

Manitowoc

TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

4600

Model

46157

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.

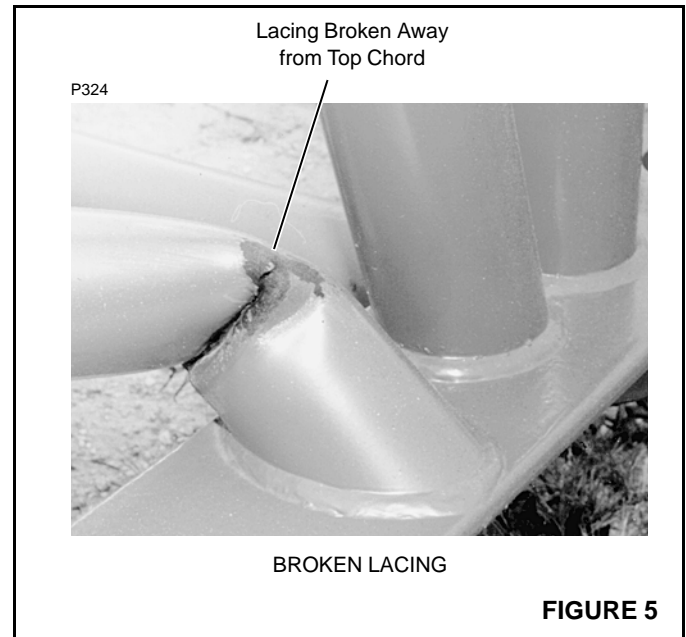
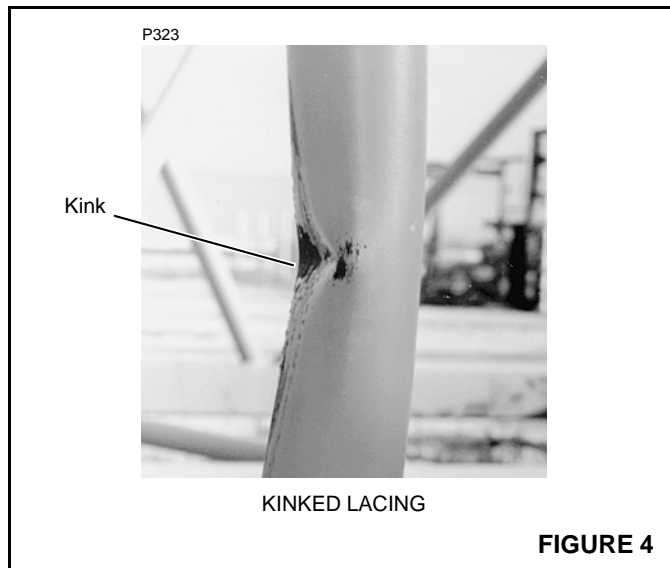
Corrosion and abrasion must not be deeper than 10 percent of the wall thickness, the angle thickness, or the plate thickness.

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.*

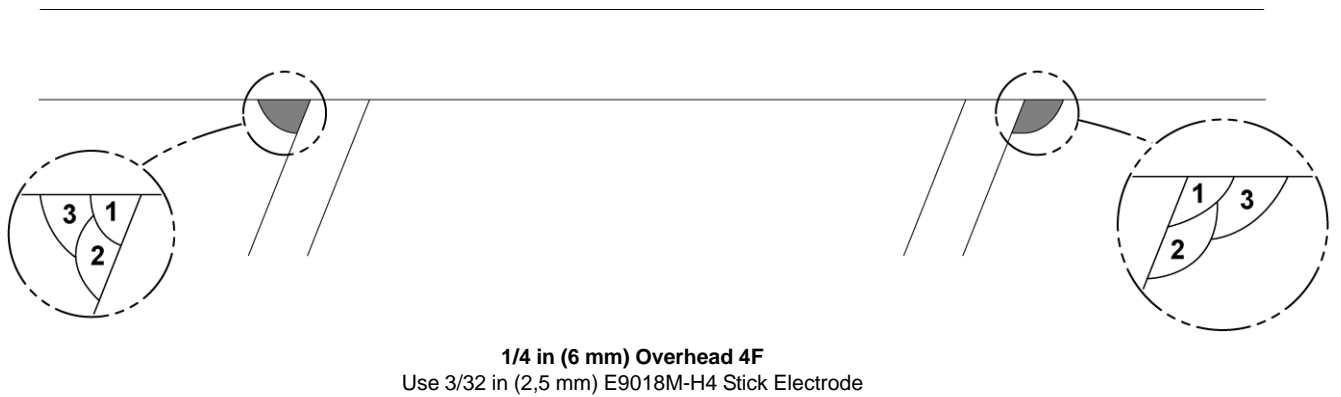
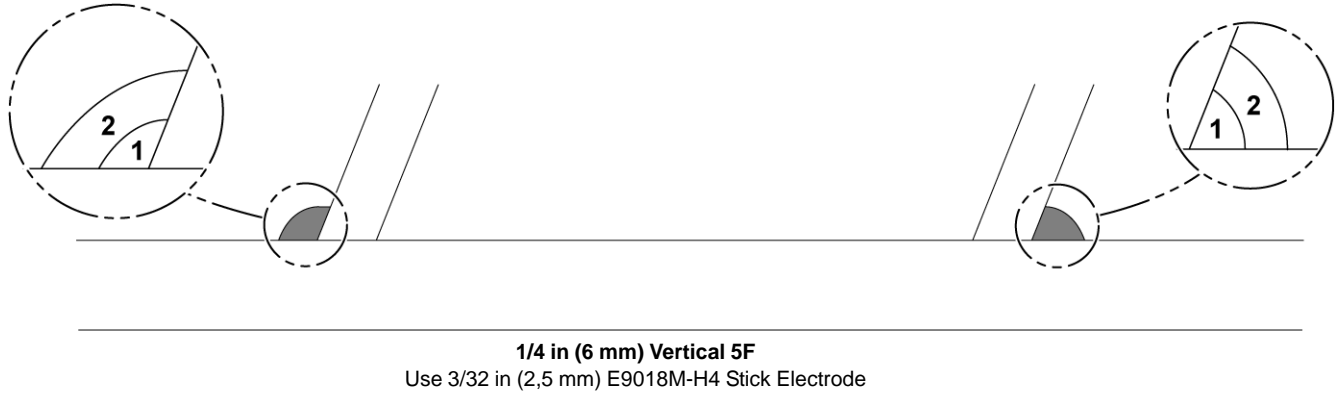
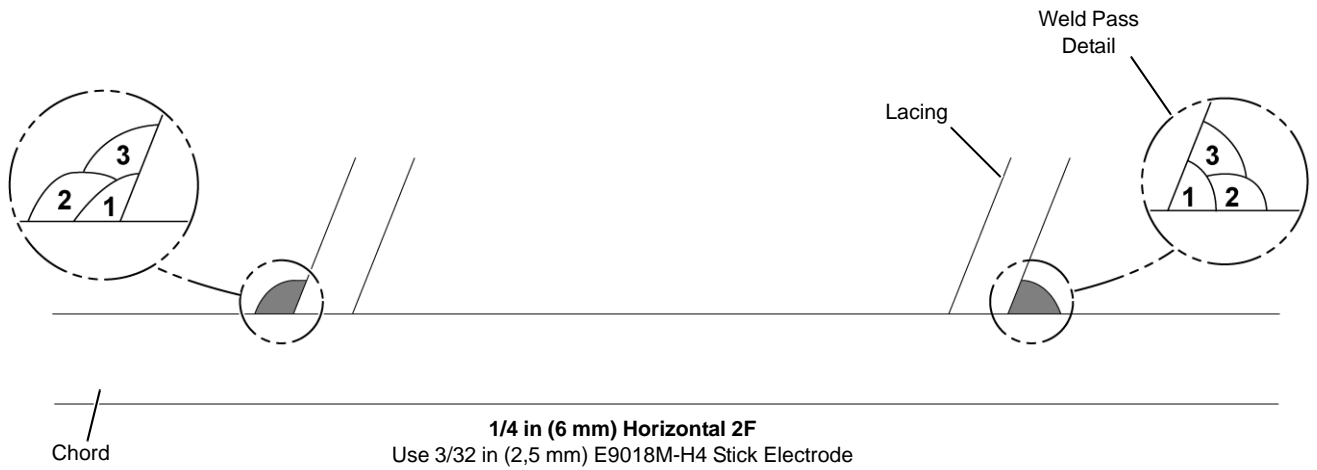


FIGURE 16

MANITOWOC ENGINEERING CO.

A Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin

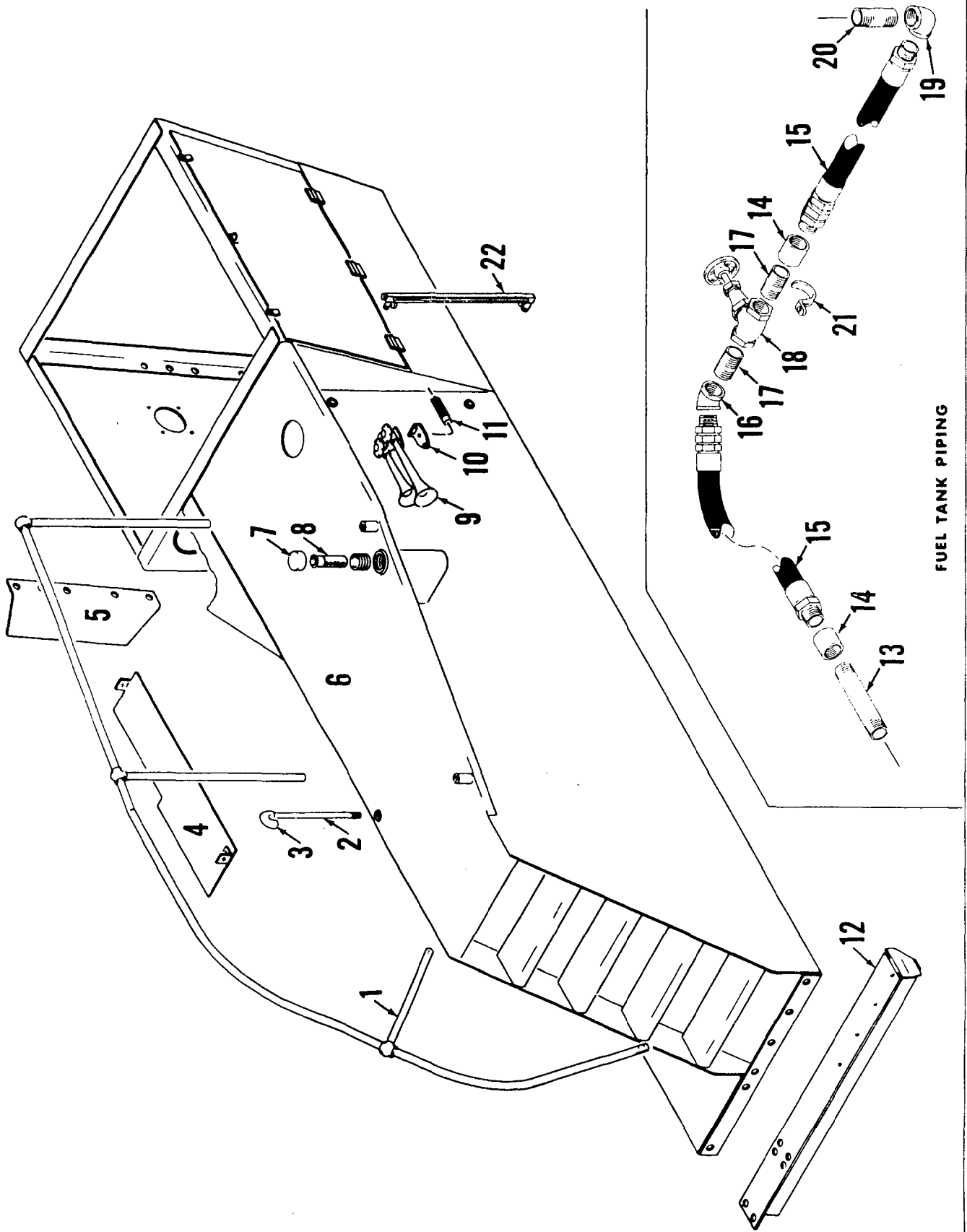
WEIGHTS

MODEL 4600

DESCRIPTION	APPROX. WEIGHT
·ROTATING BED w/Main Drive Shaft, Countershaft & Components	
less Engine, Drums and Counterweights	77,616 Lbs.
FRONT DRUM (For any combination)	12,097 Lbs.
REAR DRUM (For any combination)	15,632 Lbs.
LAGGINGS (Optional)	1,800 Each
COUNTERWEIGHT FOR LIFTCRANE	*112,000 Lbs.
COUNTERWEIGHT FOR STANDARD SHOVEL	* 55,000 Lbs.
COUNTERWEIGHT FOR STRIPPING SHOVEL	* 71,000 Lbs.
COUNTERWEIGHT FOR DRAGLINE W/120' BOOM	* 65,000 Lbs.
COUNTERWEIGHT FOR DRAGLINE W/140' BOOM	* 87,000 Lbs.
MAIN DRIVE SHAFT ASSEMBLY	5,532 Lbs.
COUNTERSHAFT ASSEMBLY	1,994 Lbs.
CARBODY w/Travel Shafts, Steering Clutches and Travel Locks, less Crawlers, Ring Gear and Kingpin.	46,284 Lbs.
RING GEAR AND ROLLER PATH	8,174 Lbs.
KINGPIN	1,482 Lbs.
CRAWLER - 22' w/48" Shoes and 17 links chain w/Outside drive	38,360 Each
CRAWLER - 22' w/60" Shoes and 17 links chain w/Outside drive	42,056 Each
CRAWLER - 26' w/48" Shoes and 17 links chain w/Outside drive	47,630 Each
CRAWLER - 26' w/60" Shoes and 17 links chain w/Outside drive	52,067 Each
CRAWLER SHOE - 60" w/2 Pins (See Carbody Assm. for Qty.)	460 Lbs.
CRAWLER SHOE - 48" w/2 Pins (See Carbody Assm. for Qty.)	376 Lbs.
CRAWLER CHAIN - For use with 26' Crawlers	1,498 Lbs.
CRAWLER CHAIN - For use with 22' Crawlers	1,183 Lbs.
ENGINE - Tandem Engines - Cummins	
w/Engine Bed - less Radiator	18,022 Lbs.
ENGINE - Tandem Engines G.M.	15,894 Lbs.
RADIATOR - Tandem Cummings Engines	1,380 Lbs.
RADIATOR - Tandem G.M. Engines	1,720 Lbs.
LIGHT PLANT w/Base and Hook	2,000 Lbs.
STANDARD WIRING - Dragline and Shovel	87 Lbs.
AWNING ASSEMBLY	175 Lbs.
PILOT HOUSE	1,110 Lbs.
PILOT HOUSE SUPPORT including 560 Gal. Fuel Tank and Steps	2,395 Lbs.
MAST - 24' w/Sheaves and Components	7,424 Lbs.
MAST - 30' w/Sheaves and Components	8,782 Lbs.
COMPRESSOR - Tandem Engine	1,024 Lbs.
BACKHITCH ASSEMBLY - 10 Part Line	2,400 Lbs.
BACKHITCH ASSEMBLY - 12 Part Line	2,860 Lbs.
BOOM BUTT - 45' Steel #33 Boom	8,800 Lbs.
BOOM BUTT - 25' Steel #33 Boom	6,600 Lbs.
BOOM TOP - 38' Aluminum w/Sheaves and Components #33 Boom	5,280 Lbs.
INSERT - 37' Aluminum #33 Boom	3,500 Lbs.
INSERT - 20' Aluminum #33 Boom	2,200 Lbs.
BOOM BUTT - #7 Boom	8,150 Lbs.
BOOM TOP - w/Cable Guide, Boom Point, Sheaves & Components #7 Boom	11,000 Lbs.
BOOM INSERT - 20' w/Cable Guide #7 Boom	3,200 Lbs.
BOOM INSERT - 40' w/Cable Guide #7 Boom	5,700 Lbs.
FAIRLEAD ASSEMBLY	3,958 Lbs.

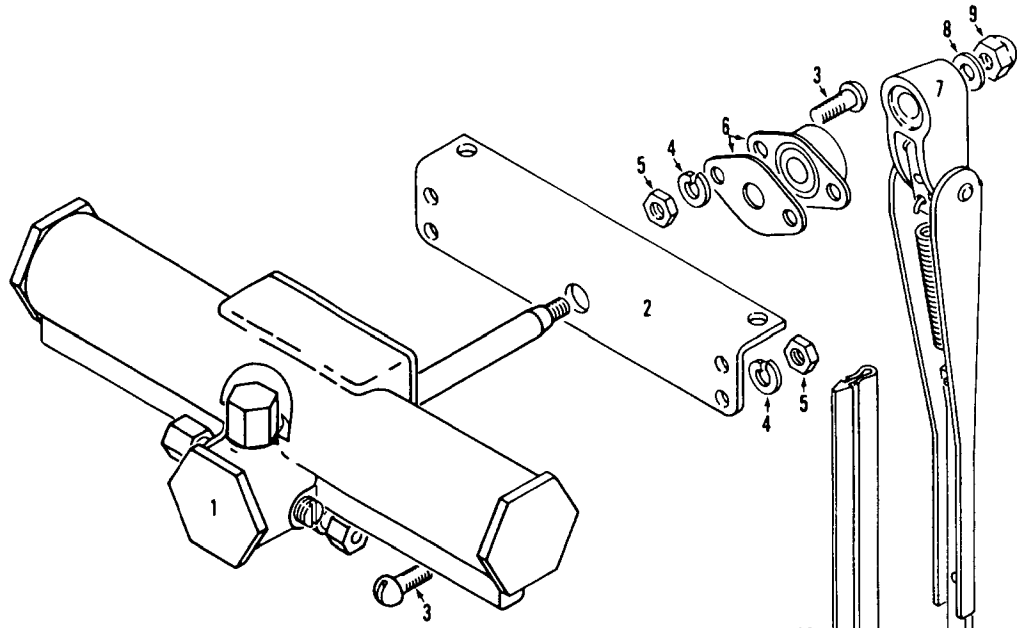
*REFER TO SPECIALITY BILL FOR COUNTERWEIGHT FURNISHED

MASTER

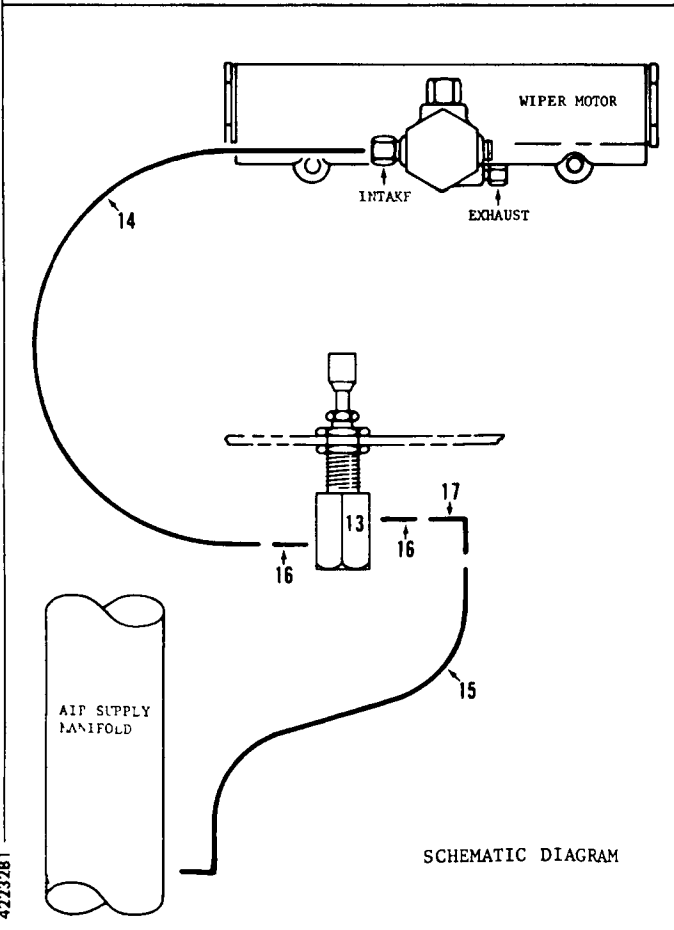
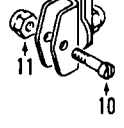


