



# TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

**4600**

Model

**46274**

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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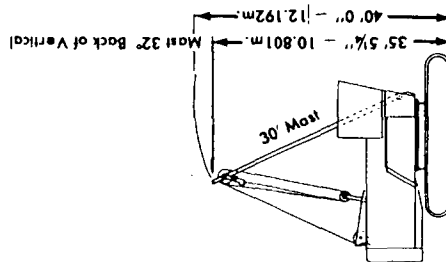
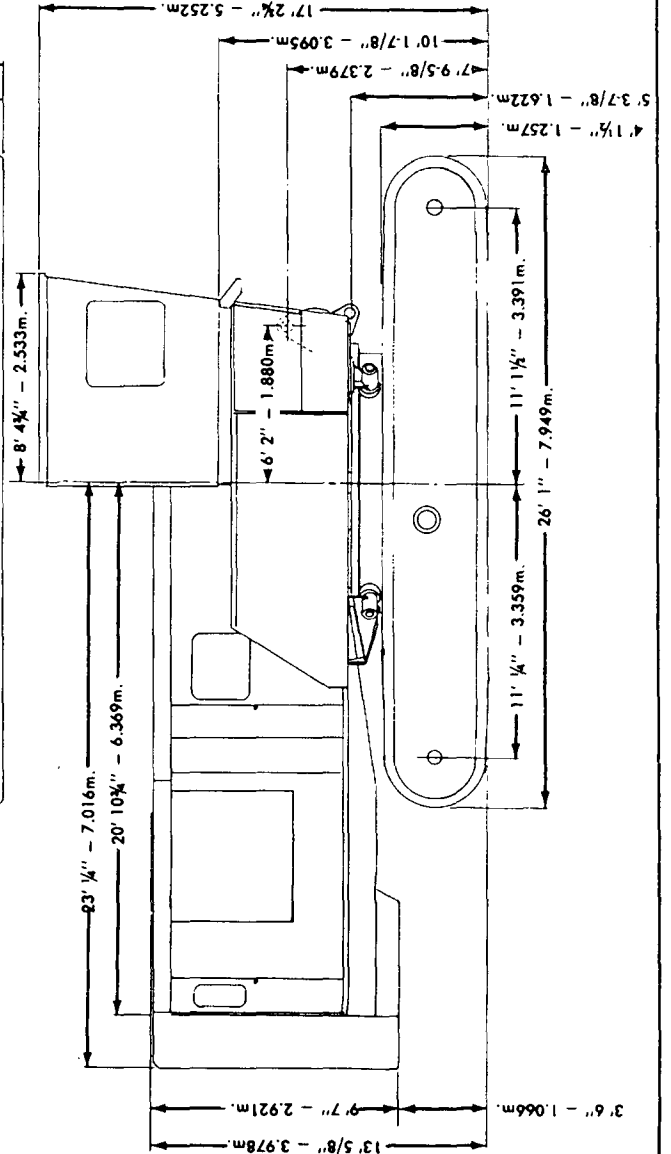
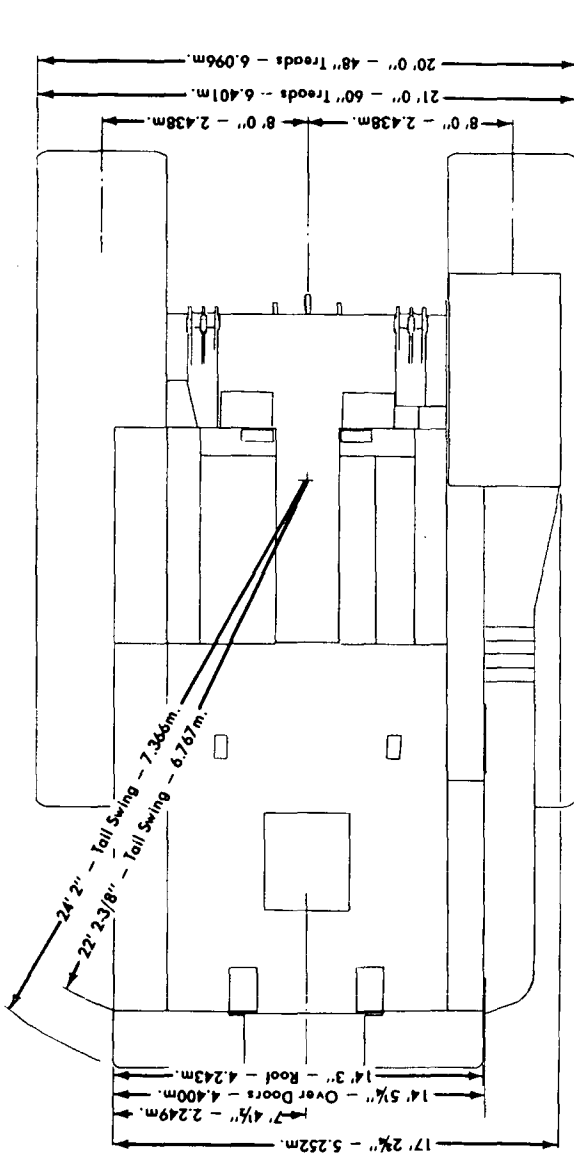
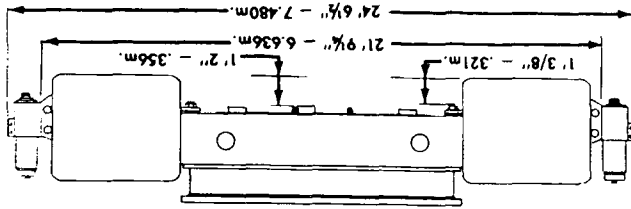
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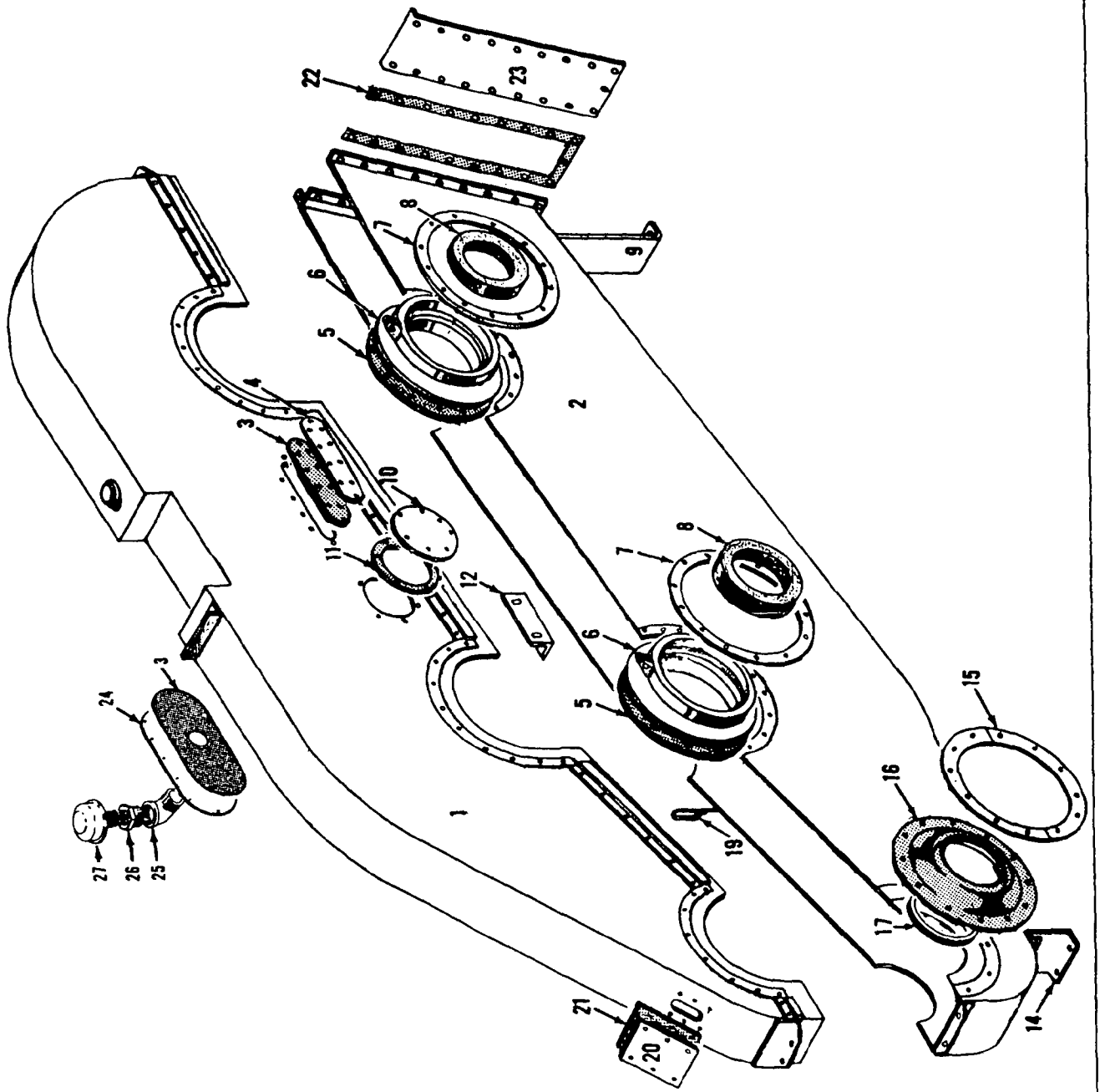
Manitowoc, Wisconsin.



