

Manitowoc

TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

4600

Model

46083

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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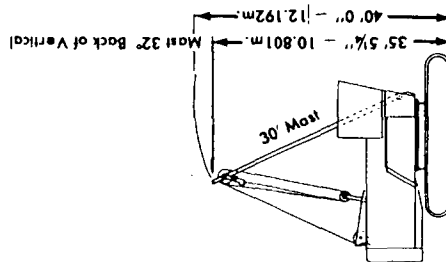
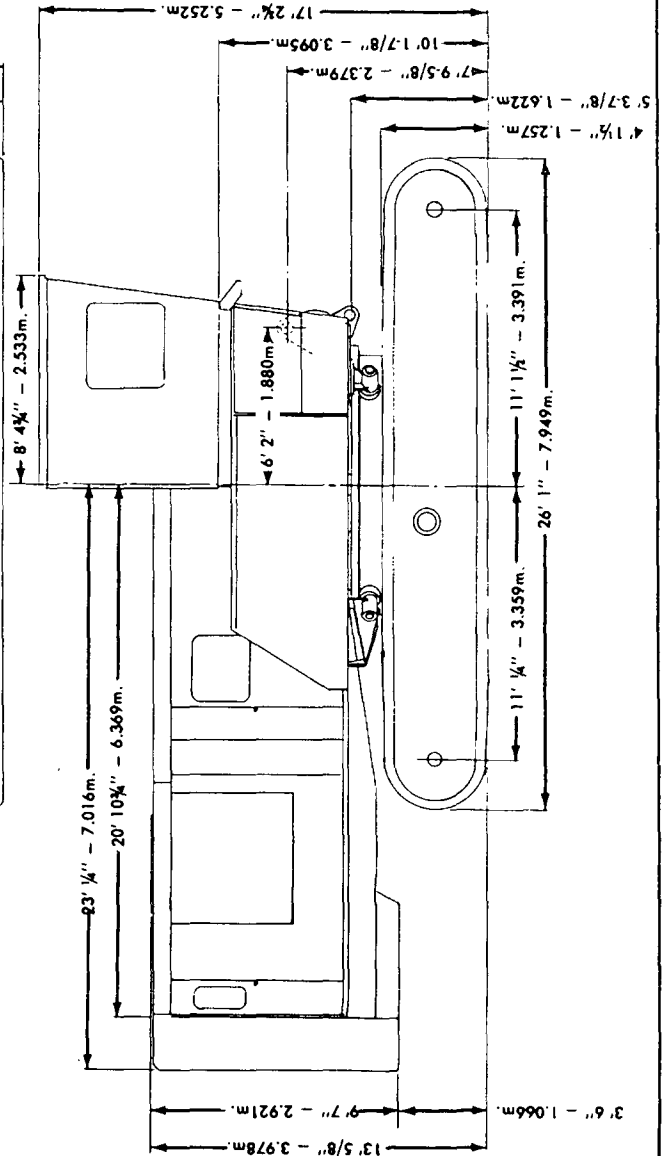
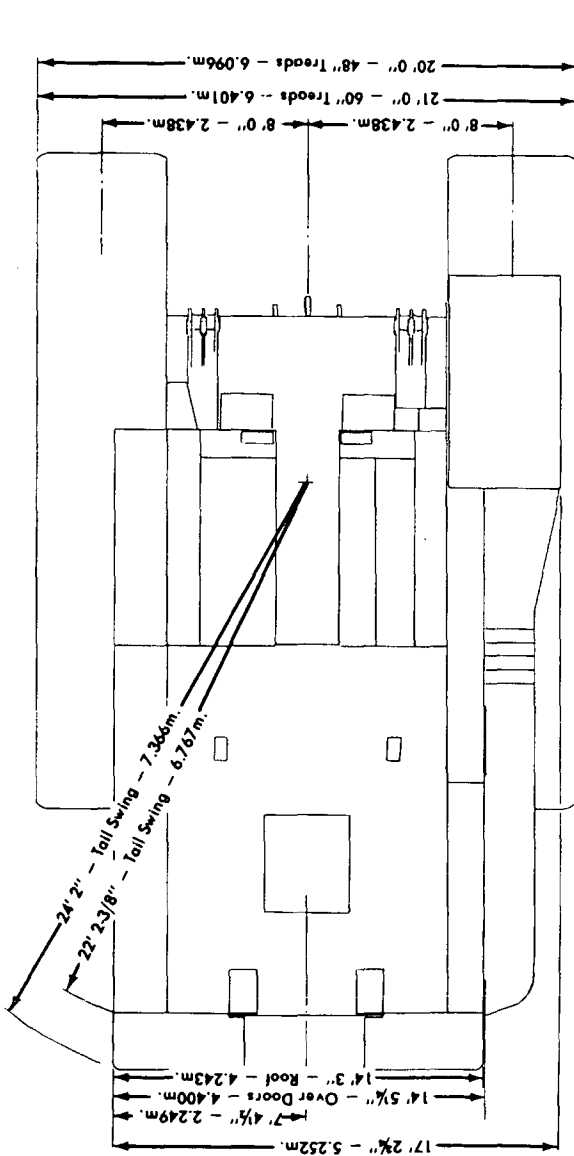
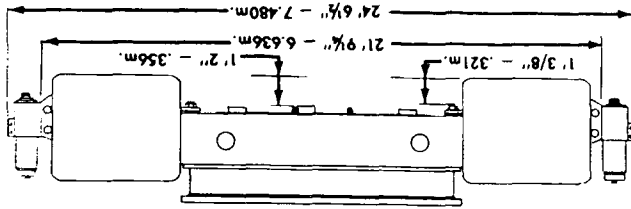
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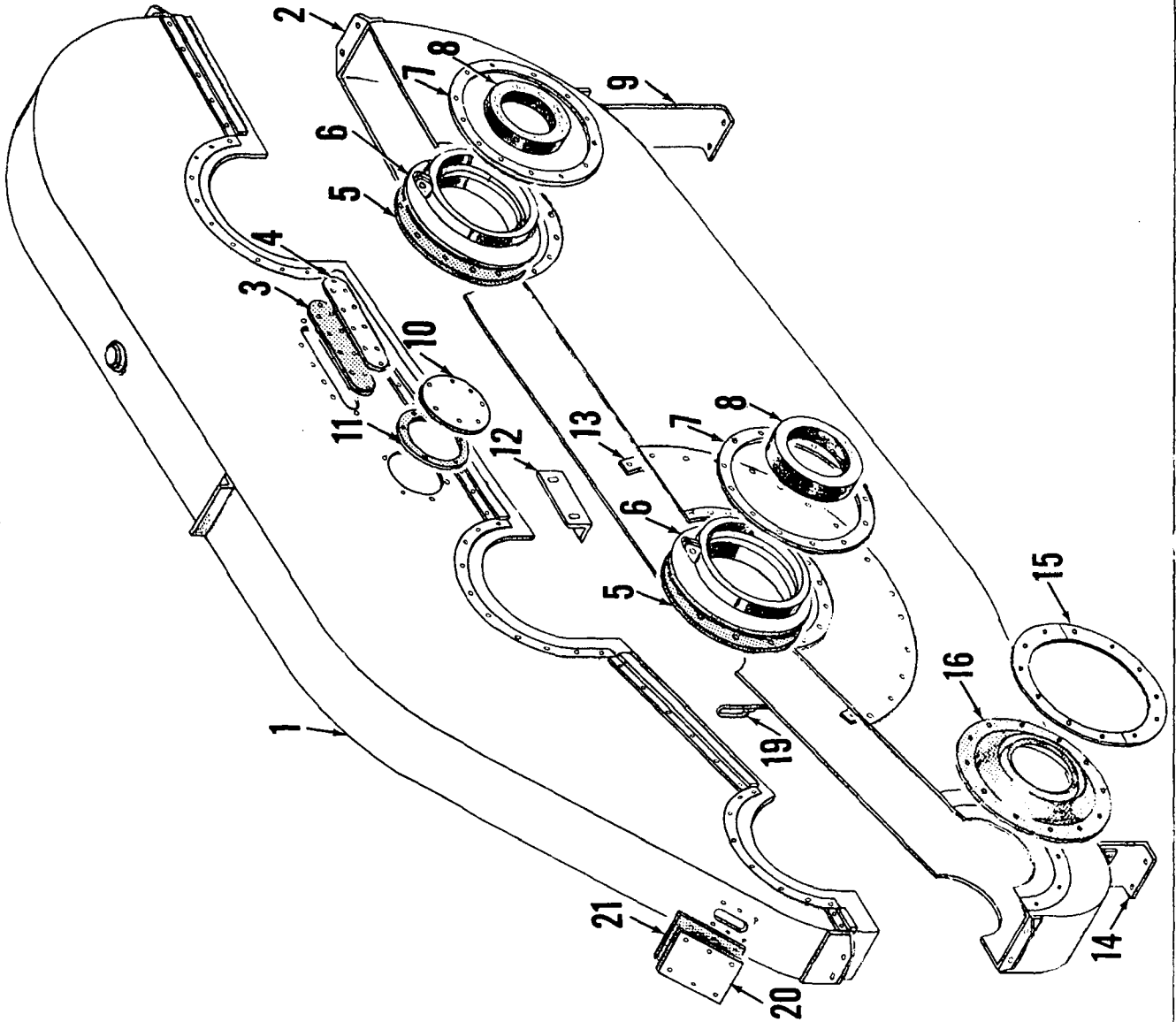
Manitowoc, Wisconsin.



2-18-71
10-14-70
6-30-65
Drwg. Date 3-30-61

M4600

OUTLINE DIMENSIONS



DRUM GEAR CASE ASSEMBLY

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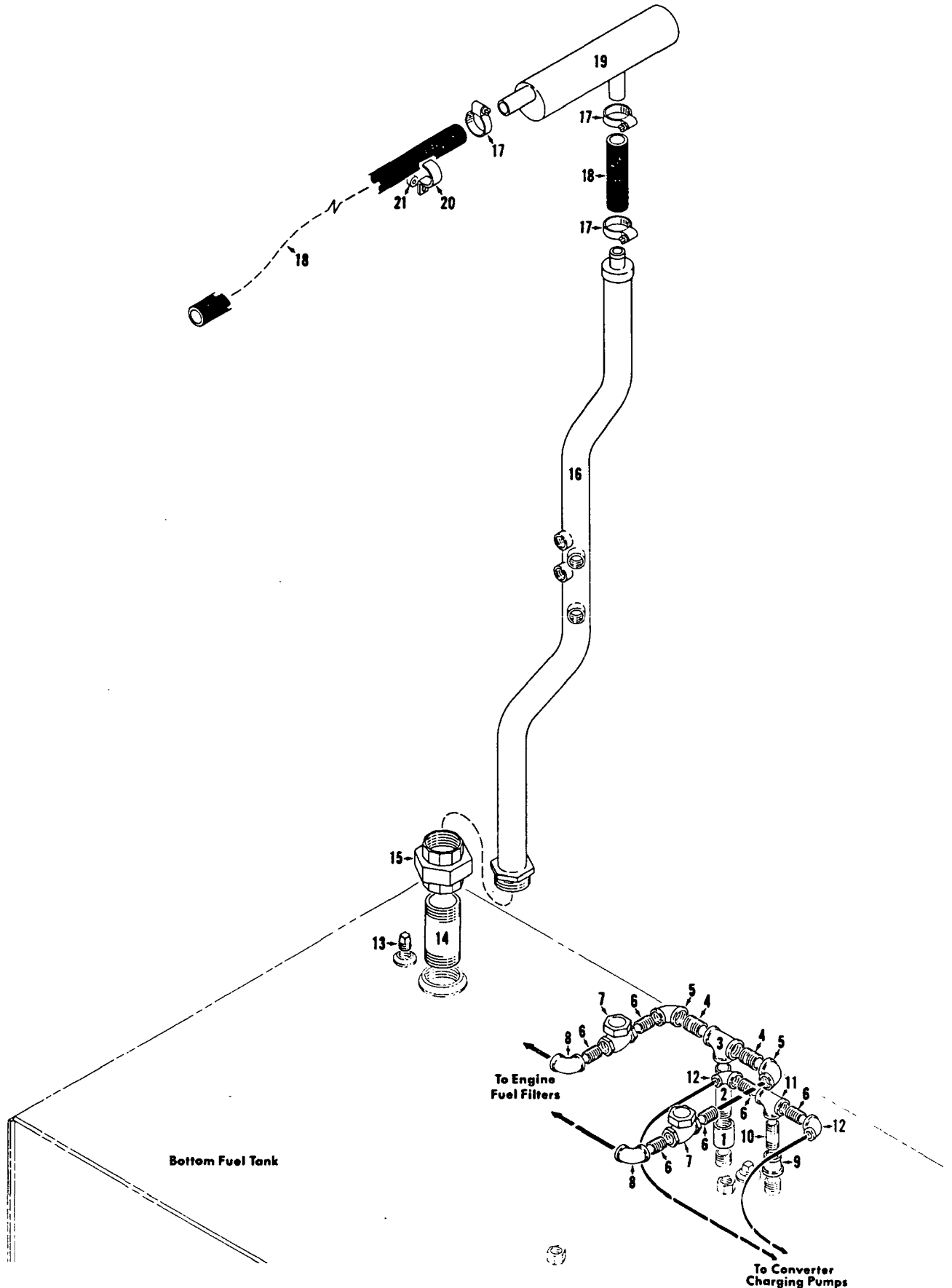
MASTER

31226 B1

31226-B-1

MASTER

32412A1

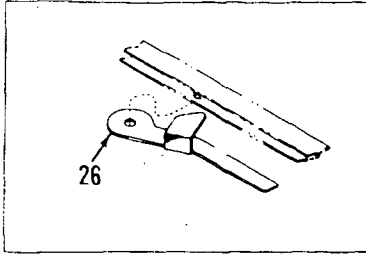


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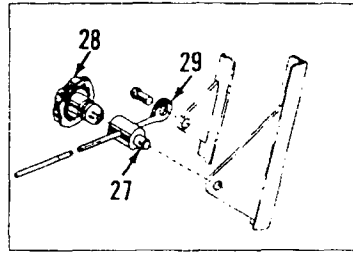
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VENT PIPING

