



# TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

**3900**

Model

**39544**

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.*

**MANITOWOC CRANES, INC.**

2401 South 30th Street • PO Box 70

Manitowoc, WI 54221-0070

Phone: 920-684-6621 • Fax: 920-683-6278

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## B. Ordering Lacings without Lacing Drawings

The parts order must contain the following information to ensure that Manitowoc provides you with the correct lacings:

1. Crane serial number (can be found on builders plate in operator's cab.)
2. Boom or jib identification number.
3. Quantity, lacing location, and lacing number.
4. Boom or jib component name (butt, insert, or top) and part number.

**NOTE:** To obtain the lacing location and number, view the boom or the jib from the butt end looking forward. Identify the side on which the damaged lacing is located: left side, top side, right side, or bottom side. Count each lacing up to and including the damaged lacing, starting with **first lacing nearest butt end** of the component as shown in Figure e3.

Do not count a diagonal lacing as the first lacing. Identify diagonal lacing separately; lower end diagonal lacing or upper end diagonal lacing.

## ASSISTANCE

If you are in doubt as to which lacings to order, DO NOT GUESS. Contact your nearest Manitowoc distributor for assistance; doing so may prevent the wrong parts from being shipped.

**EXAMPLE:** Assume you have a number 22 boom and the lacings with circled numbers in Figure 3 are damaged. Your parts order should be similar to the following example:

Crane Serial Number: **00000** (from builders plate).

Boom Identification Number: **#22 Boom**

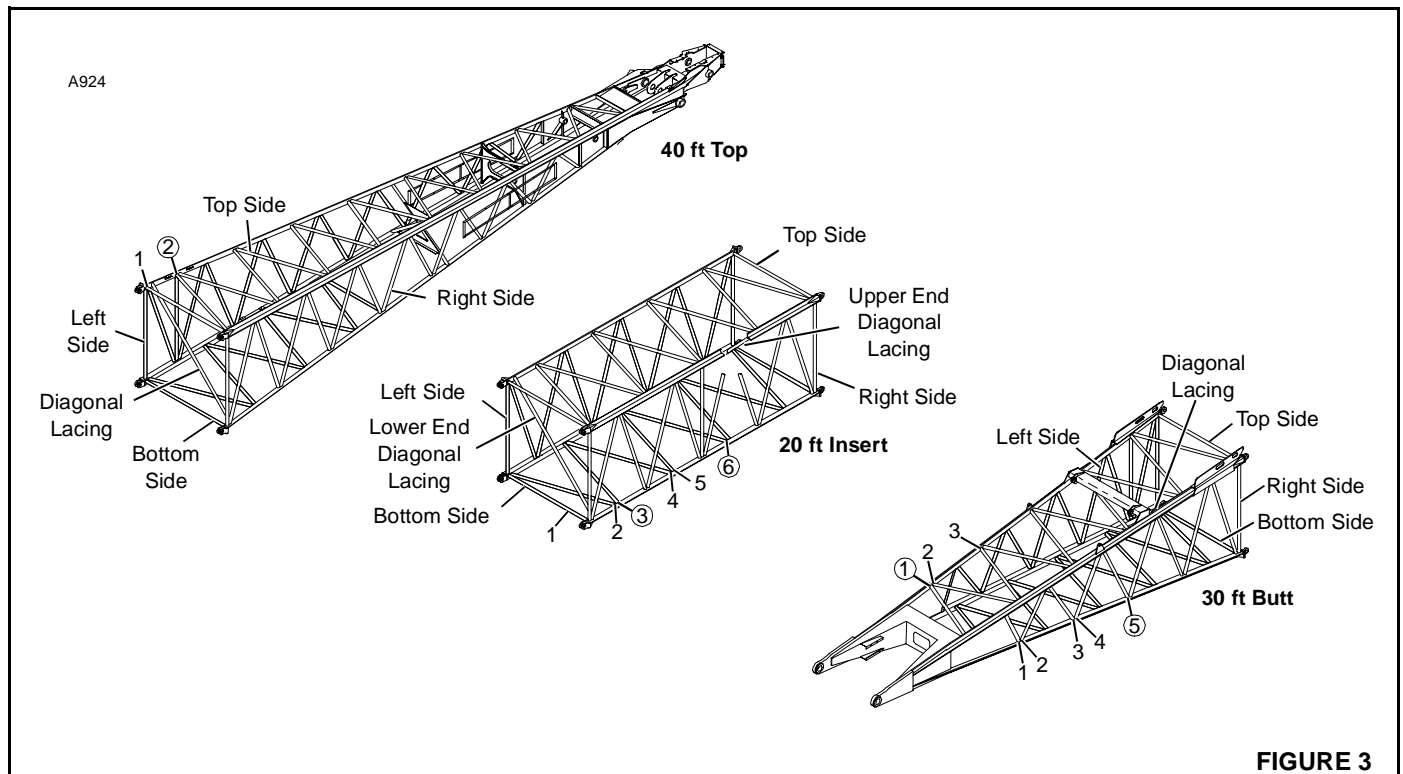
Required:

- 1 each Top Side Lacing (1) for 30 ft Butt 48153-9
- 1 each Right Side Lacing (5) for 30 ft Butt 48153-9
- 1 each Bottom Side Lacing (3) for 20 ft Insert 33426-3
- 1 each Bottom Side Lacing (6) for 20 ft Insert 33426-3
- 1 each Top Side Lacing (2) for 40 ft Top 50453-2

Quantity	Lacing Location	Lacing Identification Number	Component Name and Part Number
1	Top Side	(1)	30 ft Butt 48153-9
1	Right Side	(5)	30 ft Butt 48153-9
1	Bottom Side	(3)	20 ft Insert 33426-3
1	Bottom Side	(6)	20 ft Insert 33426-3
1	Top Side	(2)	40 ft Top 50453-2

## WELDING INSTRUCTIONS

Each lacing order is shipped with welding instructions and a copy of Form 00SPFM006 which identifies the chord and lacing material.



**PARTS MANUAL ALPHABETICAL INDEX  
GROUP A - Rotating Structure**

DESCRIPTION	PUBLICATION	REV	START DATE	END DATE	GROUP
Cab	31719	B2	09/01/55	12/28/62	A0201
Cab	31719	J1	03/27/59	12/28/62	A0201
Chain & Gear Case	42906	A1	06/05/62	08/13/63	A0401
Chain & Gear Case	42906	A2	06/05/52	08/13/65	A0401
Counterweight & Cab Rear	42525	H1	08/12/63	03/01/73	A0301
Counterweight Handling	42536	A2	04/11/60	11/19/61	A0302
Counterweight Handling	42536	B1	04/24/61	10/09/61	A0302
Guards	41625	E1	01/25/62	04/21/67	A0501
Insulated Door	32696	D1	10/31/62	03/01/77	A0204
Platform	42746	M1	12/28/61	01/13/84	A0701
Rotating Bed Lubrication Piping	30375	A1	06/30/41	11/07/72	A0104
Rotating Bed/Hoist Frame/Transporter Platform	42627	E1	01/04/61	02/07/74	A0102
Rotating Bed/Hoist Frame/Transporter Platform	42627	E2	01/04/61	02/07/74	A0102
Tool Box	32621	A1	03/27/62		A0901

31719-1 Cont.	REV. J	MODEL 3000-3900 Incl.
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CAB

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.		
			<p><u>NOTE 1:</u> For machines W/Generator mounted inside cab, delete Ref. Nos. 14 and 21 and add:</p>			
	95413	1	ASSEMBLY, Left Side Modification			
14	95412	1	SHEET, Center (35-3/4" wide)			
21	95411	1	SHEET, Front (W/Paddle handle lock #510183 and door for access to generator) W/truss head bolts, hex nuts and lockwashers			
			For complete left side order 31702-6.			
			<p><u>NOTE 2:</u> For machine W/Kohler light plant use the following:</p>			
14	352816	1	SHEET, Middle W/sliding door			
			For complete left side order 31702-8.			
				<table border="1" data-bbox="1177 1953 1534 2026"> <tr> <td>REV. J</td> <td>31719 - 1</td> </tr> </table>	REV. J	31719 - 1
REV. J	31719 - 1					

RUN AS A FRONT

MASTER

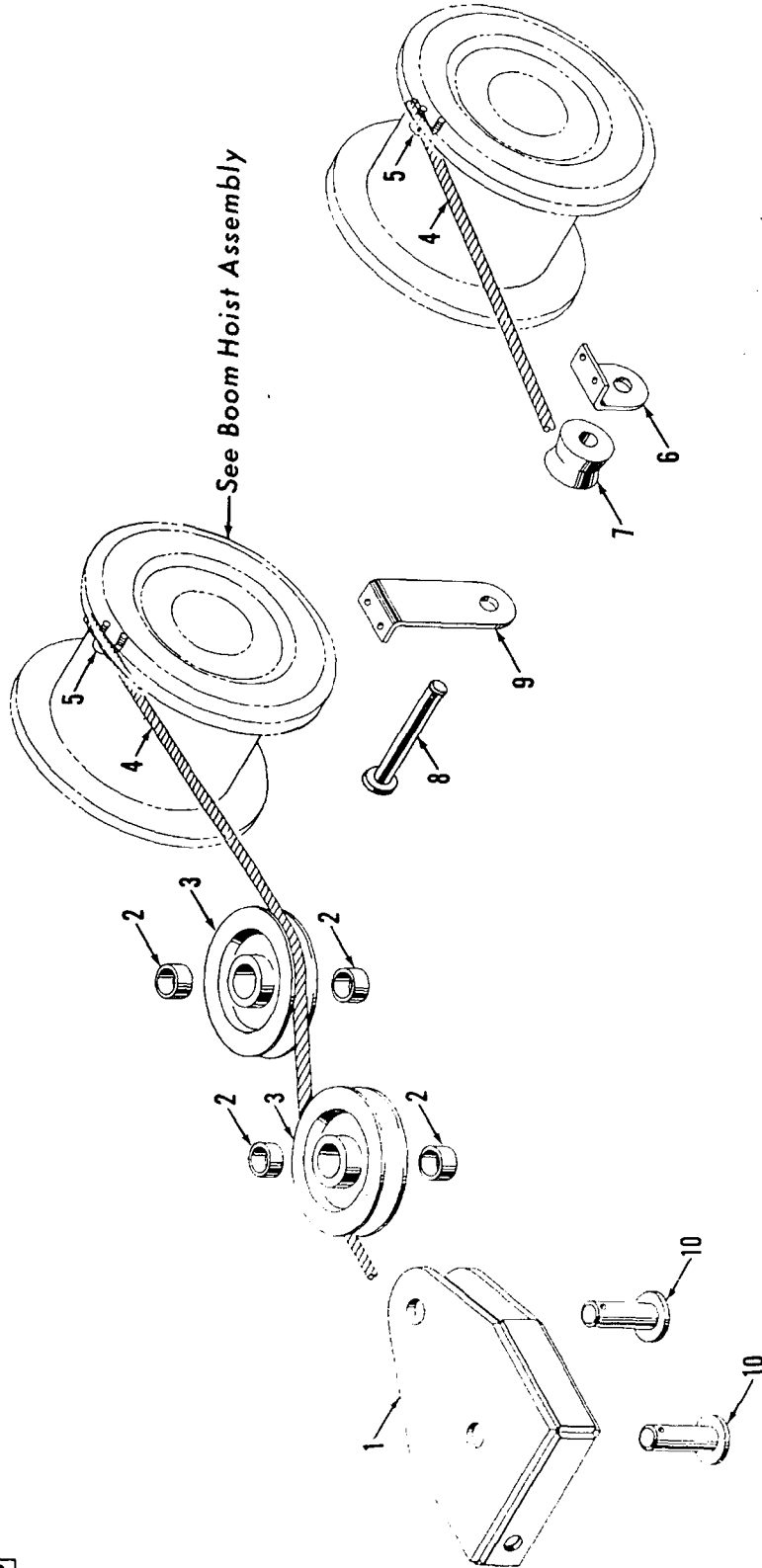
PLEASE GIVE MACHINE S/N W/ORDER

MASTER

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ILLUST. No. 42405-B-2

MATERIAL LIST ON BACK

COUNTERWEIGHT HANDLING

42627-2 Cont.	REV. E	MODEL SC100-3900B-3900 VICON - 3900 WAGON
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ROTATING BED

