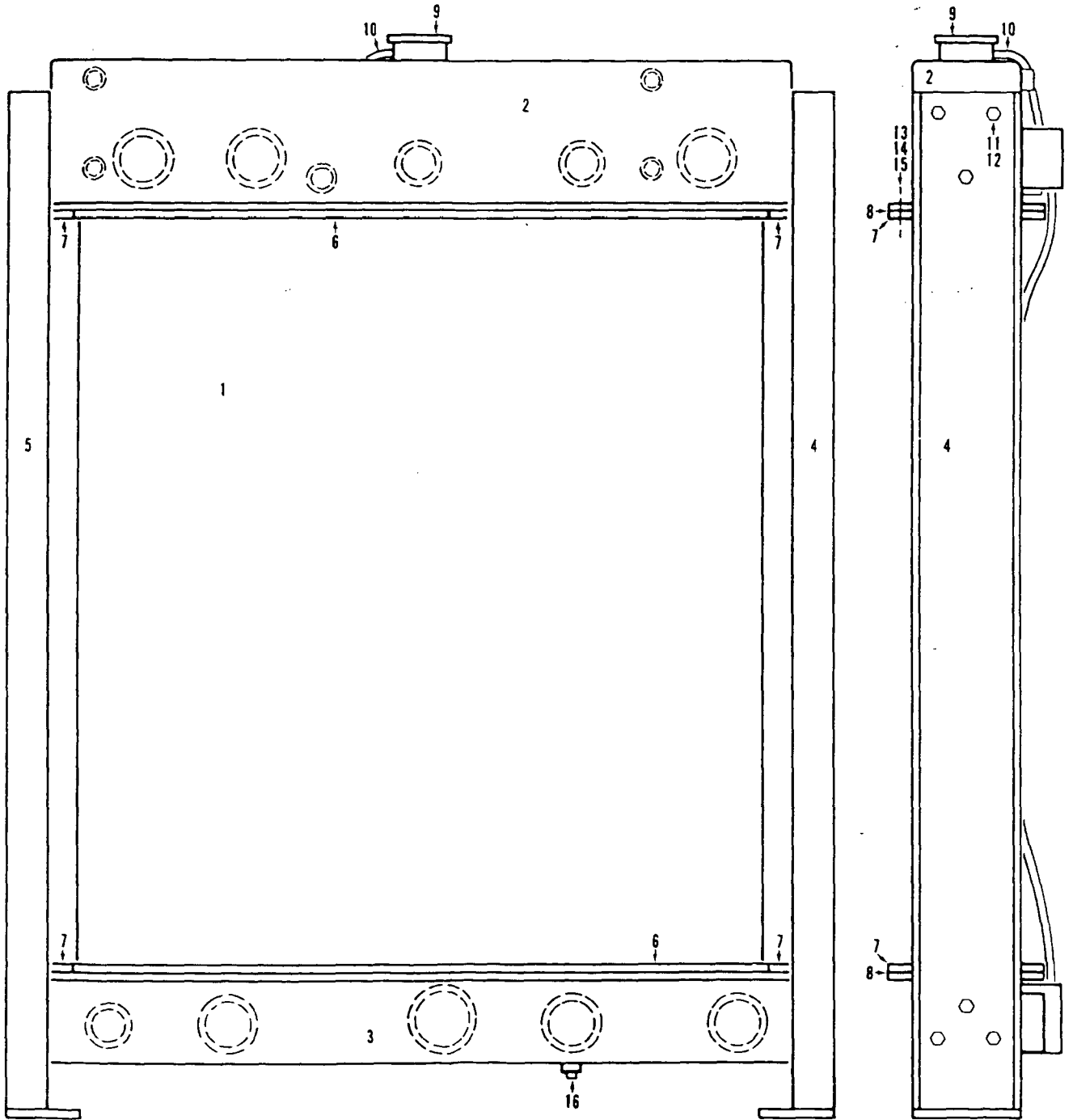


MODEL: MA-100-Deg.

