

Manitowoc

TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

4600

Model

46037

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.

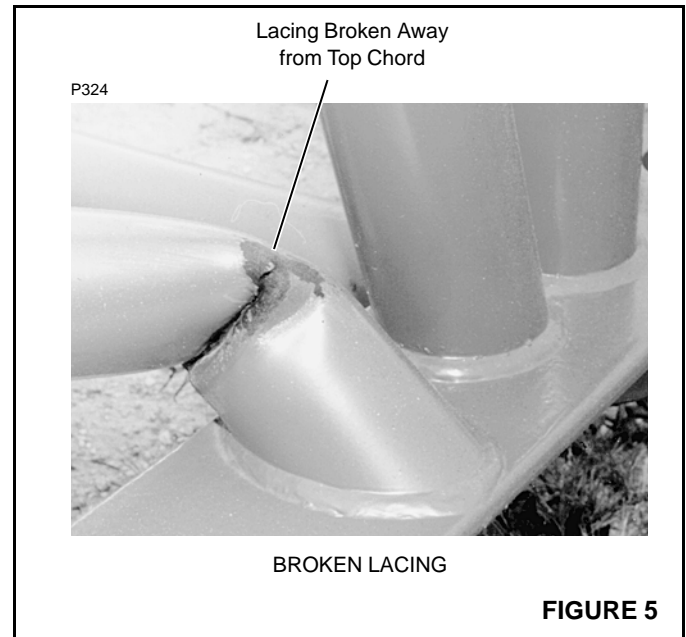
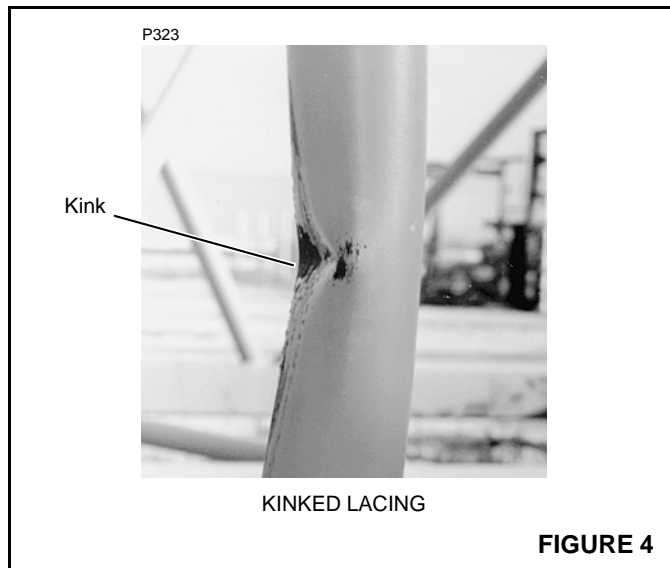
Corrosion and abrasion must not be deeper than 10 percent of the wall thickness, the angle thickness, or the plate thickness.

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.*

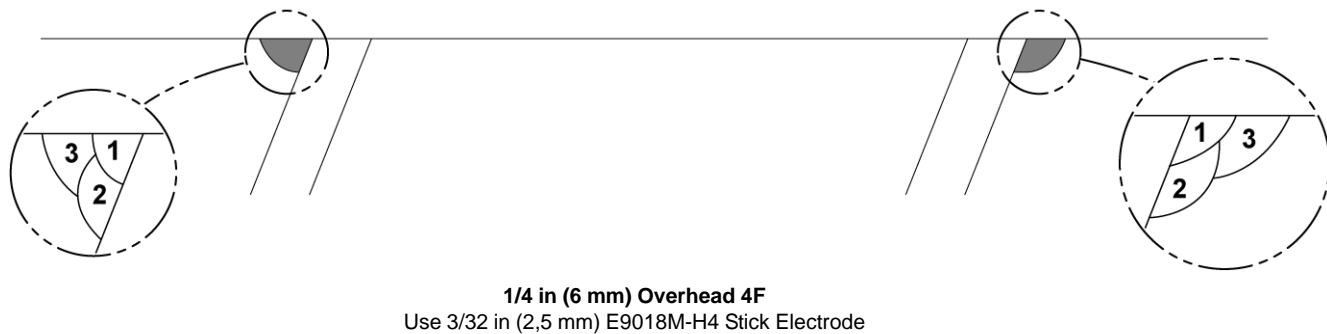
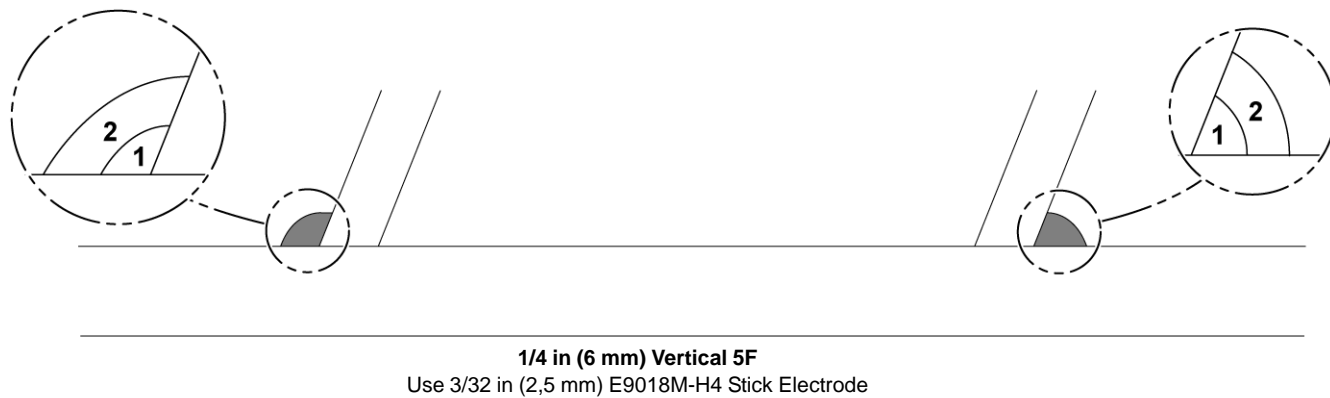
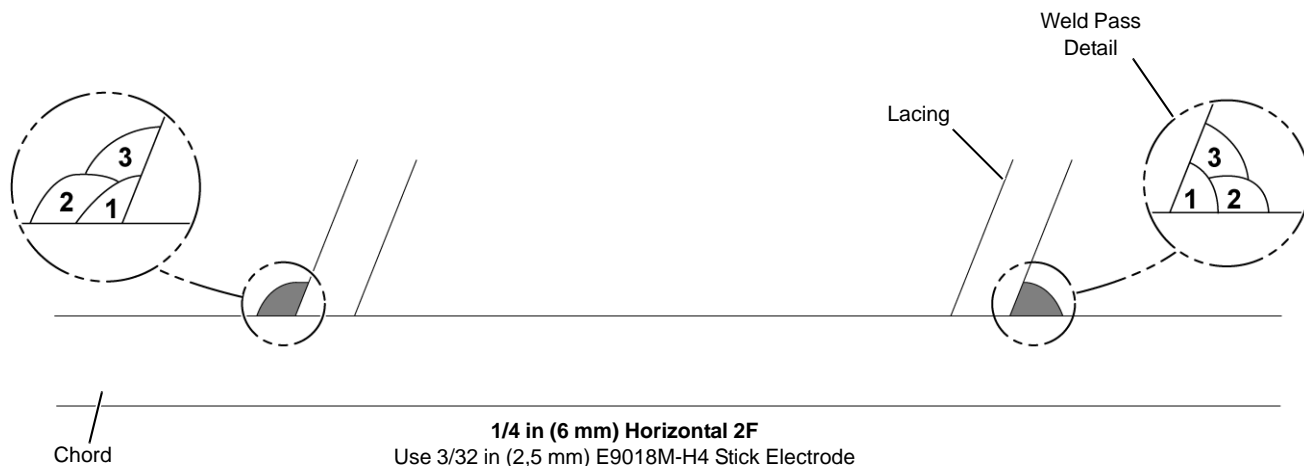
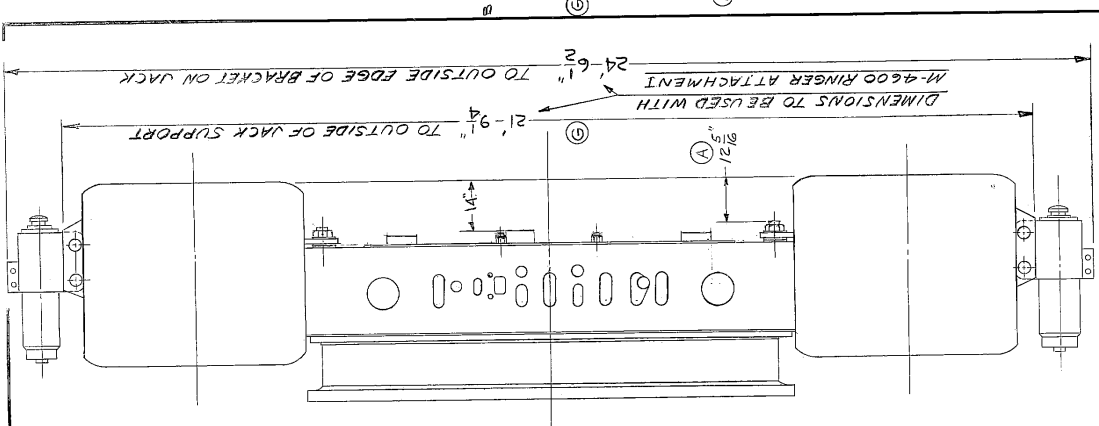
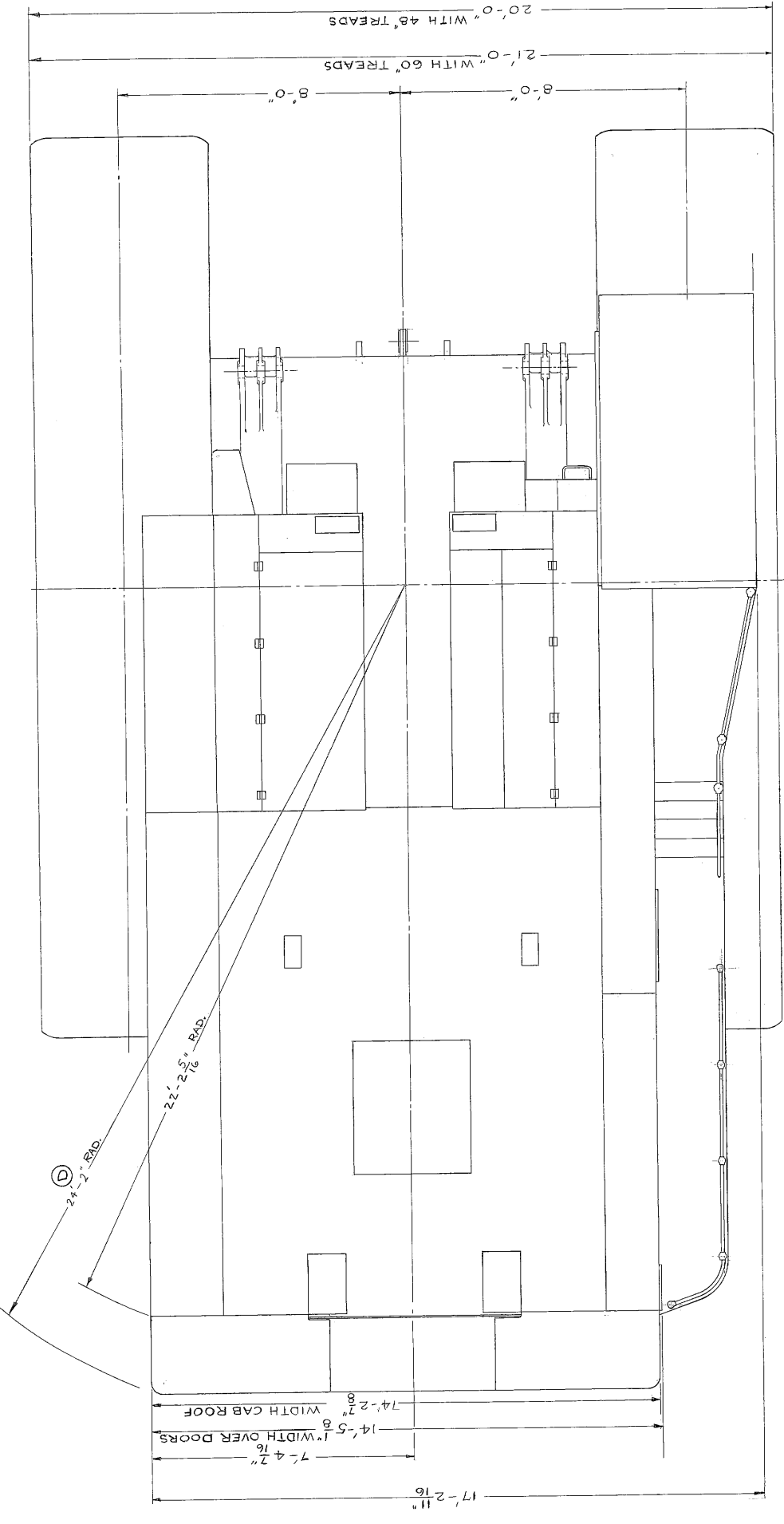
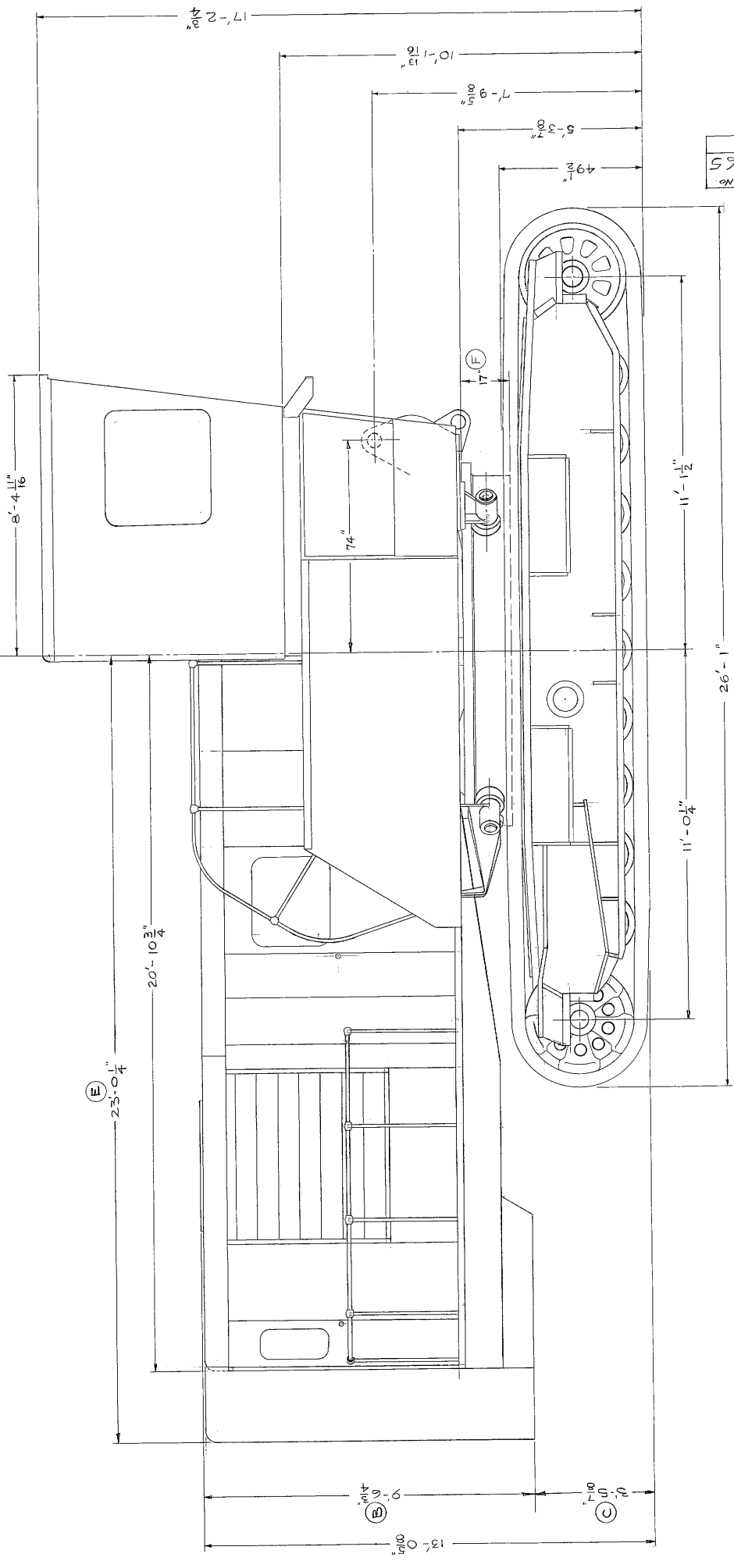
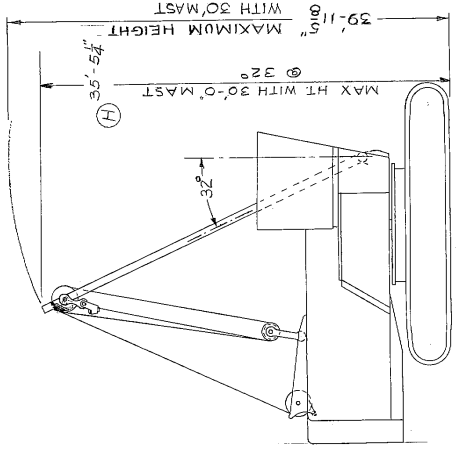


FIGURE 16

DO NOT SCALE THIS DRAWING

MANITOWOC ENGINEERING CORP.		SPEEDRANE-MODEL 4-600	
REVISED DATE	5-1-64	APPROVED	(Signature)
OUTLINE DIMENSIONS			
DATE	3-30-61	PATTERN NO.	
DRAWN BY	D.A.B.	CHECKED BY	E.H.H.
MATERIAL	1/2" - 10"	CODE NO.	
QUANTITY	1	REV. NO.	42265
ISSUED BY		DATE	
BY			
DATE			

Draw. No. 42265



42265

(D)

(E)

(F)

(B)

(C)

