

# Manitowoc

## TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

**4000W**

Model

**40569**

Serial Number

**GROUP A = Rotating Structure** (Includes rotating bed, operator's cab, cases, fuel tanks, transfer pump, counterweights, guards, platforms, catwalks, machinery enclosure, horn)

**GROUP B = Upperworks Machinery** (Includes front, rear, and auxiliary drums, boom hoist, swing and drive shafts, hand levers, foot pedals, control linkage, rotation indicators, upperworks hydraulic components, hydraulic piping, hydraulic oil reservoir, lubrication pump and piping, blowers)

**GROUP C = Air Components & Electrical** (Includes control console, air piping, electric wiring, auxiliary light plant and lighting, TV monitoring, compressor and air tank)

**GROUP D = Power Components - Upperworks** (Includes engine or motor, radiator, auxiliary power plant, take off converters and piping, controls, VICON power lowering, torque limiter, hydraulic pumps and piping, fuel piping, battery box)

**GROUP E = Lower Structure & Control** (Includes carbody, crawlers, travel shafts and control, steering travel locks, hydraulic travel, travel power outriggers, carrier, pedestal, lowerworks hydraulic piping, RINGER components, barge mounting and machinery, spud drums)

**GROUP F = Attachments** (Includes booms, jibs, masts, tower, wire rope guides, equalizer, gantry, fairlead, timber guards, boom angle indicator, block-up limit, tag line, hook block, weight ball, upper and lower boom point, wind speed indicator, crowd and retract dipper sticks, dippers, )

**O-NUMBER SECTION =** (Includes lacing drawings and purchased component parts drawings referenced in sections A through F)

*This manual is arranged in sections as listed above. Sections A through F are arranged by group numerical order with an index after each section tab. An alphabetical index for groups A Through F combined is located after the O-number Section. The O-number section is arranged in numerical order by O-number. Following this cover page are the Basic Specifications, Warranty Information, Tool List (if applicable) Outline Dimensions, Weights, and Dealer Listing.*

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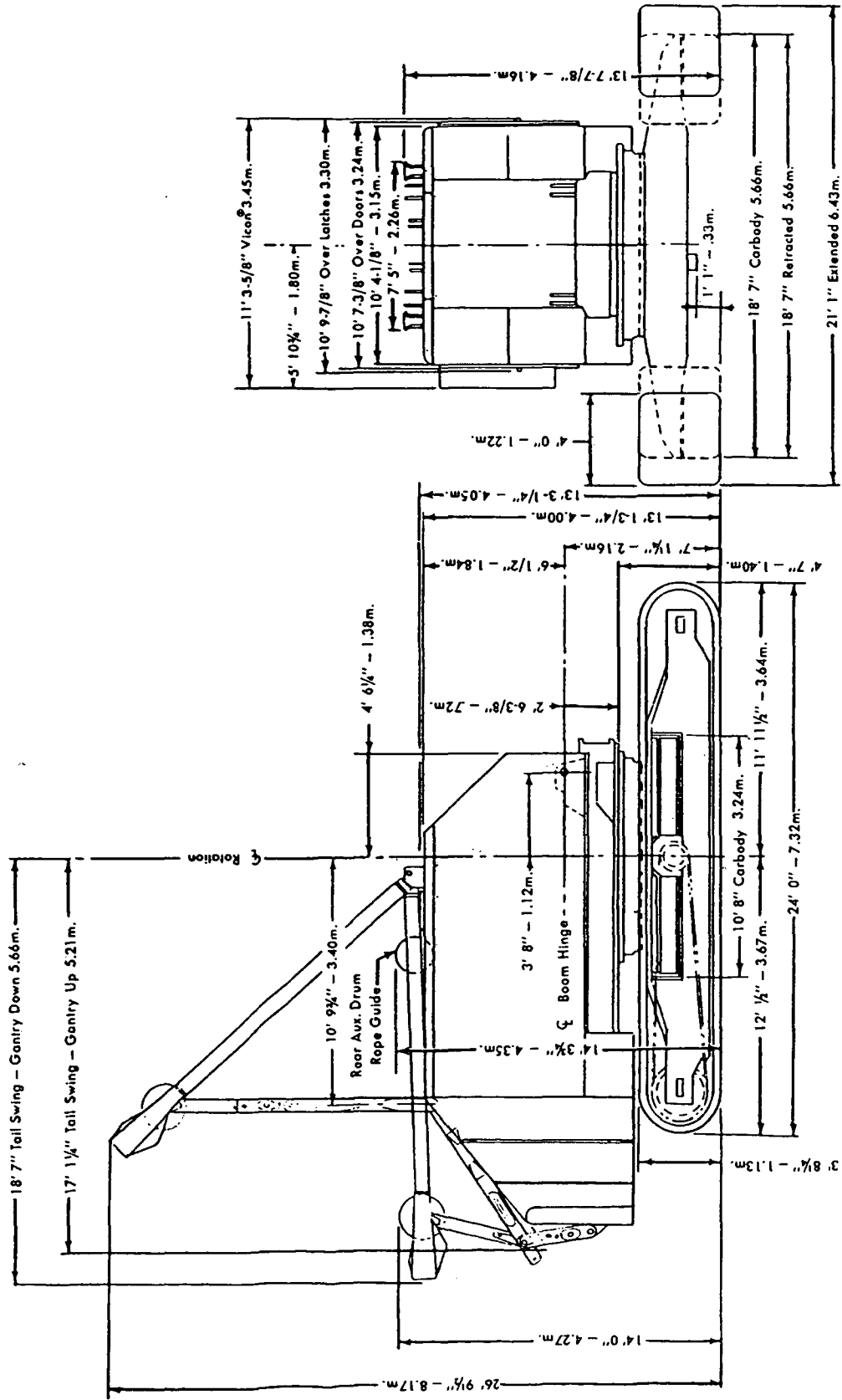
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8-27-71  
5-1-70  
3-21-68  
Drwg. Date 1-24-68

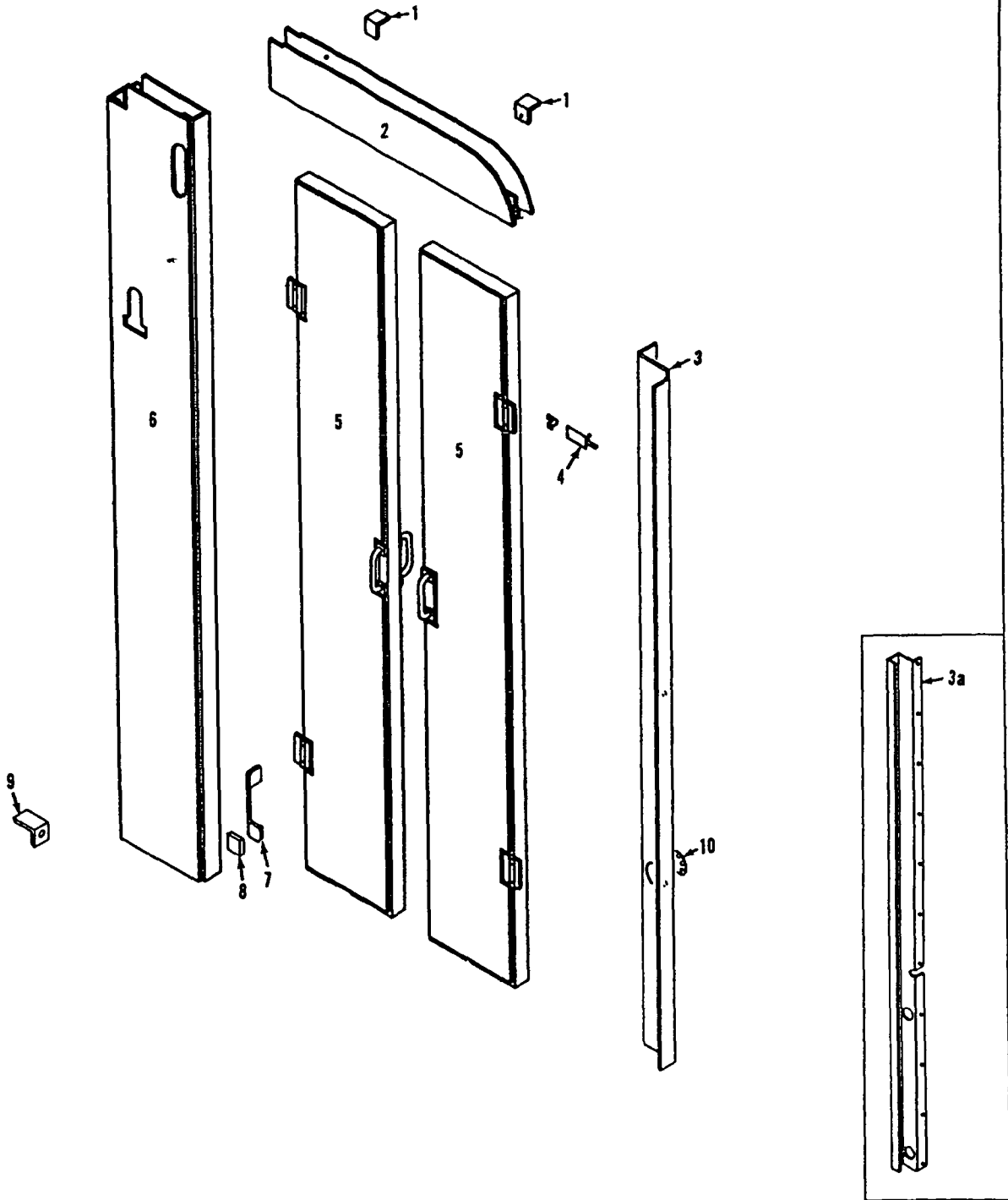
MASTER

92022

92022

OUTLINE DIMENSIONS M4000W SLOPING ROOF

MASTER

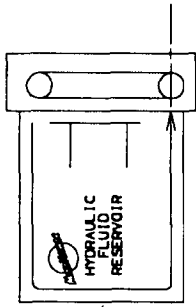
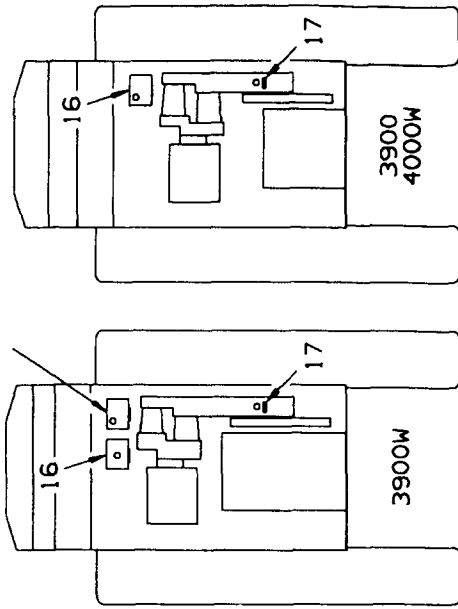




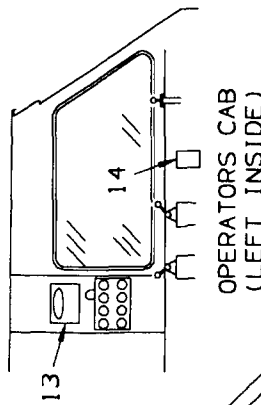
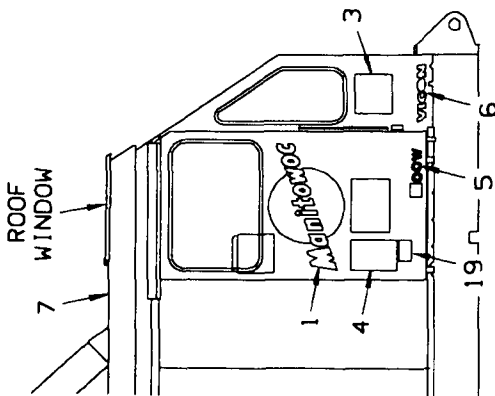


166479C1

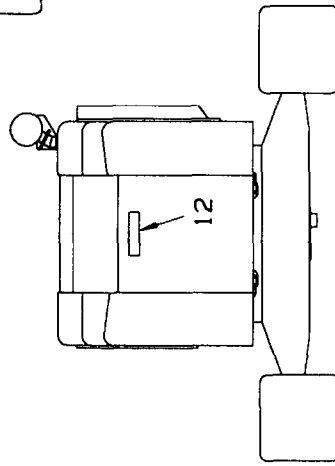
BOOM HOIST  
HYDRAULIC FLUID  
RESERVOIR



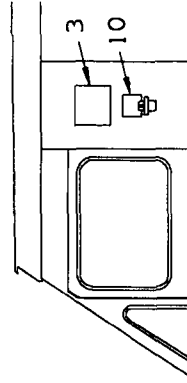
FLUID LEVEL GAUGE  
ON BOOM HOIST  
HYDRAULIC RESERVOIR



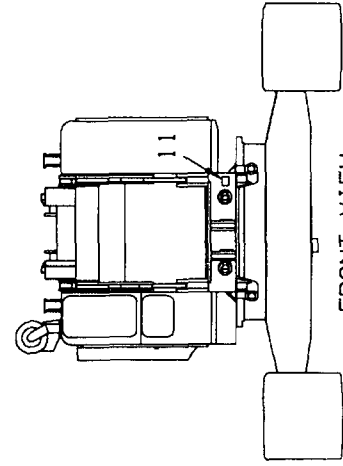
OPERATORS CAB  
(LEFT INSIDE)



