

Manitowoc

TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

4600

Model

46490

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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Corrosion and Abrasion

Refer to Figure 3.

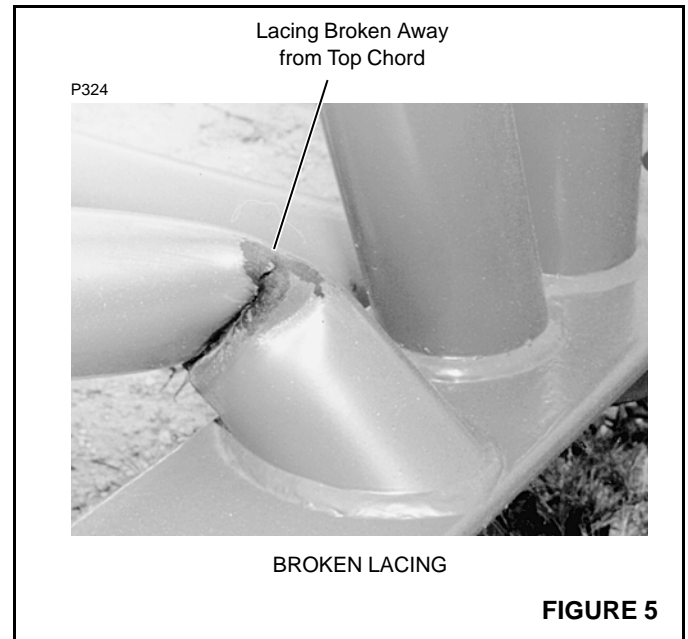
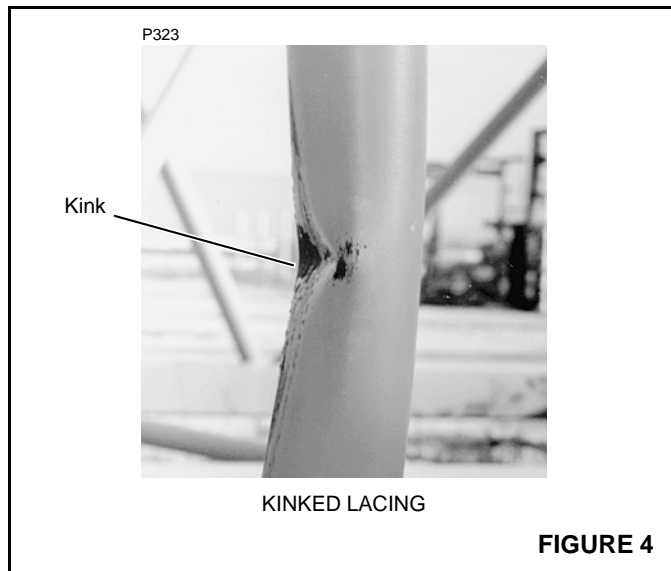
Corrosion and abrasion must not be deeper than 10 percent of the wall thickness, the angle thickness, or the plate thickness.

Kinks

Refer to Figure 4.

Kinked lacings must be replaced; *do not bend kinked lacings back into alignment.*

If any chord or platework is kinked, contact Manitowoc Crane Care for approved repair instructions. *Do not bend kinked chords or platework back into alignment.*



Cracks and Breaks

Refer to Figure 5.

Cracked and broken lacings must be replaced; *do not attempt to repair cracked or broken lacings.*

If any chord or platework is cracked or broken, contact Manitowoc Crane Care for approved repair instructions. *Do not attempt to repair cracked or broken chords or platework.*

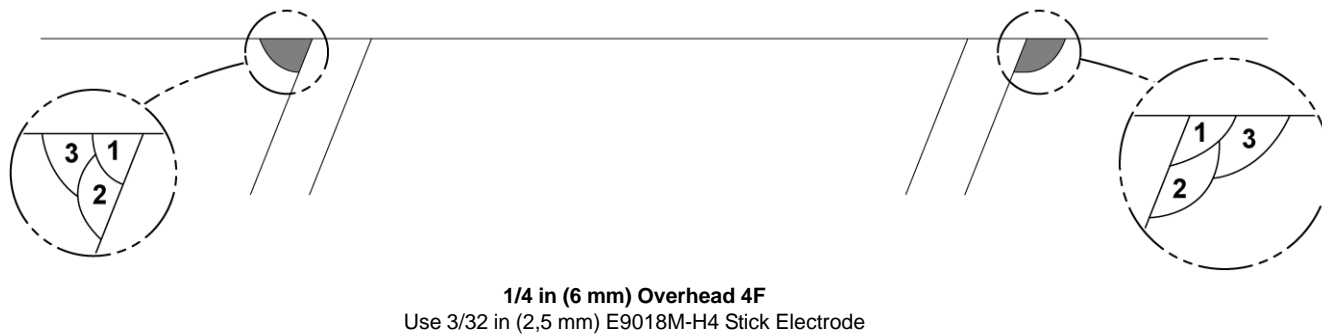
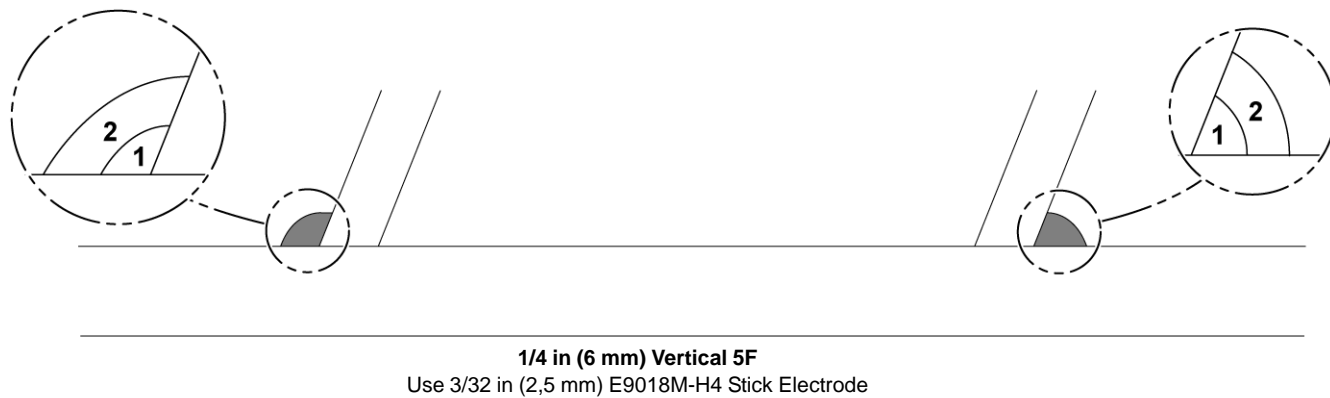
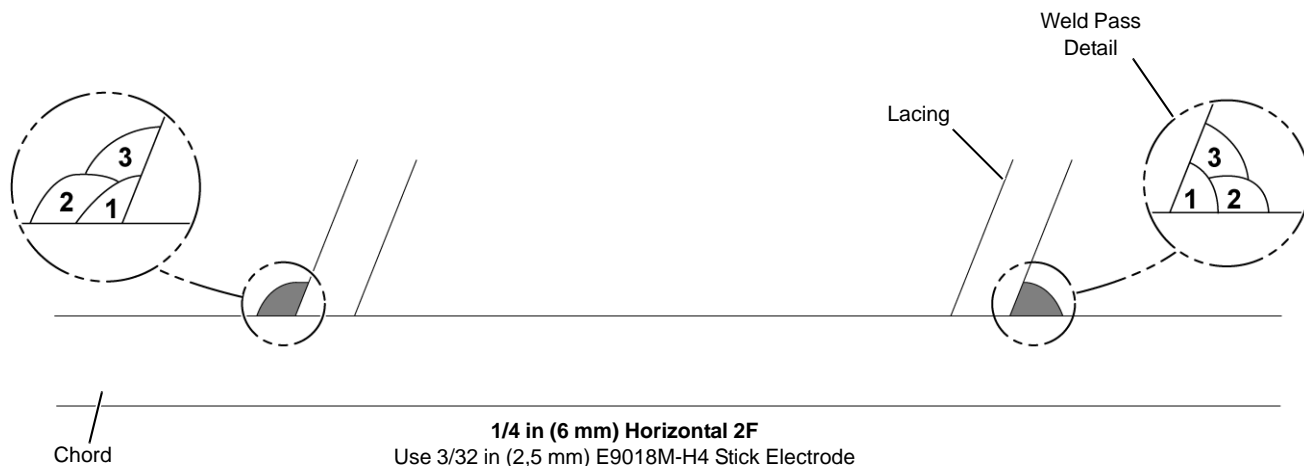


FIGURE 16



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WEIGHTS

4600 SERIES I w/NO. 40 BOOM

DESCRIPTION	APPROX. WEIGHT (IN LBS.)
DRAGLINE - w/100' No. 40 boom, 55,000# counterweight, mast and back-hitch, 26'-1" crawlers w/60" treads, single front and rear drums, std. swing, mast hoist, Cummins KTA-1150-C525 engine for hoist. Cummins N-855-C235 engine for swing and travel, mast hoist rope, single sheave upper boom point, wire rope guide, revolving fairlead, and drag interlock.	384,105*
CLAMSHELL - w/100' No. 40 boom, 87,000# counterweight, heavy duty mast and backhitch w/mast sheave for clamshell, 26'-1" crawlers w/60" treads, single front and rear drums w/41" dia. laggings for both drums, std. swing, mast hoist, Cummins KTA-1150-C525 engine for hoist, Cummins N-855-C235 engine for swing and travel, mast hoist rope, double sheave upper boom point, wire rope guide and tagline.	424,670*
UPPERWORKS - w/Cummins KTA-1150-C525 and Cummins N-855-C235 engines, (Dragline) std. swing, mast hoist, single front and rear drums, and drag interlock; <u>LESS</u> boom, mast and backhitch, counterweights, wire rope guide and catwalk.	133,205*
UPPERWORKS - w/Cummins KTA-1150-C525 and Cummins N-855-C235 engines, (Clamshell) std. swing, mast hoist, single front and rear drums w/41" dia. laggings for both drums; <u>LESS</u> boom, mast and backhitch, counterweights, wire rope guide and catwalk	136,925*
UPPERWORKS (DRAG) as above, w/mast and backhitch, mast hoist rope and carbody; <u>LESS</u> crawlers.	200,515*
UPPERWORKS (CLAM) as above, w/heavy duty mast and backhitch, mast hoist rope and carbody; <u>LESS</u> crawlers	210,335*
CARBODY - w/roller path, ring gear and king pin; <u>LESS</u> crawlers.	55,160
CRAWLERS, 26'1" w/60" treads.	53,595 each
REMOVABLE COUNTERWEIGHTS	
Rear Ctwt	32,000
* Rear Ctwt	10,000
Lower Center.	36,000
Lower Right	9,500
Lower Left.	9,500

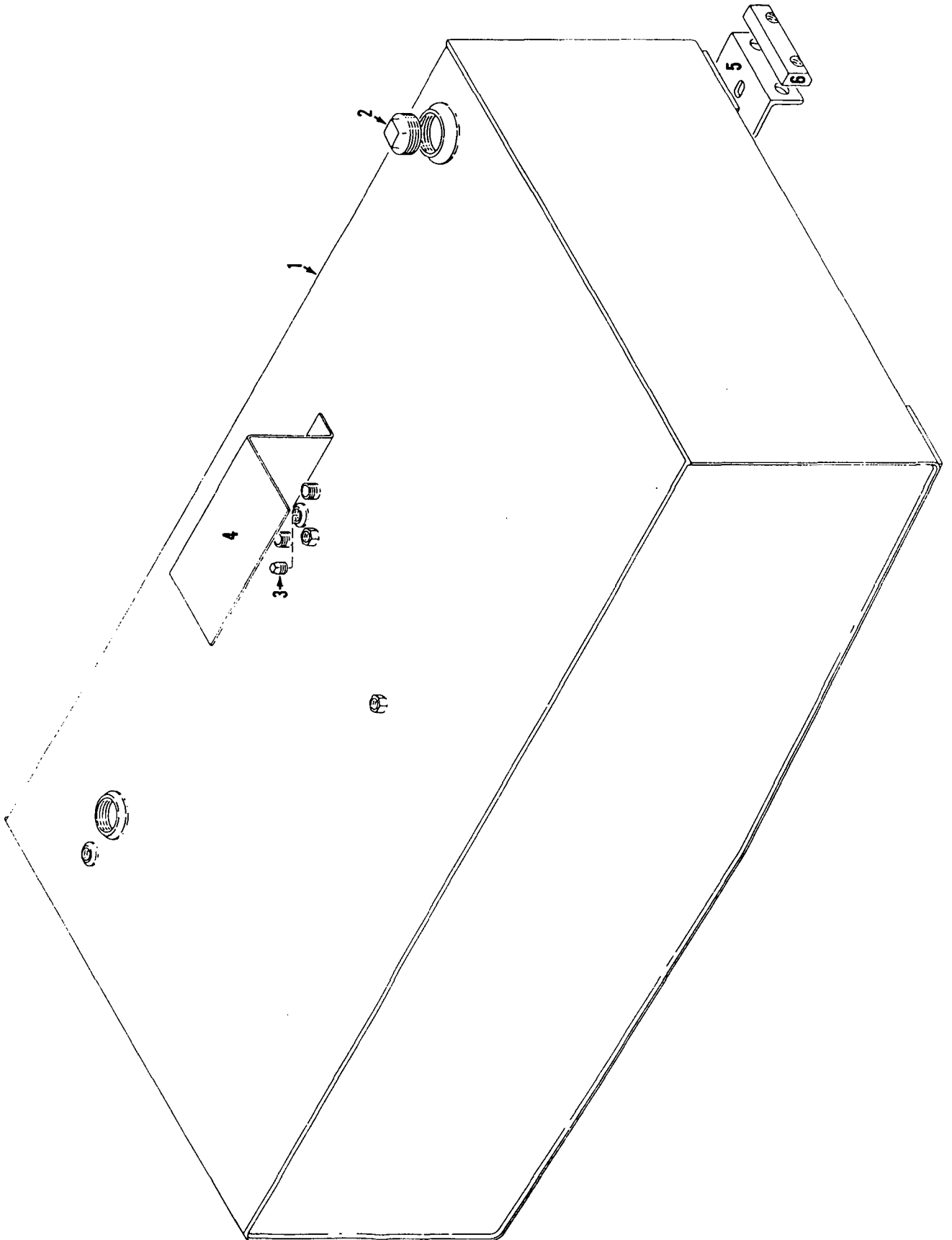
*Modify upperworks weight for optional power plants by adding 600# for GM 12V-71N Vicon, and deducting 470# for Cat. D-379 Vicon.

(Cont'd).