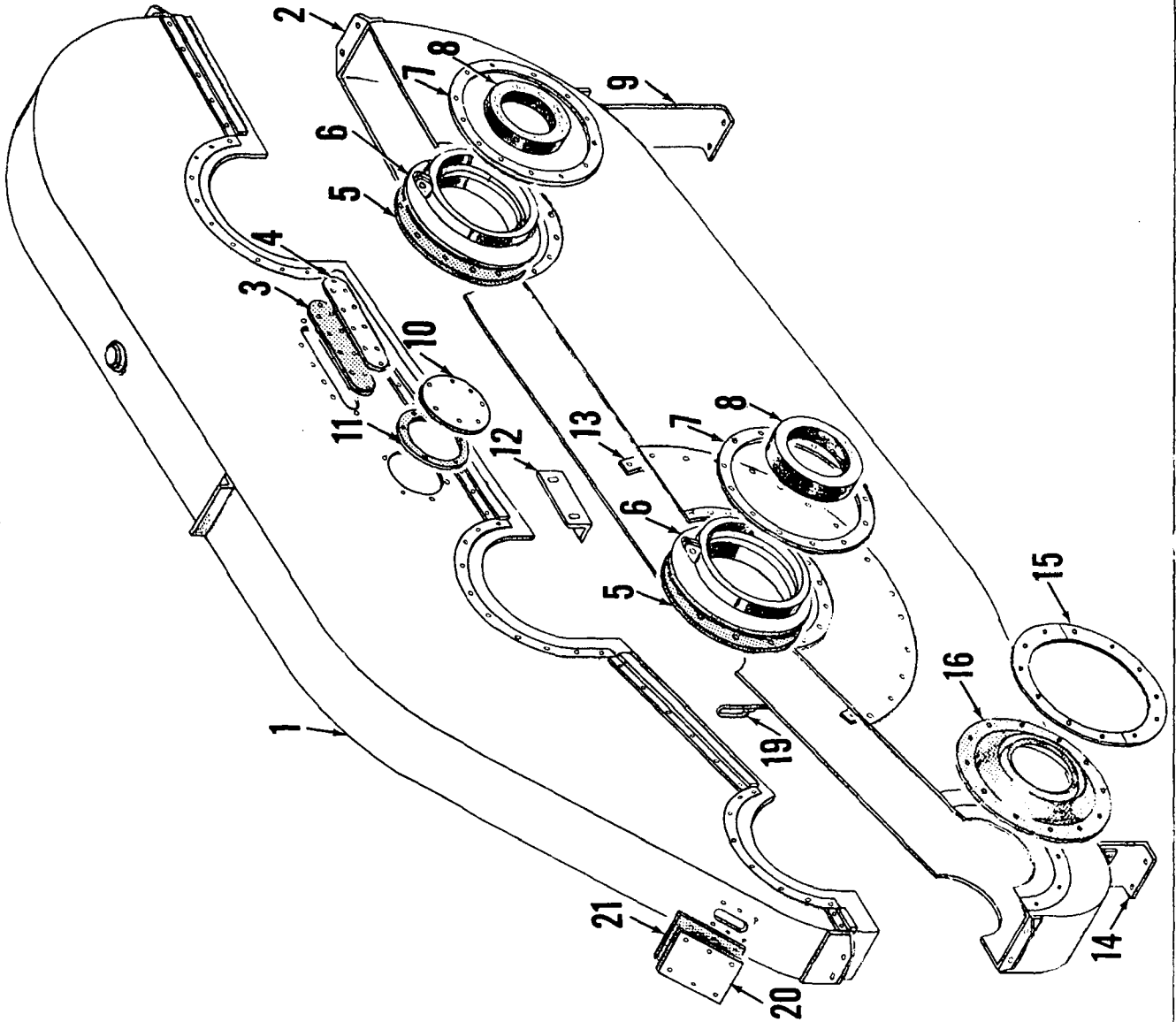
(H)

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(F)

(E)



DRUM GEAR CASE ASSEMBLY

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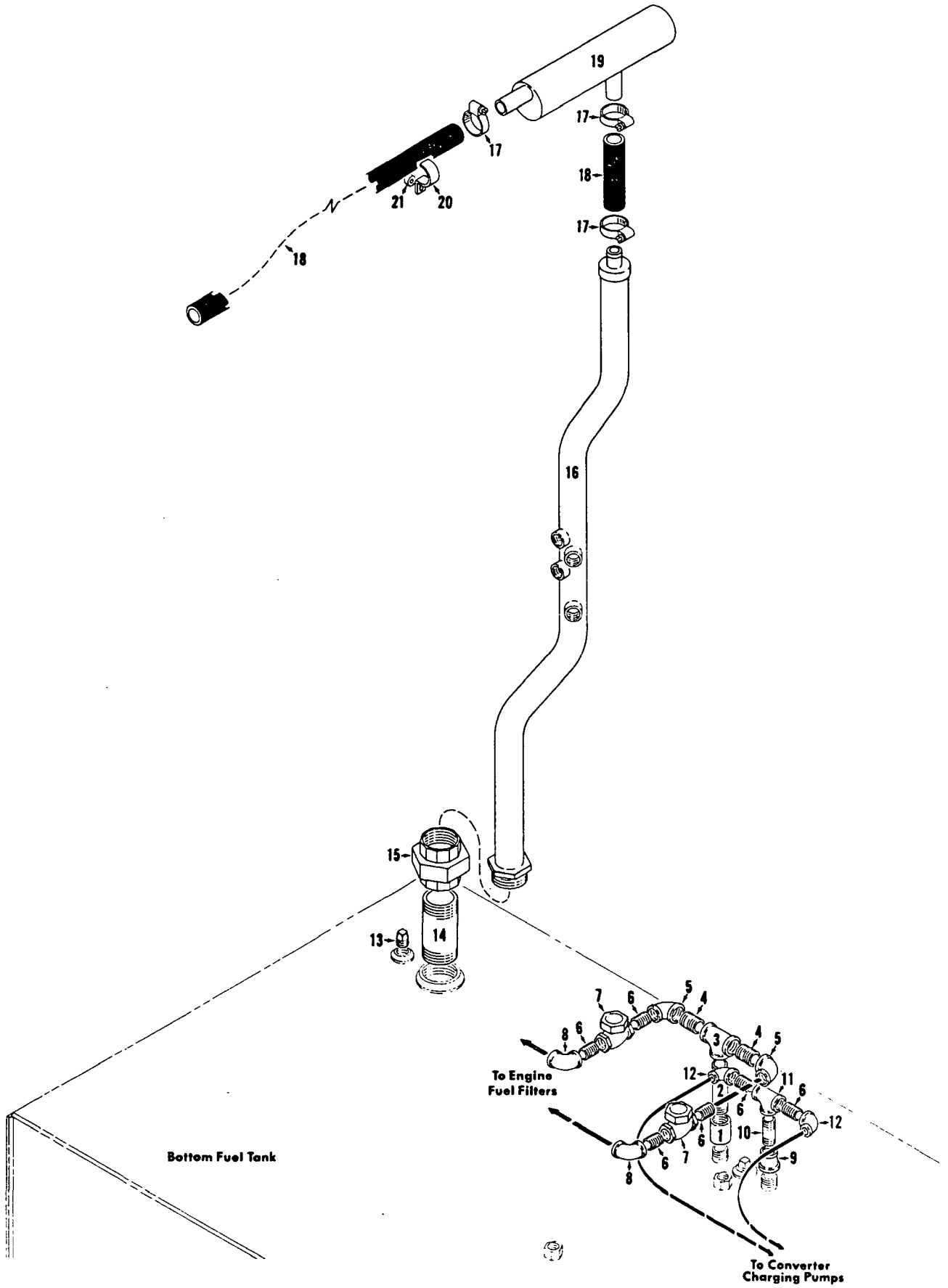
MASTER

31226 B1

31226-B-1

MASTER

32412A1

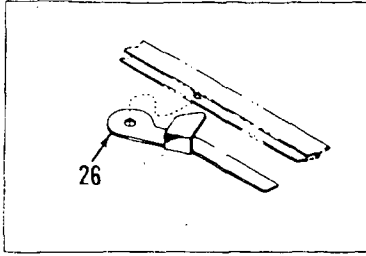


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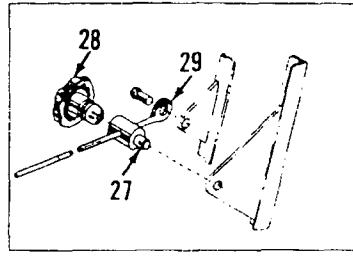
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VENT PIPING