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

M4600

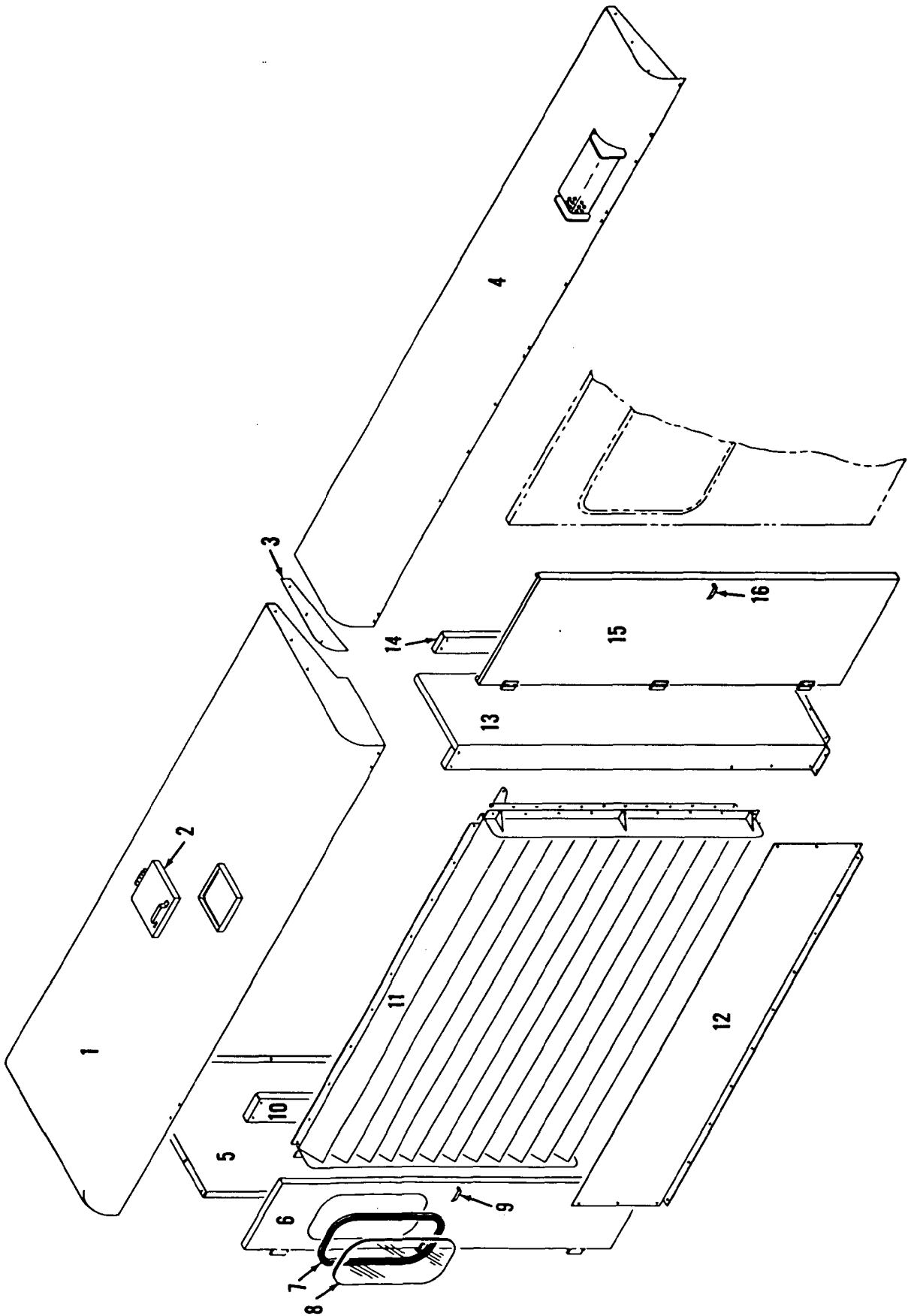
**OUTLINE DIMENSIONS**



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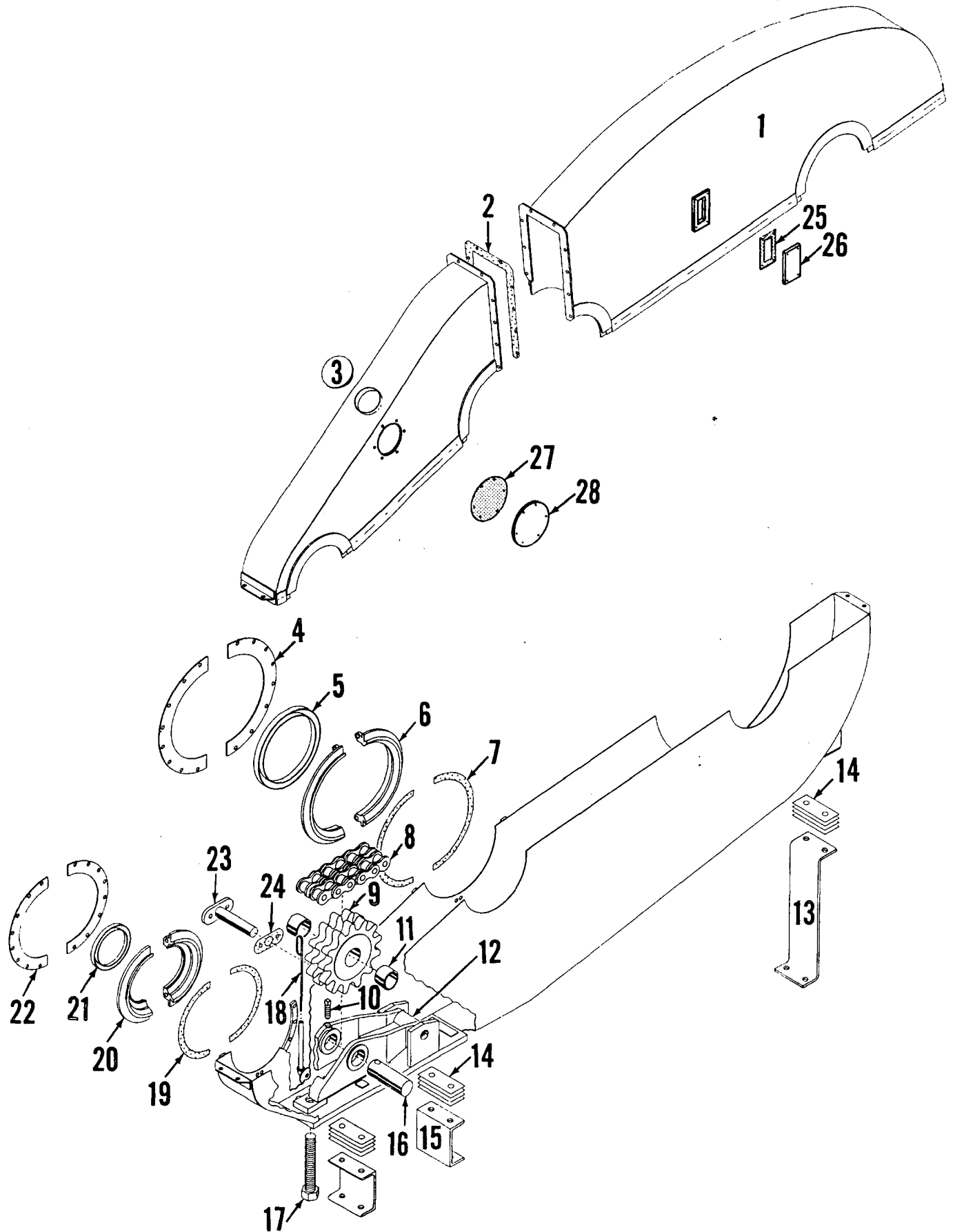
Manitowoc, Wisconsin



3376381

MATERIAL LIST ON BACK

CAB EXTENSION



MASTER

42250-B-1

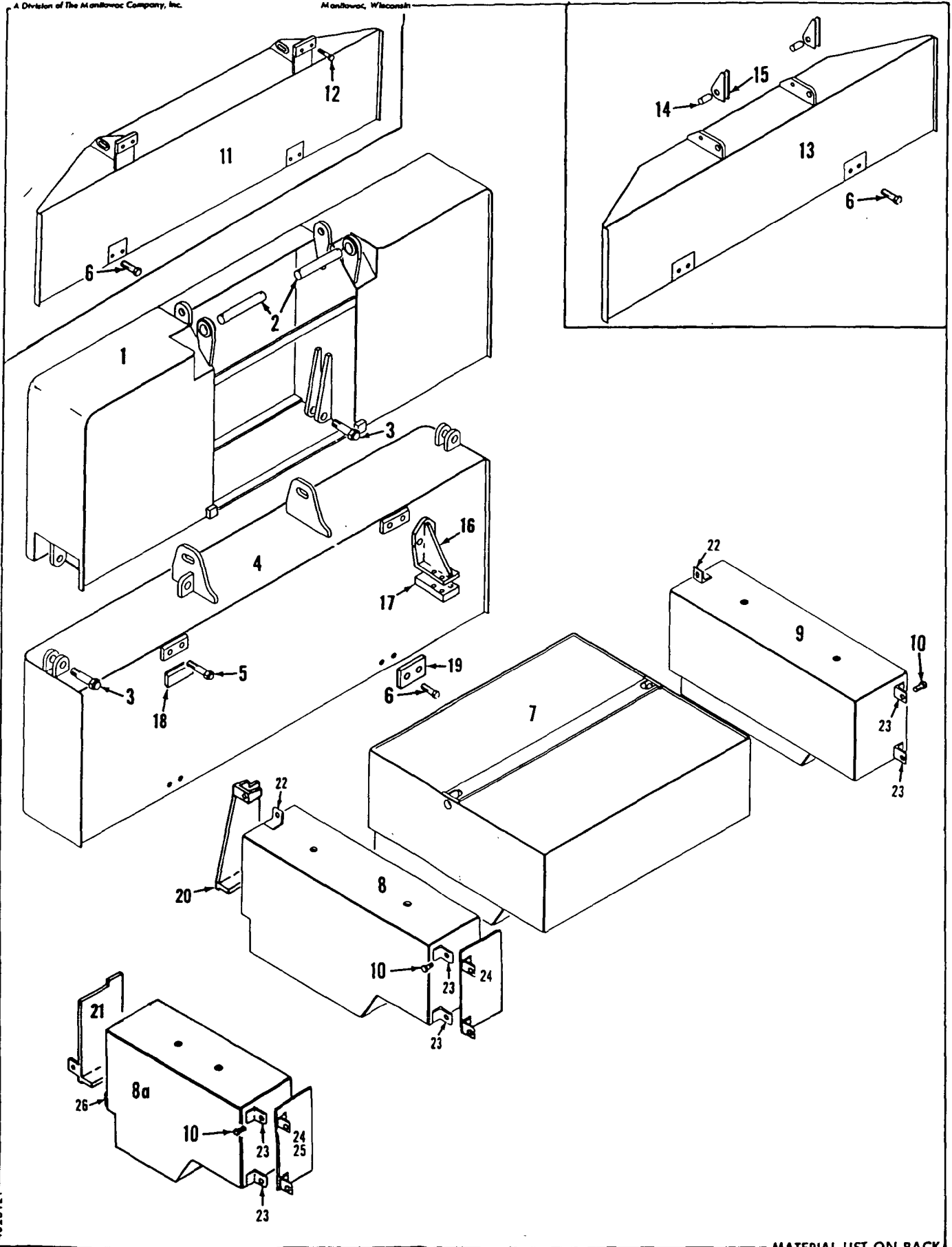
MATERIAL LIST ON BACK

INTERLOCK CHAIN CASE

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43231E1

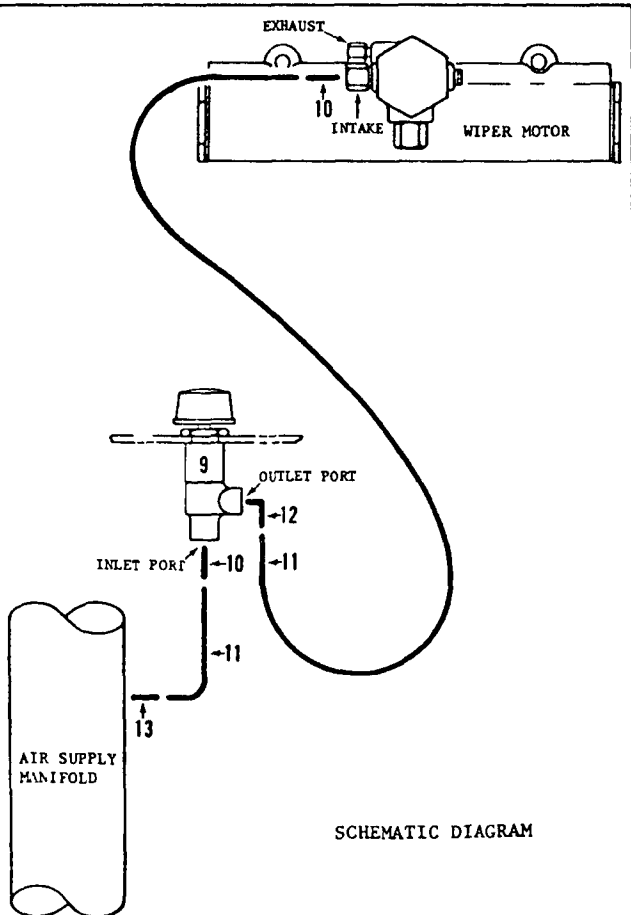
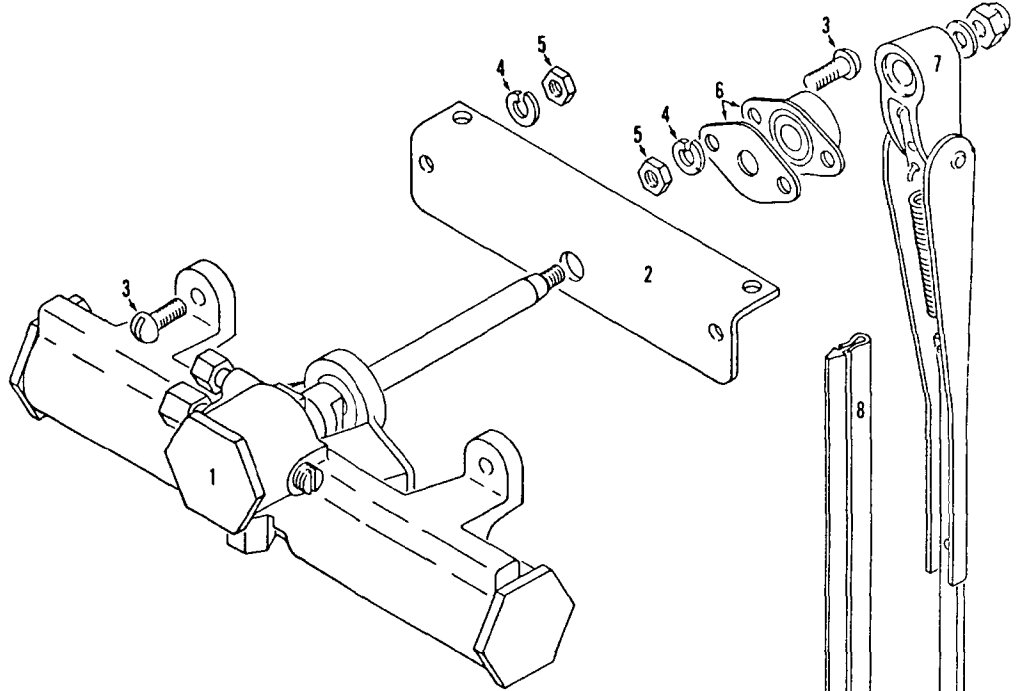
MATERIAL LIST ON BACK

COUNTERWEIGHT

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49488A1

MATERIAL LIST ON BACK

WINDSHIELD WIPER

50274-1 Cont.	REV. K	MODEL 4600
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CAB  
(DUAL ENGINES OR SINGLE ENGINE W/DUAL CONVERTERS)  
(66 TOOTH FRONT DRUM GEAR)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
6	257221	4	BOLT, Coupling	
5	43804	1	SHEET, Roof W/capscrews, hex nuts, elastic stop nuts and lockwashers (All Machines W/single Caterpillar engine)	
6	257221	4	BOLT, Coupling	
	91242	1	COVER W/capscrews and lockwashers (W/Cat. Engine) (65" x 39")	
	77513	1	COVER W/capscrews and lockwashers (W/Cat. Engine) (33" x 19")	
	NOTE 6: Delete Panels #23720 and 24300 and use the following:			
8	90689	1	ROOF EXTENSION, Left Rear W/capscrews, hex nuts and lockwashers	
22	90688	1	ROOF EXTENSION, Left Front W/capscrews, hex nuts and lockwashers	
	NOTE 7: Delete Ref. Nos. 23-30 Incl. above and use the following:			
	<u>MACHS. W/SINGLE FRONT DRUM</u>			
	43463-6	1	ROOF, Right Front W/capscrews, hex nuts and lockwashers	
27	395125	1	DOOR, Roof	
28	43463-2	1	FRAME, Roof	
29	395115	1	DOOR, Roof	
30	633138	1	PANEL, Roof	
	43463-7	1	ROOF, Left Front W/capscrews, hex nuts and lockwashers	
23	633177	1	PANEL, Roof	
24	395125	1	DOOR, Roof	
25	395115	1	DOOR, Roof	
26	43463-3	1	FRAME, Roof	
	633178	1	PANEL, Rear Inner	
	<u>MACHINE W/SPLIT FRONT DRUM</u>			
	48173-6	1	ROOF, Right Front W/capscrews, hex nuts and lockwashers	
27		1	DOOR, Roof	
28	48173-2	1	FRAME, Roof	
29	395115	1	DOOR, Roof	
30	633138	1	PANEL, Roof	
	48173-7	1	ROOF, Left Front W/capscrews, hex nuts and lockwashers	
23	633177	1	PANEL, Roof	
24	395125	1	DOOR, Roof	
25	395115	1	DOOR, Roof	
26	48173-3	1	FRAME, Roof	
	633178	1	PANEL, Rear Inner	
	<u>MACH. W/ROOF MOUNTED CONVERTER DRIVEN IND. BOOM HOIST W/HYDRAULIC POWER REVERSING</u>			
	NOTE 8: Delete Panel #43071 and use the following:			
5	48802	1	SHEET, Roof W/capscrews, hex nuts, elastic stop nuts and lockwashers	
6	257221	4	BOLT, Coupling	
	NOTE 9: Delete Panels #23720 and 24300 and use the following:			
8	90689	1	ROOF EXTENSION, Left Rear W/capscrews, hex nuts and lockwashers	