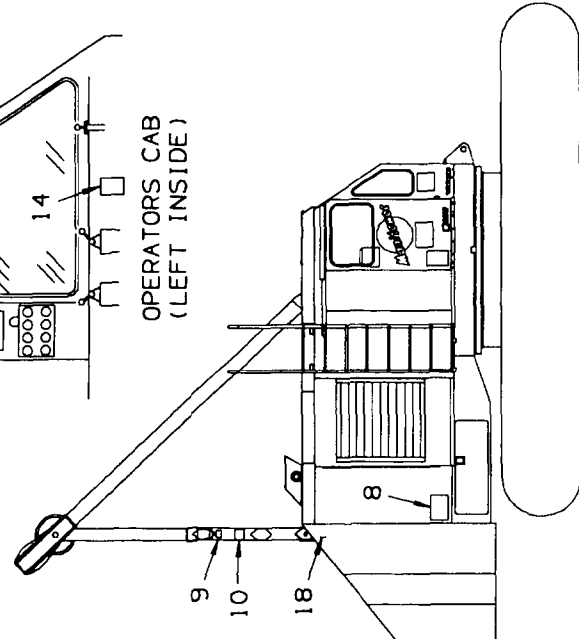
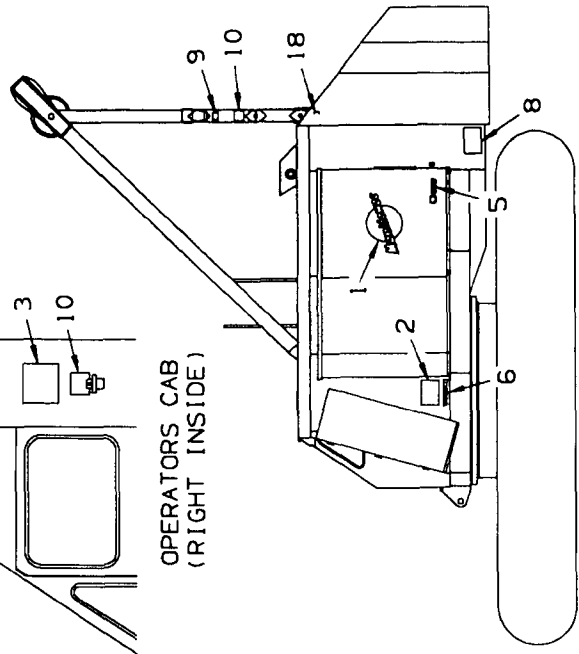
REAR VIEW



OPERATORS CAB  
(RIGHT INSIDE)



FRONT VIEW



MATERIAL LIST ON BACK

NAMEPLATES AND DECALS - 3900, 3900W, 4000W

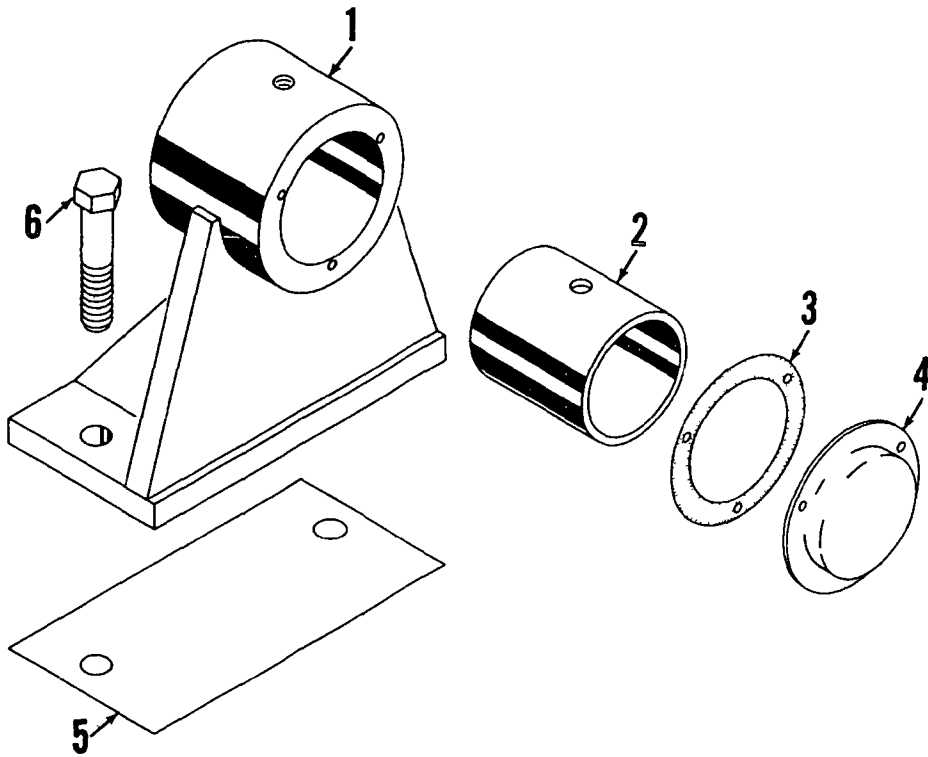
GROUP B - Upperworks Machinery

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MASTER



23806 A-1

ILLUST No 23806-A-1

MATERIAL LIST ON BACK

OUTBOARD BEARING

NOTE: [A] ADD WASHERS 144434 AND 144435 AS REQUIRED TO LOCATE DRUM BRAKE BAND ON BRAKE FLANGE BETWEEN RAIN GROOVE AND OUTBOARD EDGE.

NOTE: [B] DO NOT USE NUTS OR JAM NUTS ON UNDERSIDE OF BRAKE BAND HANGER SPRING ASSEMBLIES

ASSEMBLY NOTE  
BE SURE SET SCREW IN LEVER 22598 ENGAGES HOLE IN SHAFT 17990

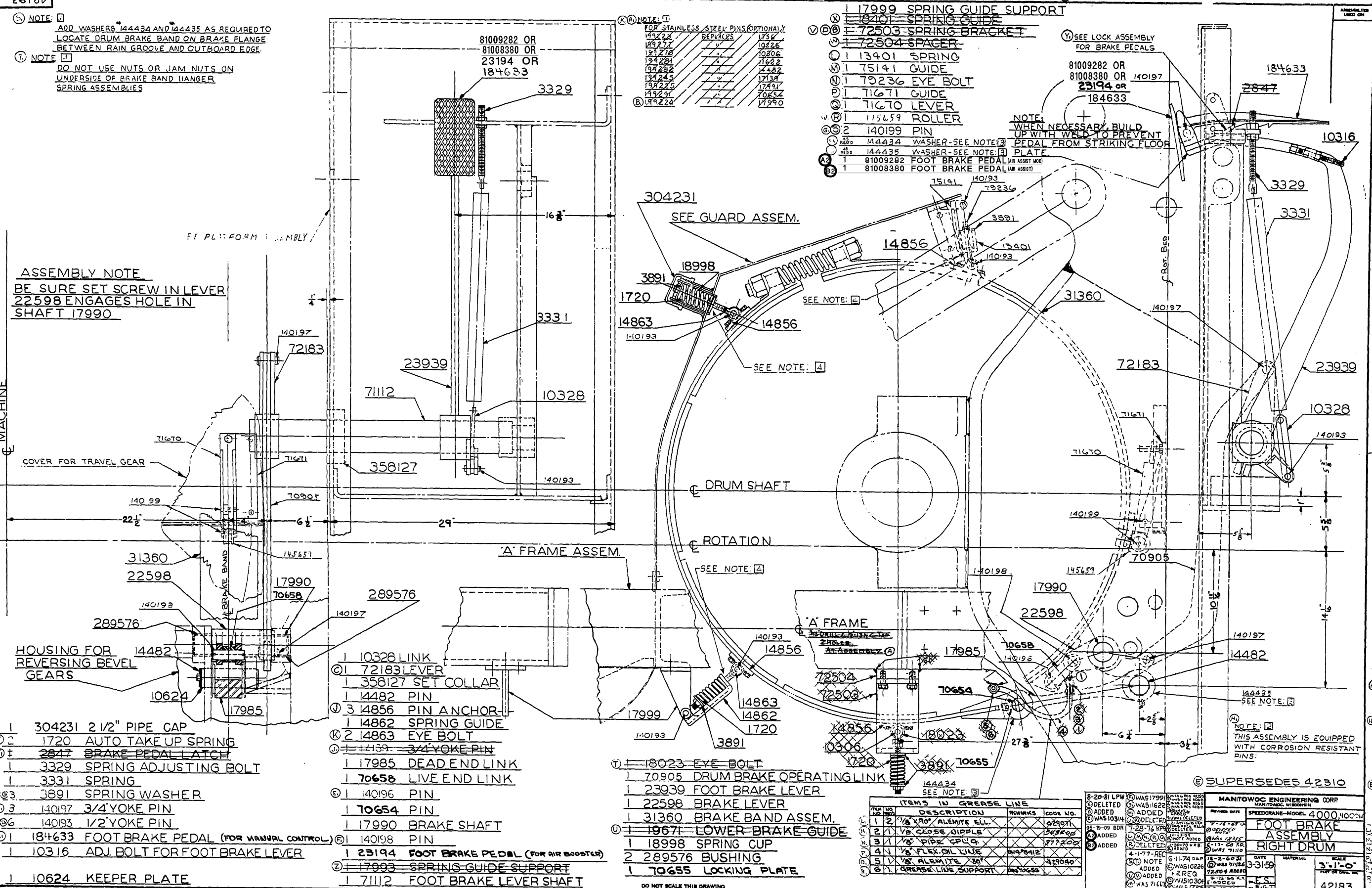
NOTE: [C] FOR STAINLESS STEEL PINS (OPTIONAL) REPLACES

149222	1750
149277	10226
151278	11622
194281	14482
194282	17131
194245	17491
194225	70654
19231	70652
149224	17990

- 17999 SPRING GUIDE SUPPORT
- 16401 SPRING GUIDE
- 72503 SPRING BRACKET
- 72504 SPACER
- 13401 SPRING
- 175141 GUIDE
- 179236 EYE BOLT
- 71671 GUIDE
- 71670 LEVER
- 115659 ROLLER
- 2 140199 PIN
- 144434 WASHER-SEE NOTE: [3]
- 144435 WASHER-SEE NOTE: [3]
- 1 81009282 FOOT BRAKE PEDAL (AIR ASSIST MOD)
- 1 81008380 FOOT BRAKE PEDAL (AIR ASSIST)

NOTE: [D] WHEN NECESSARY, BUILD UP WITH WELD TO PREVENT PEDAL FROM STRIKING FLOOR

SEE LOCK ASSEMBLY FOR BRAKE PEDALS



- 1 304231 2 1/2" PIPE CAP
- 1720 AUTO TAKE UP SPRING
- 2847 BRAKE PEDAL LATCH
- 3329 SPRING ADJUSTING BOLT
- 3331 SPRING
- 3891 SPRING WASHER
- 140197 3/4" YOKE PIN
- 140193 1/2" YOKE PIN
- 184633 FOOT BRAKE PEDAL (FOR MANUAL CONTROL)
- 10316 ADJ. BOLT FOR FOOT BRAKE LEVER
- 10624 KEEPER PLATE

- 1 10328 LINK
- 72183 LEVER
- 358127 SET COLLAR
- 14482 PIN
- 3 14856 PIN ANCHOR
- 14862 SPRING GUIDE
- 2 14863 EYE BOLT
- 14159 3/4" YOKE PIN
- 17985 DEAD END LINK
- 70658 LIVE END LINK
- 140196 PIN
- 70654 PIN
- 17990 BRAKE SHAFT
- 140198 PIN
- 23194 FOOT BRAKE PEDAL (FOR AIR BOOSTER)
- 17993 SPRING GUIDE SUPPORT
- 71112 FOOT BRAKE LEVER SHAFT

- 18023 EYE BOLT
- 70905 DRUM BRAKE OPERATING LINK
- 23939 FOOT BRAKE LEVER
- 22598 BRAKE LEVER
- 31360 BRAKE BAND ASSEM.
- 19671 LOWER BRAKE GUIDE
- 18998 SPRING CUP
- 2 289576 BUSHING
- 70655 LOCKING PLATE

ITEMS IN GREASE LINE

ITEM NO.	DESCRIPTION	REMARKS	CODE NO.
1	1/8" X 30" ALEMITE ELL		279071
2	1/8" CLOSE DIPPLE		279072
3	1/8" PIPE CUP		277202
4	1/8" FLEX OIL LINE		279073
5	1/8" ALEMITE 30"		279074
6	1/8" GREASE LINE SUPPORT		279075