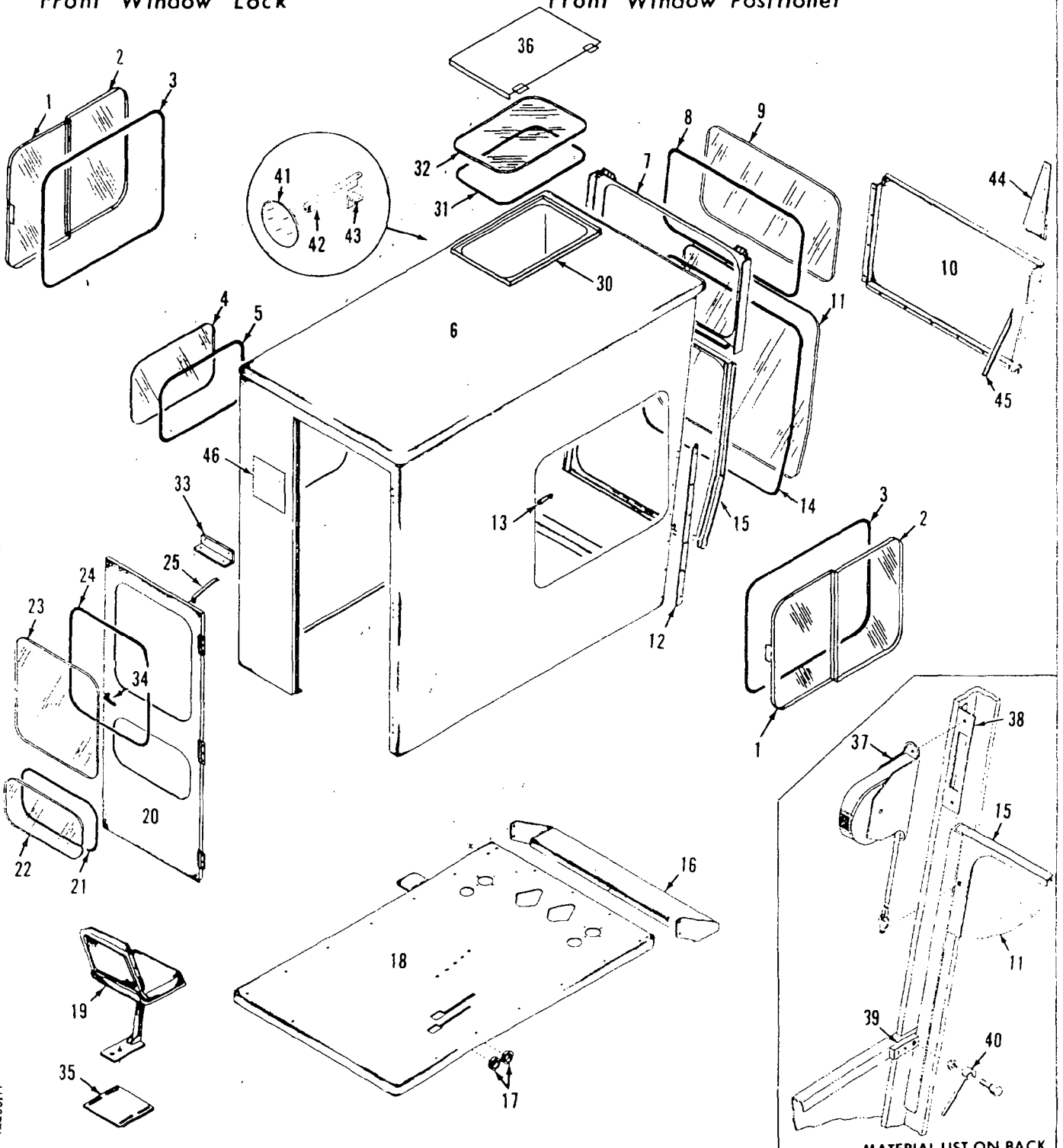
MASTER



Front Window Lock



Front Window Positioner



42206H1

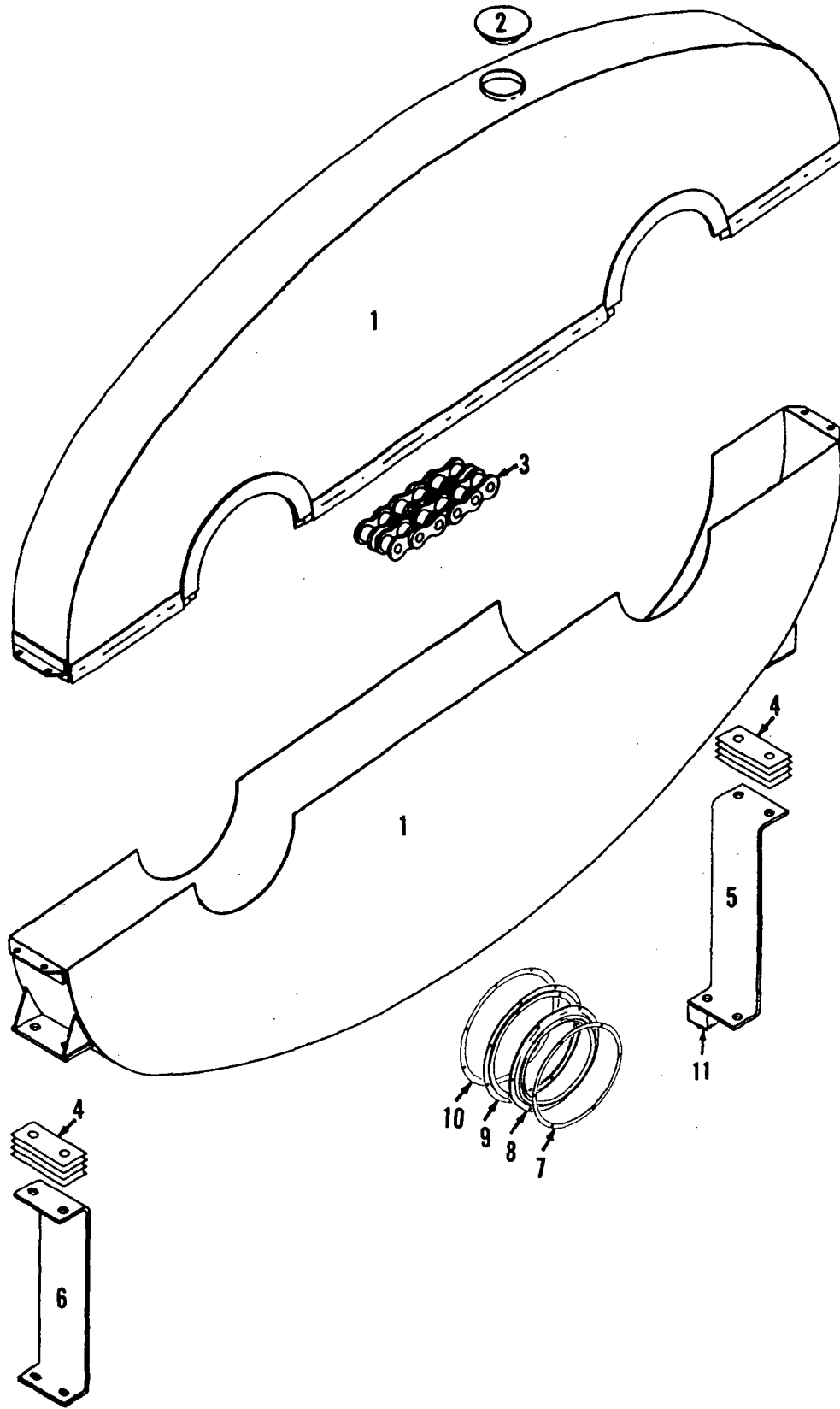
MATERIAL LIST ON BACK

PILOT HOUSE

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MANITOWOC

44225002

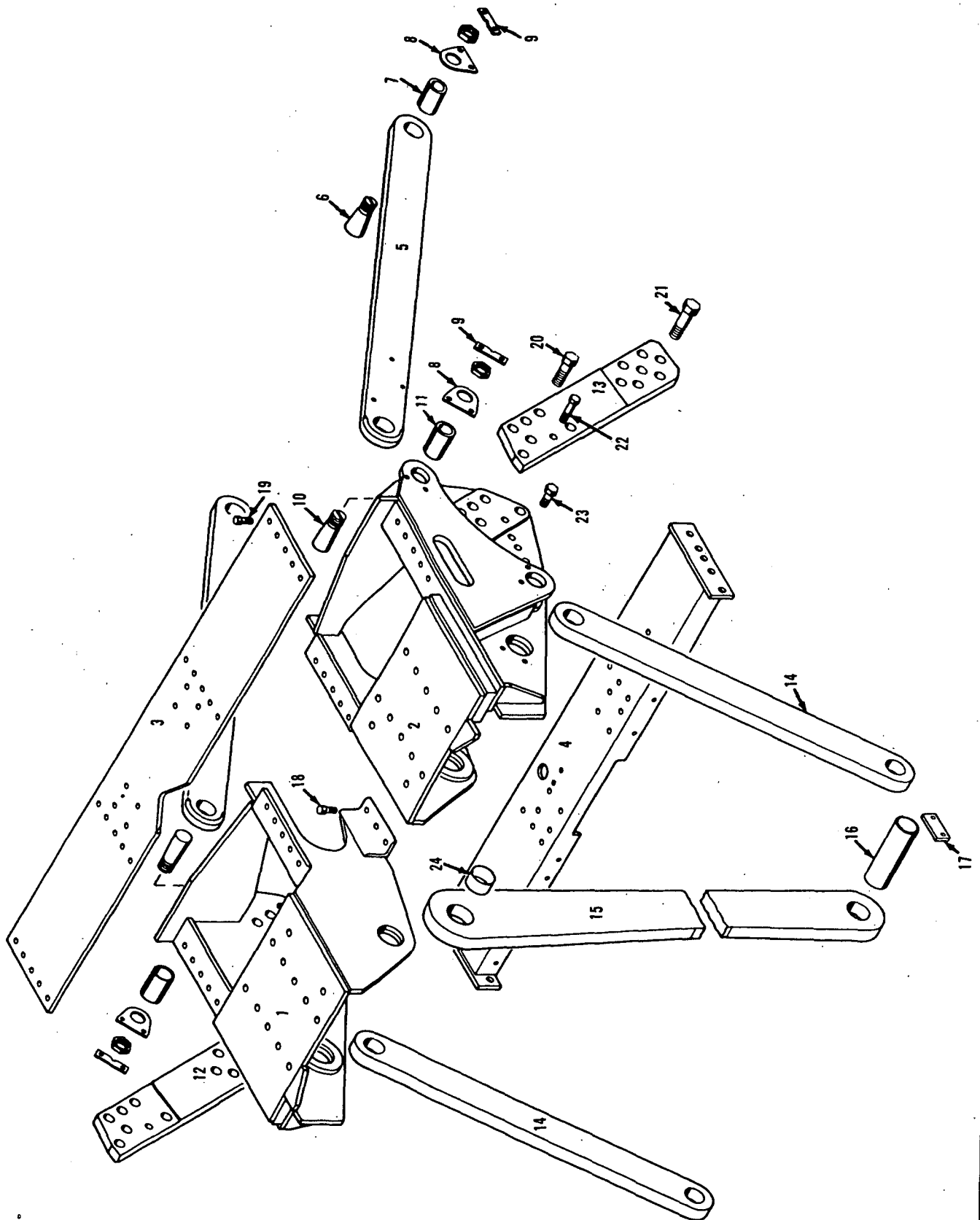
MATERIAL LIST ON BACK

INTERLOCK CHAIN CASE

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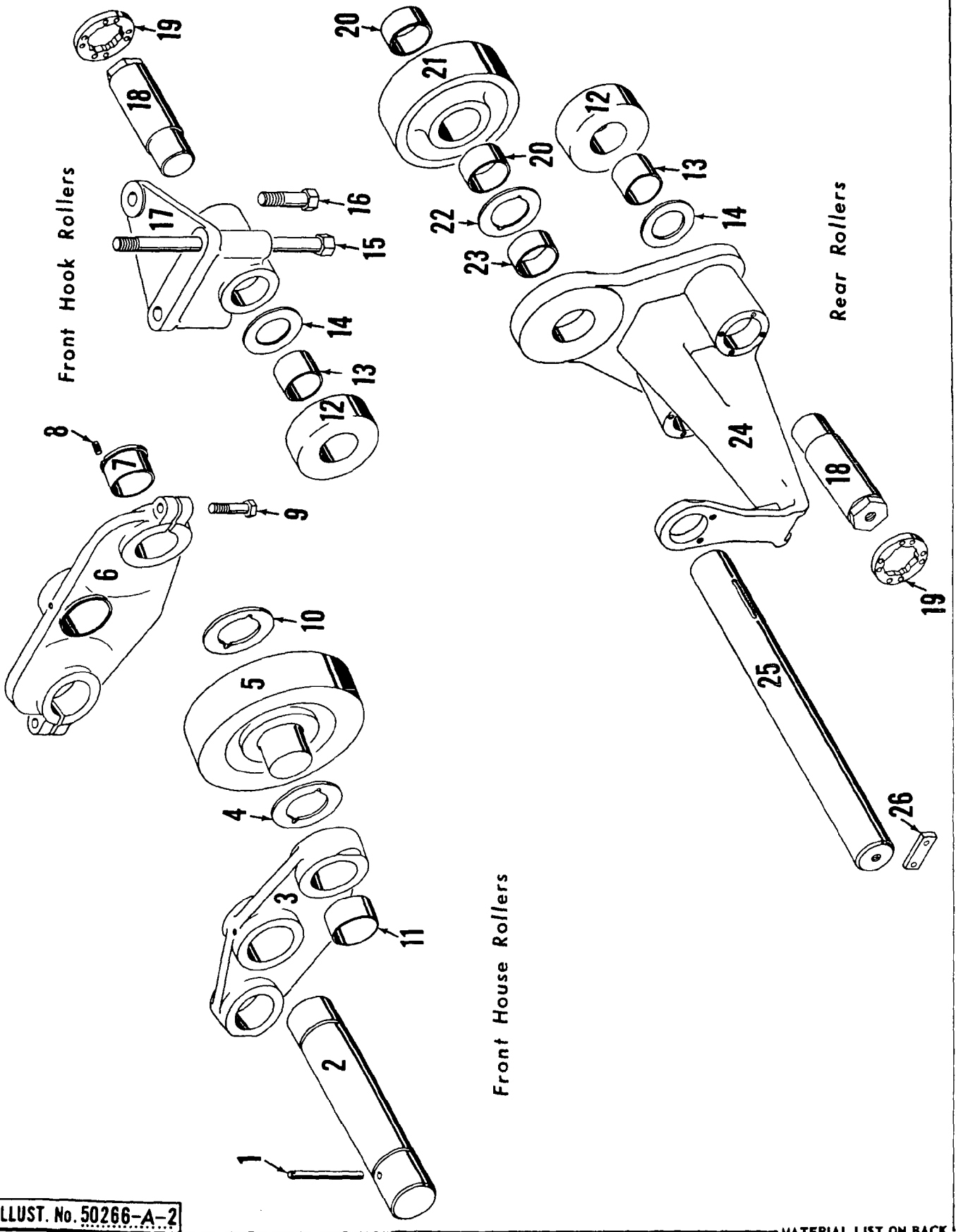
Manitowoc, Wisconsin



42789A1

MATERIAL LIST ON BACK

"A" Frame



50274-2 Cont	REV. A	Model	4600
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CAB ASSEMBLY
(MACH. WITH SINGLE ENGINE)

REF. NO.	PART NUMBER	DESCRIPTION OF PART	QUANTITY REQUIRED
31	632687	PANEL, Roof	1
32	395102	DOOR, Roof W/hinges	1
33	395115	DOOR, Roof W/hinges	1
34	31843-2	FRAME, Roof	1
35	23720	EXTENSION, Left Front Roof W/capscrews, hex nuts and lockwashers	1
36	23715	PANEL, Left Side W/stove bolts, hex nuts and lockwashers	1
37	32008	EXTENSION, Right Front Roof W/mach. bolts, hex nuts and lockwashers	1
38	23729-6	DOOR, Right W/stove bolts, hex nuts, lockwashers and hinges	1
	23729-2	PANEL, Right Door (Rear Panel)	1
	395104	PANEL, Right Door (Front Panel)	1
39	23723	PANEL, Right Center W/stove bolts, hex nuts and lockwashers	1
40	70722	SHEET, Right Front Closing W/stove bolts, hex nuts, lockwashers and capscrews	1
41	70723	SHEET, Right Closing W/capscrews, hex nuts and lockwashers	1
42	15689	STEP, Roof W/stove bolts, hex nuts and lockwashers	1
43	15894	PLATE, Step Backing	1
44	605301	CHANNEL, Rubber (118") (Specify Length)	1
45	70705	WINDOW, Right	1
46	23713	DOOR, Left Front W/hinges	1
	71001	CATCH, Door W/mach. screw, hex nut and lockwasher	1
47	605301	CHANNEL, Rubber (Specify 80")	1
48	18972	GLASS, Window	1
49	475000	HANDLE, Outside	1
	475001	HANDLE, Inside	1
	510165	LOCK	1
	31841-6	PANEL, Left Front W/mach. bolts, hex nuts, lockwashers and stove bolts	1
50	31841-2	PANEL, Left Front	1
51	632683	PANEL, Left Front Closing	1
52	23703	DOOR, Upper Left Front W/stove bolts, hex nuts, hinges and lockwashers	1
	71021	LATCH, Door W/mach. screw, hex nuts and lockwasher	1
53	23705	DOOR, Lower Left Front W/hinges, stove bolts, hex nuts and lockwashers	1
	31840-6	PANEL, Right Front W/mach. screws, mach. bolts, stove bolts, capscrews, hex nuts and lockwashers	1
54	31840-2	PANEL, Cab - Right Front W/ladder rungs	1
55	632680	PANEL, Closure, Cab Right Front	1
56	632681	PANEL, Closure, Cab Right Front	1
57	23717	BRACKET, Right Front Panel W/capscrews, mach. bolts, hex nuts and lockwashers	1
58	23702	DOOR, Upper Right Front W/stove bolts, hex nuts, hinges and lockwashers	1
	71022	LATCH, Upper Right Front Door W/mach. screws, hex nuts and lockwashers	1
59	23704	DOOR, Lower Right Front W/stove bolts, hex nuts, hinges and lockwashers	1
58	71475	DOOR, Upper Right Front W/stove bolts, hex nuts, hinges and lockwashers (For Mach. W/Wide Front Drum)	1

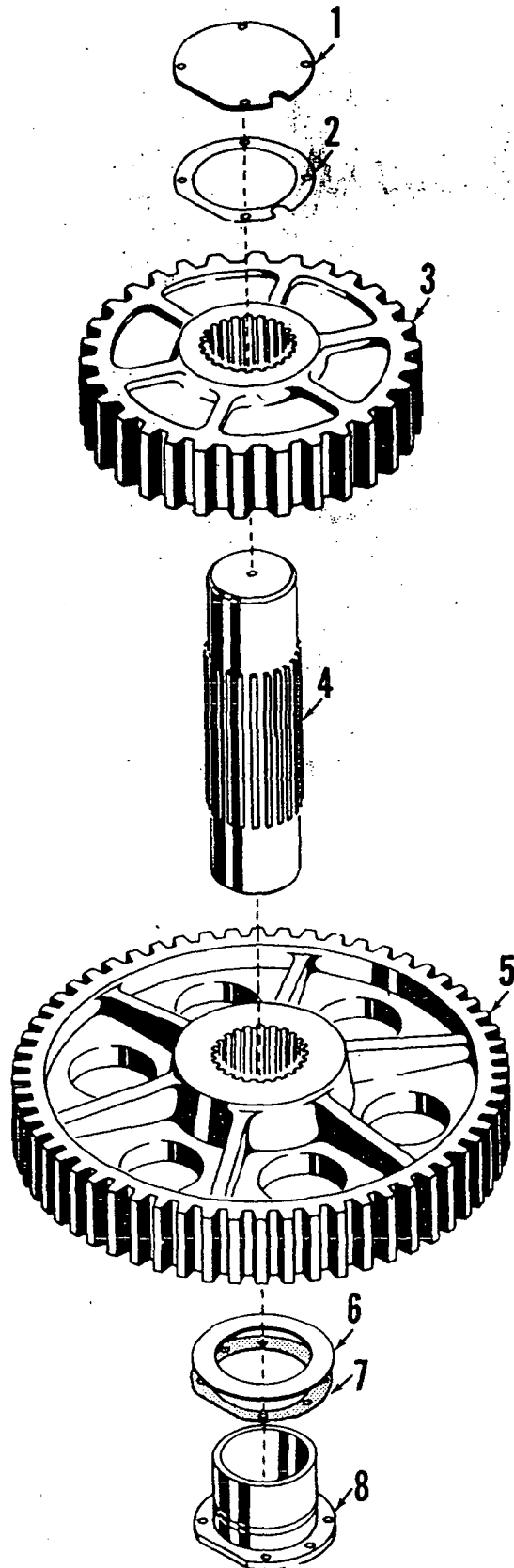
3-9-63

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MASTER

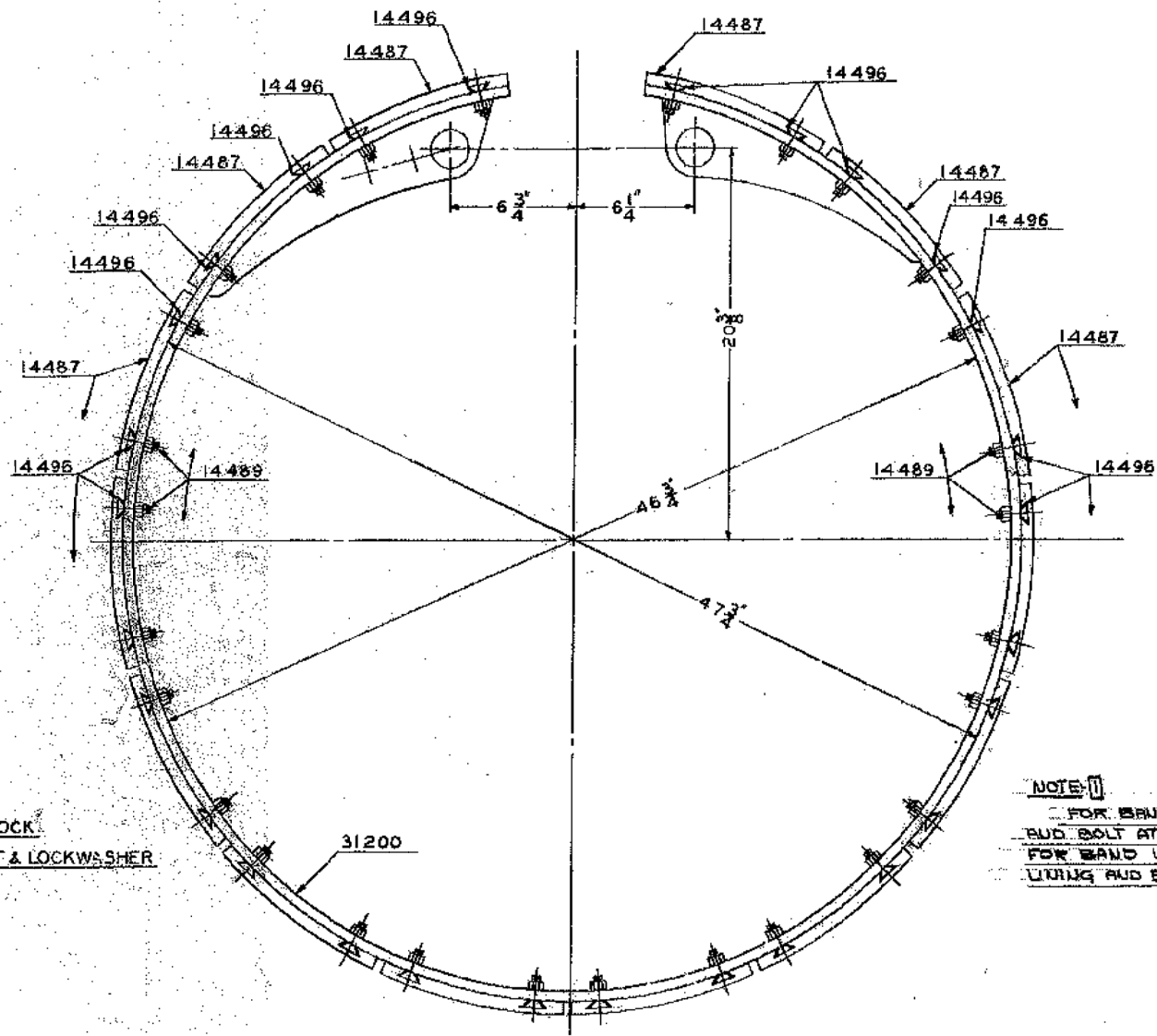


ILLUST. No. 21629-B-1

MATERIAL LIST ON BACK

SWING SHAFT ASSEMBLY - INTERMEDIATE

31213



- ASSEMBLIES USED ON
- 50182
 - 50184
 - 50186
 - 50183
 - 50185
 - 50187
 - 50174
 - 50193
 - 50199
 - 50211
 - 50212
 - 50213
 - 50214
 - 50218
 - 50224
 - 50230
 - 50231

14487 CLUTCH LINING BLOCK
14489 KEEPER BOLT, NUT & LOCKWASHER

14496 KEEPER

31200 3" BAND FOR DRUM CLUTCH

NOTE:

FOR BAND WITH MOLDED LINING AND BOLT ATTACHMENT SEE DRG. 31200.
 FOR BAND WITH CONTINUOUS WOVEN LINING AND BOLT ATTACH. SEE DRG. 31201.

SUPersedes 31036

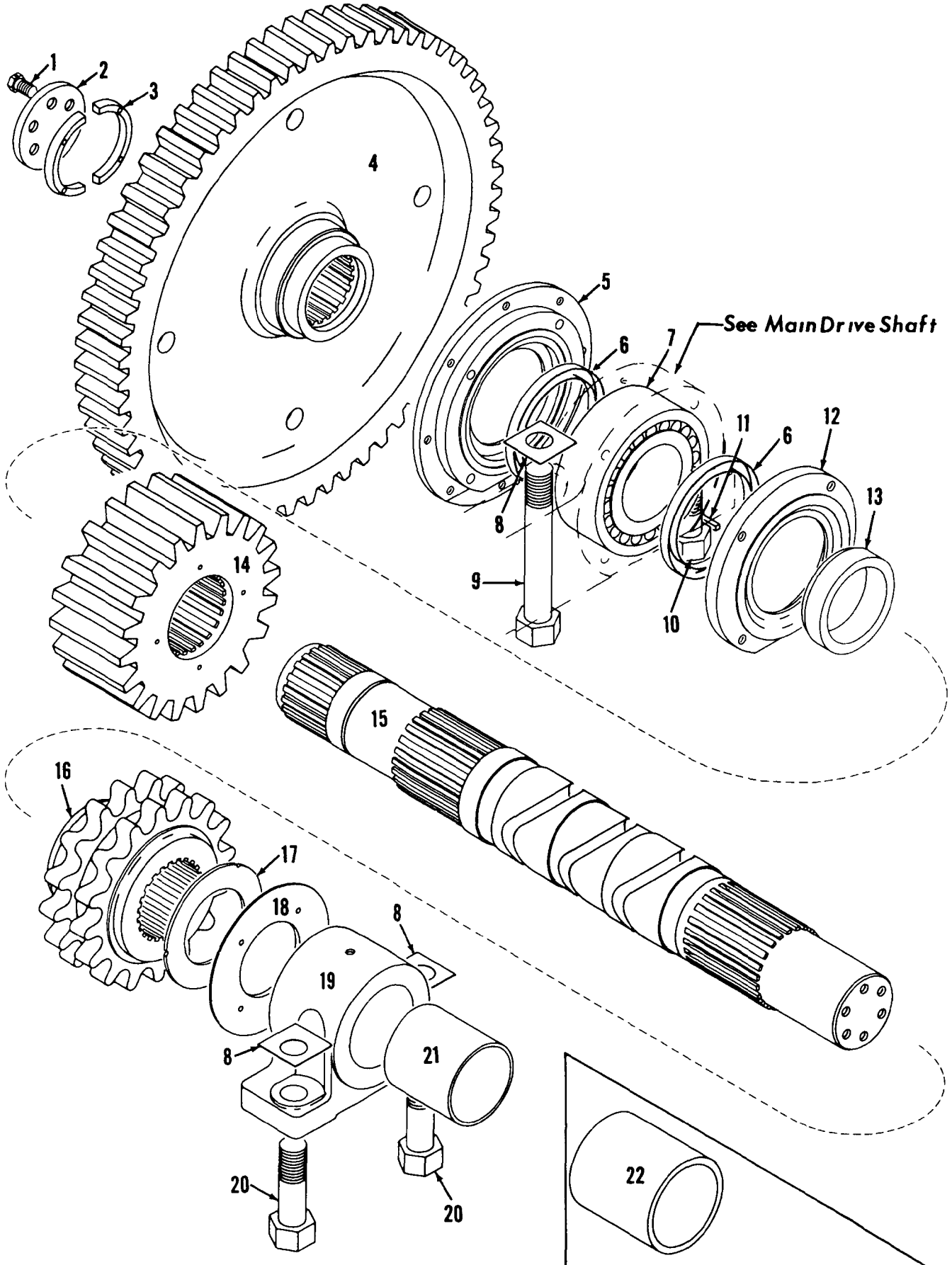
MANITOWOC ENGINEERING WORKS MANITOWOC, WISCONSIN		
SPEEDCRANE—MODEL 4500		
CLUTCH BAND		
ASSEMBLY		
FOR 3" BAND DATE: 12-11-50		
DATE	MATERIAL	SCALE
12-11-50		3"-1-0"
DR. <i>[Signature]</i>		PREP. DR. [Signature]
Chk. <i>[Signature]</i>		31212