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
27	18782	1	GASKET	
28	72517	1	PLATE, Cover W/capscrews and lockwashers	
30	17578	1	PLATE, Cover W/capscrews, lockwashers, pipe and spacer	
31	17579	1	GASKET, Cork	
32	41456	1	HOUSING W/lockwashers, capscrews, hex nuts, gr. fitting, copper tube and pipe coupling (Std. Boom Hoist)	
15	17575	2	DOWEL	
7	10096	1	BUSHING W/mach. screw dowel	
29	1859	1	BUSHING W/mach. screw dowel	
32	41924	1	HOUSING W/lockwasher, capscrews, hex nuts, gr. fitting, copper tube and pipe coupling (Ind. Boom Hoist)	
15	17575	2	DOWEL	
33	10448	1	STICK, Dip	
34	12275	2	PIN W/cotter pins	
35	12277	2	SHAFT, Rear House Roller (W/20471-4 Roller)	
35	77483	2	SHAFT, Rear House Roller (W/20471-9 Roller and all barge mount W/double hook roller)	
36	20661	1	HANGER, Rear Left W/hex nuts and lockwashers (Single hook roller)	
46	612737	4	CAPSCREW	
36	20660	1	HANGER, Rear Right W/hex nuts and lockwashers (Single hook roller)	
46	612737	4	CAPSCREW	
36	31866	1	HANGER, Left Rear W/gr. fitting, hex nuts and lockwashers (Double hook rollers - Crawler mount)	
46	612737	4	CAPSCREW	
36	33684	1	HANGER, Left Rear W/gr. fitting, hex nuts and lockwashers (Barge Mount W/double hook rollers)	
46	612731	4	CAPSCREW	
36	33865	1	HANGER, Right Rear W/gr. fitting, hex nuts and lockwashers (Double hook rollers - Crawler mount)	
46	612737	4	CAPSCREW	
36	33683	1	HANGER, Right Rear W/gr. fitting, hex nuts and lockwashers (Barge Mount W/double hook rollers)	
46	612731	4	CAPSCREW	
37	10008	2	WASHER, Bronze	
39	20471-4	2	ROLLER, Rear House	
38	10007	4	BUSHING, Bronze	
39	20471-9	2	ROLLER, Rear House (Optional)	
38	75042	4	BUSHING, Aluminum Bronze	
40	12278	2	SPACER	
41	11906-4	4-6-8	ROLLER, Hook	
42	11907	4-6-8	BUSHING, Bronze	
41	11906-9	4-6-8	ROLLER, Hook (Optional)	
42	70932	4-6-8	BUSHING, Aluminum Bronze	
43	10095	4-6-8	WASHER, Bronze	
44	11904	4-6-8	SHAFT, Hook Roller W/gr. fitting (W/11906-4 roller)	
44	77735	4-6-8	SHAFT, Hook Roller W/gr. fitting (W/11906-9 roller)	
45	11905	4-6-8	PLATE, Lock W/capscrews, hex nuts and lockwashers	
47	11959	1	RETAINER W/capscrews and lockwashers	
48	622508	1	SEAL, Oil	
49	10017	1	BUSHING W/mach. screw dowel	

REV. E	42627-2 Cont.
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PLEASE GIVE MACHINE S/N W/ORDER

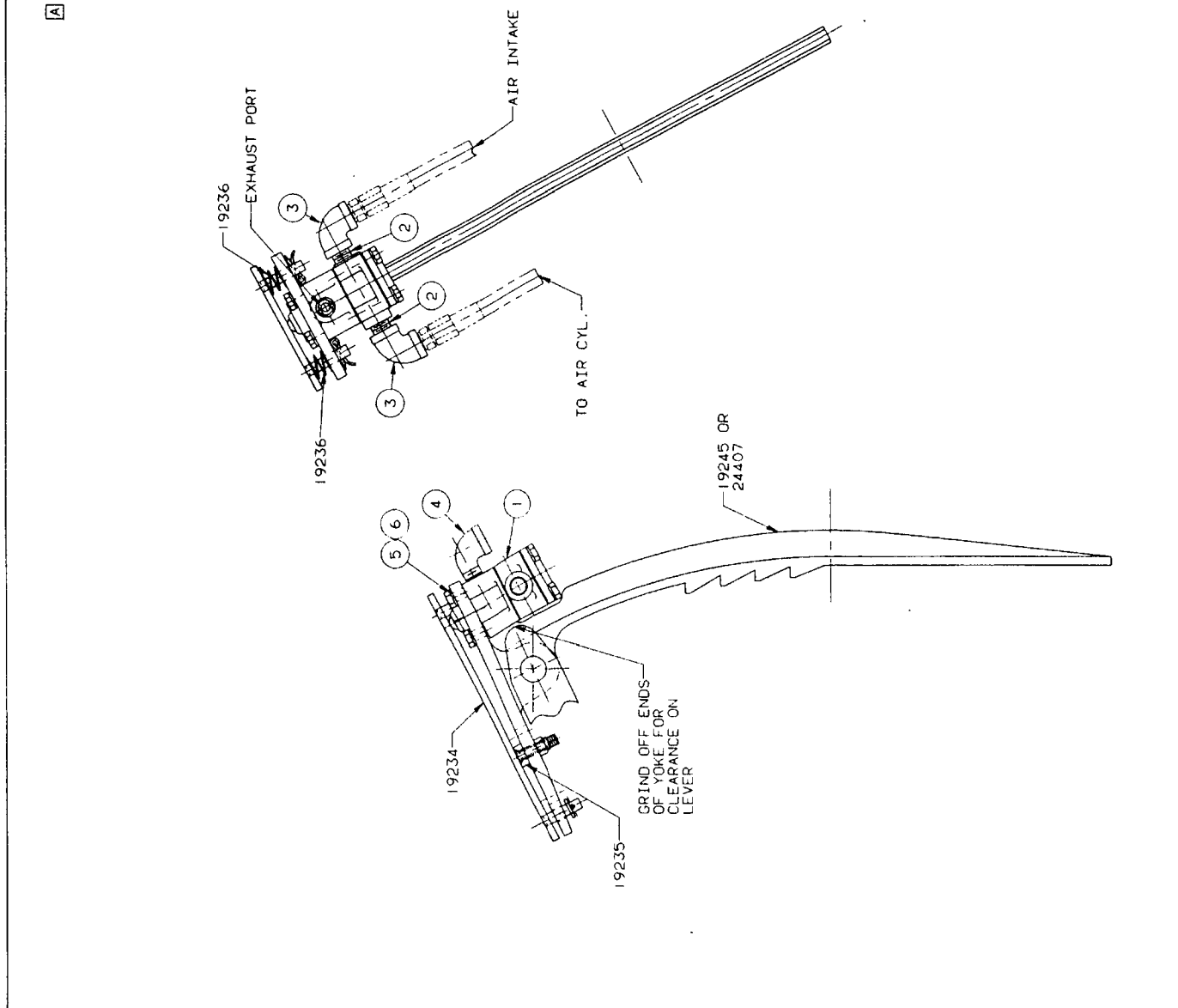
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42627-2 Cont'd. W/ORDER

GROUP B - Upperworks Machinery

QTY	FIG.	DESCRIPTION	MATERIAL	REF. NO.	REV.	ISSUE DATE	USED ON
1	IN-2446-A	MIDLAND VALVE		702444		41719	43814
2	.250	CLOSE NIPPLE		543171		42374	43815
3	.250 X 90°	ELBOW		406970		42584	43820
4	1.250 X 90°	STREET ELBOW		406921		43328	43861
5	4.250-28UNF-2A X .75	HEX HD CAPSCREW		613103		43340	48127
6	.250	LOCKWASHER		710302		43721	48128
						43951	48150
						43952	48279
						43953	
REVISES							
						6-26-56	
						1 WAS N-2474	
						9-6-60	
						24407 ADDED	
						12-2-83 GLP	
						REDRAW CADAM	
						CK. KGB	
						APP. RJS	

(1) FOR MODELS 2800 & 2900 ONLY



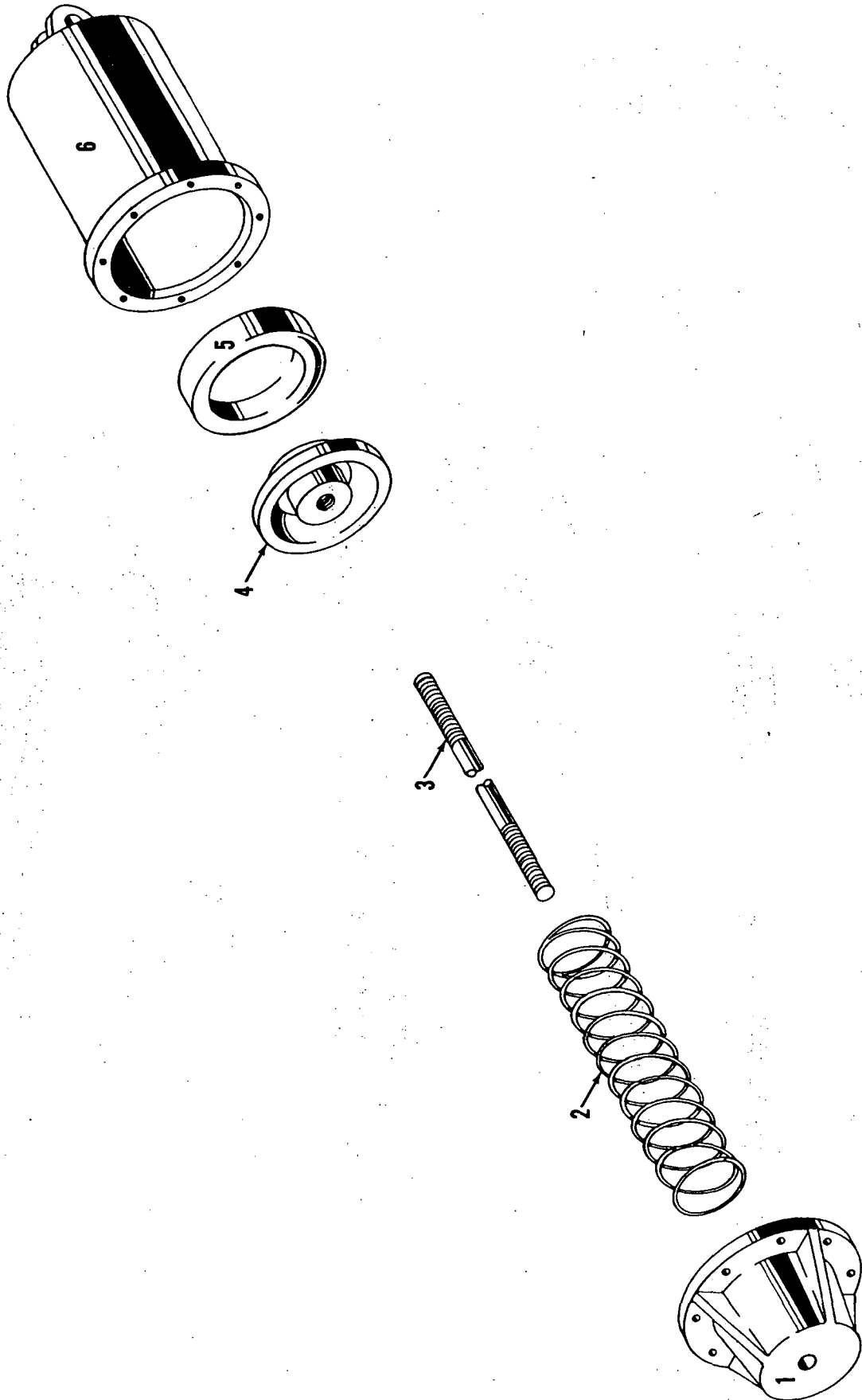
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 INFORMATION STORAGE AND RETRIEVAL SYSTEM.