8-20-81 LPW

MANITOWOC ENGINEERING CORP  
SPEEDCRANE-MODEL 4000, HOOVER  
FOOT BRAKE ASSEMBLY  
RIGHT DRUM

DATE: 3-31-59  
SCALE: 3"-1'-0"  
PART OF DRAWING NO. 42183

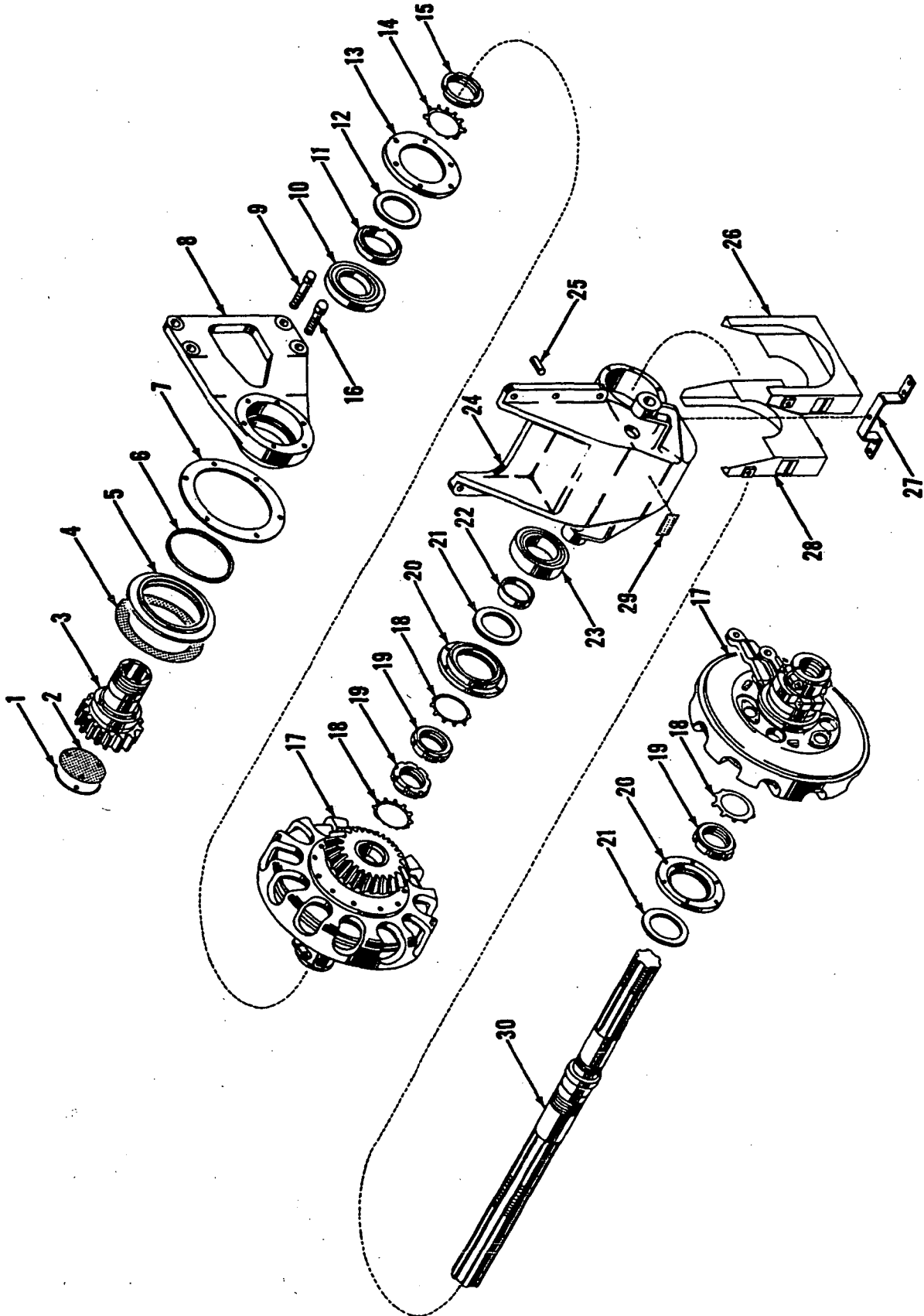
MACHINE

ASSEMBLIES USED ON

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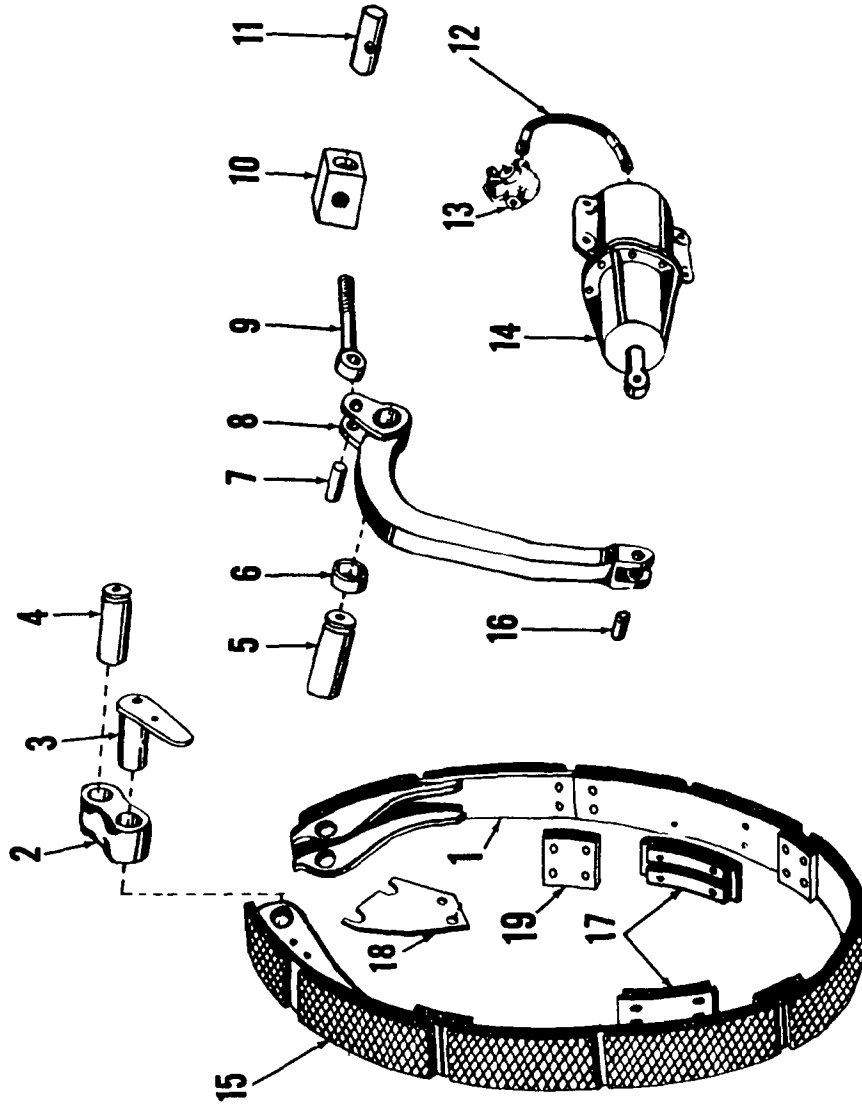


ILLUST. No. 42197 - A-1

MATERIAL LIST ON BACK

CLUTCH SHAFT ASSEMBLY

MASTER



4170282

MATERIAL LIST ON BACK

CLUTCH BAND ASSEMBLY

Use 4238 E2 Back

43132-1 cont.	REV. F	MODEL 3000W-3100-3400-3600-3900-3900T-3900W-4000-4000W
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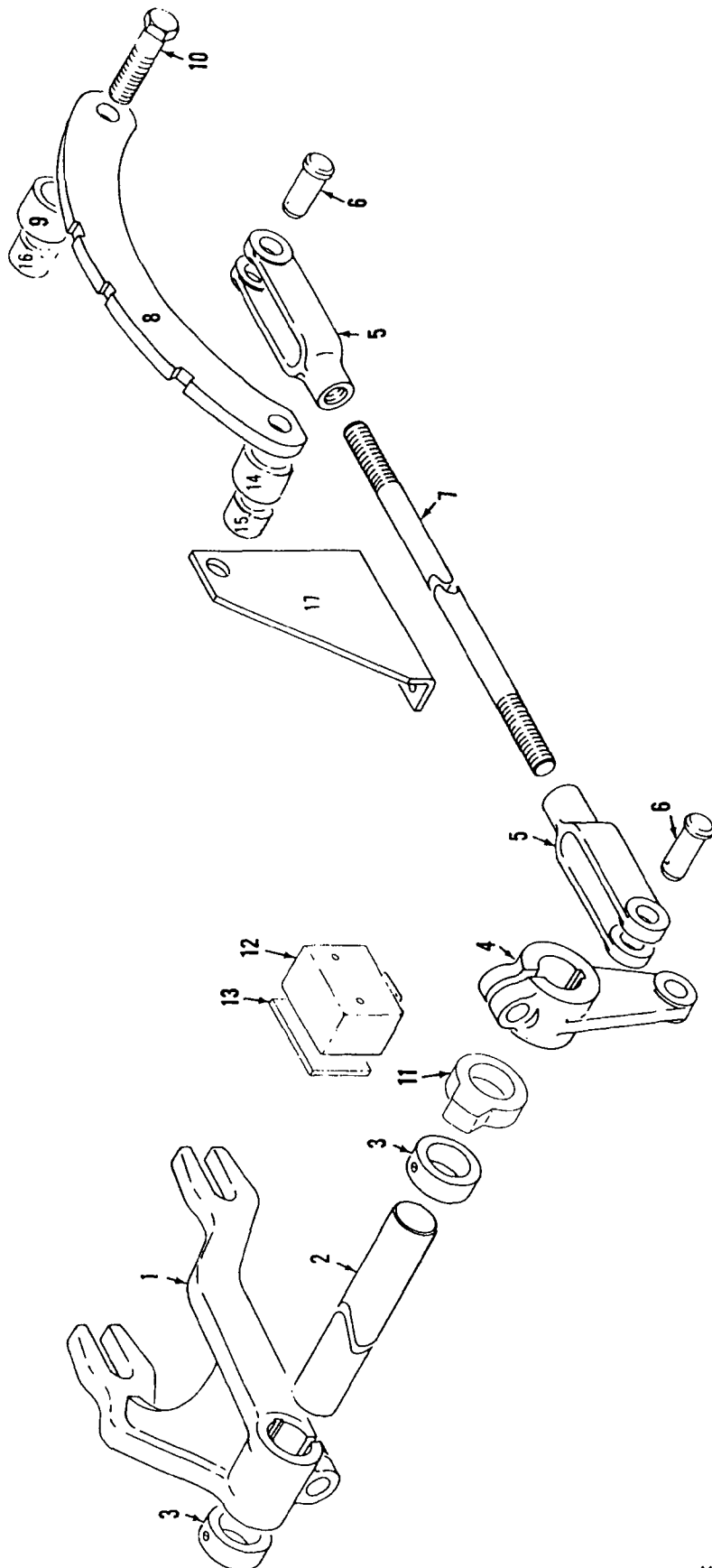
MAIN DRIVE SHAFT  
(VICON)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
34	21733	1	COVER, Bearing w/capscrews, hex nuts, lockwashers and gr. fitting	
	257202	2	BOLT, Coupling	
35	22482	1	HOUSING, Bearing w/capscrews, hex nuts and lockwashers	
36	224909	1	BEARING, Roller	
37	15535	1 set	SHIM (1/16" set)	
38	21734	1	COVER, Bearing w/capscrews, hex nuts, lockwashers and gr. fitting	
	257202	2	BOLT, Coupling	
39	15548	1	SPACER	
40	15551	1	NUT, Split w/capscrews and elastic stop nuts	
41	73236	1	SPACER	
45	224323	1	BEARING, Ball	
46	20163	1	HOUSING, Bearing w/gr. fitting (M3000-3600 incl.)	
46	23697	1	HOUSING, Bearing w/gr. fitting (M3900-3900W-3900T-4000-4000W)	
47	11535	1	NUT, Lock	
48	11536	1	PLATE, Locking w/capscrews (See Note 2)	
49	10526	1	COVER, Bearing w/capscrews and lockwashers (See Note 2)	
50	71084	2	BOLT, Coupling w/elastic stop nut (Housing No. 23697-M3900-3900T-4000-4000W)	
50	12020	1	BOLT, Coupling w/hex nuts (Housing No. 23697-M3900W)	
50	71084	1	BOLT, Coupling w/elastic stop nut (Housing No. 23697-M3900W)	
50	16786	2	BOLT, Coupling w/elastic stop nut (Housing No. 20163)	
55	596934	1	RING, Spirolox	
<u>THE FOLLOWING PARTS ARE FOR CRANE, DRAG, CLAM TRENCH HOE ONLY. FOR SHOVEL CLUTCH SEE SH. NO. 3</u>				
42	18872	1	GUARD, Spline	
43	18731	1	SPACER	
44	10525	1	COVER, Bearing w/capscrews and lockwashers	
<u>FOR INDEPENDENT SWING (NOT INCL. M3900T)</u>				
51	24718	1	SPROCKET, Drive (bolt to outer sprocket) (46T.)	
52	256245	6	BOLT, Coupling	
	548367	6	NUT, Elastic Stop	
51	91684	1	SPROCKET, Drive (bolt to outer sprocket) (71T.)	
52	257247	6	BOLT, Coupling	
	548367	6	NUT, Hex	
<u>FOR CHAIN DRIVEN IND. BOOM HOIST (NOT INCL. M3900T)</u>				
51	90618	1	SPROCKET, Drive (1-1/2"P. - 2 strand 59T) (bolt to outer sprocket)	
52	257247	6	BOLT, Coupling	
	548367	6	NUT, Elastic stop	
51	90637	1	SPROCKET, Drive (1-1/4"P. - 2 strand 45T) (bolt to outer sprocket)	
52	257247	6	BOLT, Coupling	
	548367	6	NUT, Elastic Stop	

REV. F	43132-1 cont.
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PLEASE GIVE MACHINE S/N W/ORDER