BREAK ALL SHARP CORNERS.
 PRACTICAL MEASUREMENTS SHOULD OBSERVE THE NOTES. ARE TO BE HELD WITHIN PLUS OR MINUS .010"

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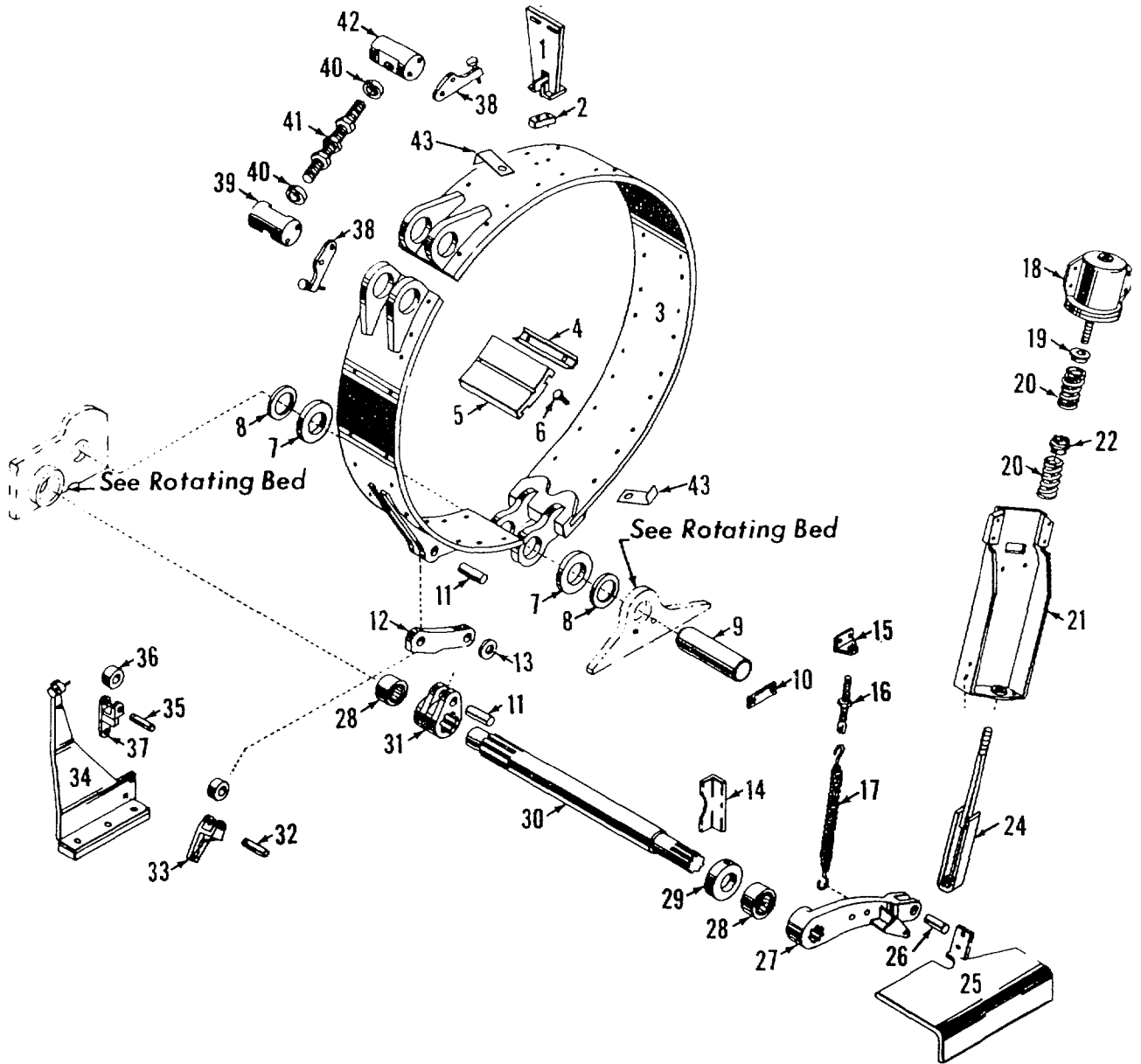
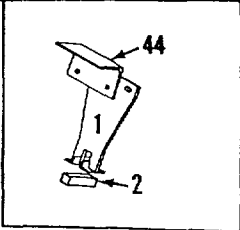
Manitowoc, Wisconsin



3242681

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MASTER MASTER

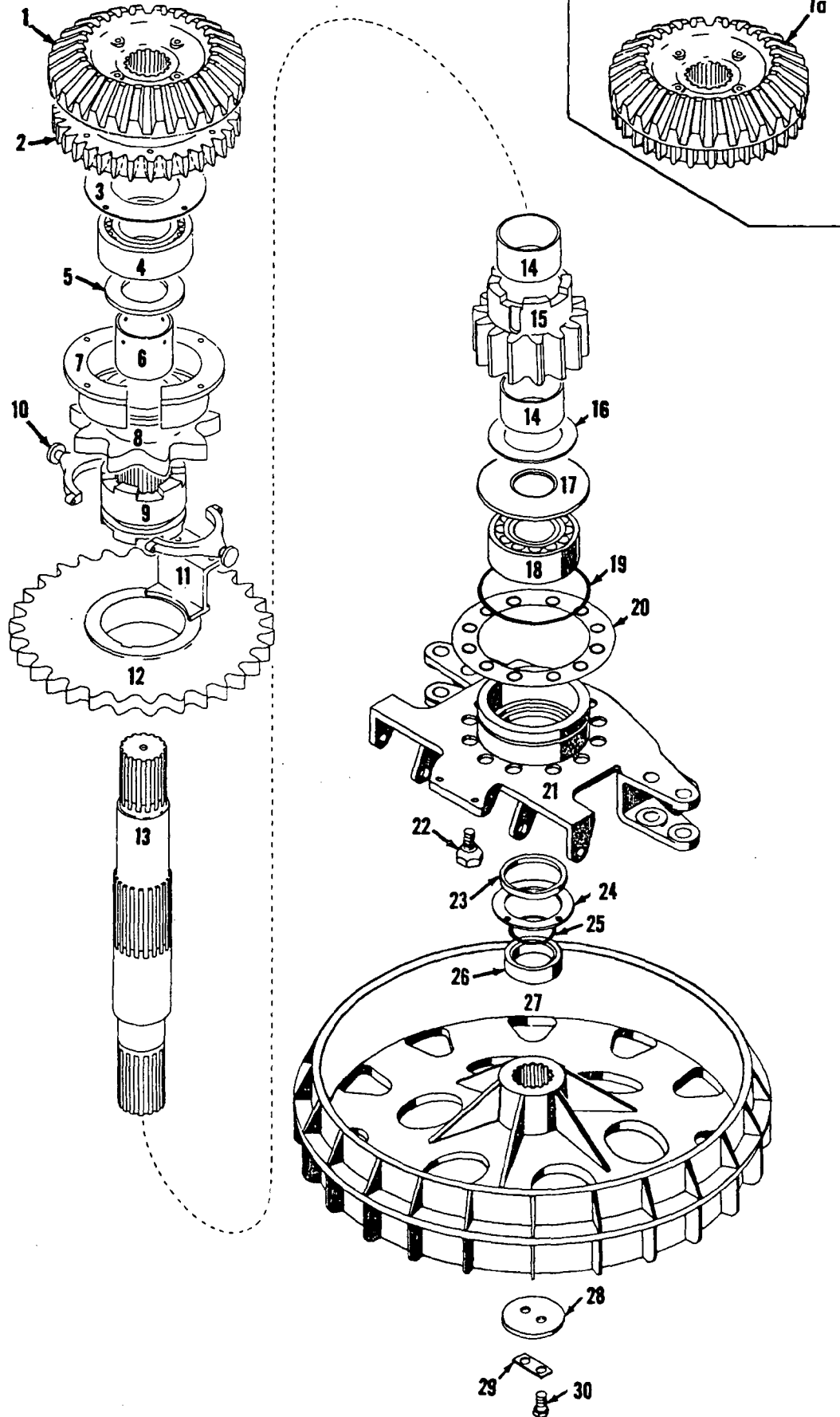


REAR DRUM BRAKE

MATERIAL LIST ON BACK

41803

41803E1



MASTER

49354A1

MATERIAL LIST ON BACK

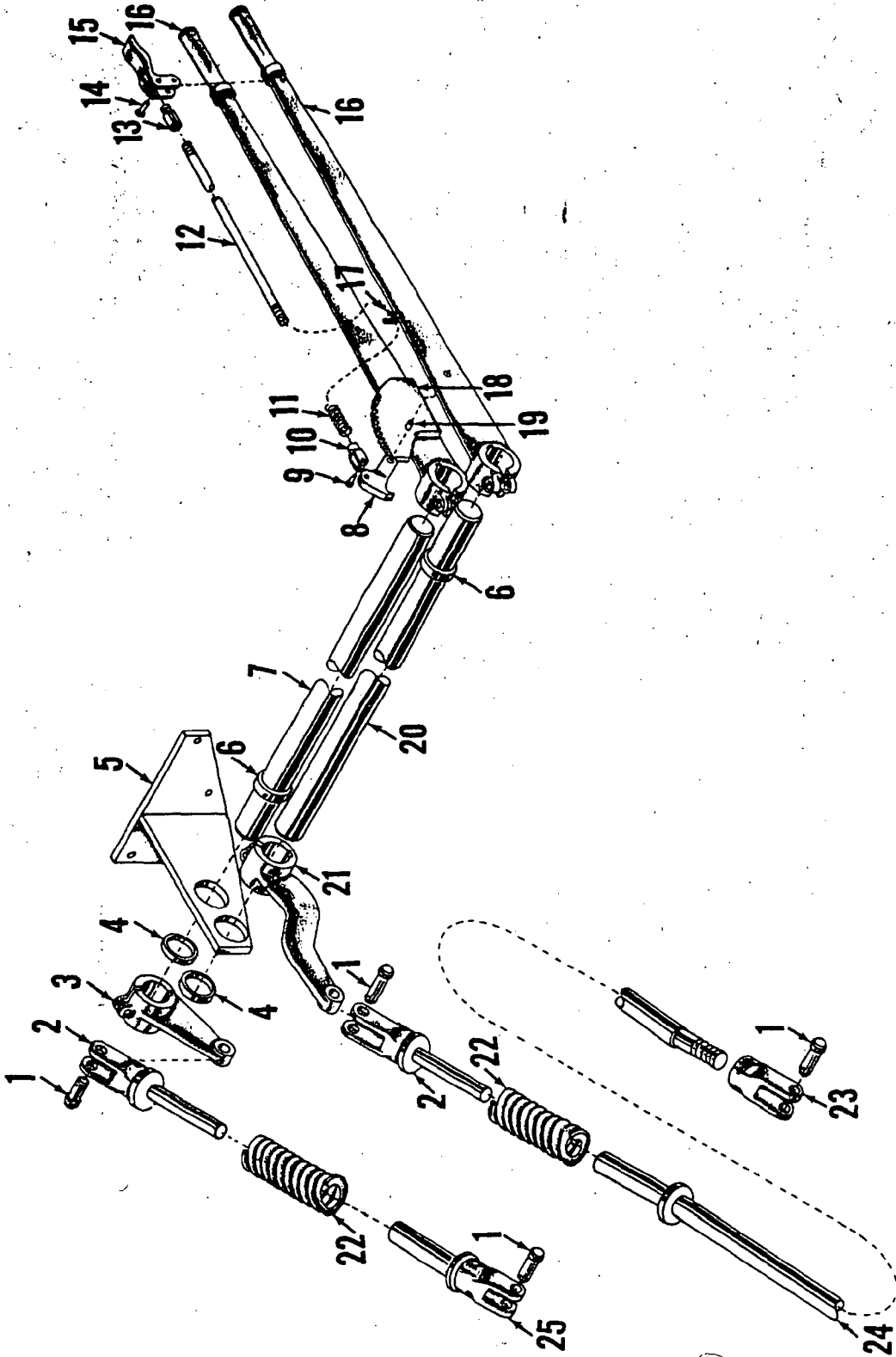
SLIDE PINION SHAFT

MASTER

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ILLUST. No. 42212-B-1

MATERIAL LIST ON BACK

HAND BRAKE ASSEMBLY

42278-1Cont.	REV. C	MODEL 4500-4600
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REAR DRUM BRAKE
(SPRING OR AIR APPLIED)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
37	18640	1	SUPPORT, Roller	
38	140674	1	PIN W/cotter pins	
39	18524	1	LINK, Connecting	
45	15749		SEAL, Dust	
			<u>FOR POWER BOOM AND DRAGLINE</u>	
46	73478	1	BRACKET	
47	73479	1	BRACKET	
48	22635	1	CYLINDER, Air W/rod #16745	
49	73480	1	END, Rod	
50	73481	2	STOP, Spring	
51	15377	1	CLIP	
52	3331	1	SPRING	
53	3329	1	BOLT, Adjusting W/hex nuts	

#0-63, 0-71, 21359, 22635

REV. C	42278 - 1
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PLEASE GIVE MACHINE S/N W/ORDER

Run as Front

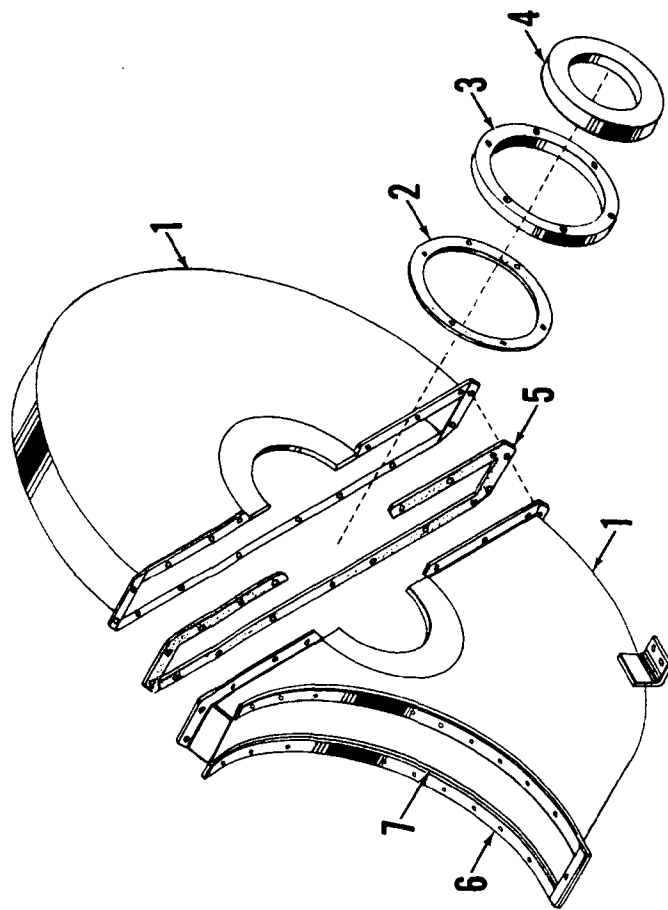
42278 C1 Cont'd.