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Manitowoc, Wisconsin



0-45181

MATERIAL LIST ON BACK

RADIATOR

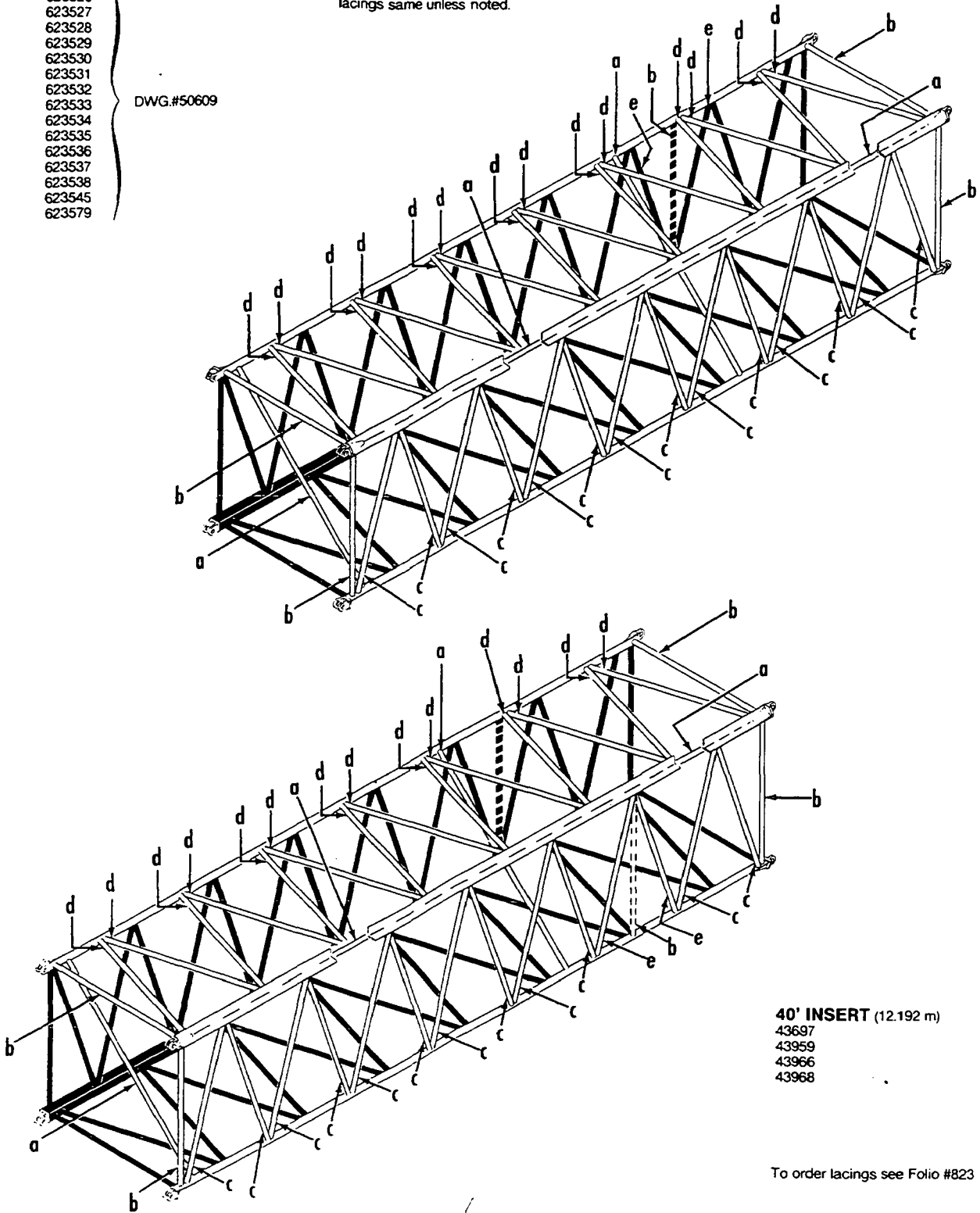
40' INSERT (12.192 m)

- 623525
- 623526
- 623527
- 623528
- 623529
- 623530
- 623531
- 623532
- 623533
- 623534
- 623535
- 623536
- 623537
- 623538
- 623545
- 623579