CPT  
Run as a Front  
43132 Fl Cont -1



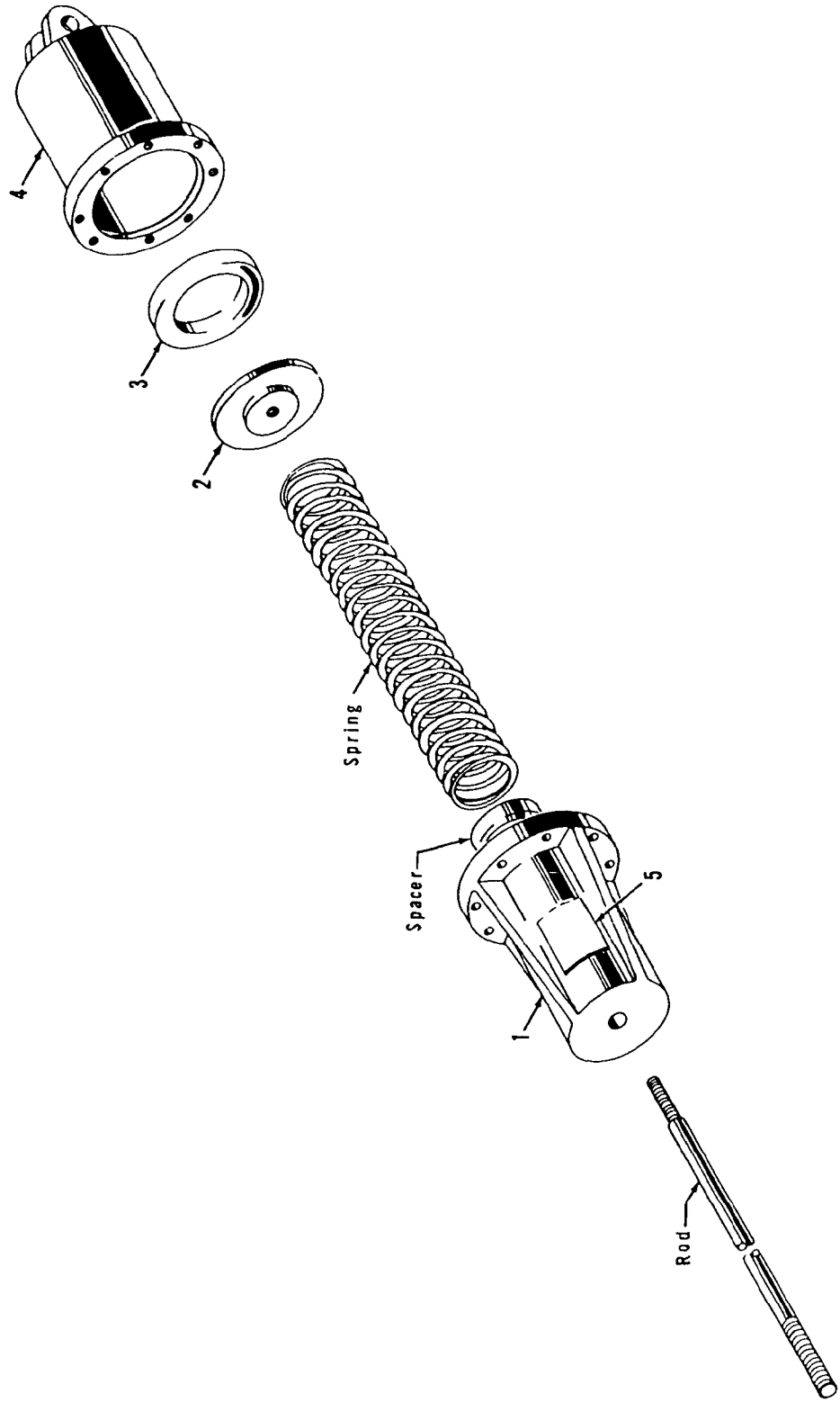
48187C1

MATERIAL LIST ON BACK

SLIDE PINION CONTROL



MASTER



18119581

MATERIAL LIST ON BACK

AIR CYLINDER

GROUP C - Air Components & Electrical

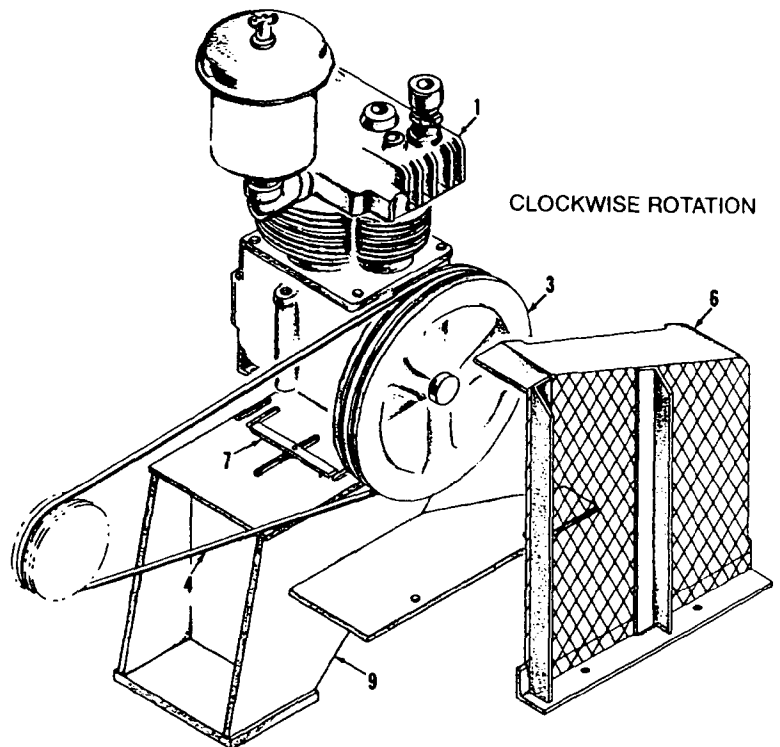
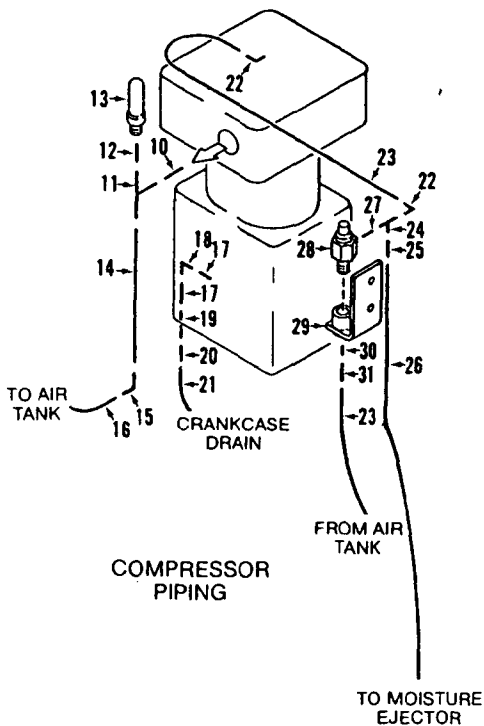
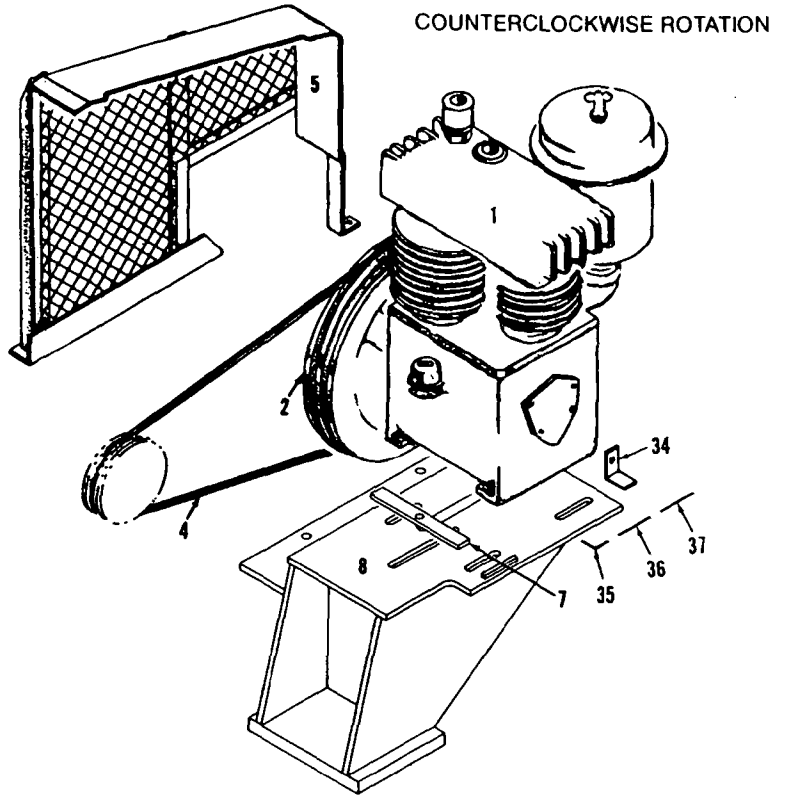
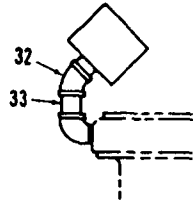


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C1.1

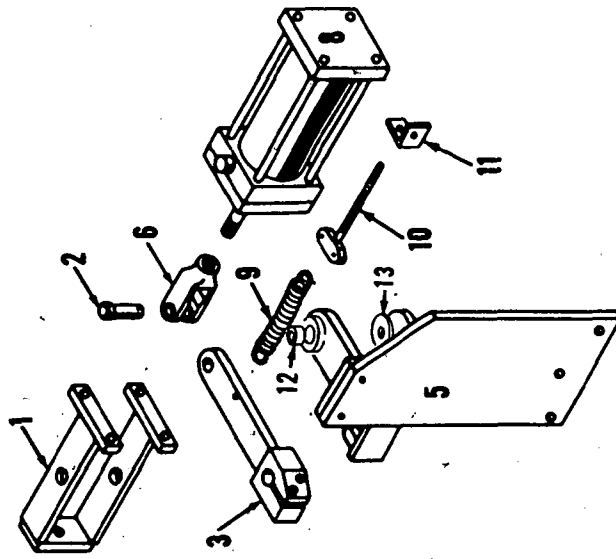


18253681

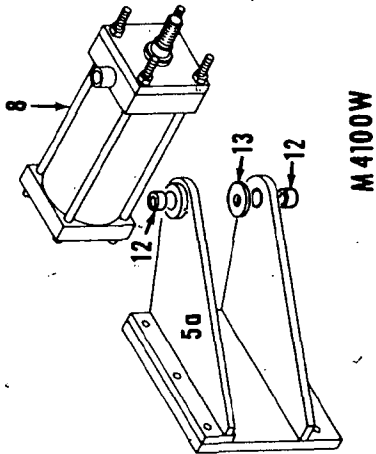
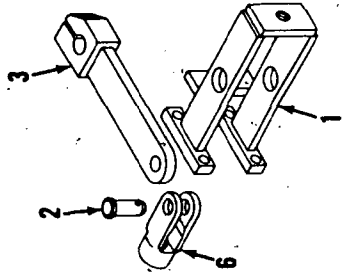
MATERIAL LIST ON BACK

COMPRESSOR

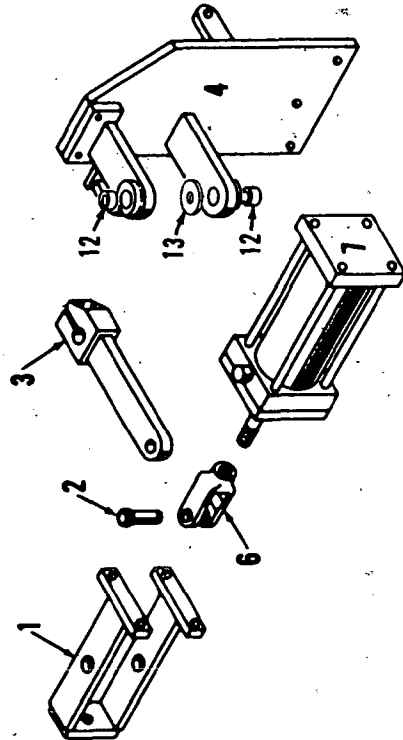
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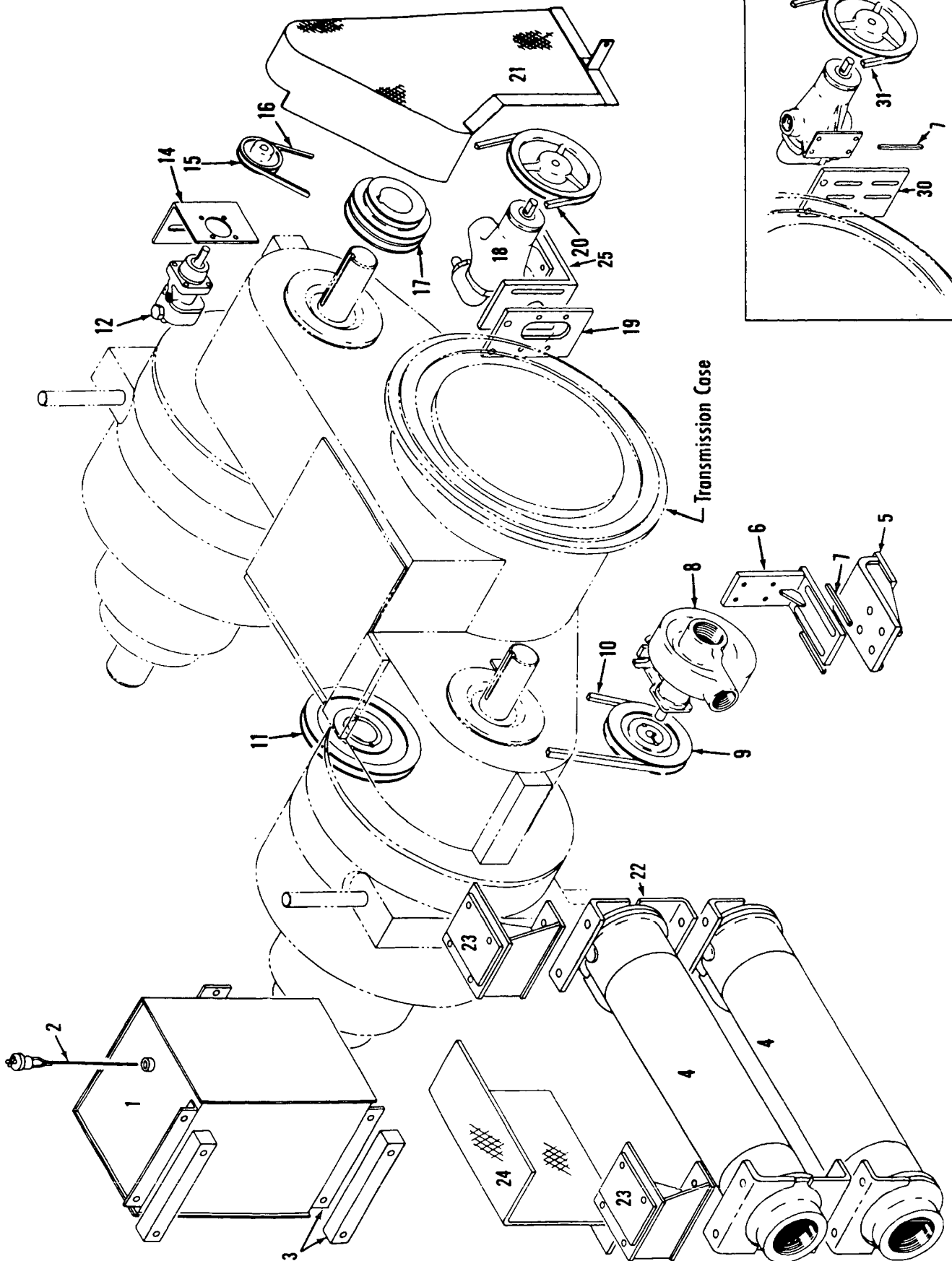
M 3000 - 4000W INCL.