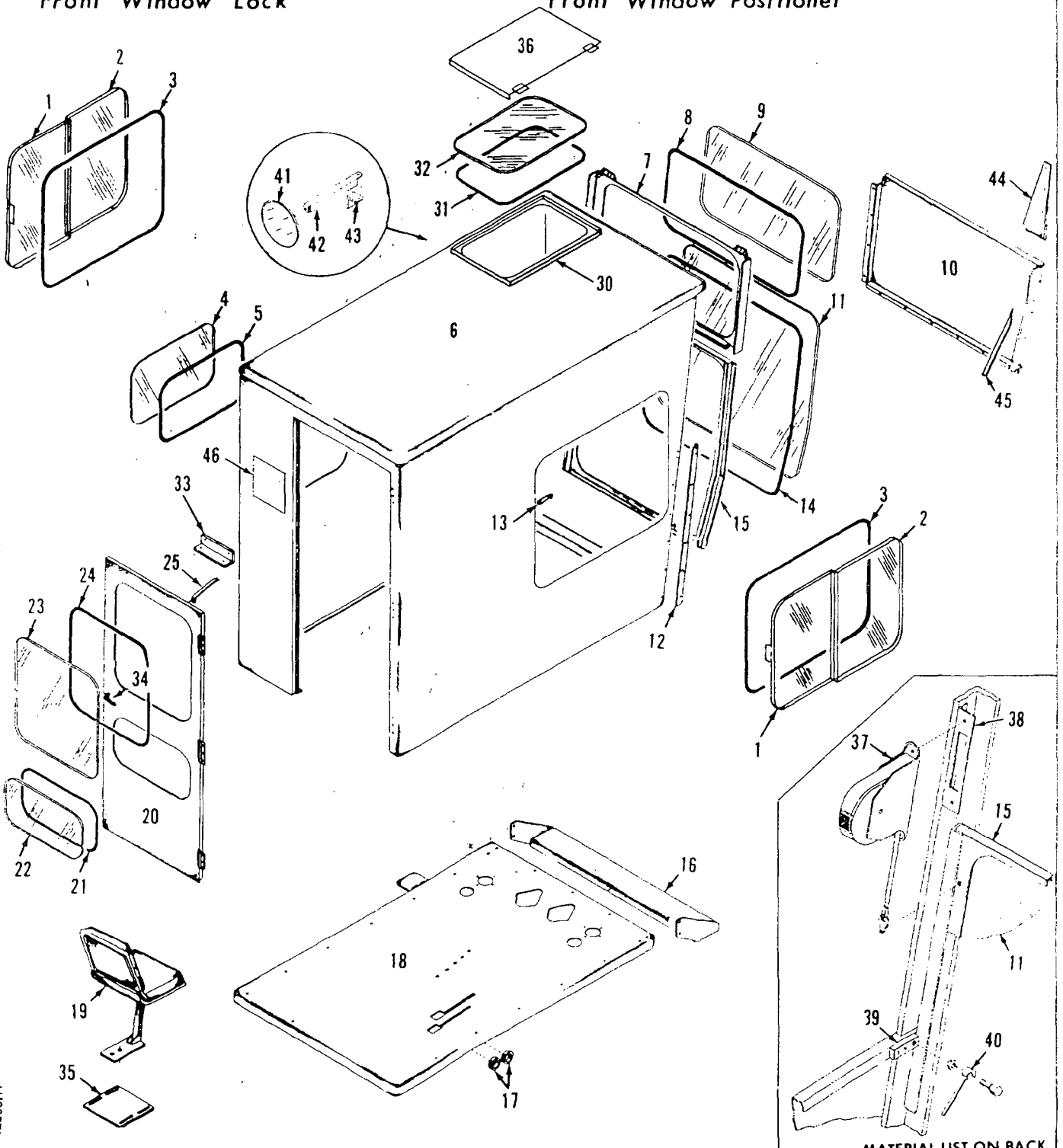
MASTER



Front Window Lock



Front Window Positioner



42206H1

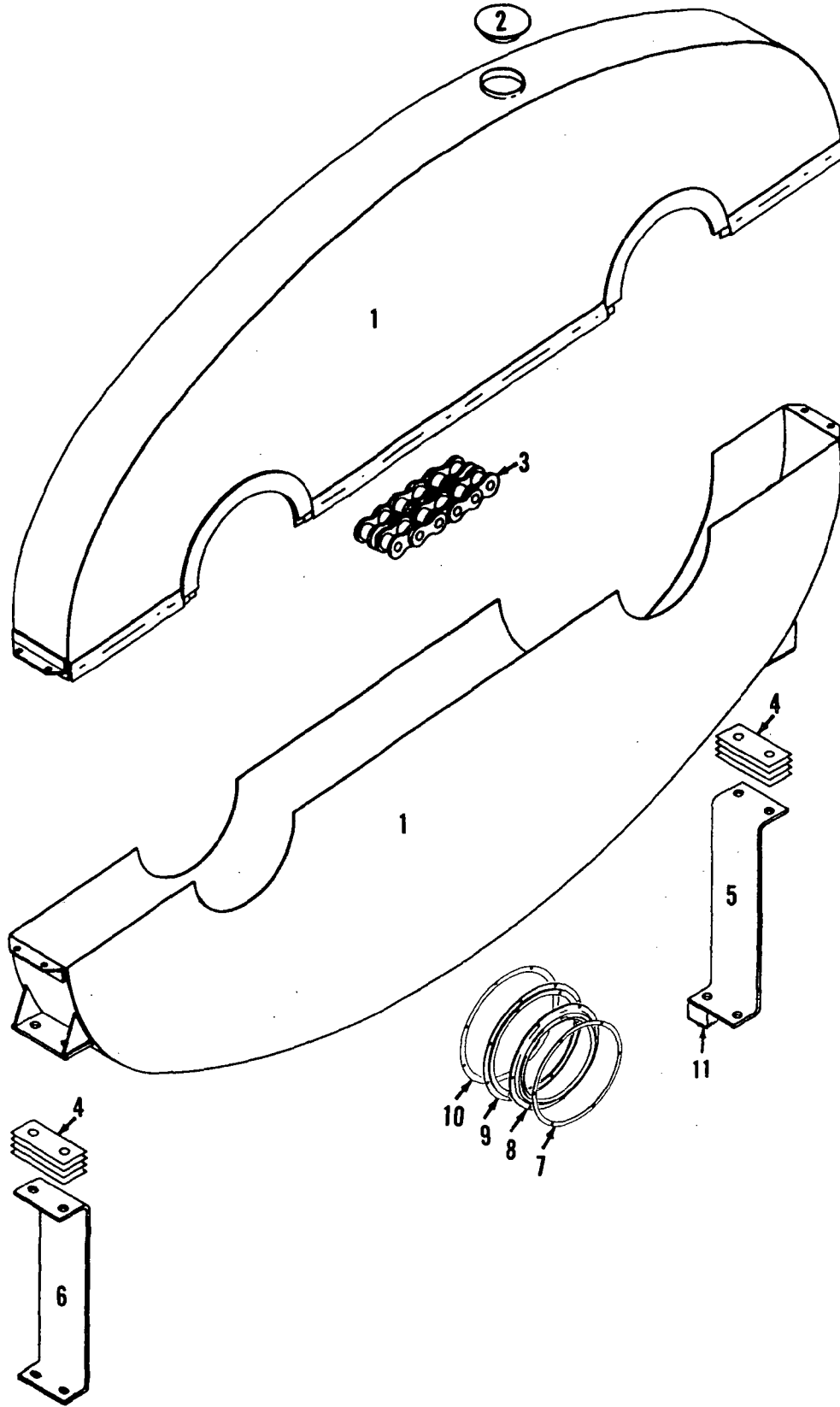
MATERIAL LIST ON BACK

PILOT HOUSE

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MANITOWOC

4725002

MATERIAL LIST ON BACK

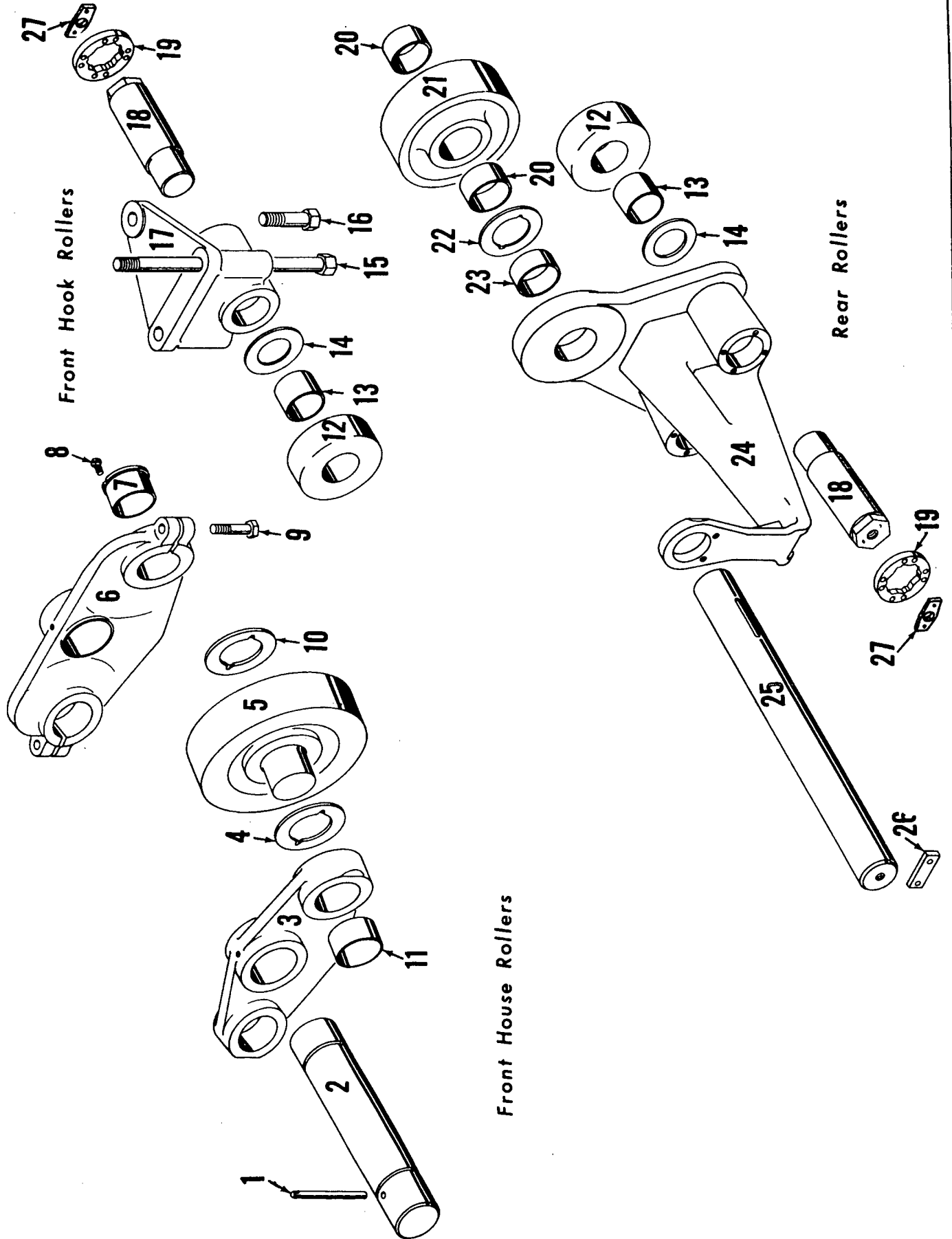
INTERLOCK CHAIN CASE



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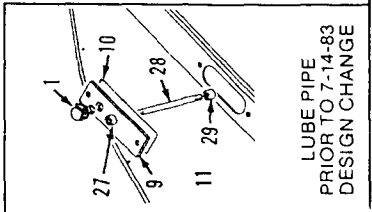
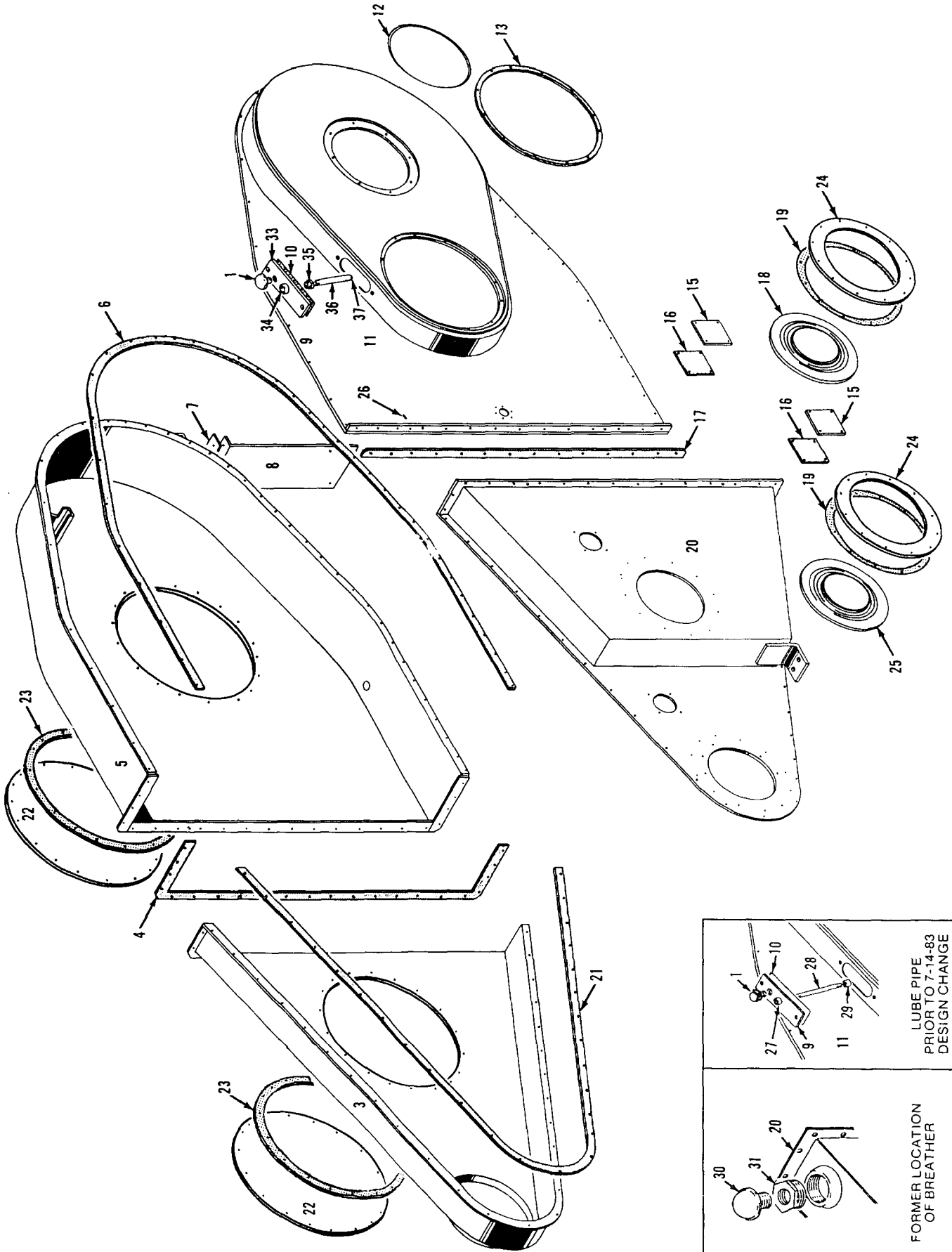