6	EHJ	MANITOWOC ENGINEERING CO	AIR BOOSTER	3-17-55	23194
5	LMP	MANITOWOC ENGINEERING CO	FOOT BRAKE PEDAL ASSEMBLY		
4					
3					
2					
1					

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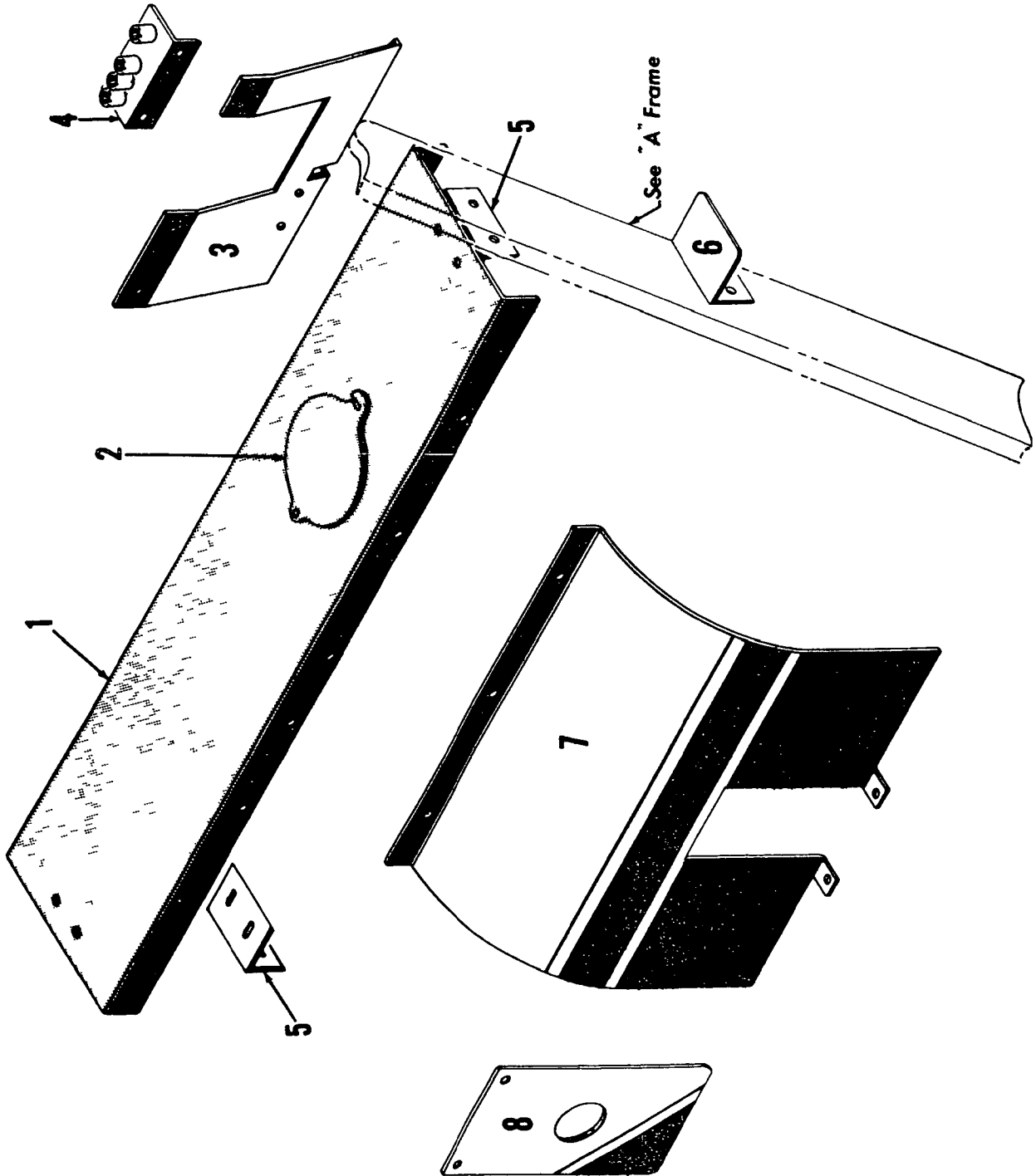


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MATERIAL LIST ON BACK

AIR CYLINDER ASSEMBLY

MASTER

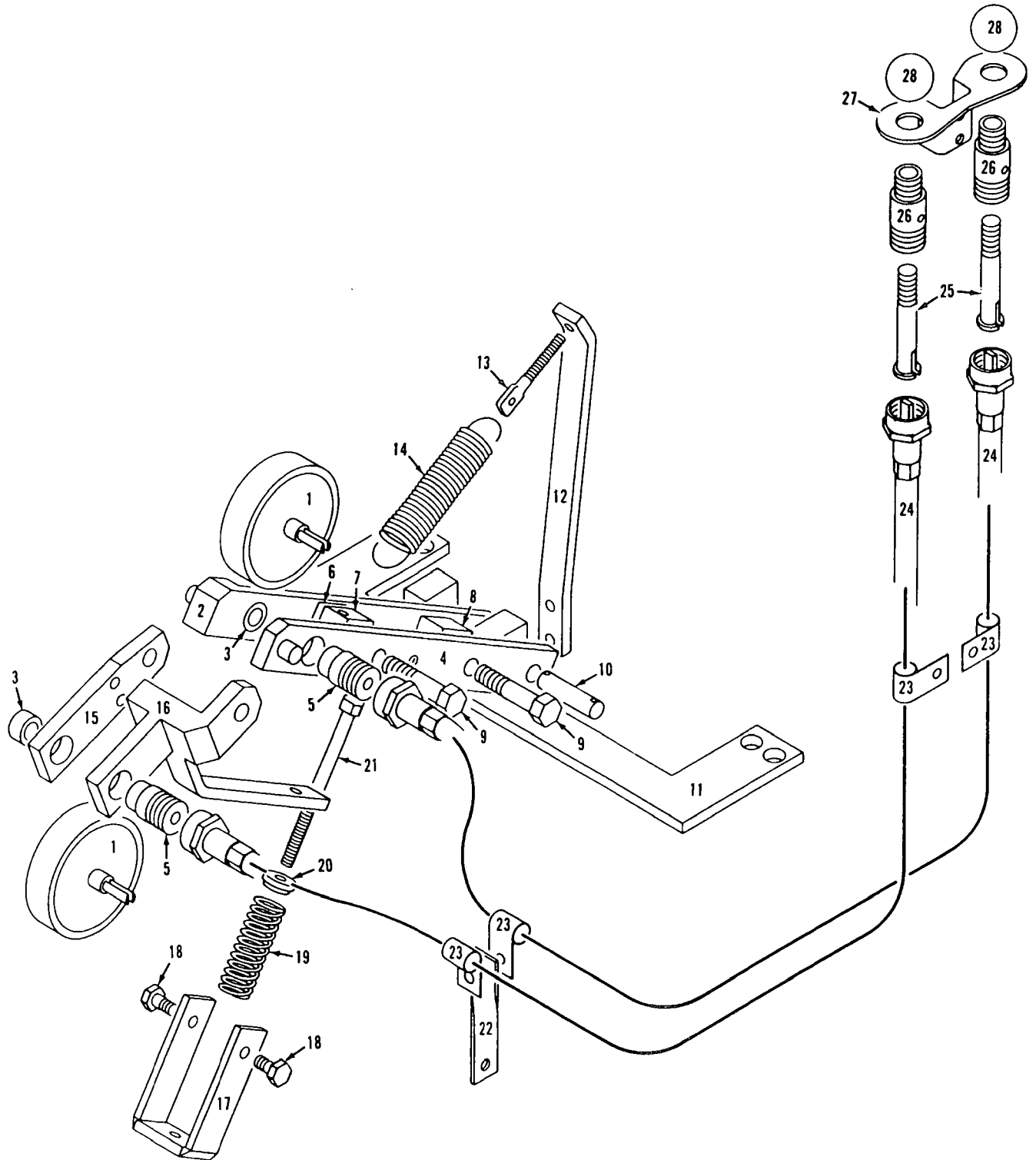


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IND SWING GUARDS



33135B1

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DRUM ROTATION INDICATOR

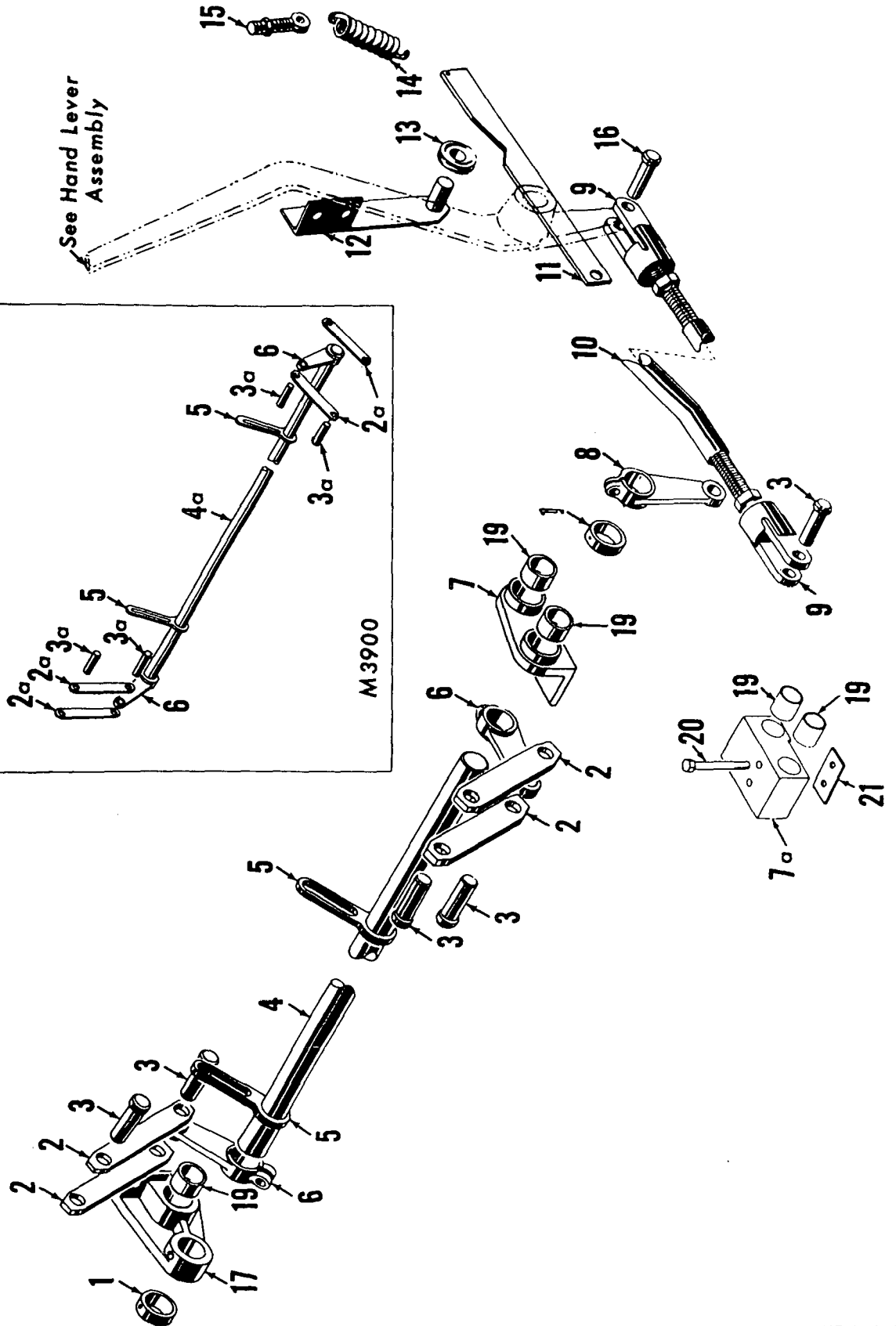
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MASTER