MASTI

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ILLUST. No. 41844 - A-2

MATERIAL LIST ON BACK

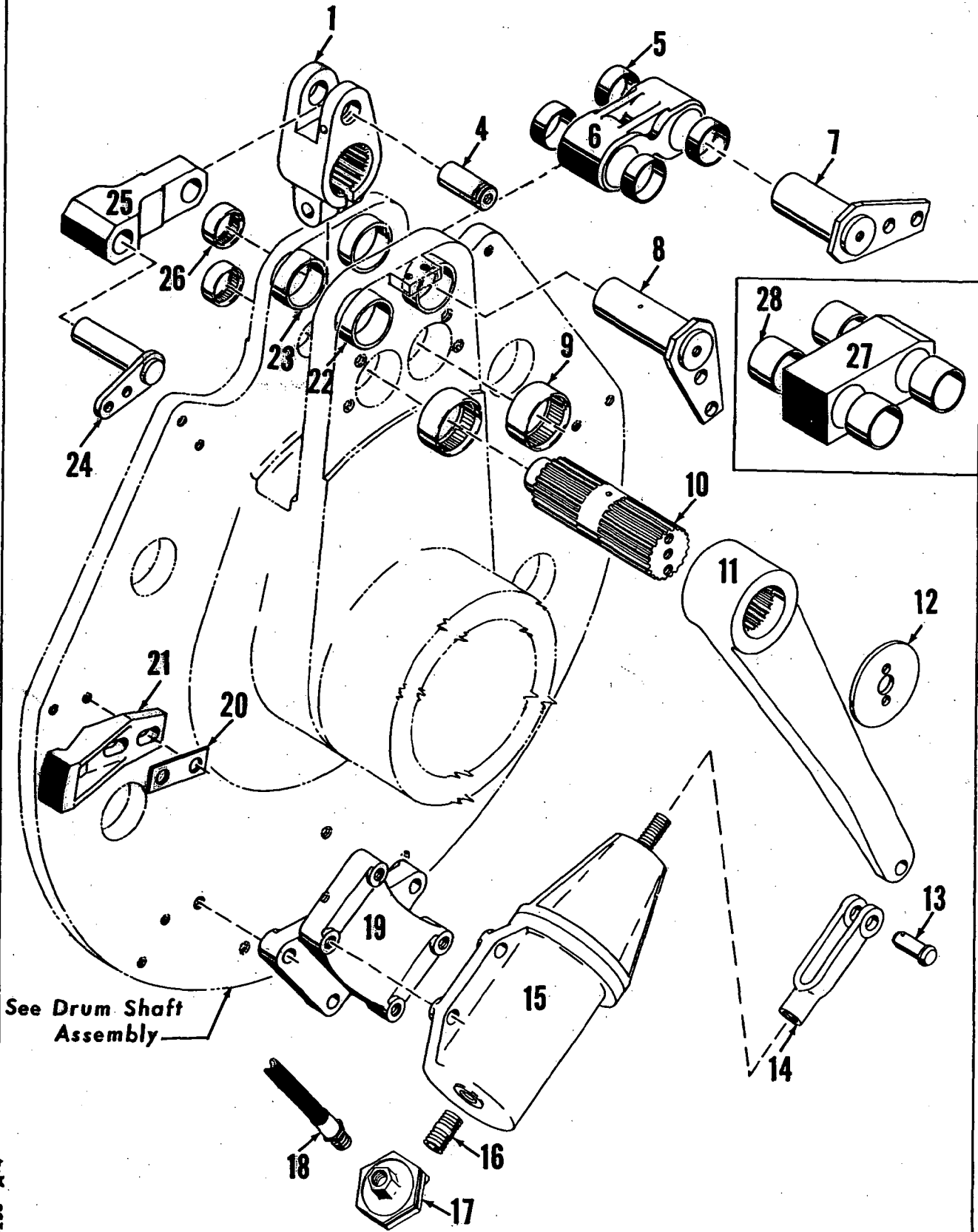
GEAR CASE

41844-Ad MASTER

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See Drum Shaft Assembly

50253 - A-4

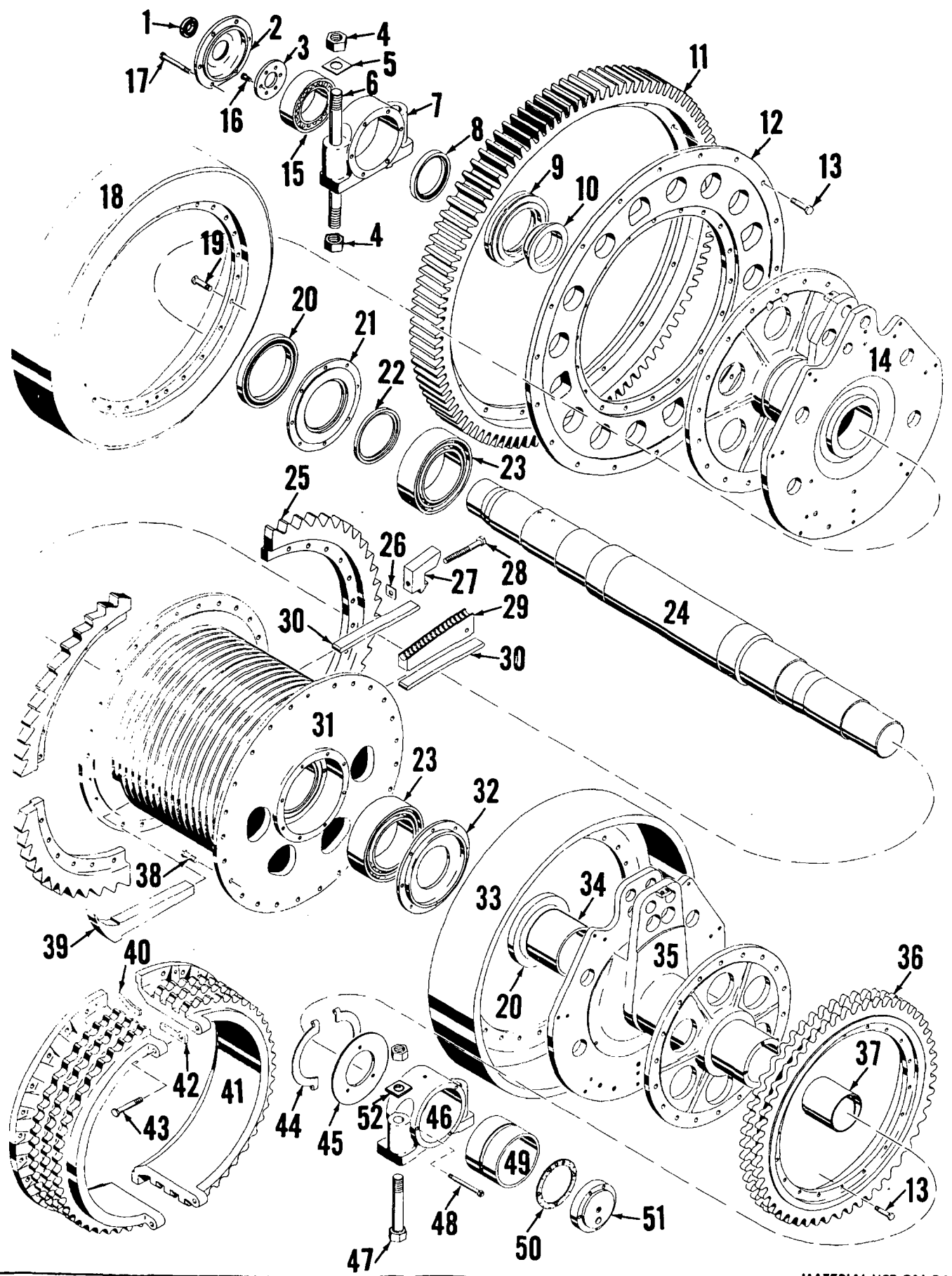
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RIGHT DRUM CLUTCH

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50233 E1

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DRUM SHAFT

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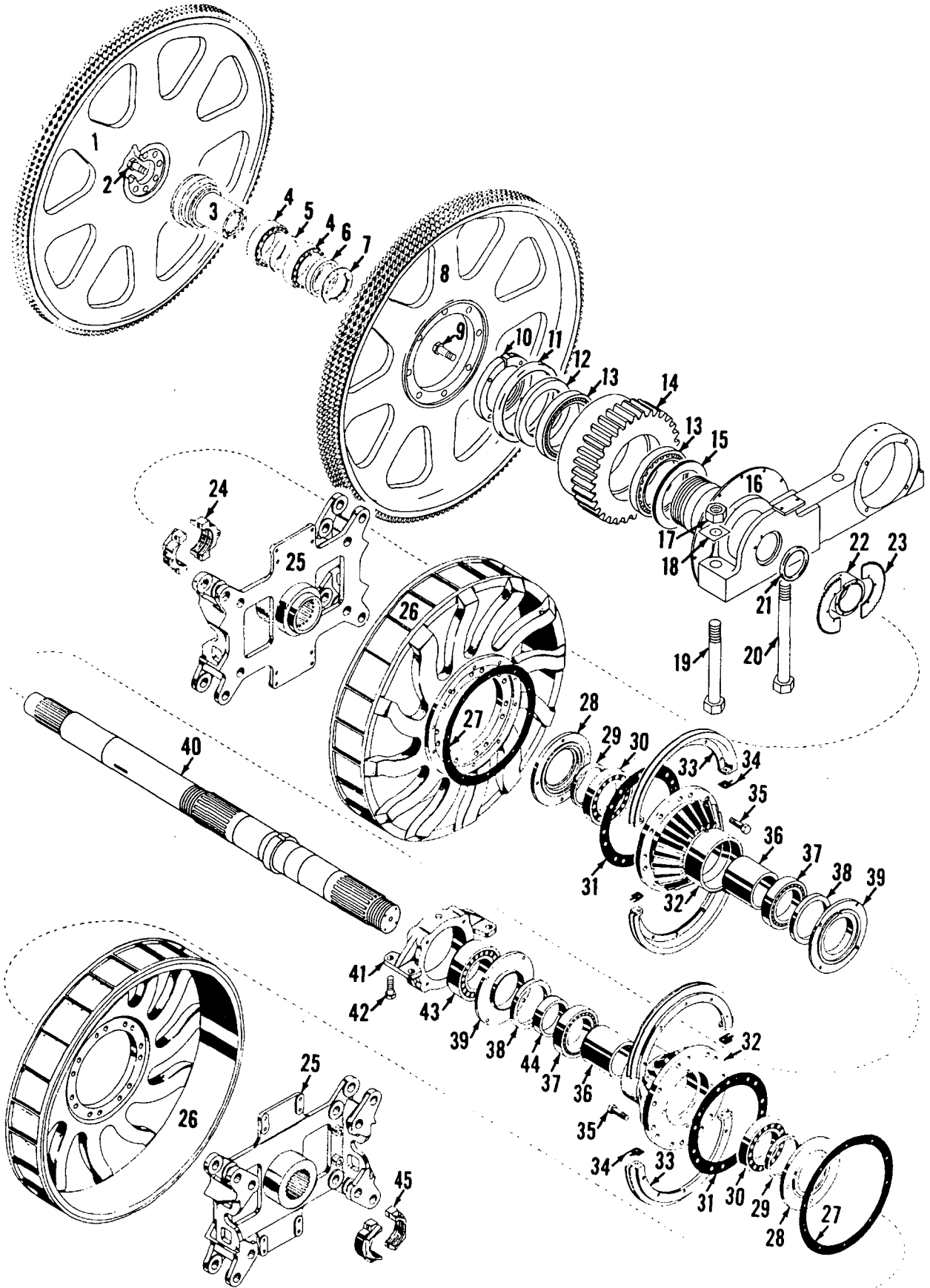
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MASTER



MAIN DRIVE SHAFT ASSEMBLY

5027681

MATERIAL LIST ON BACK

50320-1 Cont.	REV. E	MODEL 4600
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IND. BOOM HOIST DRUM

MASTER

Run as Front

50320 E 1 Cont'd.

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
45	21344	1	SUPPORT, Right Bearing W/gr. fitting and mach. screw dowels	
7	10068	1	BUSHING	
46	700703	1	UNION, Swivel (Deublin #15-3 for shaft #33805) (Supersedes #352912)	
46	352912		UNION, Swivel (Fawick Rotorseal Type B - for Shaft #32827)	
47	136058	1	NIPPLE	
<p>NOTE: To install swivel #700703 on shaft #32827 use adapter #78208.</p> <p>NOTE 1: Spacer 18620 is available as 4 suffixes: 18620-3 (.718" wide), 18620-2 (.750"), 18620-5 (.781"), 18620-7 (.812"). Use suffix with width so right end of clutch spider Ref. #13 and left end of planetary pinion Ref. #29 contacts spacers 18620 and not bearing retainers Ref. Nos. 16, leaving .025"-.062" end play in drum.</p>				
			0-157	
				REV. E
				50320 - 1

PLEASE GIVE MACHINE S/N W/ORDER

PARTS MANUAL ALPHABETICAL INDEX
Group C - Air Components & Electrical

DESCRIPTION	PUBLICATION	REV	START DATE	END DATE	GROUP
Alternator Wiring	24752	A1	03/29/62	08/16/63	C1102
Cab Lighting	41085	-	07/14/57	11/02/62	C1301
Compressor & Piping	42786	B1	03/12/62	03/20/64	C0101
Compressor & Piping	42786	A2	12/12/61	02/20/64	C0101
Control Console	42273	E1	09/10/62		C0201
Control Console	42273	E2	09/10/62		C0201
Control Console	42273	D3	09/10/62		C0201
Control Console	42273	B4	09/10/62		C0201
Light Plant - Alternator - Generator	42819	A1	07/10/62		C1101

42273D3

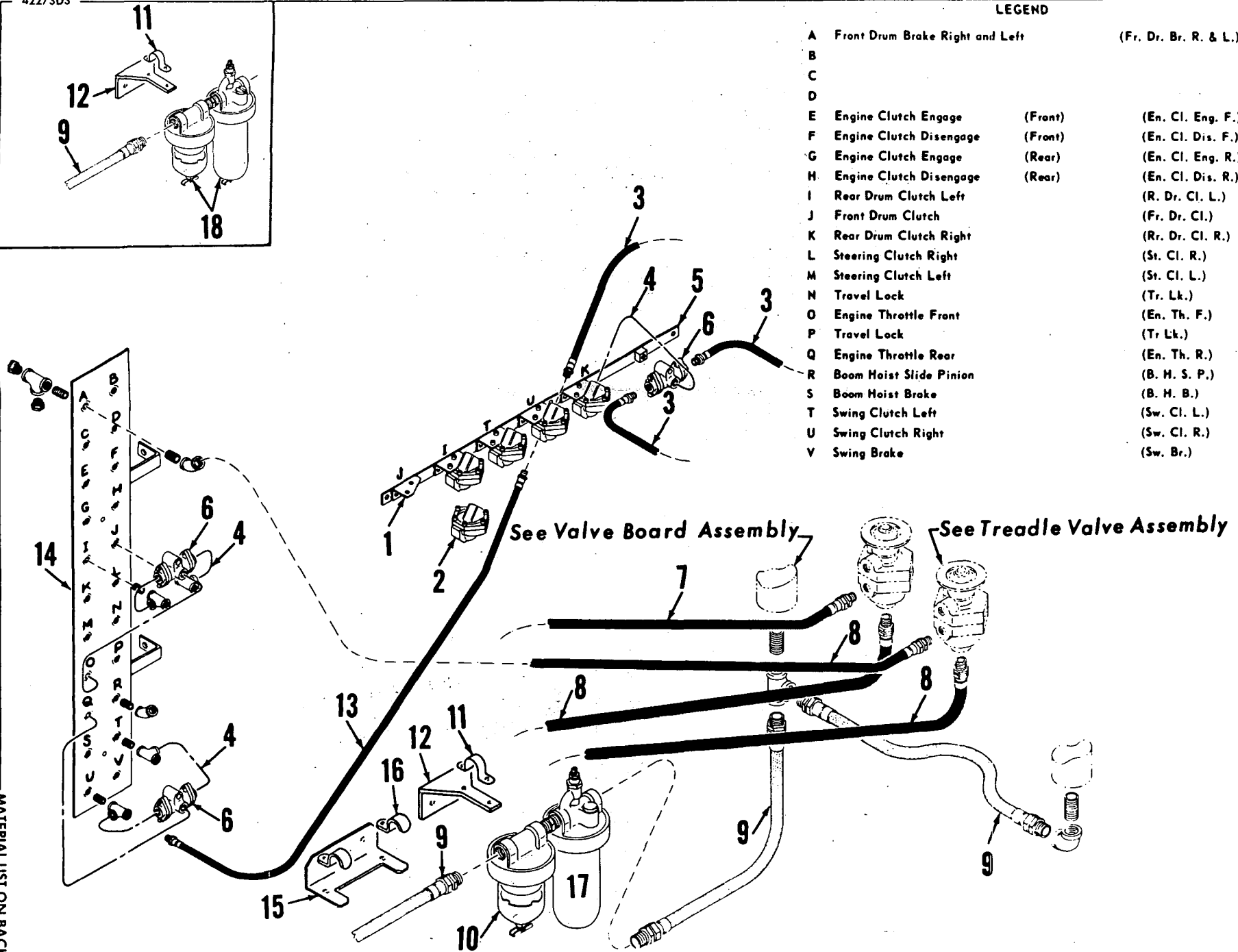
LEGEND

A	Front Drum Brake Right and Left	(Fr. Dr. Br. R. & L.)
B		
C		
D		
E	Engine Clutch Engage	(Front) (En. Cl. Eng. F.)
F	Engine Clutch Disengage	(Front) (En. Cl. Dis. F.)
G	Engine Clutch Engage	(Rear) (En. Cl. Eng. R.)
H	Engine Clutch Disengage	(Rear) (En. Cl. Dis. R.)
I	Rear Drum Clutch Left	(R. Dr. Cl. L.)
J	Front Drum Clutch	(Fr. Dr. Cl.)
K	Rear Drum Clutch Right	(Rr. Dr. Cl. R.)
L	Steering Clutch Right	(St. Cl. R.)
M	Steering Clutch Left	(St. Cl. L.)
N	Travel Lock	(Tr. Lk.)
O	Engine Throttle Front	(En. Th. F.)
P	Travel Lock	(Tr Lk.)
Q	Engine Throttle Rear	(En. Th. R.)
R	Boom Hoist Slide Pinion	(B. H. S. P.)
S	Boom Hoist Brake	(B. H. B.)
T	Swing Clutch Left	(Sw. Cl. L.)
U	Swing Clutch Right	(Sw. Cl. R.)
V	Swing Brake	(Sw. Br.)

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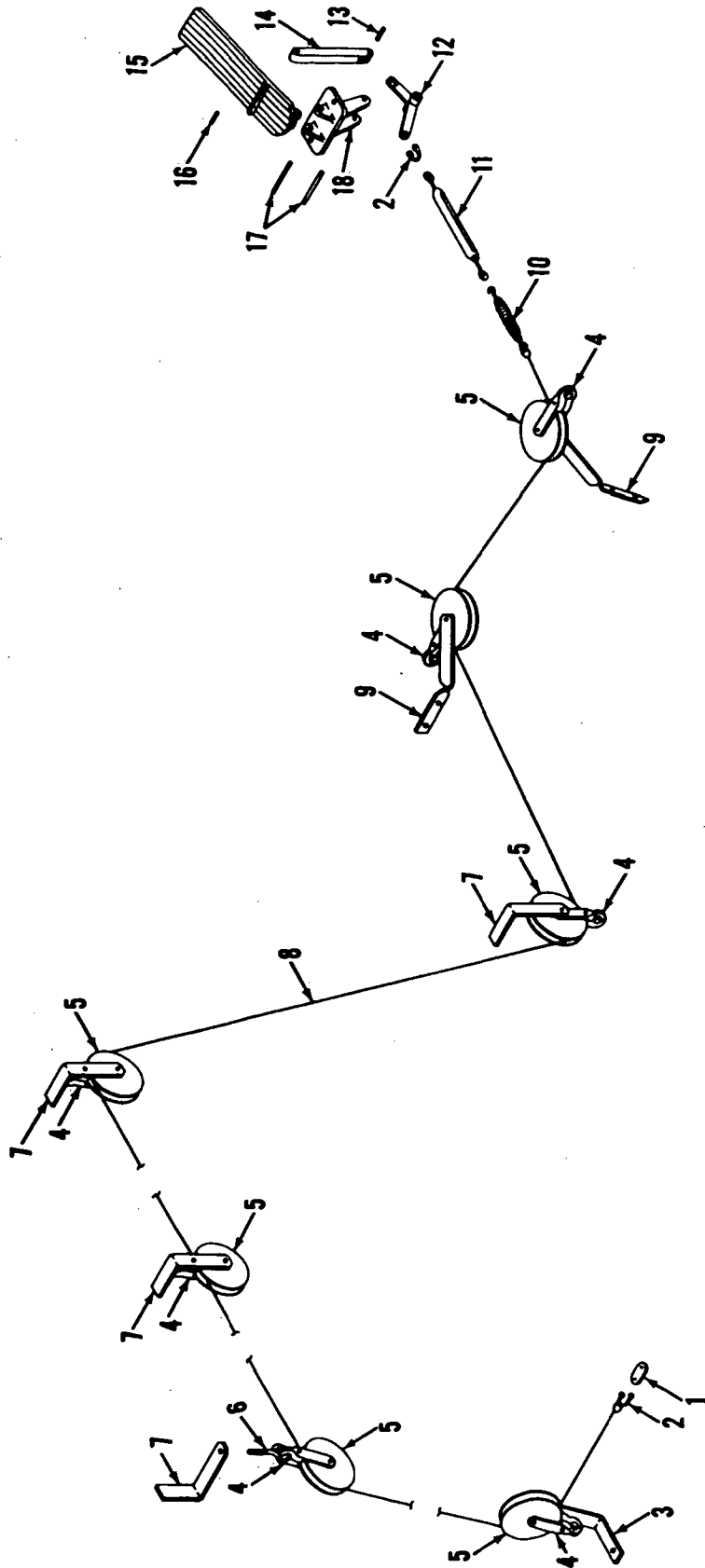
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MATERIAL LIST ON BACK