50266B2

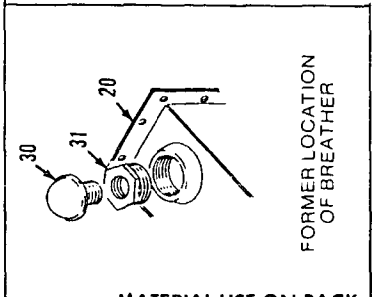
MATERIAL LIST FOR THIS ASSEMBLY WILL BE FOUND ON BACK OF THIS PAGE

ROLLER ASSEMBLY

50287F1



LUBE PIPE
PRIOR TO 7-14-83
DESIGN CHANGE



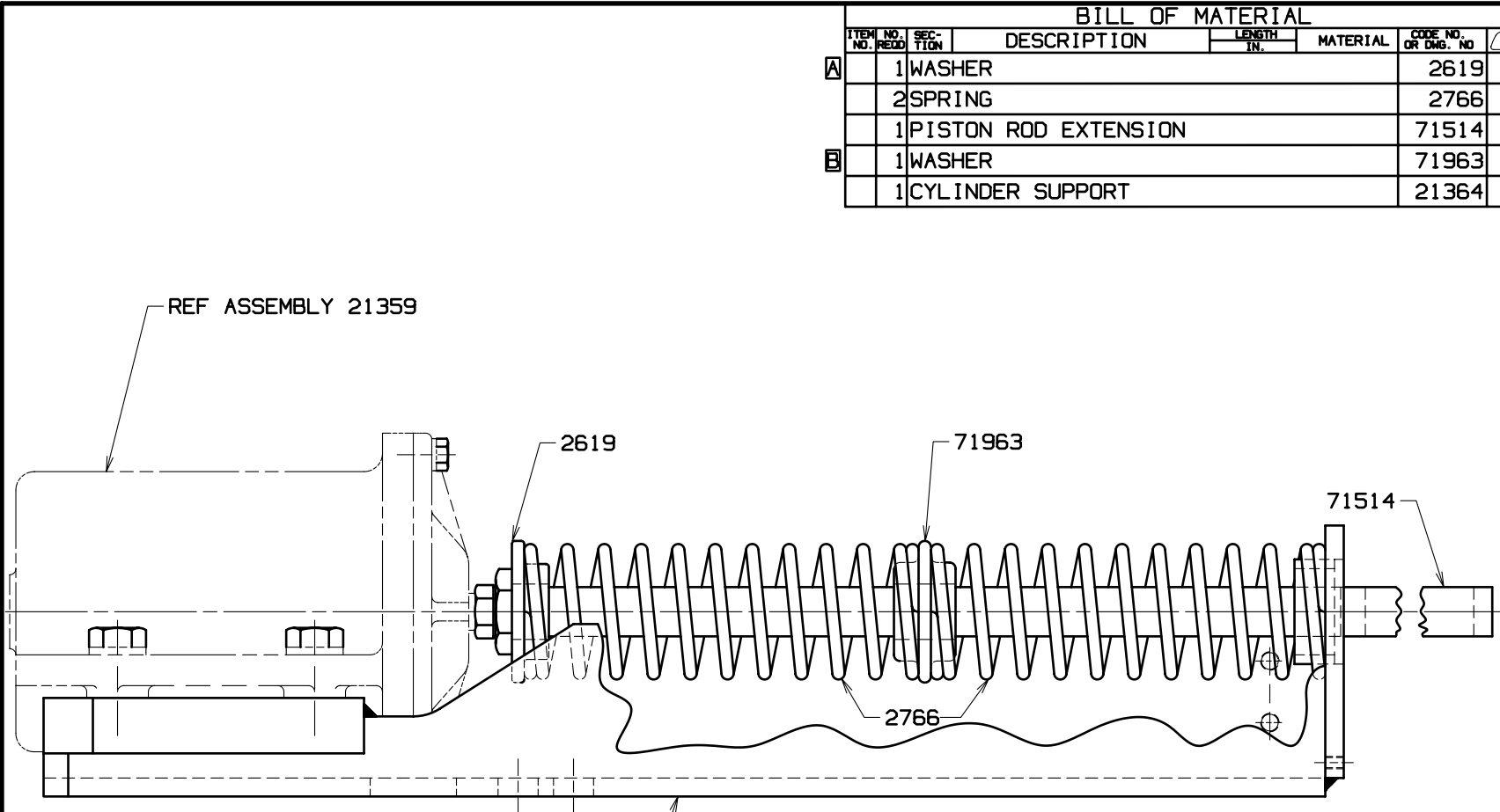
FORMER LOCATION
OF BREATHER

MATERIAL LIST ON BACK

CHAIN CASE

C

C



BILL OF MATERIAL						
ITEM NO.	NO. REQ'D	SECTION	DESCRIPTION	LENGTH IN.	MATERIAL	CODE NO. OR DWG. NO.
A	1		WASHER			2619
	2		SPRING			2766
	1		PISTON ROD EXTENSION			71514
B	1		WASHER			71963
	1		CYLINDER SUPPORT			21364

ASSEMBLIES USED ON
41802
41803
41861
49308
49661
49784

REVISIONS

7-21-60 PD
 A WAS 3 REQ'D
 B ADDED
 12-16-82 WNM
 REDRAW CADAM
 CK FJZ
 APP RJS

DATE	9-15-59
PATTERN NO.	
DWG. NO.	23984

SCALE	1/2" = 1'-0"
DR.	MFB
CK.	DCM
APP.	
DWG. NO.	23984

Manitowoc Cranes, Inc.
 Manitowoc, Wisconsin
 MODEL 4500, 4600

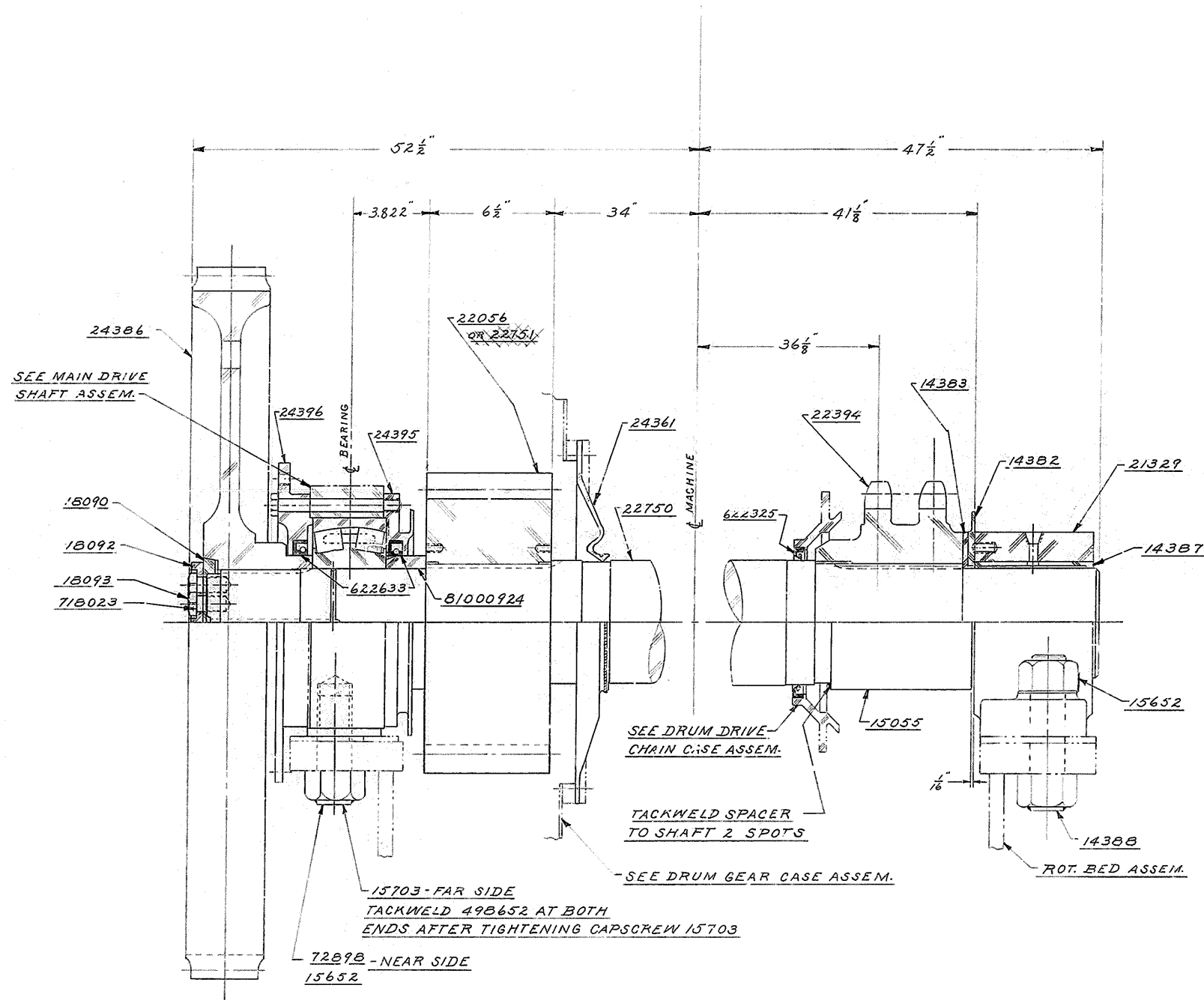
AIR CYLINDER
 SUPPORT ASSEMBLY

DO NOT SCALE THIS DRAWING

C

C

32426



REQ'D FOR ALL CRANES

- | REQ'D FOR ALL CRANES | | ASSEMBLIES USED ON |
|----------------------|---|--------------------|
| 1 | 14387 BUSHING | |
| 2 | 14388 COUPLING BOLT | |
| 3 | 15652 NUT LOCK | |
| 1 | 15703 CAPSCREW | |
| 1 | 18090 LOCKING RING | |
| 1 | 18092 LOCKING PLATE | |
| 6 | 18093 CAPSCREW | |
| 1 | 18565 BEARING SPACER | |
| 1 | 72898 COUPLING BOLT | |
| 1 | 21329 BEARING - R. SIDE | |
| 1 | 22056 DRUM DRIVE PINION - STEEL | |
| 1 | 22750 COUNTERSHAFT | |
| 1 | 22751 DRUM DRIVE PINION - DUCT. IRON | |
| 1 | 24361 MOLDED RUBBER SEAL | |
| 1 | 24386 GEAR | |
| 1 | 24395 INNER BEARING COVER | |
| 1 | 24396 OUTER BEARING COVER | |
| 1 | 73496 SPACER - SEE NOTE 2 | |
| 1 | 225844 ROLLER BEARING | |
| 1 | 498652 BOLT LOCK | |
| 2 | 622633 OIL SEAL | |
| 1 | 718023 12 GA. IRON WIRE | |
| 1 | 81000924 BEARING PILLOW BLOCK ASSEMBLY | |

REQ'D FOR CLAMSHELL & SHOVEL ONLY

- | | |
|---|---------------------------|
| 1 | 14382 BAFFLE PLATE |
| 1 | 14383 THRUST WASHER |
| 1 | 22394 DRUM DRIVE SPROCKET |
| 1 | 622325 OIL SEAL |

REQ'D FOR DRAGLINE ONLY

- | | |
|---|--------------|
| 1 | 15055 SPACER |
|---|--------------|

NOTE 1
 USE WITH MAIN DRIVE SHAFT ASSEMBLIES 50276 & 50282

NOTE 2
 FOR FIELD CONVERSION RETAIN 22647 ON ASSEMBLY 31443 AND ADD 73496 IN PLACE OF 24395.

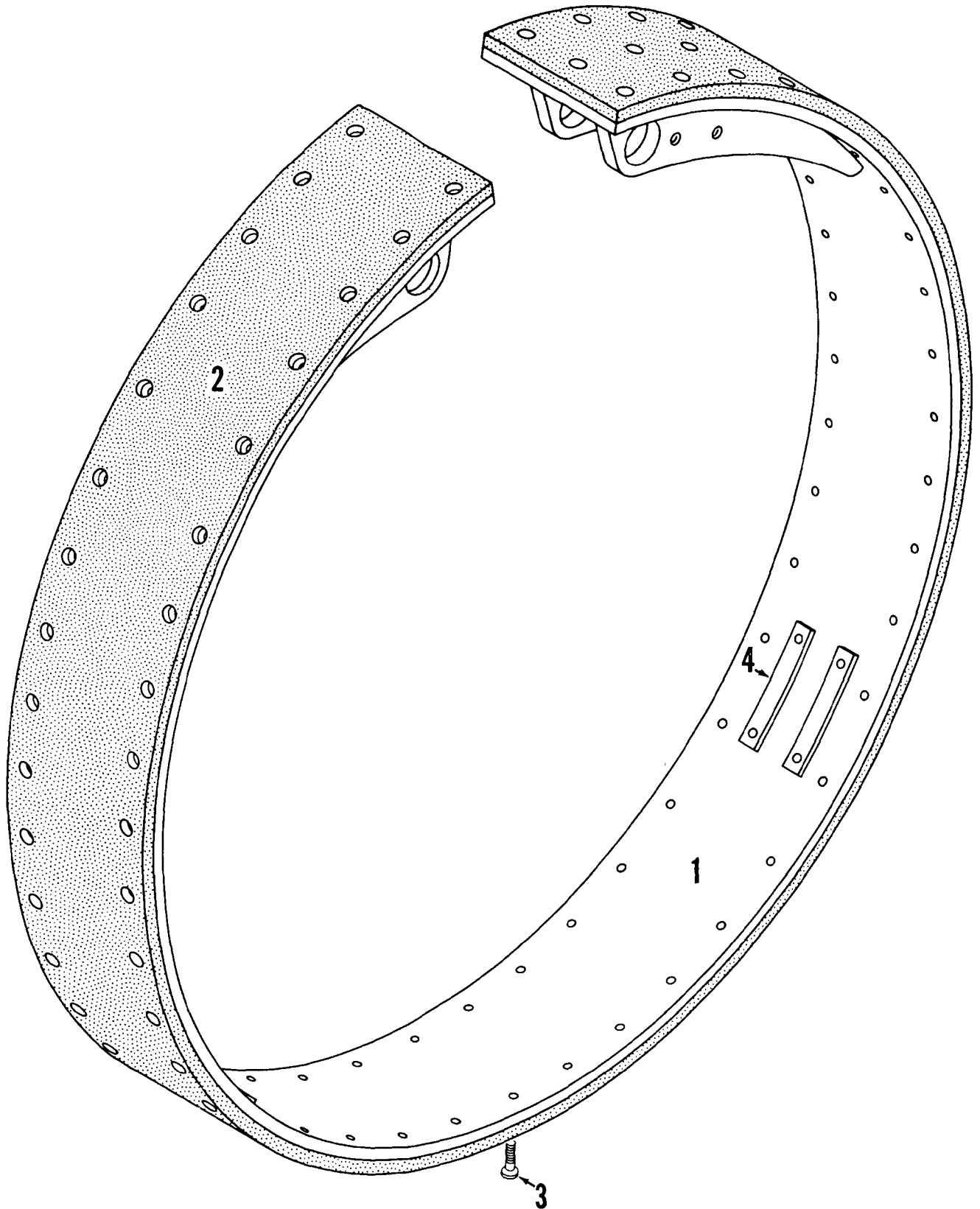
REDESIGNED AS 33892 (5-5-67)