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MASTER

32185

32185D1

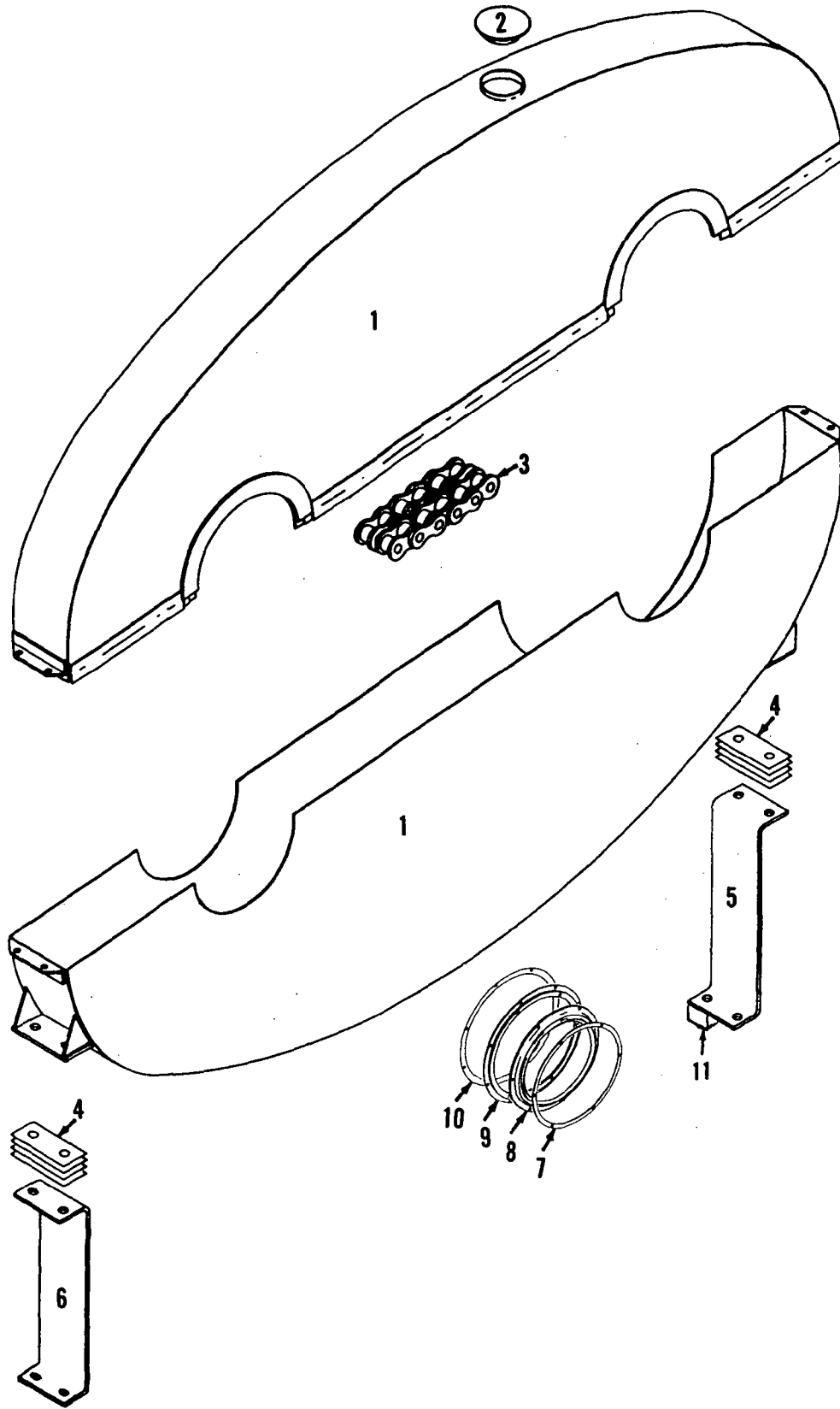
MATERIAL LIST ON BACK

BOTTOM FUEL TANK

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MANITOWOC

4725002

MATERIAL LIST ON BACK

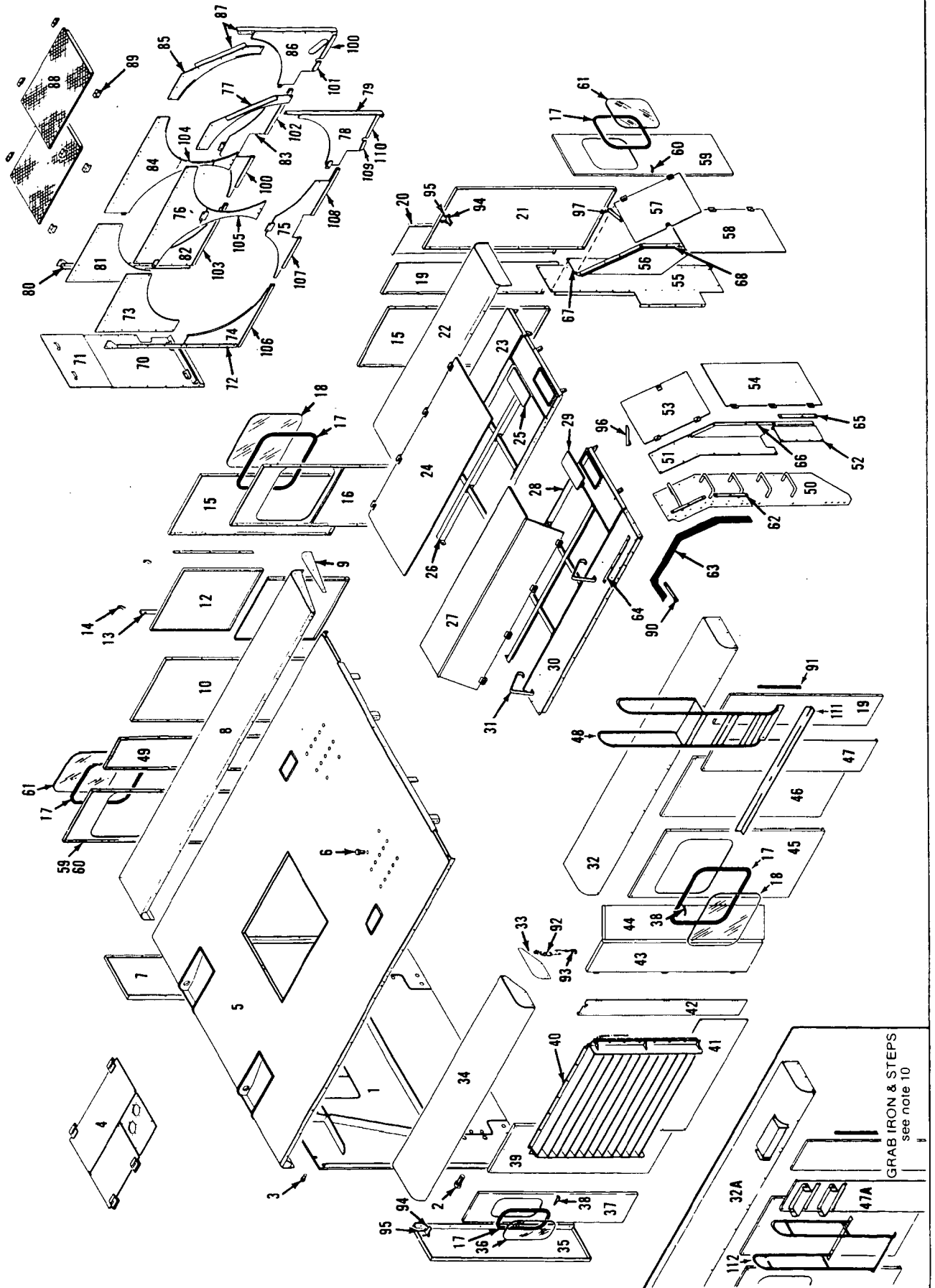
INTERLOCK CHAIN CASE

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A2.1



50274J1

MATERIAL LIST ON BACK

GRAB IRON & STEPS
see note 10

CAB

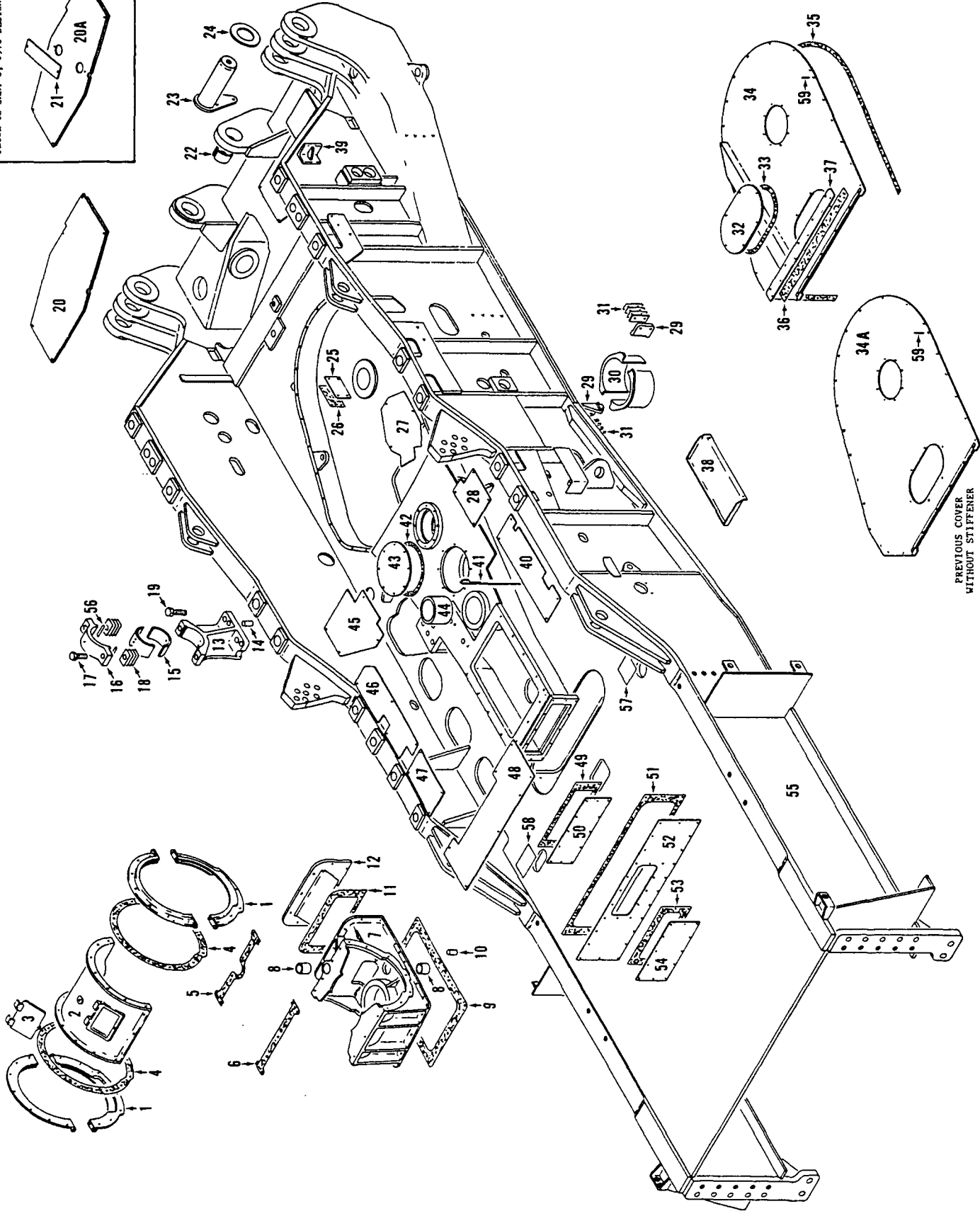
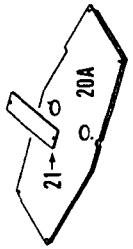
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MASTER

PRIOR TO JAN. 8, 1978 DESIGN CHANGE

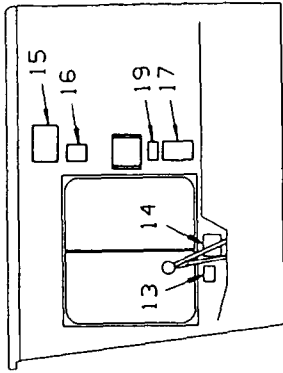


PREVIOUS COVER WITHOUT STIFFENER

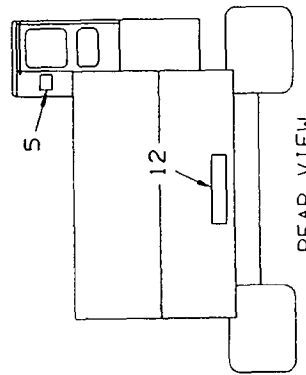
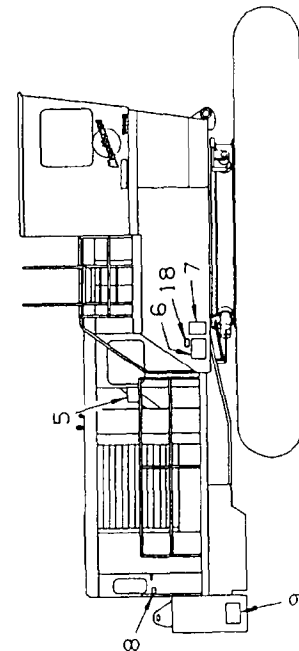
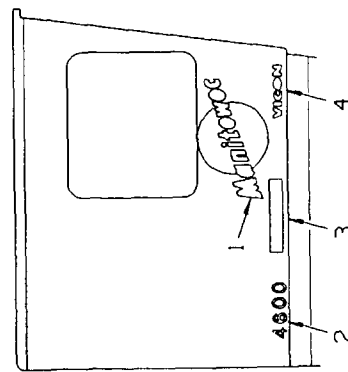
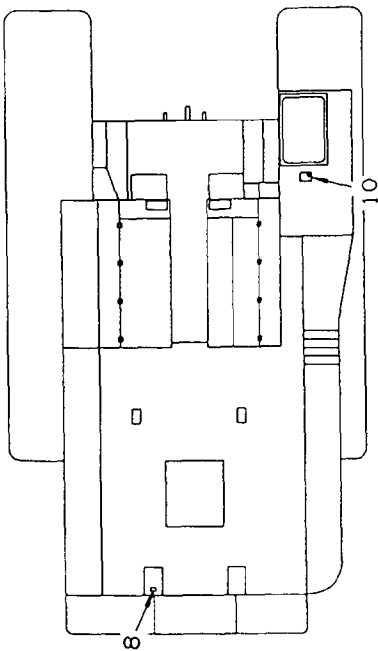
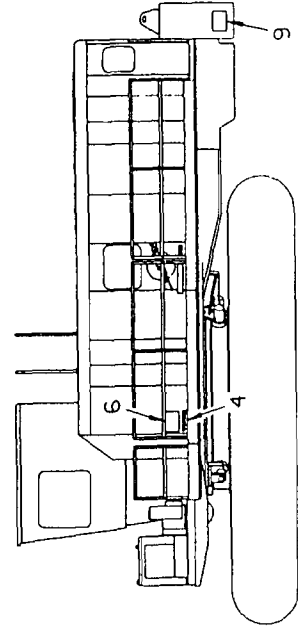
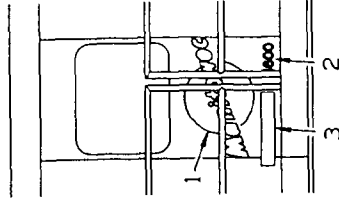
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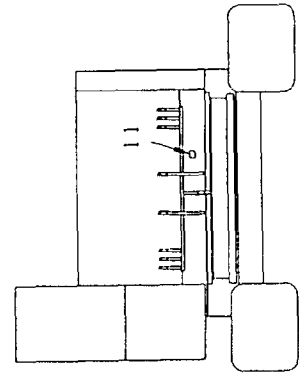
ROTATING BED



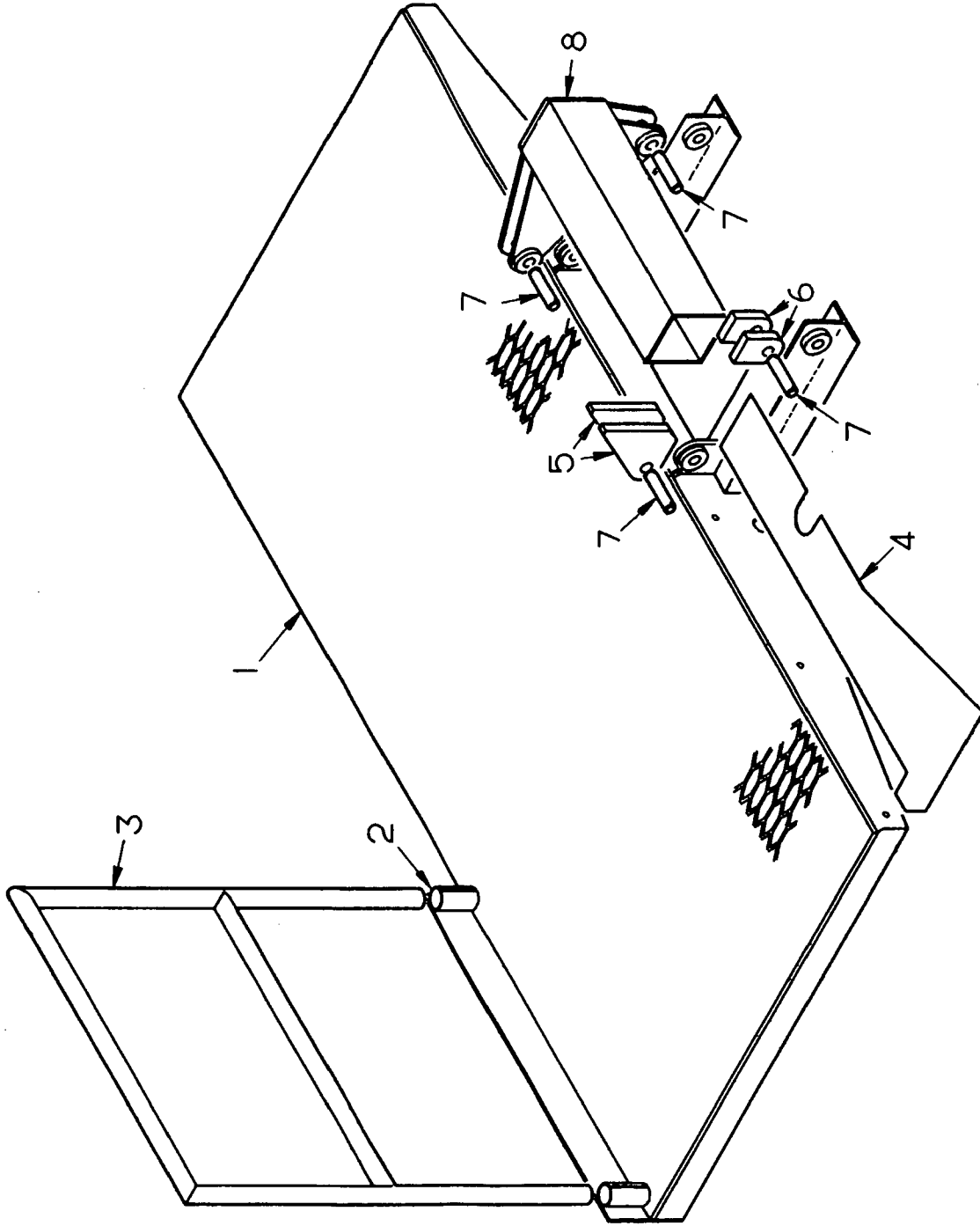
OPERATORS CAB
 (RIGHT INSIDE)