AIR CONTROL PIPING

GROUP D - Power Components



42823A1

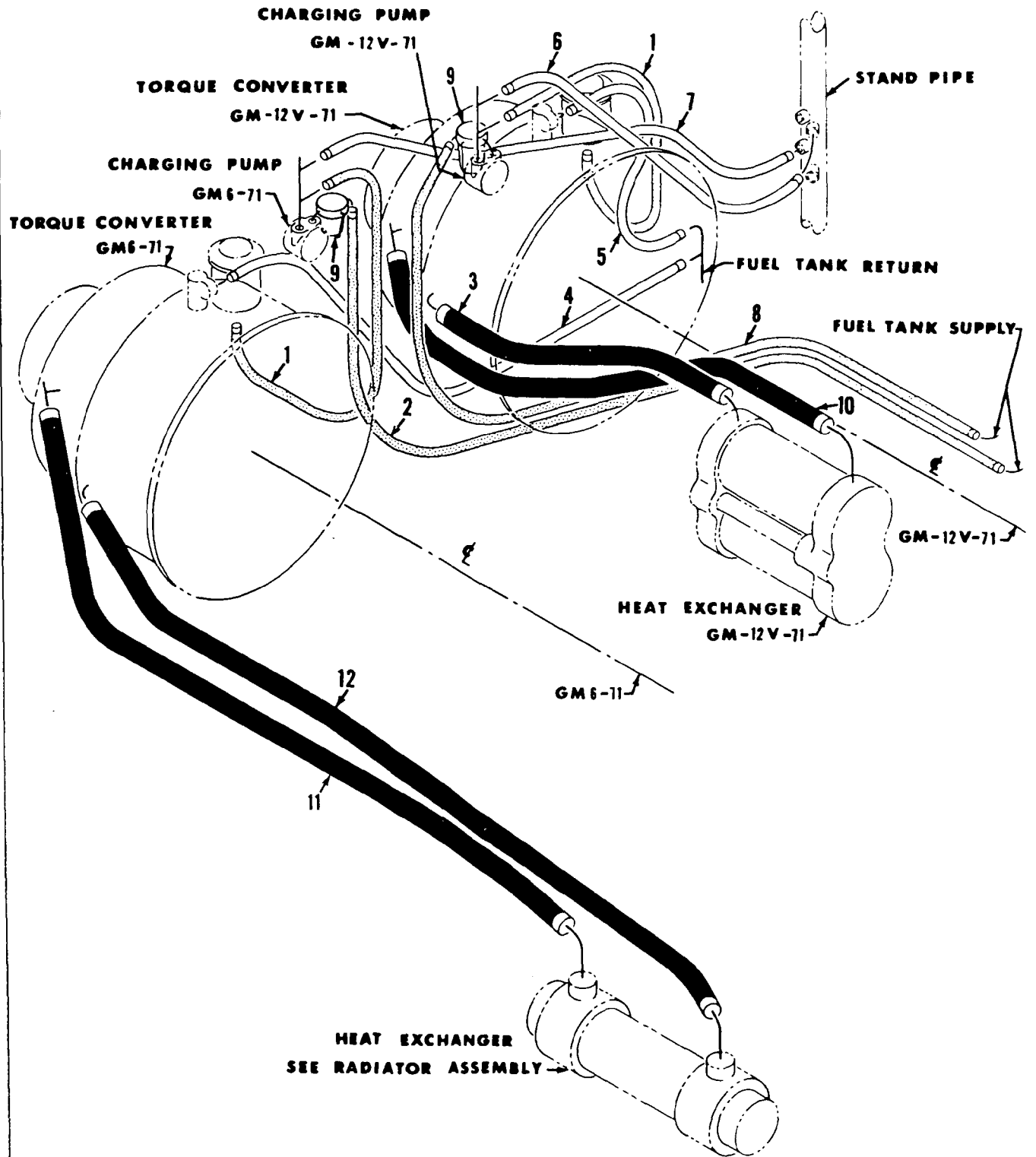
MATERIAL LIST ON BACK

ENGINE GOVERNOR CONTROL

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5026783

MATERIAL LIST ON BACK

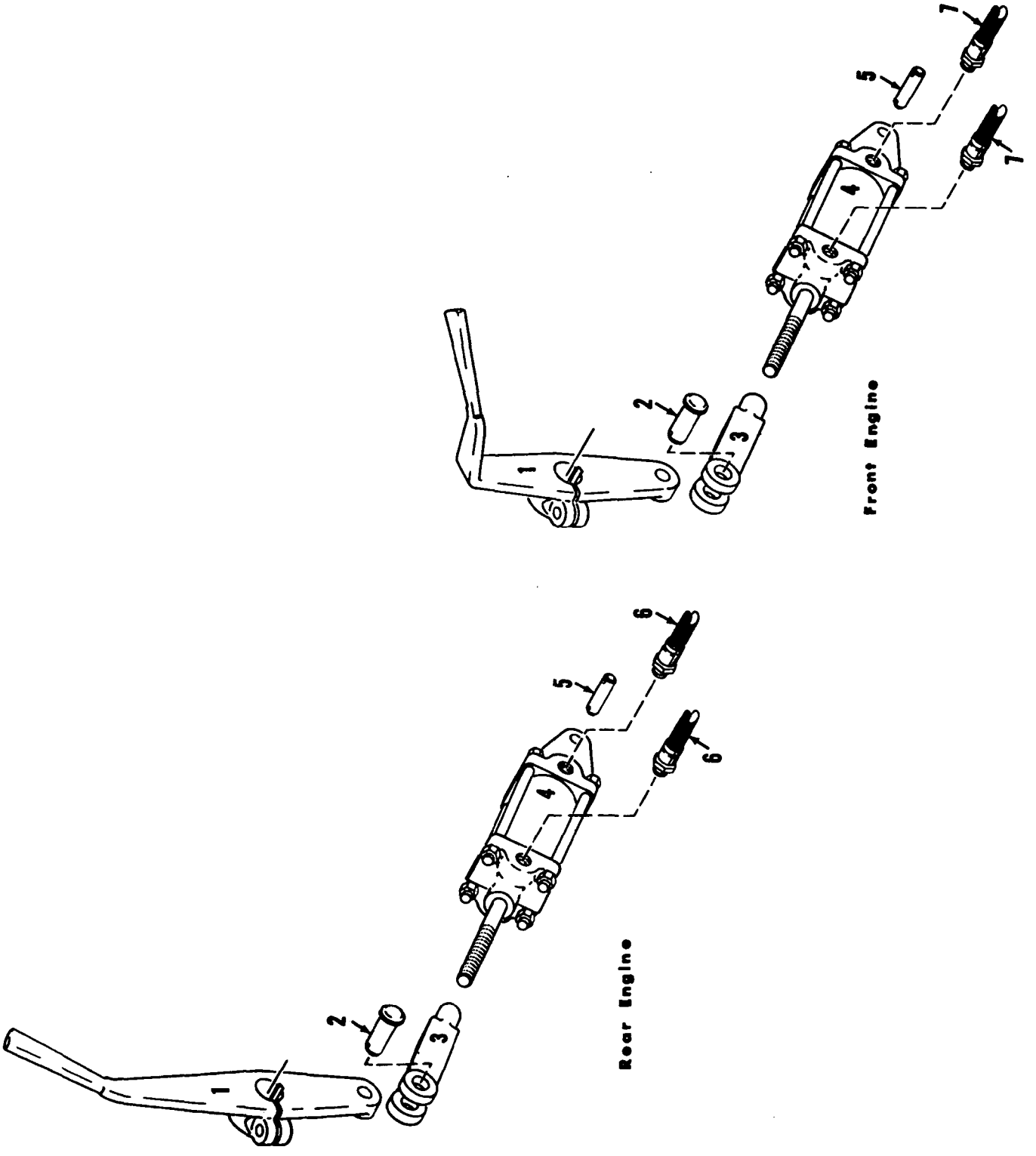
CONVERTER PIPING

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Manitowoc, Wisconsin

MASTER



Front Engine

Rear Engine

ENGINE CLUTCH CONTROL

MATERIAL LIST ON BACK

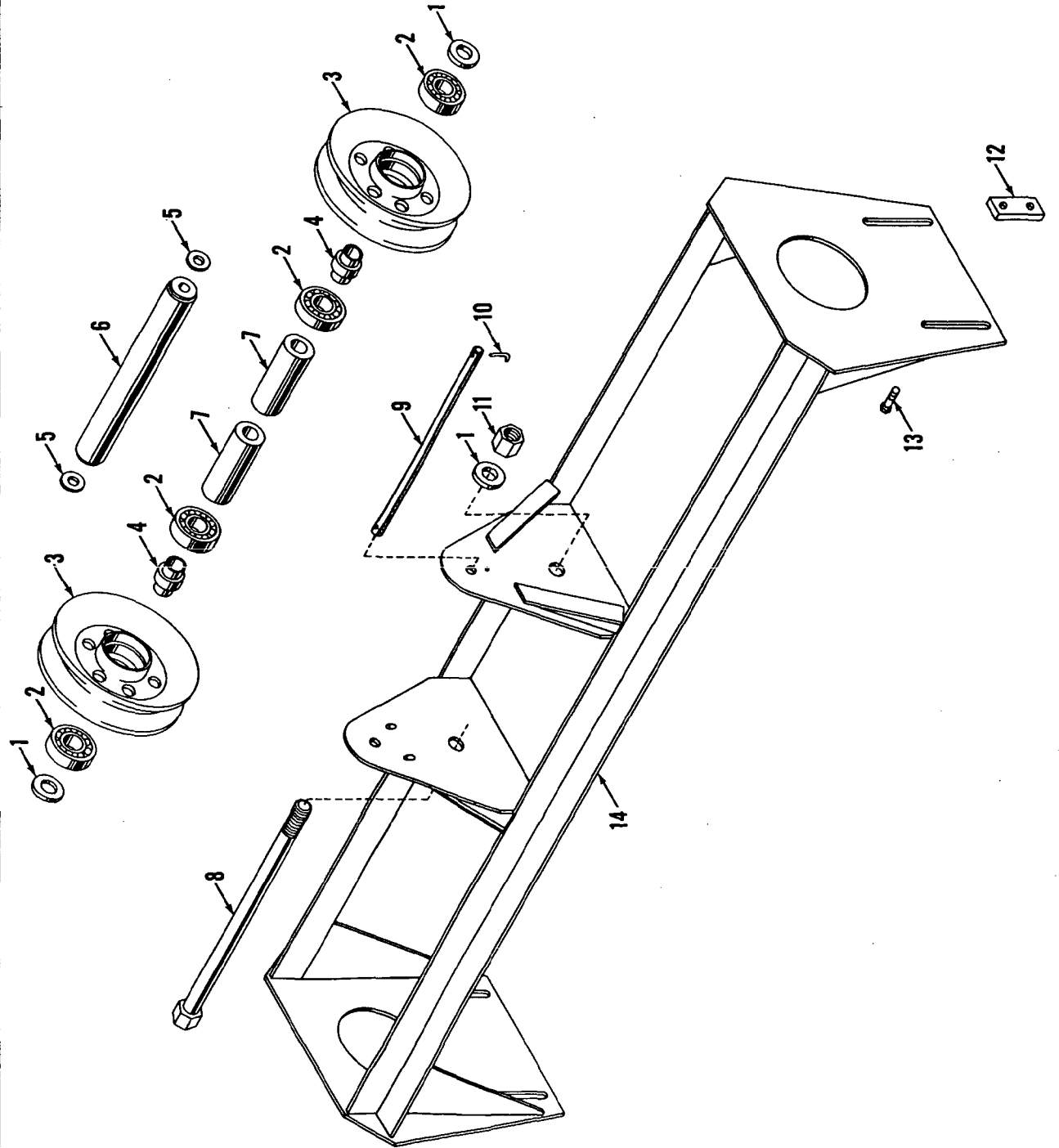
50237 B9

50237B9

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24643 - A - 1

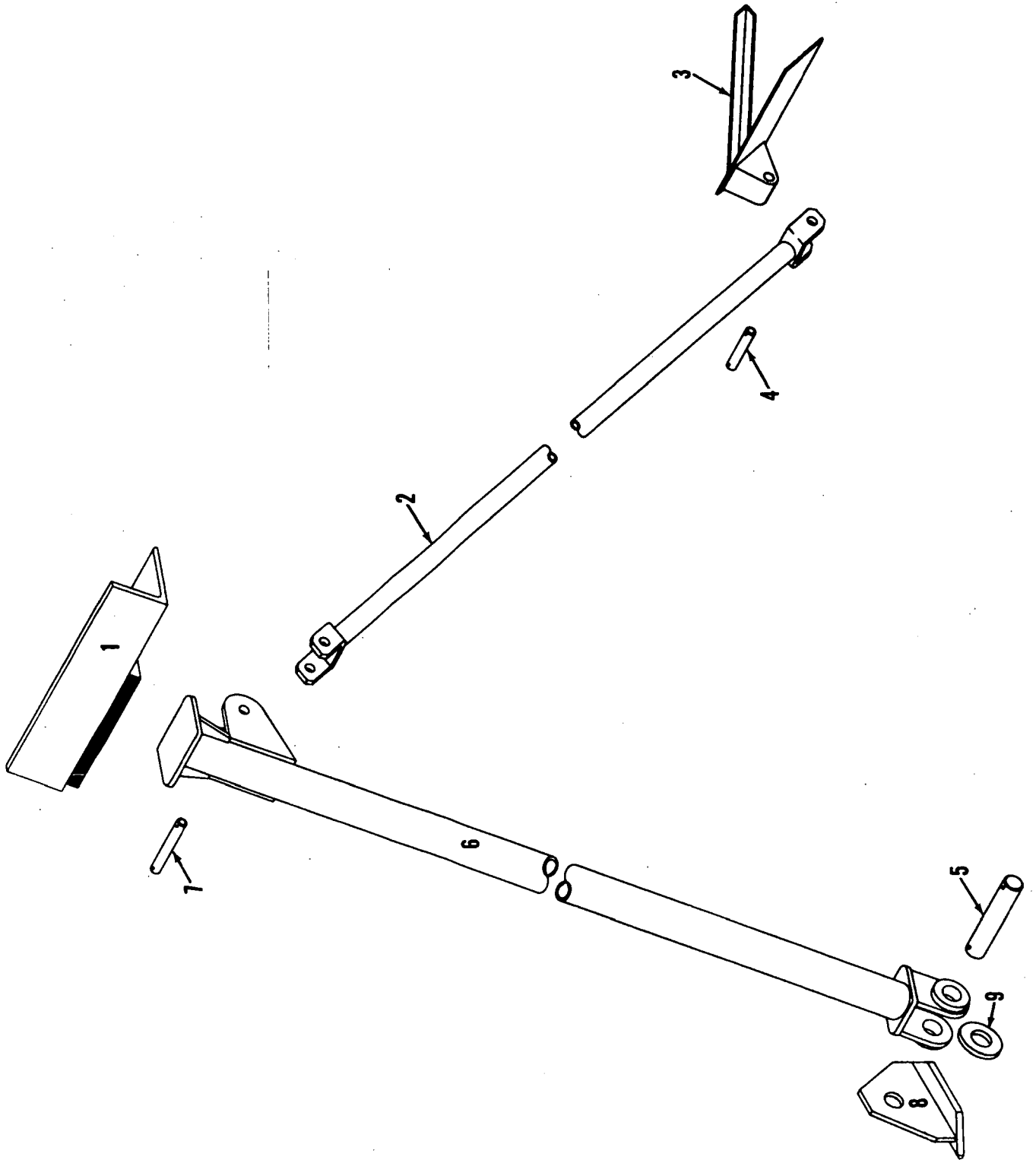
MATERIAL LIST ON BACK

CABLE GUIDE

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3298981

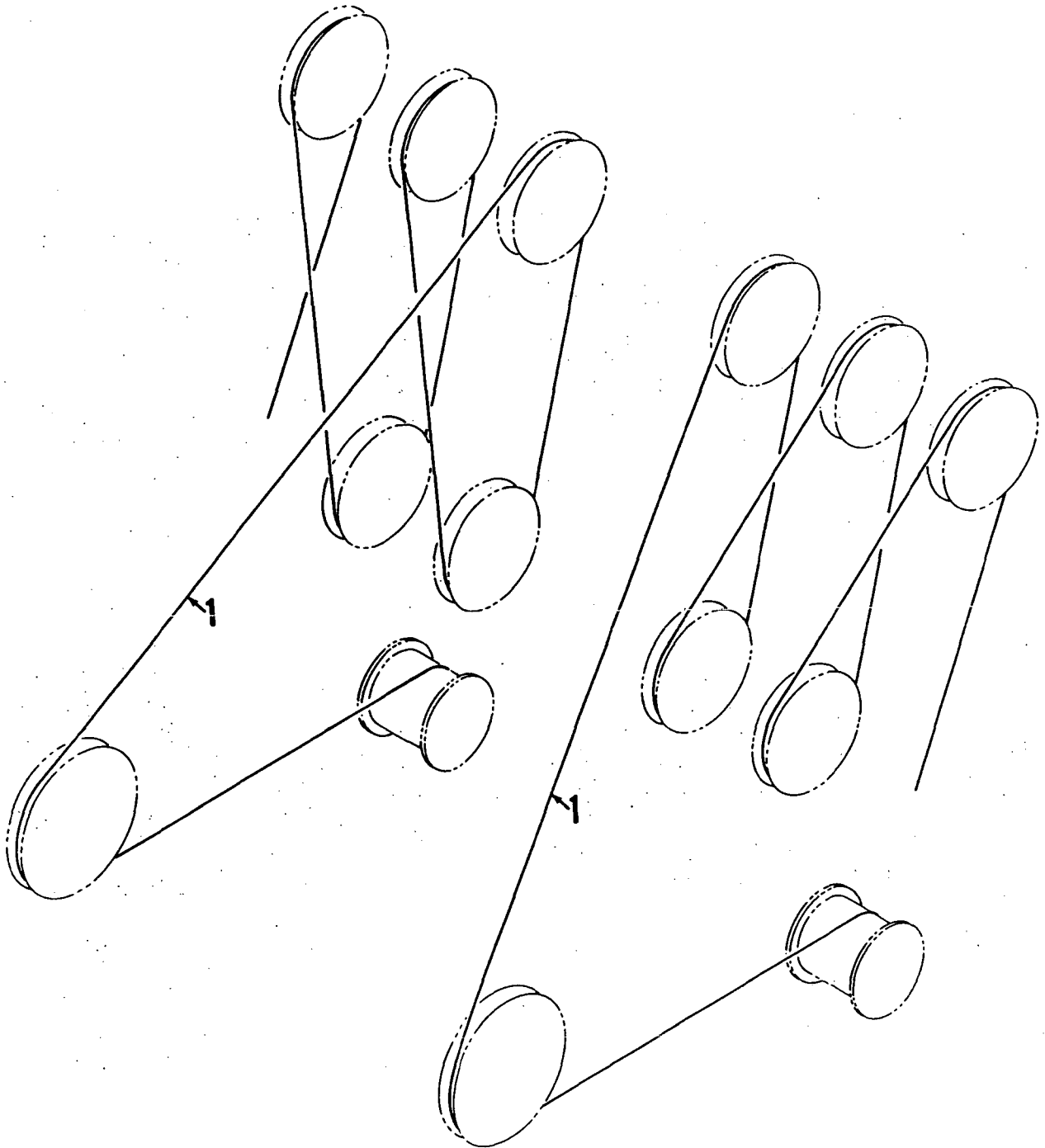
MATERIAL LIST ON BACK

MAST STOP

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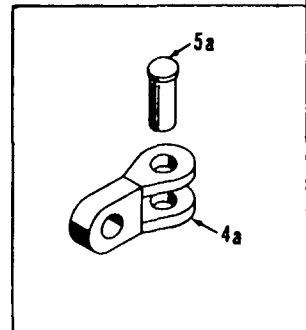
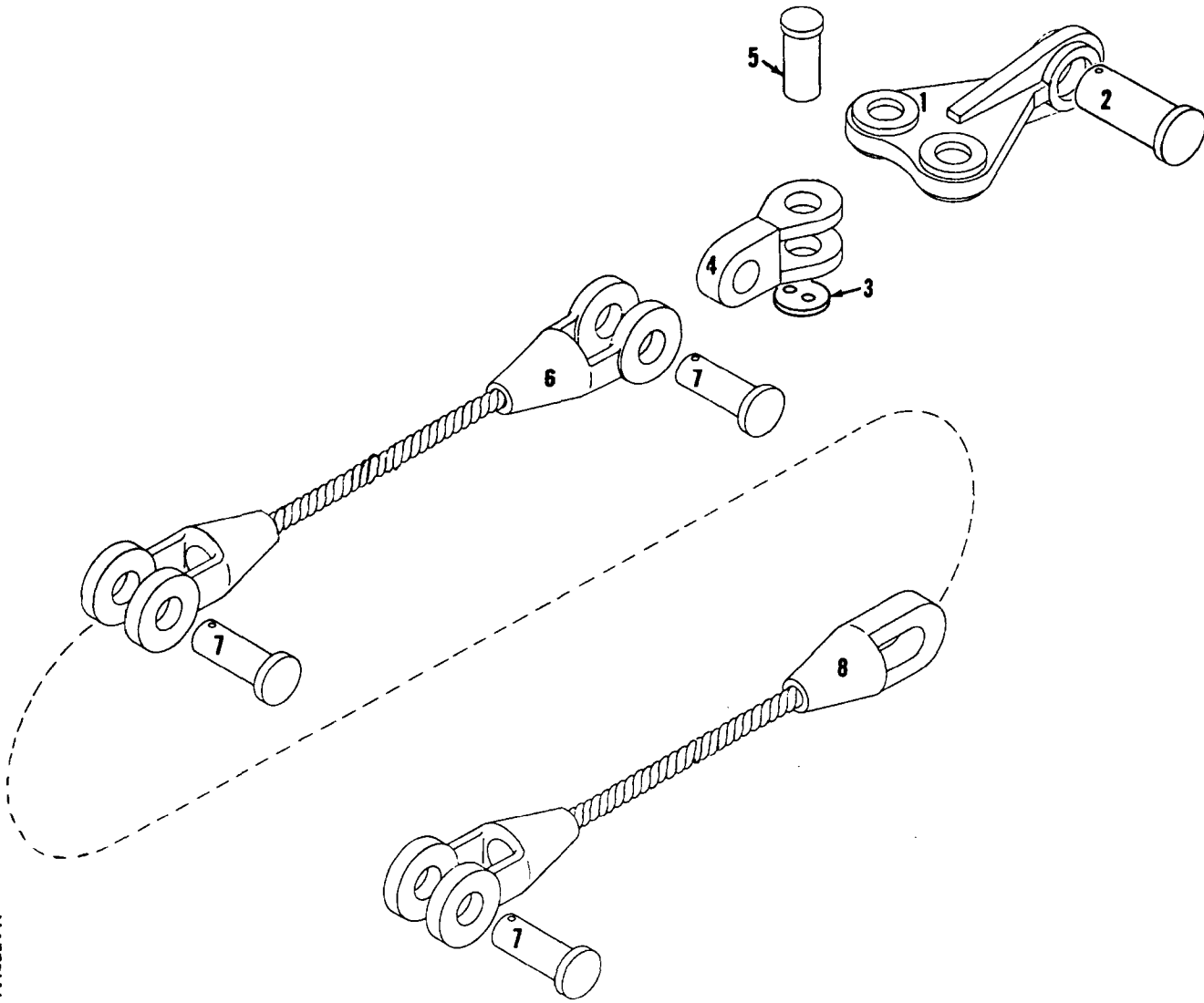
MATERIAL LIST ON BACK

MAST REEVING

MASTER

50971B3

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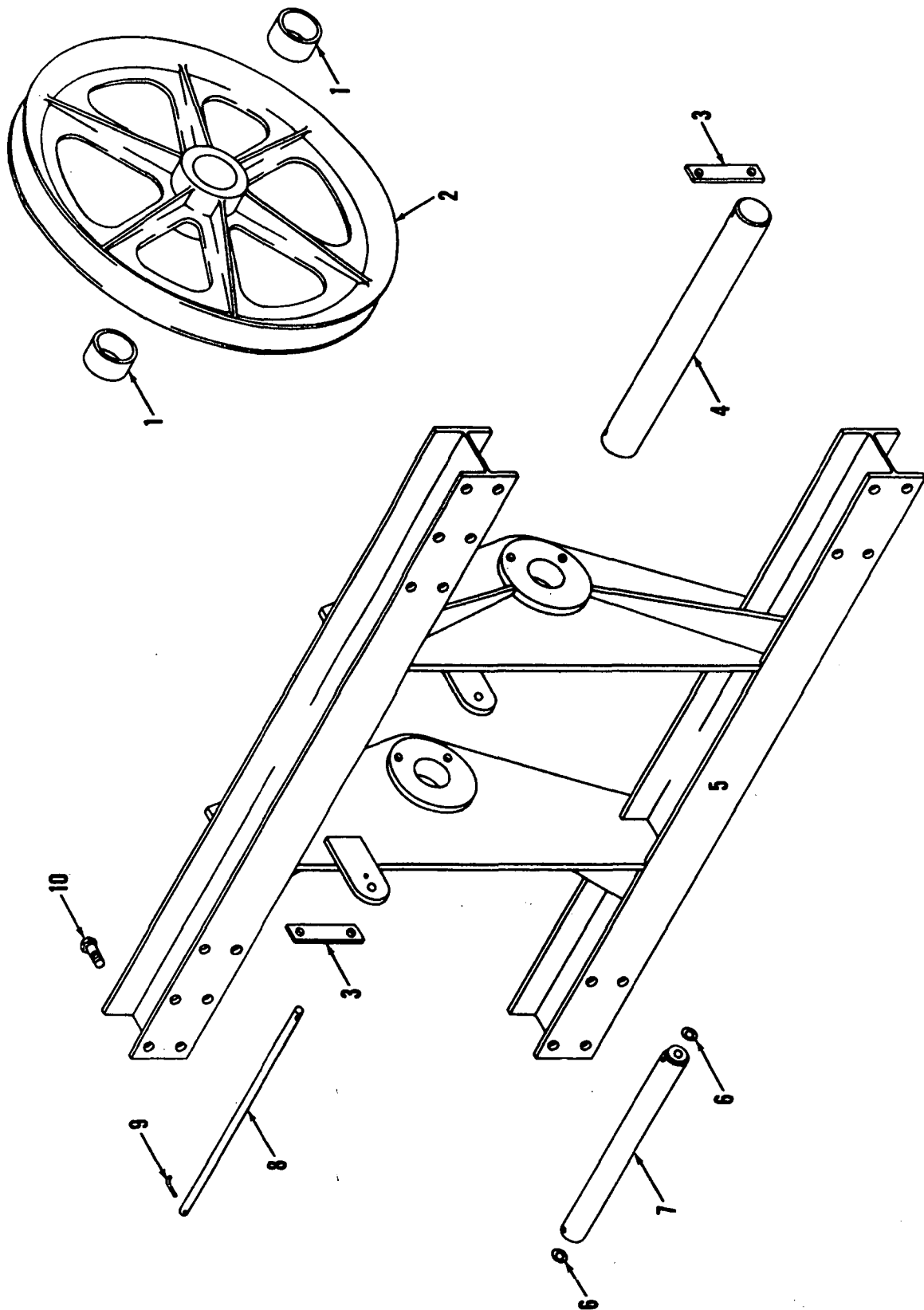