FUEL TANK PIPING

FUEL TANK AND PILOT HOUSE SUPPORT



12



SCHEMATIC DIAGRAM

4223281

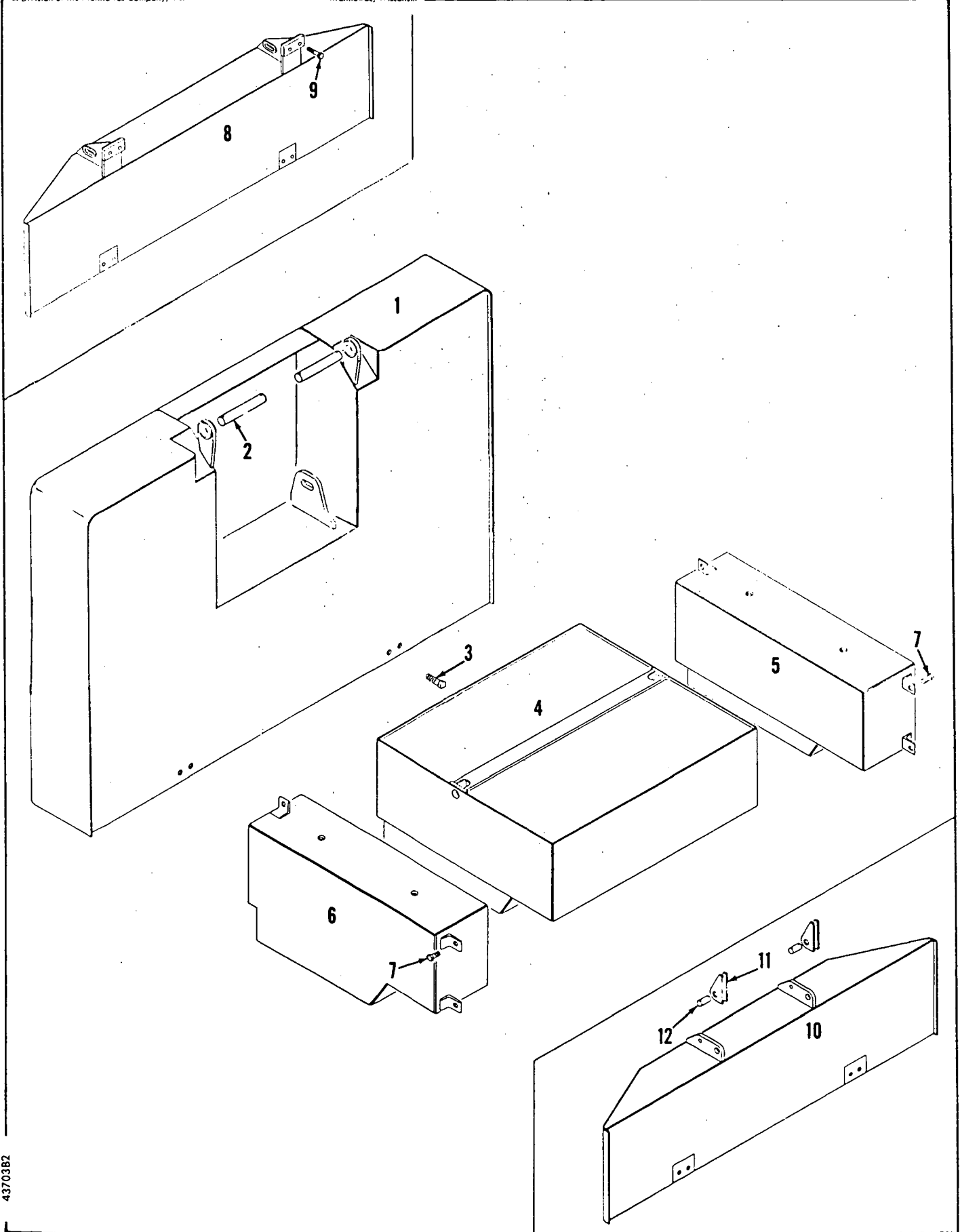
MATERIAL LIST ON BACK

WINDSHIELD WIPER

MANITOWOC ENGINEERING CO.

A Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin



43703B2

MATERIAL LIST ON BACK

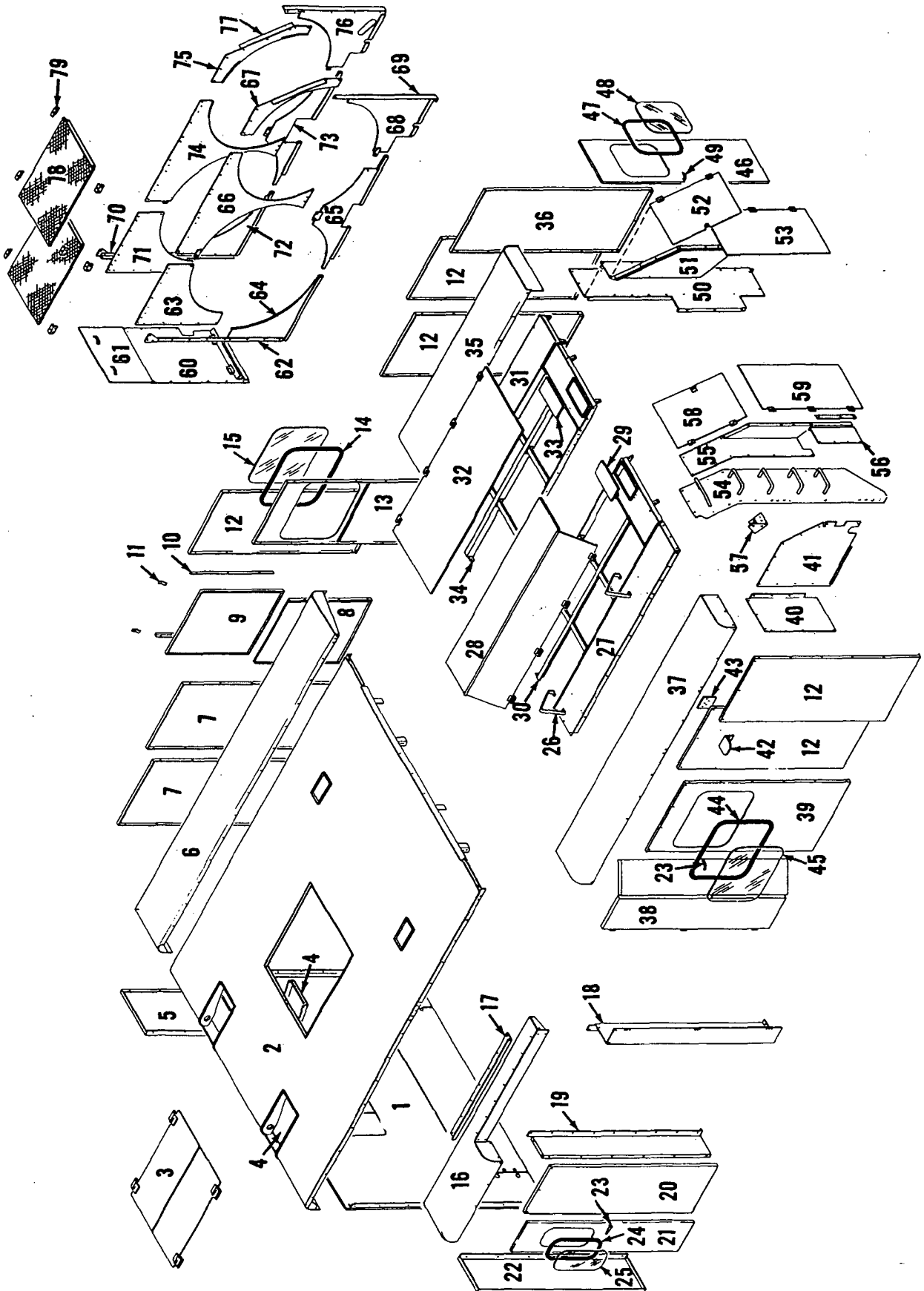
COUNTERWEIGHT ASSEMBLY



MANITOWOC ENGINEERING CORP.

A Subsidiary of The Manitowoc Company, Inc.

Manitowoc, Wisconsin



50274A2
M-2-61
3-8-63

50274-A-2

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

CAB ASSEMBLY

CPT

50447-1 Cont.	REV. K	MODEL 4600
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ROTATING BED

Run as Front

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
42	15066	1	GASKET	
43	15065	1	PLATE, Cover w/capscrews and lockwashers	
44	10214	1	BUSHING	
45	15037	1	PLATE, Cover w/capscrews and lockwashers	
46	77829	1	PLATE, Cover w/capscrews and lockwashers	
47	77830	1	PLATE, Cover w/capscrews and lockwashers (not used w/ind. swing)	
48	15039	1	PLATE, Cover w/capscrews and lockwashers	
49	14867	1	GASKET	
50	14866	1	PLATE, Cover w/capscrews and lockwashers	
51	14868	1	GASKET	
52	73077	1	PLATE, Cover w/capscrews and lockwashers	
53	73075	1	GASKET	
54	73076	1	PLATE, Cover w/capscrews and copper washers	
54	73072	1	PLATE, Cover w/capscrews and copper washers (w/ind. swing)	
55	50446-2	1	BED, Rotating (Lift, Drag, Clam)	
55	50446-9	1	BED, Rotating (Lift, Clam, Shovel)	
56	636117	2	SHIM, Wood (1/4")	
57	633286	1	COVER (weld to rotating bed) (machine w/out bottom fuel tank)	
58	633287	1	COVER (weld to rotating bed) (machine w/out bottom fuel tank)	
<p><u>NOTE 1:</u> For pedestal mounted machines w/out collector rings or vertical travel shaft use the following in place of cover 184067, Ref. 34.</p>				
	144828	1	COVER	
34	184108	1	COVER, Chain case (See Note 2)	
59	396432	1	PIN, Roll (3/8" x 1")	
	182128	1	WALL, Compartment	
<p><u>NOTE 2:</u> Prior to design change of Aug. 8, 1979, the following were used (w/out stiffener)</p>				
34A	30914	1	COVER, Chain case (See Note 3)	
59	396432	1	PIN, Roll (3/8" x 1")	
34A	182127	1	COVER, Chain case (pedestal mount)	
59	396432	1	PIN, Roll (3/8" x 1")	
<p><u>NOTE 3:</u> All machines w/shovel attachment use cover 30914.</p>				
<p><u>NOTE 4:</u> Was 21317 prior to 9-27-84 design change.</p>				
				REV. K
				50447 - 1

PLEASE GIVE MACHINE S/N W/ORDER

50447 K1 C

PARTS MANUAL ALPHABETICAL INDEX
Group B - Upperworks Machinery

DESCRIPTION	PUBLICATION	REV	START DATE	END DATE	GROUP
Boom Hoist Chain Case	180188	E1	12/19/67	06/14/84	B0212
Boom Hoist Control, Independent	43095	F1	05/21/64	06/13/84	B0204
Boom Hoist Control, Independent	90115	B1	05/21/63	06/06/84	B0204
Boom Hoist Countershaft, Independent	90697	D1	02/11/65	05/24/84	B0208
Boom Hoist Gear Case, Independent	33217	A1	02/04/65	06/12/84	B0203
Boom Hoist Support, Independent	43465	D1	02/04/65	05/11/78	B0201
Boom Hoist, Independent	50376	G1	01/15/65	06/12/68	B0202
Boom Hoist, Independent	50376	B2	01/15/65	04/02/71	B0202
Countershaft, Drum Drive	33892	E1	12/07/67	02/27/85	B0501
Drum Brake - Front	22635	C1	11/04/52	06/02/83	B0603
Drum Brake - Front	23984	-	09/15/59	12/16/82	B0603
Drum Brake - Front	41802	F1	11/19/58	04/29/65	B0603
Drum Brake - Front	41861	I1	04/25/56	11/06/70	B0603
Drum Clutch Control/Band	31267	-	10/29/51	04/10/86	B0602
Drum Rotation Indicator - Front and Rear	190133	A1	03/25/75	09/08/78	B0607
Drum Shaft - Front	50477	O1	05/09/66	08/06/68	B0601
Drum Shaft - Front	50477	A2	05/09/66	08/08/68	B0601
Foot Pedals	32026	G1	05/02/59	04/03/73	B1202
Hand Levers	42212	C1	07/13/60	04/10/63	B1201
Independent Swing Shaft, Horizontal	50288	C1	11/27/61	07/20/82	B0401
Independent Swing Shaft, Horizontal	50288	E2	11/27/61	07/20/82	B0401
Independent Swing Shaft, Horizontal	50288	C3	11/27/61	07/20/82	B0401
Independent Swing Shaft, Horizontal	50288	A4	11/27/61	07/20/82	B0401
Independent Swing Shaft, Horizontal	50288	A5	11/27/61	07/20/82	B0401
Lubrication Pump & Piping (Chain Case)	43453	B1	03/24/65	01/07/66	B1402
Lubrication Pump & Piping (Sump)	42766	G1	08/30/61	07/28/76	B1401
Main Drive Shaft	50481	-	12/07/67	11/27/85	B1301
Mast Hoist Auxiliary Brake	33099	D1	10/07/64	10/06/72	B0304
Mast Hoist Auxiliary Brake	33099	-	10/07/64	06/30/97	B0304
Mast Hoist Control	24278	B1	05/25/60	06/14/63	B0302
Mast Hoist Control	33071	A1	05/22/64	11/19/64	B0302
Mast Hoist Drums	42790	B1	11/24/61	11/19/64	B0301
Mast Hoist Reduction Gear	43143	B1	08/28/63	11/30/66	B0303
Mast Hoist Reduction Gear	43143	B2	08/28/63	11/21/85	B0303
Rear or Rear Auxiliary Drum	50425	N1	10/10/66	06/11/84	B0801
Rear or Rear Auxiliary Drum	50425	B2	10/10/66	01/04/71	B0801
Rear or Rear Auxiliary Drum Brake	42274	F1	12/04/59	05/18/83	B0803
Rear or Rear Auxiliary Drum Brake	41803	F1	09/08/60	05/07/70	B0803
Rear or Rear Auxiliary Drum Brake	41803	-	11/23/53	05/04/92	B0803
Rear or Rear Auxiliary Drum Control/Band	33519	A1	10/06/66	07/25/74	B0802
Rear or Rear Auxiliary Drum Control/Band	33522	-	10/06/66	07/25/74	B0802
Slide Pinion Control	42252	D1	09/08/59	09/02/69	B1602
Slide Pinion Shaft (Intermediate Travel or Swing Shaft)	41815	G1	03/01/54	03/19/80	B1601
Slide Pinion Shaft (Intermediate Travel or Swing Shaft)	41815	A2	03/01/54	03/19/80	B1601
Slide Pinion Shaft (Intermediate Travel or Swing Shaft)	41815	C4	06/27/58	03/19/80	B1601
Swing Lock Control	32014	F1	11/14/58	08/27/71	B1701
Swing Power Control	33699	B1	03/29/66	11/10/71	B2101
Swing Shaft	91301	E1	03/07/66	04/09/86	B1901
Swing Shaft - Intermediate	21629	C1	03/22/48	12/12/72	B1902
Travel Drive	40772	C1	05/01/48	06/20/72	B2001

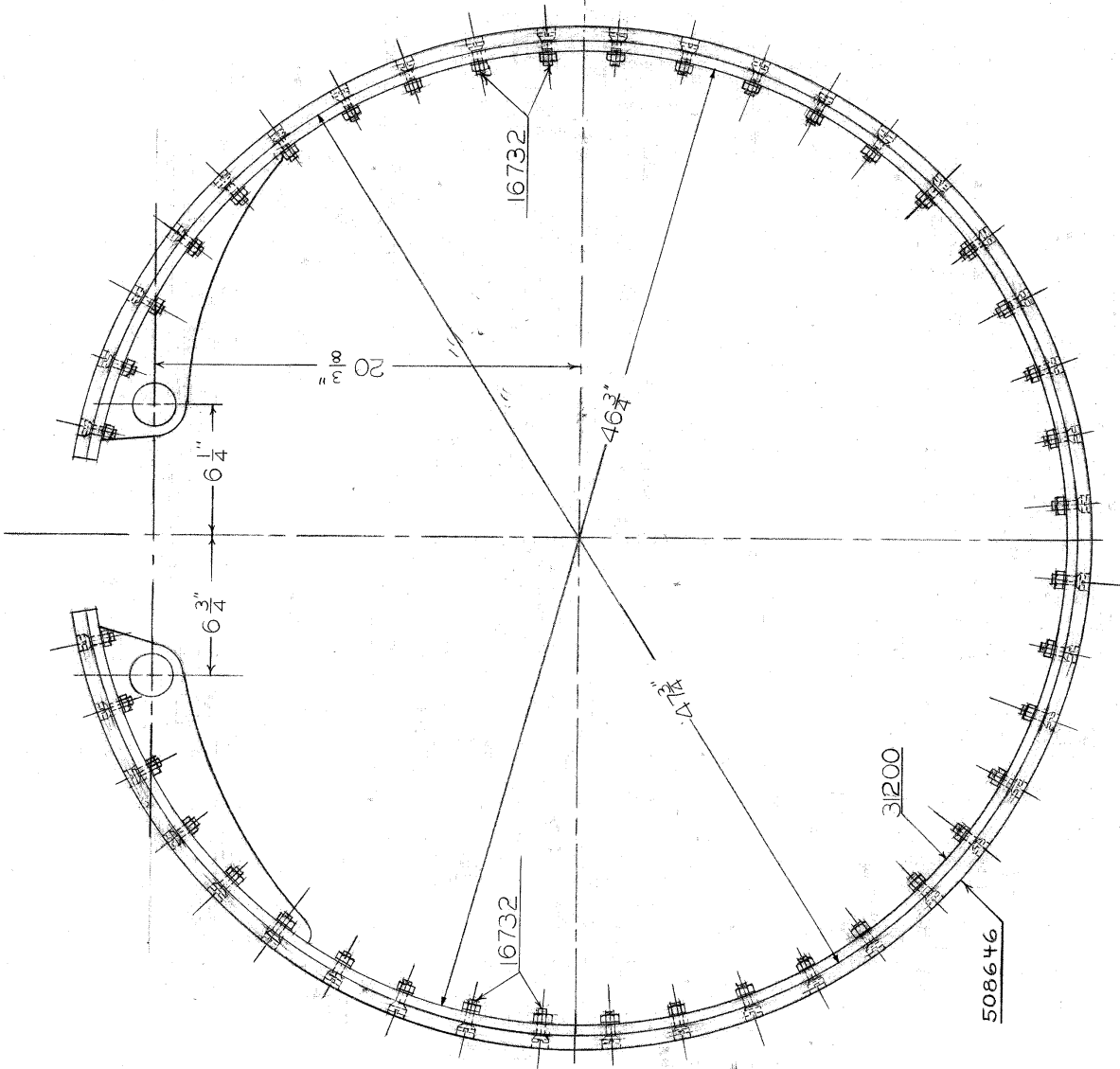
ASSEMBLIES USED ON	
50211	
50212	
50213	
50216	
50222	
50223	
50230	
50231	

NO. DRG. TITLE
REQD. NO.

90 16732 BOLT

1 31200 8" BAND

② 2 508646 WOVEN LINING



NOTE ①

THIS ASSEMBLY IS USED FOR MACHINES WITH CONTINUOUS WOVEN LINING AND BOLT ATTACHMENT

FOR BAND WITH MOLDED LINING AND KEYLOCK ATTACHMENT SEE DWG. 31212.
FOR BAND WITH MOLDED LINING AND BOLT ATTACHMENT SEE DWG. 31266.