MANITOWOC ENGINEERING CORP. MANITOWOC, WISCONSIN		
REVISED DATE 12-29-61 R.H.S.	SPEEDCRANE—MODEL 4500-4600	
DELETED		
6-14-62 73496 ADDED NOTE 2 ADDED	COUNTERSHAFT ASSEMBLY	
02-01-68 TMO	SEE NOTE 1	
DELETED		
ADDED		
DATE 8-23-61	SCALE 3'-1'-0"	PATTERN NO.
DR. <i>mm</i> CK. <i>E.H.</i>	MATERIAL	CODE NO.
		DW. NO. 32426

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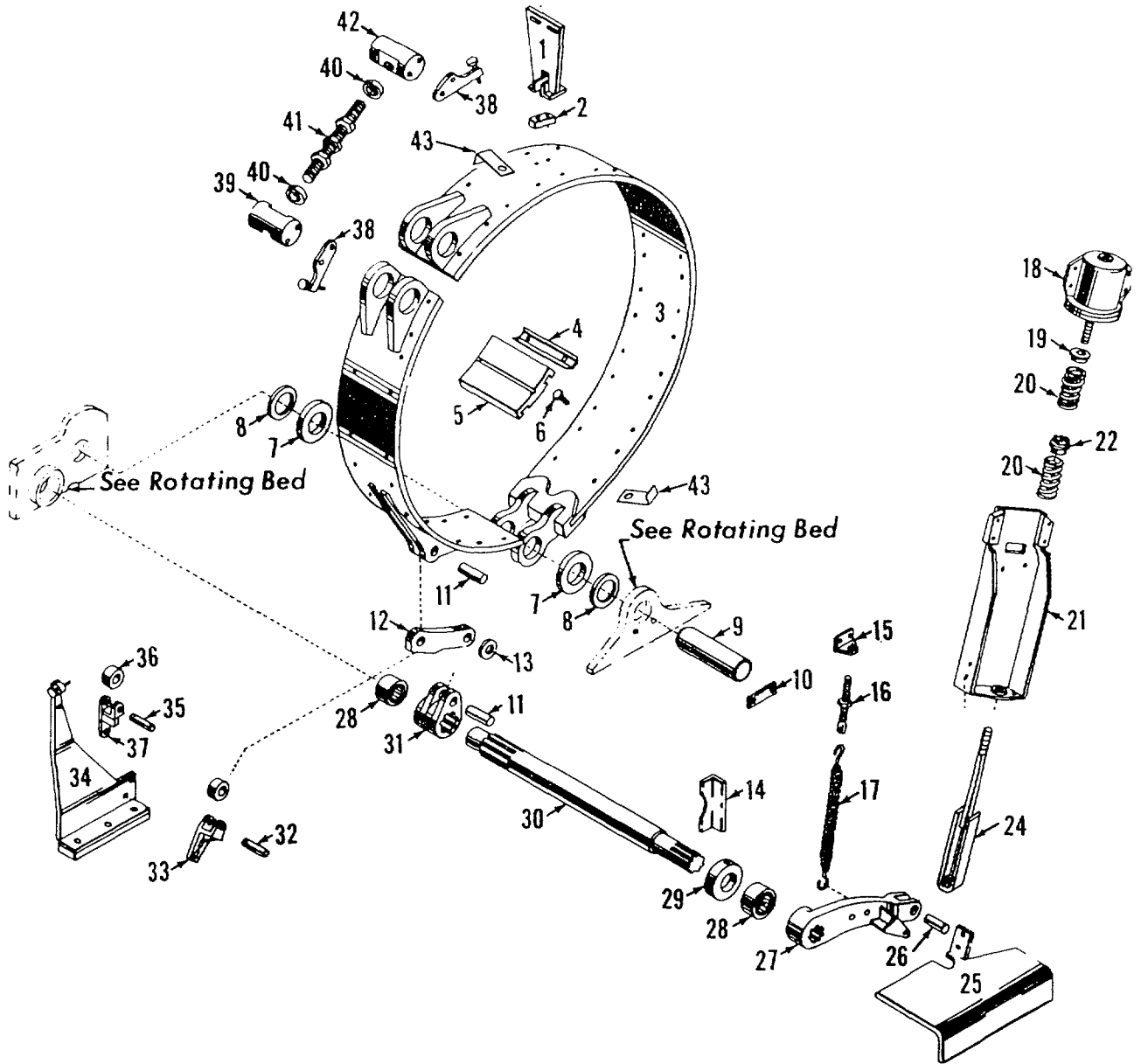
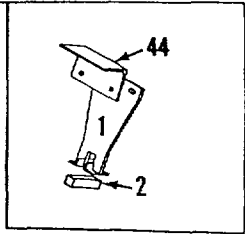


33157-A-1

MATERIAL LIST ON BACK

CLUTCH BAND

MASTER MASTER



REAR DRUM BRAKE

MATERIAL LIST ON BACK

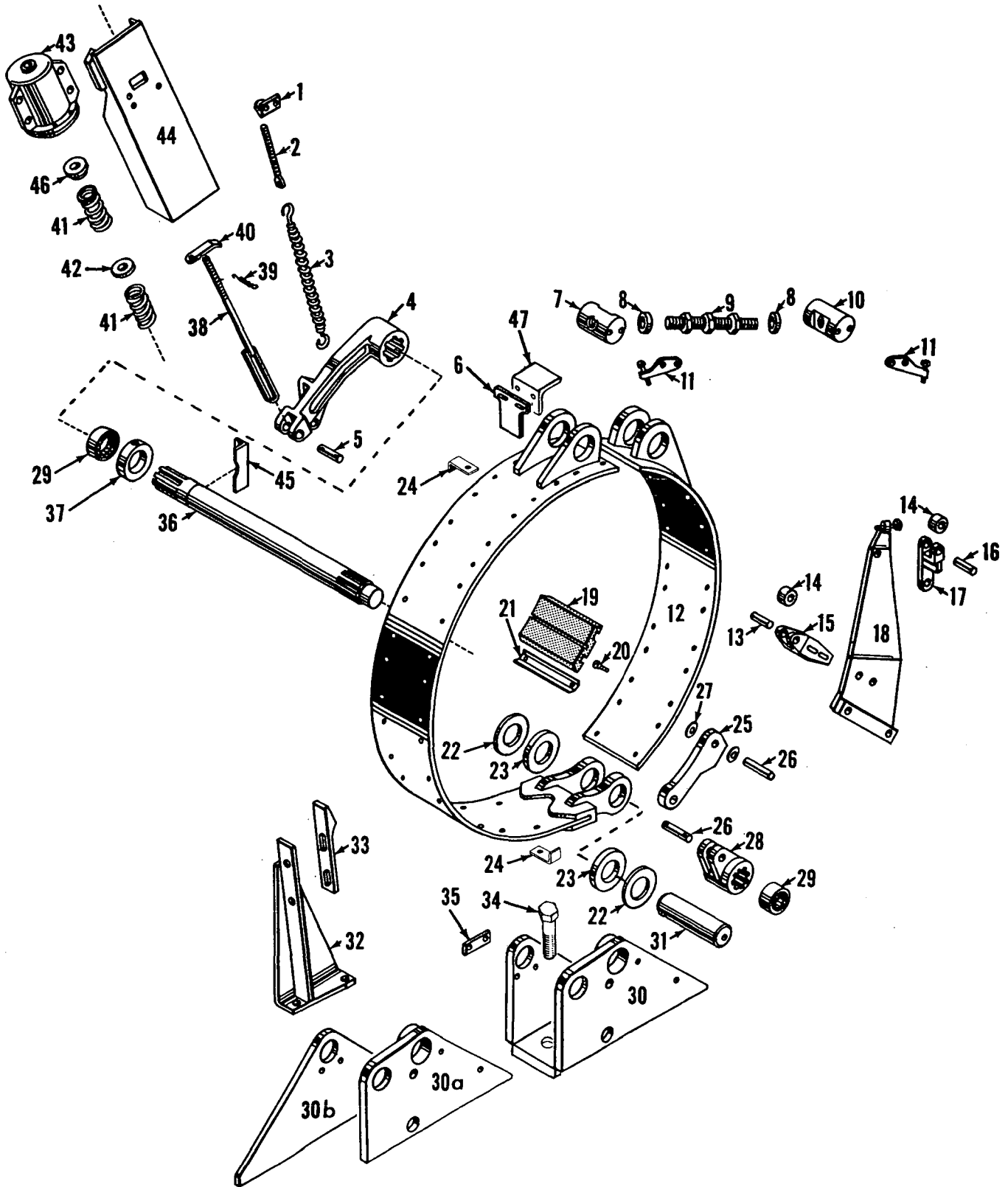
41803

41803E1

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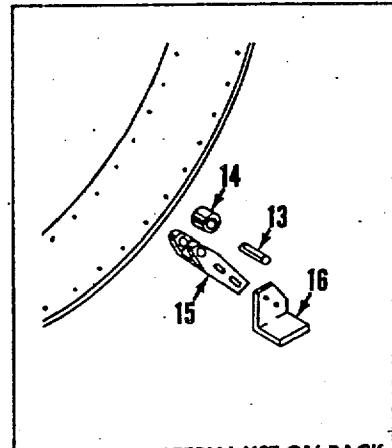
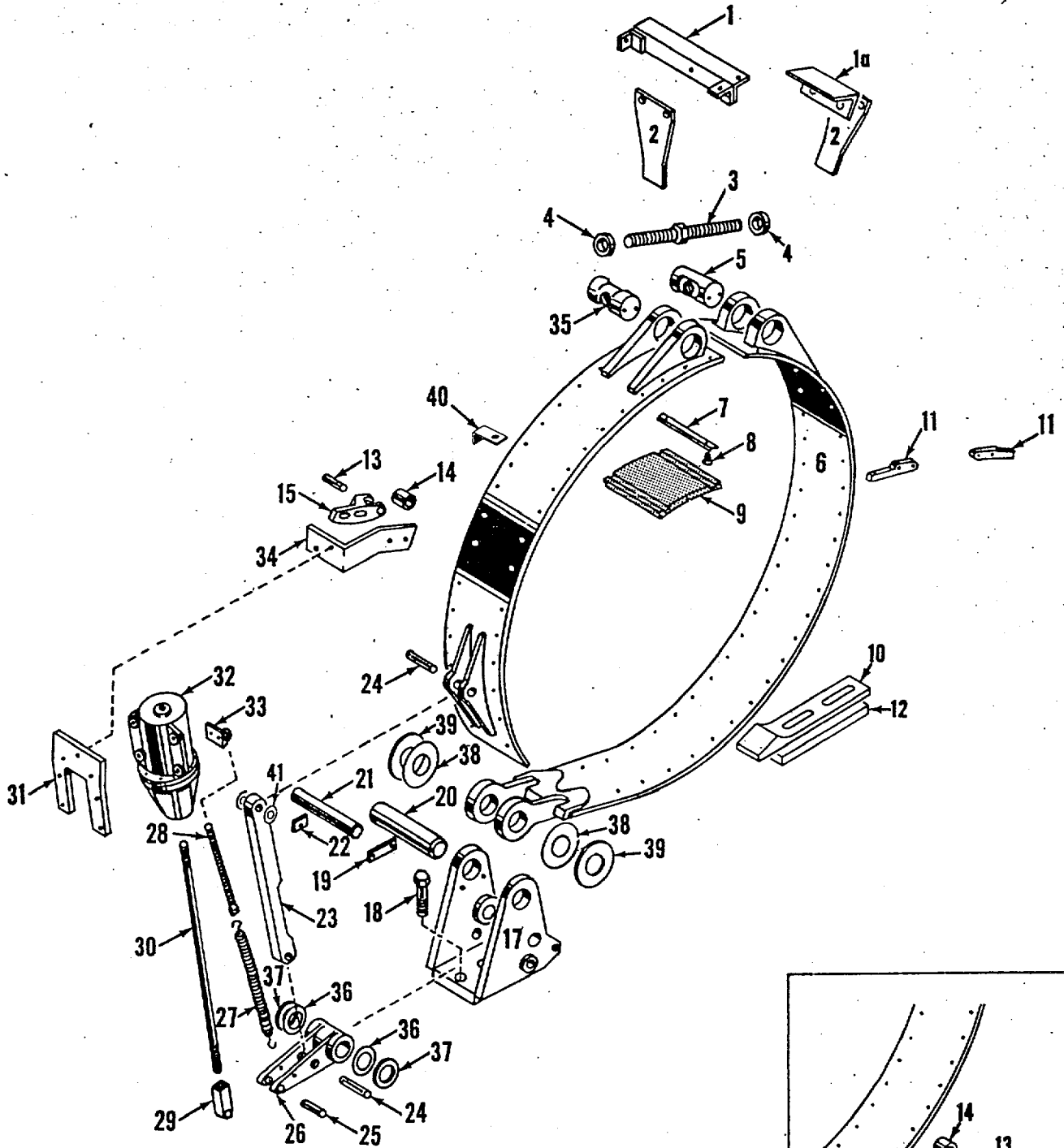