REAR VIEW



FRONT VIEW

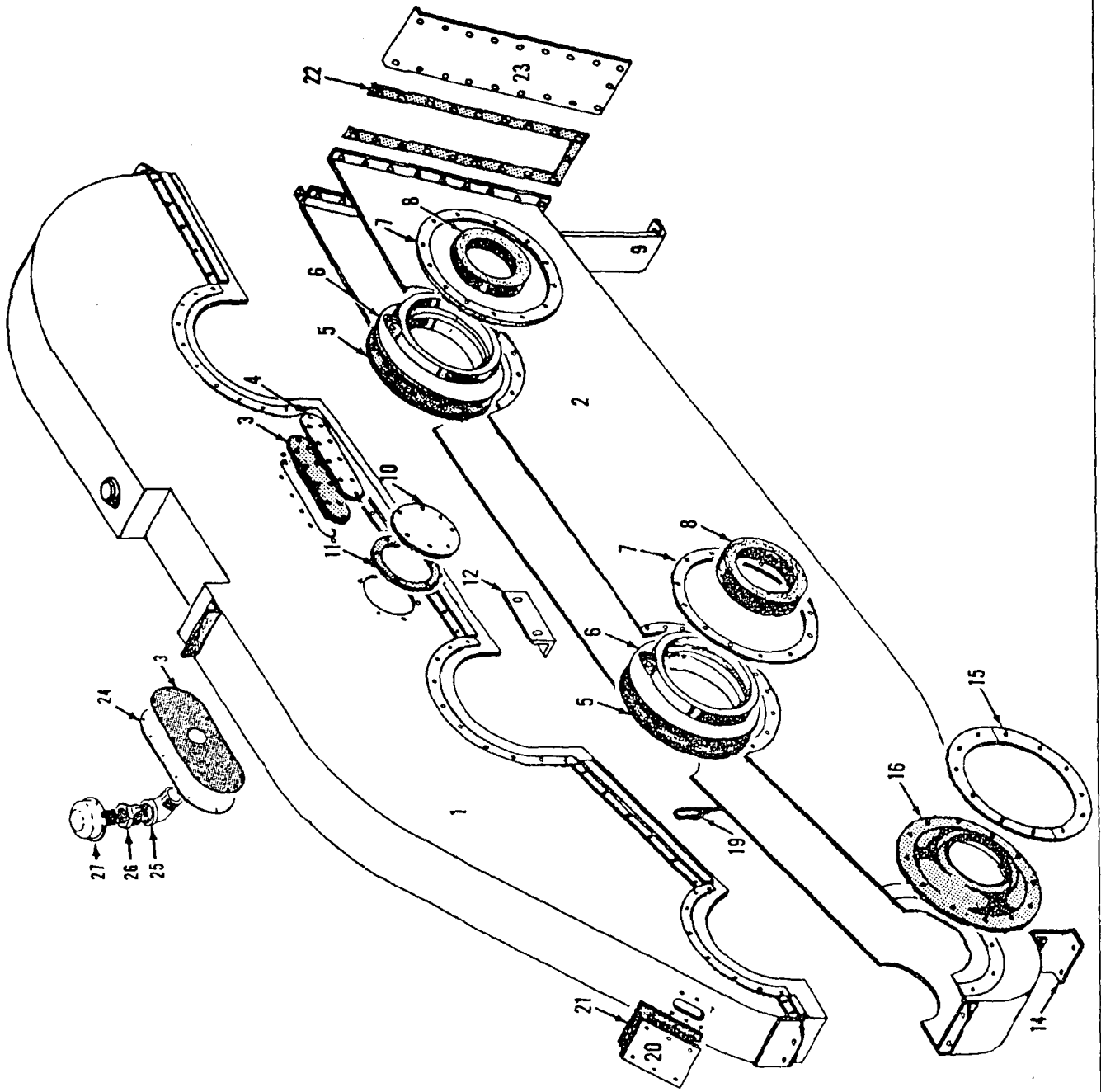


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LIGHT PLANT PLATFORM

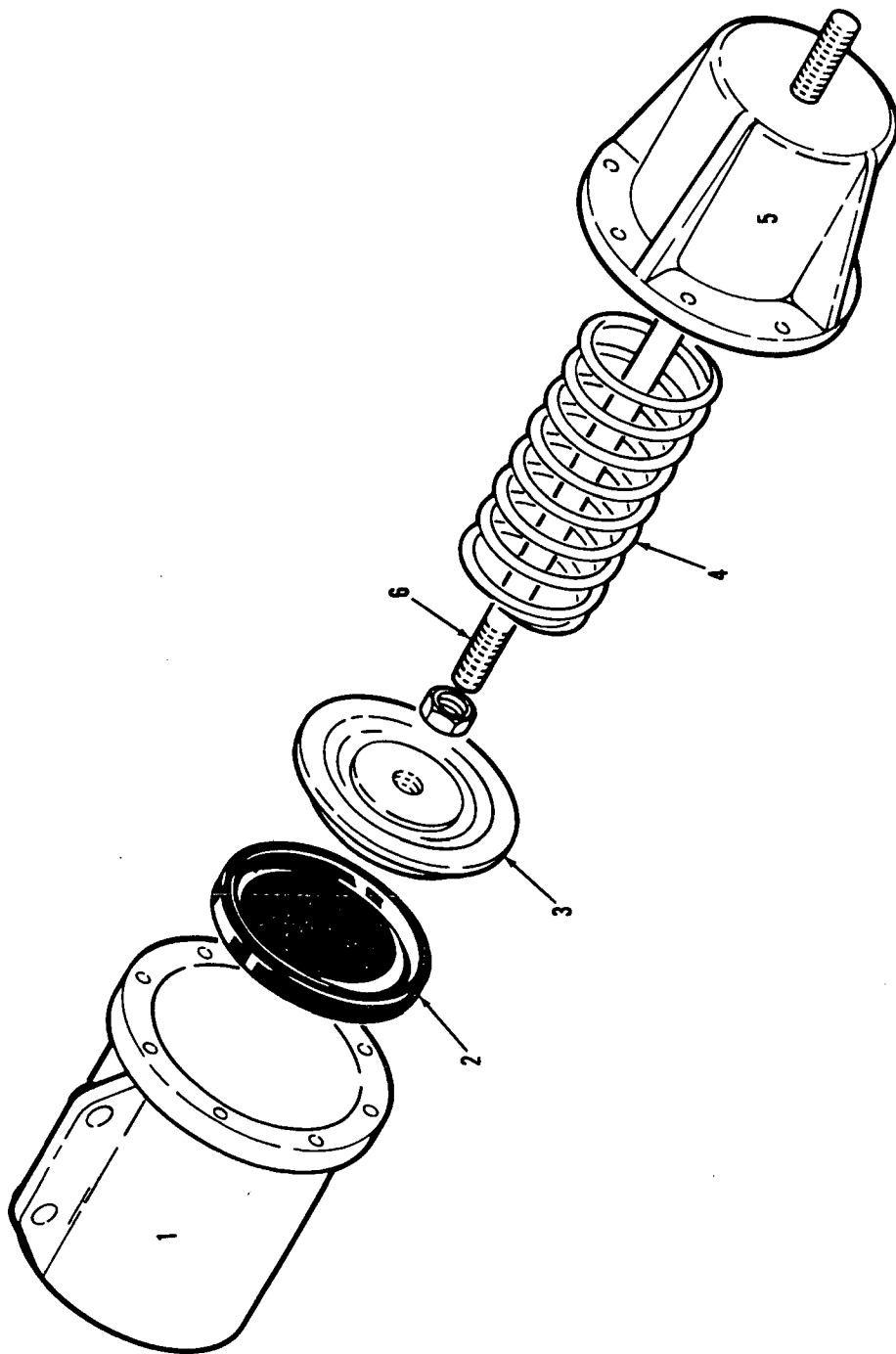
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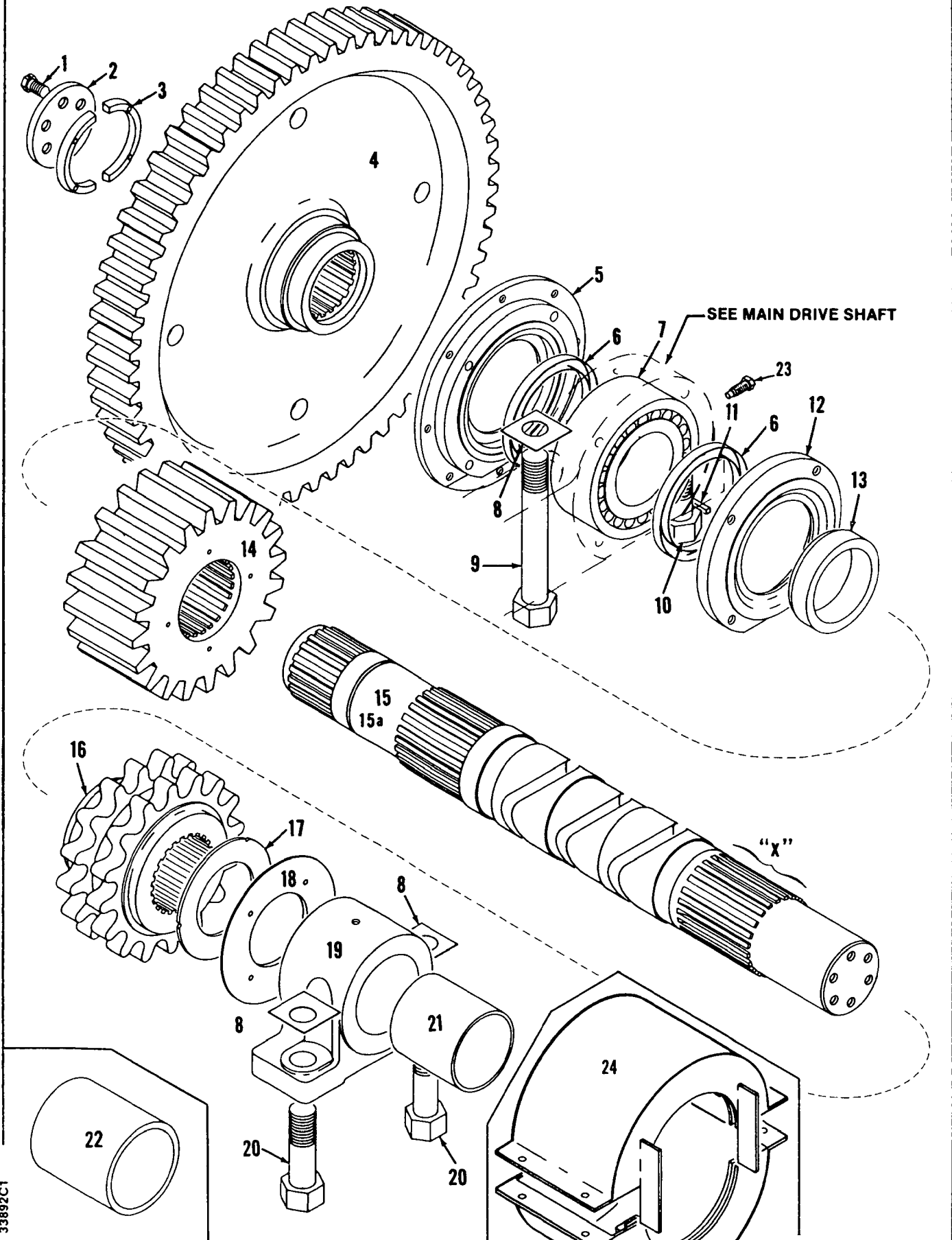