See Hand Lever Assembly

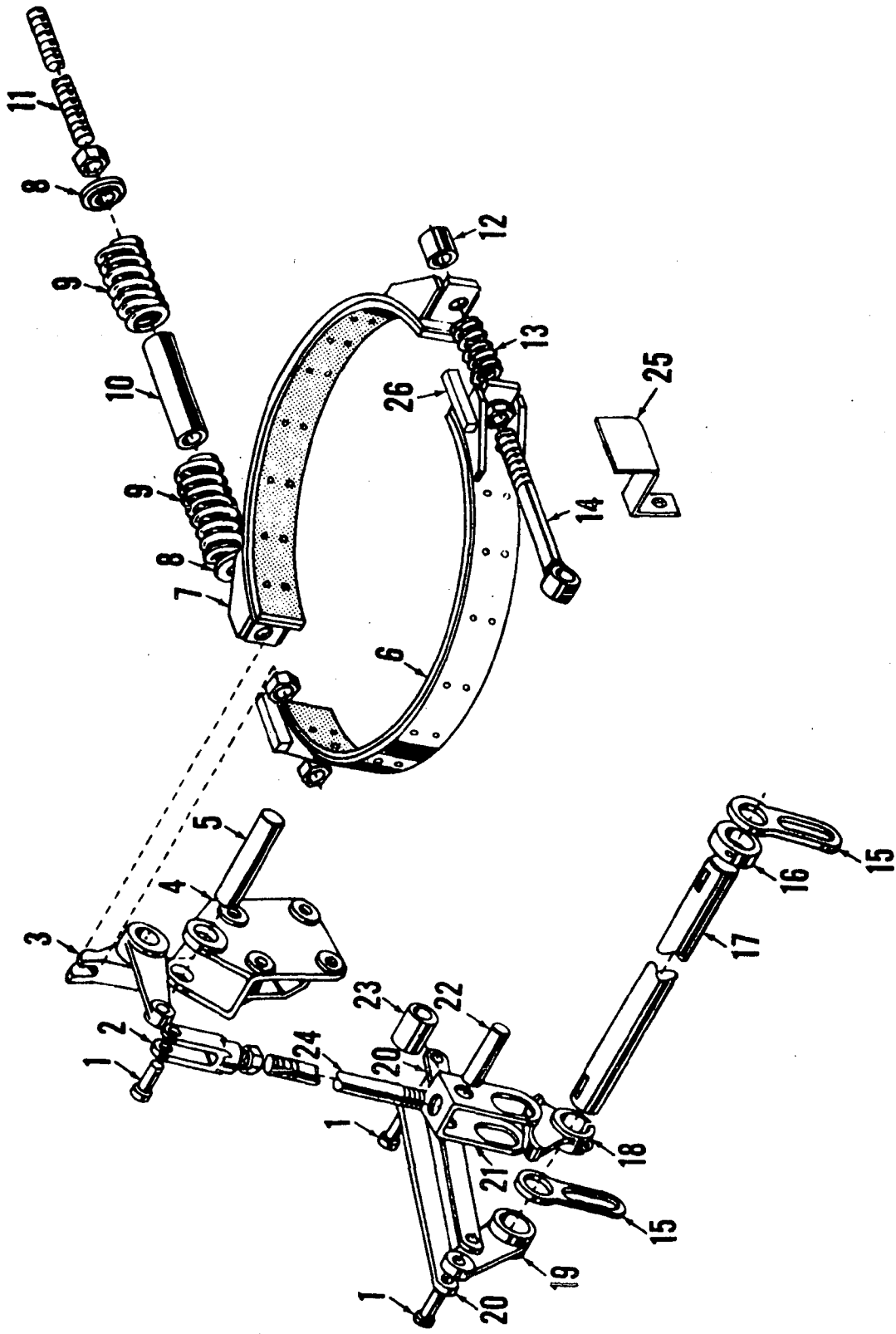


41609E1

MATERIAL LIST ON BACK

SWING CLUTCH CONTROL ASSEMBLY

41609E1



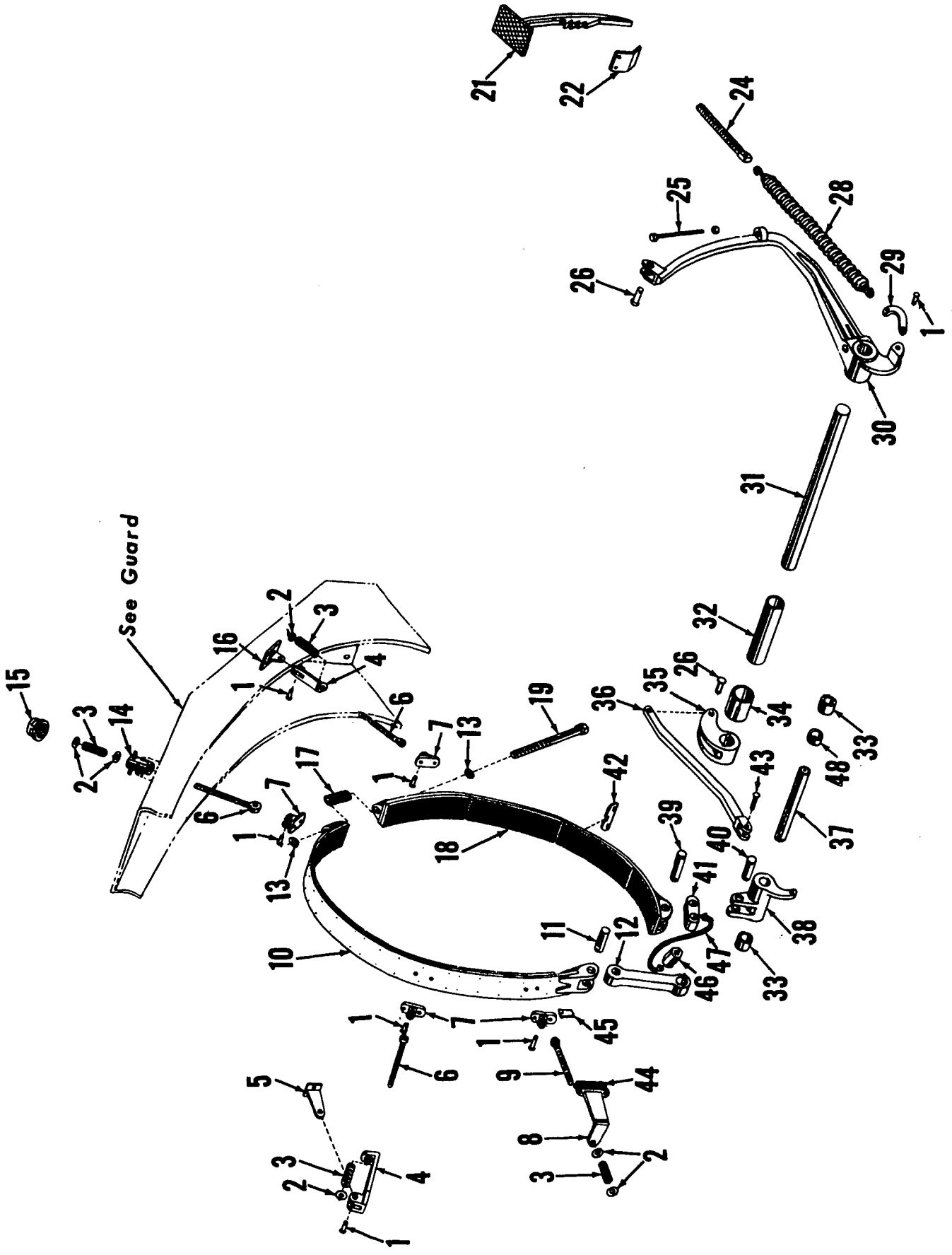
MASTER

42106A2

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IND. BOOM HOIST CONTROL

MASTER

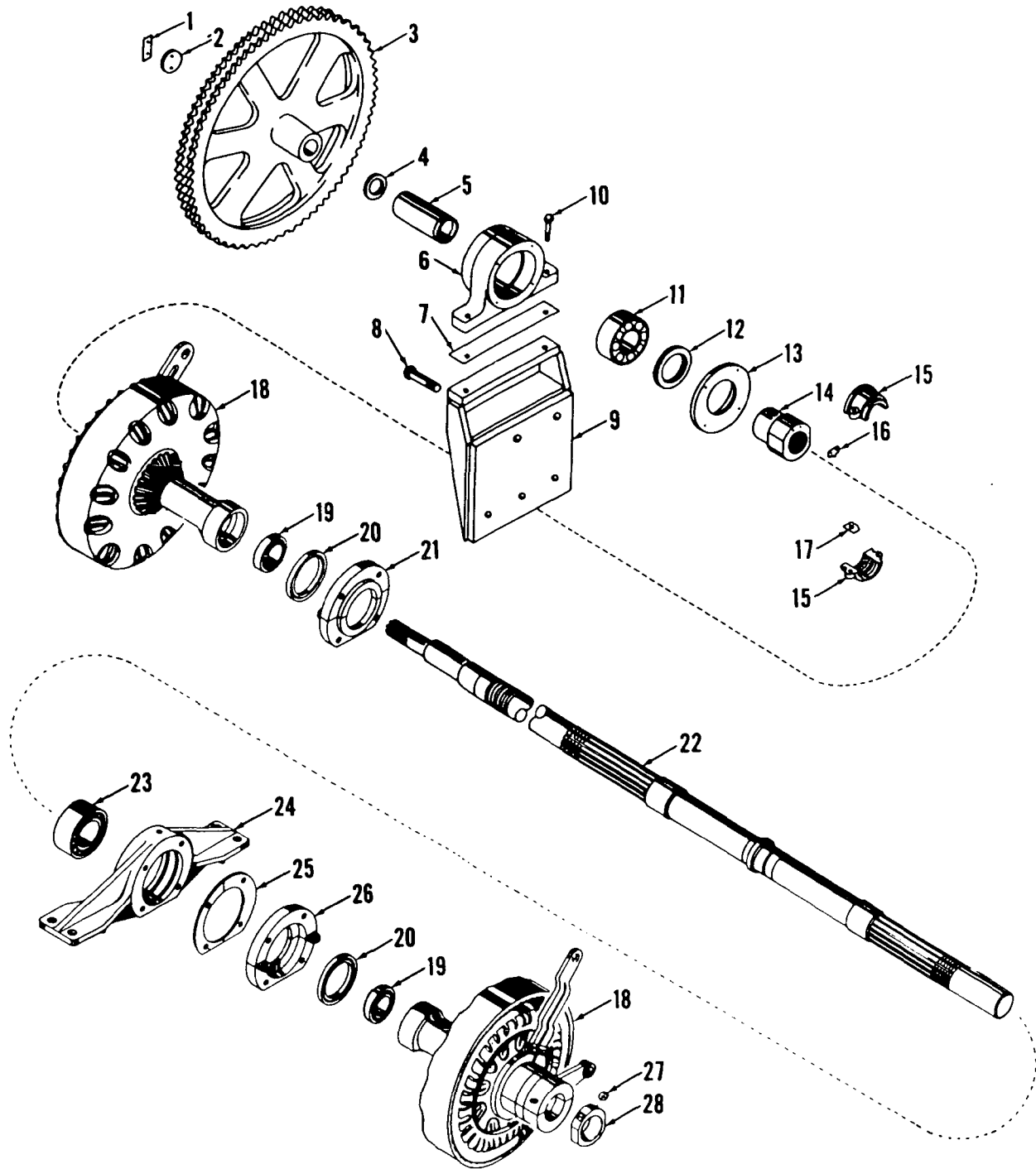


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DRUM BRAKE



4286681

MATERIAL LIST ON BACK

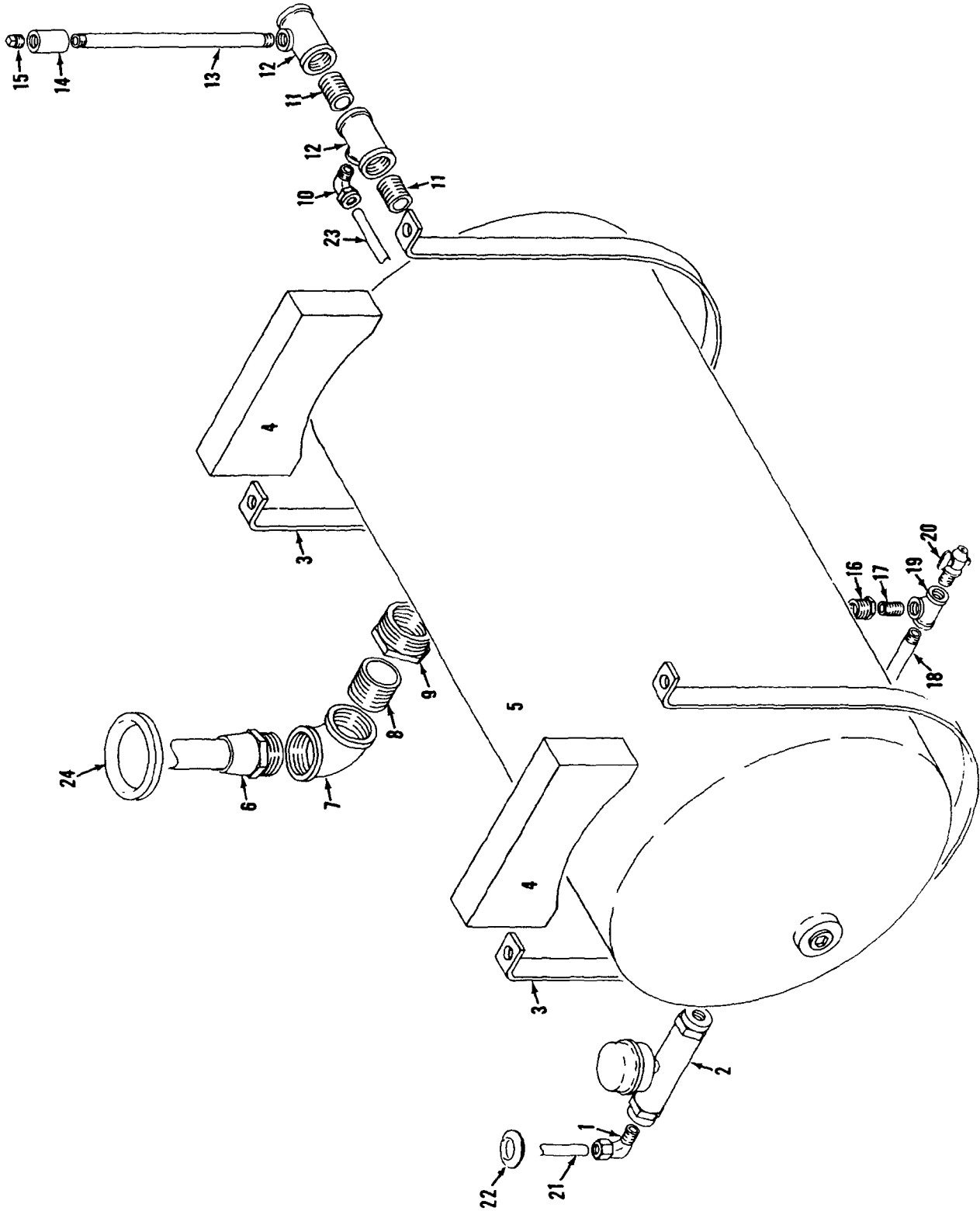
IND. SWING HORIZONTAL DRIVE SHAFT

GROUP C - Air Components & Electrical

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AIR TANK

48013 B3

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42743-1 Cont. d. Rev. E Made Vicon 3000-4000 Incl.