MASTER

FRONT DRUM BRAKE ASSEMBLY

MATERIAL LIST ON BACK

41861H1



MATERIAL LIST ON BACK

LEFT REAR DRUM BRAKE

MAER

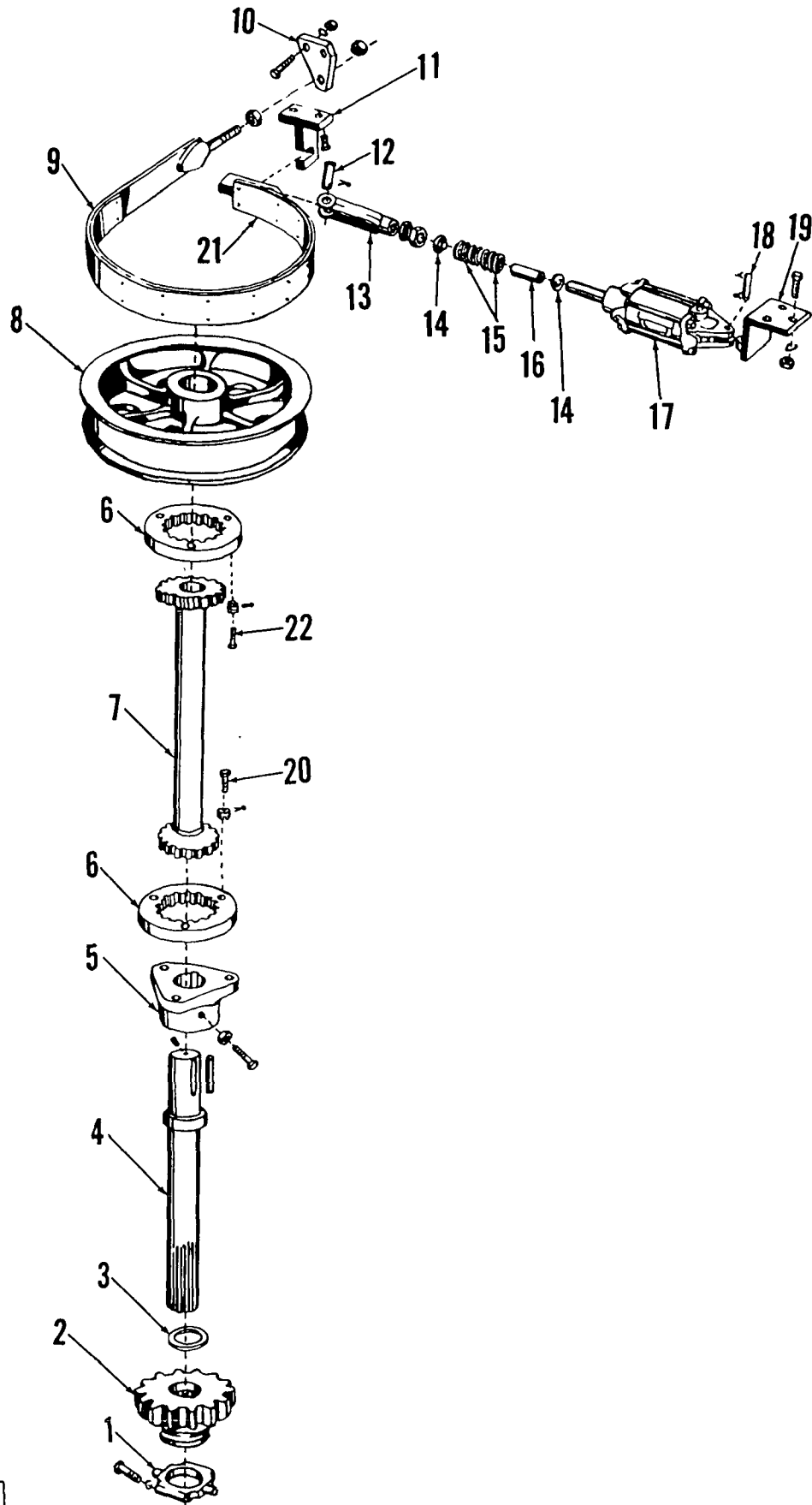
42274D1

42274D1

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ILLUST. No. 40715-A-2

MATERIAL LIST ON BACK

BRAKE BAND - STANDARD BOOM HOIST

50276-1Cont.	REV. G	MODEL 4500-4600
--------------	--------	-----------------

MAIN DRIVE SHAFT
(DUAL CONVERTERS)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
47	75532	1 set	SHIM (.035" Set)	
48	700705	1	UNION, Swivel (Deublin #1595) (Supersedes #352910)	
48	352910		UNION, Swivel (Fawick Rotorseal FD)	
<u>PARTS FOR INSTALLING #700705 SWIVEL ON SHAFT #32421</u>				
49	77496	1	GASKET	
50	77495	1	ADAPTER W/capscrews and lockwashers	

Run as Front

50276 G1 Cont'd.

REV. G	50276 - 1
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50369-1Cont.	REV. I	MODEL 4600
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REAR DRUM SHAFT
(SEE NOTE)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
40	139249	1	LOCKNUT W/capscrews and lockwashers (Supersedes Ref. #40a and 40b)	
40a	225124	1	LOCKWASHER	
40b	225135	1	NUT, Lock	
41	30678	1	FLANGE, Right Drum	
42	42767	1	SPIDER, Retract Clutch	
43	17666	1	HOSE, Flex (10-1/4" long or .260 meters)	
44	30682	1	SPROCKET (Chain Interlock) (See Note)	
45	73631	1	GASKET	
46	24690	1	RETAINER, Oil Seal	
47	382517	2	CUP, "U"	
48	78020	1	SPACER, "U" Cup	
49	77255	1	RETAINER, Oil Seal W/nylock screws (3/8" - 16 N.C.) (Supersedes Retainer #73547)	
49	73547		RETAINER, Oil Seal W/nylock screws (1/4" - 20 N.C.)	
50	73728	1	SPACER	
51	24694	1	HOUSING, Right Bearing	
53	15652	2	LOCK, Nut	
54	76282	2	BOLT, Coupling	
52	546836	2	NUT, Hex	
55	224199	1	BEARING, Roller	
56	73548	1	PLATE, End W/capscrews and lockwashers	
57	31261	1	SPROCKET, Crowd Drive	
58	250626	2	BOLT, Machine	
59	17447	1	SHIM, Crowd Drive	
60	17448	1	SHIM, Crowd Drive	
			<u>LAGGINGS (OPTIONAL - NOT SHOWN)</u>	
	42276	1	LAGGING (41" Dia. 1-3/4" wire rope)	
	72439	4	STUD W/hex nut and lockwasher	
	73095	1	WEDGE, Locking	
	42805	1	LAGGING (41-1/8" Dia. - 1-1/8" wire rope)	
	17062	4	STUD W/hex nut and lockwasher	
	73095	1	WEDGE, Locking	
	41271	1	LAGGING (40-1/2" Dia. - 1-1/8" wire rope)	
	17062	4	STUD W/hex nut and lockwasher	
	73095	1	WEDGE, Locking	
	43103	1	LAGGING (41" Dia. - 1-5/8" wire rope)	
	72439	4	STUD W/hex nut and lockwasher	
	73095	1	WEDGE, Locking	
	43221	1	LAGGING (41-1/8" Dia. - 1-1/8" wire roep W/Ratchet and Pawl)	
	17062	4	STUD W/hex nut and lockwasher	
	73095	1	WEDGE, Locking	
			NOTE: As shown for Chain Interlock. For Gear Interlock replace #30682 with gear #32846.	
			<u>FOR GEAR INTERLOCK W/CHAIN DRIVE</u>	
			<u>FROM COUNTERSHAFT CLUTCH USE THE FOLLOWING</u>	
	32846	1	GEAR	
	32847	1	SPACER	
	32845	1	SPROCKET, Split	
	75083	18	BOLT, Coupling W/elastic stop nut	
			Use Sheet #0-291	
				REV. I 50369 - 1

PLEASE GIVE MACHINE S/N W/ORDER

MASTER

Run as Front

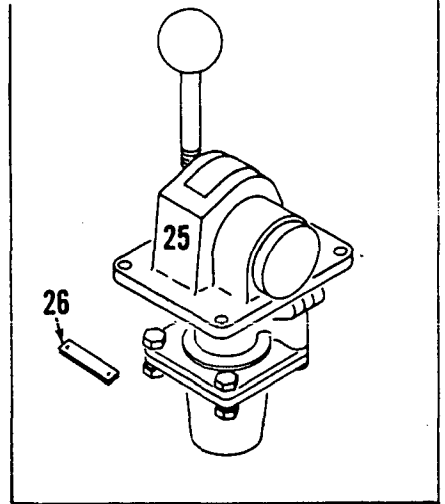
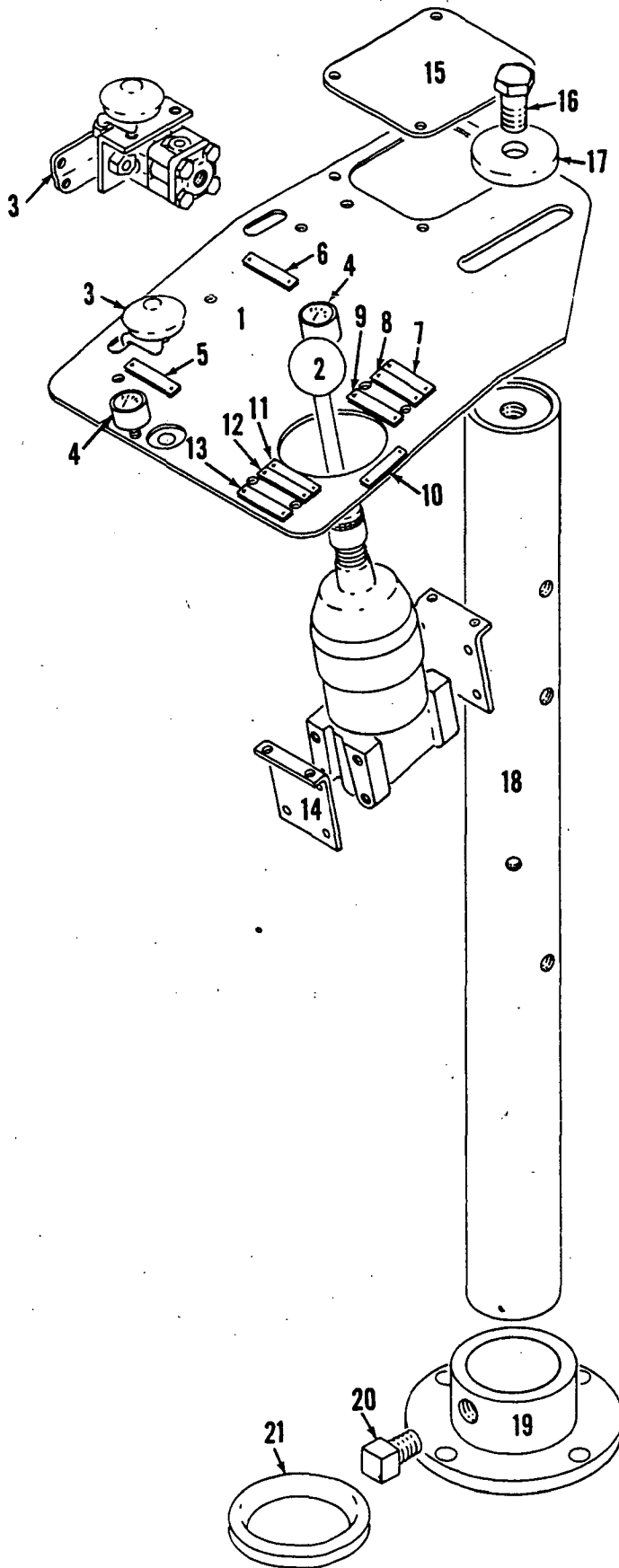
50369 I Cont'd.