NOTE ②

~~THE CONTINUOUS LINING ON THIS ASSEMBLY IS NO LONGER AVAILABLE FOR REPLACEMENT OF LINING BAND OR COMPLETE ASSEMBLY. USE CLUTCH BAND SUB-ASSEMBLY 31266.~~

NOTE ③

~~THIS ASSEMBLY IS NO LONGER AVAILABLE FOR REPLACEMENT OF LINING BAND OR COMPLETE ASSEMBLY. USE CLUTCH BAND SUB-ASSEMBLY 31266.~~

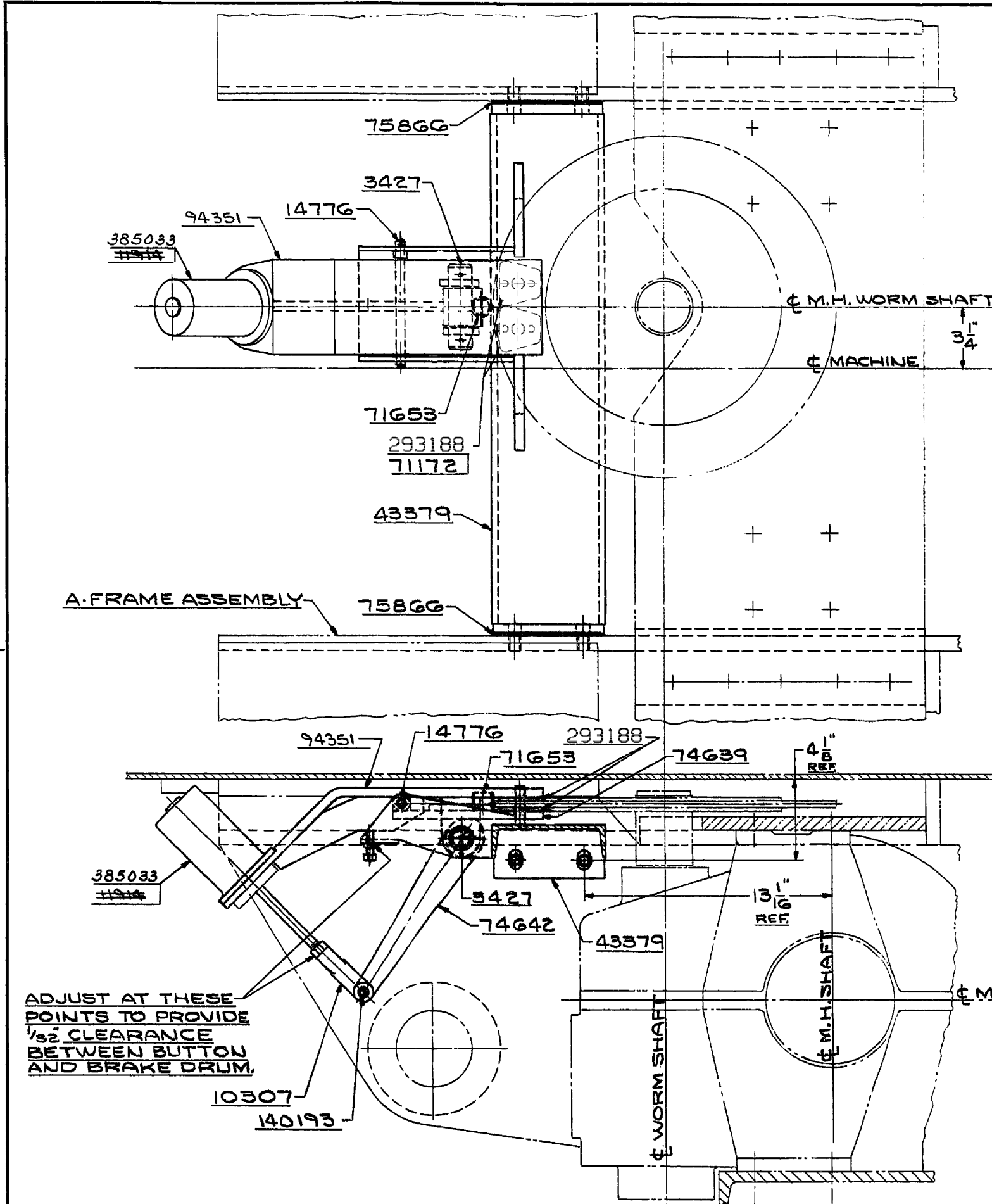
FINISH NOTES	
/	INDICATES SURFACES TO BE FINISHED ONLY.
∇	WITH TYPE NUMBER INDICATES TYPE OF FINISH REQUIRED.

UNLESS OTHERWISE NOTED
FRACTIONAL DIMENSIONS $\pm .010"$
DECIMAL DIMENSIONS $\pm .005"$
ANGLES $\pm 1/2'$
FILLETS $1/8"$ RADIUS
BREAK ALL SHARP CORNERS $1/32"$ R.

MANITOWOC ENGINEERING WORKS MANITOWOC, WISCONSIN	
REVISED DATE	SPEEDCRANE—MODEL 4500
6-14-51	CLUTCH BAND
CORRECTED	ASSEMBLY
7-25-54	FOR 8" BAND SEE NOTE ①
① NOTE ADDED	
11-10-86 LFW	DATE
② WAS 508306	MATERIAL
③ DELETED	10-29-51
	SCALE
	3" = 1'-0"
	PART OR DWG. NO.
	31267

SUPERSEDES 31265

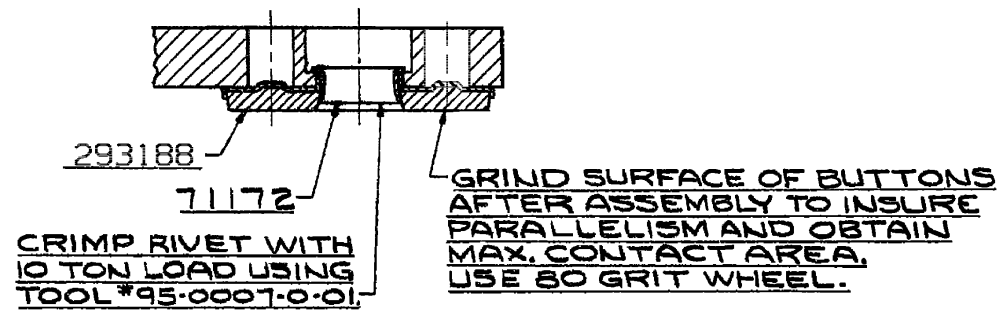
CDABE



NO. REQD.	DWG. NO.	TITLE
1	3427	PIN
ⓐ 1	140193	PIN
1	10307	YOKE END
1	14776	PIN
ⓐ 1	385033	AIR CYL. ASSEM. SEE DWG. 93560
ⓑ 1	11914	SPACER
1	43379	SUPPORT
4	71172	RIVET
1	71653	SPRING
1	74639	SHOE - SEE NOTE: 2
1	74642	CAM
2	75866	SHIM
ⓐ 1	94351	SHOE - SEE NOTE: 2
ⓐ 4	293188	BUTTON - SEE NOTE: 2

NOTE: 2

TO RETROFIT REPLACEMENT BUTTONS 293188 IN THE FIELD, SEE MODIFICATION DRAWINGS 421278 AND 421279 TO DRILL TWO HOLES IN BRAKE SHOES 94351 AND 74639



TYPICAL ASSEMBLY OF BUTTON TO SHOE
SCALE: 1/2"=1'-0"

ADJUST AT THESE POINTS TO PROVIDE 1/32" CLEARANCE BETWEEN BUTTON AND BRAKE DRUM.

ⓑ NOTE: 1

THIS ASSEMBLY IS EQUIPPED WITH CORROSION-RESISTANT PINS.

SUPERSEDES 32894

ASSEMBLIES USED ON
2-24-65 P.B. DELETE 224 & 75747 (SPRING FOR LEVER 74642)
10-29-70 2/11U @ HAS 43642 W/SPRING 71998
9-6-72 YMSM
ⓑ ADDED
10-6-72 YMSM
Ⓒ DELETED
ⓓ WAS 10306
ⓔ WAS 90211
ⓕ ADDED
6-30-97 JAZ
ⓖ HAS 293155
ADDED NOTE 2
DWG. NO. 33099
REVISED DATE
DATE 10-7-64
PATTERN NO.
CODE NO.
DW. NO. 33099

SCALE 3/4"=1'-0"	UNLESS NOTED	MANITOWOC CRANES, INC.	AUXILIARY BRAKE ASSEMBLY
DR. A.A.S.	FRACT. DIM.	MANITOWOC, WISCONSIN	FOR MAST HOIST
CK. J.P.	HOLE DIA.	MATERIAL ✓	MODEL 4800
APP.	HOLE CENTERS		
	FINISH		

NO. REQ'D	PART NO.	DESCRIPTION
1	3329	ADJUSTING BOLT
1	3331	SPRING
1	19436	PIN
1	140674	PIN
1	19435	GUIDE ROLLER SUPPORT
1	19983	GUIDE BAR
1	15207	GUIDE
2	15252	PIN
1	15155	FORKED LEVER
1	140336	PIN
1	15345	KEEPER PLATE
1	15357	SET COLLAR
1	15377	SRING CLIP
1	16822	PIN
AS. REQ'D	17790	WASHER 1/16" THK.
2	17796	WASHER 1/2" THK.
1	18524	LIVE END CON. LINK
1	18640	ROLLER GUIDE SUPPORT
2	18641	GUIDE ROLLER
1	19001	GUIDE
1	19049	GUARD

1	21359	AIR CYL. ASSM.
1	23984	AIR CYL. SUPPORT ASS'M.
1	91347	BRAKE LEVER
1	77724	END PLATE
1	23116	GUIDE ROLLER SUPPORT BRACKET
1	22986	DRUM BRAKE SHAFT
1	31429	BRAKE BAND ASSM. SEE NOTE 4
1	138822	ANGLE (USED WITH ROOF MOUNTED IND. BOOM HOIST)
1	711371	SPECIAL WASHER
2	225262	NEEDLE BEARING
1	21554	DRUM BRAKE SHAFT

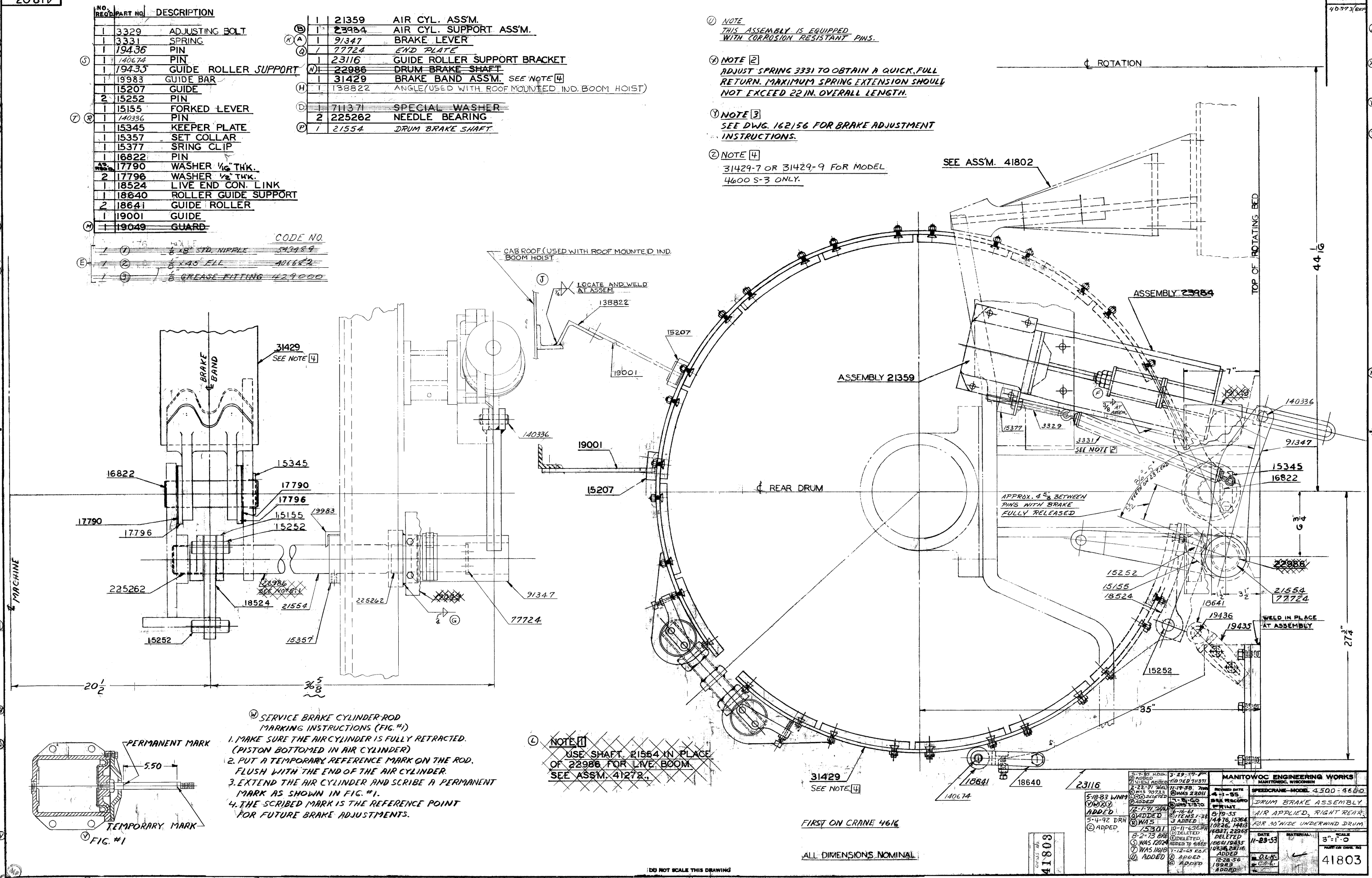
NO.	DESCRIPTION	CODE NO.
1	6 x 8 STD. NIPPLE	543459
1	6 x 45 FLL	406682
1	6 GREASE FITTING	429000

NOTE 1
THIS ASSEMBLY IS EQUIPPED WITH CORROSION RESISTANT PINS.

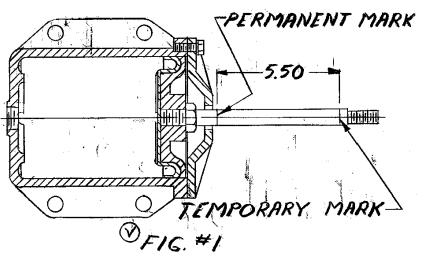
NOTE 2
ADJUST SPRING 3331 TO OBTAIN A QUICK, FULL RETURN. MAXIMUM SPRING EXTENSION SHOULD NOT EXCEED 22 IN. OVERALL LENGTH.

NOTE 3
SEE DWG. 162156 FOR BRAKE ADJUSTMENT INSTRUCTIONS.

NOTE 4
31429-7 OR 31429-9 FOR MODEL 4600 S-3 ONLY.



NOTE 5
SERVICE BRAKE CYLINDER ROD MARKING INSTRUCTIONS (FIG. #1)
1. MAKE SURE THE AIR CYLINDER IS FULLY RETRACTED. (PISTON BOTTOMED IN AIR CYLINDER)
2. PUT A TEMPORARY REFERENCE MARK ON THE ROD, FLUSH WITH THE END OF THE AIR CYLINDER.
3. EXTEND THE AIR CYLINDER AND SCRIBE A PERMANENT MARK AS SHOWN IN FIG. #1.
4. THE SCRIBED MARK IS THE REFERENCE POINT FOR FUTURE BRAKE ADJUSTMENTS.



NOTE 6
USE SHAFT 21554 IN PLACE OF 22986 FOR LIVE BOOM. SEE ASSM. 41272.

31429
SEE NOTE 4
FIRST ON CRANE 4616
ALL DIMENSIONS NOMINAL

41803

MANTOVOC ENGINEERING WORKS MANTOVOC, WISCONSIN		SPEEDCRANE-MODEL 4500-4600	
5-7-50	ADDED	7-29-50	ADDED
6-22-51	ADDED	11-14-50	ADDED
8-25-50	ADDED	1-5-51	ADDED
10-1-51	ADDED	1-19-51	ADDED
12-1-51	ADDED	5-19-51	ADDED
1-11-52	ADDED	1-17-52	ADDED
2-2-52	ADDED	1-26-52	ADDED
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41861-1 Cont.	REV. I	MODEL 4500-4600
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LEFT FRONT DRUM BRAKE
(MACH. W/66 TOOTH FRONT DRUM GEAR)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
44	21364	1	SUPPORT, Air Cylinder	
46	2619	1	WASHER	
	24320	1	SUPPORT, Air Cylinder (Mach. W/1 Pc. Drum)	
38	71514	1	EXTENSION, Piston Rod	
41	19442	2	SPRING	
42	71963	1	WASHER, Spring Retaining	
43	21359	1	CYLINDER, Air W/rod 14456	
44	21364	1	SUPPORT, Air Cylinder	
46	2619	1	WASHER	
45	19983	1	BAR, Guide	
47	16849	1	SUPPORT, Guide	
<p>NOTE 1: For mach. W/air release on brake lock, see "Air Cylinder Support" following this sheet.</p> <p>NOTE 2: Machines shipped after November 6, 1970, or bands shipped after the same date, require washers, Ref. #27 to align connecting link, Ref. #25. Machines or bands shipped prior to this date do <u>not</u> use these washers.</p>				
			#0-71, 21359	
				REV. I
				41861 - 1