MATERIAL LIST ON BACK

PENDANTS AND CONNECTIONS

MANITOWOC ENGINEERING CO.

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Manitowoc, Wisconsin



90479A1

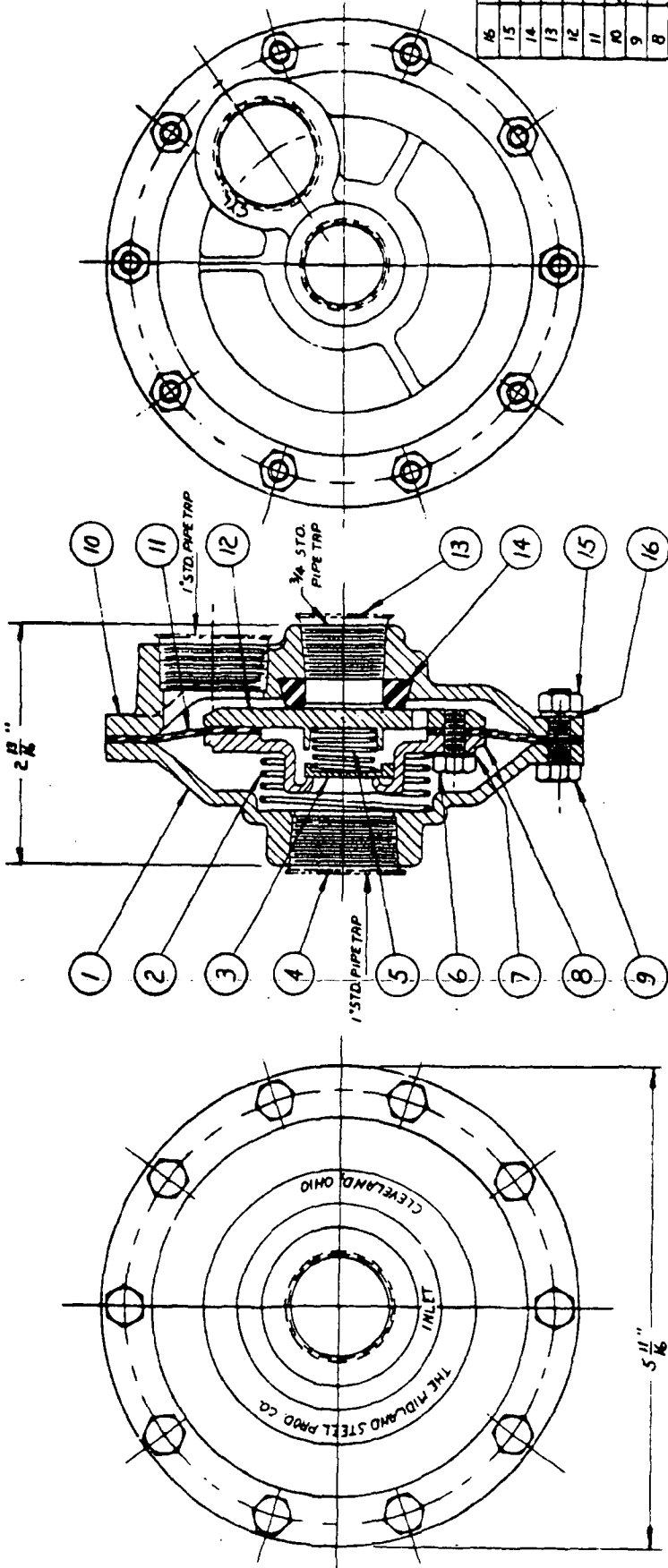
MATERIAL LIST ON BACK

CABLE GUIDE

O-NUMBER NUMERICAL INDEX

PUBLICATION	REV
0-110	A1
0-112	A1
0-115	-
0-119	A
0-121	-
0-147	D2
0-176	-
0-246	C1
0-275	A
0-279	B1
0-284	A
0-289	G
0-294	A
0-294	E
0-302	A
0-313	A
0-313	A1
0-415	B1
0-441	A4
0-441	C2
0-442	-
0-511	-
0-63	C
0-69	C
0-71	-
0-92	A1

MIDLAND-CHRISTENSEN POWER BRAKE EQUIPMENT



ITEM	PART No.
1	N-10942-A
2	C-11971-A
3	B-X-407
4	C-10528-A
5	3-X-706
6	3-X-706
7	4-X-40
8	M-10940-A
9	3-X-179
10	N-20081-A
11	N-10941
12	N-10939-0
13	B-X-406
14	N-12483
15	2-X-303
16	4-X-11

QUICK RELEASE VALVE

VALVE COMPLETE #N-20080 MANITOWOC CODE # 702425
 REPAIR KIT ONLY #RN-19-E MANITOWOC CODE # 702459

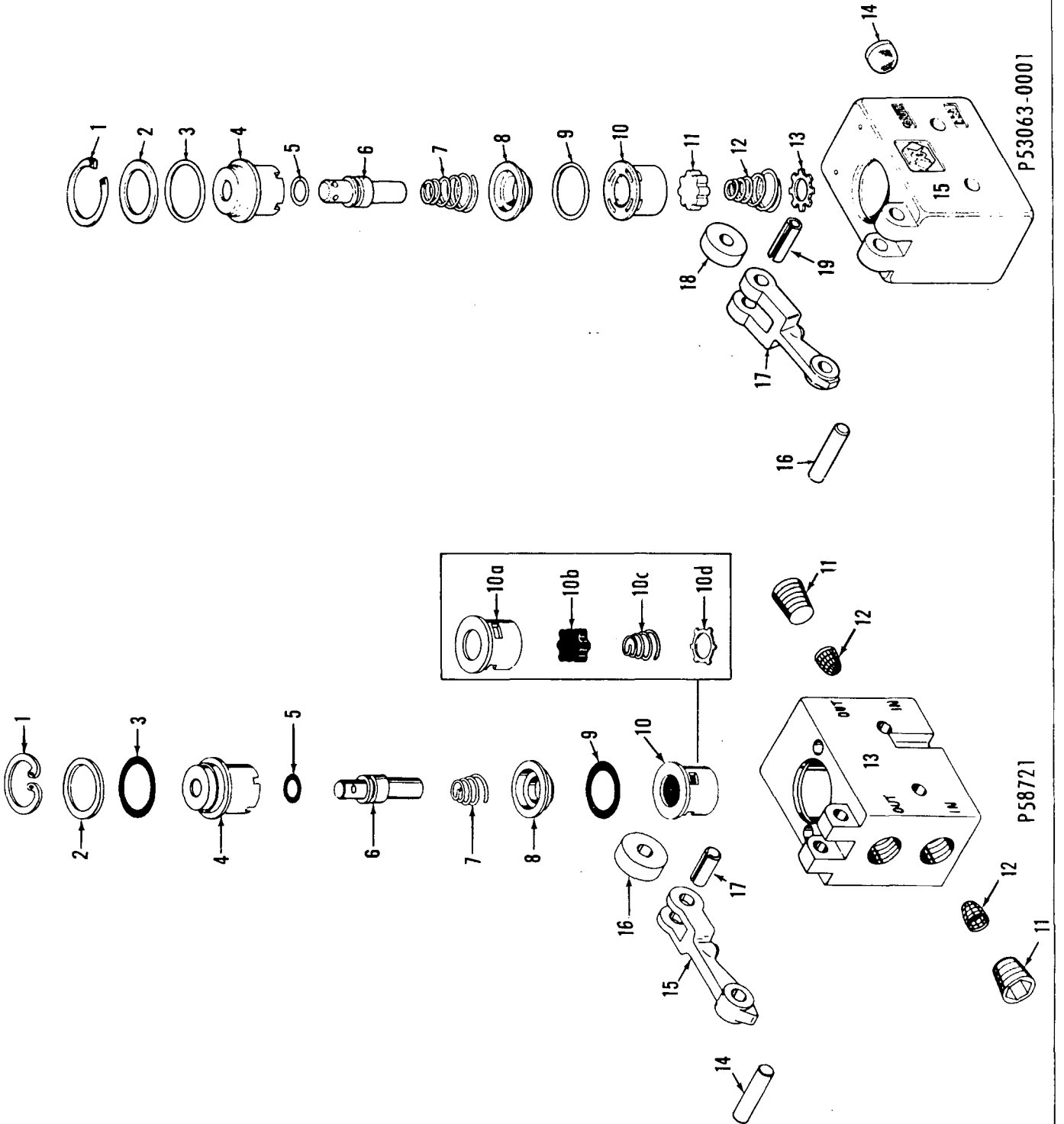
NOTE:
 THIS SHEET FOR MACHINES BUILT
 AFTER 1950, OPPOSITE SIDE FOR
 MACHINES BUILT PRIOR TO 1950.