REV. K	50274-1 Cont.
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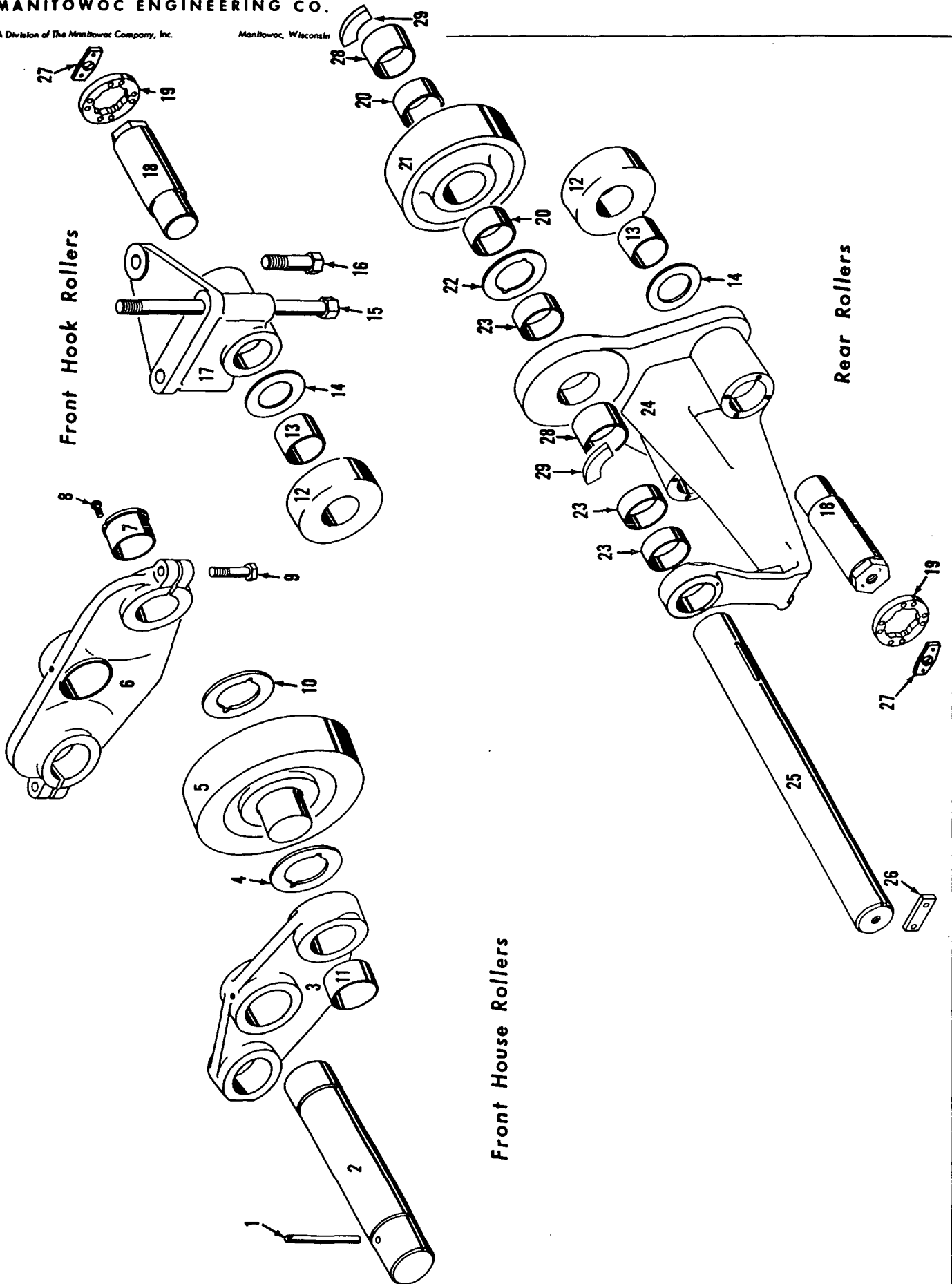
PLEASE GIVE MACHINE S/N W/ORDER

MASTER

Run as front

50274 KI (Cont. Lg. 7-7)

MASTER



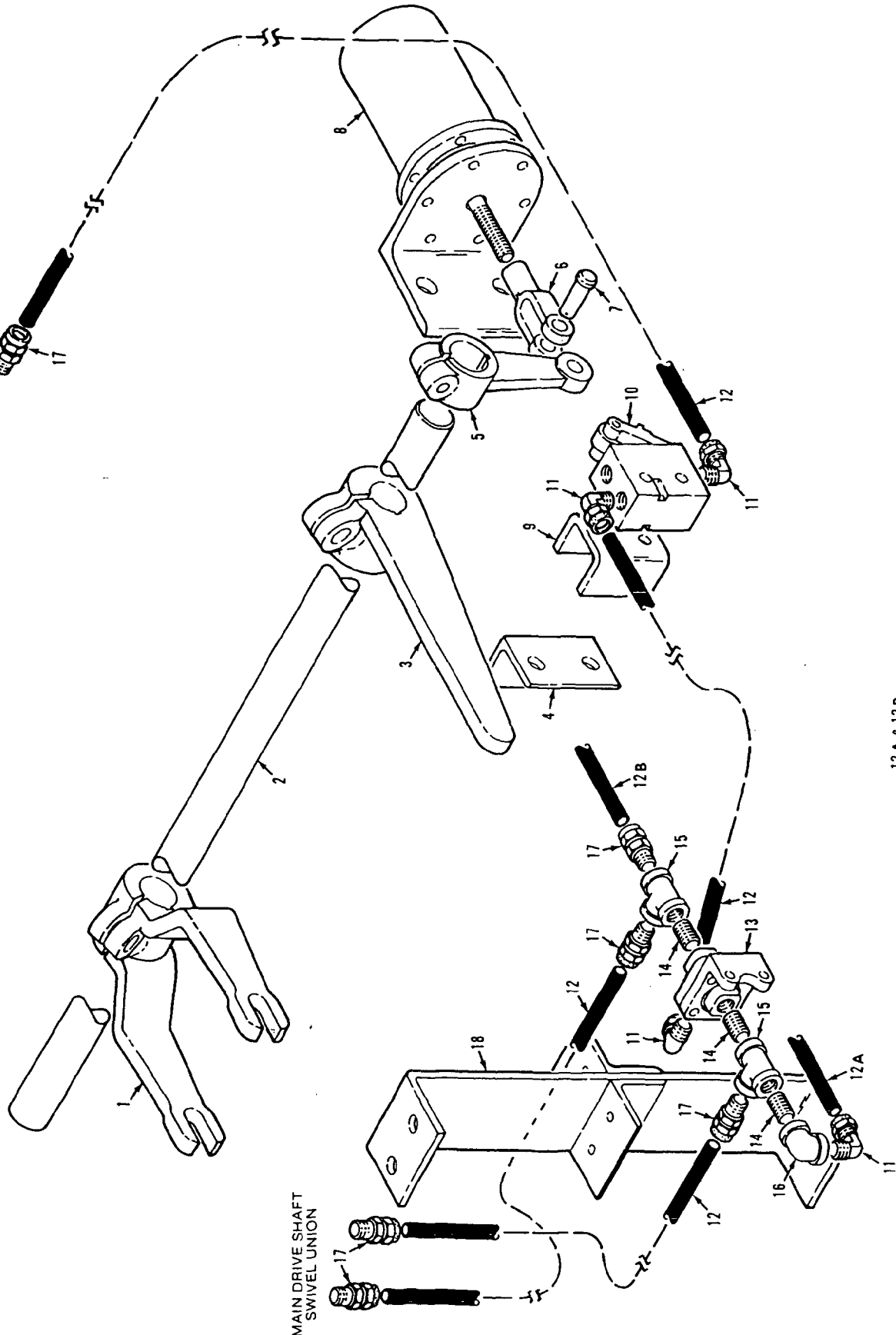
50447C2

MATERIAL LIST ON BACK

ROLLERS

GROUP B - Upperworks Machinery

MAST HOIST  
AUTOMATIC BRAKE CYLINDER



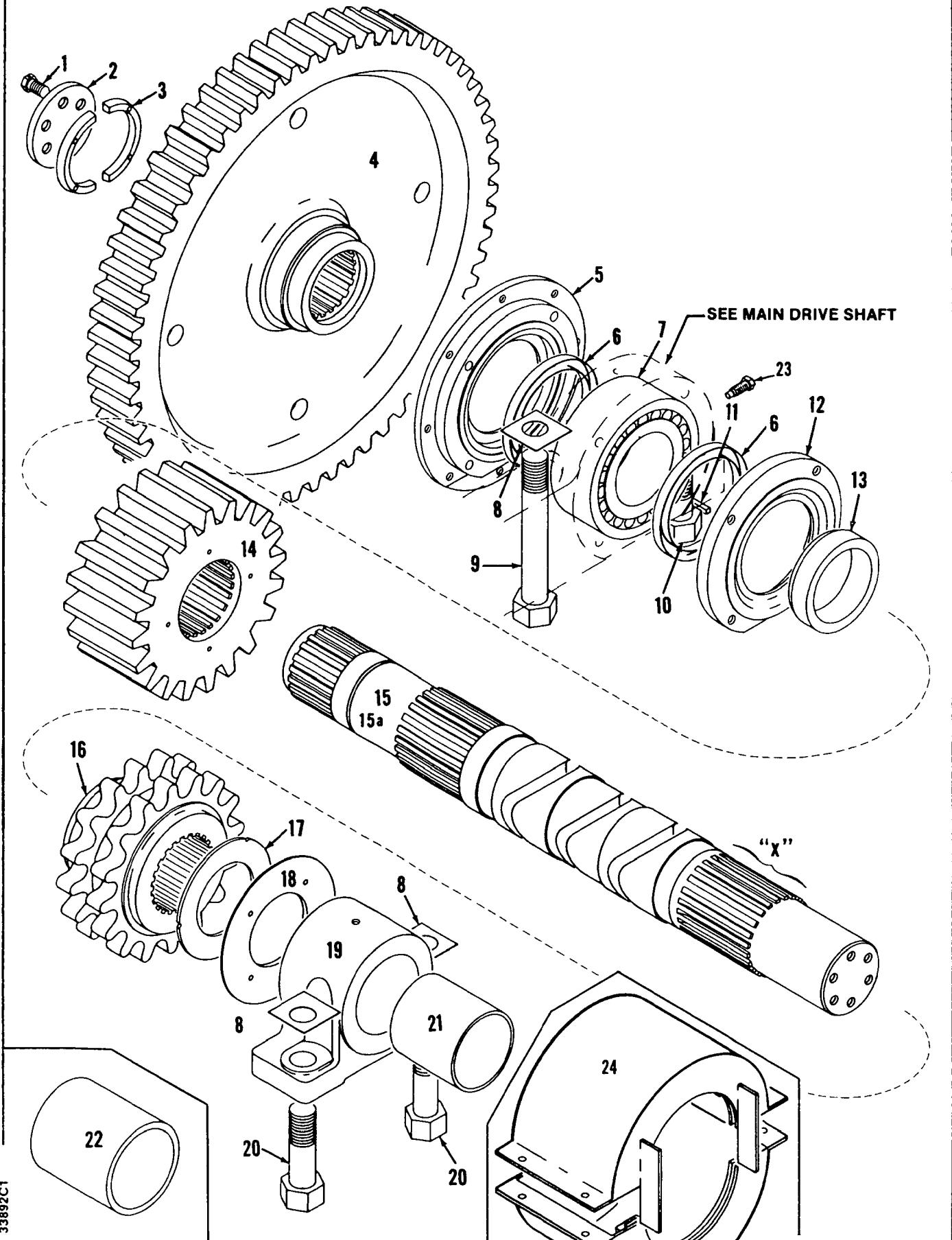
MAIN DRIVE SHAFT  
SWIVEL UNION

12 A & 12 B  
TO MAIN DRIVE SHAFT  
CONTROL VALVE

33071C1

MATERIAL LIST ON BACK

MAST HOIST SLIDE PINION



33892C1

MATERIAL LIST ON BACK

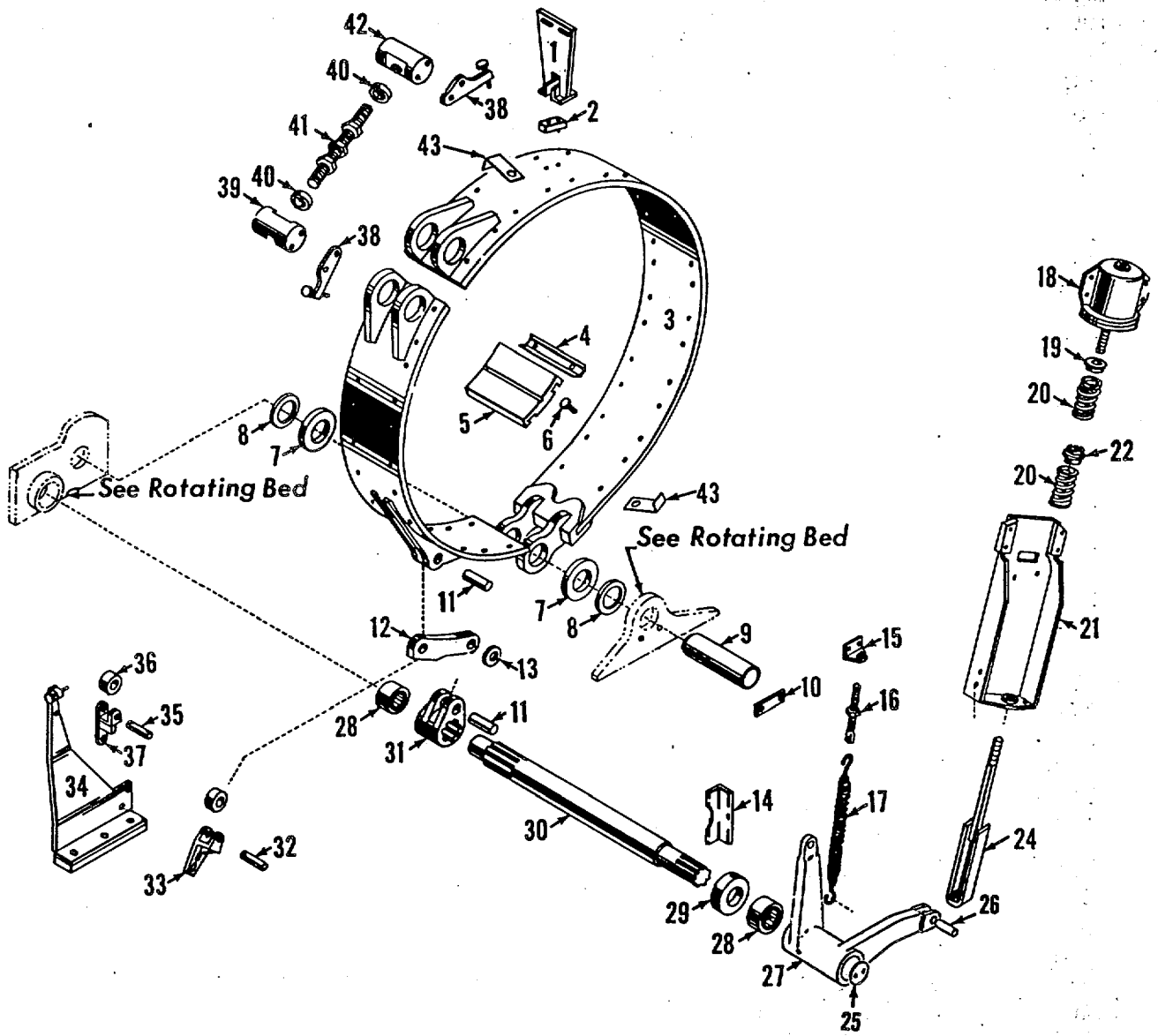
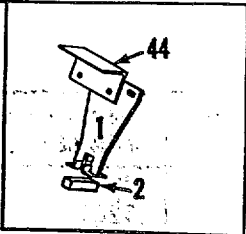
COUNTERSHAFT