POWER PLANT ASSEMBLY  
(GENERAL MOTORS #6-110)

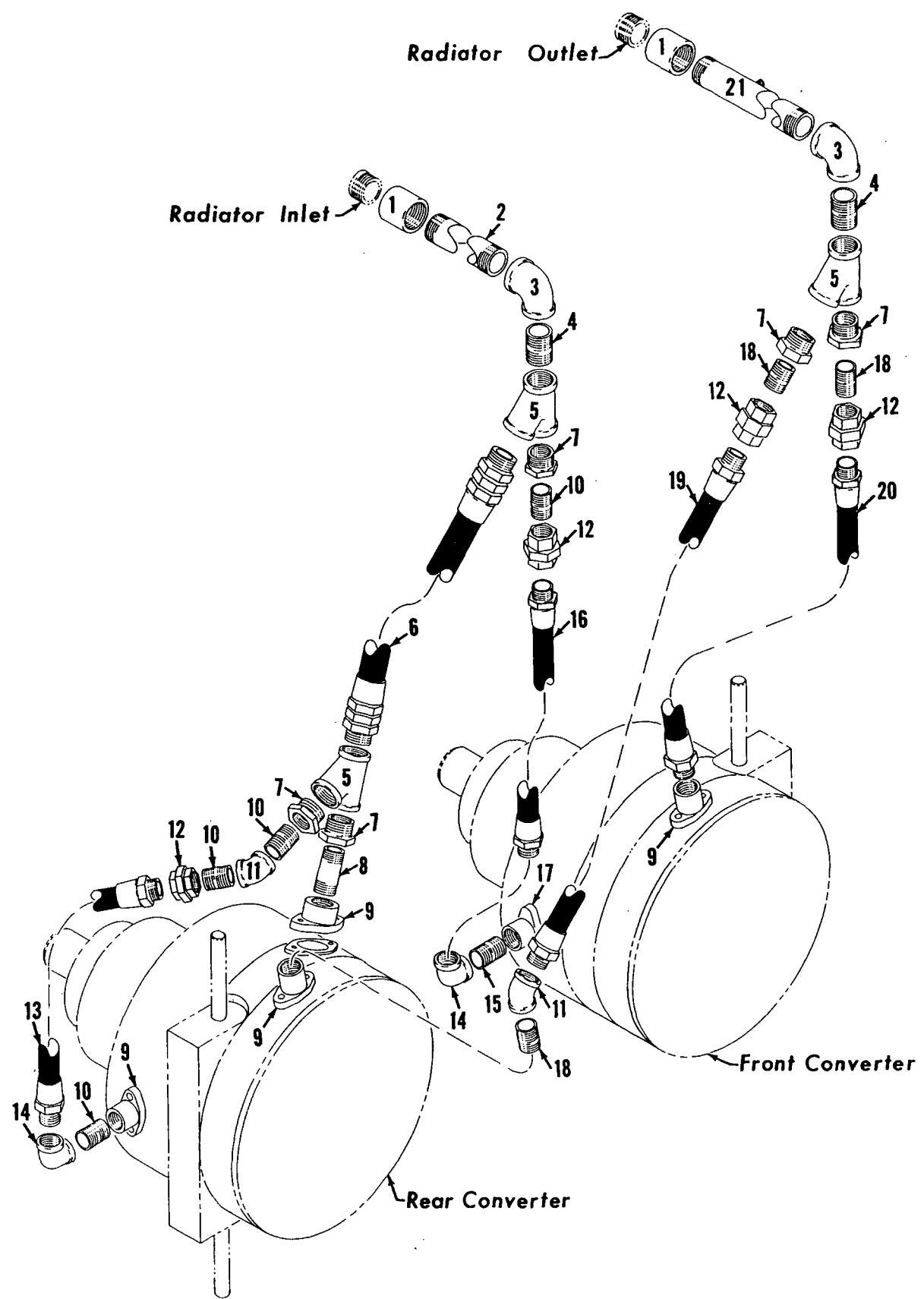
REF. NO.	PART NUMBER	DESCRIPTION OF PART	QUANTITY REQUIRED
32	485990	HOSE, Flexhaust (Oil Bath Type Air Cleaner)	1
32		HOSE (5-1/2" I.D.) (Dry Type Air Cleaner)	
33	22903	SUPPORT, Rear Engine W/capscrews and lockwashers	2
34	24577	SUPPORT, Front Engine W/capscrews and elastic stop nuts	1
35	32561	SUPPORT, Radiator (M3000-3900 Incl.) W/capscrews and lockwashers	1
35	32612	SUPPORT, Radiator (M4000) W/capscrews and lockwashers	1
36	32398	BASE, Engine (M3000-3900 Incl.) W/capscrews, cut washers, elastic stop nuts and lockwashers	1
37	612673	CAPSCREW	1
38	612825	CAPSCREW	8
39	257253	BOLT, Coupling	10
40	671872	SUPPORT, Rear Converter	1
41	671873	SUPPORT, Front Converter	1
42	208179	ANGLE, Support	2
36	32608	BASE, Engine (M4000) W/capscrews, cut washers, elastic stop nuts and lockwashers	1
37	612673	CAPSCREW	1
38	612825	CAPSCREW	8
39	257253	BOLT, Coupling	10
40	671872	SUPPORT, Rear Converter	1
41	671873	SUPPORT, Front Converter	1
42	208179	ANGLE, Support	2
43	19536	SHIM (1/8")	8
44	19535	STOP, Engine Base	2
45	373	CLIP, Battery	4
46	19537	BAR, Filler	4
47	223109	BATTERY, 12V	2
48	20423	BOX, Battery W/cover	2
	24891	SUPPORT, Battery (M3900) (Under Left Battery Only)	1
	73822	SUPPORT, Battery (M4000) (2 x 2 x 1/4 Angle 6-1/2" Long)	4
49		DUCT, Air (Furnished W/Engine) (Use W/Oil Bath Type Air Cleaners)	1
49	90223	ELBOW, Air Cleaner (Use W/Dry Type Air Cleaner) (Not Shown)	1
<p>NOTE: Prior to design change of 2-11-63, nipple #543431 (4" long), nipple #543432 (13-1/4" long) and 2 45° elbows #406695 used in place of #74109 and #377228.</p>			

REV. E 42743 - 1

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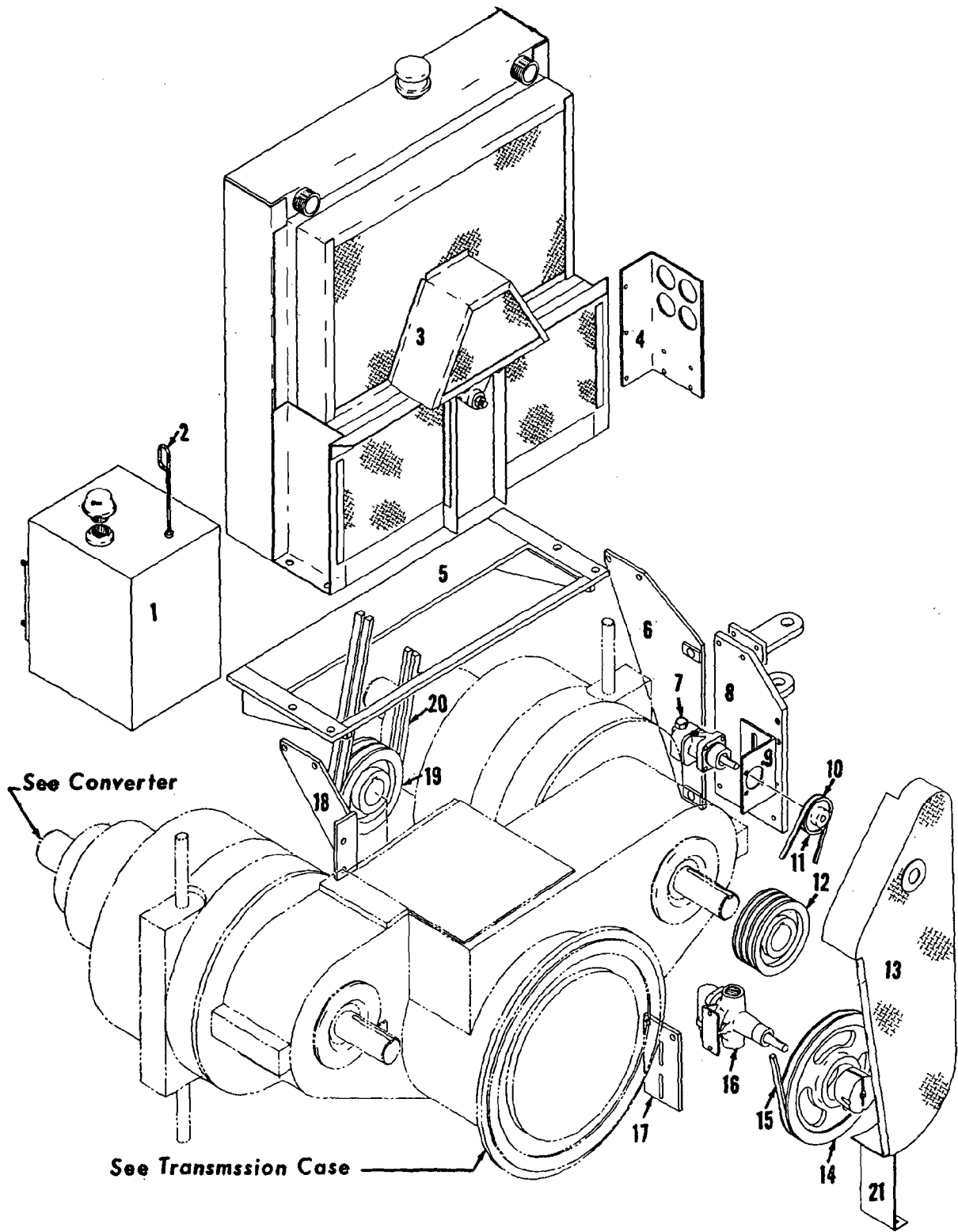
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CONVERTER COOLING SYSTEM

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42877A1

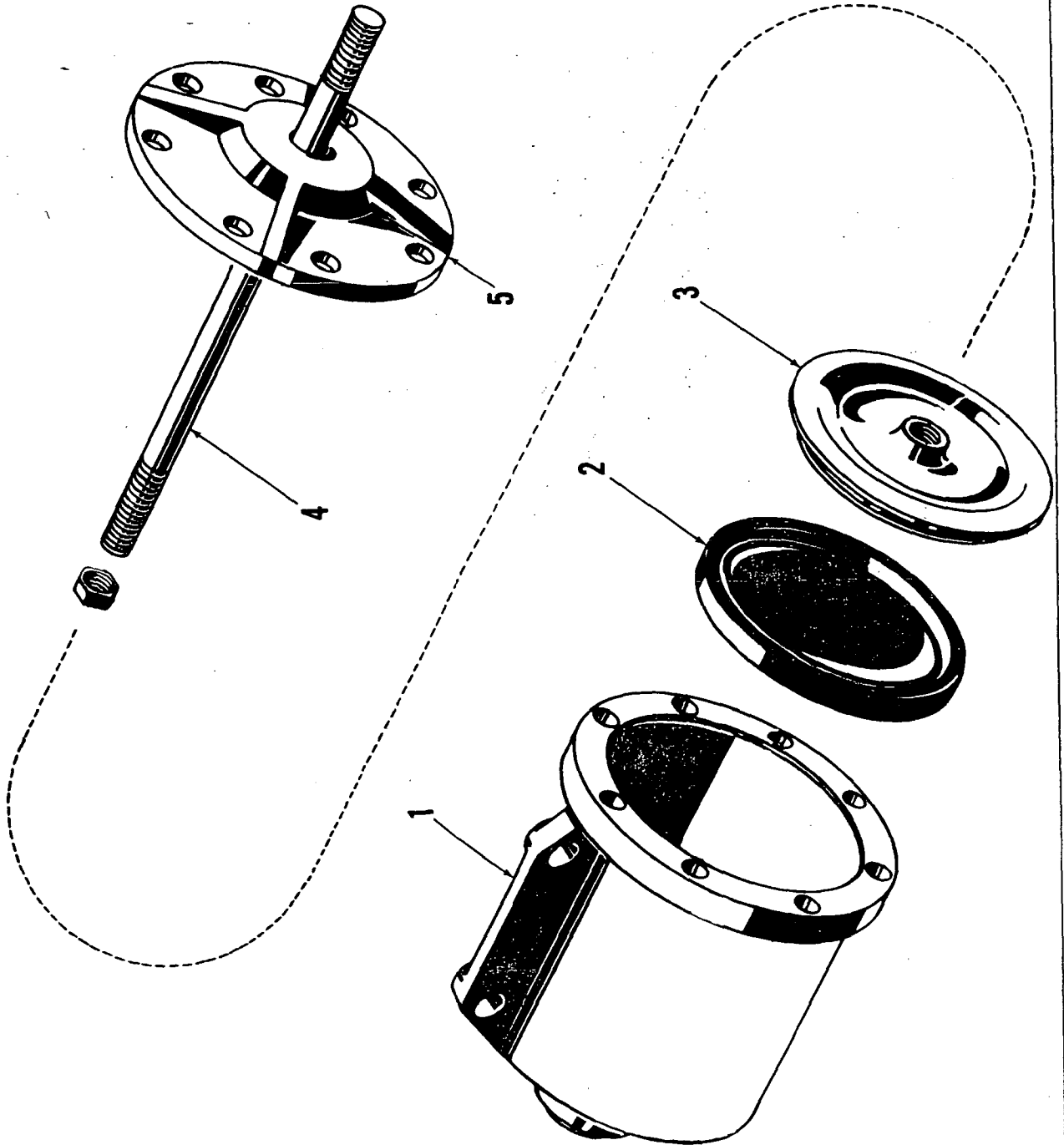
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CONVERTER COOLING AND MOUNTING

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AIR CYLINDER

207291.