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DRUM GEAR CASE



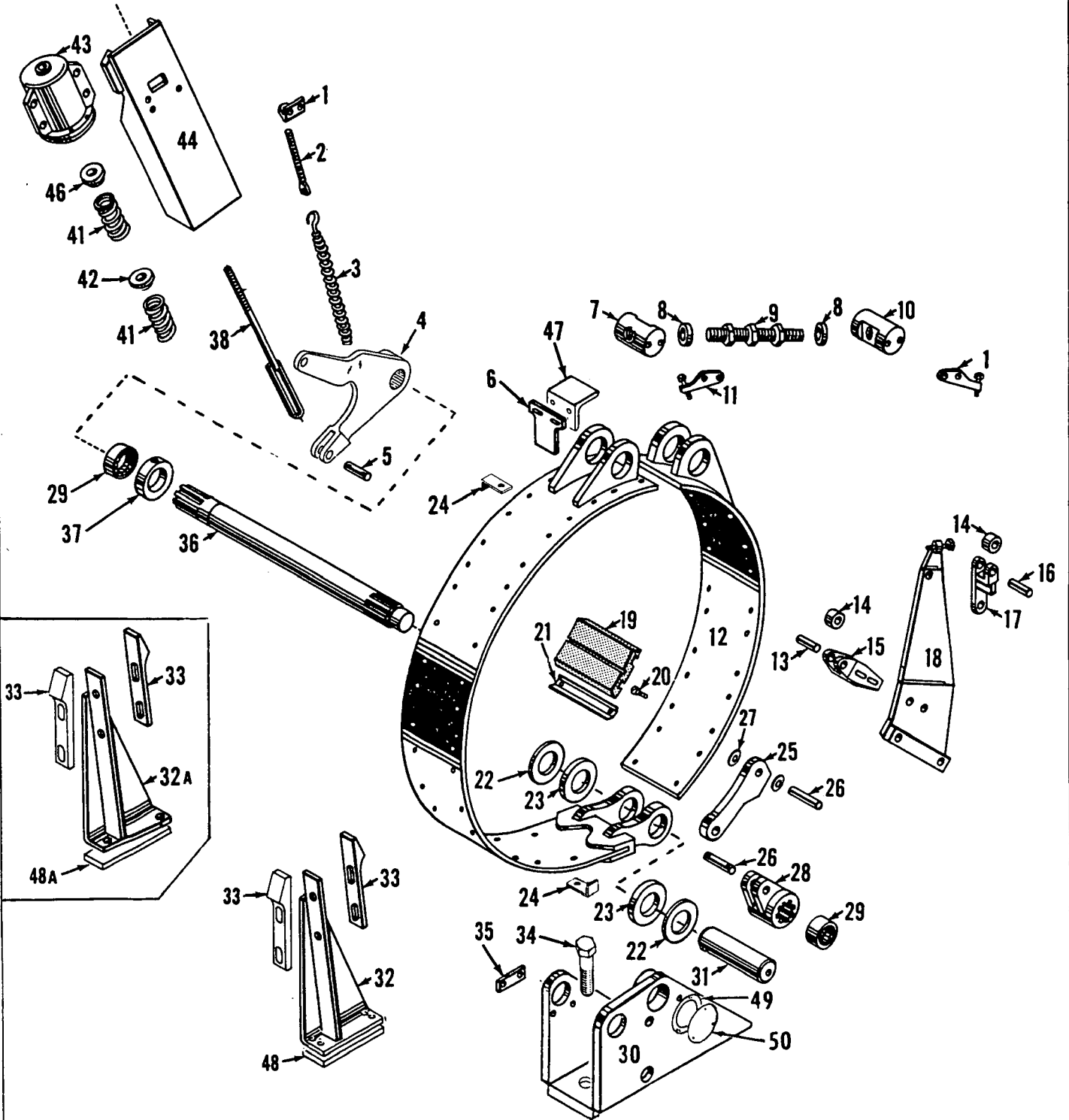


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COUNTERSHAFT

MASTER

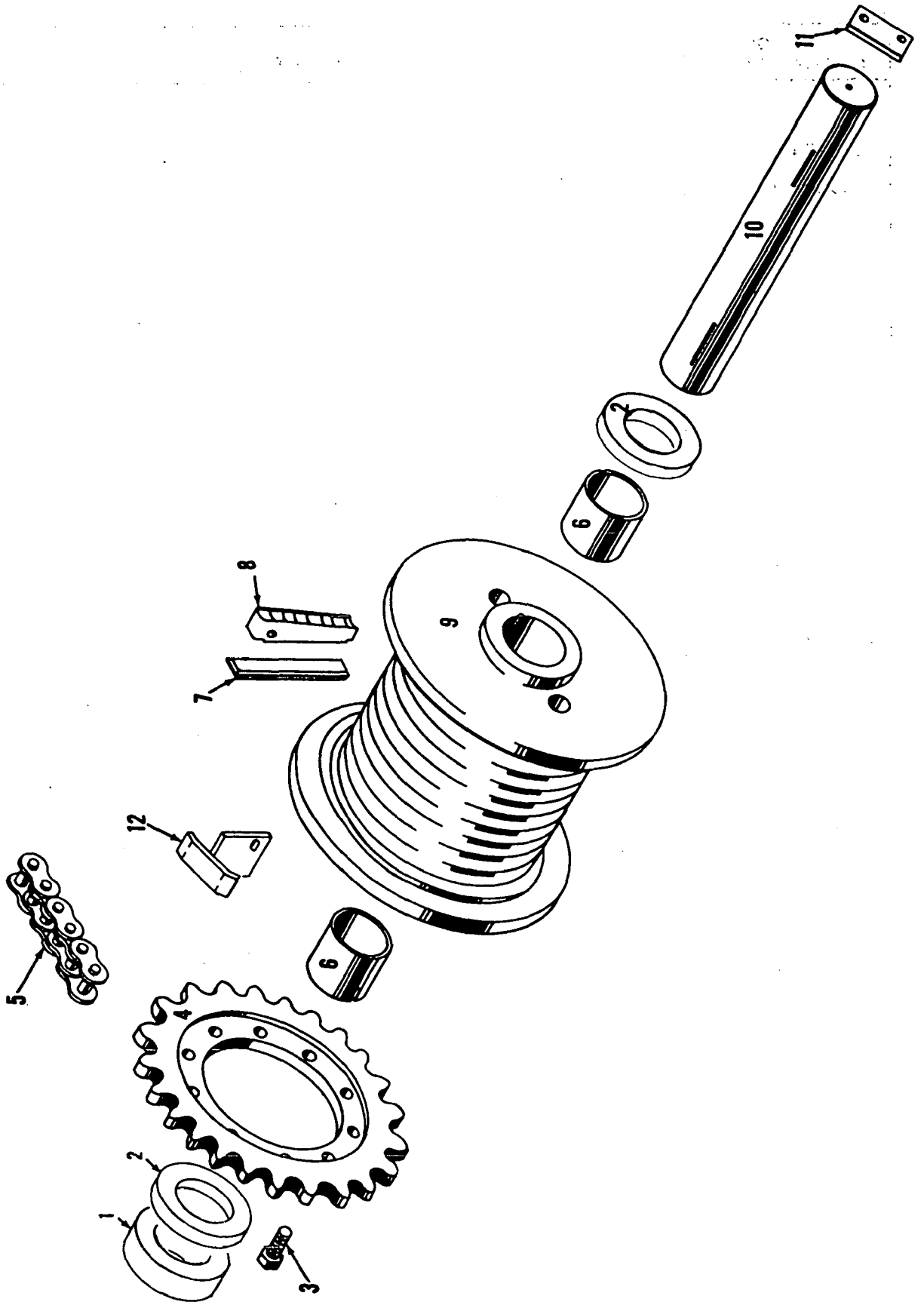


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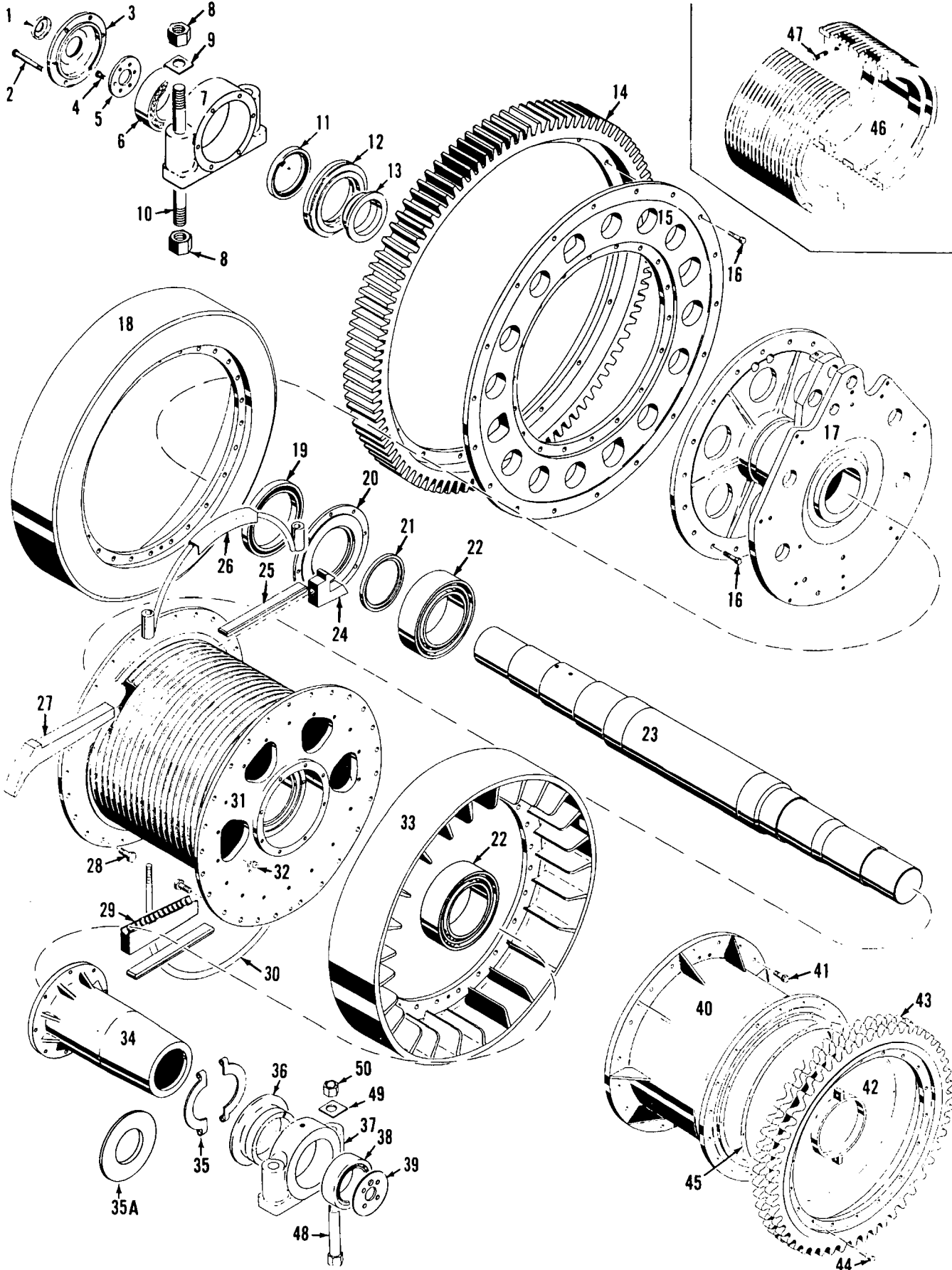
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MAST HOIST DRUM



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MATERIAL LIST ON BACK

DRUM SHAFT

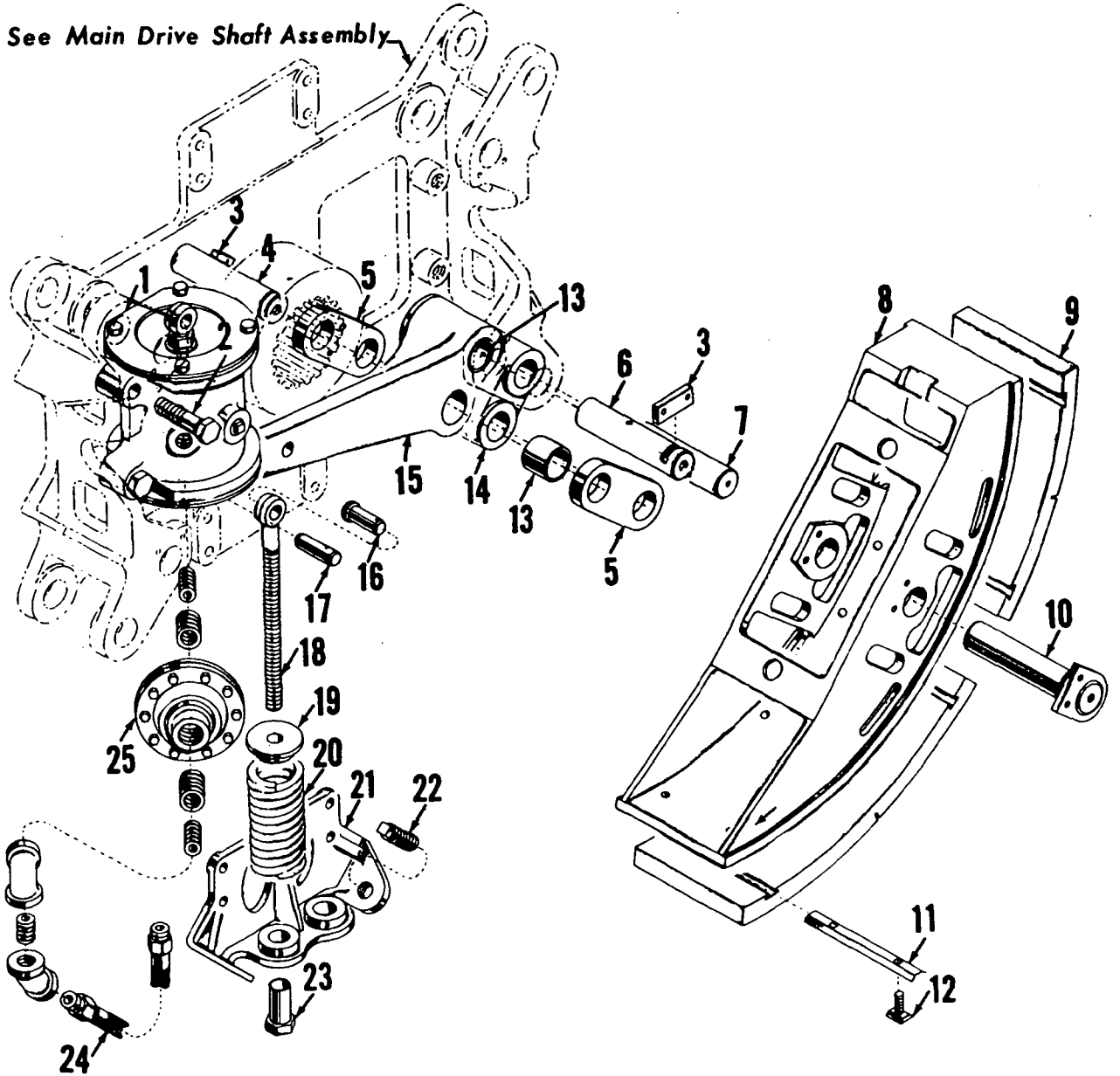
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MASTER

See Main Drive Shaft Assembly

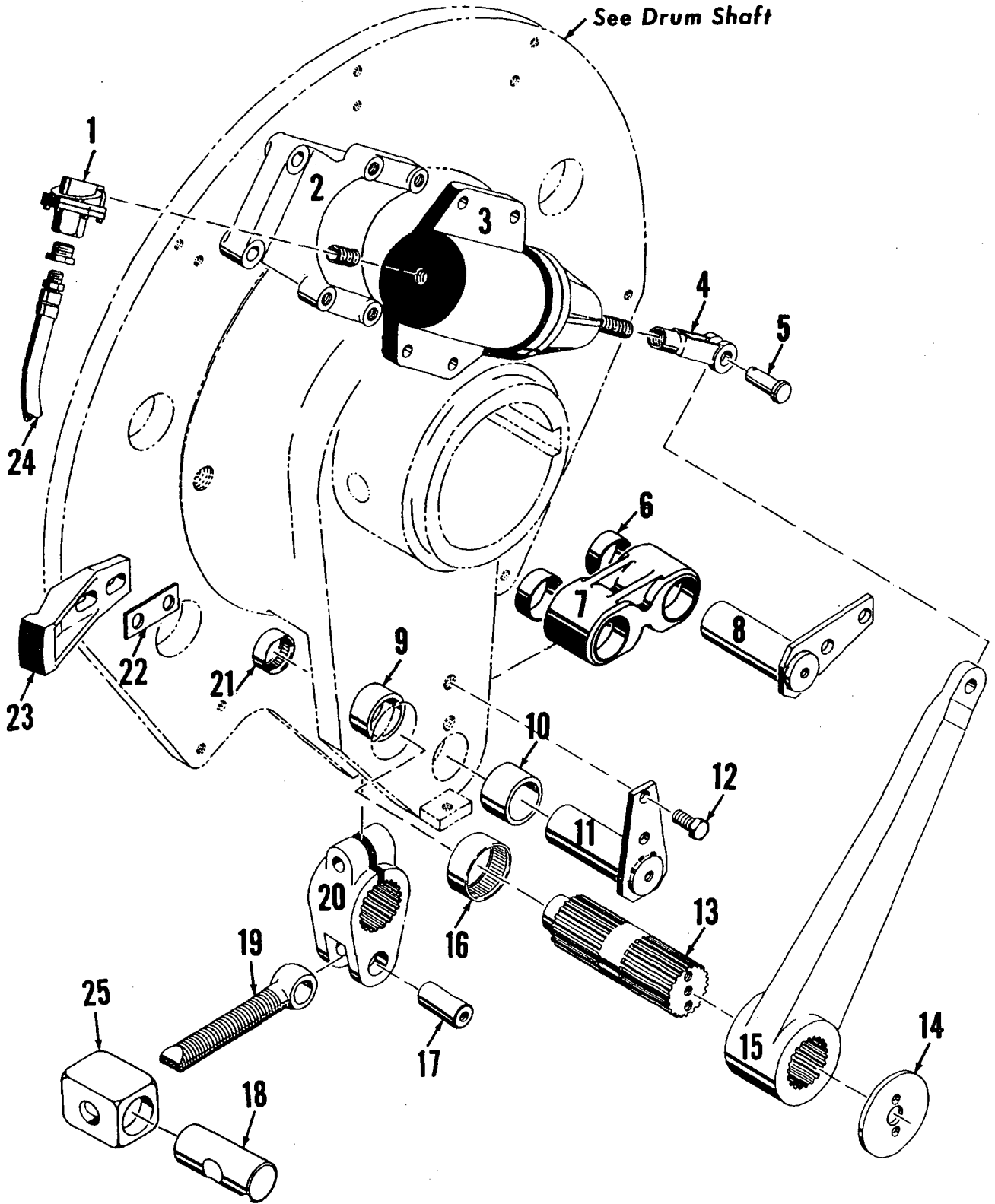


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MATERIAL LIST ON BACK

MAIN DRIVE SHAFT CLUTCH

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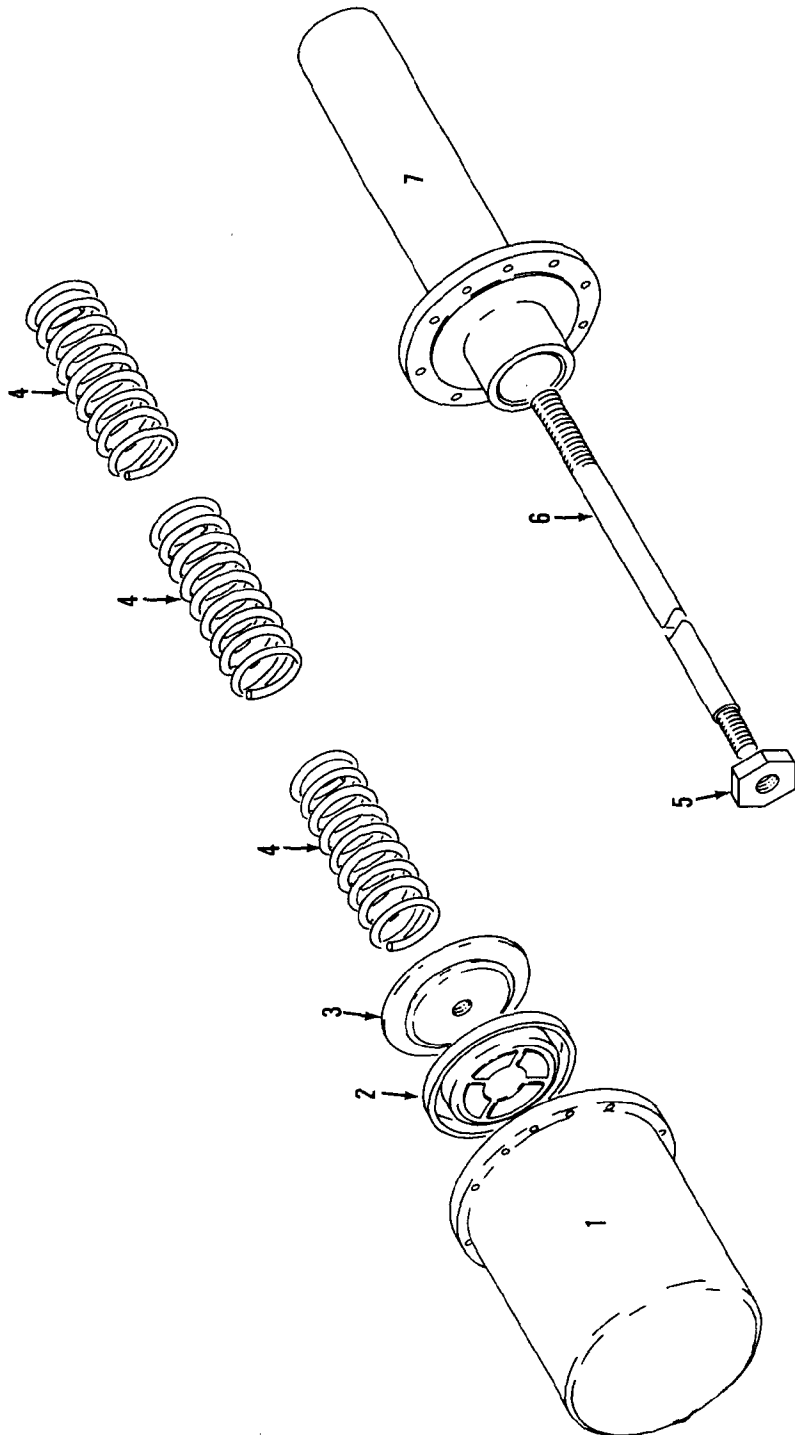
DRUM CLUTCH