41803F1

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WASILEK

41803F1

MATERIAL LIST ON BACK

REAR DRUM BRAKE

41861-1 Cont.	REV. Q	MODEL 4500-4600
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LEFT FRONT DRUM BRAKE  
(MACH. W/66 TOOTH FRONT DRUM GEAR)

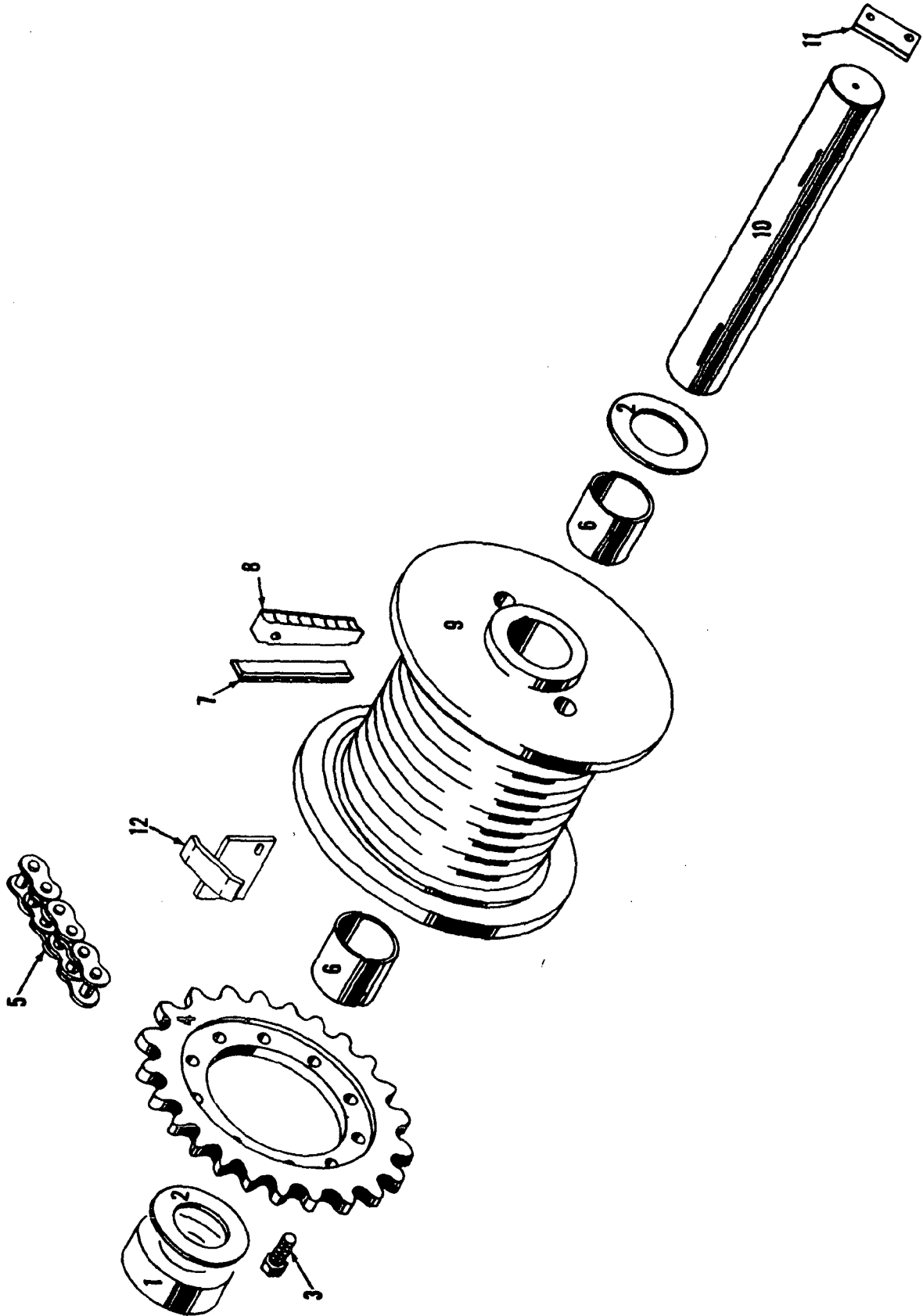
REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.		
43	21359	1	CYLINDER, Air w/rod 14456			
44	21364	1	SUPPORT, Air cylinder			
46	2619	1	WASHER			
	24320	1	SUPPORT, Air cylinder (mach. w/l pc. drum)			
38	71514	1	EXTENSION, Piston rod			
41	19442	2	SPRING			
42	71963	1	WASHER, 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			
48	139540	1	PAD, Mounting			
49	14962	1	GASKET			
50	143738	1	COVER, w/mach. screws and lockwashers			
<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>						
<p>0-71, 21359</p>						
				<table border="1"> <tr> <td>REV. Q</td> <td>41861 - 1</td> </tr> </table>	REV. Q	41861 - 1
REV. Q	41861 - 1					

MASTER

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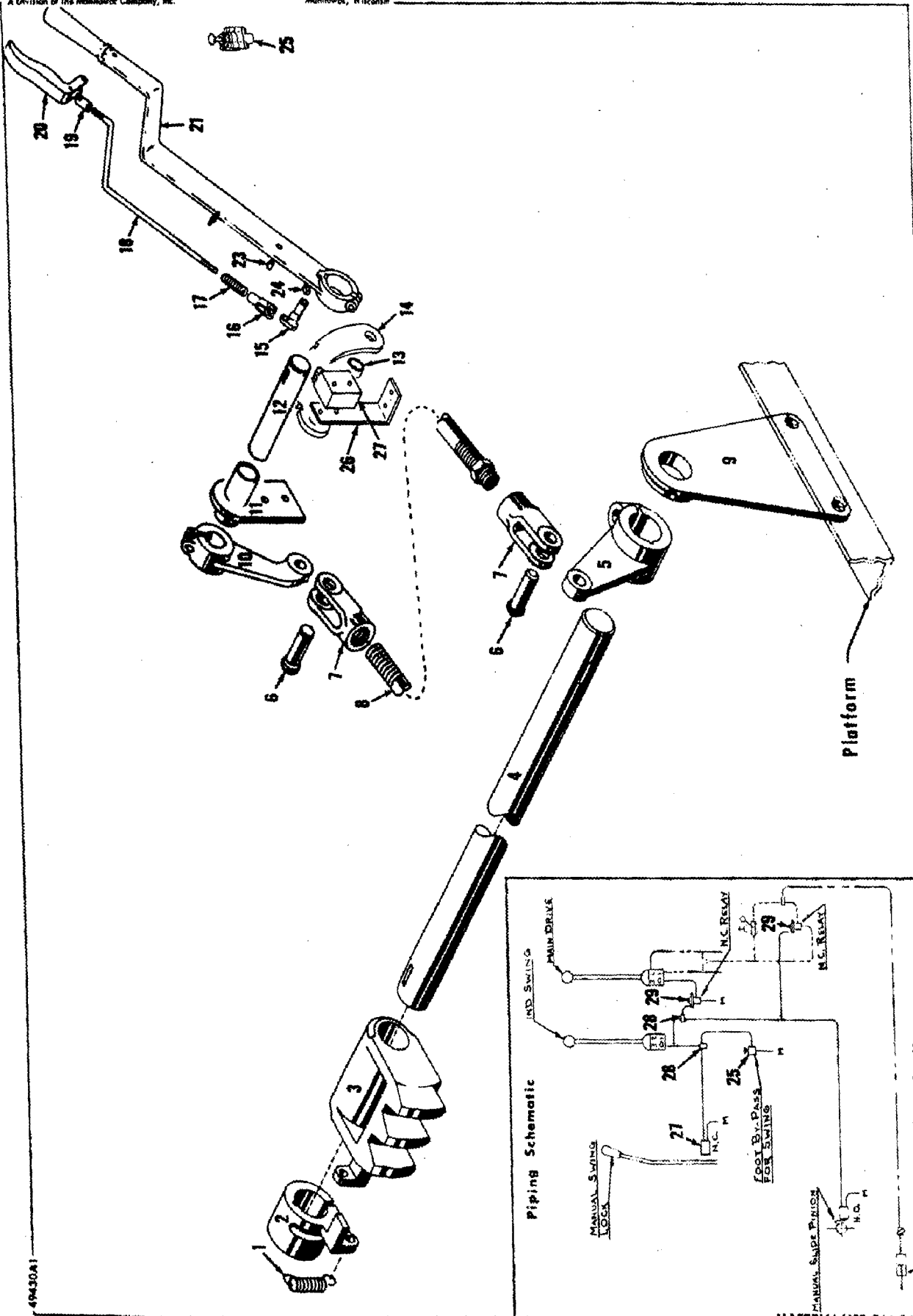


42790A1

42790 A1

MATERIAL LIST ON BACK

BOOM HOIST DRUM



Platform

Piping Schematic

BEARING ENGINE THROTTLE ACTUATOR OR  
BEAR CONCRETE POSITIONER

MATERIAL LIST ON BACK

SWING LOCK

MASTER

49430A1

50481-1	REV. E	MODEL 4600
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MAIN DRIVE SHAFT  
(DUAL CONVERTERS)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
1	32424	1	SPROCKET, Outer	
2	257337	8	BOLT, Coupling	
3	90483	1	ADAPTOR	
4	225302	2	BEARING, Roller	
5	72882	1	SPACER	
6	72881	1	SPACER	
7	75511	1	RING, Retaining W/capscrews	
8	32642	1	SPROCKET, Inner (5 Strand - 1½" Pitch) (Std. and Cat. D-379)	
8	32423	1	SPROCKET, Inner (4 Strand - 1½" Pitch) (Optional)	
8	33649	1	SPROCKET, Inner (5 Strand - 1½" Pitch) (Cat. D-398)	
8	32422	1	SPROCKET, Inner (6 Strand - 1" Pitch) (Optional)	
9	257339	8	BOLT, Coupling	
10	139251	1	NUT, Adjusting W/capscrews and lockwashers	
11	622501	1	SEAL, Oil	
12	72883	1	SPACER	
13	225303	2	BEARING, Roller	
14	24384	1	PINION, Countershaft Drive	
15	72884	1	SPACER	
16	190194	1	SUPPORT, Left Bearing	
18	15652	2	LOCK, Nut	
19	78726	1	BOLT, Coupling	
17	546836	1	NUT, Hex	
20	78727	1	BOLT, Coupling	
17	546836	1	NUT, Hex	
21	622555	1	SEAL, Oil	
21	622750	1	SEAL, Oil (Split - Field Replacement)	
22	72465	1	HUB, Sprocket (Discontinued 10-30-70)	
23	72466	1	SPROCKET, Pump Drive (Discontinued 10-30-70)	
24	19045	1	NUT, Split W/capscrews, hex nuts and lockwashers	
25	30823	2	SPIDER W/capscrews, hex nuts and lockwashers	
26	31448	2	DRUM, Clutch	
27	15044	2	GASKET	
28	14346	2	COVER, Bearing W/capscrews, hex nuts and lockwashers	
29	622540	2	SEAL, Oil	
29	622470	2	SEAL, Oil (Split - Field Replacement)	
30	224608	2	BEARING, Ball	
31	15663	2	GASKET	
32	90490	2	PINION, Bevel	
33	30668	2	SLING, Oil W/mach. screws, hex nuts, capscrews and lockwashers	
34	14356	4	GASKET	
35	15221	28	BOLT, W/lockwashers and hex nut	
36	14350	2	SPACER	
37	224606	2	BEARING, Ball	
38	622543	2	SEAL, Oil	
38	622471	2	SEAL, Oil (Split - Field Replacement)	
39	90478	2	COVER, Bearing W/capscrews and lockwashers	
40	33736	1	SHAFT, Main Drive	
41	33075	1	HOUSING, Bearing W/gr. fitting and elastic stop nuts	
42	257224	4	BOLT, Coupling	
43	225260	1	BEARING, Roller	

REV.	E	50481-1 Cont.
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PLEASE GIVE MACHINE S/N W/ORDER