MADE

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	

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

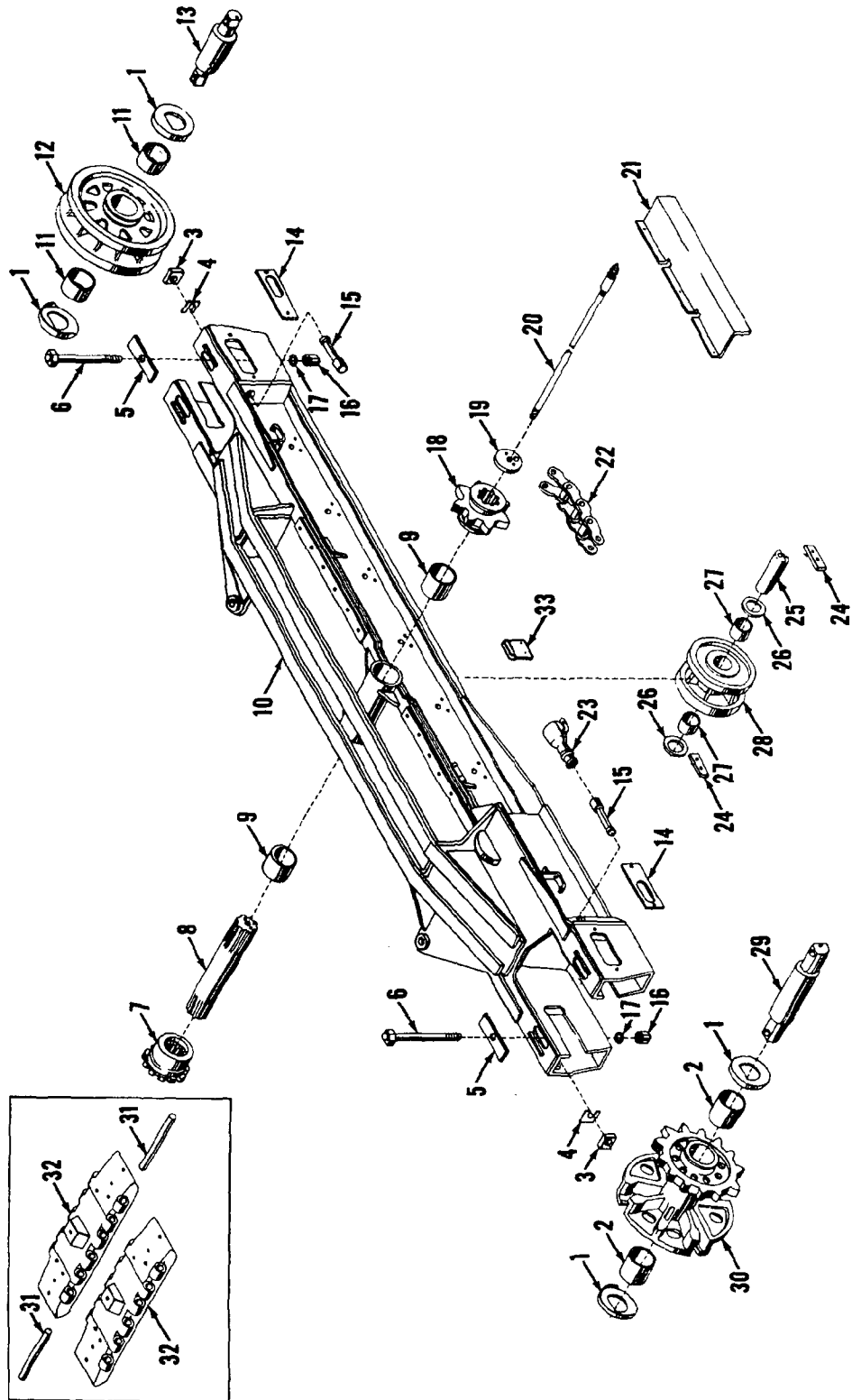
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32233 B1 Cont.