GROUP C - Air Components & Electrical

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MASTER

42273 C1

42273C1

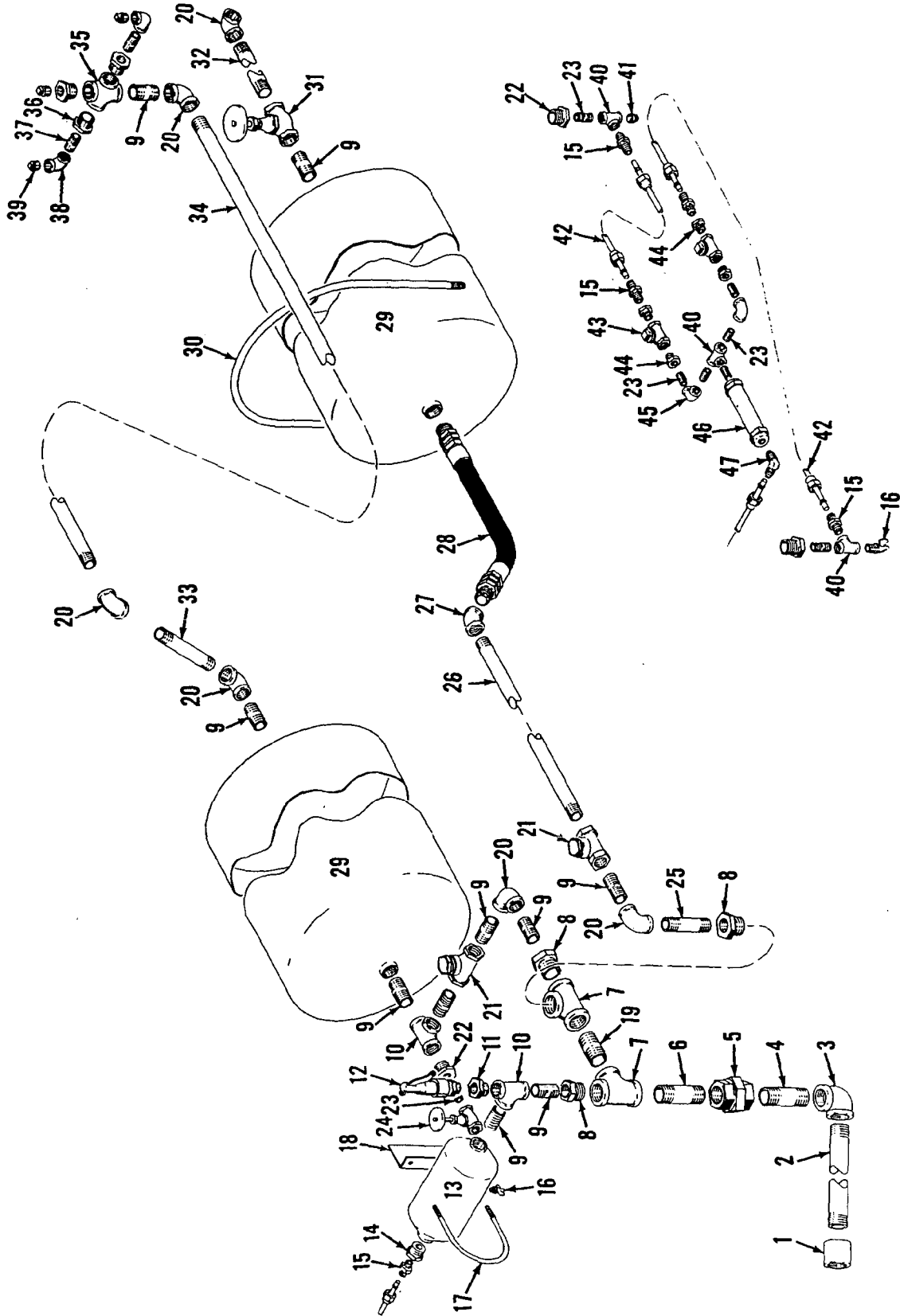
MATERIAL LIST ON BACK

VALVE BOARD

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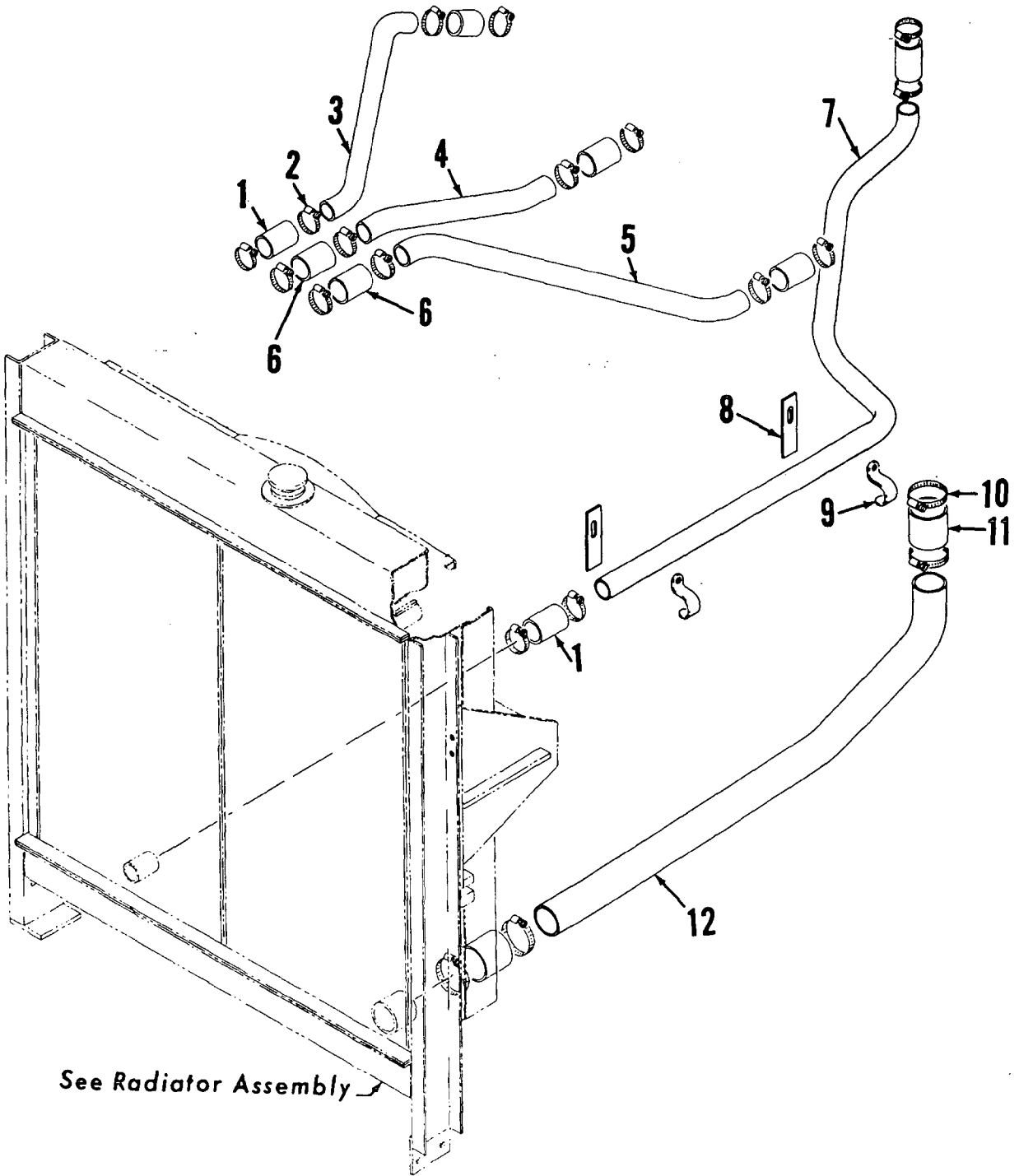


4278682

MATERIAL LIST ON BACK

COMPRESSOR PIPING AND TANK

MASTER



See Radiator Assembly

43121A3

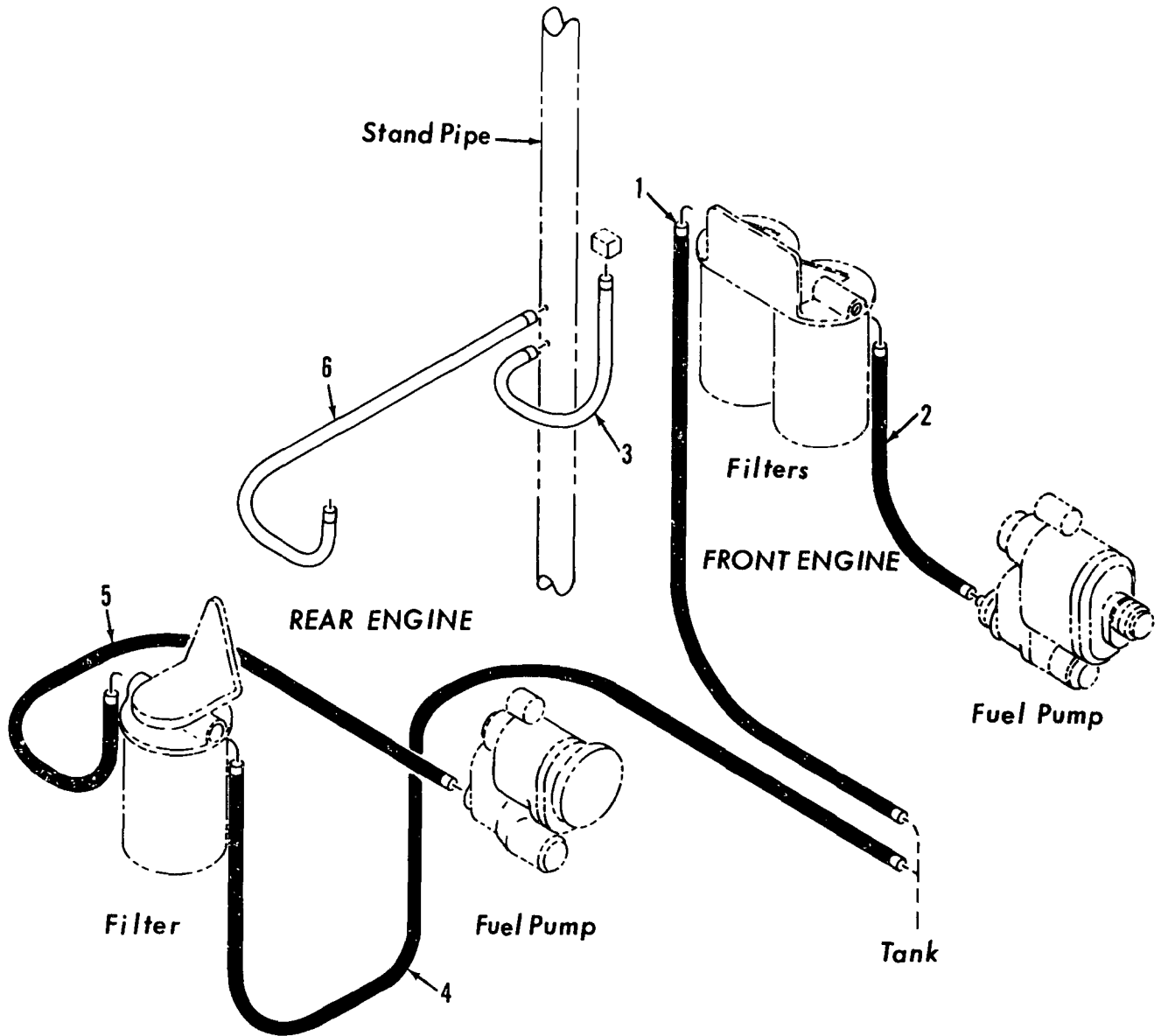
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RADIATOR PIPING

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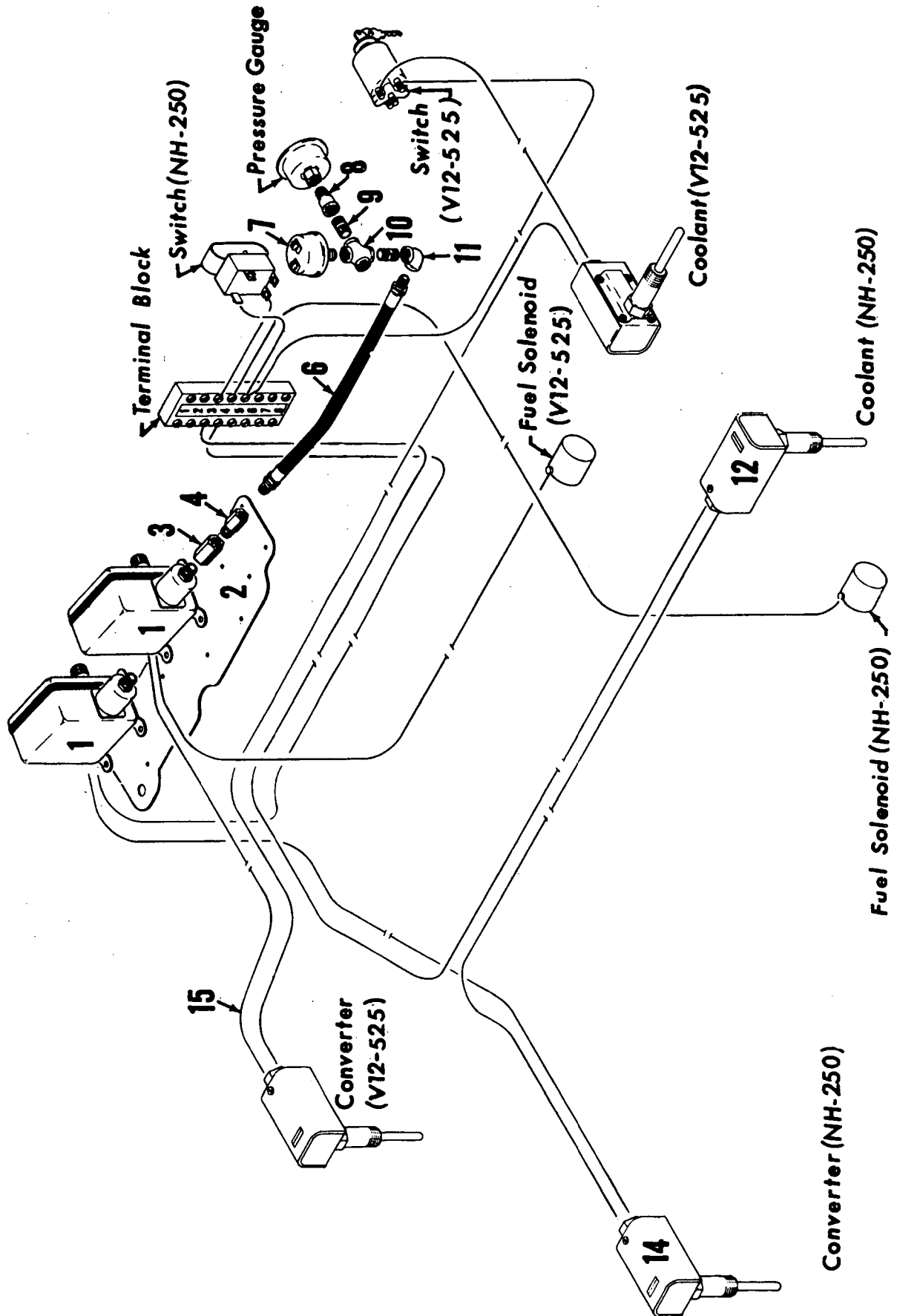
Manitowoc, Wisconsin