76 151 20

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93251A1

MATERIAL LIST ON BACK

AIR CYLINDER

190286-1	REV. E	MODEL 4600
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LUBRICATION PIPING
(CUMMINS KTA 1150 FRONT ENGINE AND N855 REAR ENGINE)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
47	679305	1	TEE (1")	
48	543408	1	NIPPLE, Close (1½")	
49	406959	2	ELBOW (1½")	
50	71911	2	ADAPTER, Hose (1½" NPT 1-3/4" I.D. Hose)	
51	345338	2	CLAMP, Hose (#28 1-5/16" - 2½")	
52	485694	1	HOSE, Radiator (1-3/4" I.D. - Specify Length)	
53	543220	1	NIPPLE (1½" x 24-3/4")	
54	431331	1	FLANGE, Welding (1½") (Weld at Assembly)	
55	571705	1	PLUG, Pipe (1")	
56	288757	1	BUSHING (1" x 3/4")	
57	543405	1	NIPPLE, Close (3/4")	
58	489442	1	INDICATOR, Flow	
59	288753	1	BUSHING (3/4" x ½")	
63	543812	1	NIPPLE (1" x 5")	
64	377207	1	COUPLING (1")	
			NOTE 1: For machines after design change of 3-13-81, with mounting on left side of filter, add the following ...	
60	138107	1	PAD, Mounting (Weld in Place at Assembly)	
61	147692	1	PLATE, Mounting (Weld in Place at Assembly)	
62	139228	1	PLATE, Instruction W/drive screws	

Run as Front

190286-El. Cont'd.

0-340

PLEASE GIVE MACHINE S/N W/ORDER

REV. E	190286-1
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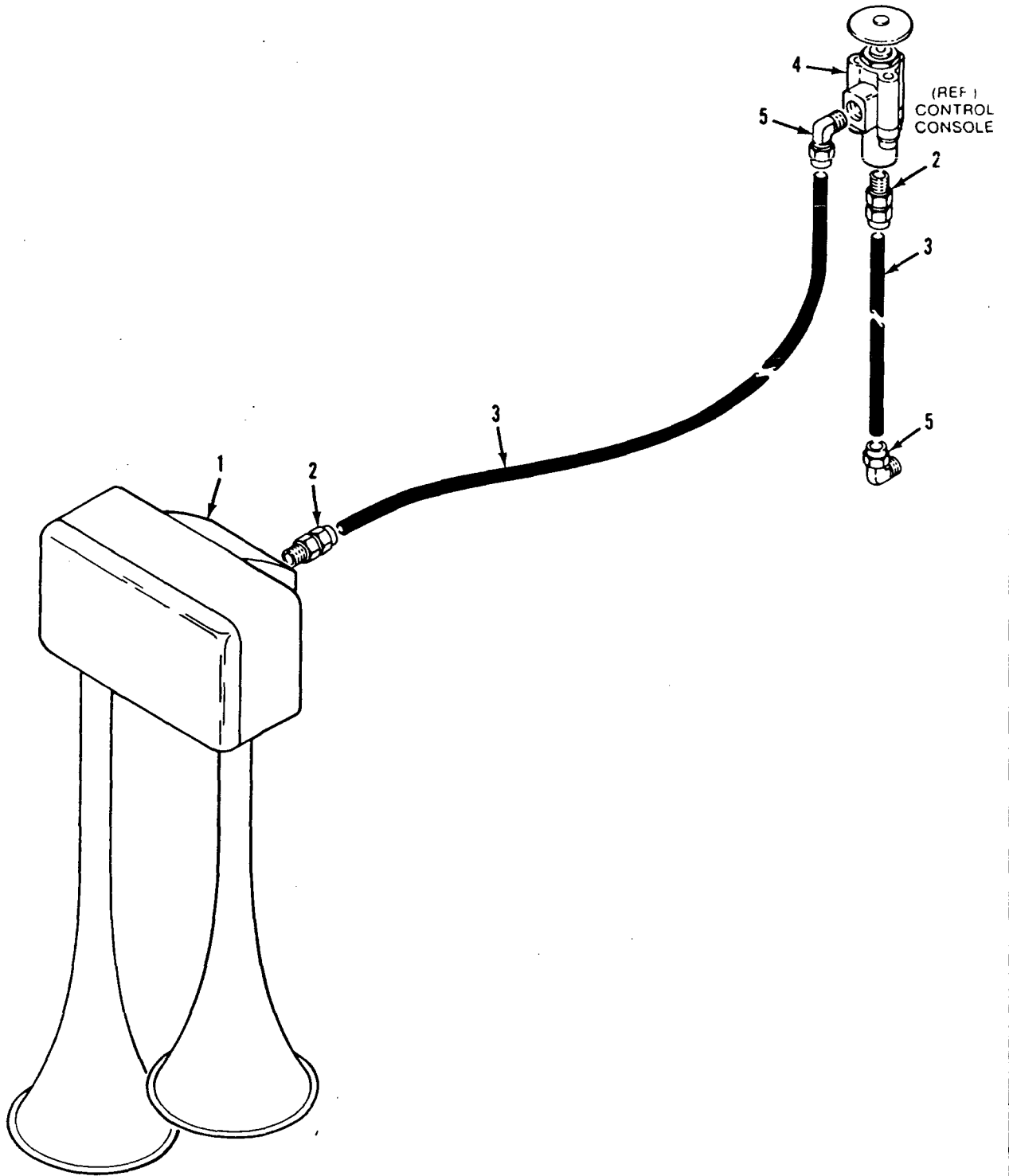
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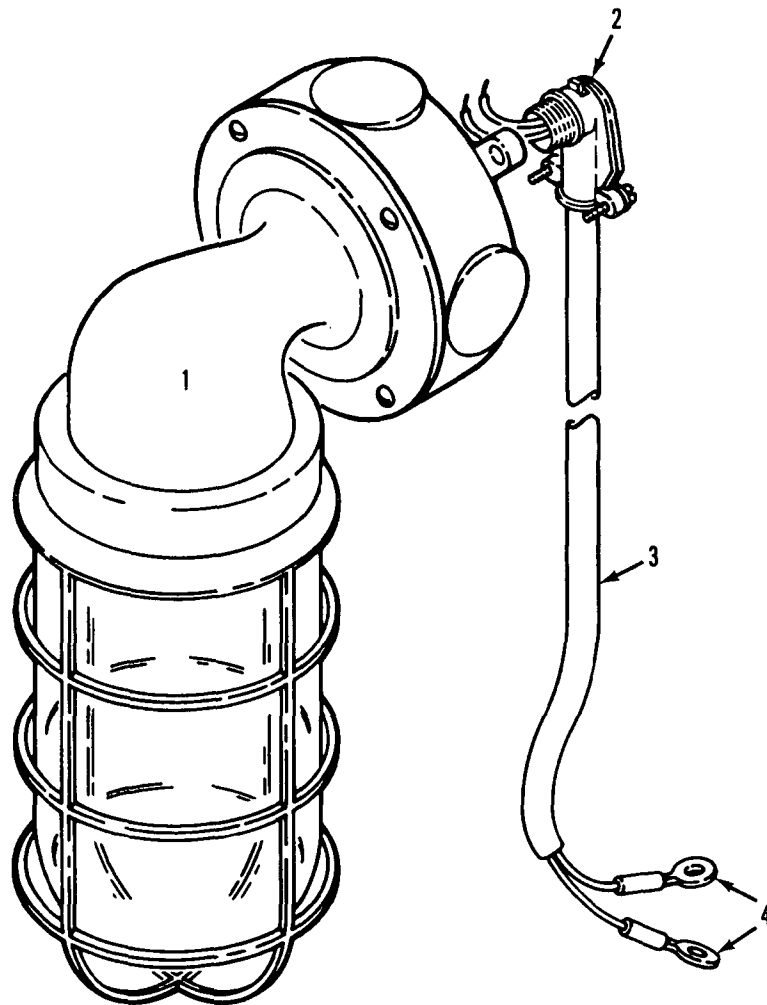


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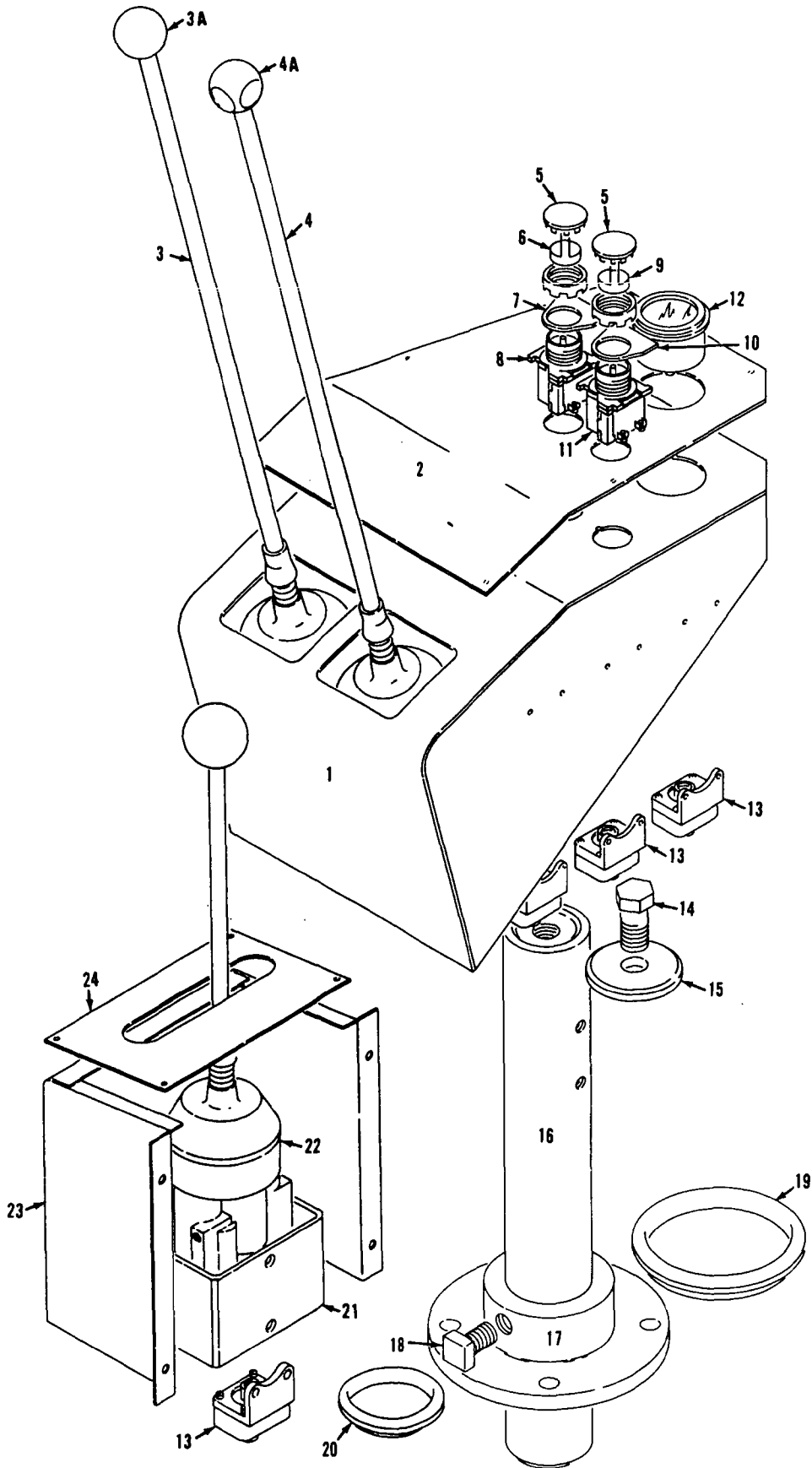
BELOW OPERATORS CAB



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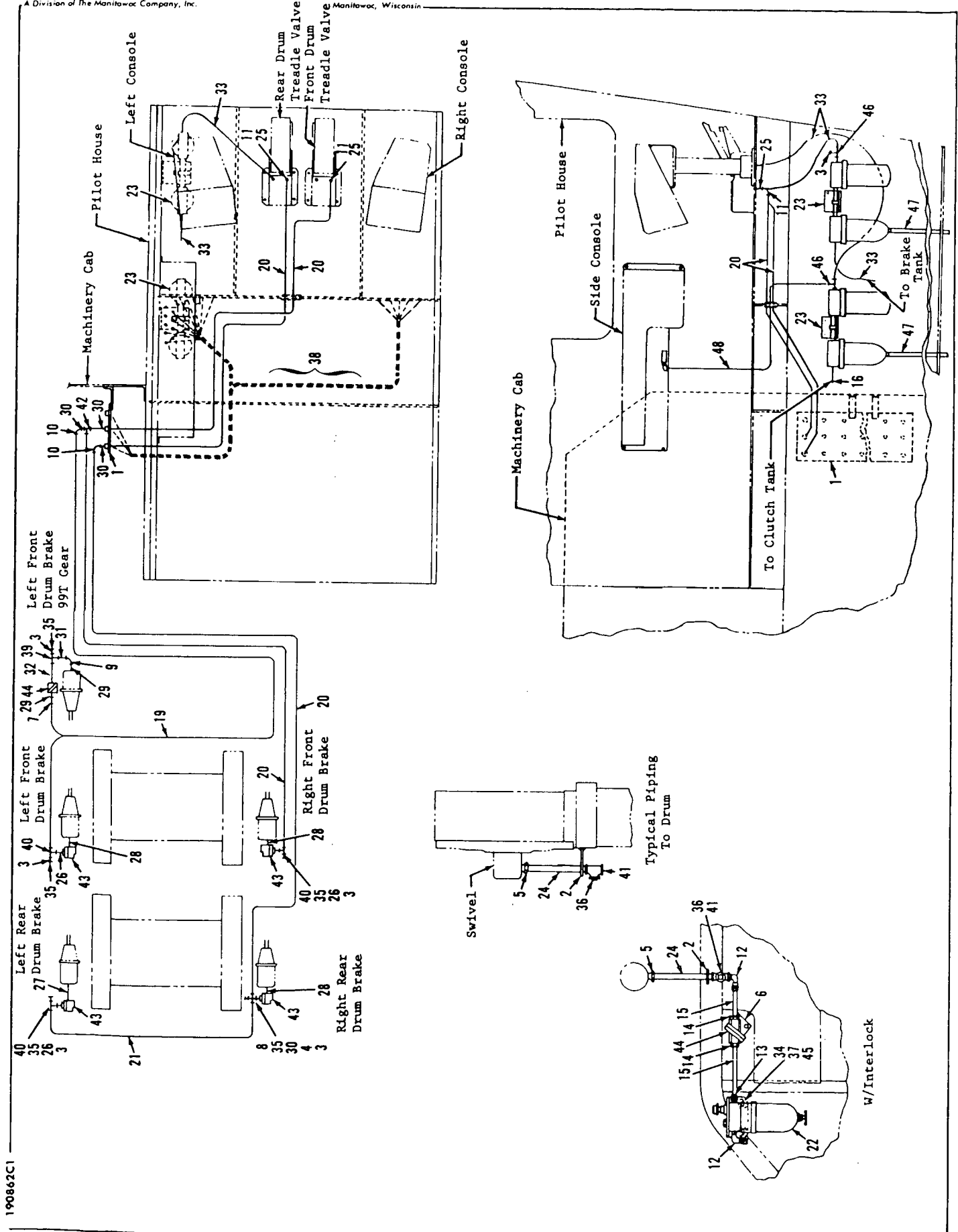
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MATERIAL LIST ON BACK