Run as a Front

MASTER

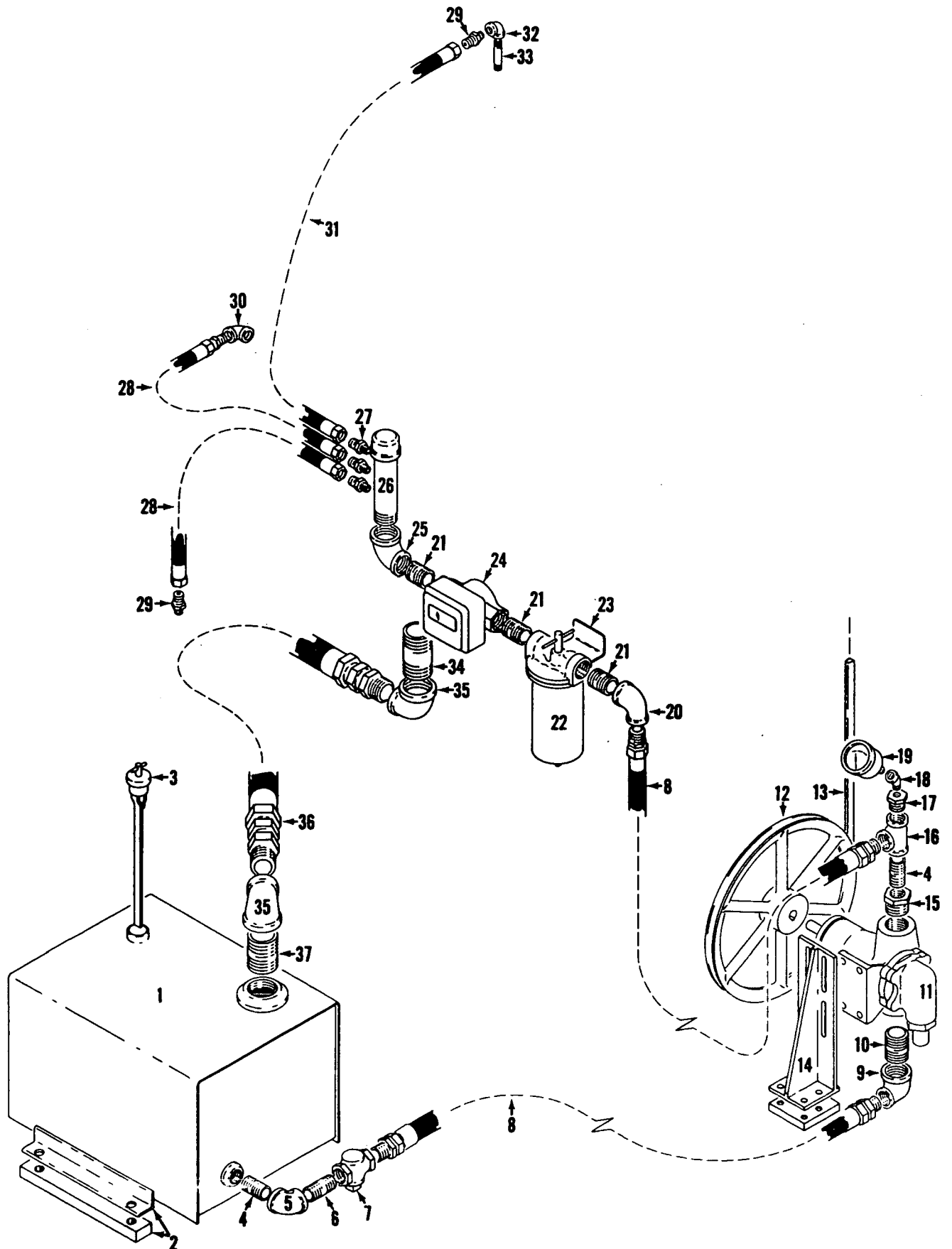
41861 II

PLEASE GIVE MACHINE S/N W/ORDER

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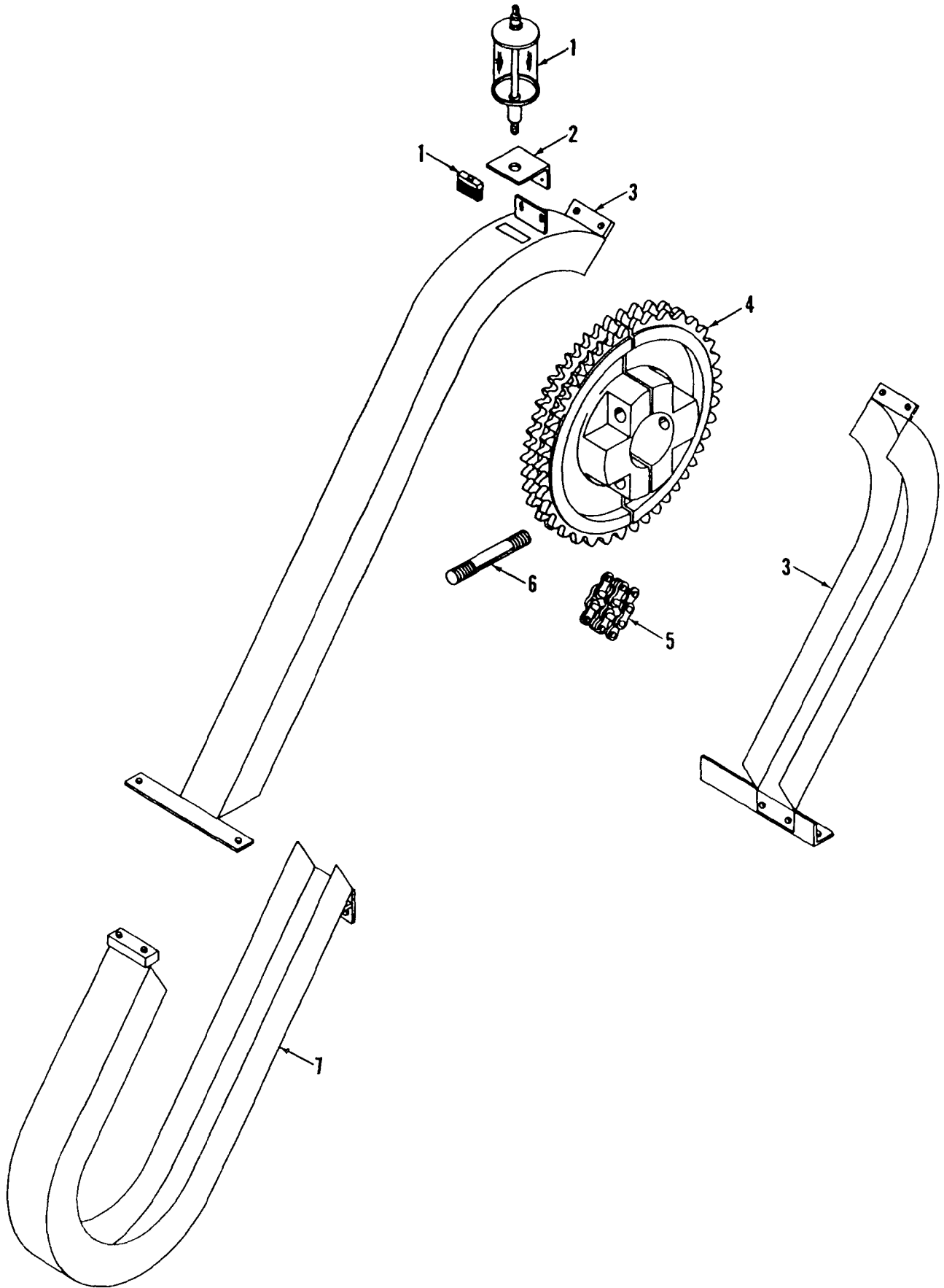
Manitowoc, Wisconsin



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MATERIAL LIST ON BACK

LUBRICATION SYSTEM



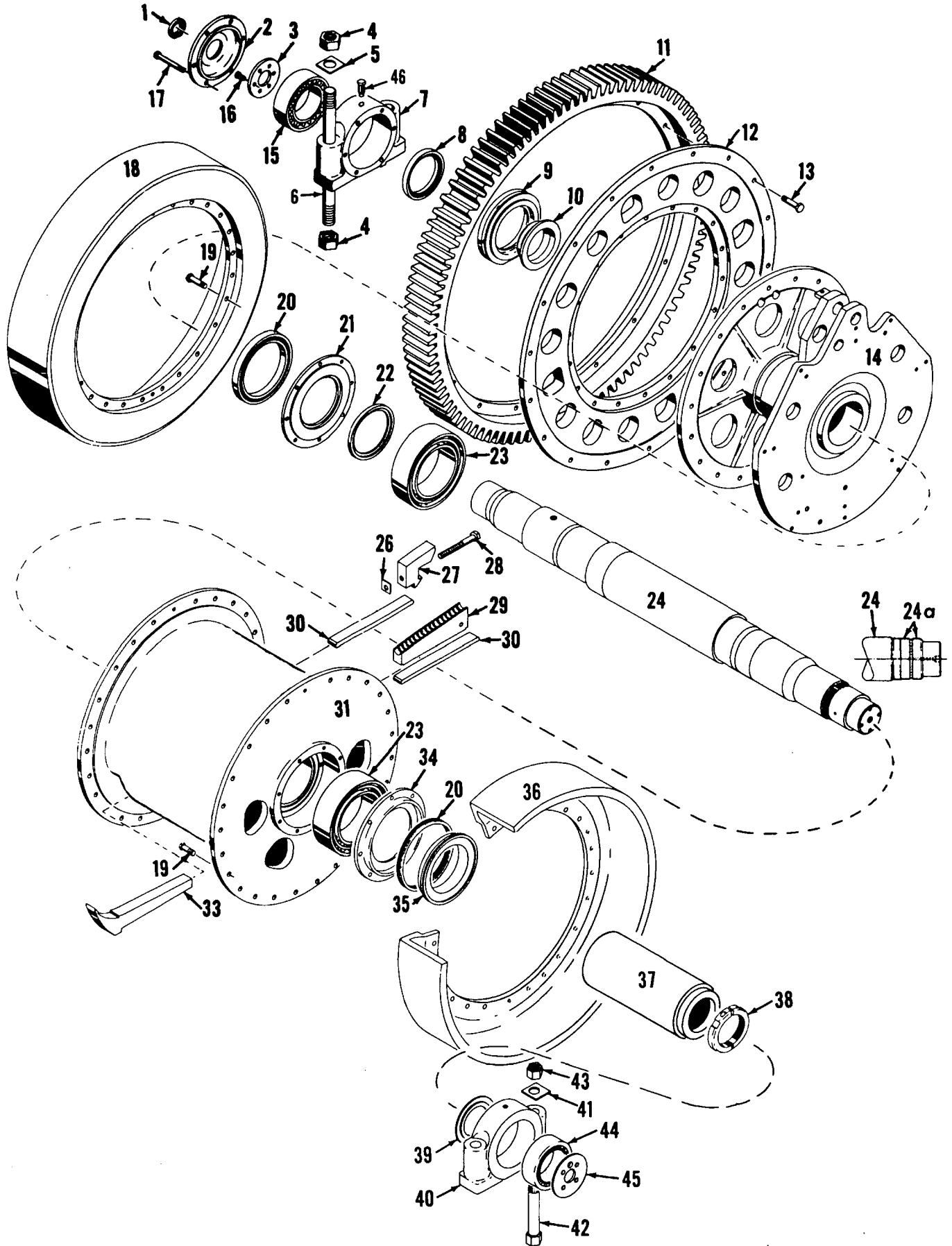
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MASTER

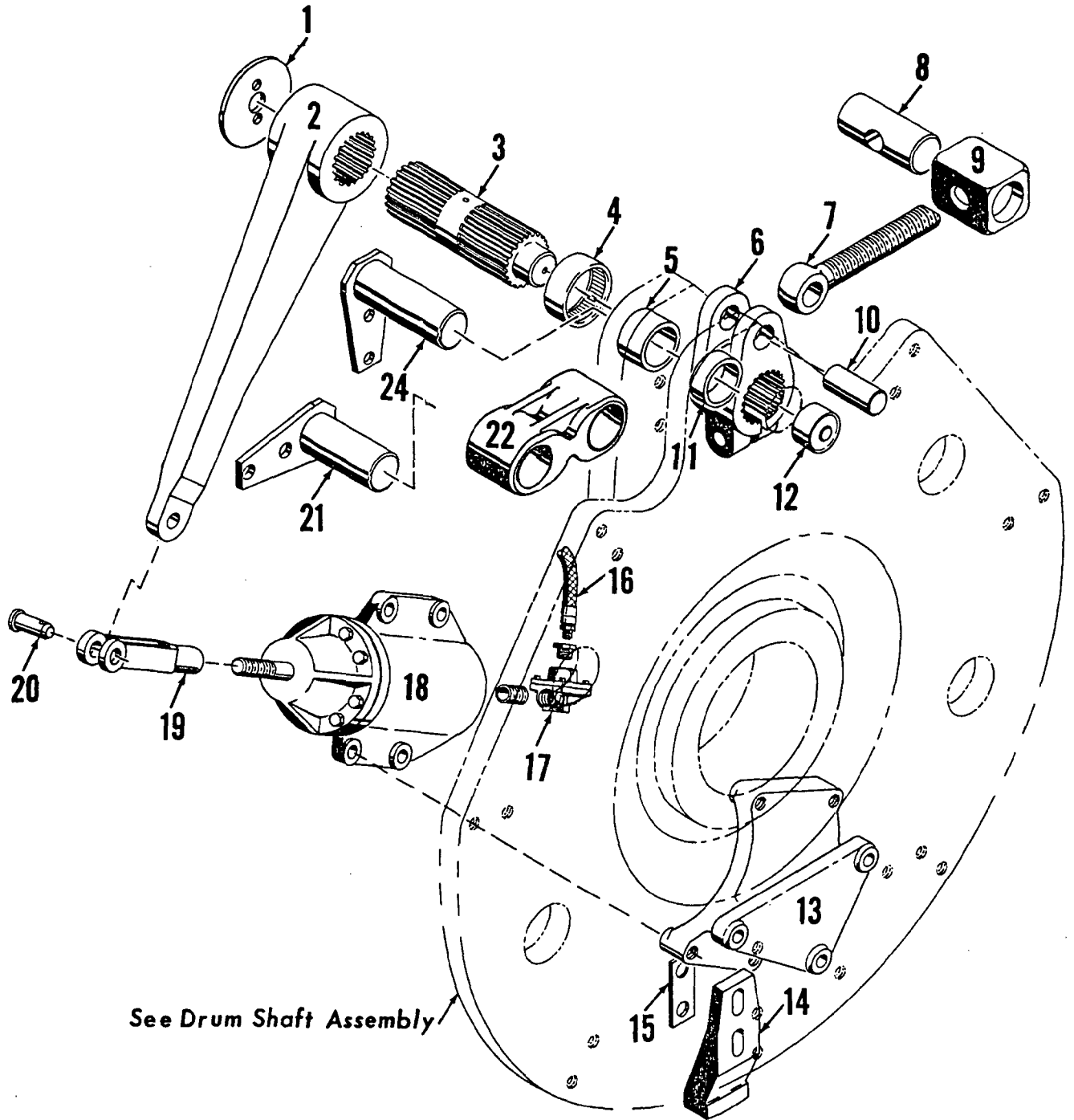


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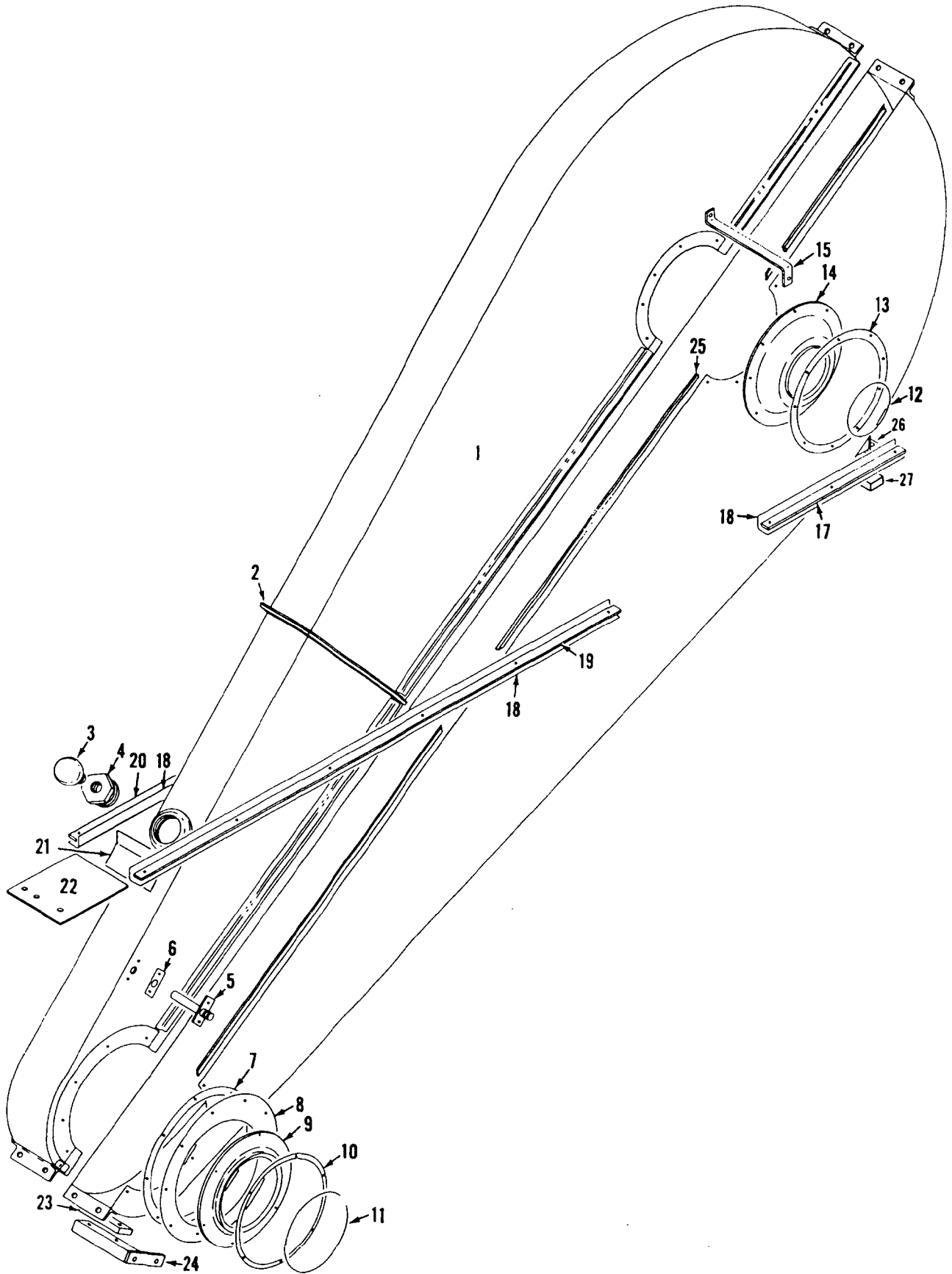
DRUM SHAFT

MASTER



See Drum Shaft Assembly

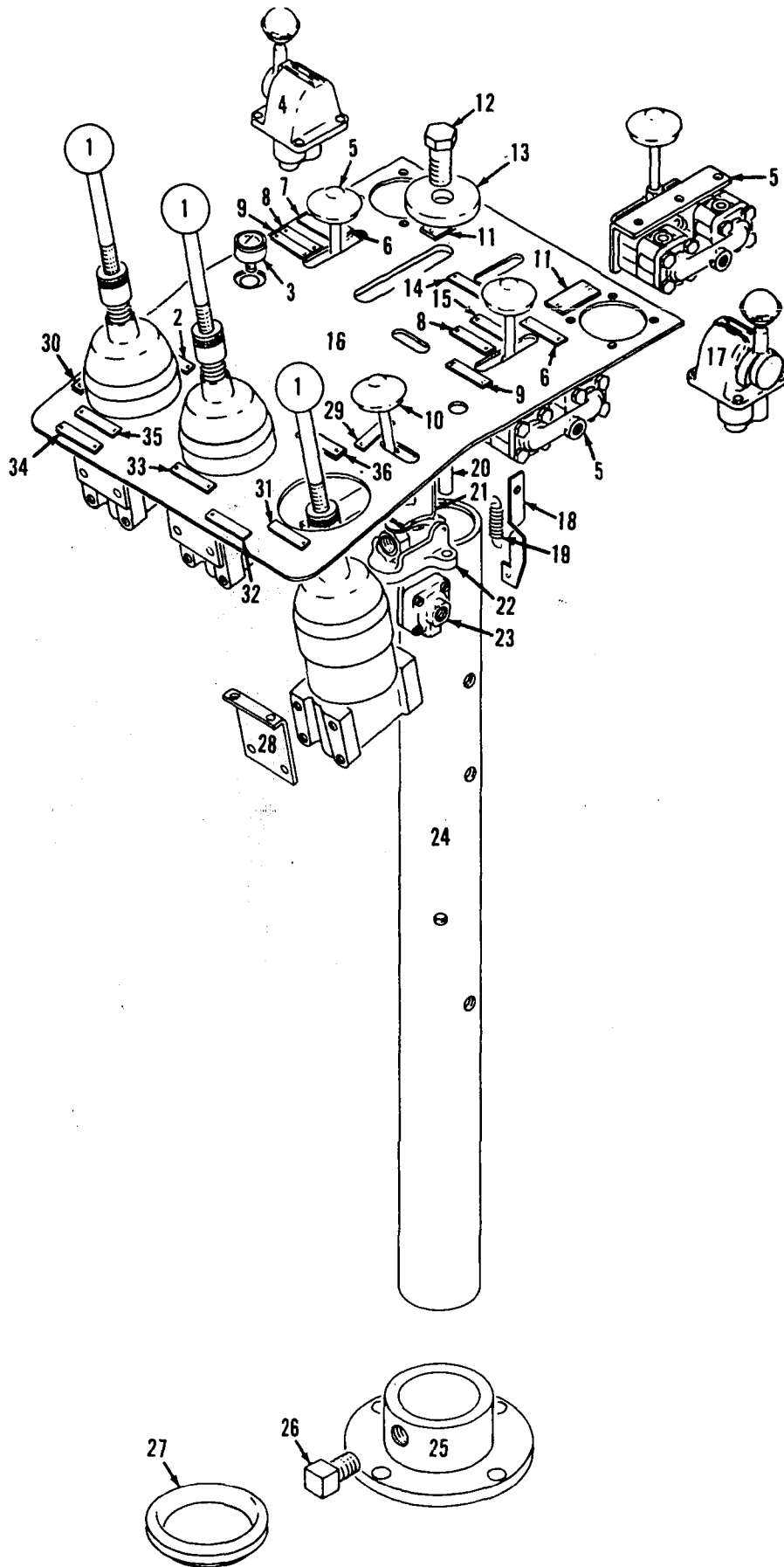
LEFT DRUM CLUTCH ASSEMBLY



180188D1

MATERIAL LIST ON BACK

IND. BOOM HOIST CHAIN CASE



32829C1

MATERIAL LIST ON BACK

VALVE BOARD ASSM.