50481-E1

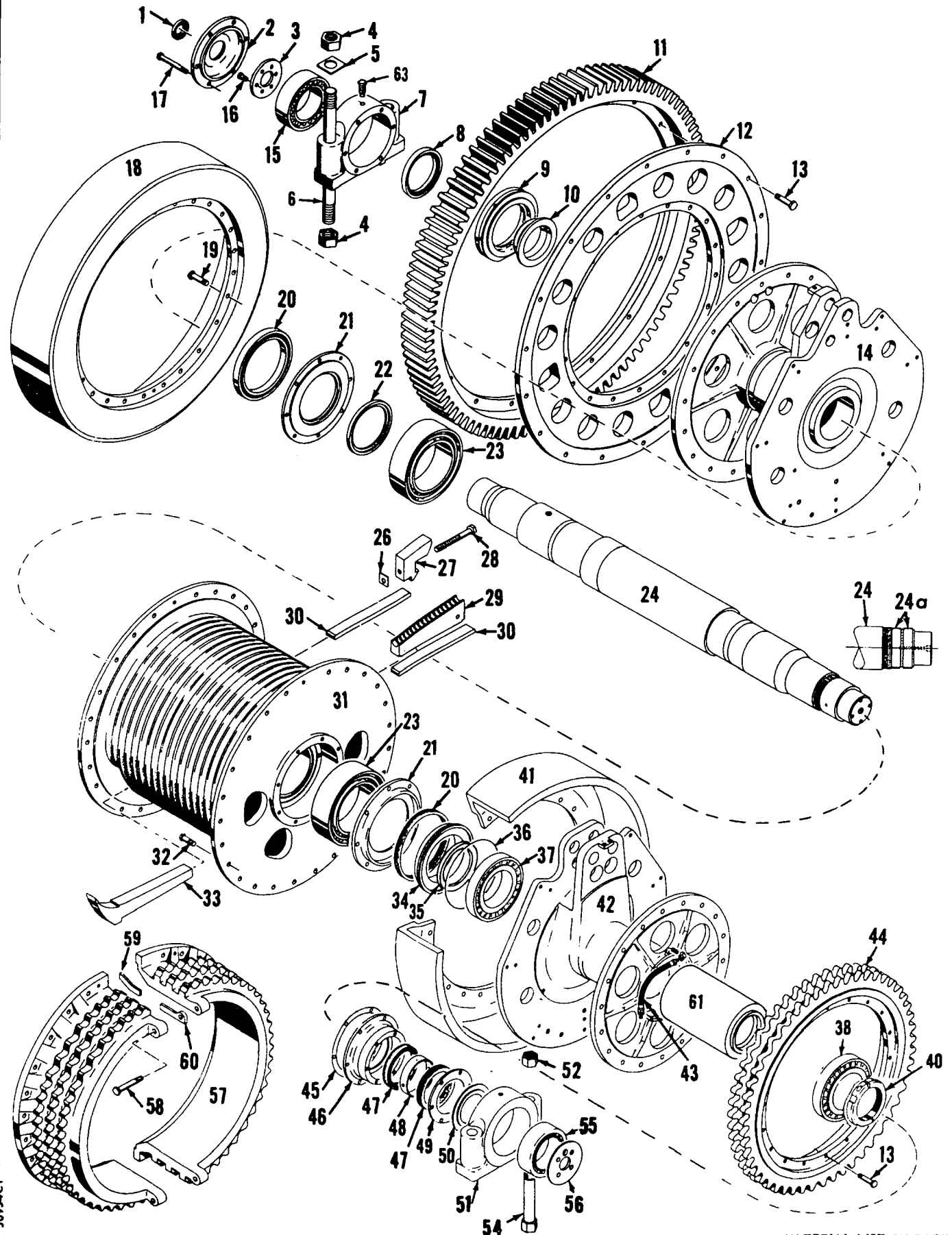
Use 50481-B1 Front

MASTER

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50934C1

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DRUM SHAFT

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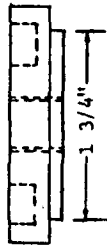
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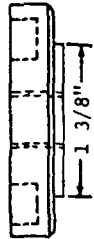
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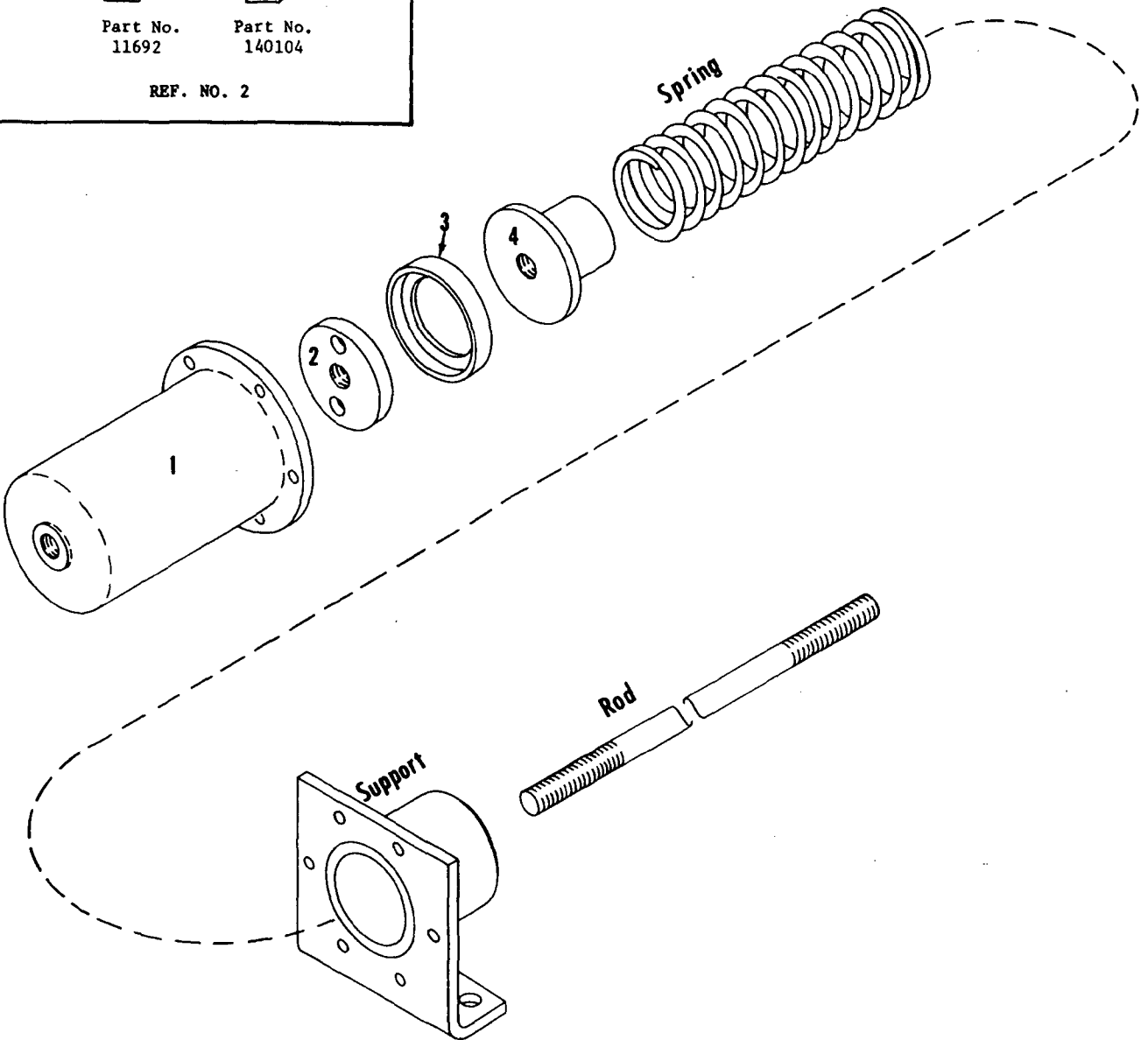


Part No.  
11692



Part No.  
140104

REF. NO. 2



MASTER

9356081

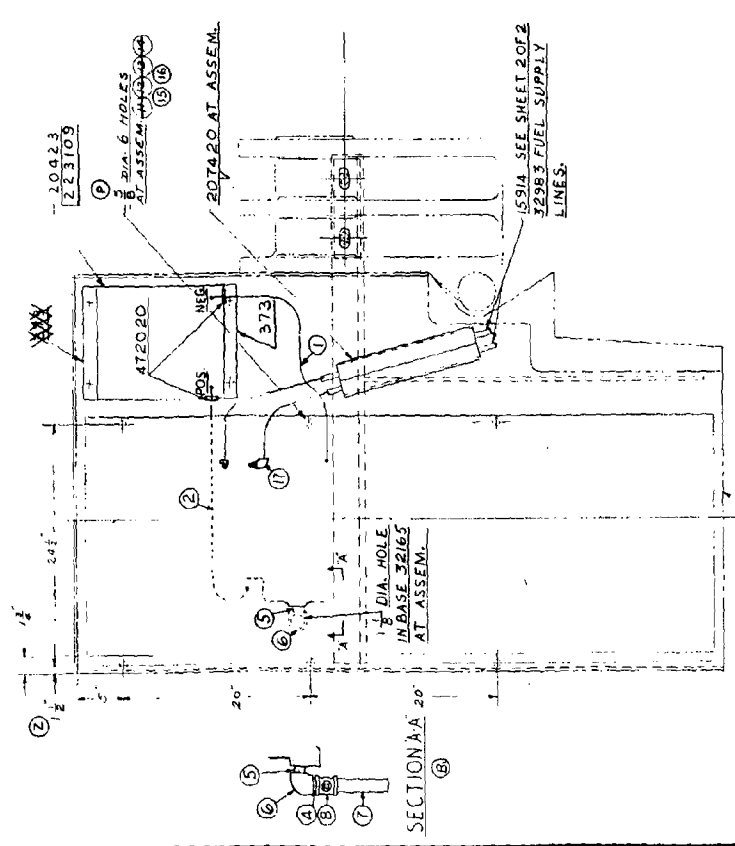
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AIR CYLINDER

REVISIONS  
 (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20)

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  - 207420
  - 373
  - 15714-2
  - 30423
  - 207420
  - 223109
  - 507923
  - 48299
  - 474020
- REC'D
- (1) BATTERY CABLE 3/0 - 24 LG. TERM. EYE
  - (2) BATTERY CABLE 3/0 - 48 LG. TERM. EYE
  - (3) HOSE STRAP - MOLE
  - (4) CLOSE NIPPLE
  - (5) 1/2" X 2 NIPPLE
  - (6) 2" X 90° ELL
  - (7) 1/2" X 6 LG. STD. PIPER. THD. END
  - (8) STEAM COCK
  - (9) 1/2" X 1/2" COUPLER
  - (10) 1/2" X 1/2" COUPLER
  - (11) 1/2" X 1/2" COUPLER
  - (12) 1/2" X 1/2" COUPLER
  - (13) 1/2" X 1/2" COUPLER
  - (14) 1/2" X 1/2" COUPLER
  - (15) 1/2" X 1/2" COUPLER
  - (16) 1/2" X 1/2" COUPLER
  - (17) 1/2" X 1/2" COUPLER
  - (18) 1/2" X 1/2" COUPLER
  - (19) 1/2" X 1/2" COUPLER
  - (20) 1/2" X 1/2" COUPLER

- (A) BATTERY BOX CLIP
- (B) FLEXIBLE HOSE
- (C) BATTERY BOX
- (D) ANGLE
- (E) 12 VOLT BATTERY
- (F) ELBOW - WEATHER HEAD - W. 3400X4
- (G) LIFE PLANT - 6 M. 15 K.W. WITH DELCO 120-200 K. GENERATOR
- (H) HOSE ASSEMBLY - 3/4" DIA. X 10 FT.
- (I) RUBBER GROMMET



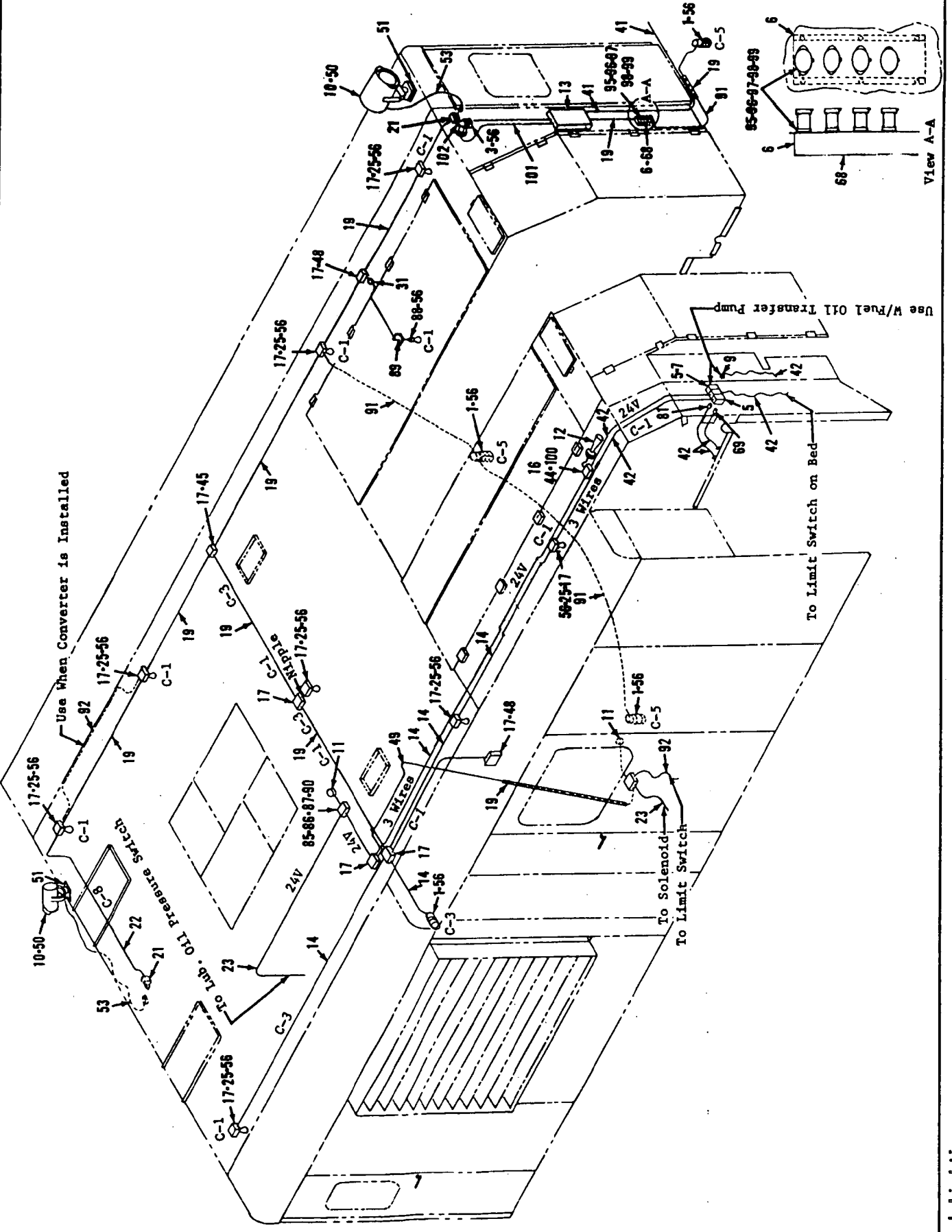
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 OF THIS INFORMATION AND SHALL INDEMNIFY MANITOWOC ENGINEERING CO.  
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UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE IN INCHES.	MANITOWOC ENGINEERING CO. MILWAUKEE, WISCONSIN	LIGHT PLANT ASSEM. 17 K.V. SINGLE PHASE G.M. DIESEL 5M.E.L.1072
DATE: 1/18/54	DRAWN BY: [Signature]	DATE: 1/18/54
SHEET NO. 32165	TOTAL SHEETS 32983	