RIGHT CONTROL CONSOLE

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MASTER



190862C1

MATERIAL LIST ON BACK

AIR PIPING

65458-1 Cont.	REV. J	MODEL 4600-S1
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POWER PLANT
(CUMMINS N855-C235 AND KTA-1150-C525)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
48	76187	4	PAD, Mounting	
49	143910	2	SUPPORT	
50	162293	1	SHEAVE (8.6 P.D.) (See Note 3)	
51	144486	1	SUPPORT	
52	143633	2	PAD, Mounting	
53	144483	1	PAD, Mounting	
54	146456	1	PIPE, Exhaust	
55	143653	1	SHAFT	
56	143654	1	LUG, Adjusting	
57	143761	1	SUPPORT	
58	73355	1	CLAMP, Hose w/capscrews, hex nuts and lockwashers	
59	182725	1	CLEANER, Air	
60	182756	1	LAYOUT, Roof	
61	190278	1	BASE, Engine	
62	190284	1	RADIATOR	
63	191317	1	PIPING, Charging and cooling	
64	219666	4	BAR (1/2" x 1/2" x 4")	
65	223109	2	BATTERY (12V - 200 Amp)	
66	224024	2	BLOCK, Pillow	
67	227214	1 Set	Set, Vee Belt (set of 4)	
68	257284	3	BOLT, Coupling (1-1/4")	
69	257286	1	BOLT, Coupling (1-1/4")	
70	288700	3	BUSHING, Reducing (1/4" x 1/8")	
71	288758	1	BUSHING, Reducing (1/2" x 1/4")	
72	288794	6	BUSHING, Reducing (3/8" x 1/4")	
73	377200	1	COUPLING, Pipe (1/8")	
74	335079	1	CHAIN (1" P. - 3 Str. - 284 pitches)	
75	335164	1	CHAIN (1-1/4" P. - 5 Str. - 178 pitches)	
76	583180	1	PUMP, Charging (See Note 1)	
77	355006	2	STEAMCOCK (3/4")	
78	367470	1	CONVERTER	
79	367471	1	CONVERTER	
80	380977	1	CROSS (1/4")	
81	380951	1	CROSS (1/8")	
82	406901	1	ELBOW, Street (1/4" x 1/8")	
83	396401	4	DOWEL (1/4" x 1-1/2")	
84	406952	4	ELBOW, 90° (1/4")	
85	406955	2	ELBOW, 90° (3/4")	
87	414098	1	ENGINE (Cummins N855-C235) (See Note 2)	
88	412743	3	PLUG, Drain	
89	414095	1	ENGINE (Cummins KTA-1150-C525) (See Note 2)	
90	429618	4	NIPPLE, Hex (1/4")	
91	472020	4	GROMMET	
92	485735	As Req.	HOSE (1" I.D. - specify length)	
93	17908	1	HOSE, Flex (3/8" x 8'7-1/2" - 2.629m)	
94	19947	1	HOSE, Flex (3/8" x 4'0" - 1.219m)	
95	184394	1	PUMP ASSEMBLY, Charging	
96	542993	1	NIPPLE (3/4" x 3")	
97	543402	3	NIPPLE (1/4" x 7/8")	

REV. J	65458-1 Cont.
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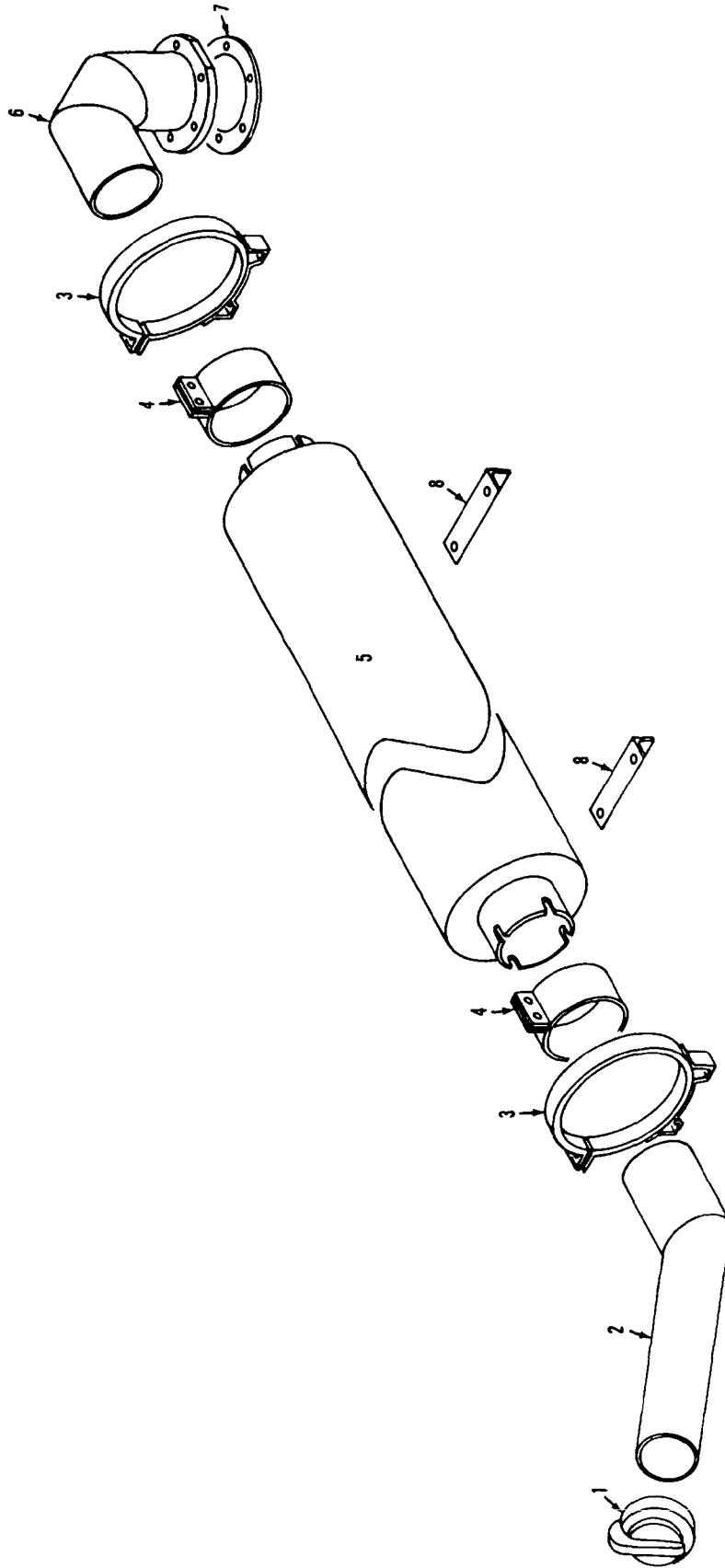
PLEASE GIVE MACHINE S/N W/ORDER

CPT

Run as a Front

65458 J1 C 1

MASTER

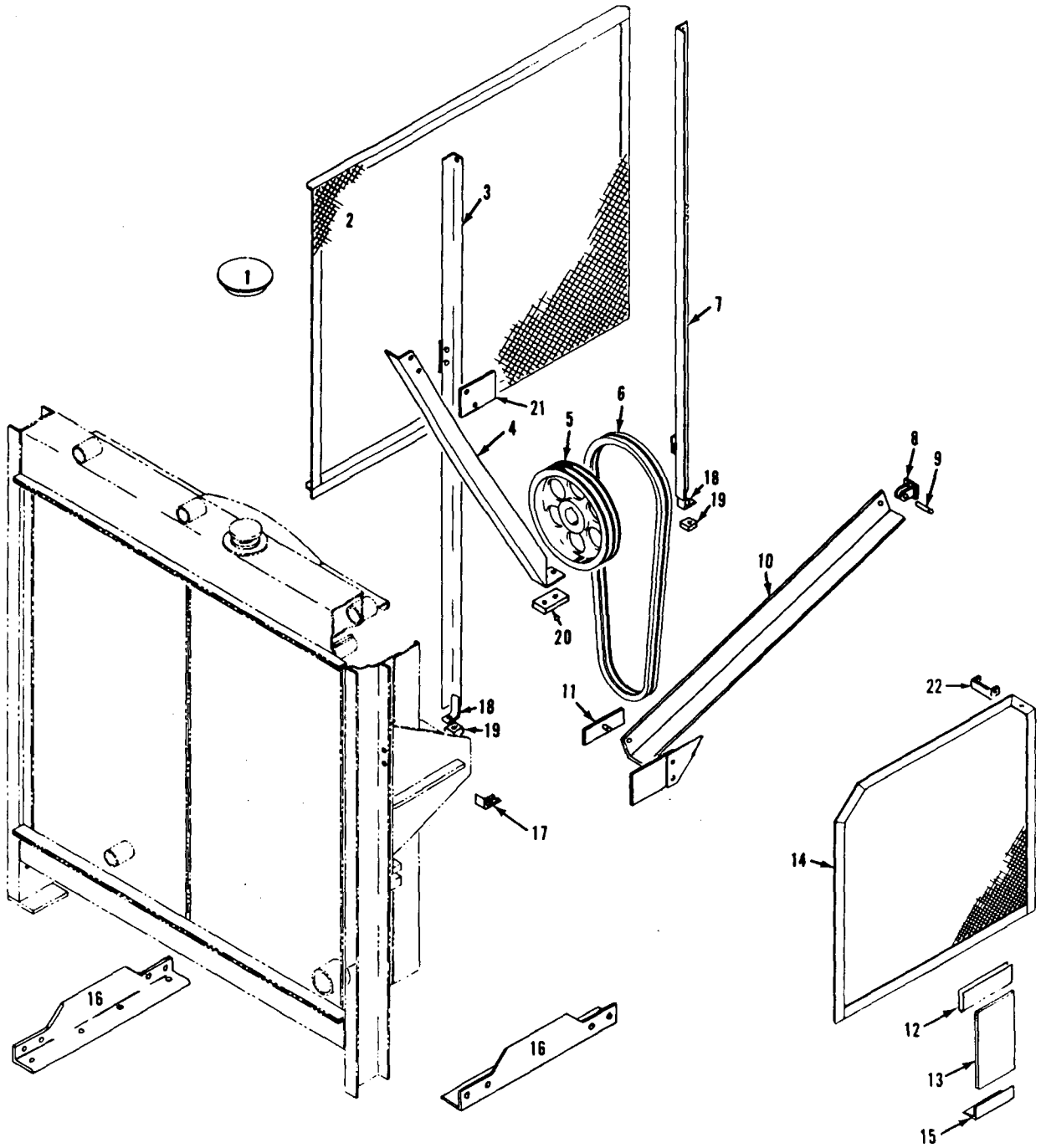


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ENGINE EXHAUST

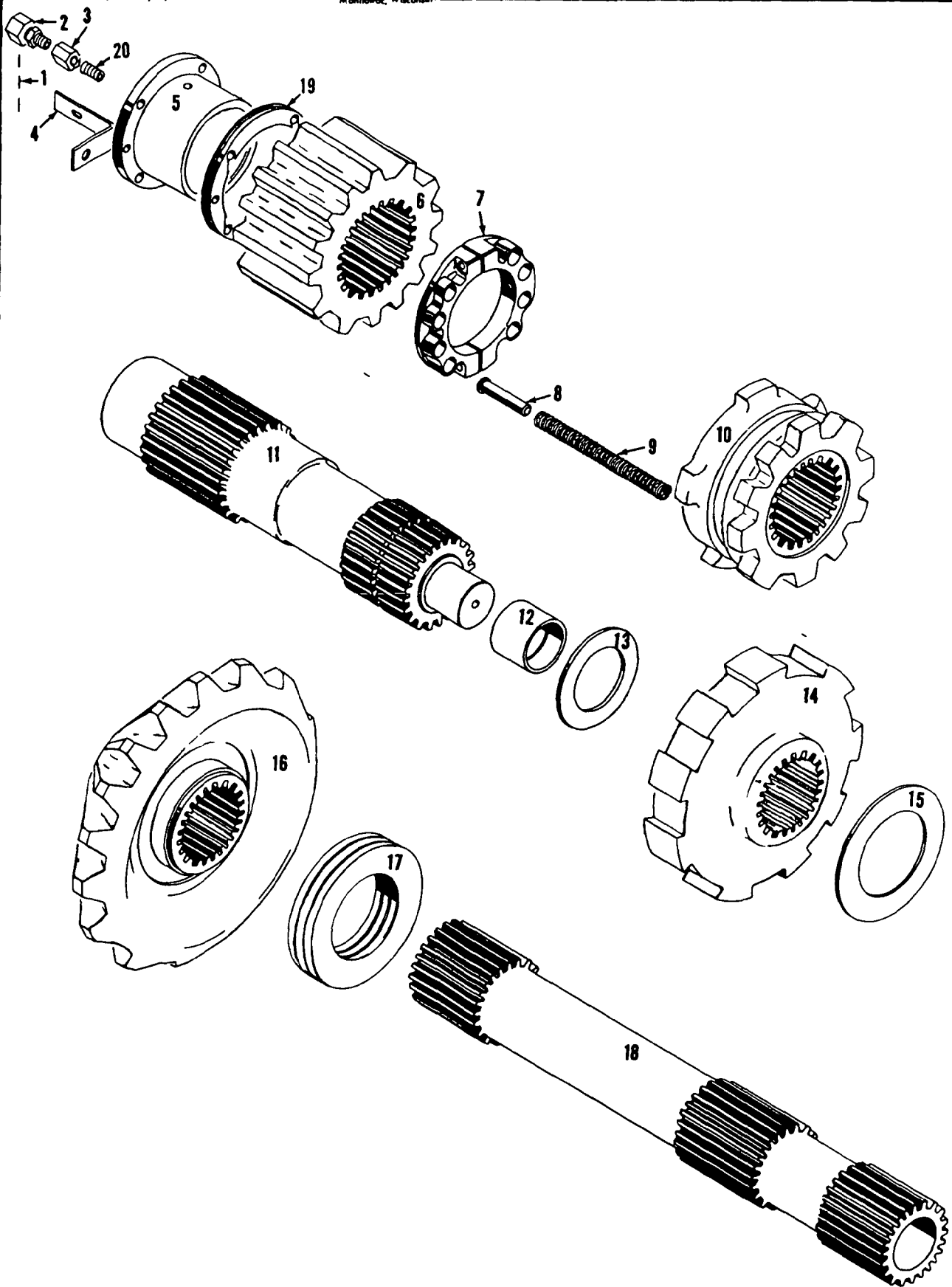
MASTER



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GROUP E - Lower Structure & Control

WATER



33636E1

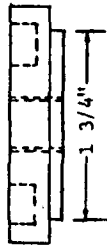
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HORIZONTAL TRAVEL SHAFT

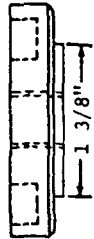
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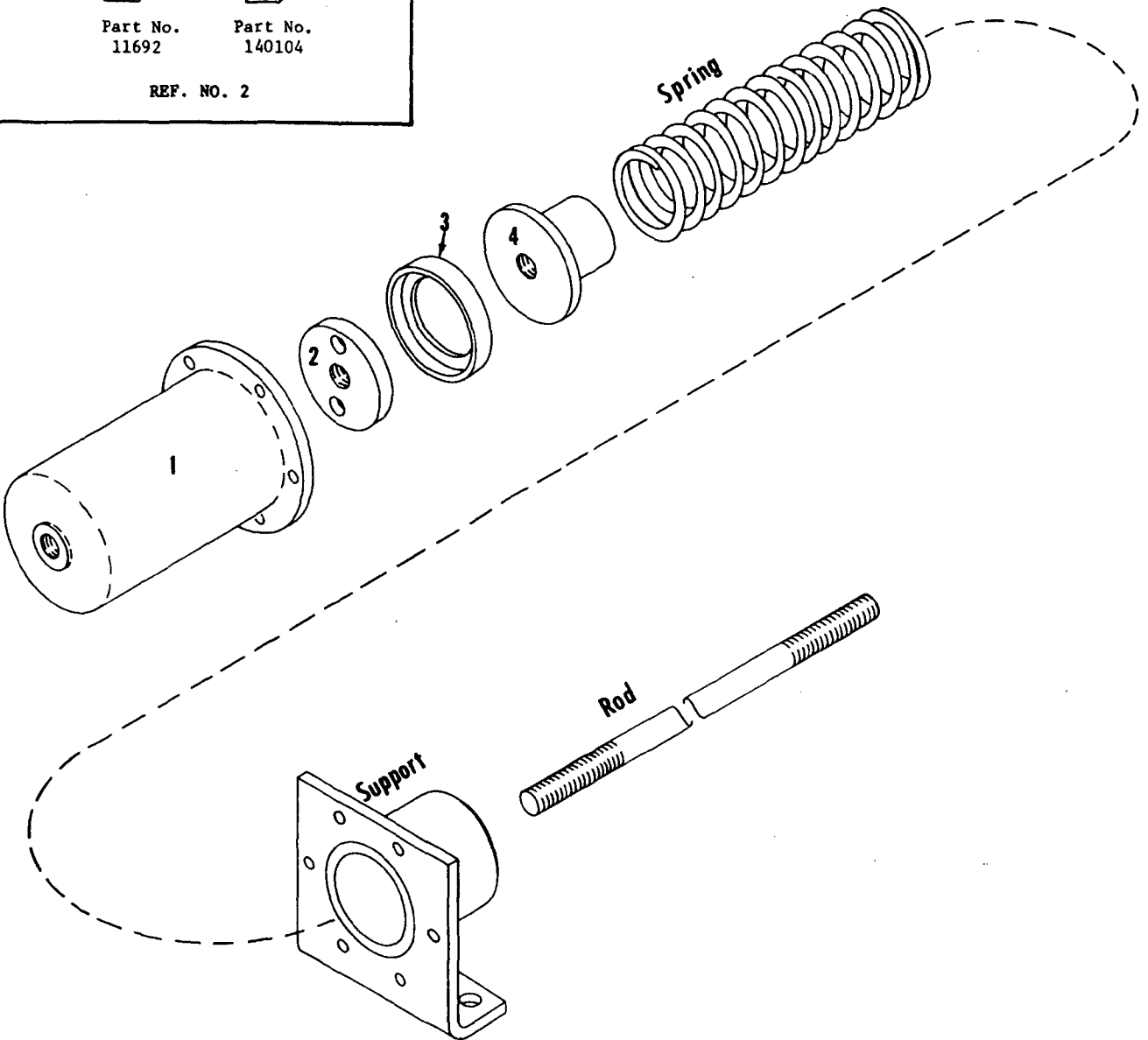