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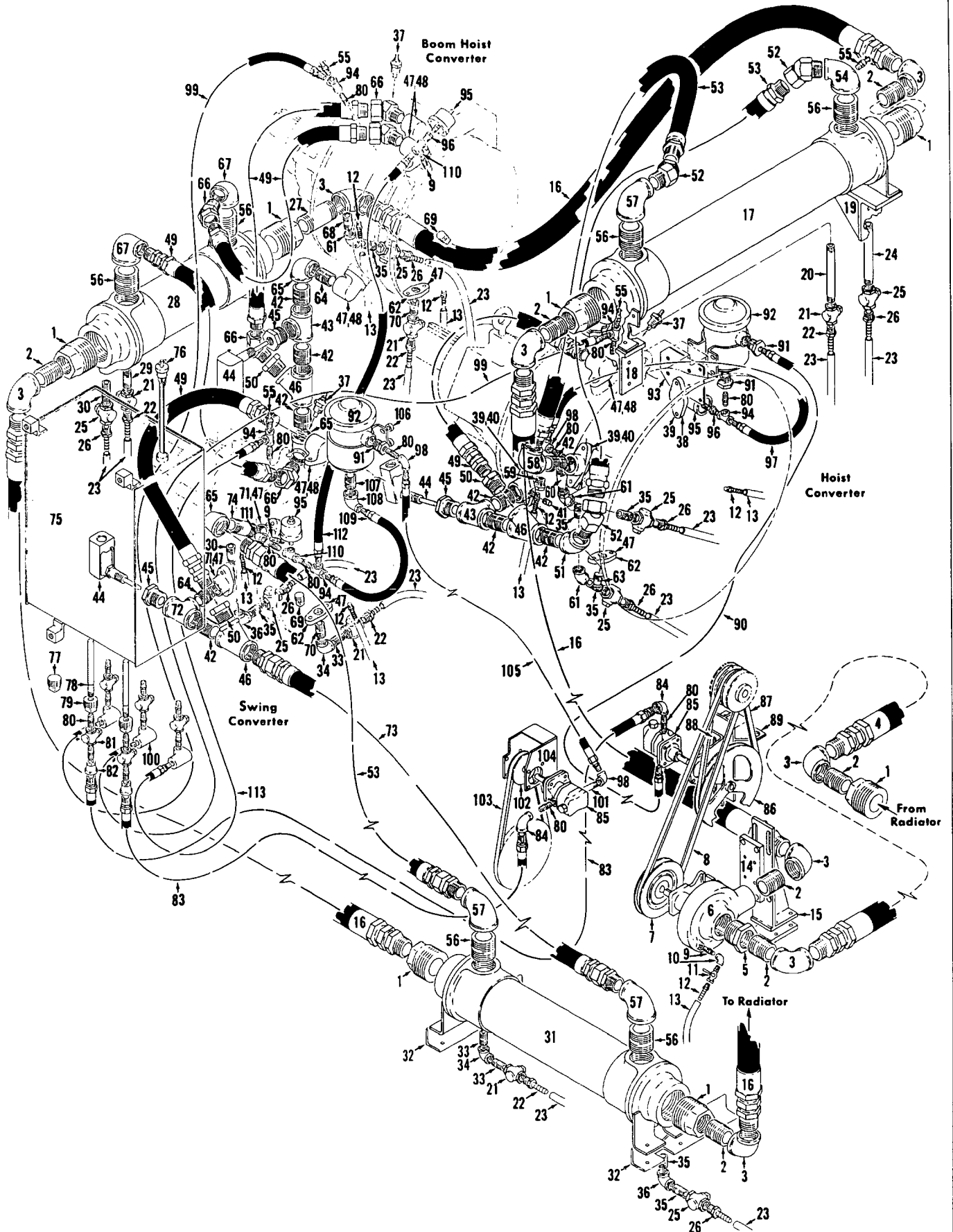
PARTS MANUAL ALPHABETICAL INDEX
Group D - Power Components

DESCRIPTION	PUBLICATION	REV	START DATE	END DATE	GROUP
Converter Control	32817	-	05/09/63	01/11/02	D0601
Converter Control	33220	E1	02/16/68	02/22/74	D0601
Converter Piping	48047	A1	12/04/66	10/25/67	D0701
Instrument Panel/Engine	90713	A1	02/09/65	09/19/73	D0301
Instrument Panel/Engine	91292	A1	03/31/66	04/01/74	D0301
Power Plant	48045	D2	12/03/66	11/01/73	D0101
Power Plant	48045	E3	12/03/66	04/01/73	D0101
Power Plant	50432	K1	12/03/66	04/20/72	D0101
Power Plant	50432	A7	12/03/66	10/22/74	D0101
Power Plant	50432	A10	12/03/66	10/22/74	D0101
Power Take Off - Transmission Case	50368	F1	02/08/65	12/22/83	D0401

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MATERIAL LIST ON BACK

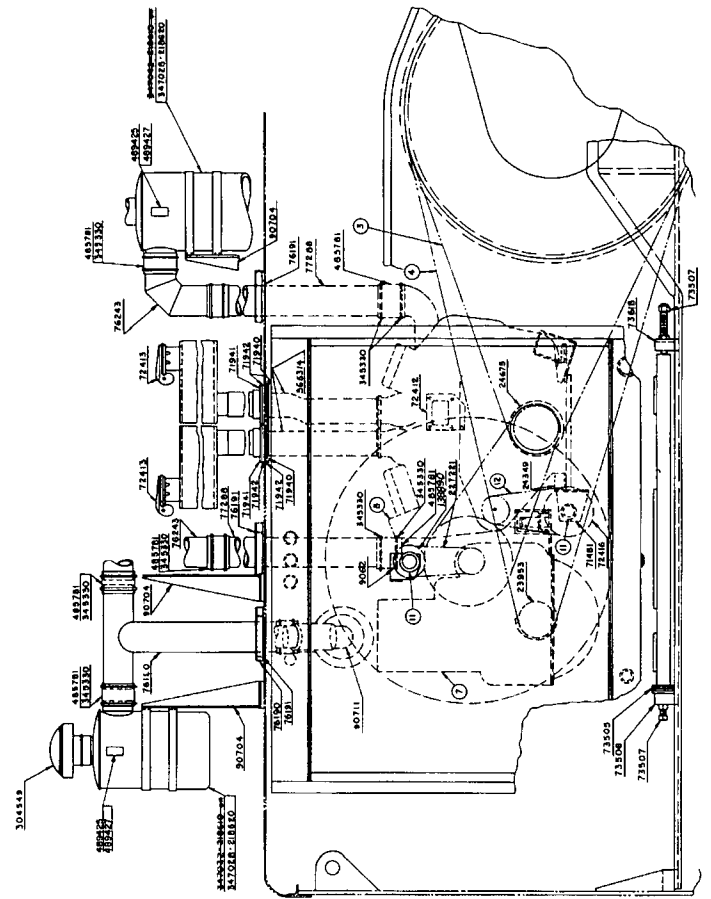
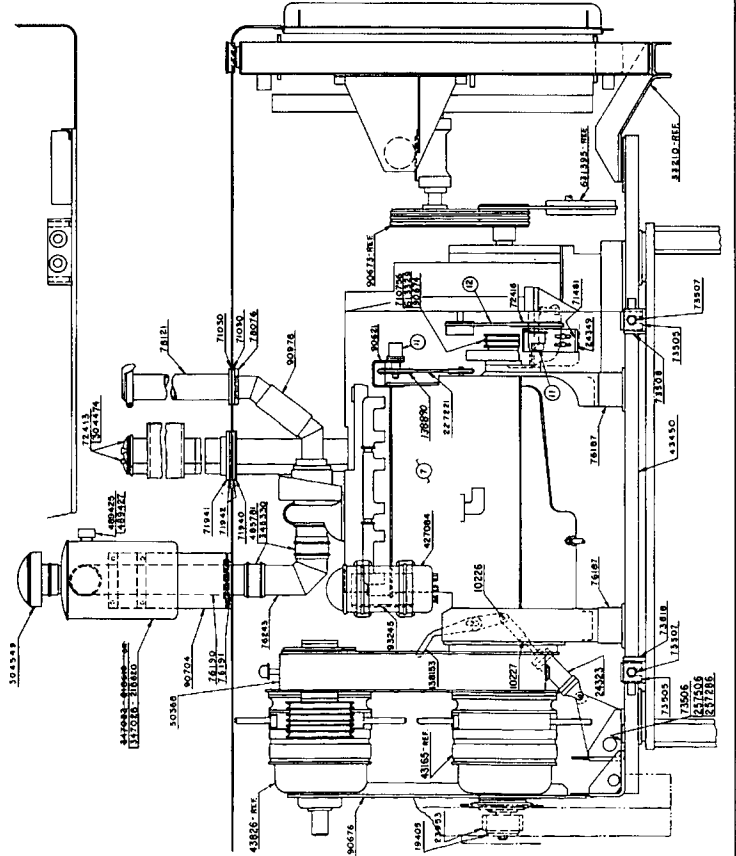
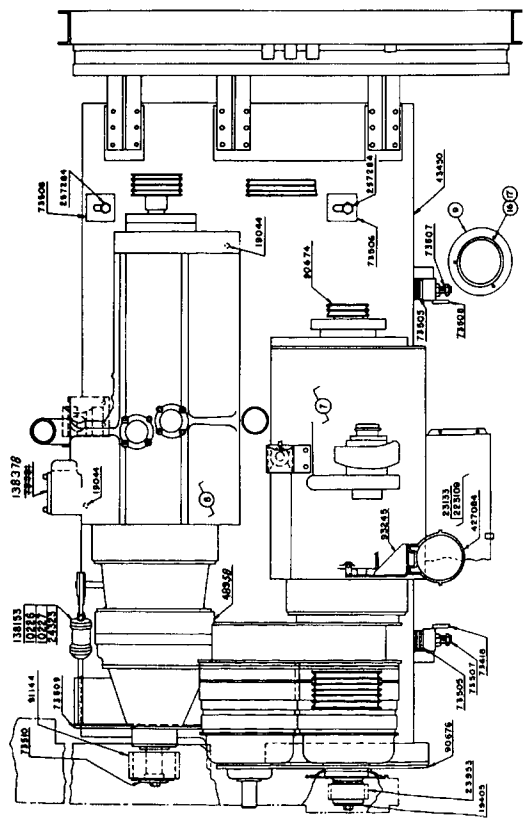
CONVERTER PIPING

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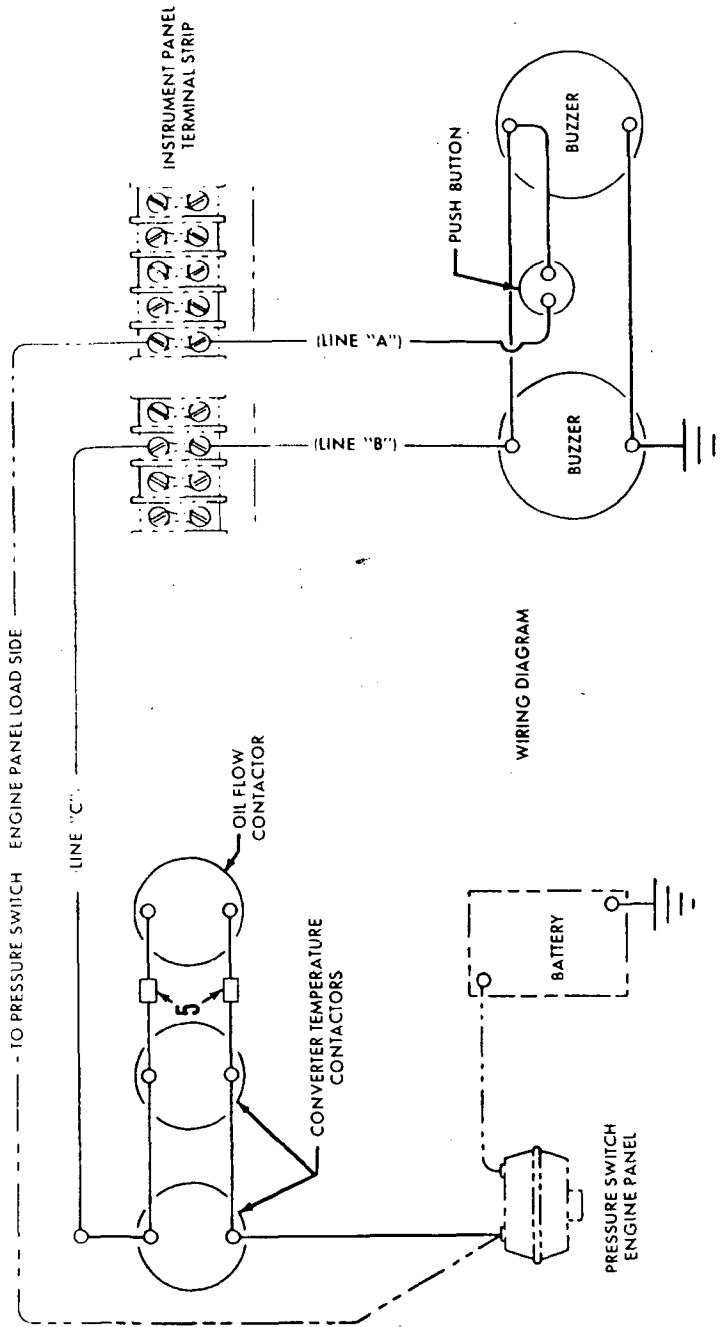
50432

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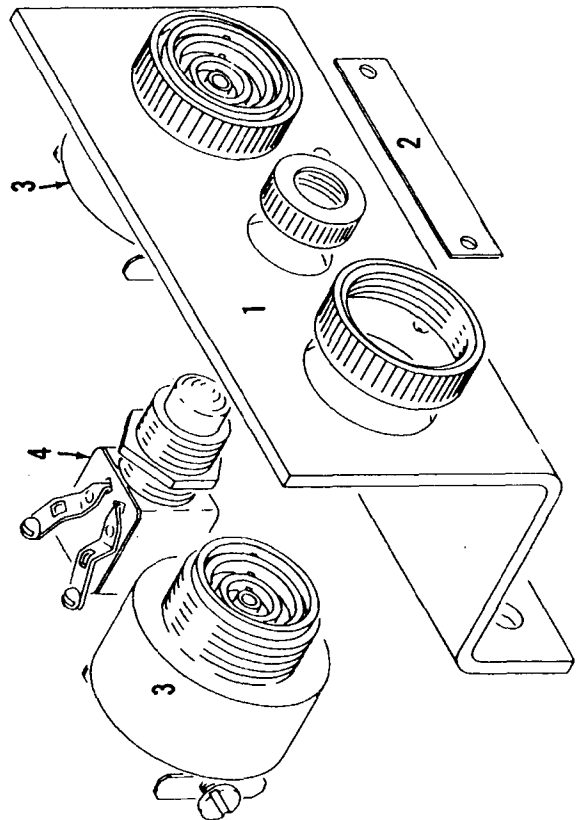


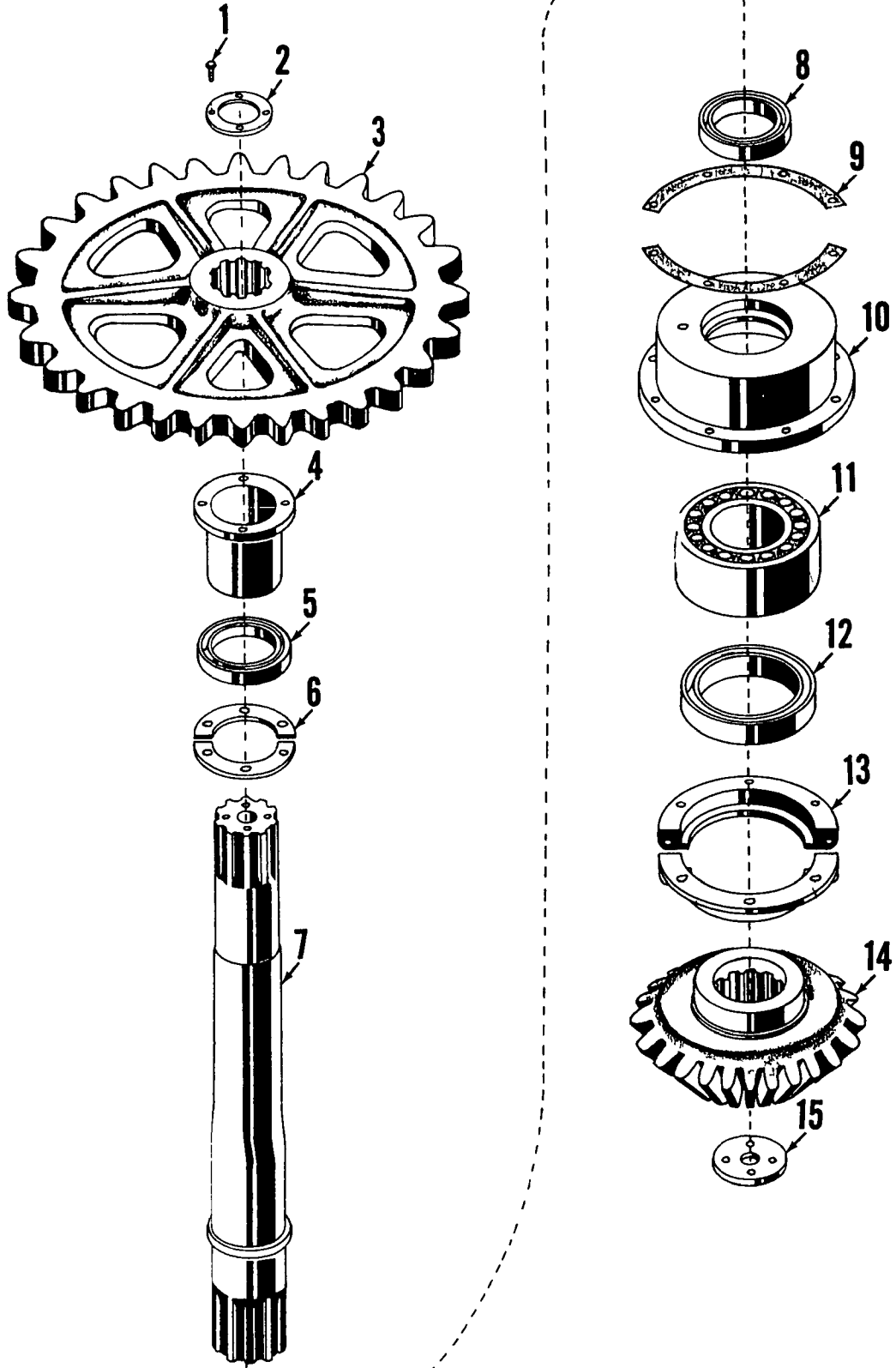
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 13853-13999
 50432

MASTER



WIRING DIAGRAM





MASTER

31253 A-1

ILLUST No 31253-A-1

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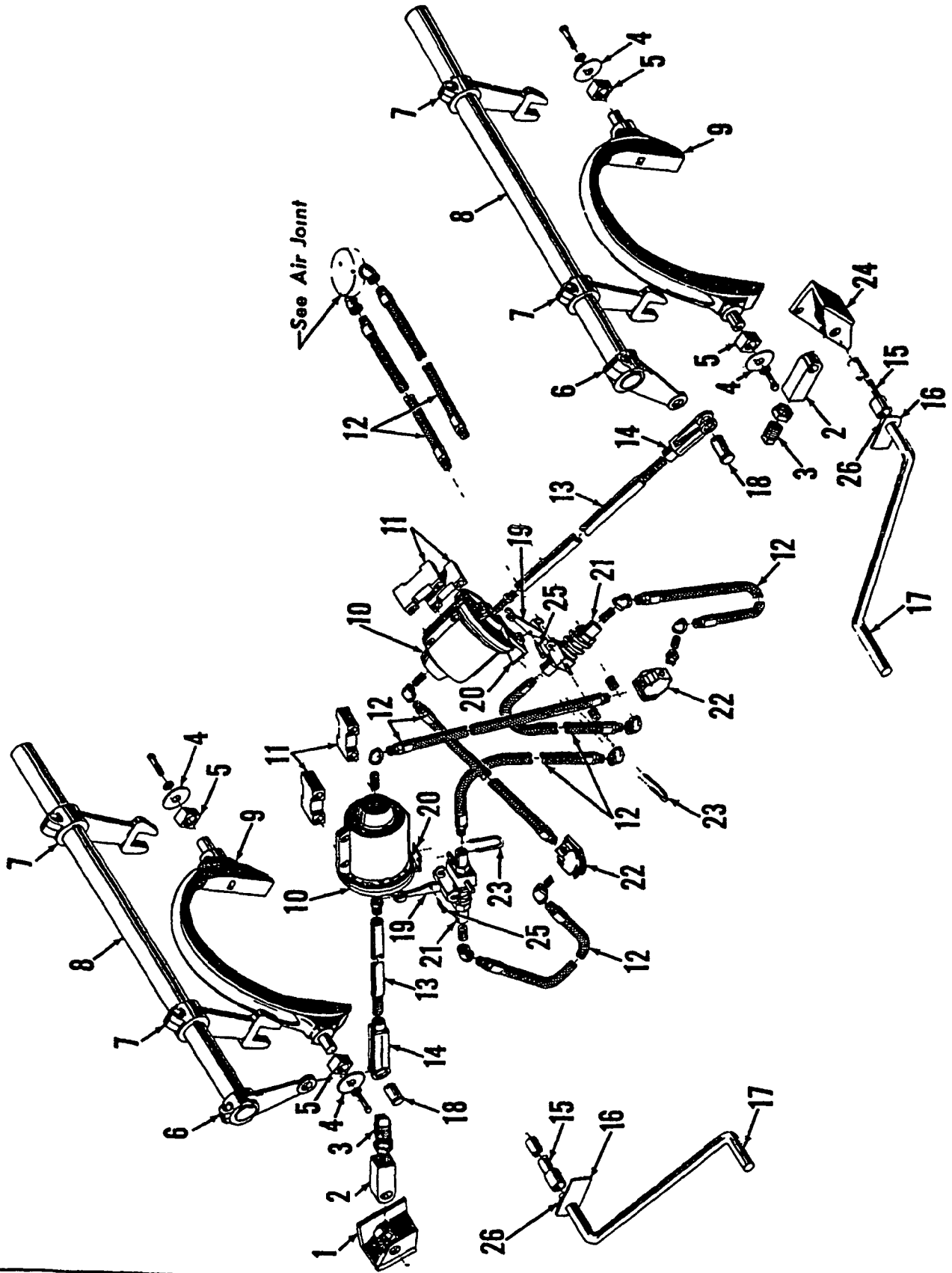
VERTICAL TRAVEL SHAFT