M 4100W



MASTER



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48648-5 Cont.	REV. D	MODEL 4000W, SC150
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LUBRICATION PIPING

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
50	571705	1	<u>MACHINES W/OUT FORCED OIL LUBRICATION TO CONVERTERS PLUG (1")</u>	
51	427090	1	<u>MACHINES W/3/4" NPT PORT FILTER W/OR W/OUT ELEVATED CAB</u>	
52	73396	1	FILTER, Oil (3/4" NPT Ports)	
22	543740	1	BRACKET W/Mach. screws, hex nuts and lockwashers	
53	543740	1	NIPPLE (3/4" x 1-1/2")	
42	679304	1	TEE (3/4")	
54	288751	1	BUSHING (3/4" x 1/4")	
32	543402	2	NIPPLE, Close (1/4")	
15	406952	2	ELBOW (1/4")	
16	288766	1	BUSHING (3/4" x 1/8")	
	701017	1	UNIT, Pressure Sending	
			<u>MACHINES W/1" NPT PORT FILTER AND DIRECT READING GAUGE W/OR W/OUT ELEVATED CAB</u>	
26	679359	1	TEE (1" x 3/4" x 3/4")	
22	543740	1	NIPPLE (3/4" x 1-1/2")	
27	406645	1	ELBOW (3/4" x 1/4")	
55	429621	1	CONNECTOR, Male (3/8" O.D. Tube 1/4" NPT)	
56	486056	1	TUBING, Plastic (3/8" O.D. - specify length)	
57	429624	1	CONNECTOR, Male (3/8" O.D. Tube 1/8" NPT)	
58	377200	1	COUPLING (1/8")	
59	460113	1	GAUGE, Pressure (in operator's compartment)	
60	288790	1	BUSHING (1/4" x 1/8")	
16	701017	1	UNIT, Pressure Sending	
			<u>MACHINES W/VERTICALLY MOUNTED OIL PUMP</u>	
61	429555	1	UNION, 90° swivel adapter (1" male NPT 1" female NPSM)	
62	429598	1	UNION, 90° swivel adapter (1" male NPT 3/4" female NPSM)	
63	14615	1	HOSE, Flex (3/4" I.D. 4'6" - 1.3716 m)	
			<u>MACHINES W/VERTICALLY MOUNTED OIL PUMP W/OIL TRAP</u>	
7	406956	2	ELBOW (1")	
64	543809	1	NIPPLE (1" x 4")	
6	543406	1	NIPPLE, Close (1")	

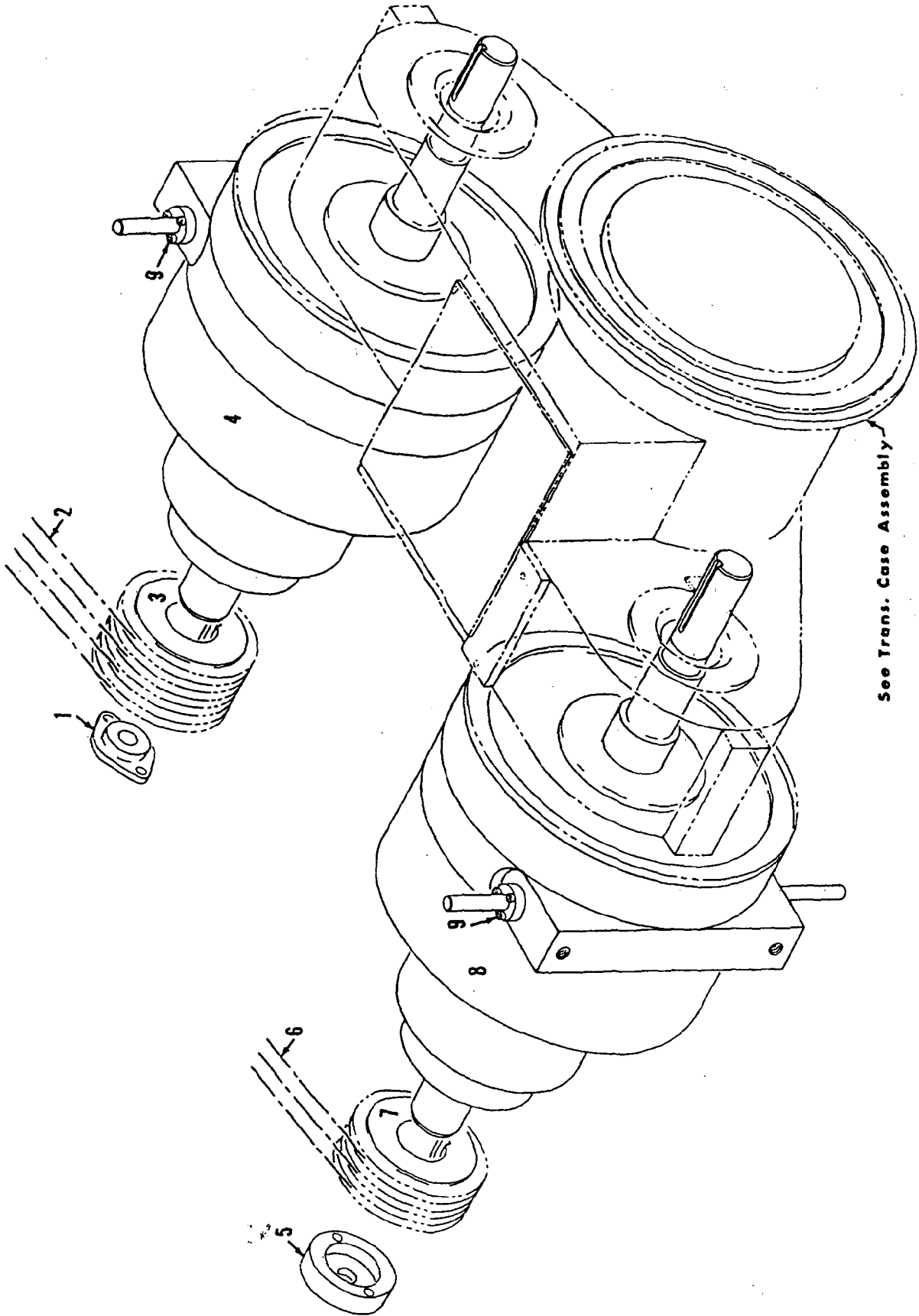
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REV. D	48648 - 5
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PLEASE GIVE MACHINE S/N W/ORDER

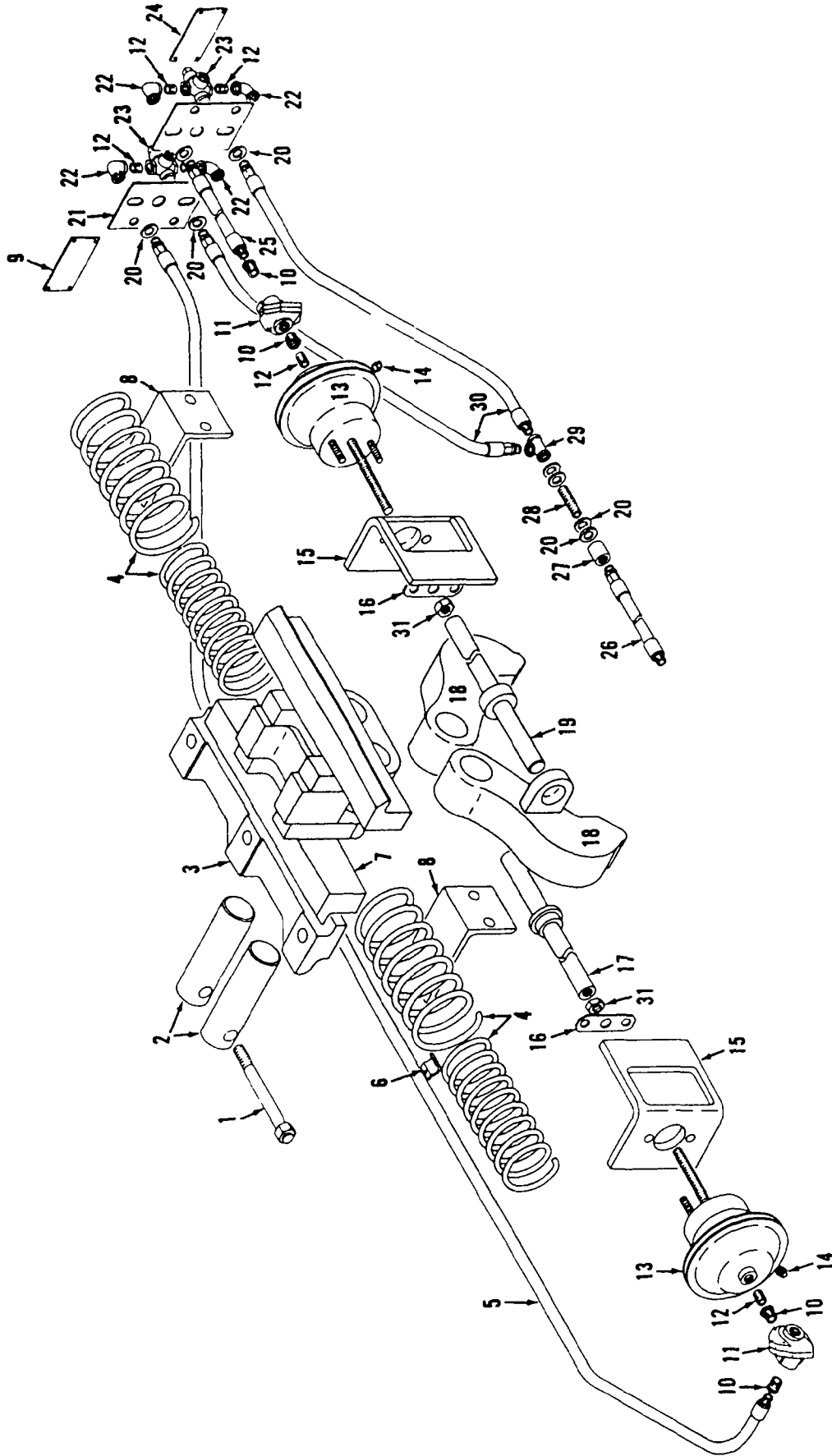
MASIER Run as Front  
48648 D5 cont'd.