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P53063-0001

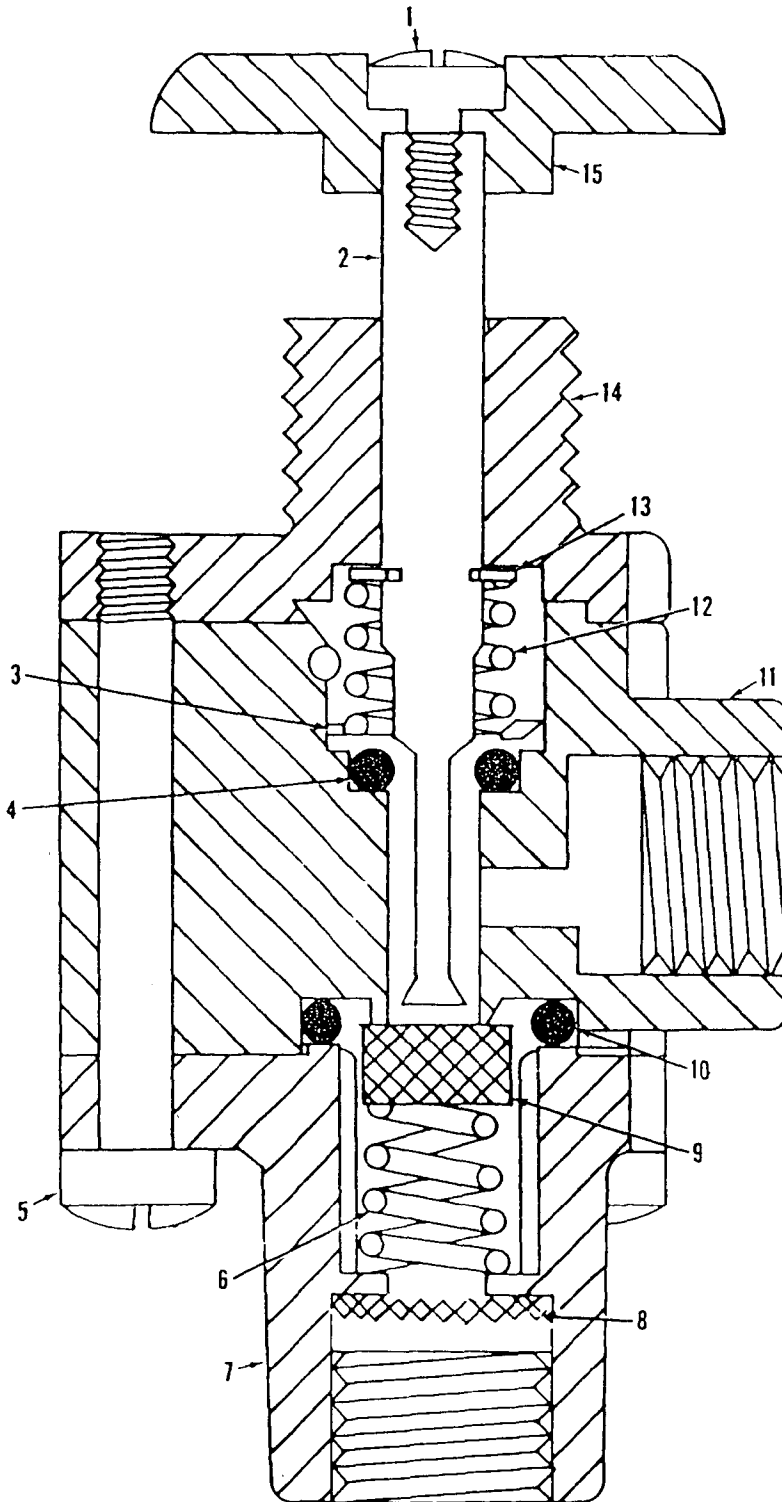
P58721

O-279

MATERIAL LIST ON BACK

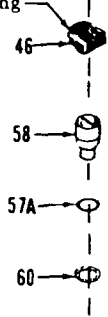
CONTROL VALVE

MASTER

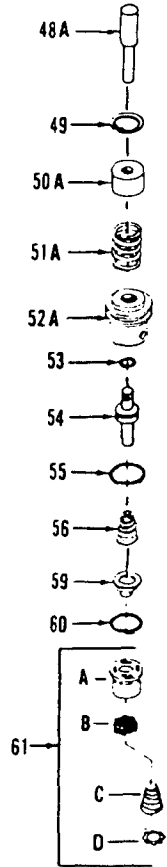


Cavity Plugged

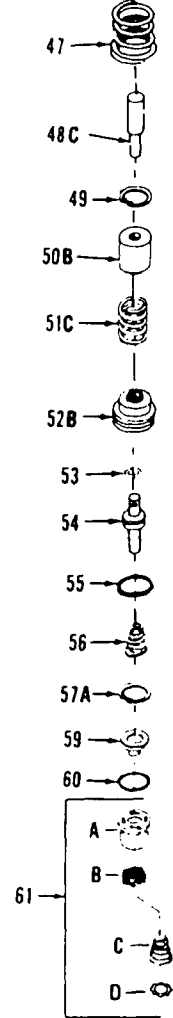
Fasten to Housing
Ref. #32



3 Way Valve



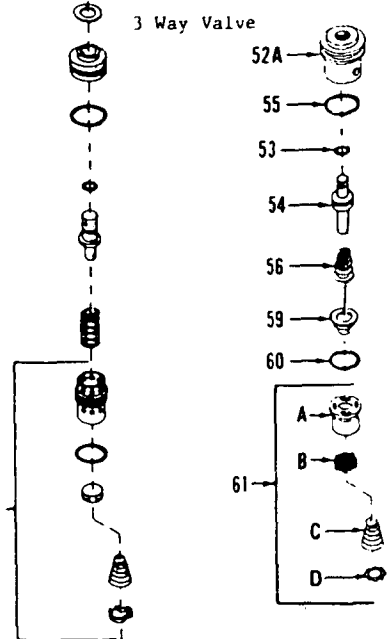
Modulating Valve



REPAIR AND CONVERSION KITS

Obsolete

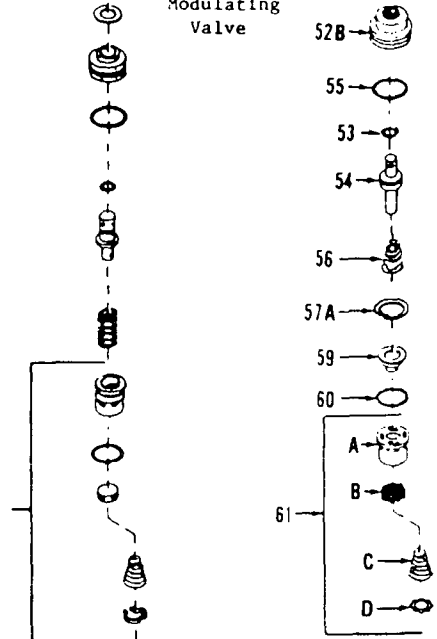
Replace With



Obsolete

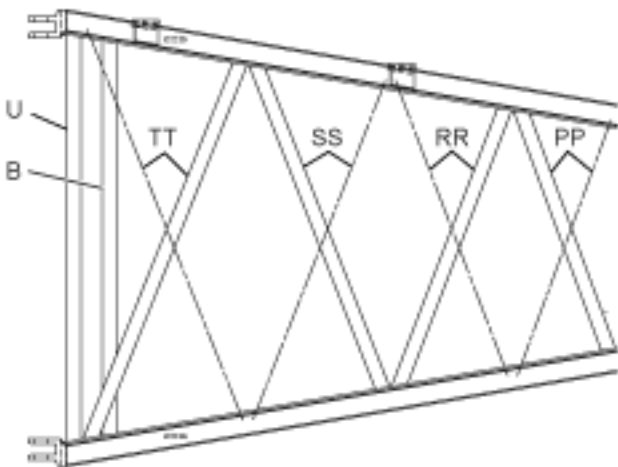
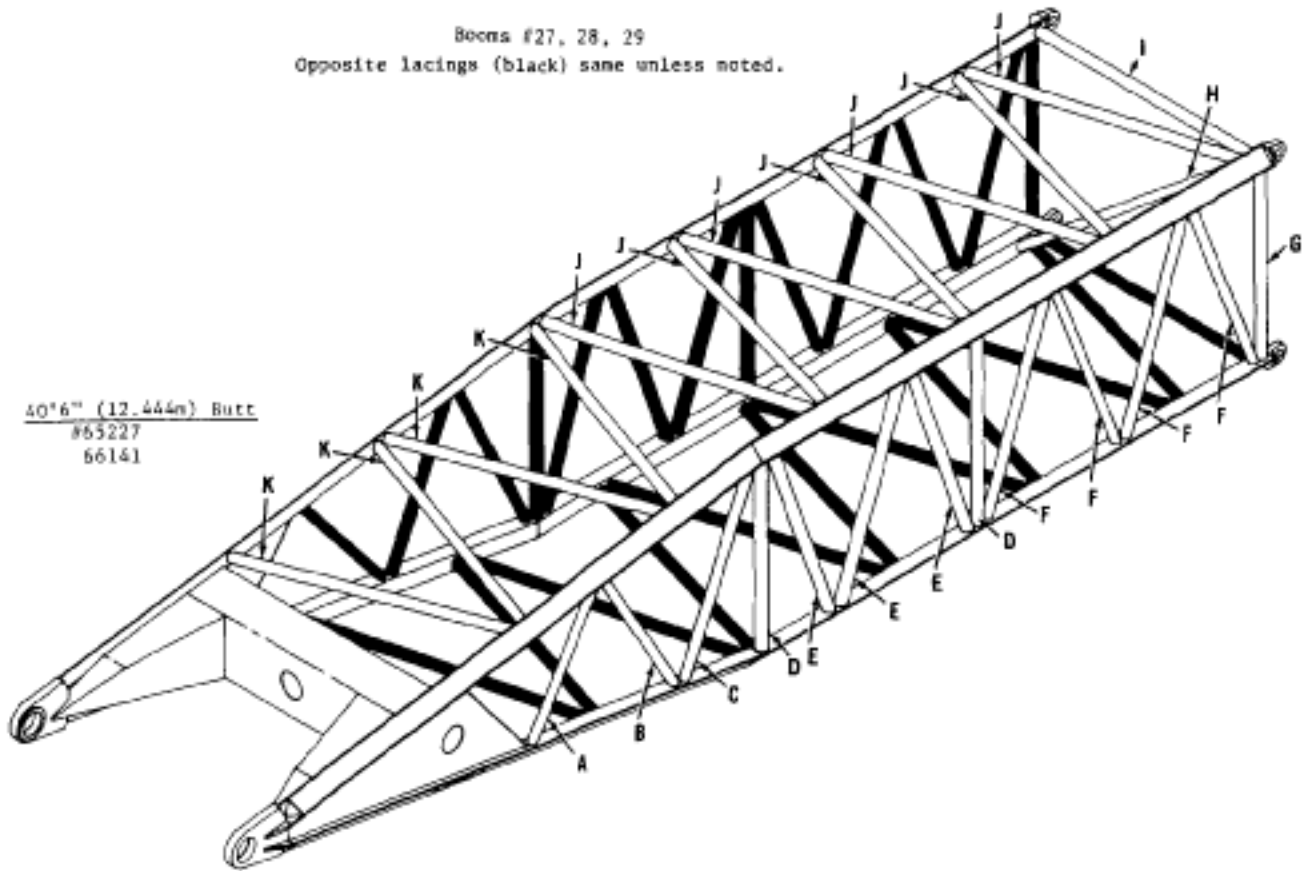
Modulating Valve

Replace With

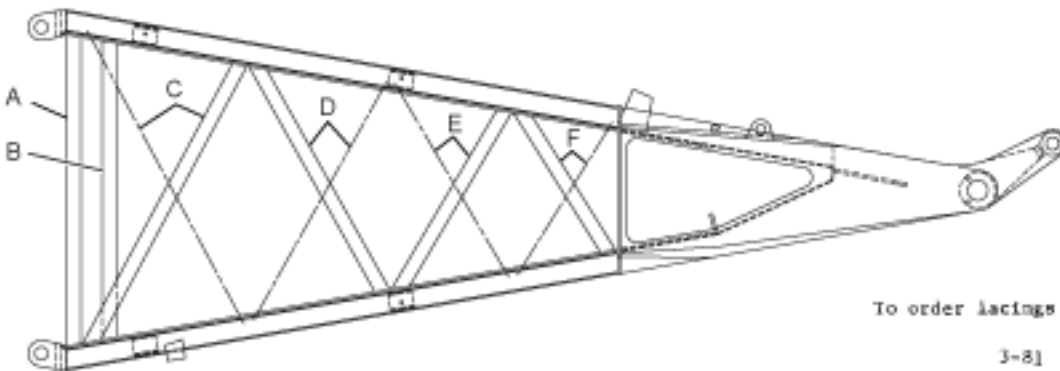


Beams #27, 28, 29
Opposite lacings (black) same unless noted.

40" x 6" (12.444m) Butt
#65227
66141

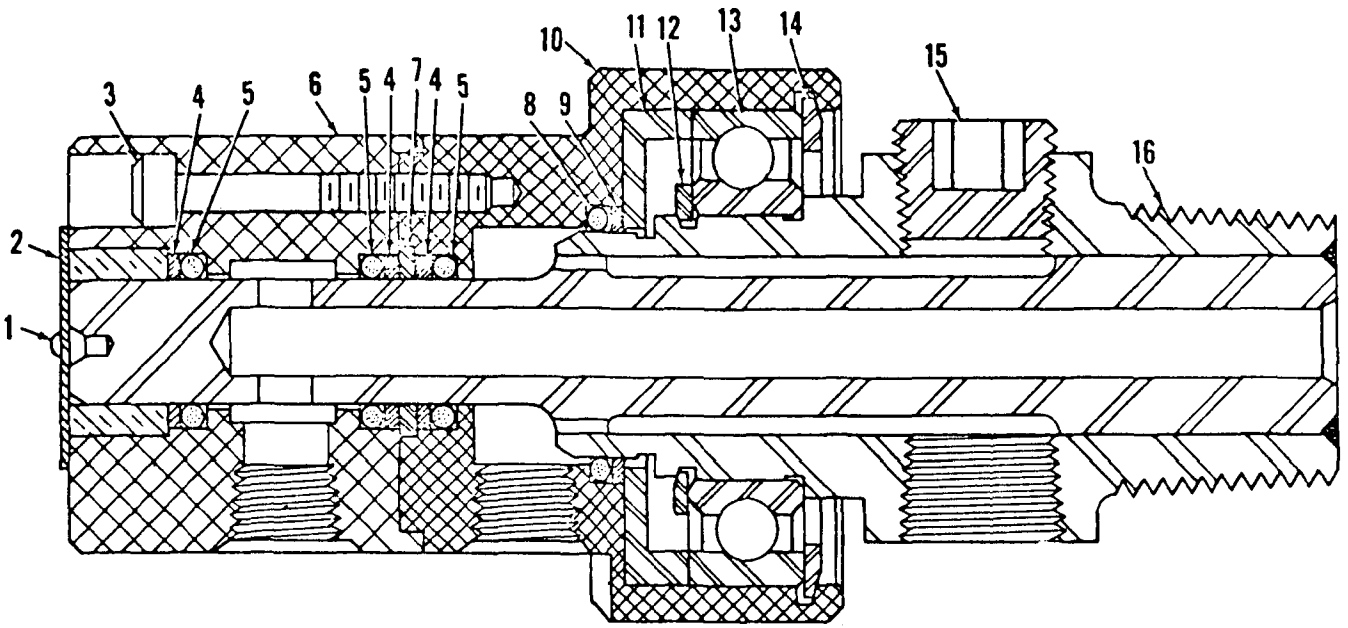


MAST #27A
20' TOP SECTION
#65051

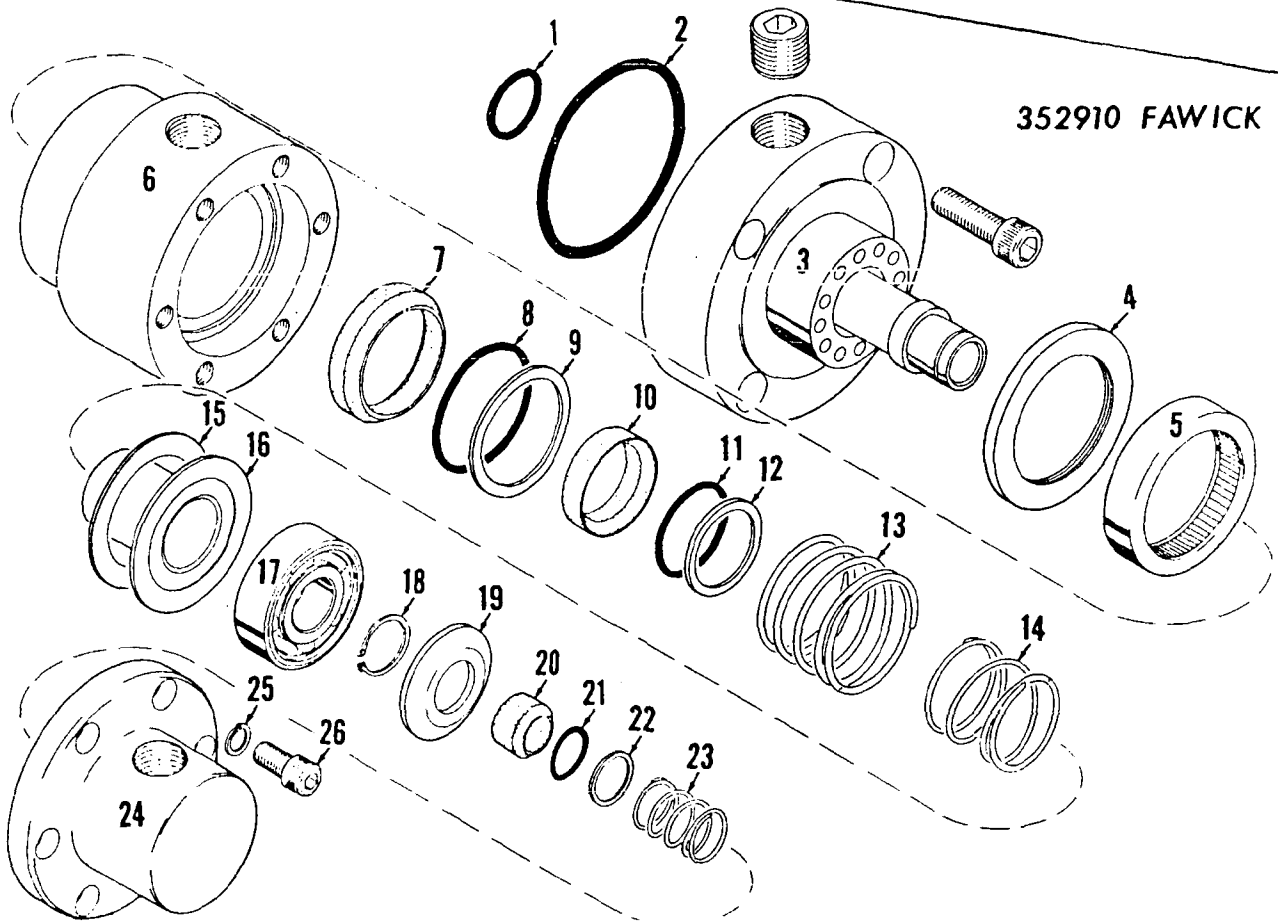


To order lacings see Folio #823

RUN AS FROM MASTER



700705 DEUBLIN



352910 FAWICK

0-92A1

MATERIAL LIST ON BACK

SWIVEL UNION ASSEMBLY

0-92A1

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