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ILLUST. No. 42572-A-1

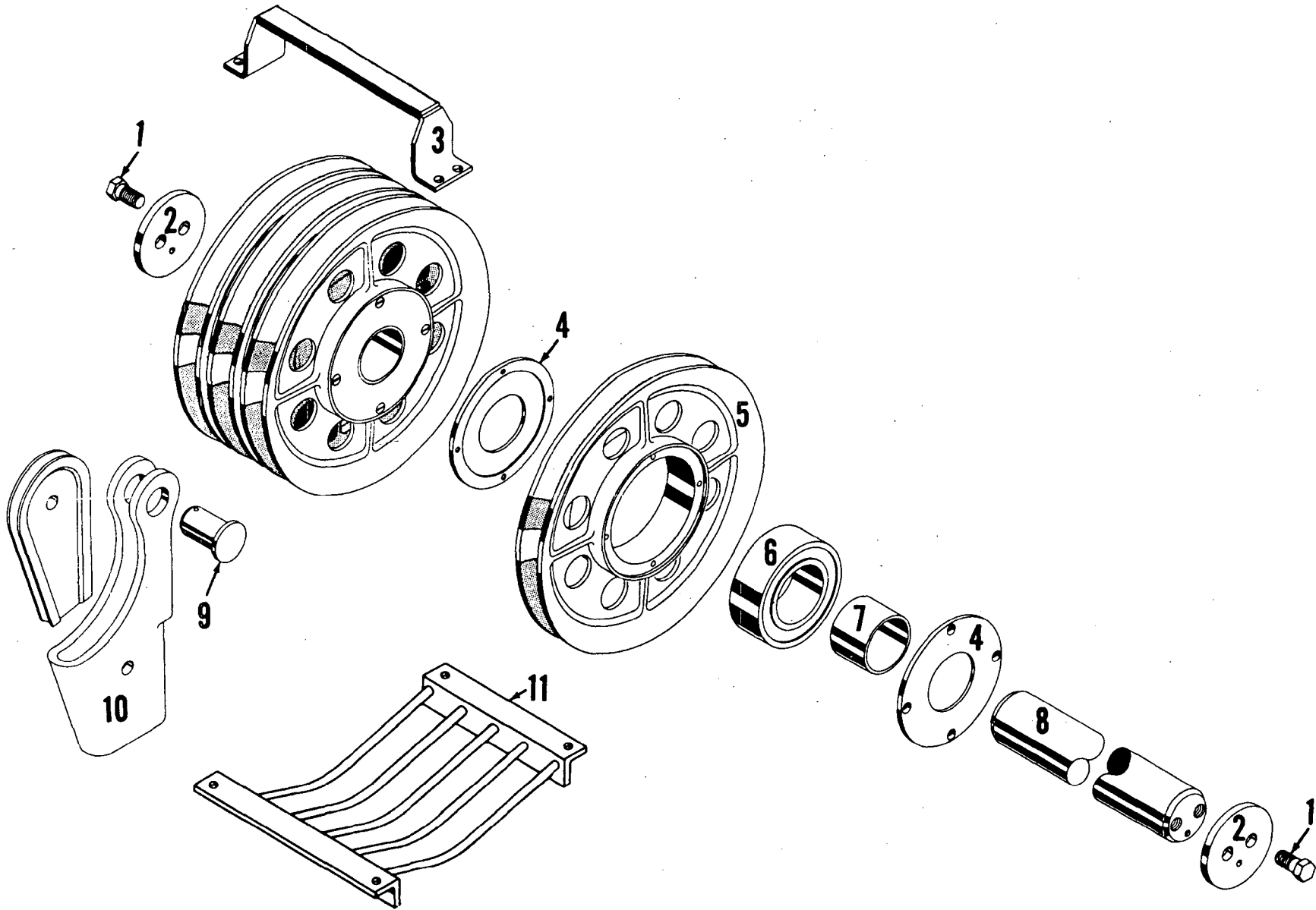
MATERIAL LIST ON BACK

CRAWLER FRAME

MACTE

24825A1

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MATERIAL LIST ON BACK

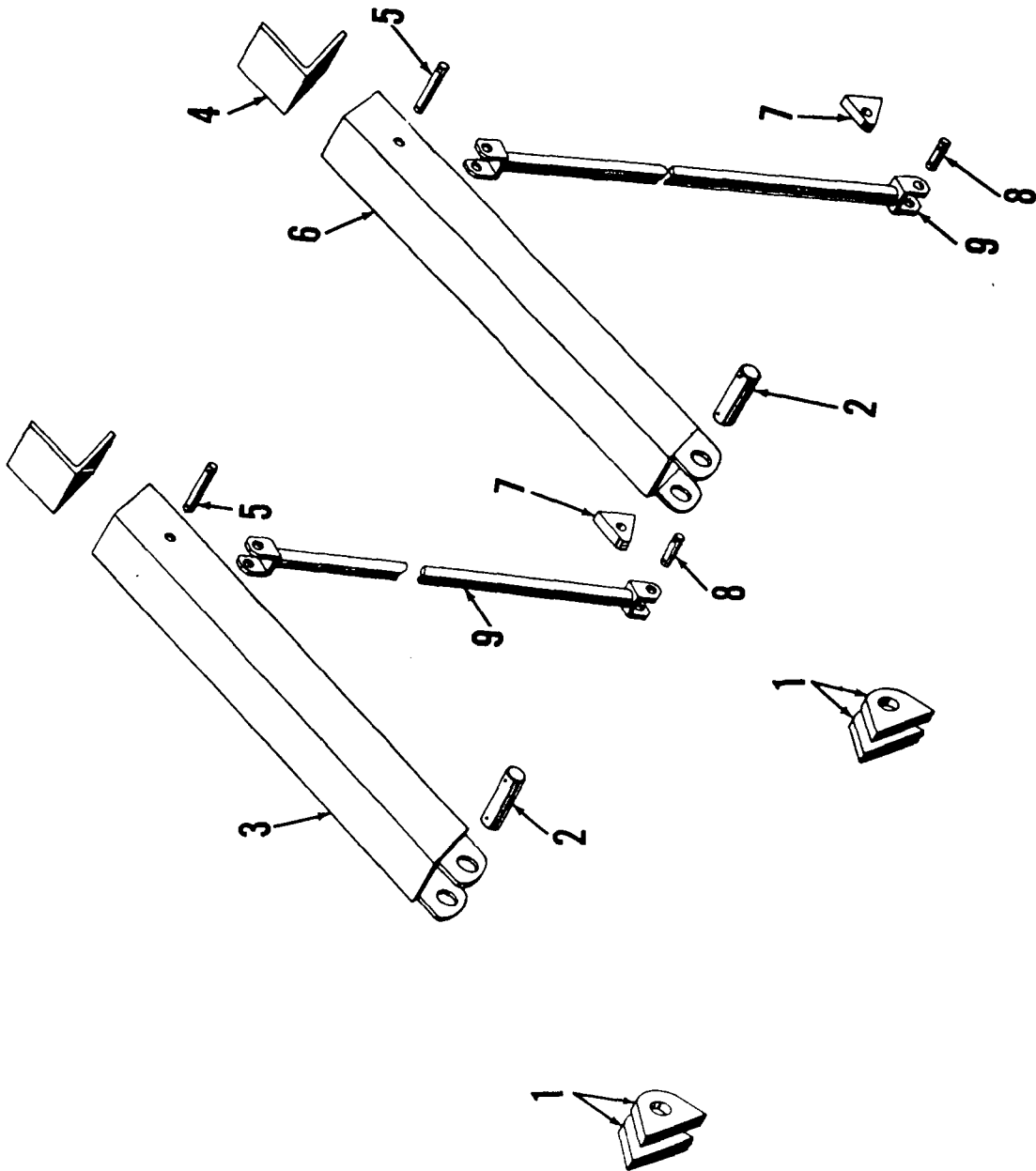
BOOM POINT SHAFT ASSEMBLY



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MASTER

32679A1

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

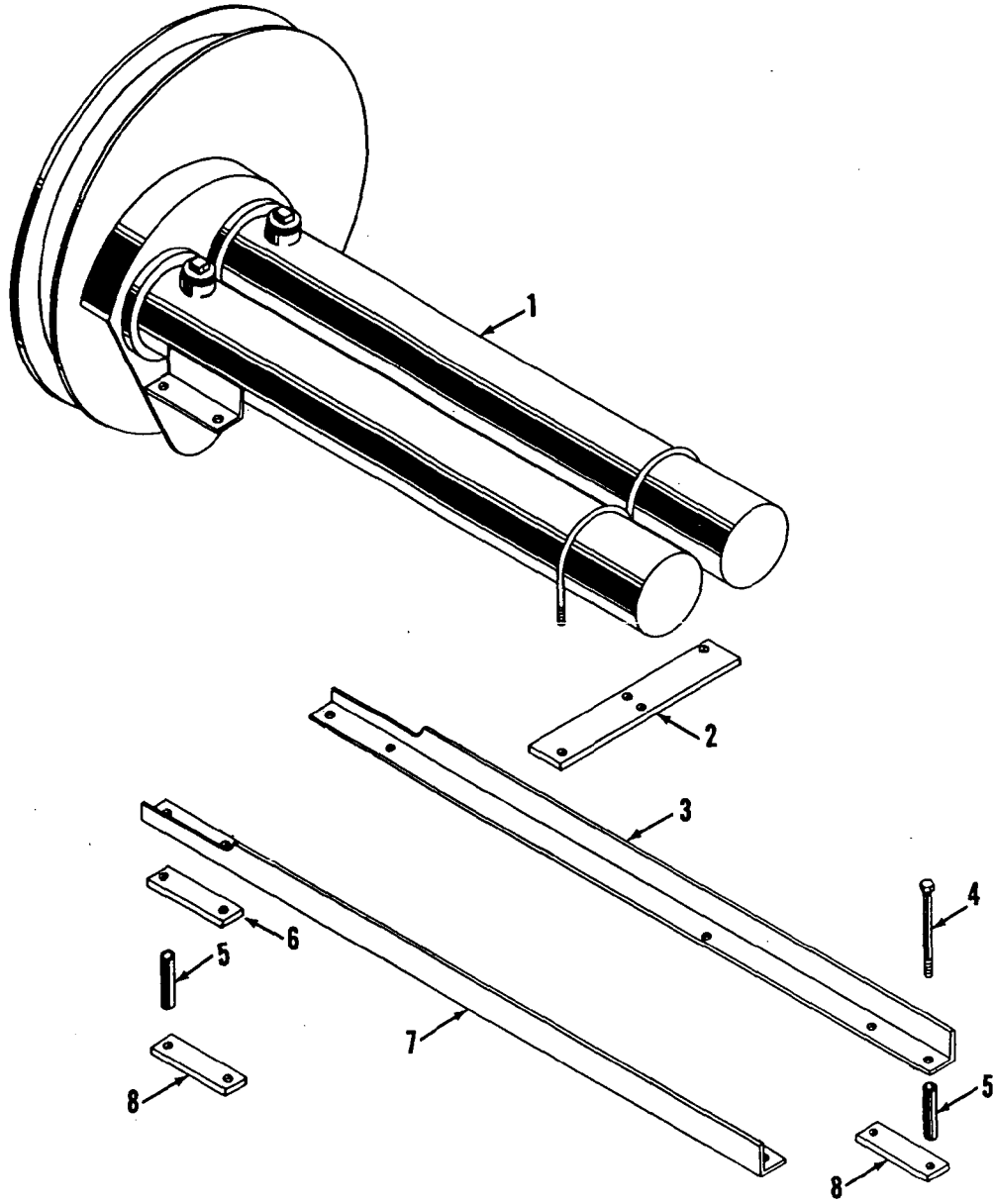
ROOM STUD ASSEMBLY



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7-7-63

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134

TAGLINE ASSEMBLY

O-Number

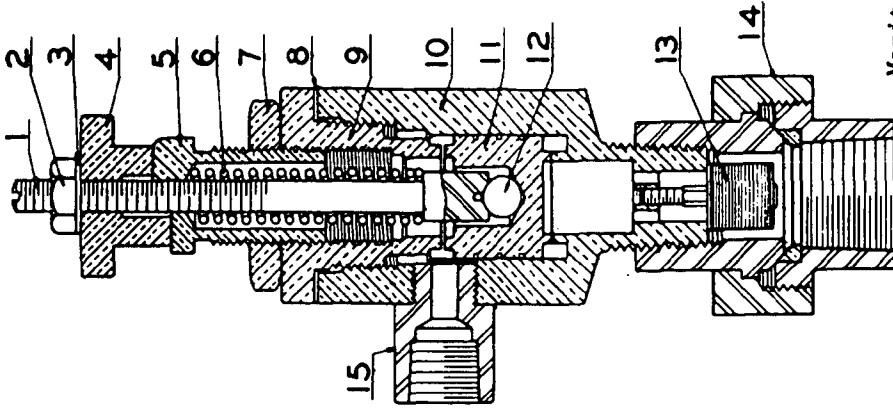
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MASTER

5-AUX-525 UNLOADER PILOT AND PARTS LIST

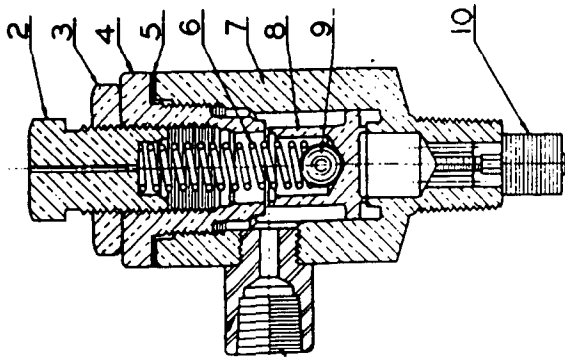


B-37823

Manitowoc #558903

REF. NO.	NAME OF PART	SYMBOL
1	Unloader Spring Carrier	3-AAB-82
2	Hand Unloader Knob Nut	50Y1
3	Hand Unloader Knob Lock Washer	95H1
4	Hand Unloader Knob	AAB-85
5	Adjusting Screw	AAB-86
6	Valve Spring	78A122
7	Adjusting Screw Nut	AAB-83
8	Adjusting Shim	77A133 (10)
9	Unloader Cap	4-AAB-78
10	Unloader Body	4-AAB-79
11	Valve	2-AAB-87
12	Valve Ball	10A6
13	Filter Element	5E2
14	Inlet Union	64AP4
15	Unloader Outlet Connection	45-AUX-113

15-AUX-525A UNLOADER PILOT AND PARTS LIST



B-37695

Manitowoc #558902

REF. NO.	NAME OF PART	SYMBOL
1	Unloader Outlet Connection	45-AUX-113
2	Adjusting Screw	7-AAB-86
3	Adjusting Nut	AAB-83
4	Unloader Cap	4-AAB-78
5	Unloader Cap Shim	77A133 (10)
6	Unloader Spring	78A236
7	Unloader Body	4-AAB-79
8	Unloader Valve	3-AAB-87
9	Valve Ball	10C4
10	Filter Element	5E2

64AP4

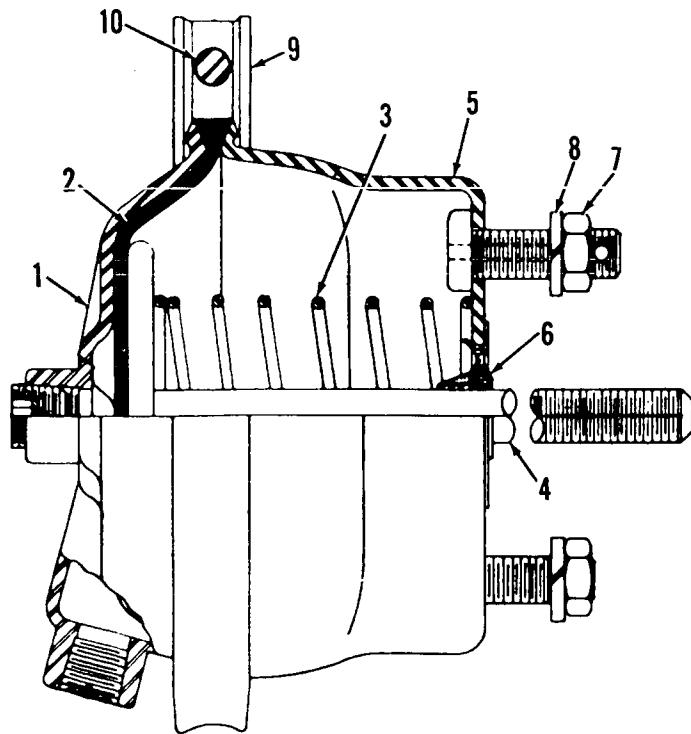
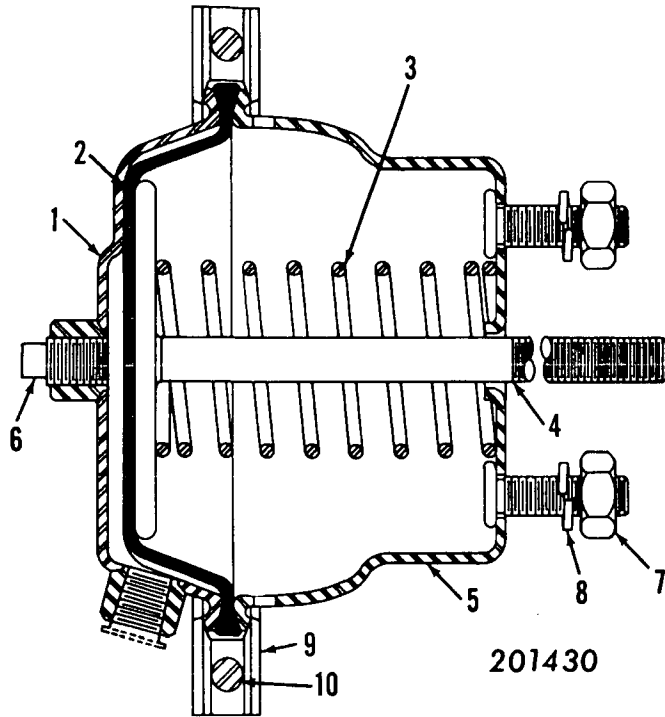
Unloader Body Union

When ordering repairs give Model Number of Pilot and Symbol of unloader parts desired. (Model Number is stamped on hexagon face near unloader pipe fitting 45-AUX-113.)

MANITOWOC ENGINEERING CO.