DWG.#50609

BOOMS #22 & #22A STRAIGHT INSERTS

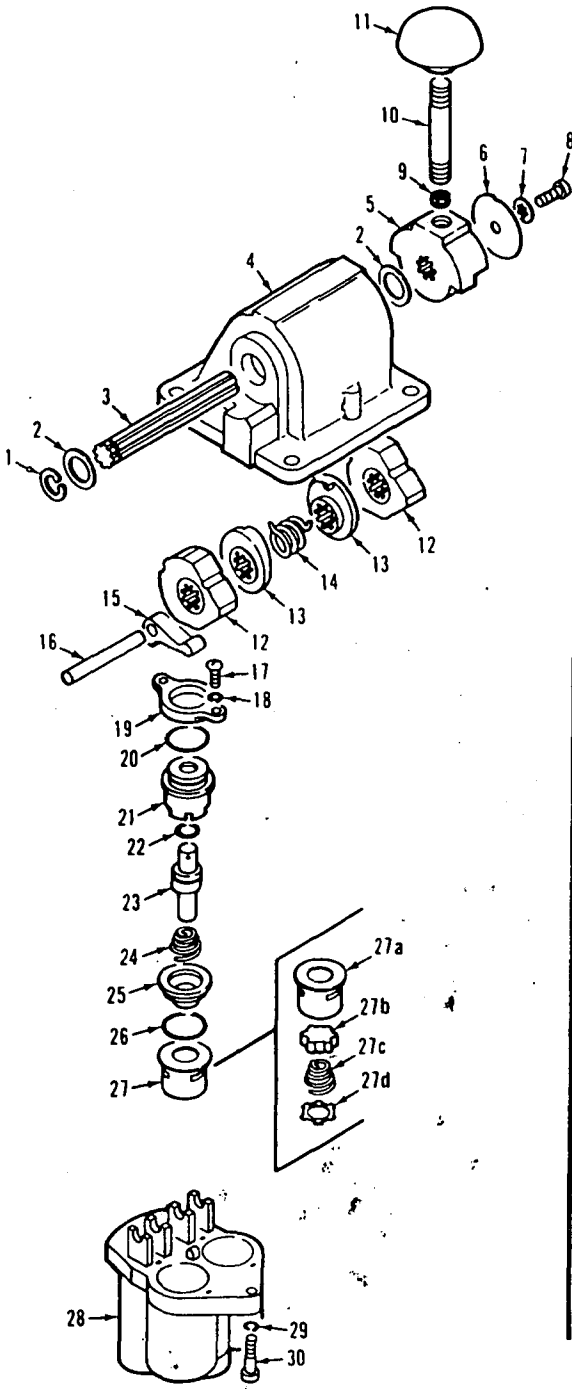
Left side and bottom lacings black. Opposite lacings same unless noted.



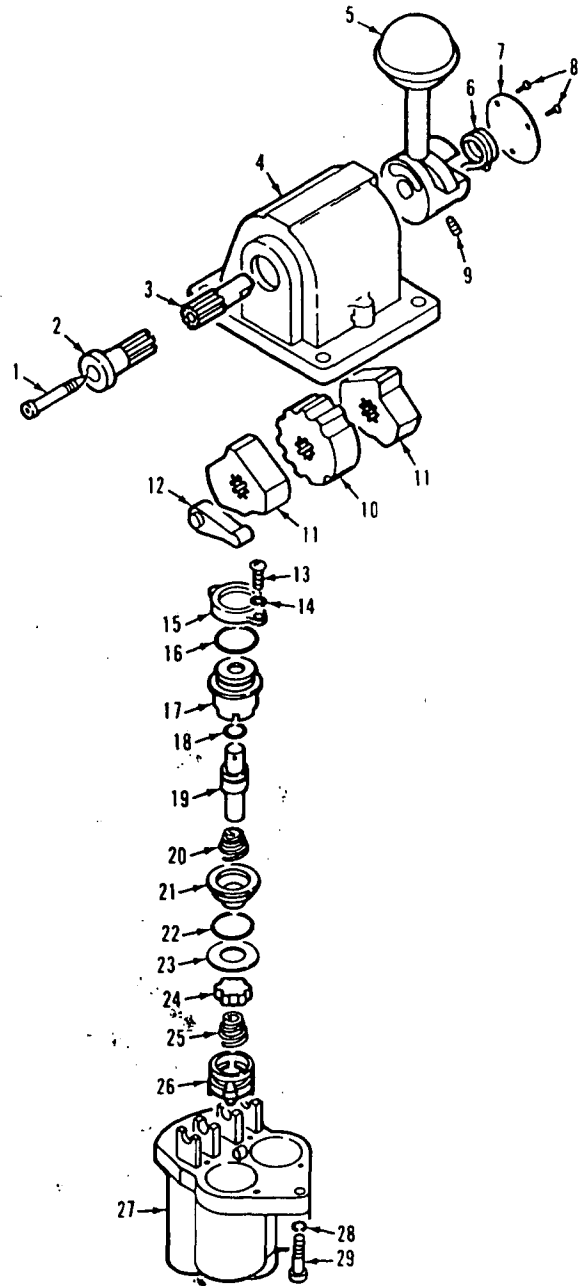
40' INSERT (12.192 m)