MASTER



See Trans. Case Assembly

MASTER



MATERIAL LIST ON BACK

TRAVEL LOCK

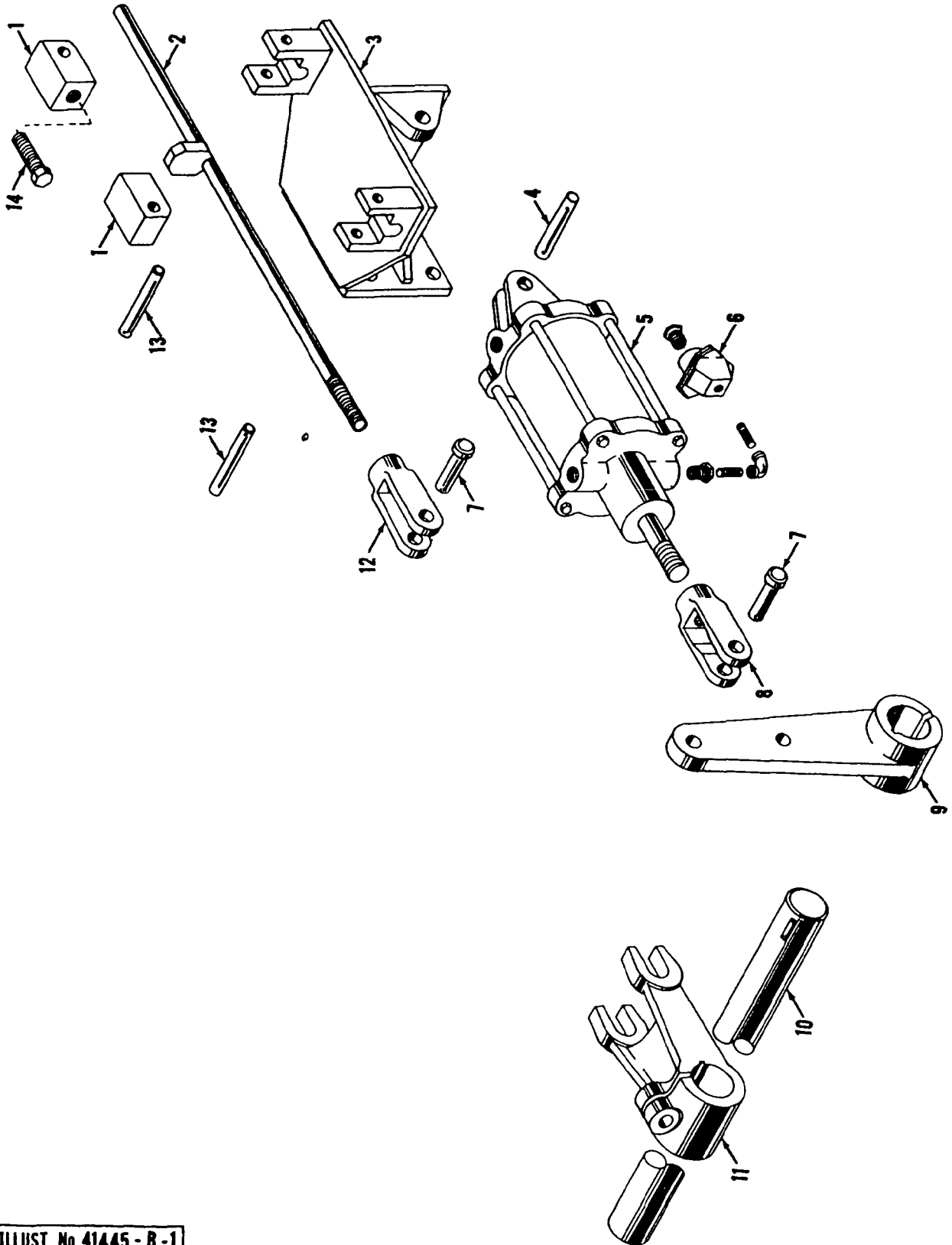
31743-1 Back

50796A1

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MASTER

Back

ILLUST No 41445-B-1

MATERIAL LIST ON BACK

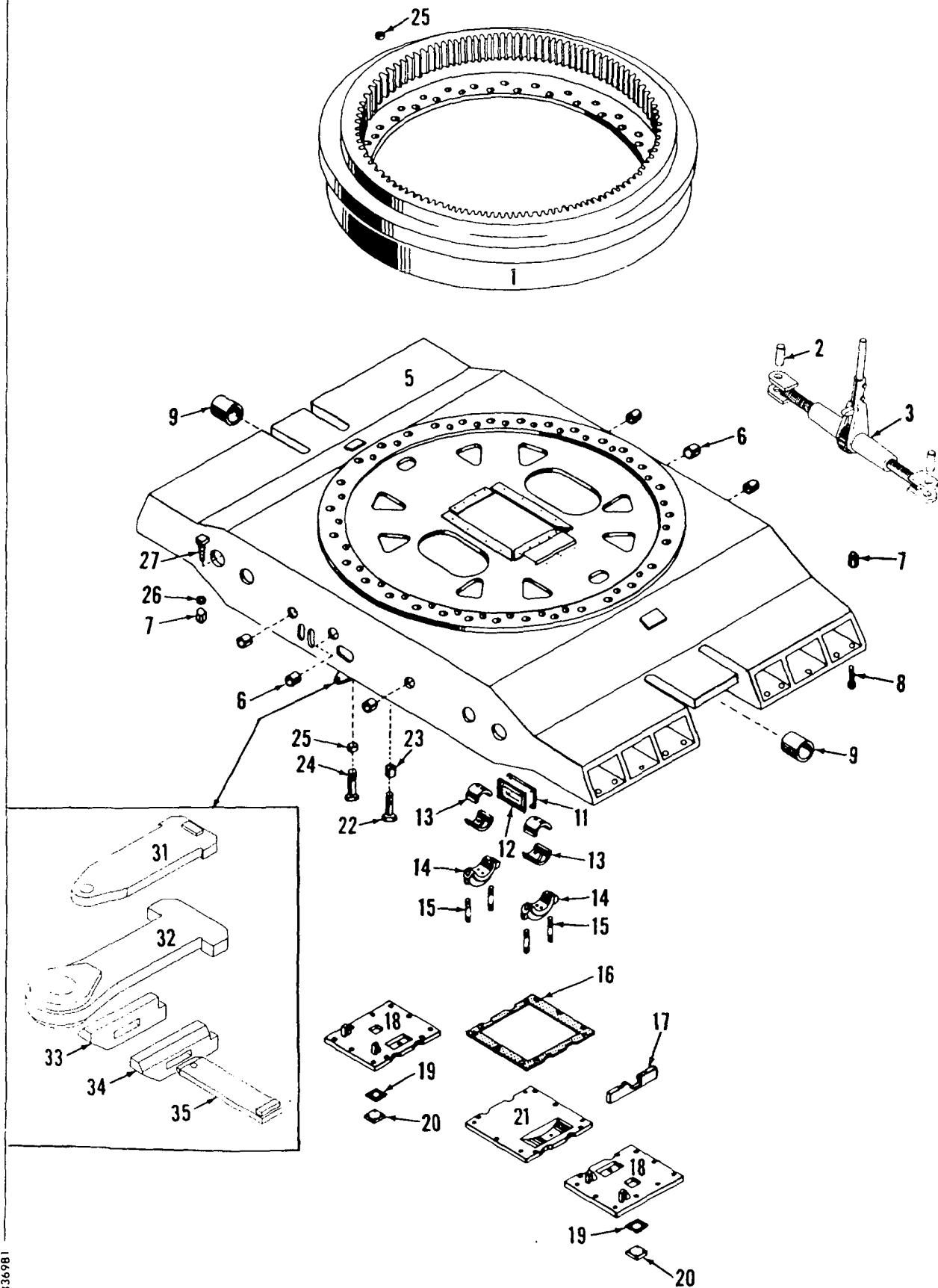
STEERING CONTROL ASSEMBLY - ROTATING BED

17 20  
se 42

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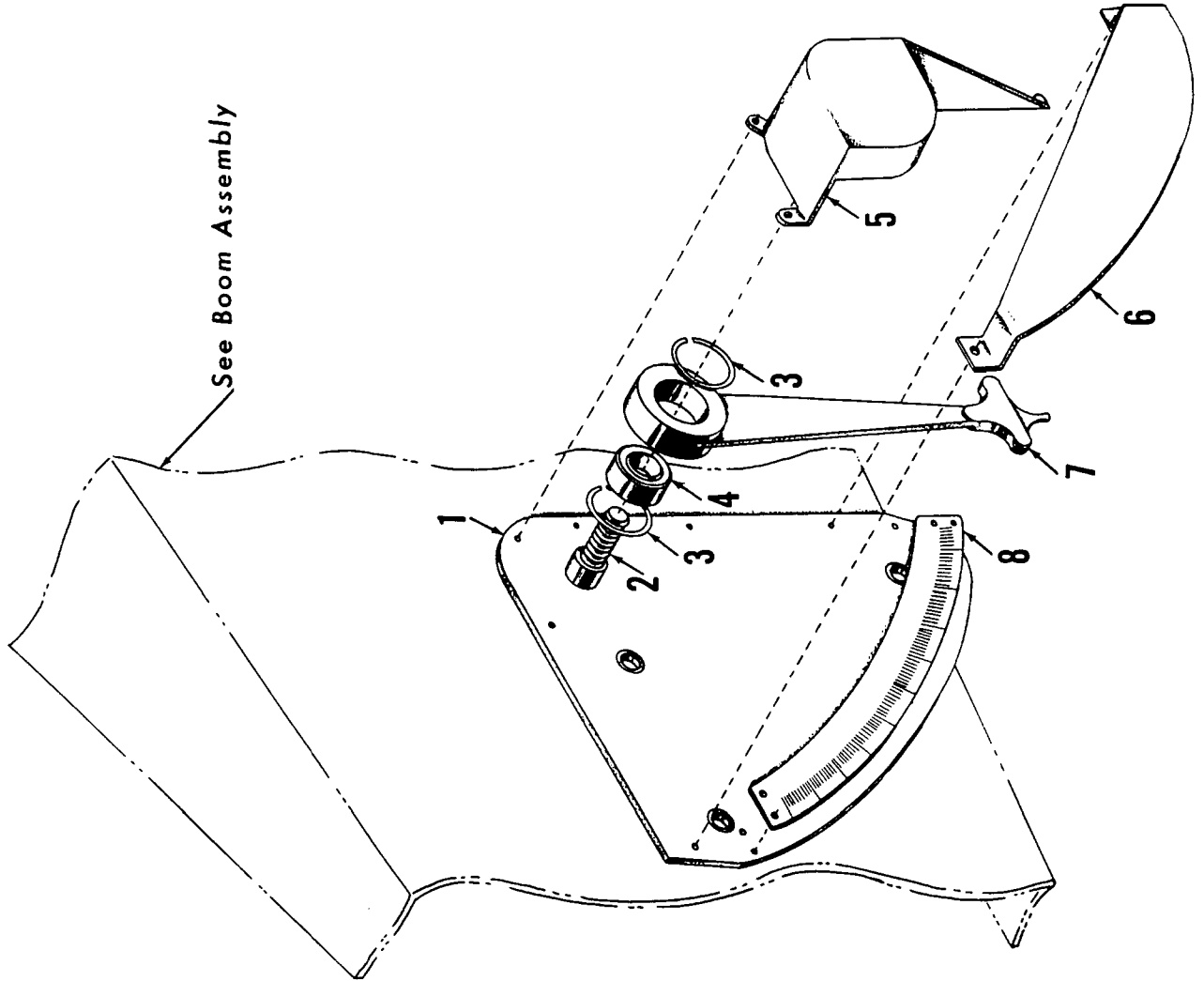
Manitowoc, Wisconsin