Part No.
11692



Part No.
140104

REF. NO. 2



9356081

MATERIAL LIST ON BACK

AIR CYLINDER

MASTER

PARTS MANUAL ALPHABETICAL INDEX
Group F - Attachments

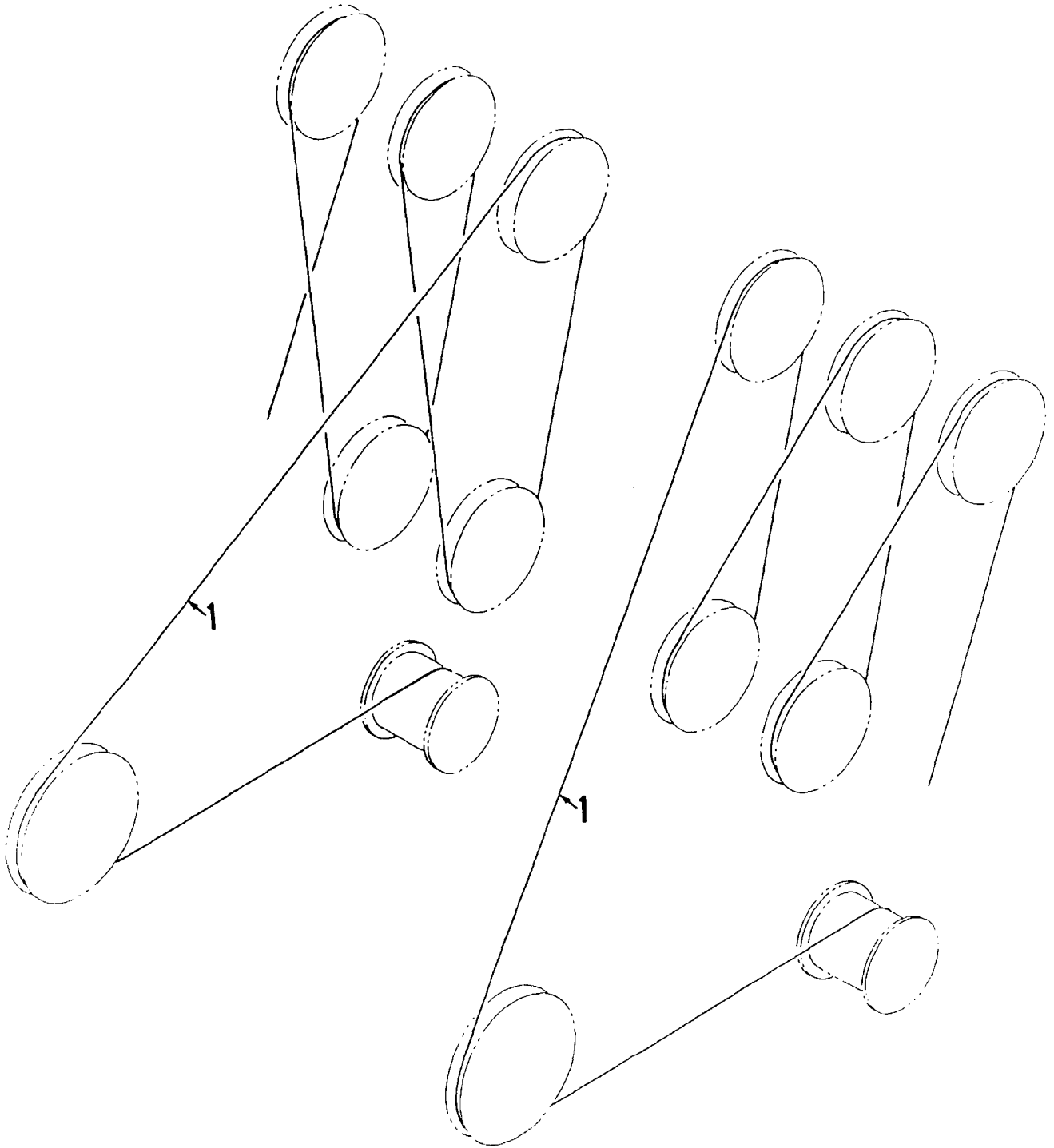
DESCRIPTION	PUBLICATION	REV	START DATE	END DATE	GROUP
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Boom	65550	B2	09/28/76	06/29/82	F0101
Boom	65550	H3	09/28/76	06/29/82	F0101
Boom	65550	C4	09/28/76	06/29/82	F0101
Boom Angle Indicator	22334	B1	01/07/52	09/20/85	F1101
Boom Point	96155	C1	09/18/76	08/28/77	F0401
Boom Point	96574	-	08/25/77	01/09/84	F0401
Boom Suspension	420139	-	03/14/79	09/01/81	F0102
Dragline Fairlead	48974	B1	05/12/70	12/05/84	F1701
Mast & Reeving	43043	K1	01/05/68	03/29/90	F1201
Mast & Reeving	43043	B2	04/18/63	03/29/90	F1201
Mast & Reeving	43043	B3	04/18/63	03/29/90	F1201
Mast Stop	33138	F	09/04/64	12/19/78	F1203
Wire Rope Guard	145964	-	12/20/78	04/29/81	F0802
Wire Rope Guide	96160	A1	10/06/76	12/08/80	F0701
Wire Rope Roller Guide	144099	B1	09/14/76	09/13/79	F0801

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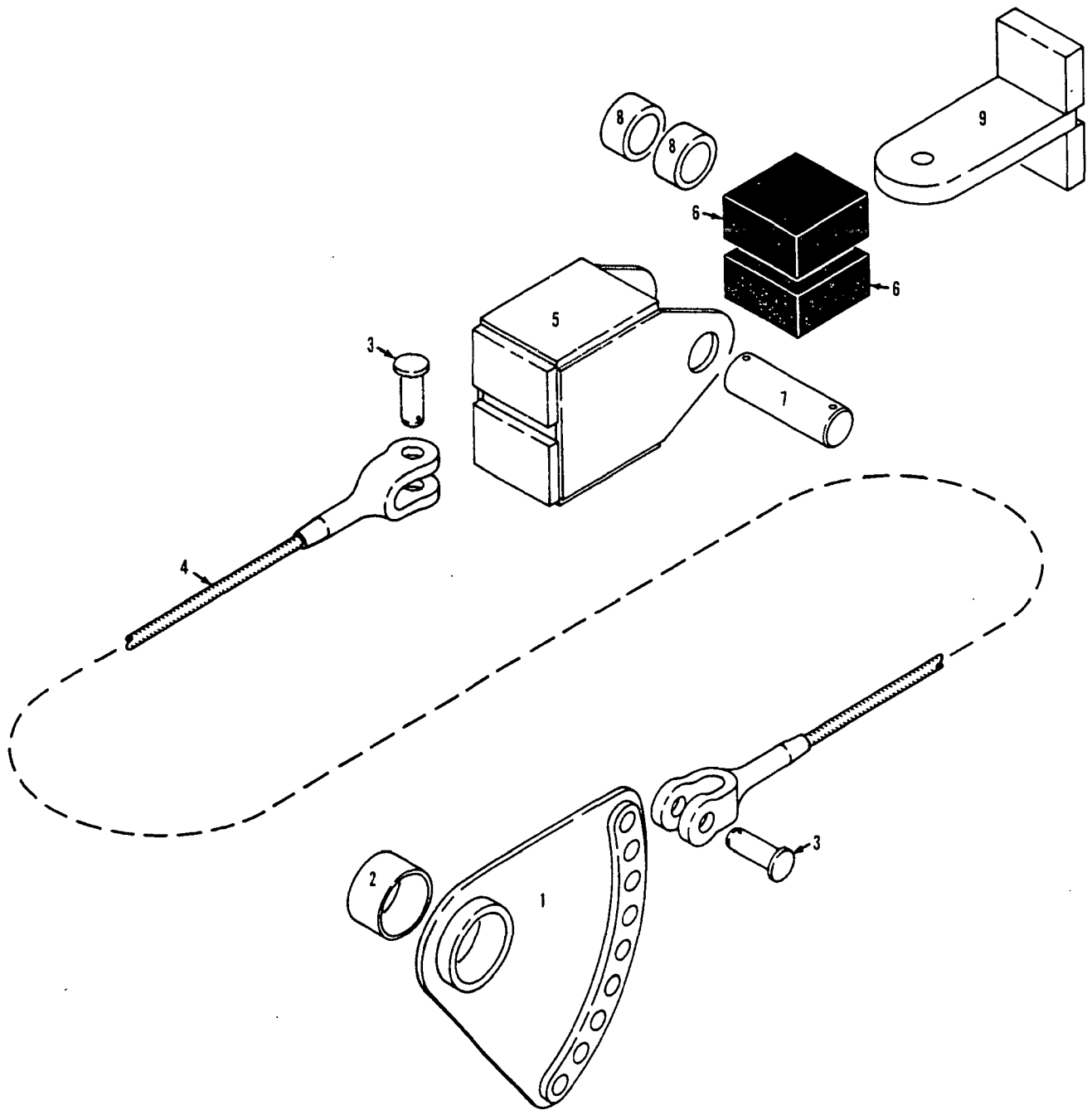


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MATERIAL LIST ON BACK

MAST REEVING

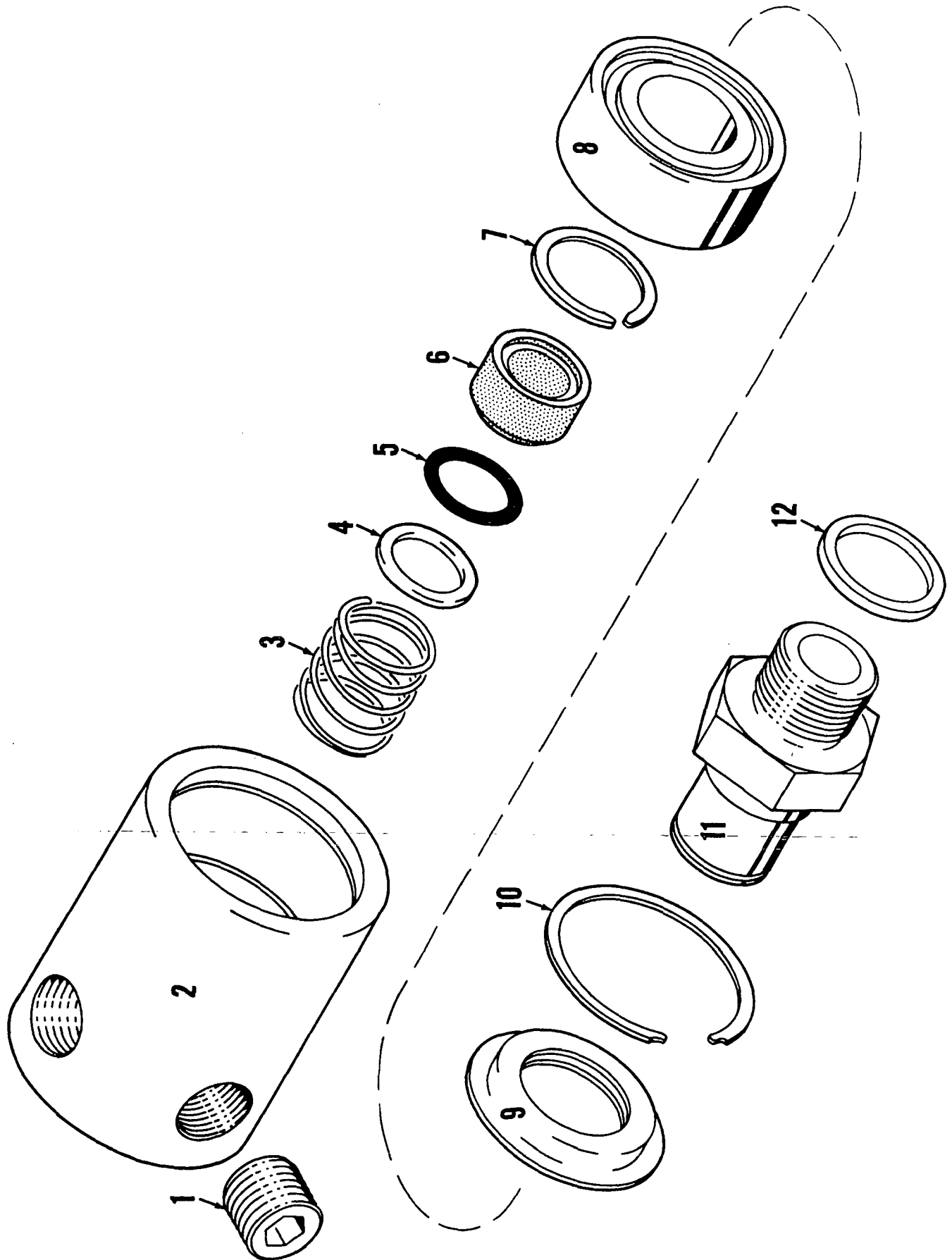
MASTER



MASTER

0-112 A

Q-112A1



MATERIAL LIST ON BACK

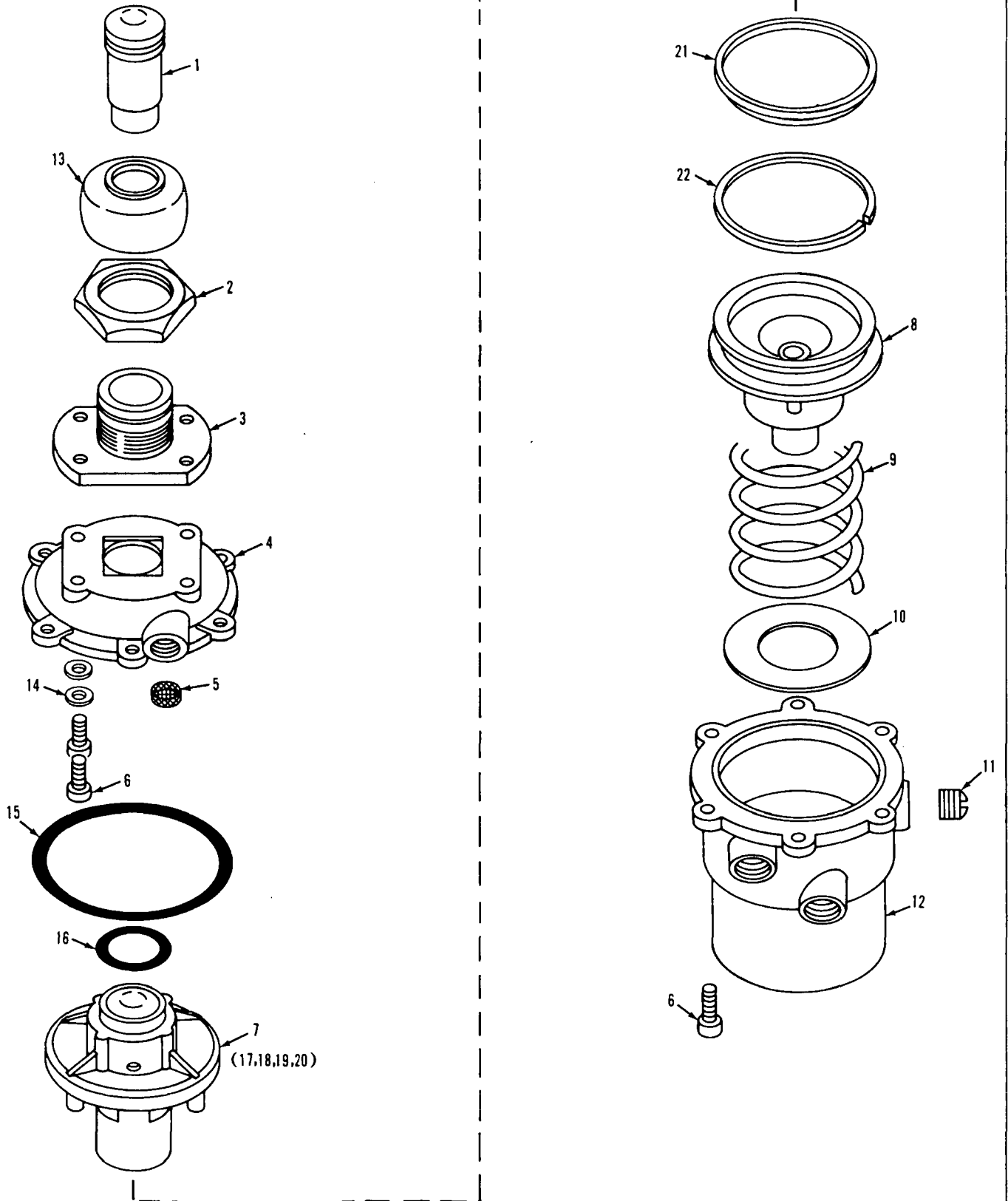
SWIVEL UNION

MANITOWOC ENGINEERING CO.

A Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin

MASTER



0-247-18

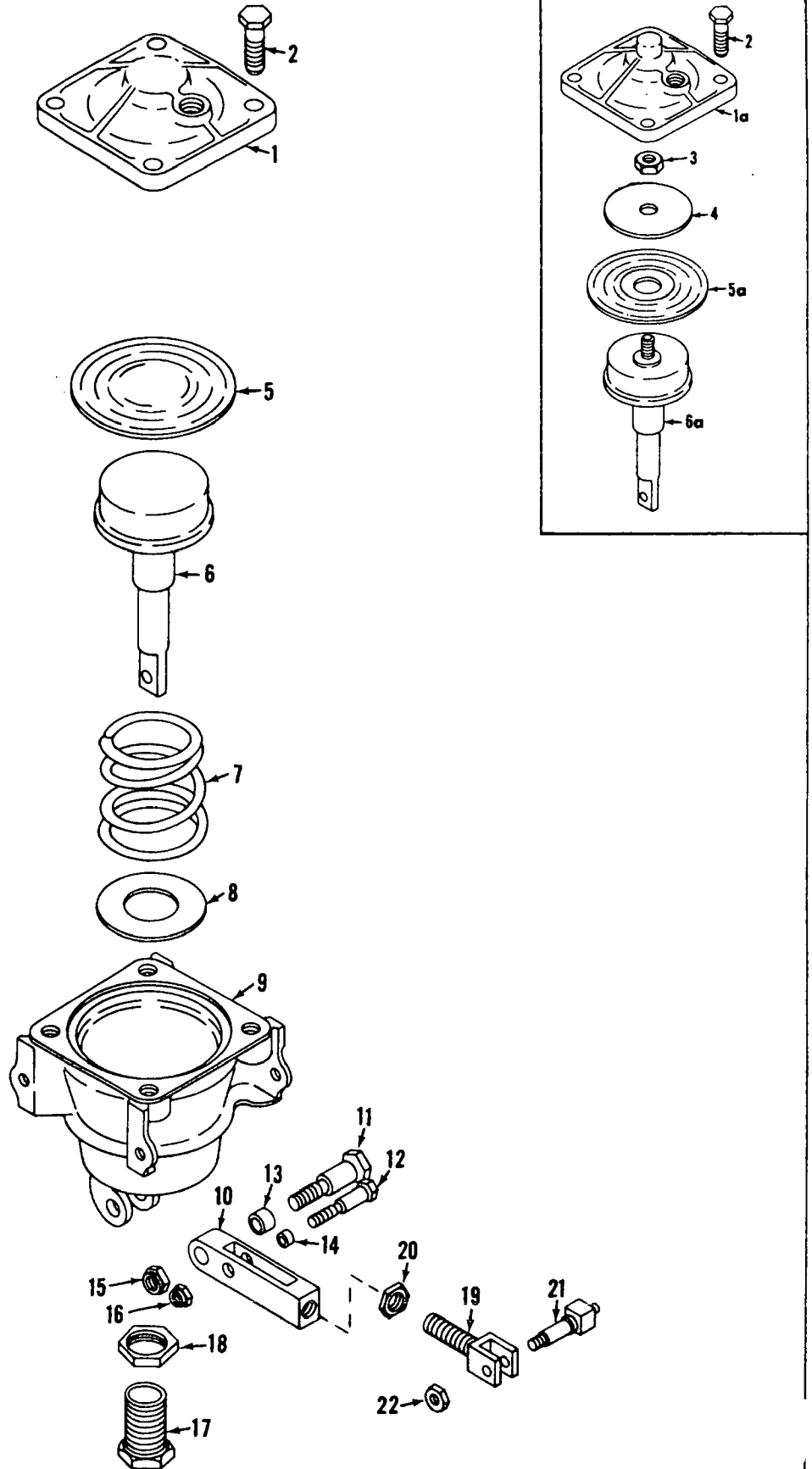
MATERIAL LIST ON BACK

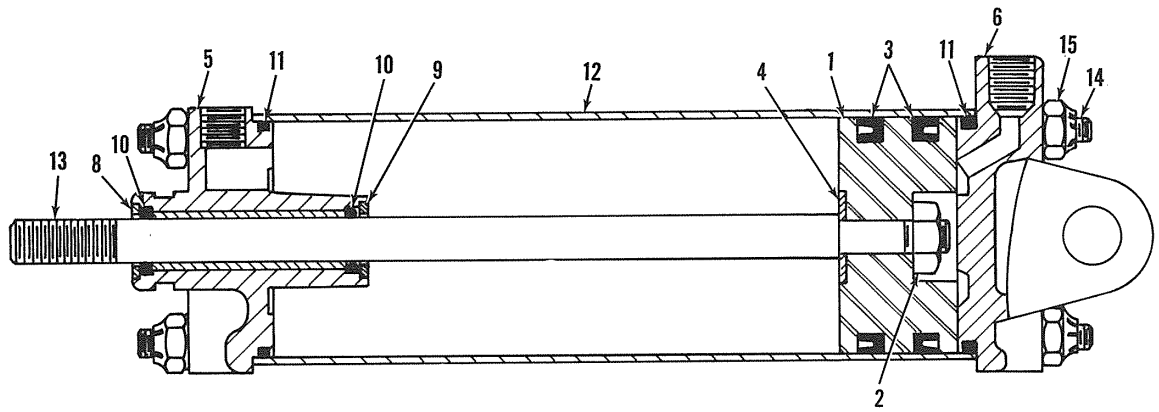
Control Valve

MANITOWOC ENGINEERING CO.

A Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin





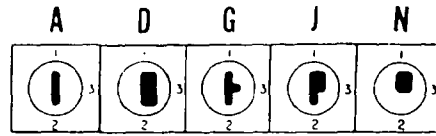
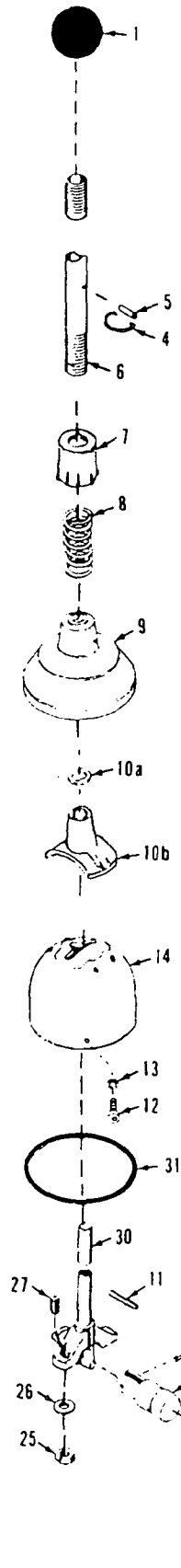
ASSEMBLY	REVISION
O-414	B

AIR CYLINDER

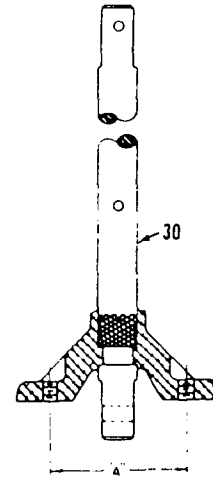
MANITOWOC ENGINEERING CO.

A Division of the Manitowoc Company, Inc.

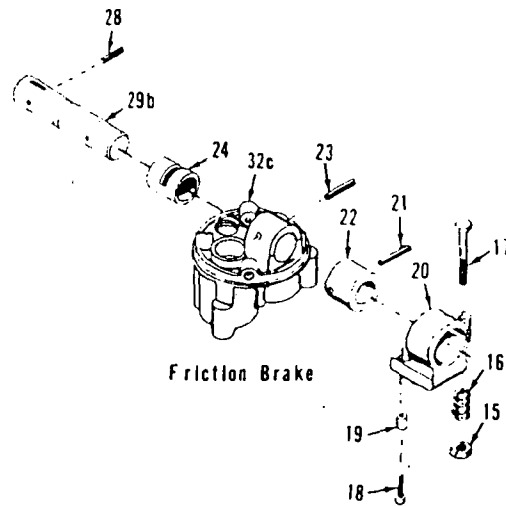
Manitowoc, Wisconsin



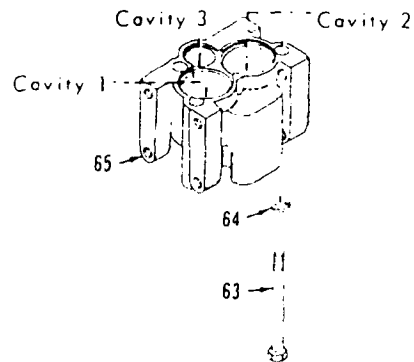
Handle Guide Inserts for Ref. No. 14



Yoke Spacing
Ref. No. 30



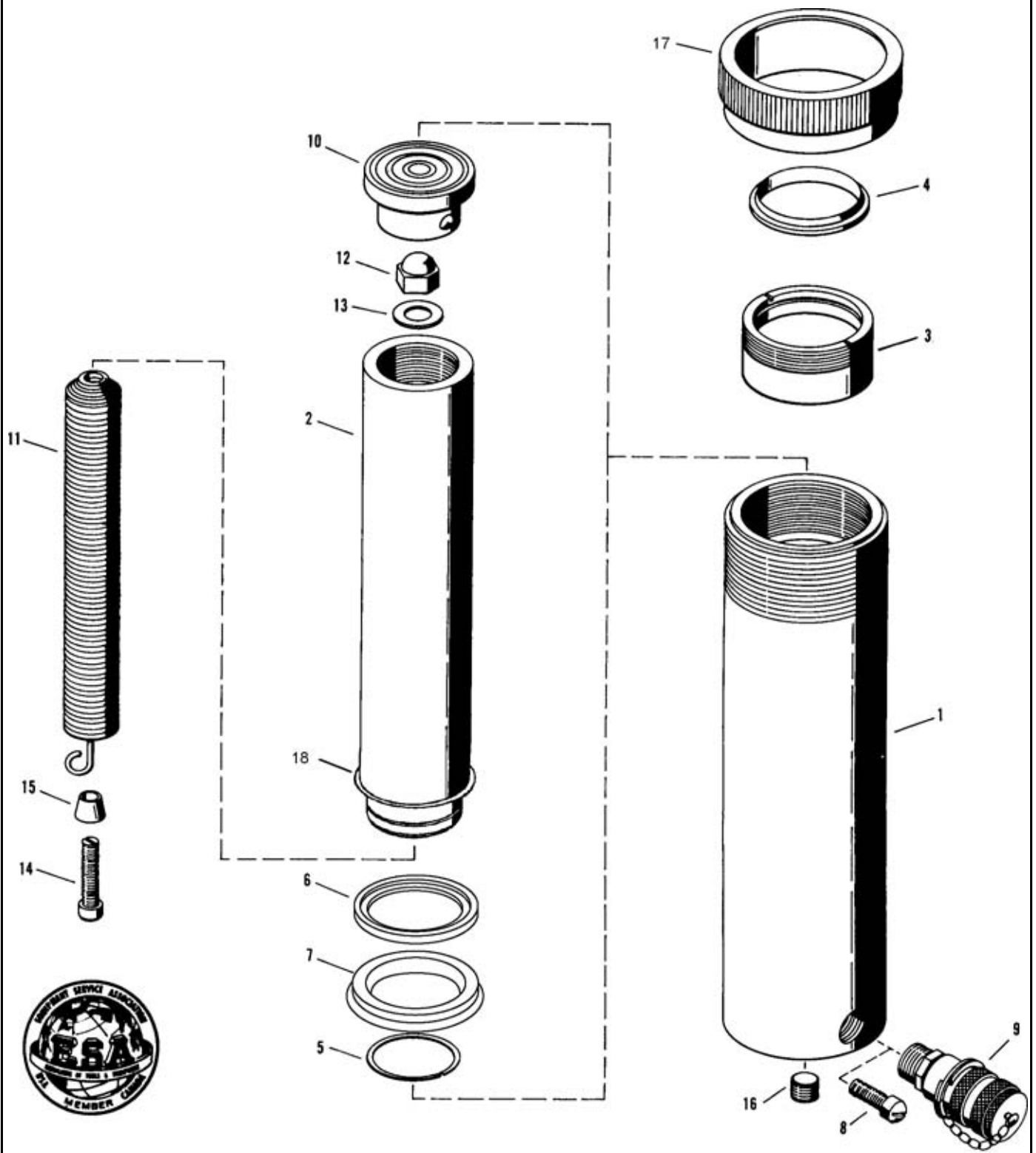
Friction Brake



0-441-2B

MATERIAL LIST ON BACK

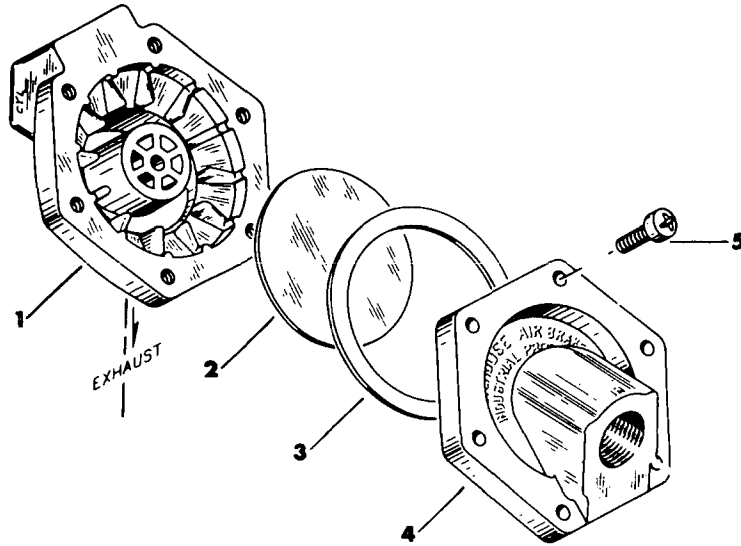
FLEXAIR VALVE OPERATING MECHANISM



385653

ASSEMBLY	REVISION
O-471	E

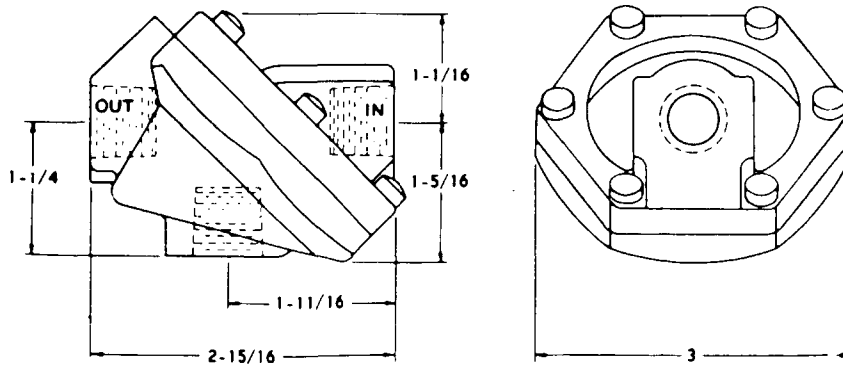
MANITOWOC NO. 714688 - WESTINGHOUSE NO. P52935-3



EXPLODED VIEW

PARTS LIST

Manitowoc Number	Westinghouse Number	Ref. No.	Description
	P52966	1	Body, Valve
714693	P5112	2	Diaphragm
714694	P5111-6	3	Gasket
	P52967	4	Cover, Valve
	P49502	5	Screw, Washer Head



OUTLINE VIEW

Used Approx. 1962 to _____. (See Reverse Side of Sheet)

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