MASTER

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ILLUST No 41230-C-1

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STEERING CONTROL

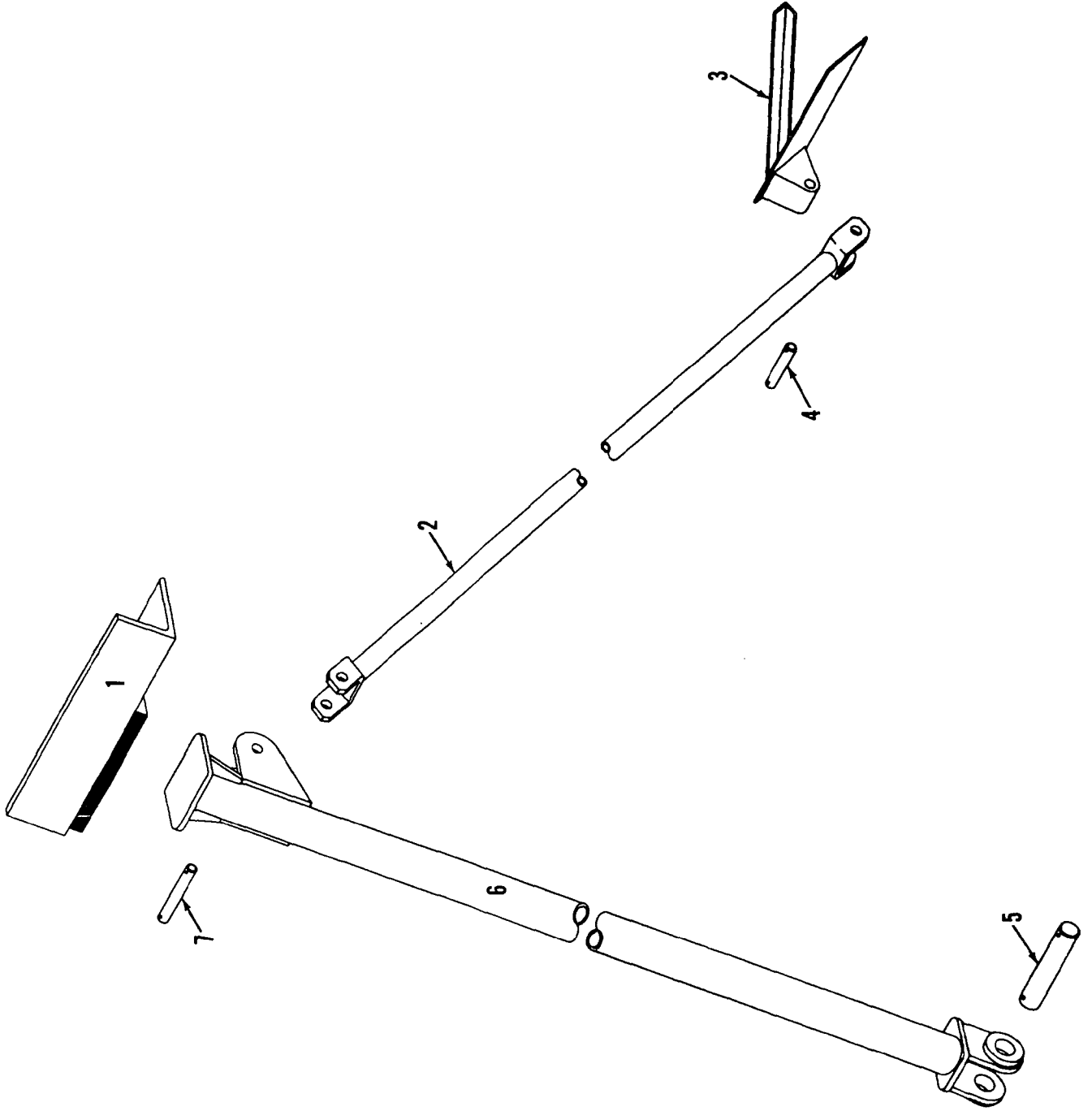
PARTS MANUAL ALPHABETICAL INDEX
Group F - Attachments

DESCRIPTION	PUBLICATION	REV	START DATE	END DATE	GROUP
Backhitch & Gantry	32448	A1	03/07/62	02/07/71	F1001
Boom	50426	B1	10/19/66	02/01/77	F0101
Boom	50426	A2	10/19/66	02/01/77	F0101
Boom	50426	A3	10/19/66	02/01/77	F0101
Boom	50426	B4	10/19/66	02/01/77	F0101
Boom	50426	A5	10/19/66	02/01/77	F0101
Boom	50426	C6	03/15/63	02/01/77	F0101
Boom	50785	B1	03/13/69	02/01/77	F0101
Boom	50785	A2	03/13/69	02/01/77	F0101
Boom	50785	A3	03/13/69	02/01/77	F0101
Boom	50785	C4	03/13/69	02/01/77	F0101
Boom Angle Indicator	22334	B1	01/07/52	09/20/85	F1101
Boom Point	24371	E1	03/24/68	02/25/85	F0401
Boom Point	92060	C1	01/24/68	06/06/74	F0401
Boom Stop, Clutch Throw-Out	180873	B1	05/19/69	04/11/78	F0201
Boom Stop, Mechanical	48740	C1	05/13/69	04/24/81	F0202
Equalizer/Pull-Out	180249	A1	03/23/68	05/14/68	F0601
Equalizer/Pull-Out	180249	-	03/23/68	08/03/04	F0601
Equalizer/Pull-Out	180250	C1	03/26/68	09/17/76	F0601
Equalizer/Pull-Out	180250	-	03/26/68	08/03/04	F0601
Jib	42802	G1	03/10/64	08/27/81	F1301
Jib	42802	B2	03/10/64	08/27/81	F1301
Jib Backstay	73469	A1	05/10/62	03/15/71	F1302
Jib Rope Guide/Roller	76862	B1	06/25/65	12/23/70	F1303
Lower Block	182216	B1	03/01/74	07/17/75	F1501
Lower Block	182222	B1	03/01/74	08/20/76	F1501
Mast & Reeving	43466	B1	12/23/65	11/07/79	F1201
Mast & Reeving	43466	D2	12/23/65	11/07/79	F1201
Mast & Reeving	43466	C3	12/23/65	11/07/79	F1201
Mast Stop	32869	C1	08/02/63	10/23/72	F1203
Mast Stop	33138	F	09/04/64	12/19/78	F1203
Wire Rope Guide	33404	B1	10/21/66	10/19/76	F0701
Wire Rope Guide	90927	D1	10/04/66	12/19/97	F0701
Wire Rope Guide	90934	A1	10/18/66		F0701
Wire Rope Roller Guide	73385	D1	05/10/62	09/13/79	F0801
Wire Rope Roller Guide	73907	D1	12/06/62	09/13/79	F0801
Wire Rope Roller Guide	74690	D1	08/22/63	09/13/79	F0801

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MAST STOP

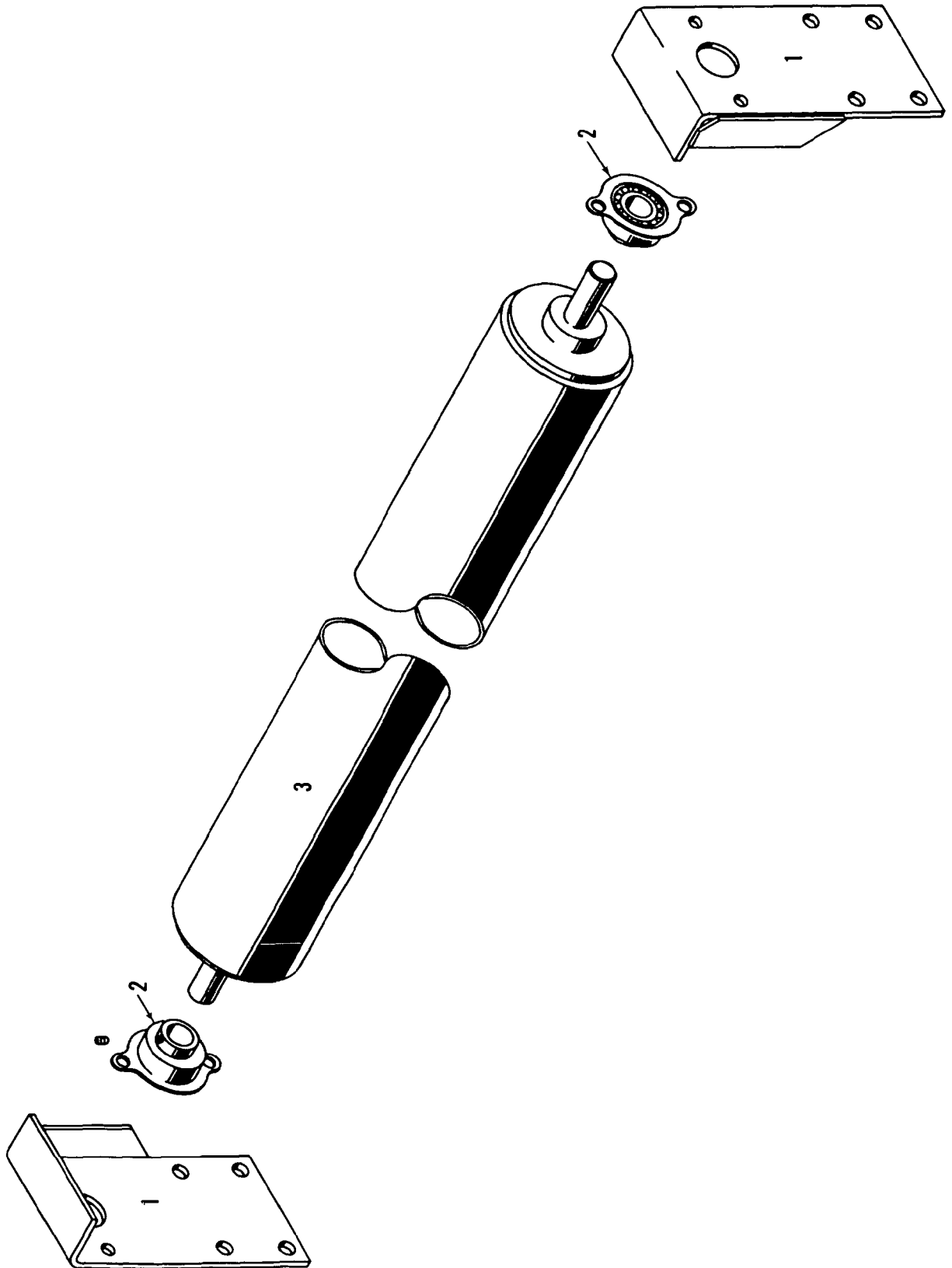
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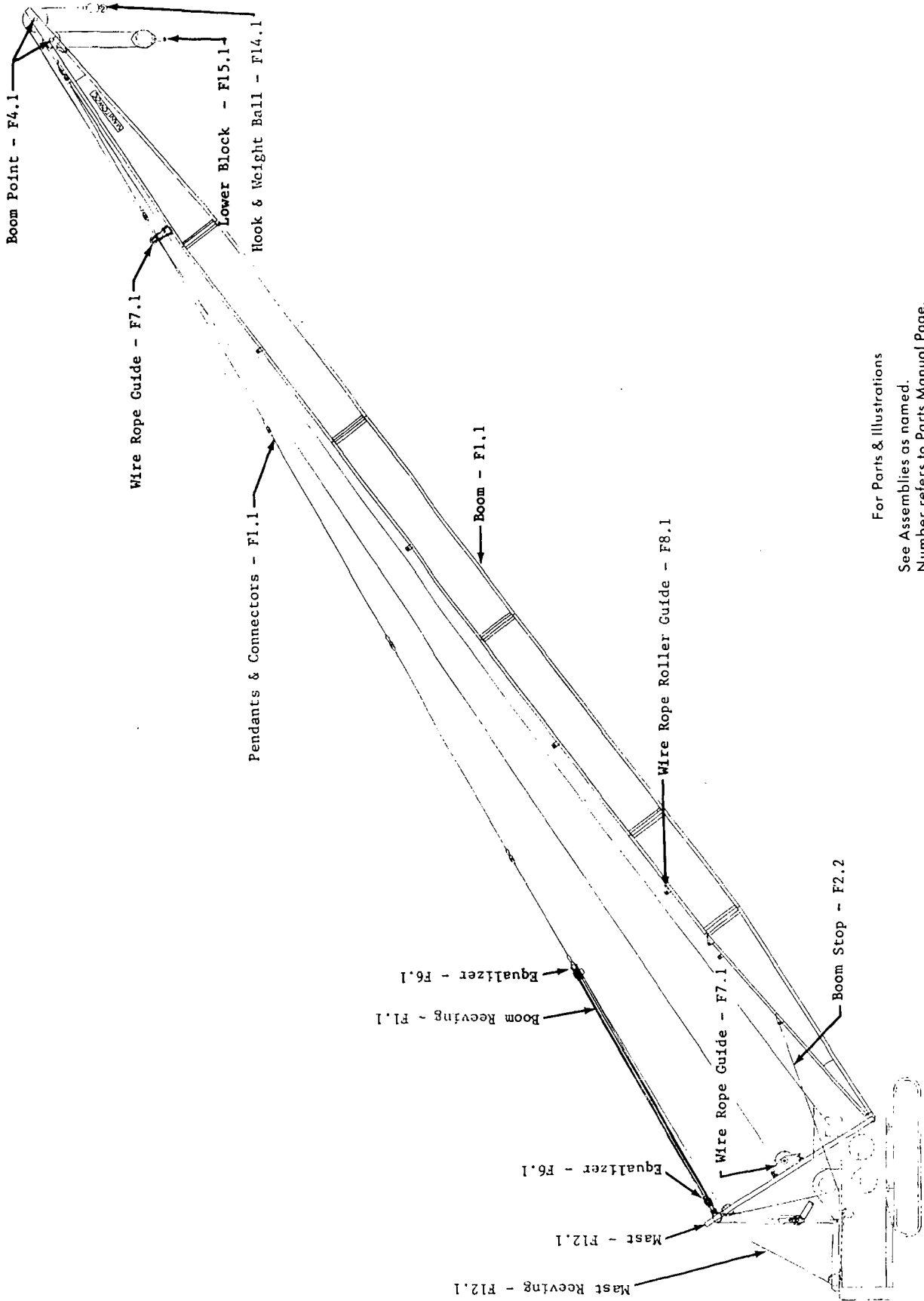
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CABLE ROLLER GUIDE



For Parts & Illustrations
See Assemblies as named.
Number refers to Parts Manual Page.

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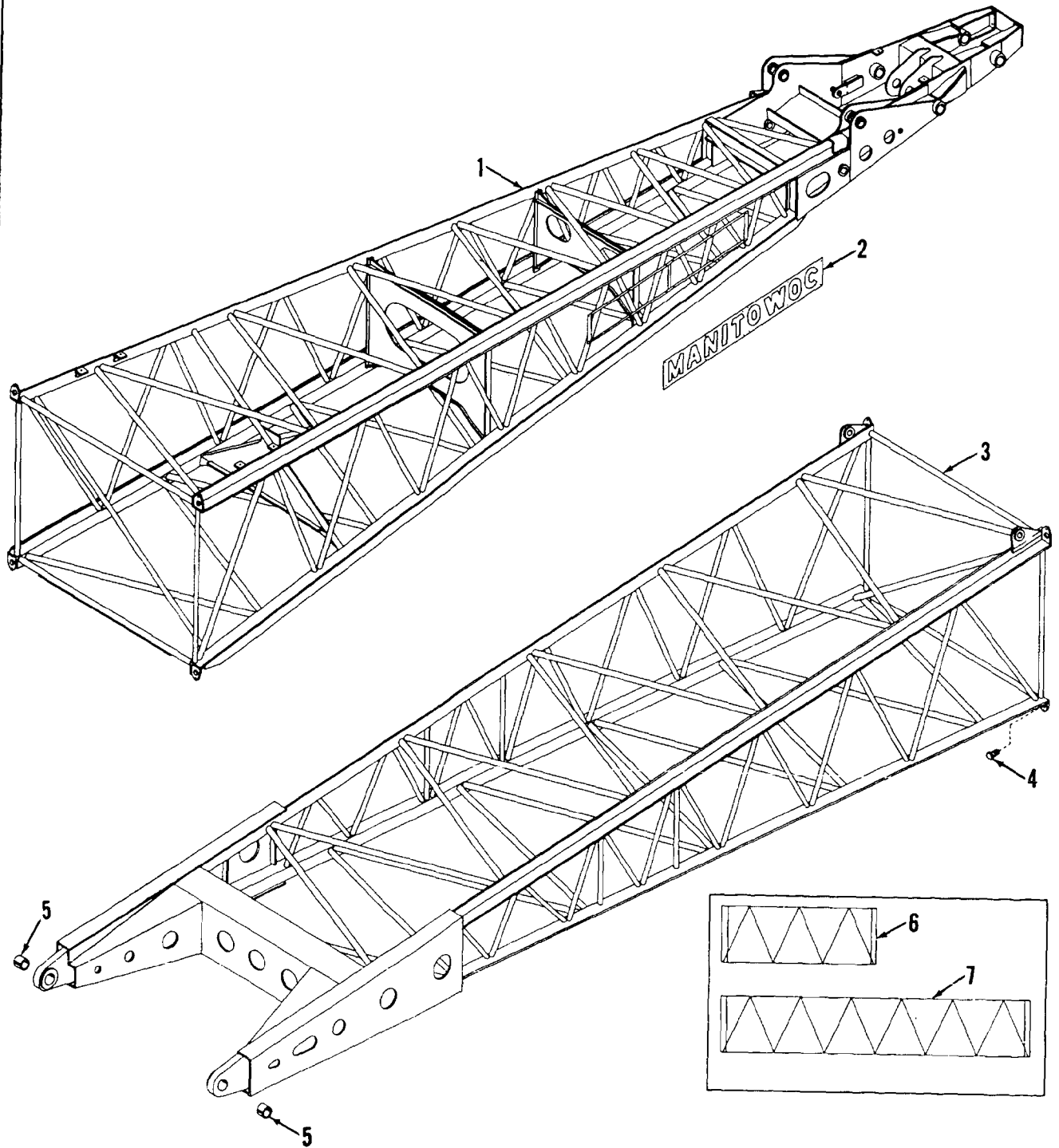
M4600