- 43697
- 43959
- 43966
- 43968

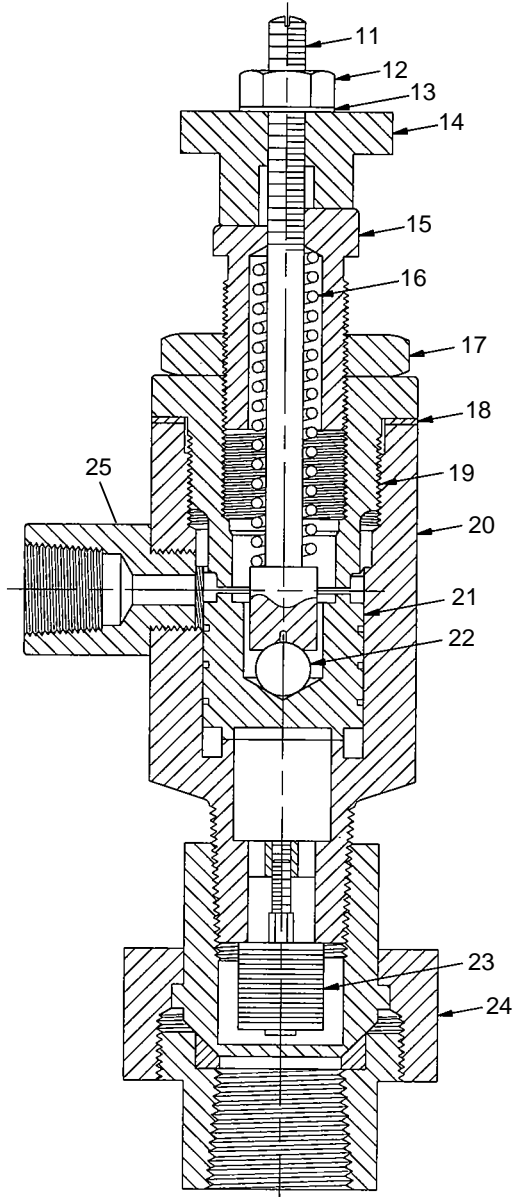
To order lacings see Folio #823



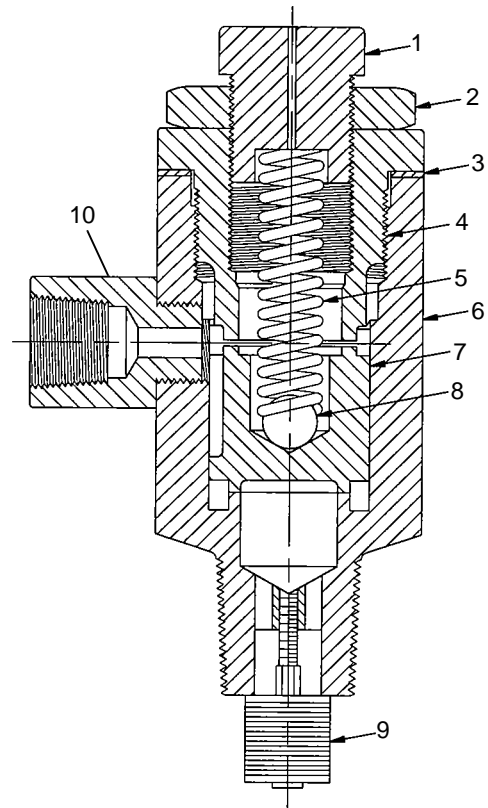
P59339



P54425-0310



Valve
5589030



Valve
5589020

ASSEMBLY	REVISION
O-72	B

VALVE, UNLOADER PILOT

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