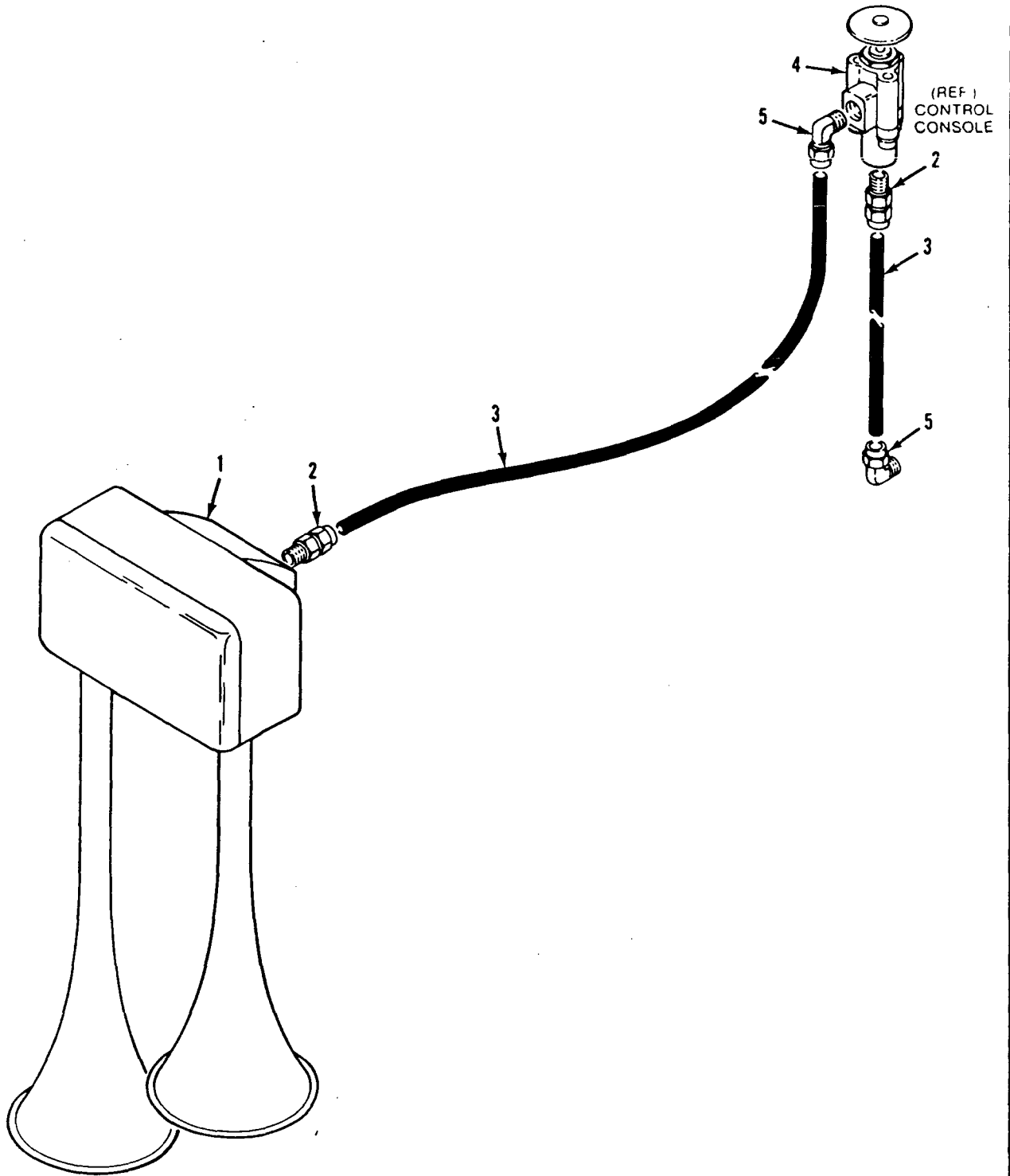
DO NOT SCALE THIS DRAWING



5049601

MATERIAL LIST ON BACK

Cab Lighting



BELOW OPERATORS CAB

**PARTS MANUAL ALPHABETICAL INDEX**  
**Group D - Power Components**

DESCRIPTION	PUBLICATION	REV	START DATE	END DATE	GROUP
Battery Boxes	181550	-	10/11/71	07/17/72	D0104
Converter Control	180254	B1	03/05/68	12/14/70	D0601
Converter Piping	48993	A1	06/10/70	10/15/80	D0701
Converter Piping	48993	A2	06/10/70	10/15/80	D0701
Instrument Panel/Engine	93941	A1	10/07/71	09/19/73	D0301
Instrument Panel/Engine	93947	A1	10/11/71	09/19/73	D0301
Power Plant	50408	R1	02/23/72	09/30/74	D0101
Power Plant	50408	C2	04/20/72	09/29/93	D0101
Power Take Off - Transmission Case	48947	K1	03/31/70	06/11/79	D0401
Power Take Off - Transmission Case	48947	B2	03/31/70	06/11/79	D0401
Power Take Off - Transmission Case	48947	B3	03/31/70	06/11/79	D0401
Power Take Off - Transmission Case	48947	B4	03/21/70	06/11/79	D0401

48947-3 Cont.	REV. B	MODEL 4600
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TRANSMISSION CASE LUBRICATION SYSTEM FOR CAT D379 ENGINE  
 (W/OR W/OUT FORCED OIL LUBRICATION TO CONVERTER IMPELLER SHAFT BEARINGS  
 AND W/OR W/OUT HEAT EXCHANGER COOLING FOR LUBRICATION OIL AND W/OR W/OUT DEEP SUMP)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.			
45	491051	2	INSERT (3/8" NPT 1/2" I.D. Hose)				
46	485845	2	TUBE, Plastic (1/2" I.D. - specify length)				
<p><u>OPTIONAL LUBRICATION OIL COOLING SYSTEM W/DEEP SUMP (also see **)</u>                      For Transmission Case Lubrication Oil Cooling System With Deep Sump, Delete Ref. Nos. 3 and 40 and add the following items:</p>							
47	543406	1	NIPPLE, Close (1")				
48	406909	1	ELBOW (1" x 3/4")				
49	288757	1	BUSHING (1" x 3/4")				
50	406900	1	ELBOW (1 1/2" x 1")				
51	543408	1	NIPPLE, Close (1 1/2")				
<p><u>**OPTIONAL CHANGE FROM 5" DIA. TO 6" DIA. HEAT EXCHANGER</u></p>							
	370418	1	delete Ref. No. 33 (5" Dia. Heat Exchanger) and add: EXCHANGER, Heat (6" Dia.)				
	288613	1	to install 3/8" water drain piping in 6" dia. heat ex., use: BUSHING, Face (1/2" x 3/8")				
	288796	1	for cooling water inlet to 6" heat ex. delete Ref. No. 35 & add: BUSHING (3" x 1 1/2")				
	288797	1	for cooling water outlet at 6" heat exchanger add: BUSHING (3" x 2")				
	288532	2	at oil inlet and outlet at 6" heat exchanger add: BUSHING (2" x 1 1/2")				
				<table border="1"> <tr> <td>REV.</td> <td>B</td> <td>48947 - 3</td> </tr> </table>	REV.	B	48947 - 3
REV.	B	48947 - 3					

Run as front

MASTER

50408-1 Cont.	REV. R	MODEL 4600
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POWER PLANT  
(AIR OR ELECTRIC START CAT. D379 W/CONTROLLED CONVERTERS)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
60	72354	2	BOX, Battery W/capscrews and lockwashers (air start only)	
61	77260	1	SHEAVE, Engine W/capscrews and lockwashers	
62	140339	1	SUPPORT, Hoist Converter W/capscrews, lockwashers and elastic stop nuts	
	257186	7	BOLT, Coupling (7/8" 9NC x 3") (not shown)	
63	141458	1	WATERLINE, Lower (4½" O.D. at radiator - 5" O.D. at engine)	
63	77702	1	WATERLINE, Lower (4½" O.D.)	
64	140338	1	SUPPORT, Swing Converter W/capscrews, lockwashers and elastic stop nuts	
	257186	5	BOLT, Coupling (7/8" 9NC x 3") (not shown)	
65	77713	1	SHEAVE, Fan (4 - 10.837 P.D. "B" grooves) W/Allen head cup point set screws and jam nuts	
66	95303	1	TUBE, Water Outlet (right hand - 3" O.D.) (Supersedes 94065)	
67	94066	1	TUBE, Water Outlet (left hand - 3" O.D.)	
68				
69	77453	3	SUPPORT W/capscrews, hex nuts, lockwashers and flatwashers	
70	77721	2	SUPPORT W/capscrews, hex nuts, lockwashers and flatwashers	
71	91221	1	STACK, Exhaust	
72	76246	2	GUARD	
73	181713	1	SUPPORT, Swing and Independent Boom Hoist (2 piece) W/capscrews, lockwashers and elastic stop nuts	
	257186	13	BOLT, Coupling (7/8" 9NC x 3") (not shown)	
74	141192	1	INSERT, Hose	
75	49548	1	BASE, Engine W/capscrews, hex nuts and lockwashers	
76	43873	1	SUPPORT, Radiator W/capscrews, hex nuts and lockwashers	
77				
78	70238	2	PIN W/cotter pins	
79	78062	2	SUPPORT, Radiator Brace	
80	78063	2	SUPPORT, Radiator Brace	
81	79612	1	BRACE Radiator	
82	79613	1	BRACE, Radiator	
83				
84	486037	1	HOSE, Flex (1-1/2" I.D. 6'4" or 1.9304 m long)	
85	486131	1	HOSE, Flex (1-1/2" I.D. 2' or 0.6096 m long)	
90	136163	4	BRACE	
91	137920	1	CLIP	
92	137921	1	BRACE W/hex nut, capscrew and lockwasher	
160	406901	1	ELBOW (1/4" x 1/8")	
161	345476	2	CLAMP, Hose (#8 1/2" - 29/32")	
162	543442	1	NIPPLE (1/4" x 1½")	
163	429071	1	FITTING, Elbow (1/8")	
164	429573	2	INSERT (1/8" NPT 3/8" I.D. Hose)	
165	485740	1	HOSE (3/8" I.D. - specify length)	
			<u>MACHINES WITH HOSE CONNECTED HEAT EXCHANGERS</u>	
16	543408	2	NIPPLE, Close (1½")	
18	288796	4	BUSHING (3" x 1½")	
21	406959	2	ELBOW (1½")	
49	345338	4	CLAMP, Hose (#28 1 5/16" - 2¼")	
51	485666	1	HOSE, Radiator (1 3/4" I.D. - specify 4" long)	

REV. R	50408-1 Cont.
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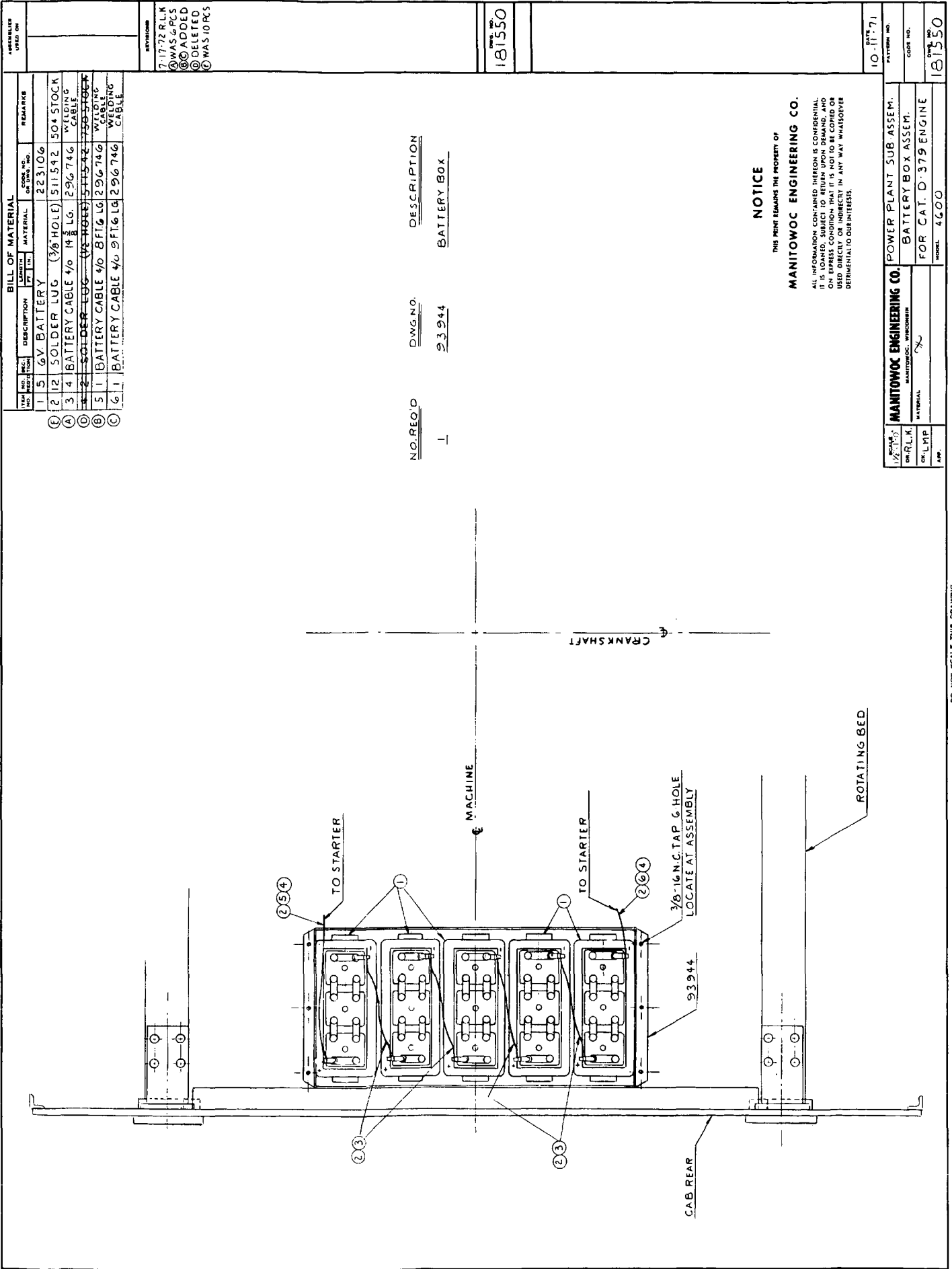
PLEASE GIVE MACHINE S/N W/ORDER

MASTER

Run as Front

50408 R1 Cont'd. -1

(A)(B)(C)(D)(E)