ARRANGEMENT BOOM NO.7

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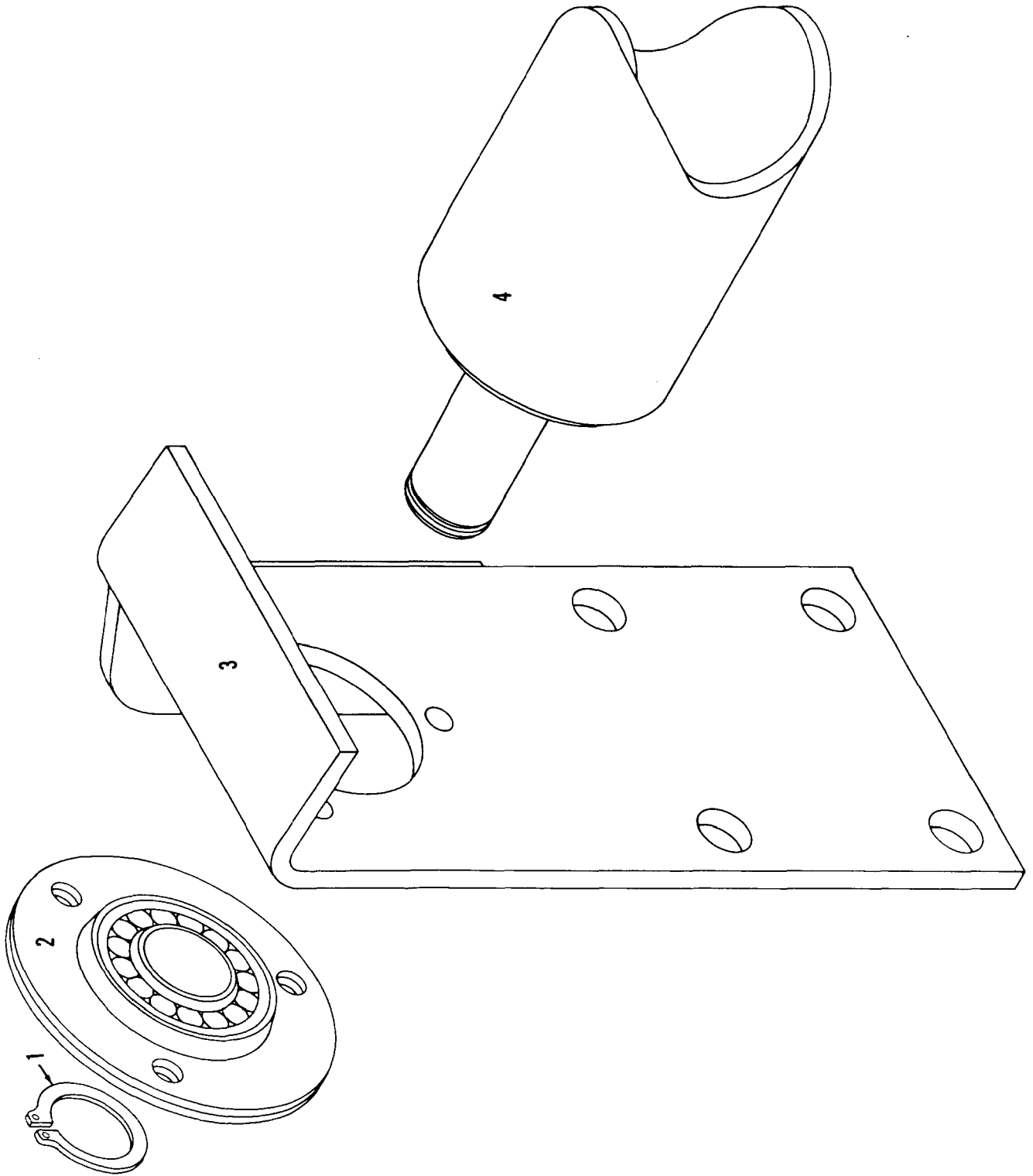
BOOM ASSEMBLY

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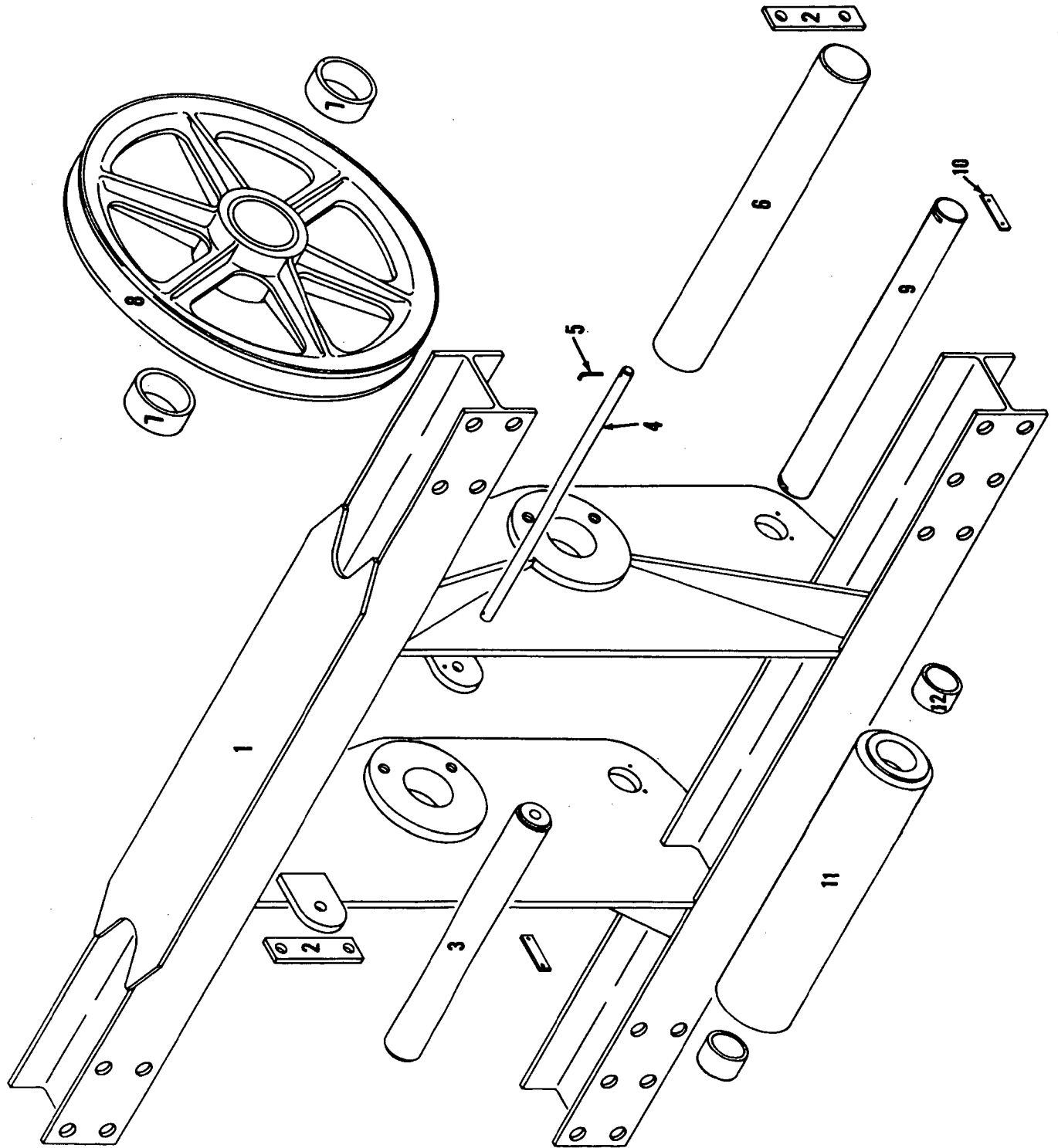
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CABLE ROLLER GUIDE ASSEMBLY

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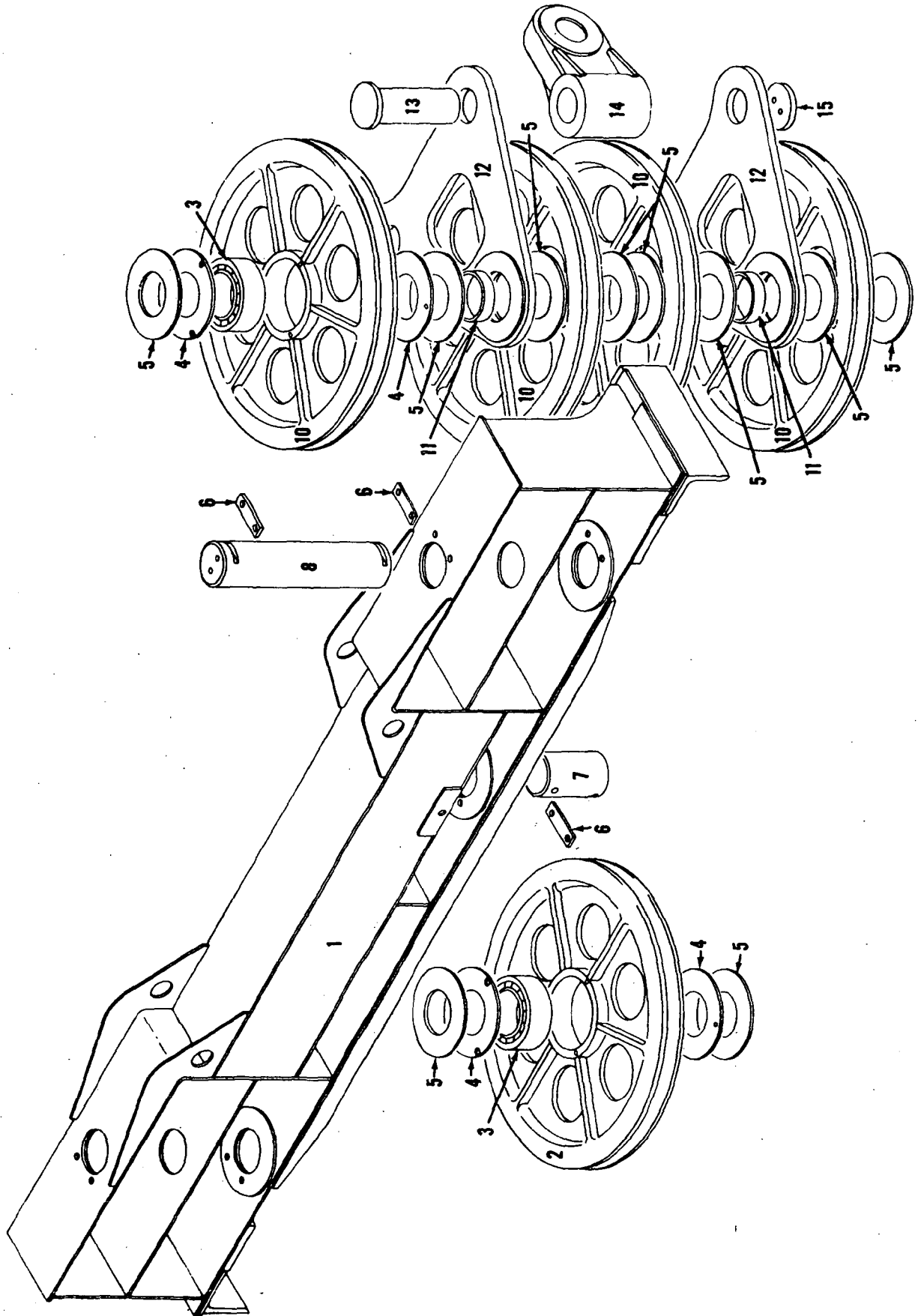
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WIRE ROPE GUIDE

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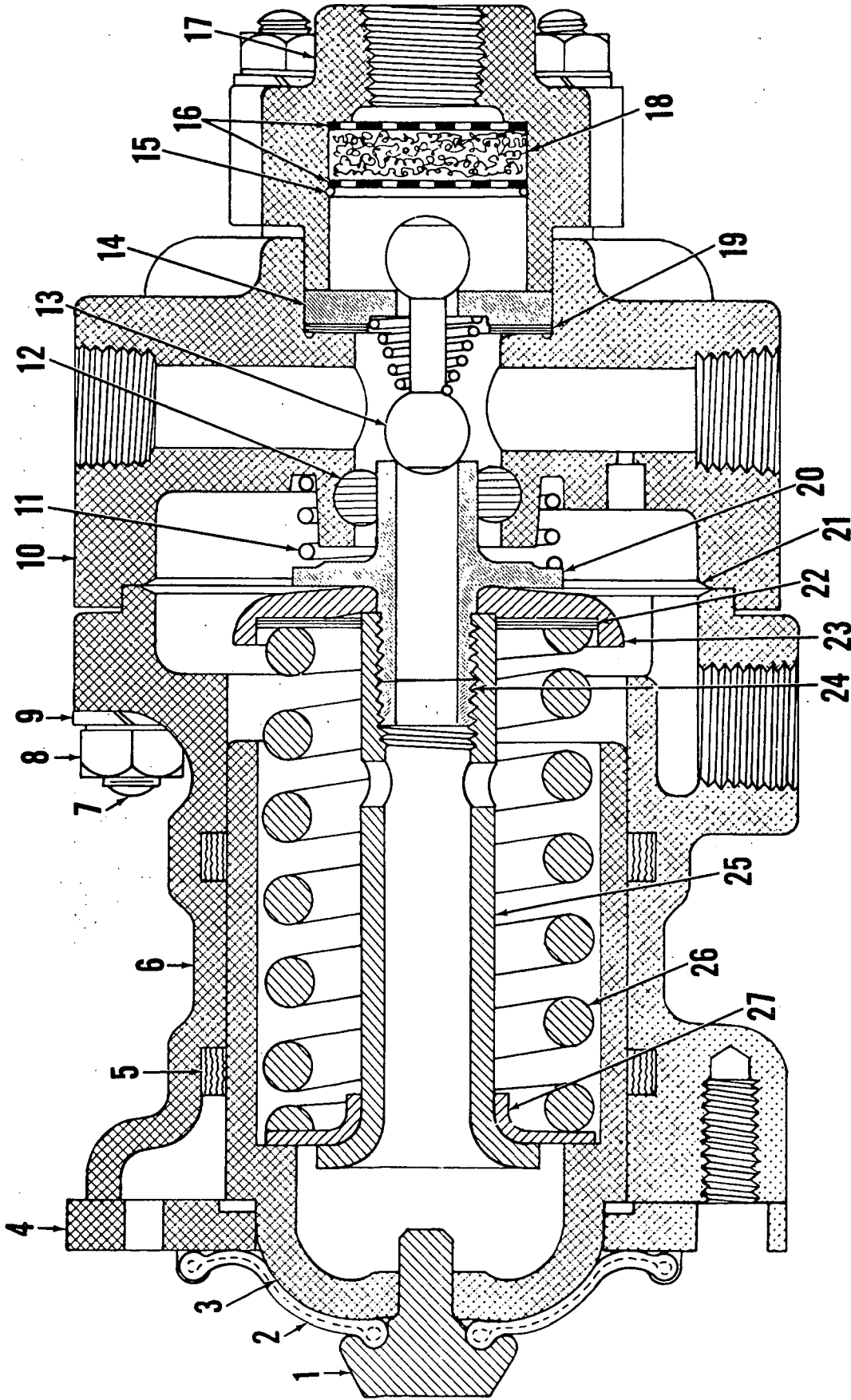
180250A1

MATERIAL LIST ON BACK

UPPER EQUALIZER

O-Number

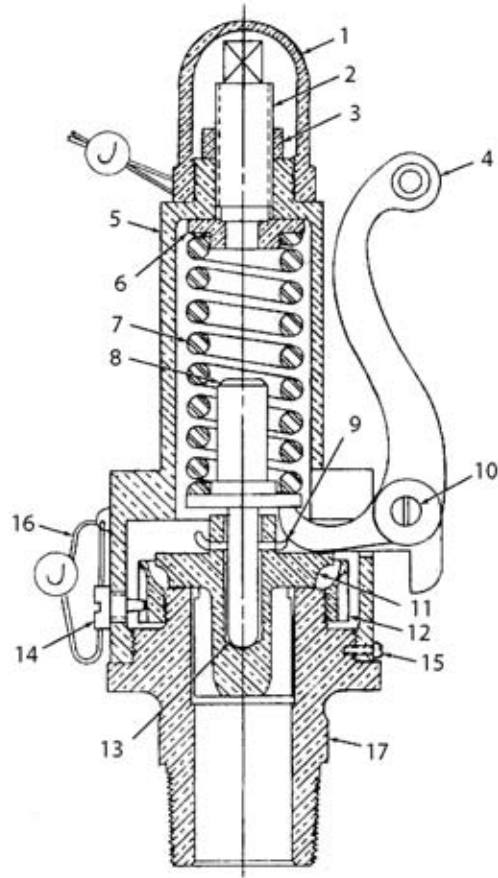
MASTER



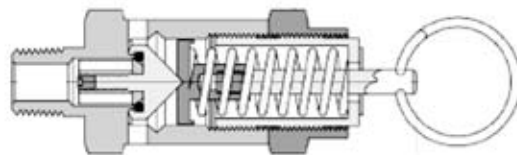
0116A1

MATERIAL LIST ON BACK

AIR VALVE ASSEMBLY



702402, 702740



81004368

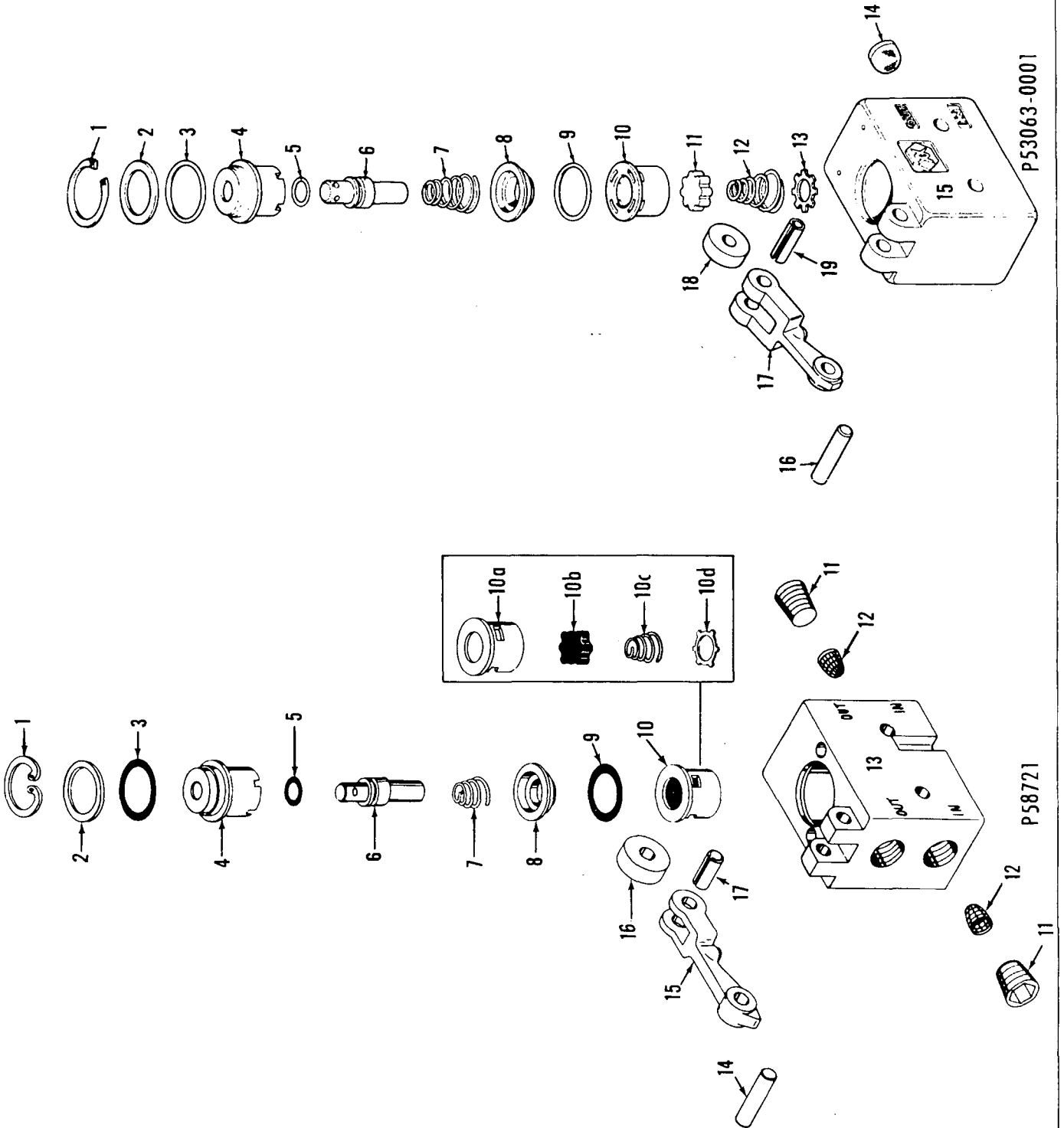
ASSEMBLY	REVISION
O-156	F

MANITOWOC ENGINEERING CO.