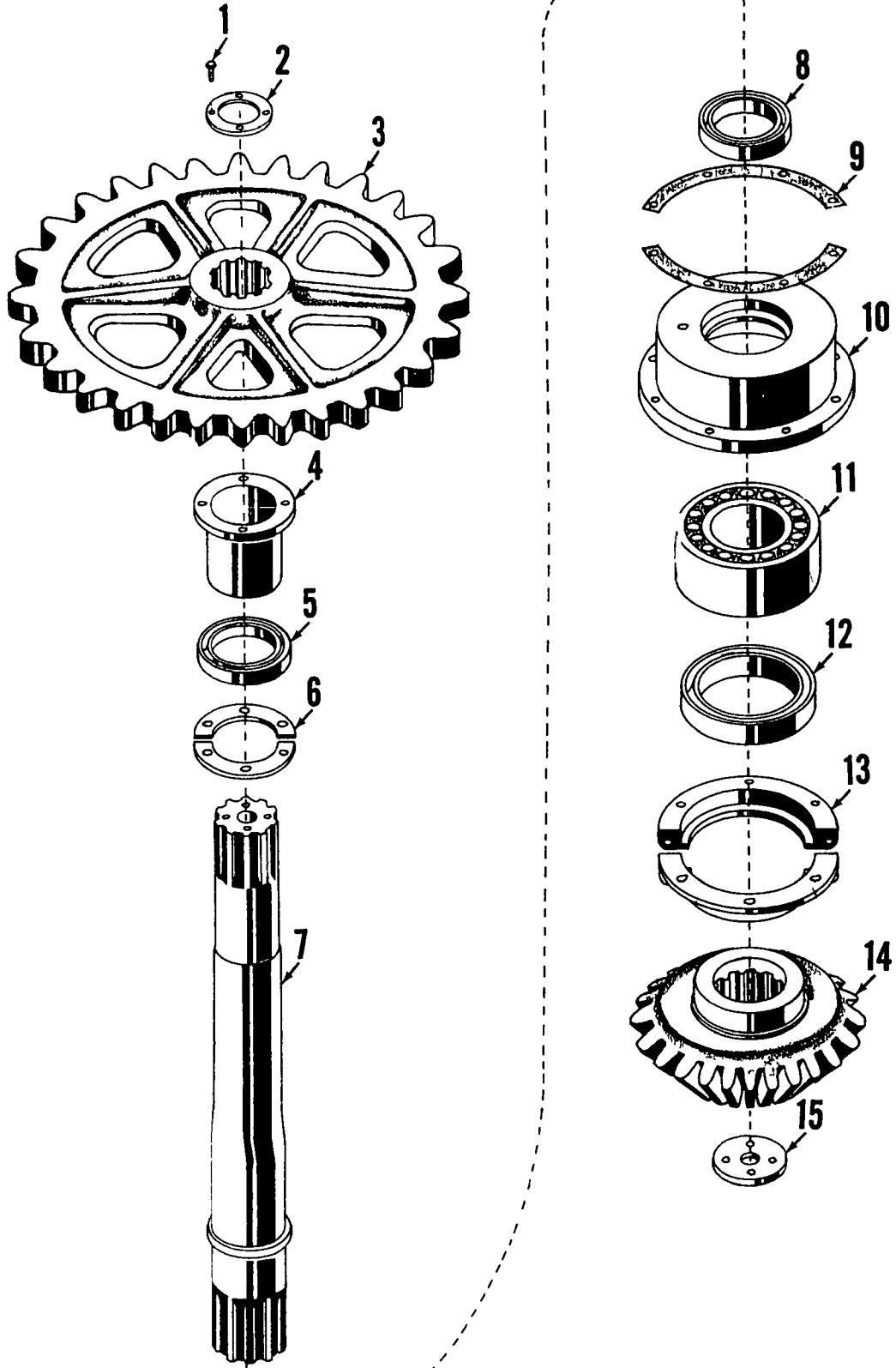


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MATERIAL LIST ON BACK

FUEL INJECTION SYSTEM





MASTER

31253 A-1

ILLUST No 31253-A-1

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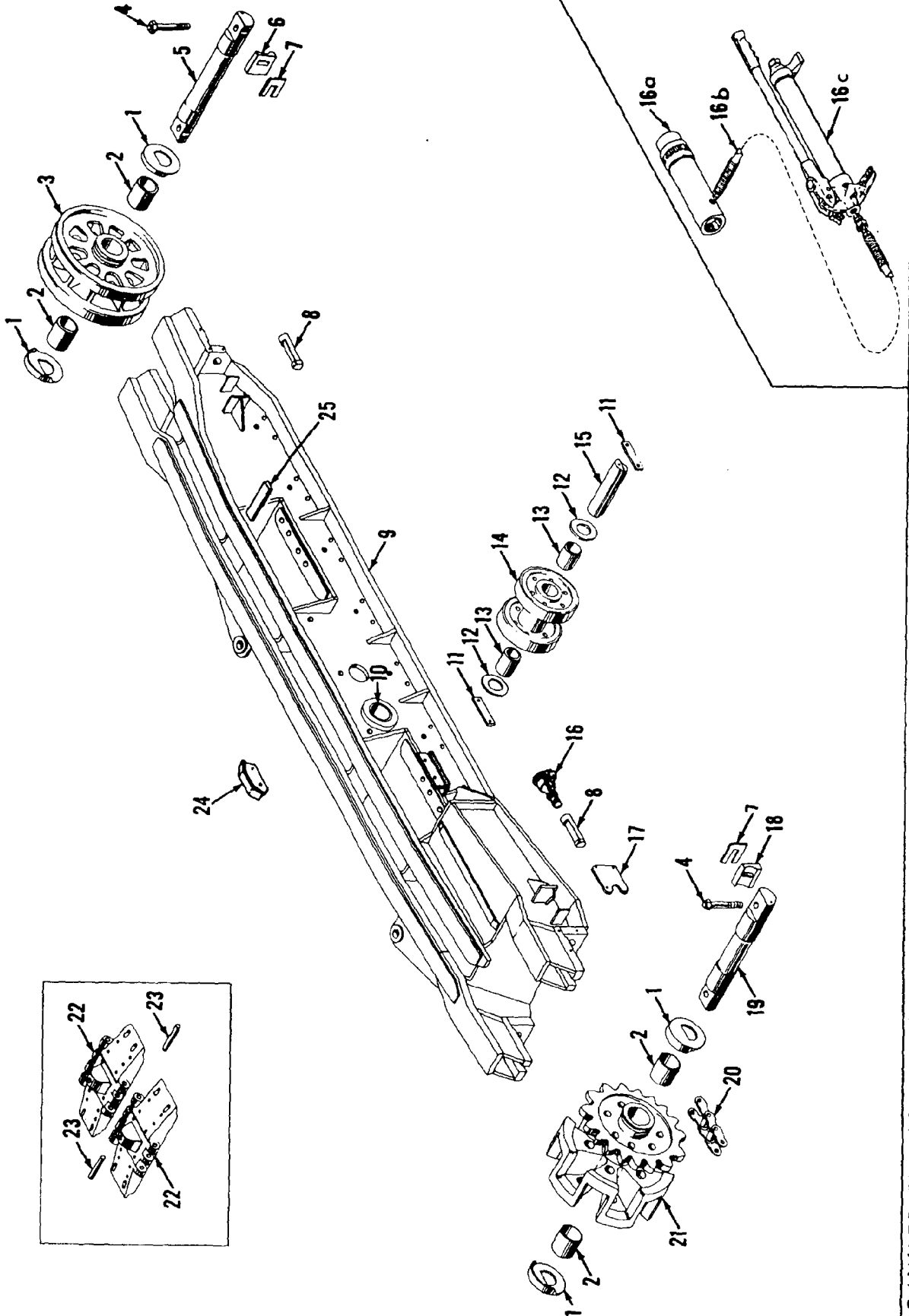
VERTICAL TRAVEL SHAFT

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MASTER



42763D1

MATERIAL LIST ON BACK

CRAWLER FRAME ASSEMBLY

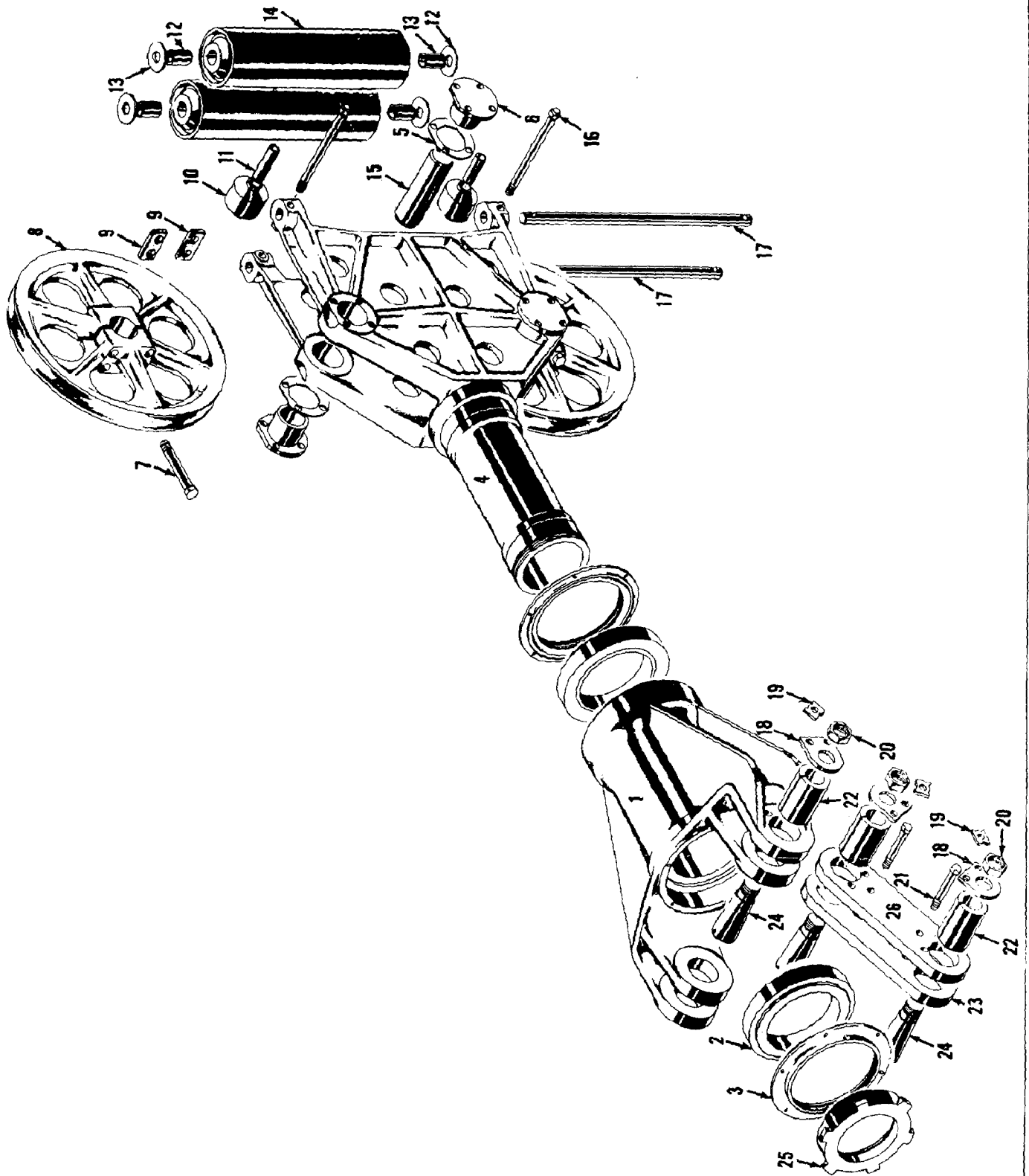
PARTS MANUAL ALPHABETICAL INDEX
Group F - Attachments

DESCRIPTION	PUBLICATION	REV	START DATE	END DATE	GROUP
Boom	50294	F1	05/18/62	06/29/82	F0101
Boom	50294	A2	05/18/62	08/03/71	F0101
Boom	50294	C3	05/18/62	08/03/71	F0101
Boom	50294	A4	05/18/62	06/29/82	F0101
Dragline Fairlead	50203	D1	03/07/55	12/15/69	F1701
Mast & Reeving	43043	B1	04/18/63	03/24/66	F1201
Mast & Reeving	43043	B2	04/18/63	03/29/90	F1201
Mast & Reeving	43043	B3	04/18/63	03/29/90	F1201
Wire Rope Guide	31480	B1	07/20/55	11/12/76	F0701

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5020381

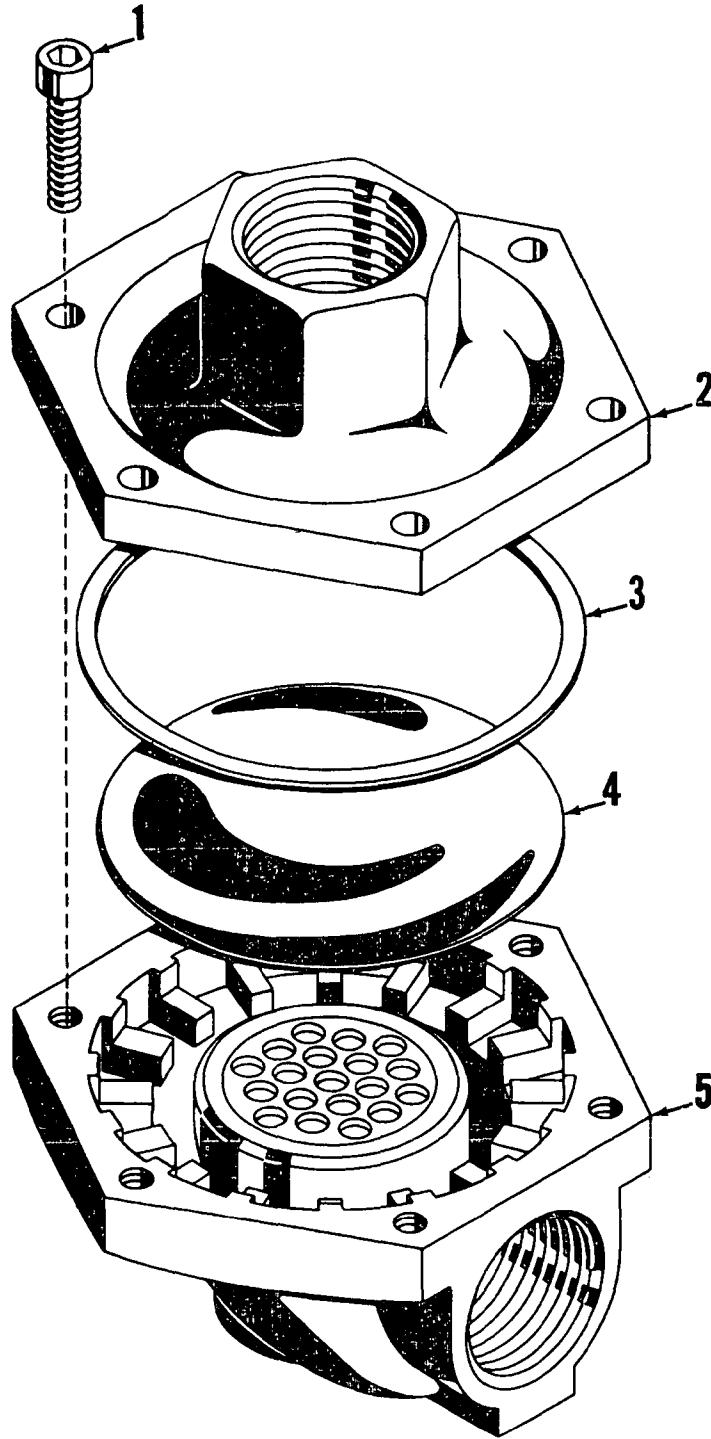
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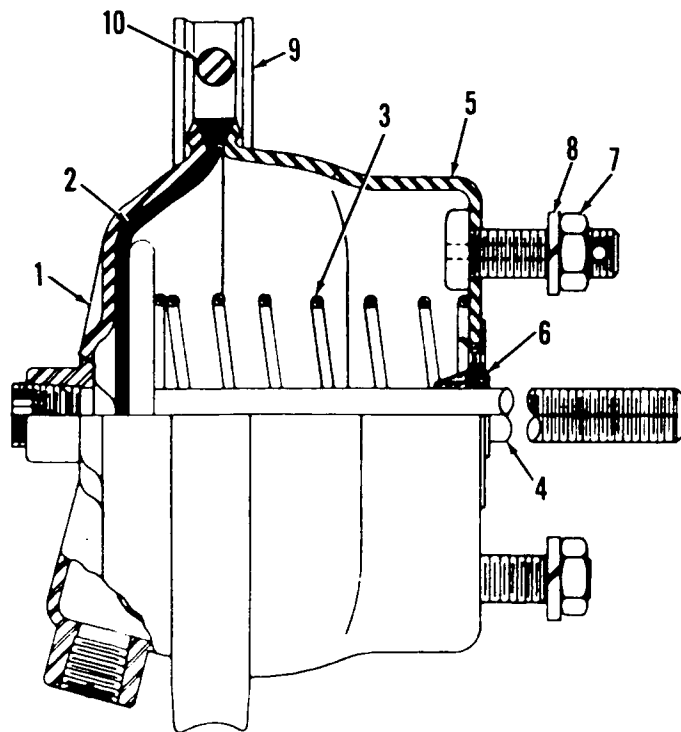
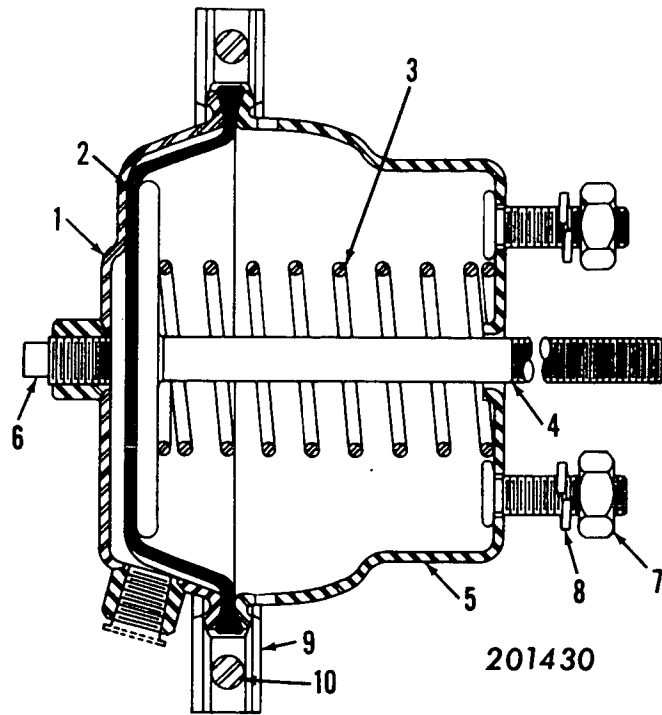
FAIRLEAD