ITEM NO.	QTY.	DESCRIPTION	UNIT	MATERIAL	CODE NO.	REMARKS
1	5	6V BATTERY			223106	
2	12	SOLDER LUG (3/8" HOLE)			511542	504 STOCK
3	4	BATTERY CABLE 4/0 14 1/2 LG.			296746	WELDING CABLE
4	2	<del>SOLDER</del>			<del>511542</del>	<del>WELDING CABLE</del>
5	1	BATTERY CABLE 4/0 8 FT 6 LG.			296746	WELDING CABLE
6	1	BATTERY CABLE 4/0 9 FT 6 LG.			296746	WELDING CABLE

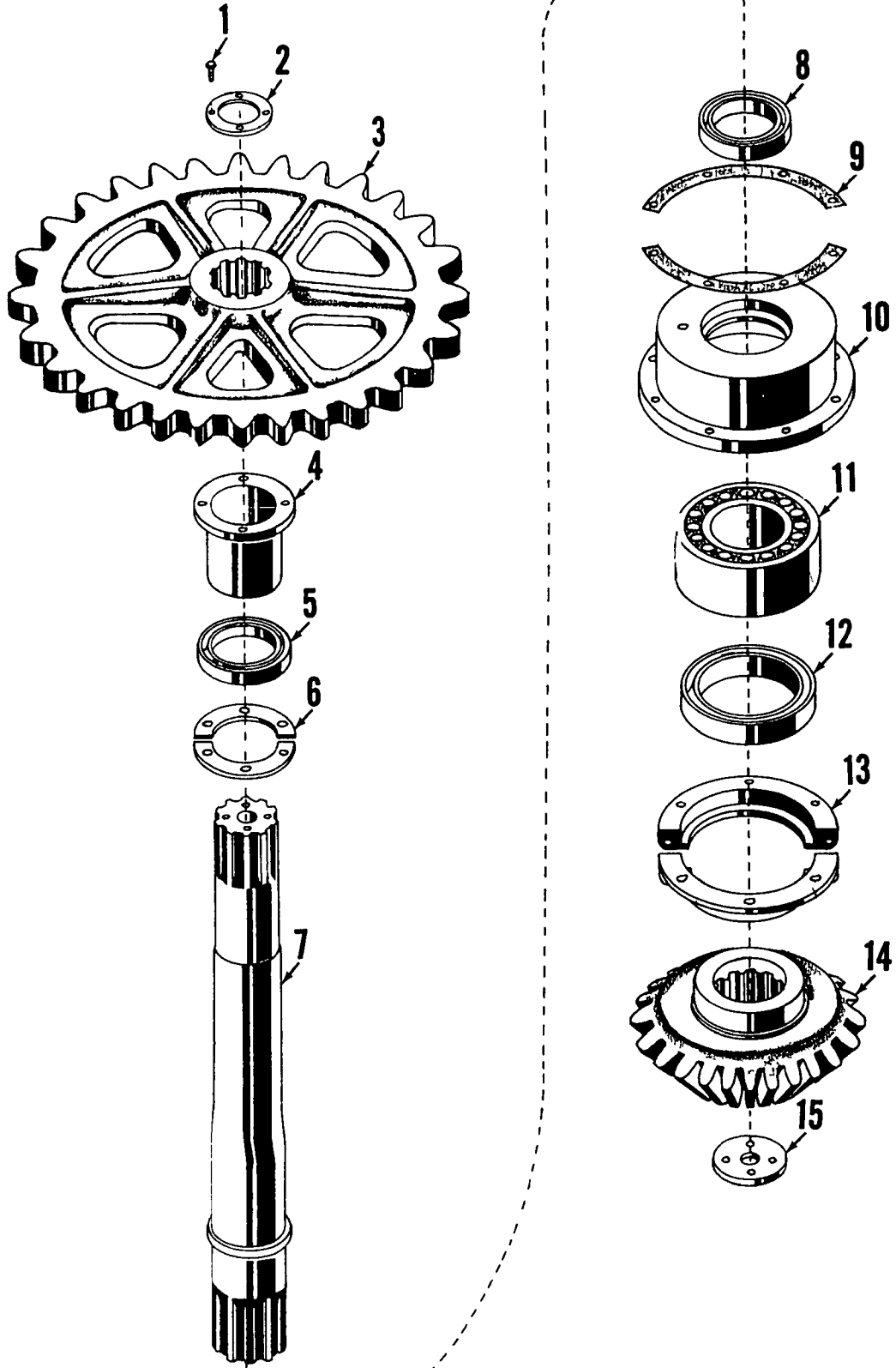
REVISIONS  
 7-17-72 R.L.K.  
 (A) WAS 6 PCS  
 (B) ADDED  
 (C) DELETED  
 (E) WAS 10 PCS

DWG. NO.  
 181550

NO. REQ'D 1  
 DWG. NO. 93944  
 DESCRIPTION BATTERY BOX

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 DETRIMENTAL TO OUR INTERESTS.

DATE 10-11-71	PATTERN NO.
CODE NO.	181550
POWER PLANT SUB-ASSEM. BATTERY BOX ASSEM.	
FOR CAT. D-379 ENGINE	
MODEL 4600	



MASTER

ILLUST No 31253-A-1

MATERIAL LIST ON BACK

VERTICAL TRAVEL SHAFT

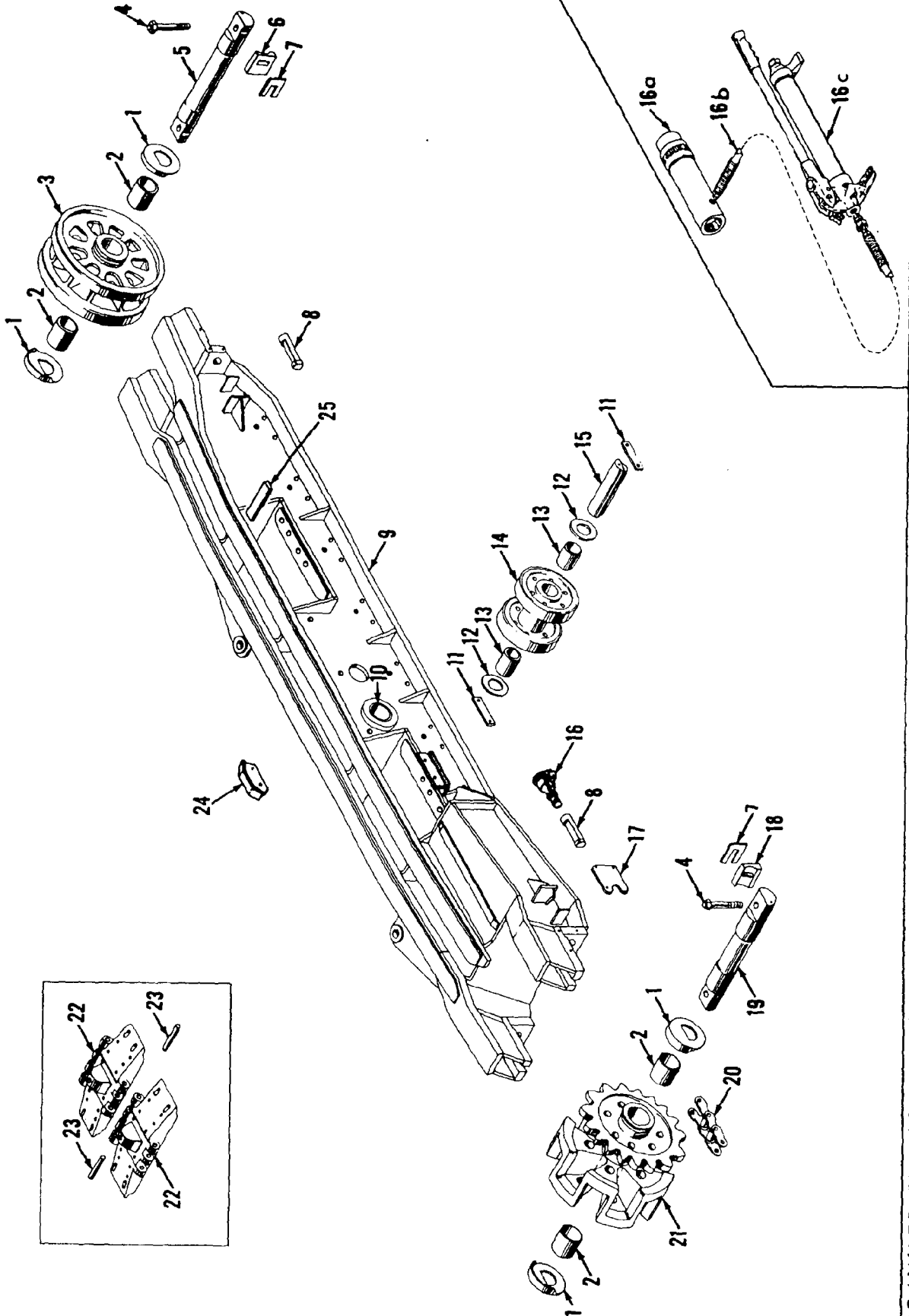
31253 A-1

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MASTER



42763D1

MATERIAL LIST ON BACK

CRAWLER FRAME ASSEMBLY

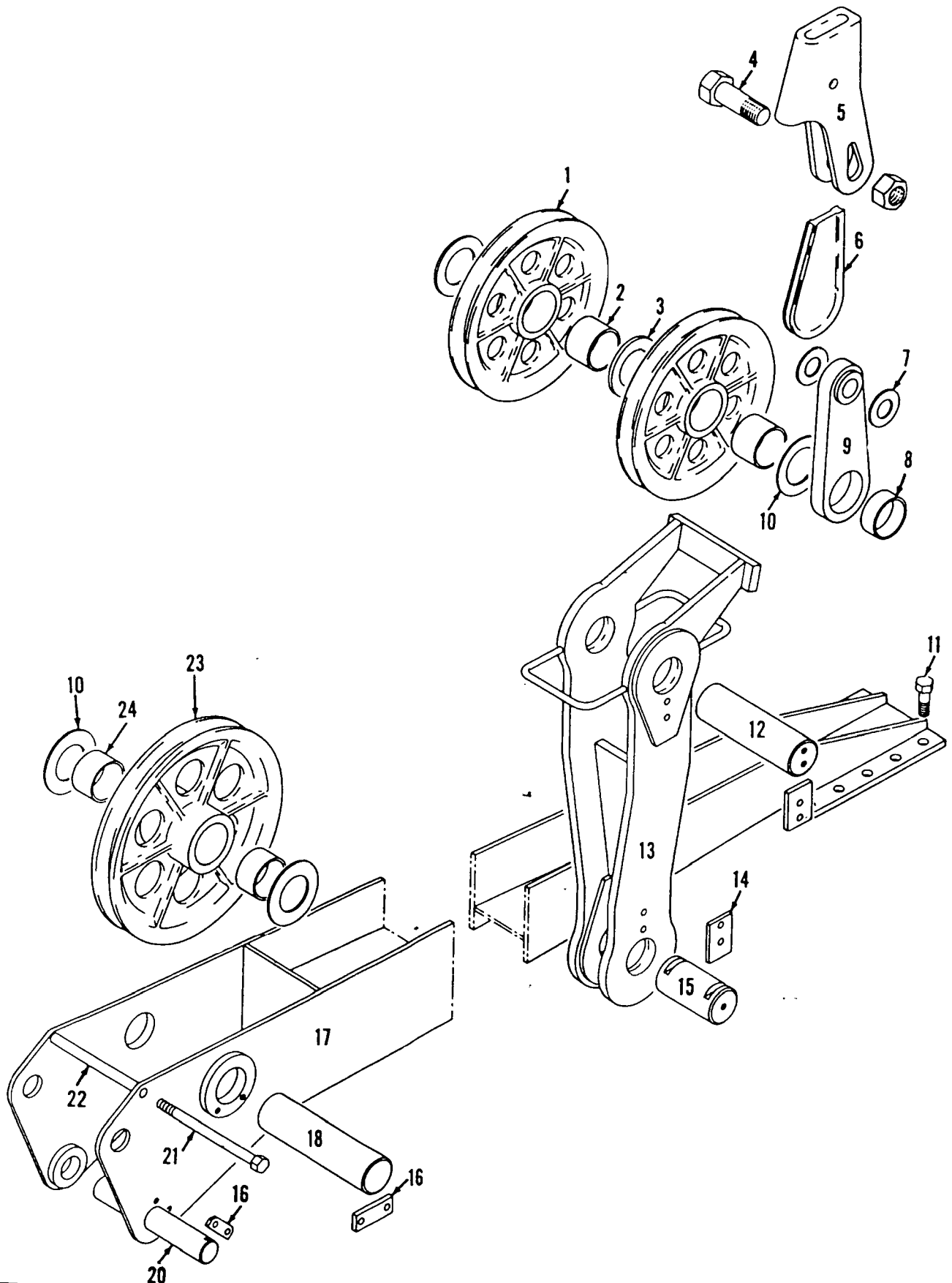
GROUP F - Attachments

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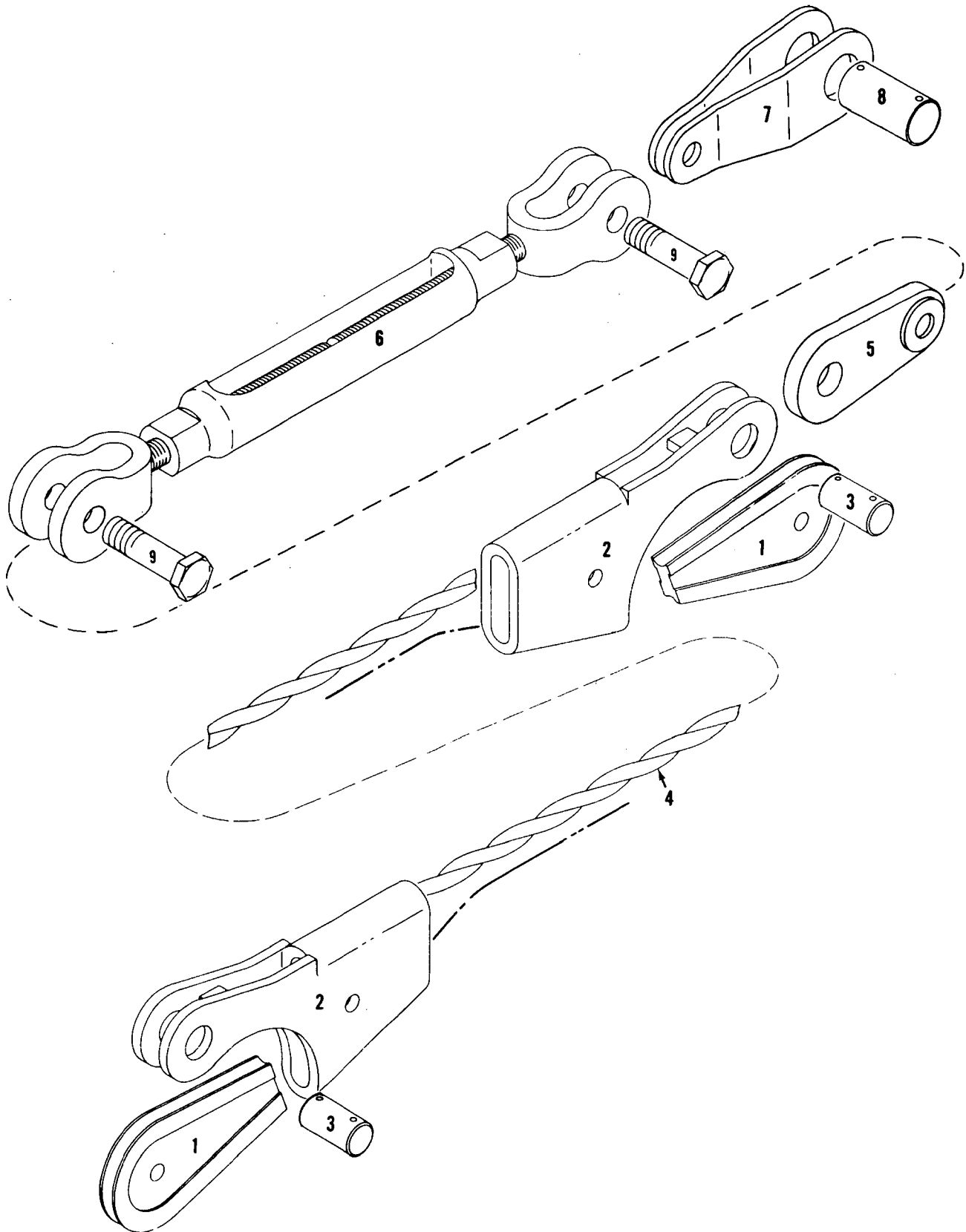