4336981

MATERIAL LIST ON BACK

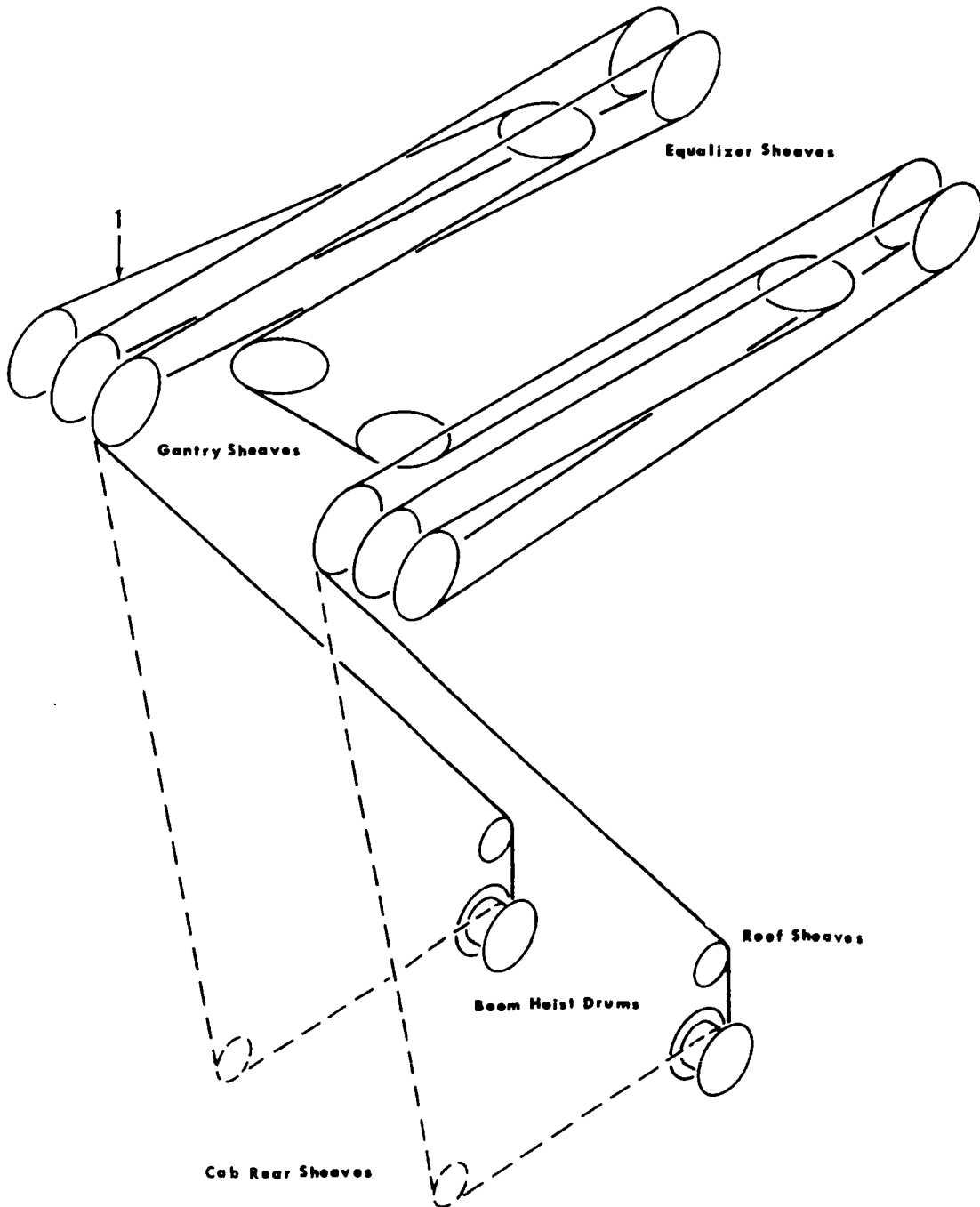
CARBODY



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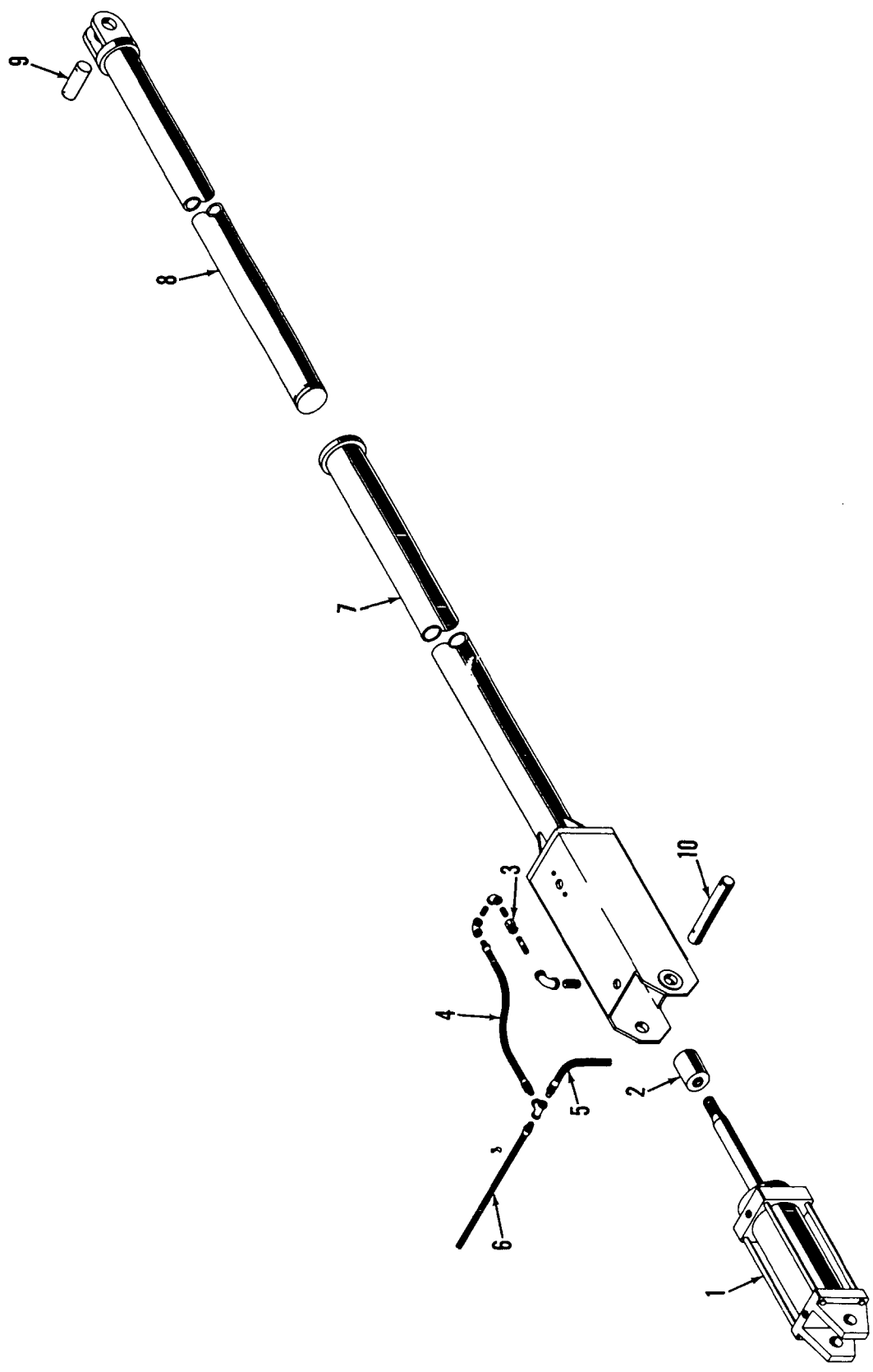


48168A2

MATERIAL LIST ON BACK

BOOM HOIST REEVING

MASTER



49321A1

49321A1

MATERIAL LIST ON BACK

TELESCOPIC AIR CUSHIONED BOOM STOP

**A**

**A** NOTE:  
SET SCREWS TO BE REMOVED  
FROM BOTH BEARINGS.

**B**

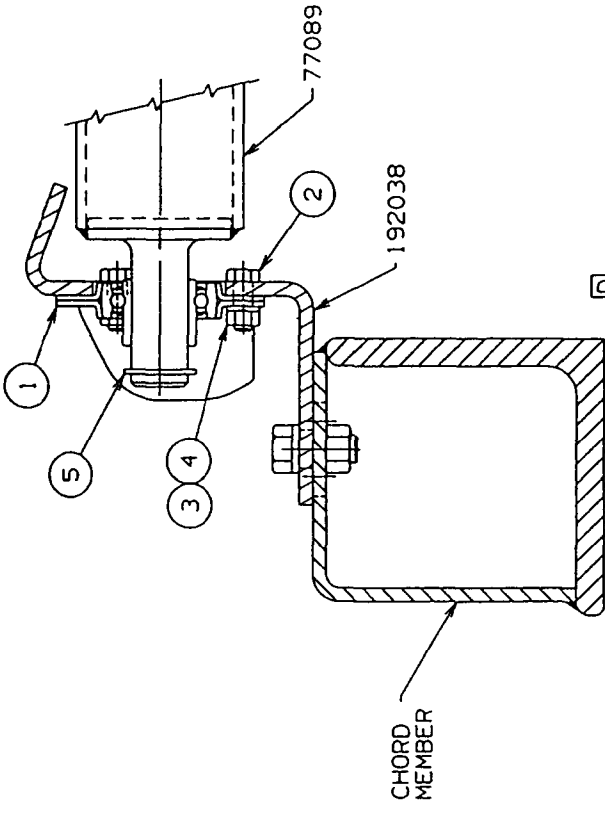
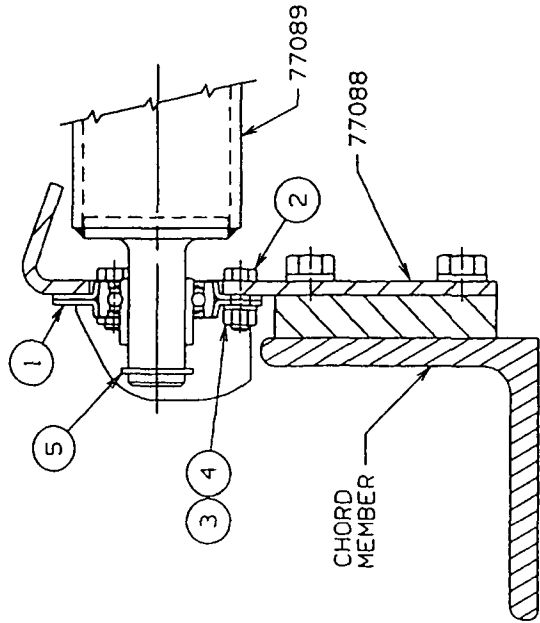
**B** 1 BEARING BRACKET 192038  
REO'D FOR USE ON INSERTS  
33426, 50609, 623525, 623526,  
623527, 623528, 623529, 623530,  
623531, 623532, 623533, 623534,  
623535, 623536, 623537, 623538,  
623545, 623564, 623579, 623580,  
& 623586 WITH TIMBER BRACKETS

**BILL OF MATERIAL**

ITEM NO.	SEC. NO.	DESCRIPTION	LENGTH IN.	MATERIAL	CORE NO. OR Dwg. No.	ASSEMBLIES USED ON
1	2	BEARING. #F116 "NICE"			224218	43698
2	6	SCR. HEX. HD. CAP .312-18UNC-2A X .88 LG.			612404	49368 49377 49727
3	6	NUT, HEX .312-18UNC-2B			546053	65173
4	6	WASHER, LOCK .312			710303	65156 49379
5	2	RING, RET. TRUARC			596823	65388
1		ROLLER			77089	65415
2		BEARING BRACKET			77088	
2		BEARING BRACKET			192038	

OR

REVISIONS  
10-3-66 CEF  
A NOTE  
REVISED  
PC. S. ADDED  
1-29-68 LJE  
REVERSED  
POSITION  
OF HEX SCR  
7-19-82 CRP  
REDRAW CADAM  
CK:LS  
APP: PWR  
1-21-98 DM  
B/C ADDED  
D VIEW ADDED



SCALE  
5 = 1 FT  
DR: RLT  
DC: EGT  
APP

77090

**Manitowoc Cranes, Inc.**  
Manitowoc, Wisconsin  
MOOD. 4000, 4000W

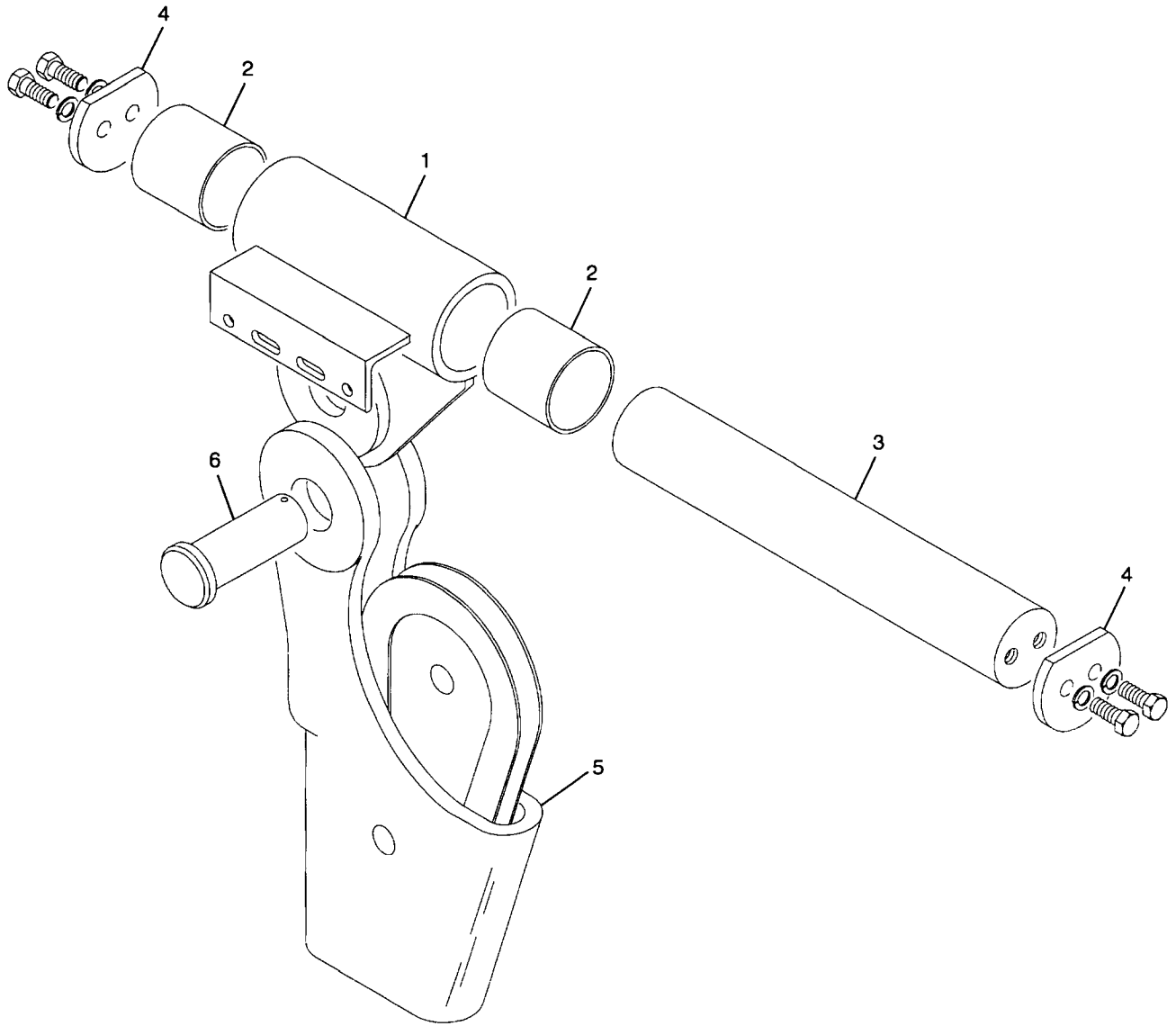
WIRE ROPE ROLLER  
GUIDE ASSEMBLY  
#22 BOOM