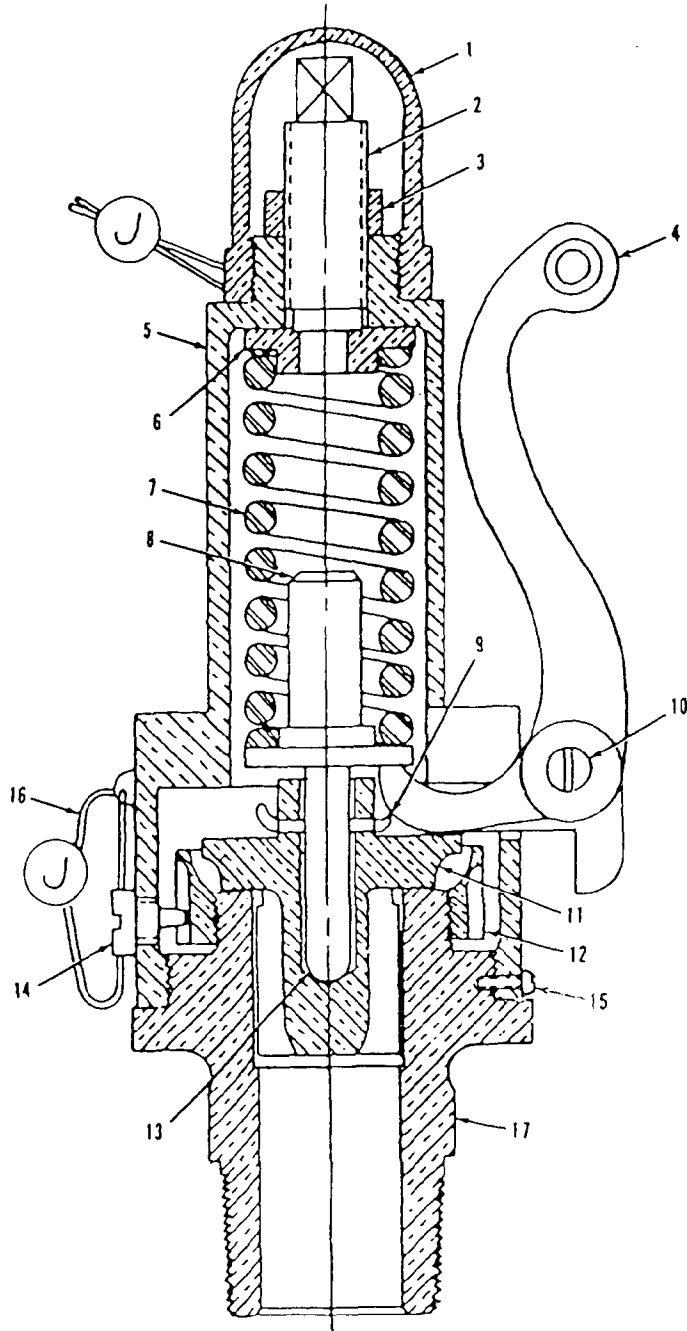
A Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin



MASTER

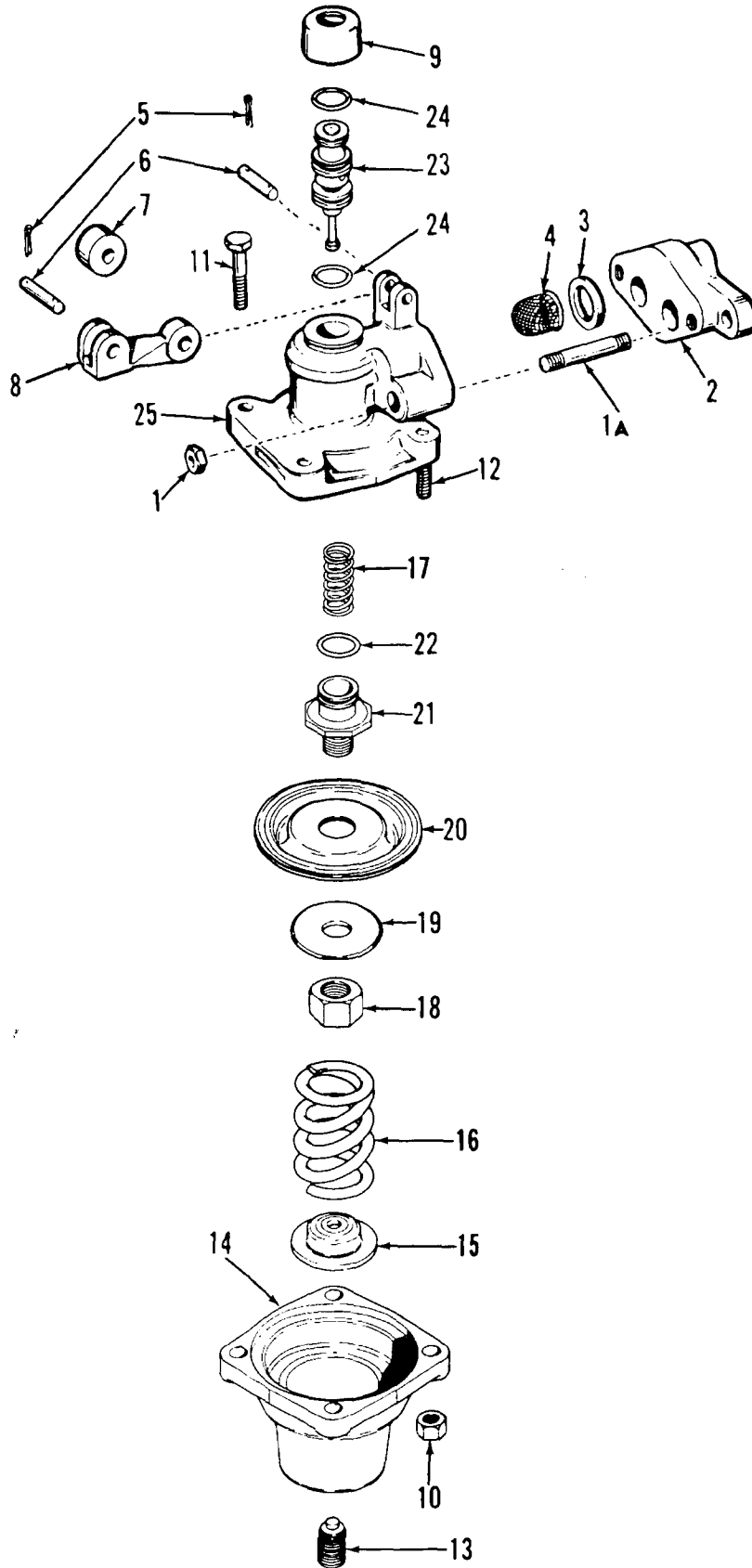
0123A1



MANITOWOC ENGINEERING CO.

A Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin

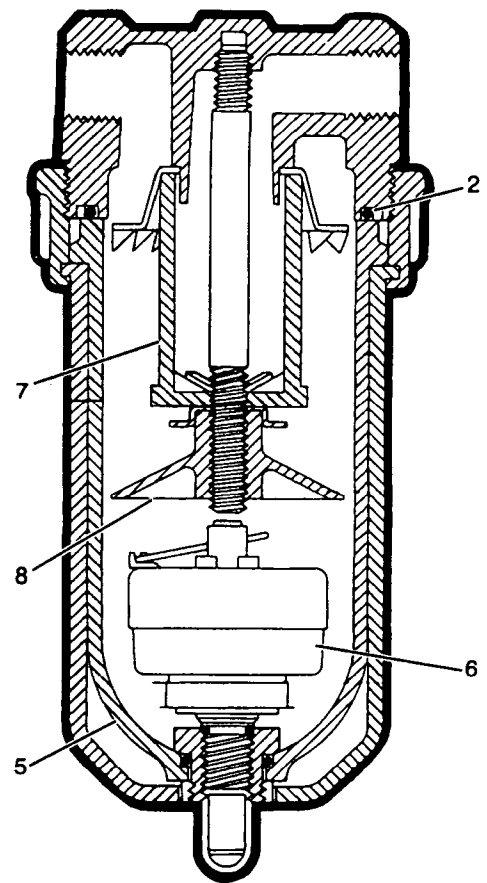
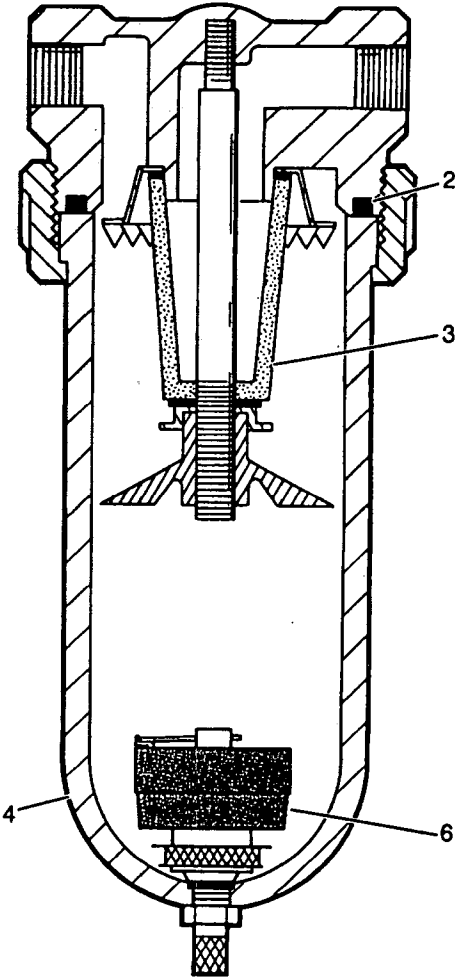
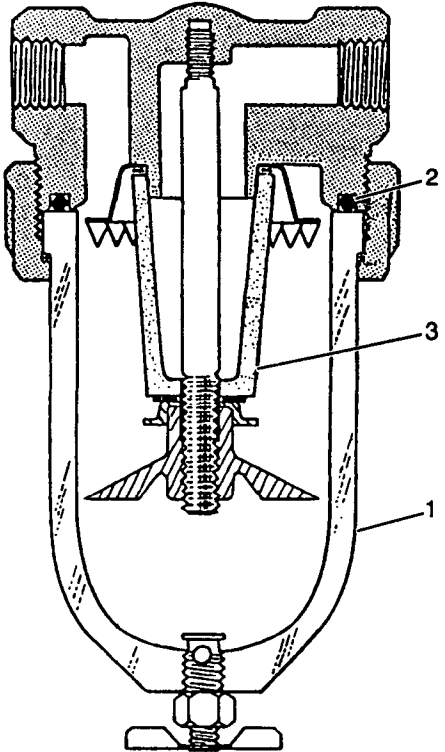


O243

MATERIAL LIST ON BACK

VALVE ASSEMBLY

ILLUST. O-289 B1



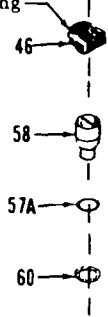
ASSEMBLY  
O-289

REVISION  
C

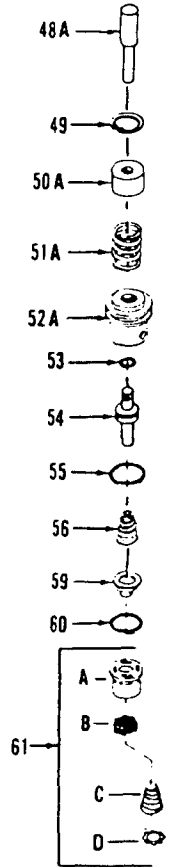
AIR LINE FILTER

Cavity Plugged

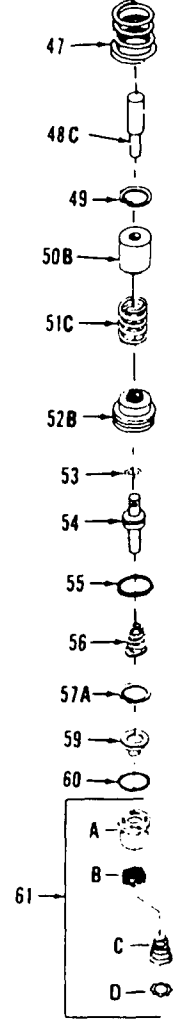
Fasten to Housing  
Ref. #32



3 Way Valve



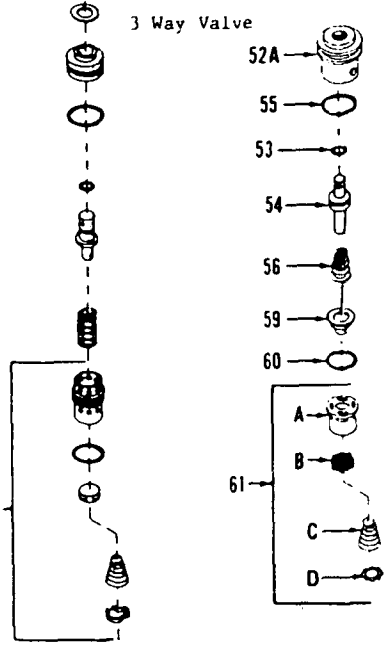
Modulating Valve



REPAIR AND CONVERSION KITS

Obsolete

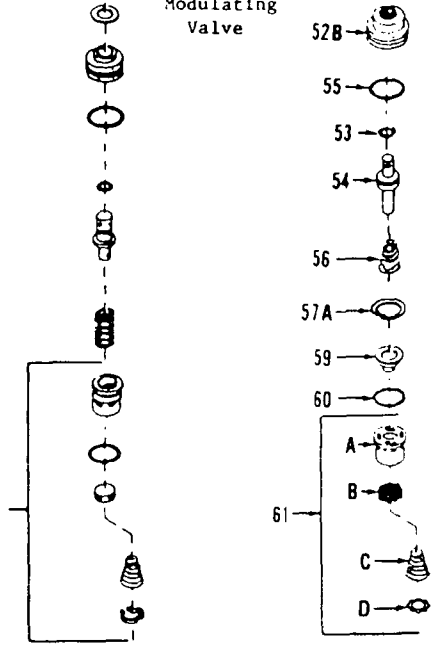
Replace With



Obsolete

Modulating Valve

Replace With



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