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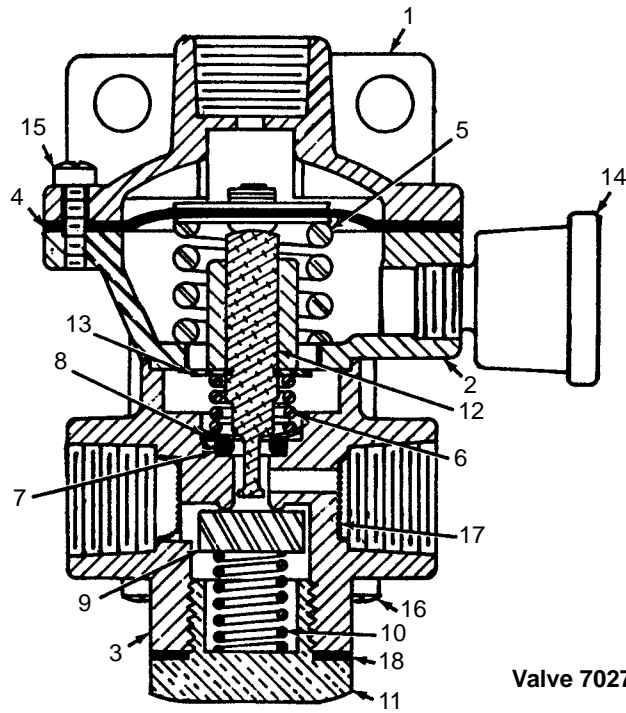
P53063-0001

P58721

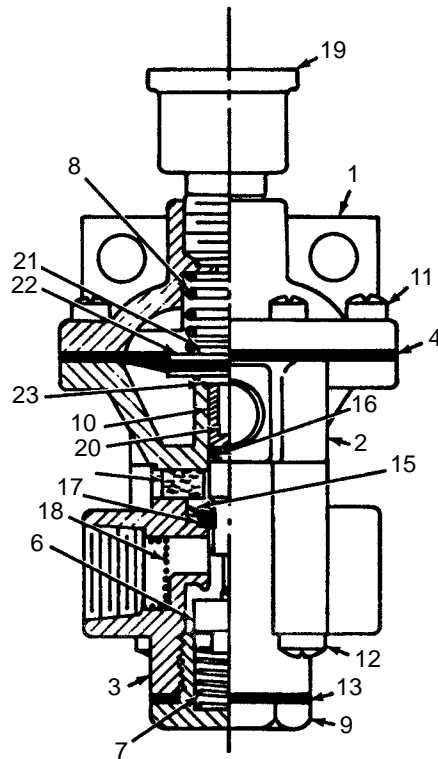
O-279

MATERIAL LIST ON BACK

CONTROL VALVE



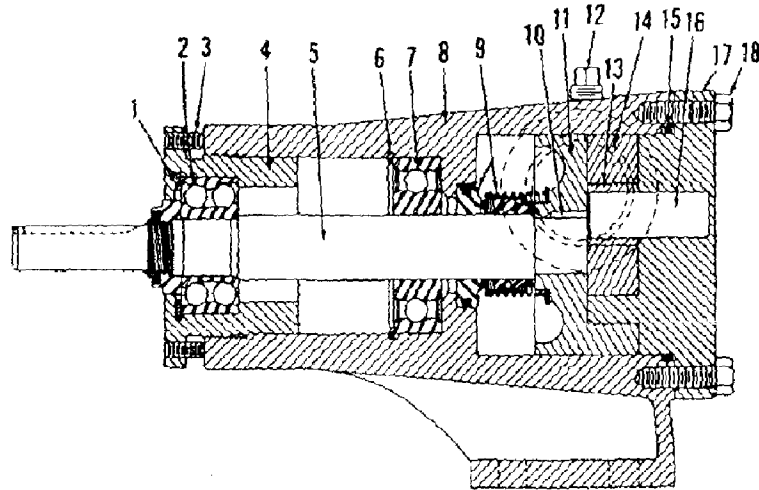
Valve 702755



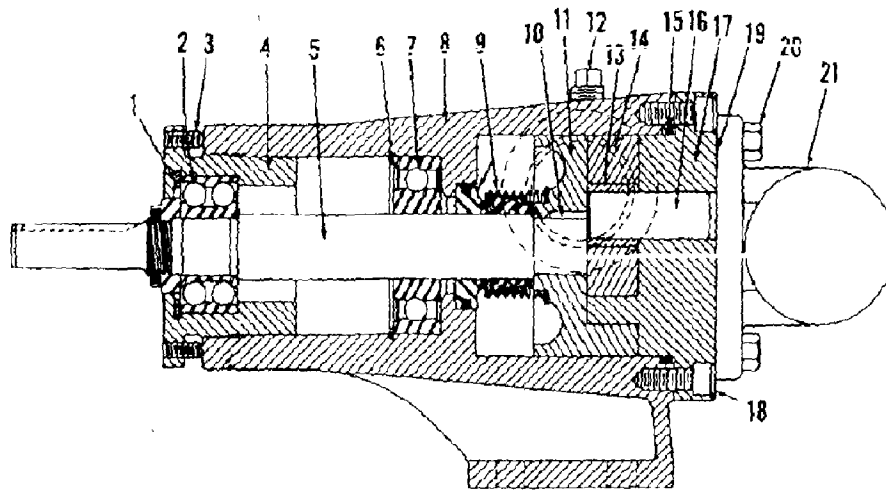
Valve 702756

ASSEMBLY	REVISION
O-294	E

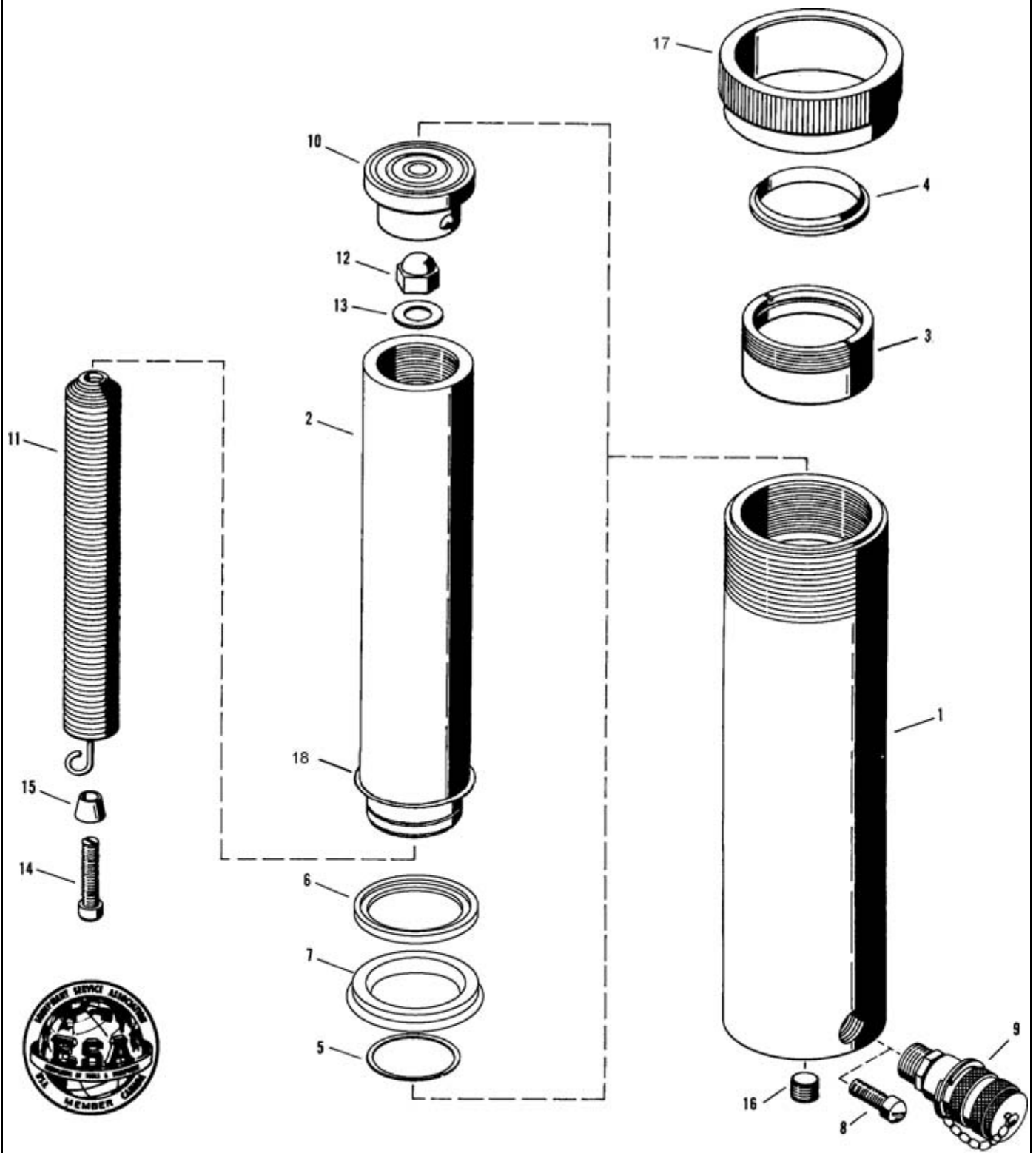
RELAY VALVE



Pump No. 33252



Pump No. 33019



385653

ASSEMBLY O-471	REVISION E
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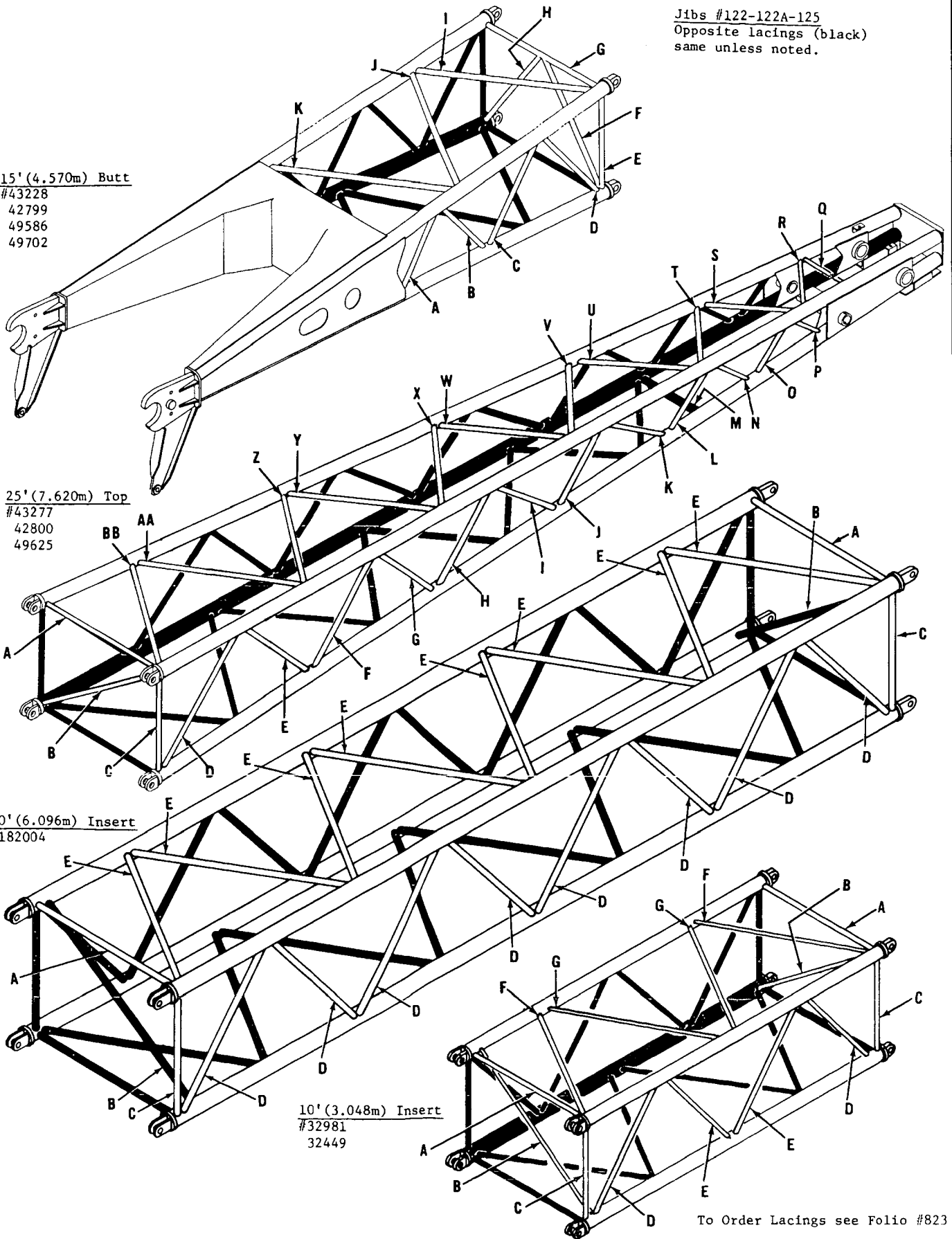
Jibs #122-122A-125
Opposite lacings (black)
same unless noted.

15' (4.570m) Butt
#43228
42799
49586
49702

25' (7.620m) Top
#43277
42800
49625

20' (6.096m) Insert
#182004

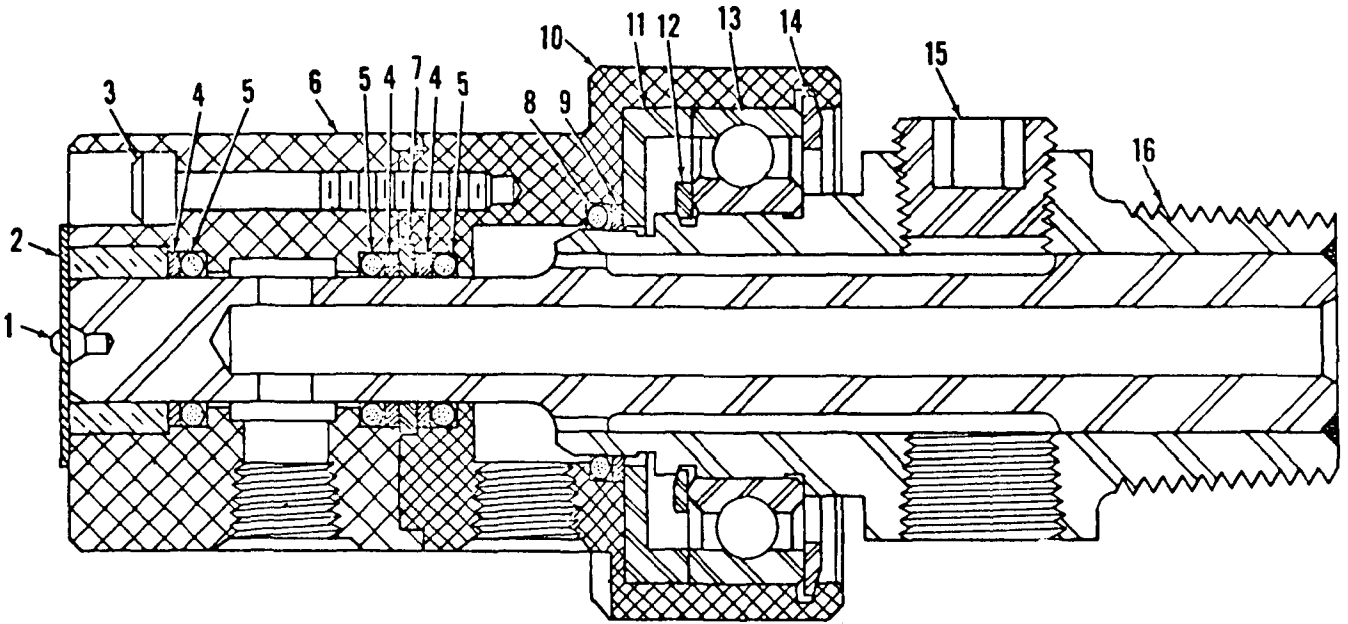
10' (3.048m) Insert
#32981
32449



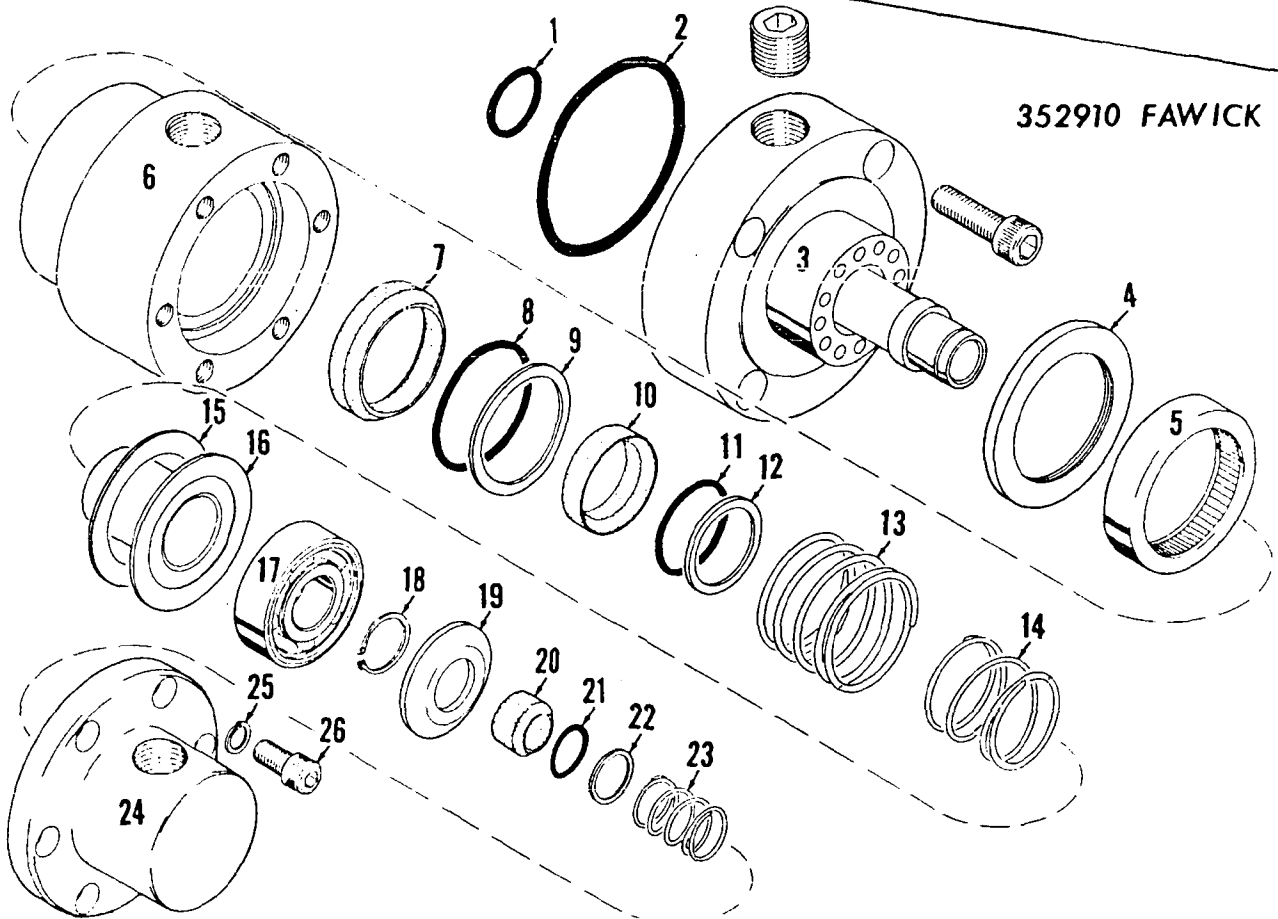
To Order Lacings see Folio #823

MASTER

RUN AS FROM MASTER



700705 DEUBLIN



352910 FAWICK

0-92A1

MATERIAL LIST ON BACK

SWIVEL UNION ASSEMBLY

0-92A1

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