O-Number

MASTER

MASTER





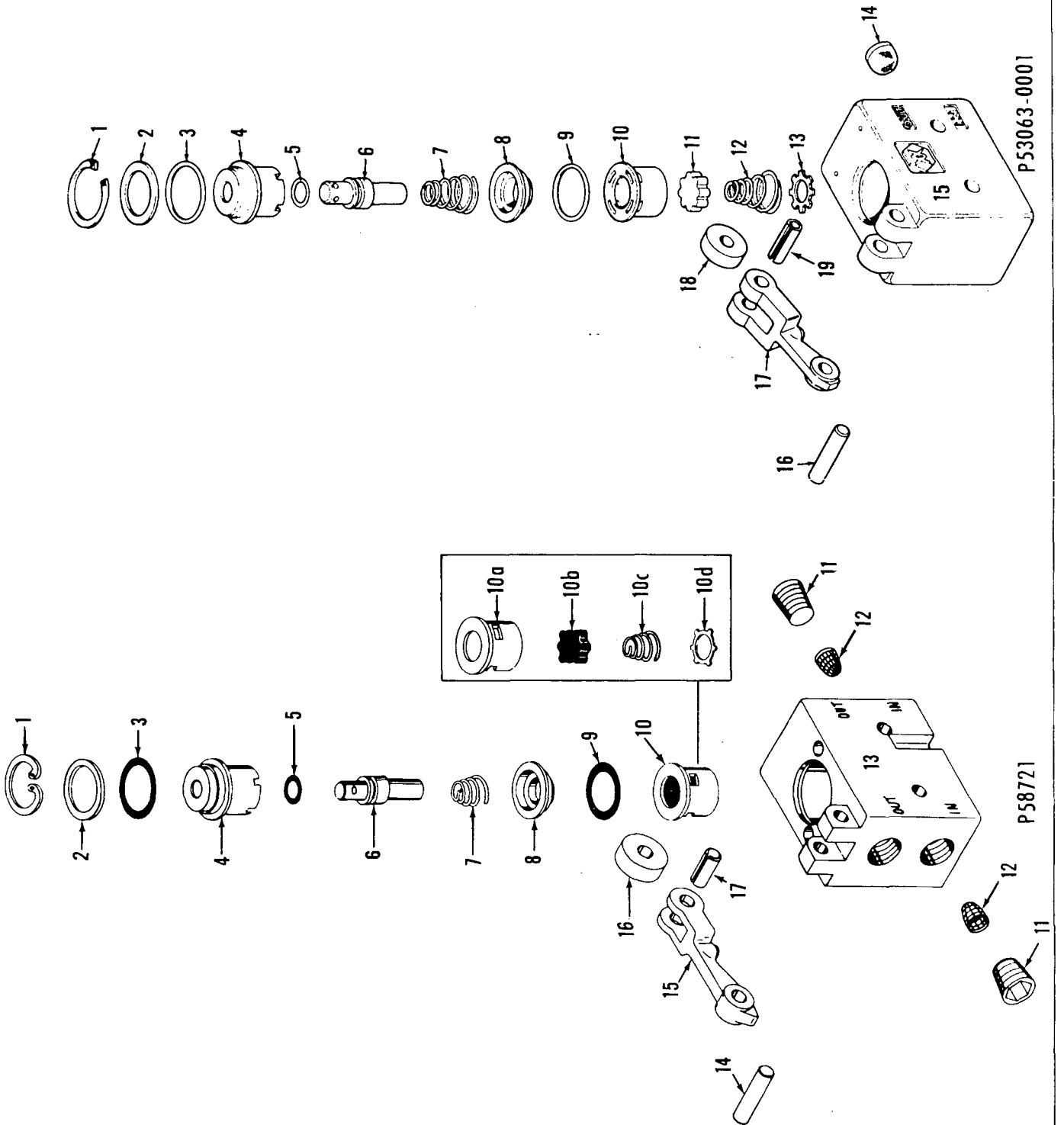
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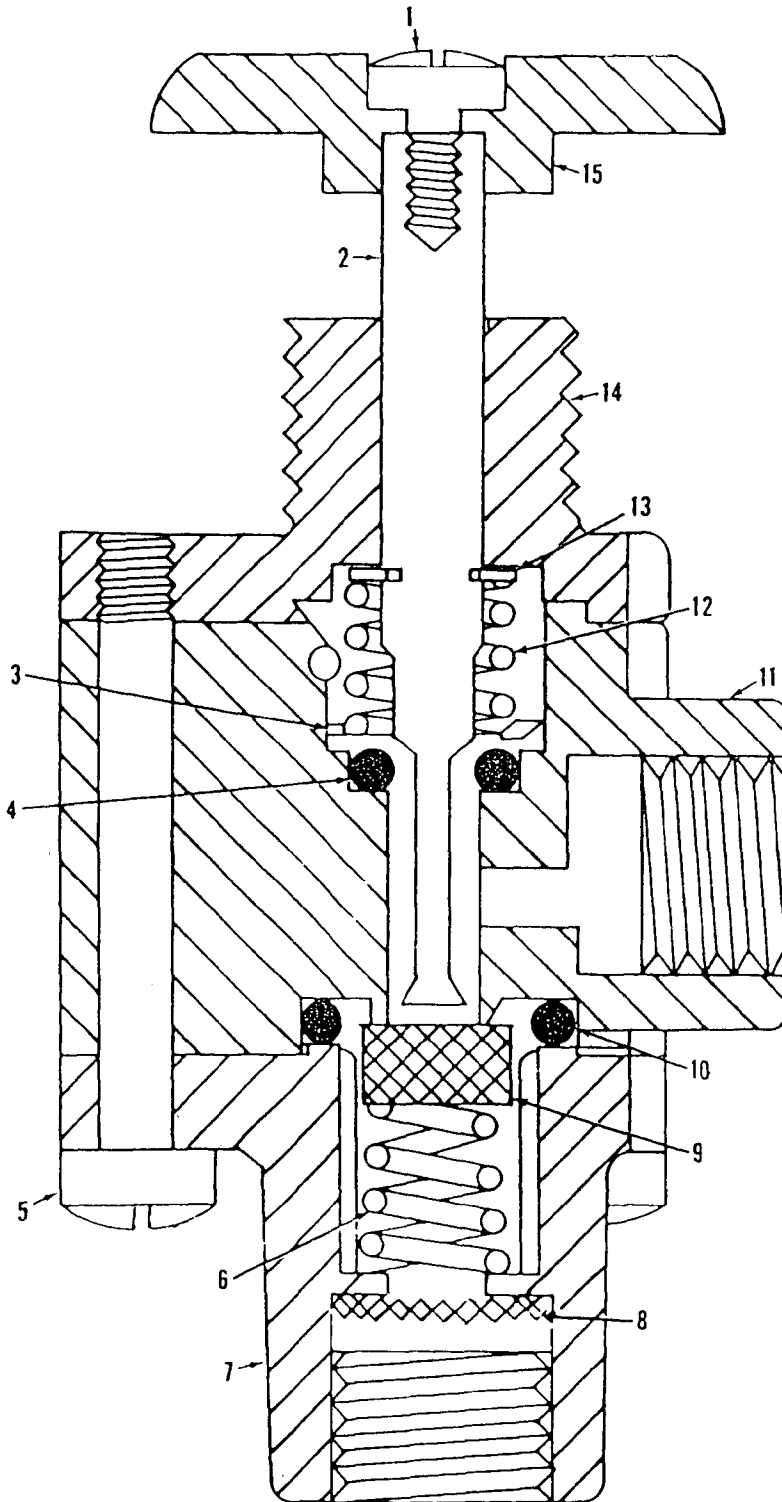


O-279

MATERIAL LIST ON BACK

CONTROL VALVE

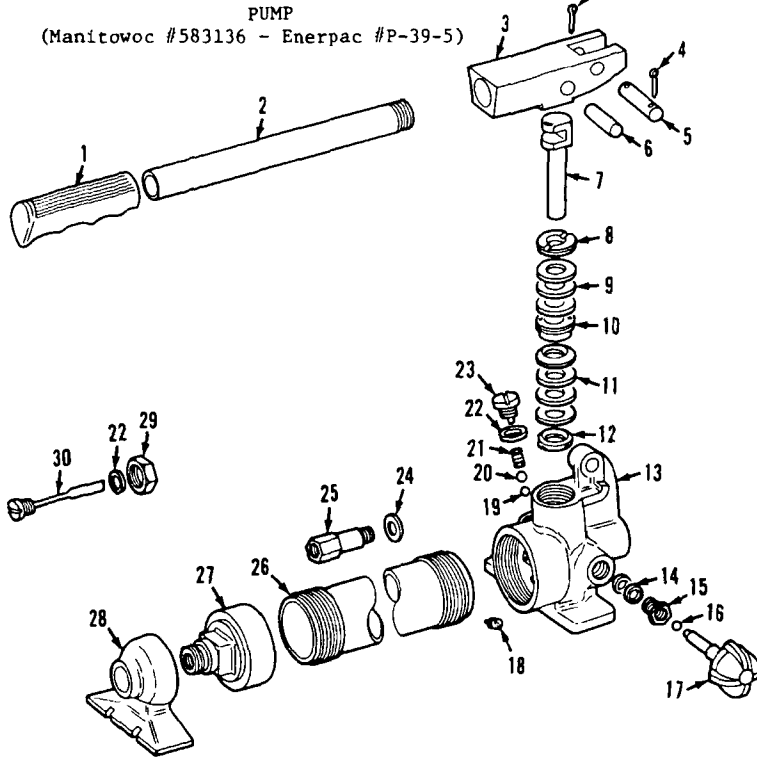
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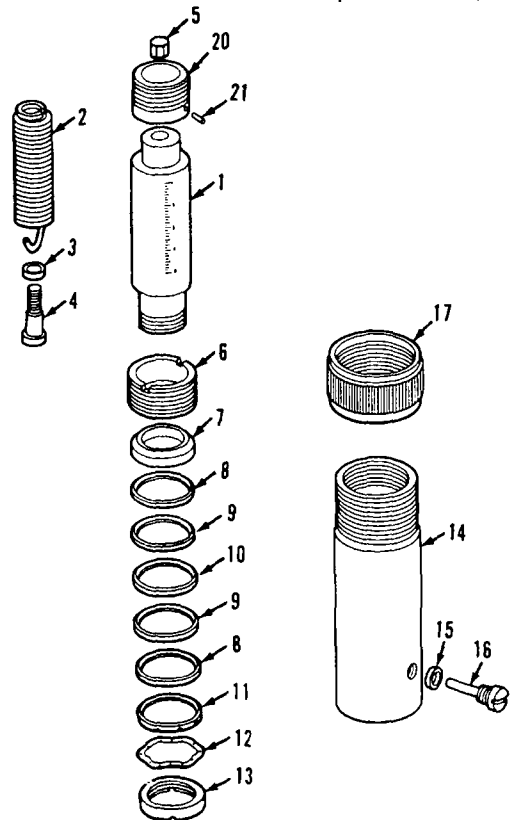


Ref. No.	No. Req.	Description	Part No.
1	1	Grip	C7.550
2	1	Handle	C7.900
3	1	Beam	B113.060-1
4	2	Pin, Cotter	S1.59
5	1	Pin, Beam	P76.63
6	1	Pin, Cross	P75.57
7	1	Plunger, Pump	P16.51
8	1	Nut, Retaining	P16.54
9	3	Packing, Pump	*
10	1	Nut, Cup Ret.	P16.55
11	4	Cup, Pump	*
12	1	Spreader	P1.52-2
13	1	Base	B121.005-1
14	2	Packing	*
15	1	Nut, Packing	MJ11-1
16	1	Ball	*
17	1	Spindle	J435.900
18	1	Screen, Oil	P807.18
19	2	Ball	*
20	1	Ball	*
21	1	Spring	S1.183
22	3	Gasket	*
23	1	Plug, Valve	CB9.185
24	1	Gasket	B159.167
25	1	Valve, By-pass	P182.190-2
26	1	Reservoir	P16.25
27	1	Cap, Reservoir	P75.266-1
28	1	Rest., Pump	P76.267-1
29	1	Nut	P75.181
30	1	Plug, Filler	B110.900
*		Kit	P39K-1

JACK
(Manitowoc #385177 - Enerpac #RSP-251)

Part numbers are the Venders, Enerpac, Butler, Wis. 54220. Please so Specify if ordering from Manitowoc Engineering Co. When ordering parts, please give Model number and Serial number. See Nameplate for this information.

Ref. No.	No. Req.	Description	Part No.
1	1	Plunger Assembly	R251.900
20	1	Saddle	R251.45
21	1	Pin	R251.61
2	1	Spring	R225.184
3	1	Bearing Thrust	R225.155-1
4	1	Screw, Adjusting	R225.143-1
5	1	Nut	R225.55
6	1	Ring, Stop	R77.44-1
7	1	Disc	R225.71
8	2	Chevron	*
9	2	Separator, Cup	*
10	1	Chevron	*
11	1	Spreader	R77.43-1
12	1	Washer, Spring	*
13	1	Nut, Retaining	R77.35
14	1	Base	R225.05
15	1	Gasket	*
16	1	Screw, Retaining	R225.302
17	1	Protector, Thread	R158.271
	1	Coupler, Half	AR400
	1	Cap, Dust	Z410-1
	1	Decal	*
		Kit, Cylinder Packing	RC251K
		Kit, Coupler Packing	A604K



Crawler Adjusting Jack and Pump

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