43201C2

MATERIAL LIST ON BACK

BACK HITCH

4320



MASTER

50294-C3

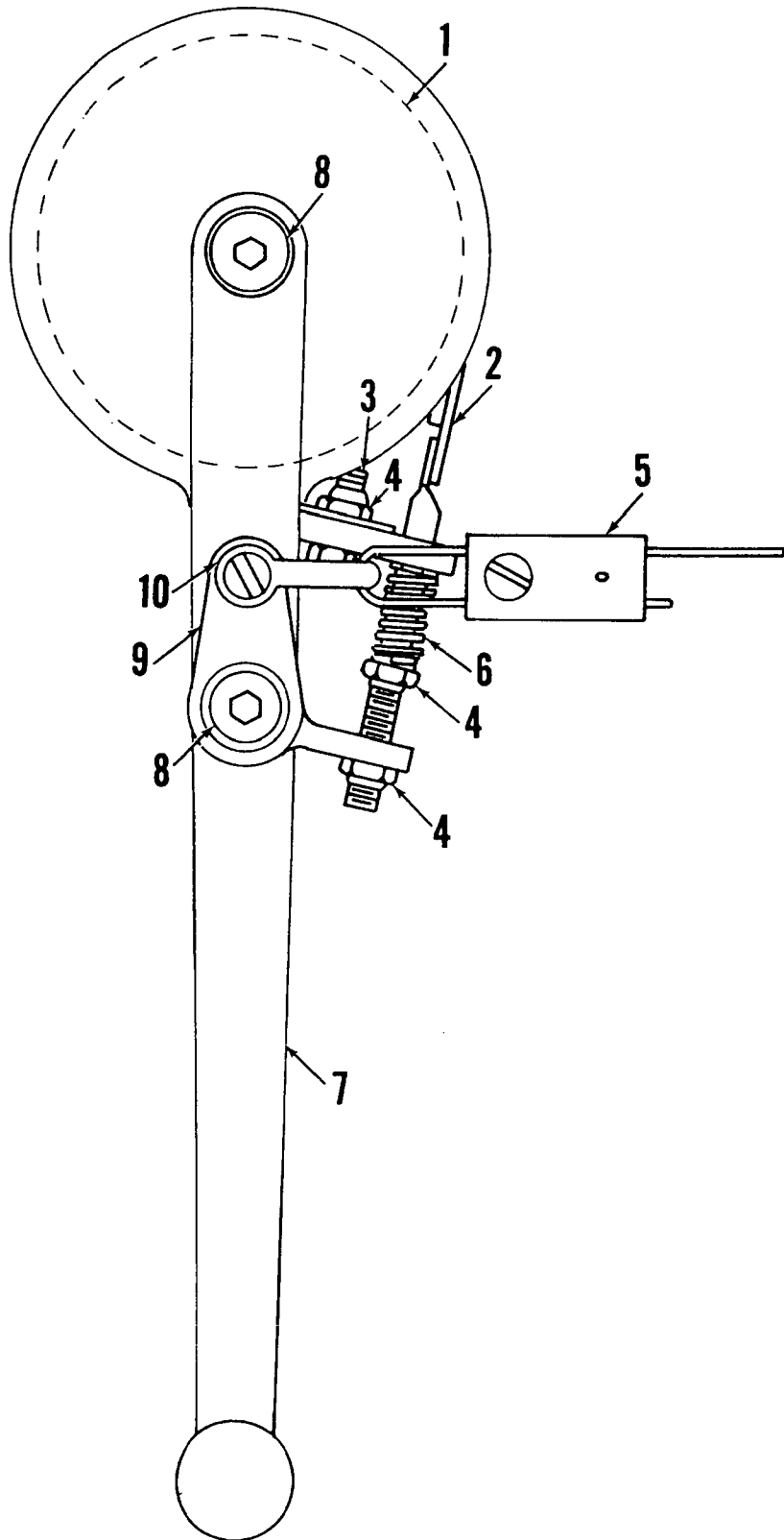
50294C3

MATERIAL LIST ON BACK

BOOM SUSPENSION

## O-NUMBER NUMERICAL INDEX

PUBLICATION	REV
0-110	A1
0-147	D2
0-148	-
0-156	D
0-173	A
0-245	C1
0-246	C1
0-279	B1
0-284	A
0-291	A1
0-294	A
0-294	E
0-302	A
0-340	E1
0-407	B
0-407	B1
0-415	B1
0-437	-
0-442	-
0-471	A1
0-517	-
0-63	C
0-71	-
0-92	A1



MASTER

THROTTLE CONTROL ASSEMBLY

O-173

MATERIAL LIST ON BACK

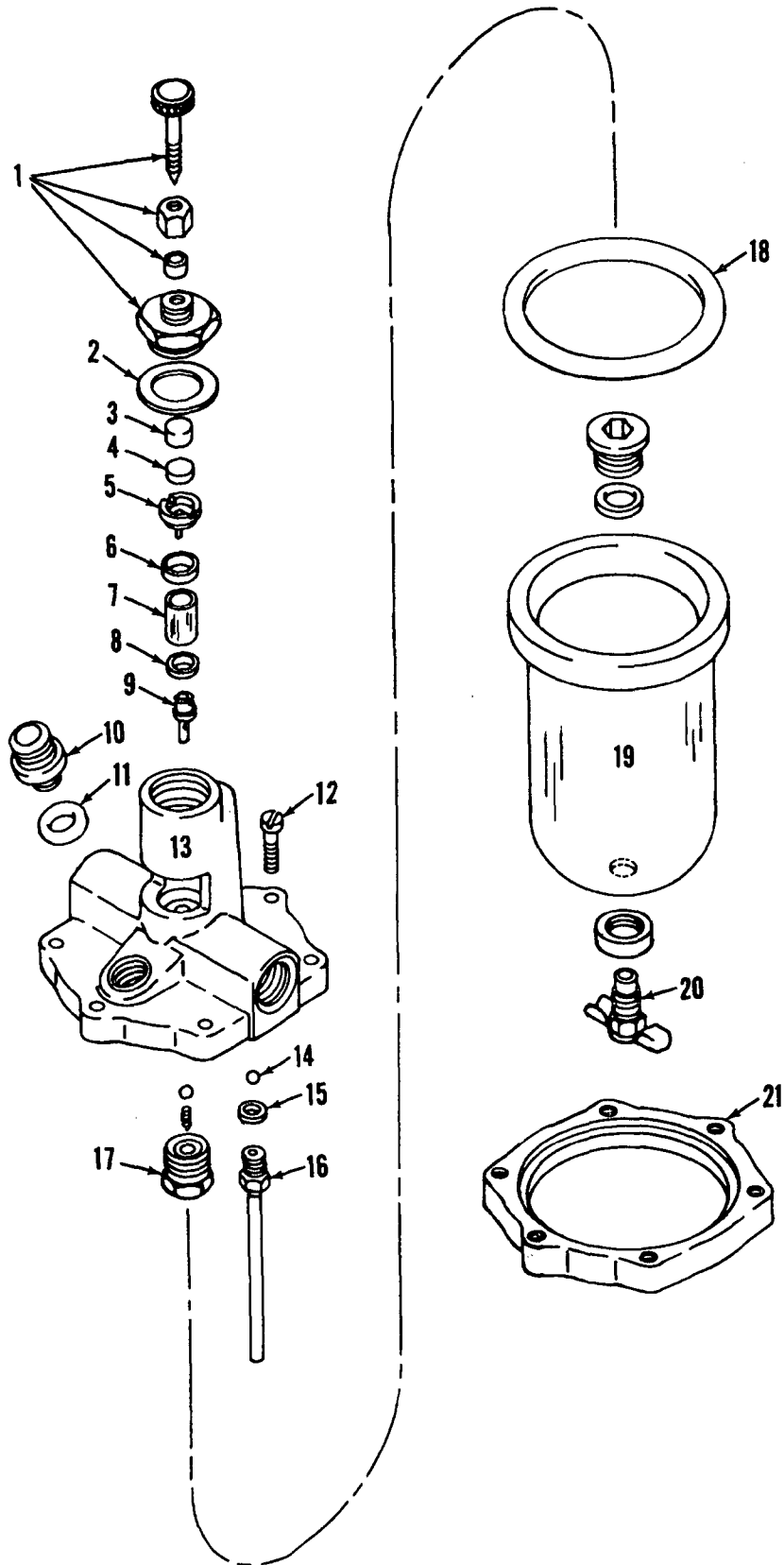
O-173

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MASTER



0-291

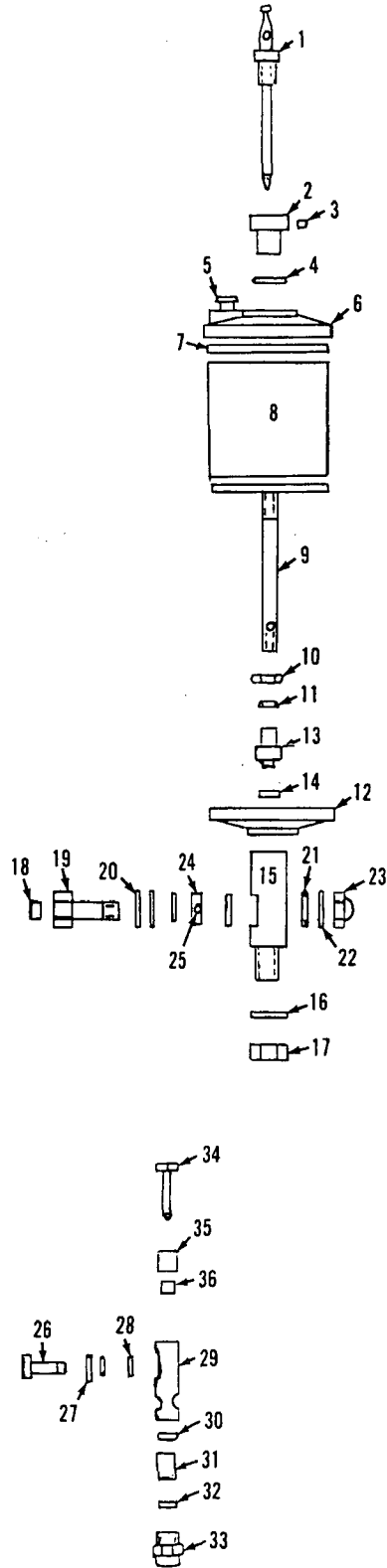
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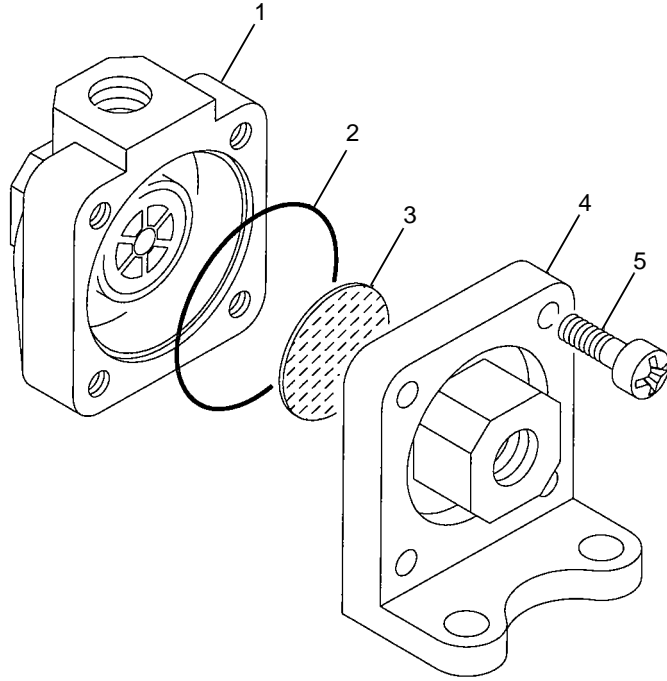
LUBRICATOR

162.0



MAC





MODEL-

1, 2, 3, M-50W, M-65W, M-80W, M-85W, M-250, M-250T

**SHUTTLE VALVE**  
7146470

ITEM	PART #	QTY.	DESCRIPTION OF PART
1		1	BODY
2	7146960	1	GASKET
3	7146970	1	DIAPHRAGM
4		1	COVER
5		4	SCREW

**PLEASE GIVE MACHINE SERIAL NUMBER WITH ORDER**

ASSEMBLY	REVISION
<b>O-63</b>	<b>C</b>

**SHUTTLE VALVE**

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