DATE  
9-15-65

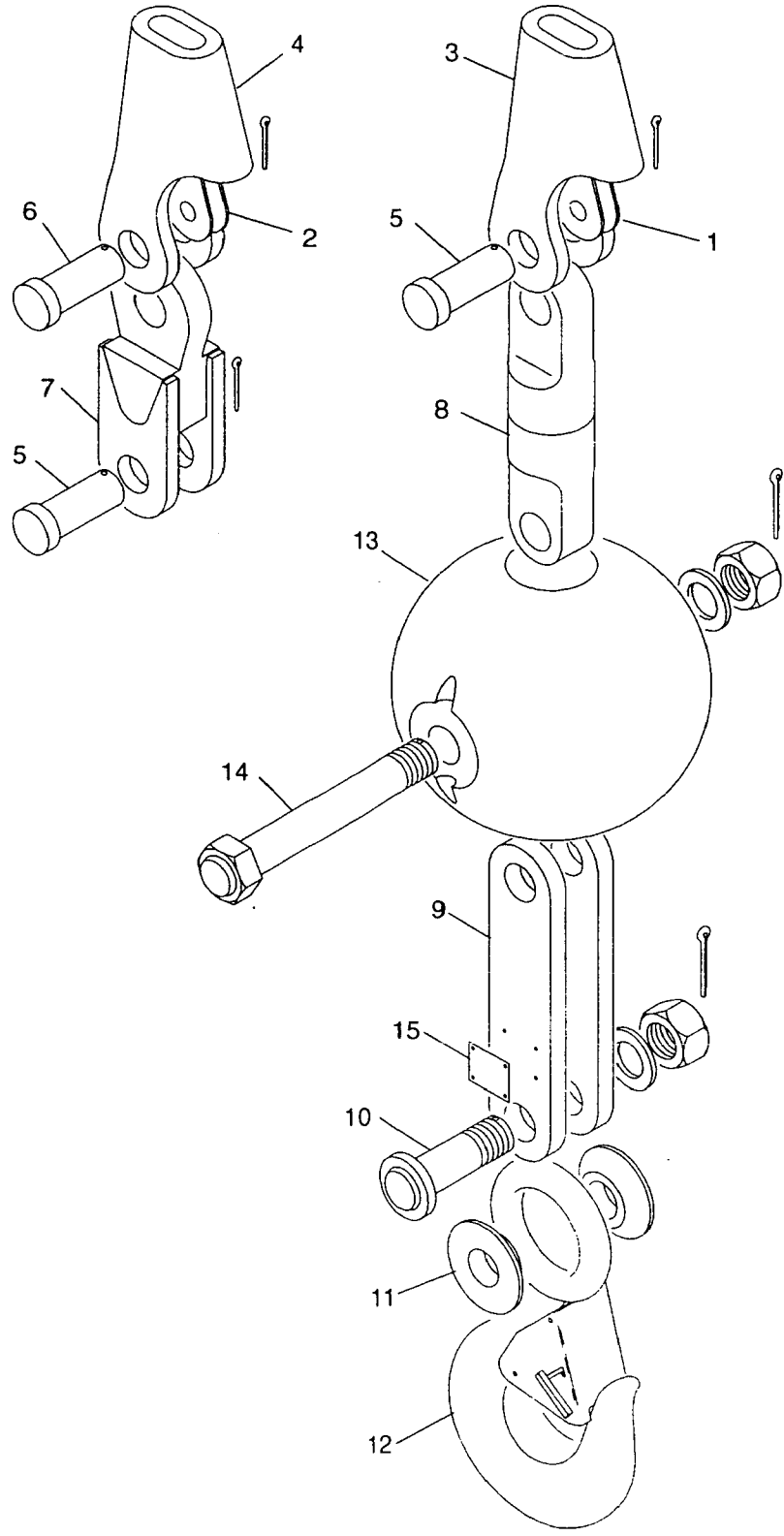
PATTERN NO.

DWG. NO.  
77090

DO NOT SCALE THIS DRAWING



ASSEMBLY	REVISION
<b>90317</b>	<b>A</b>

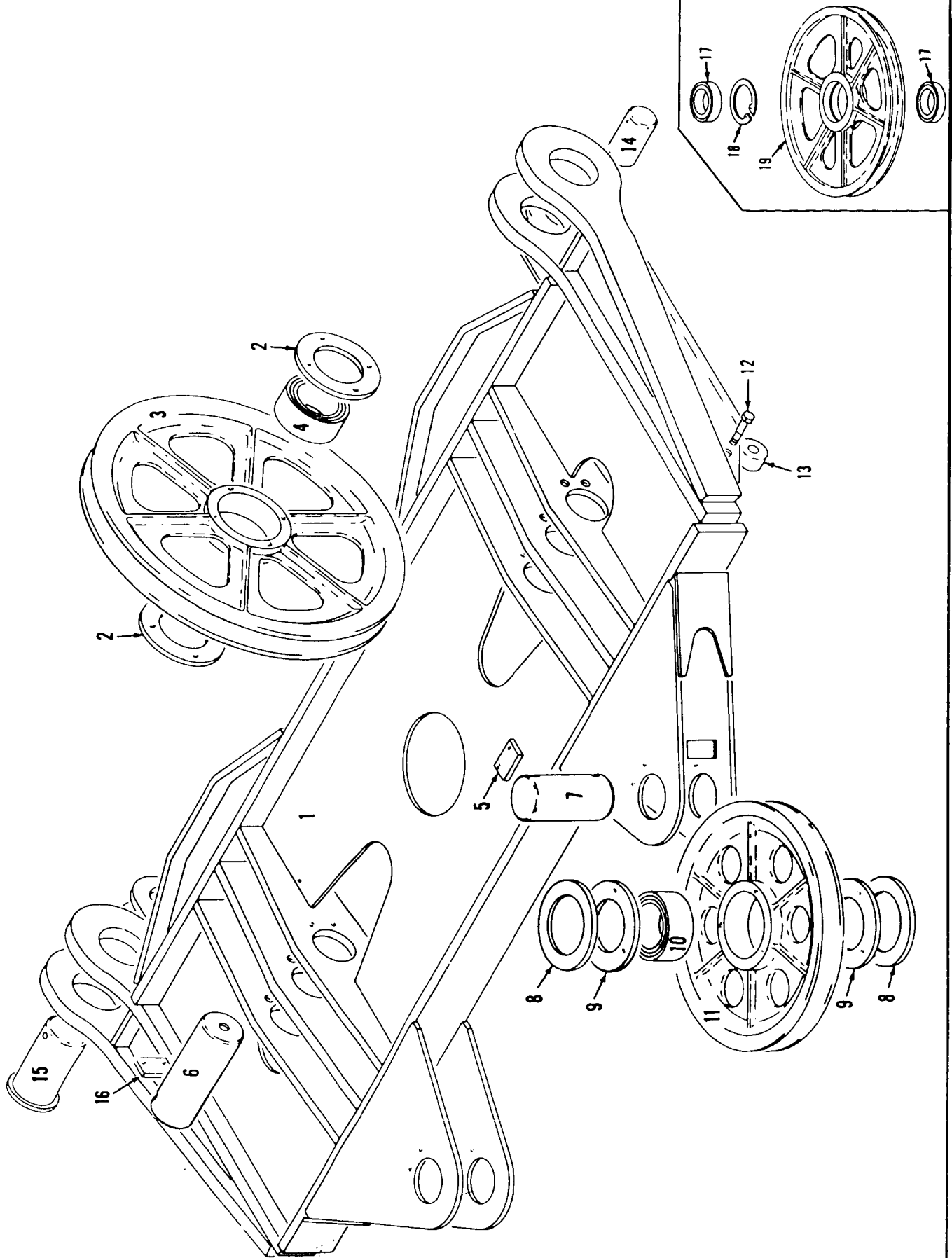


ASSEMBLY  
**95111**

REVISION  
**C**

**HOOK & WEIGHT BALL, 15 TON**

MASTER



18173581

MATERIAL LIST ON BACK

EQUALIZER

**MANITOWOC ENGINEERING CO.**

Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin 54220



**TUBING** (soft copper)

Code No.	Tube O.D.
696205	3/16
696210	1/4
696214	5/16
696216	3/8
696218	1/2
696219	5/8
696220	3/4



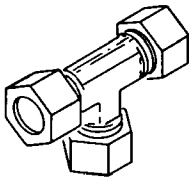
**NUT**

Code No.	Tube O.D.
424603	3/8
424604	1/2
424605	3/4
424633	5/16
424634	1/4
424635	3/16



**FERRULE**

Code No.	Tube O.D.
424600	1/4
424601	3/4
424602	3/8
424616	5/16
424617	1/2
424618	1/8
424619	3/16



**UNION TEE**

Code No.	Tube O.D.
429315	1/4
429316	3/8
429317	5/16



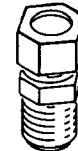
**UNION**

Code No.	Tube O.D.
429349	3/8
429361	1/4
429362	1/2
429397	5/16



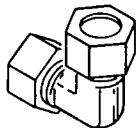
**FEMALE CONNECTOR**

Code No.	Tube O.D.	Pipe Thread
429312	3/16	1/8
429407	1/4	1/8
429830	1/4	1/4



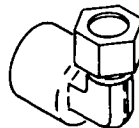
**MALE CONNECTOR**

Code No.	Tube O.D.	Pipe Thread
429324	3/4	3/4
429328	3/8	1/2
429351	5/16	1/8
429358	1/2	3/4
429359	1/2	3/8
429363	1/4	1/8
429364	1/4	1/4
429365	3/16	1/8
429366	3/8	1/8
429367	3/8	1/4
429368	3/8	3/8



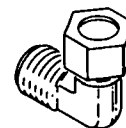
**UNION ELBOW**

Code No.	Tube O.D.
429372	3/8
429378	1/2
429381	1/4



**FEMALE ELBOW**

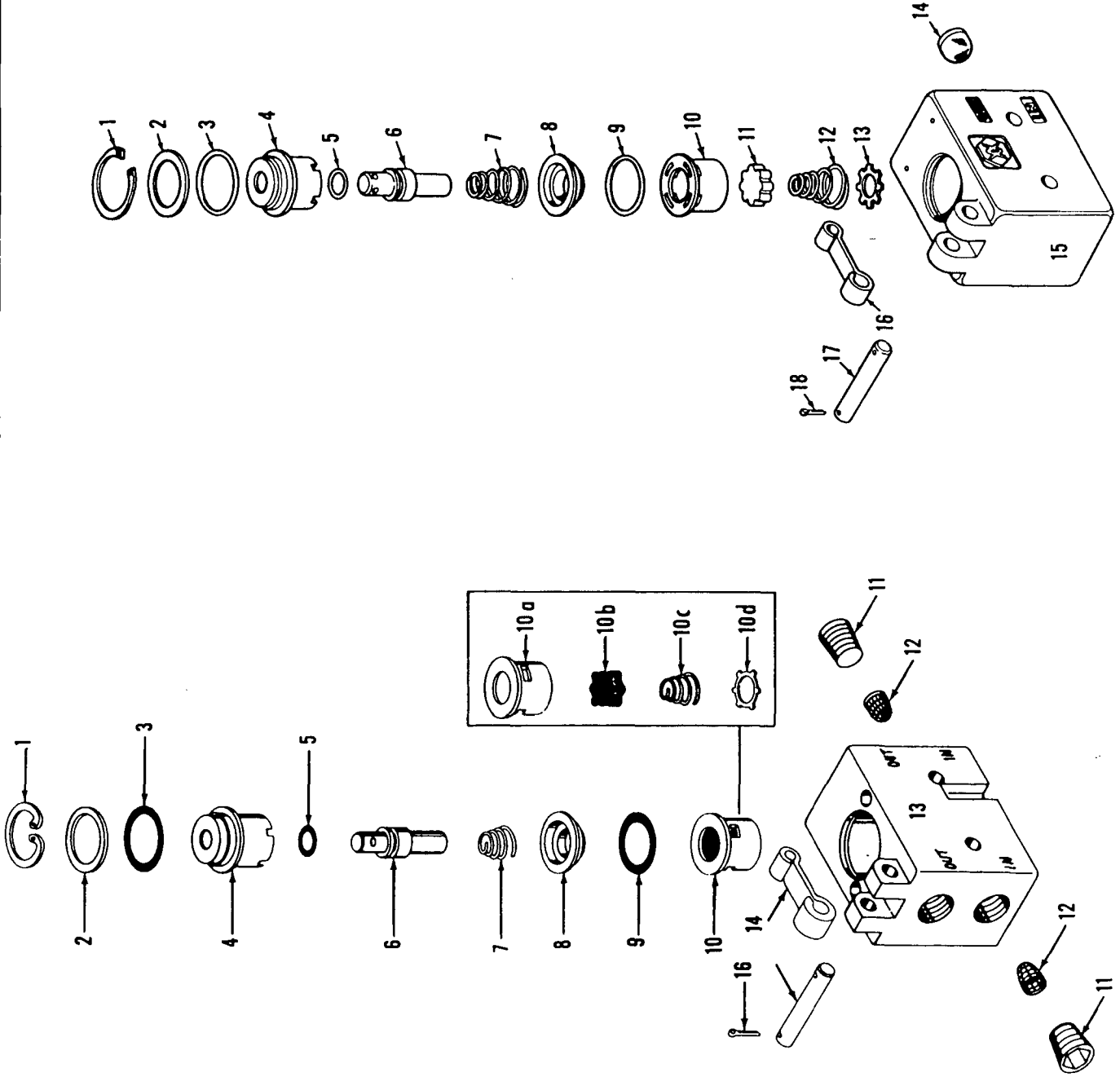
Code No.	Tube O.D.	Pipe Thread
429066	1/4	1/8
429825	1/4	1/4



**MALE ELBOW**

Code No.	Tube O.D.	Pipe Thread
429371	1/2	1/2
429373	3/8	1/8
429374	1/4	1/4
429375	3/8	1/4
429376	1/2	3/8
429380	1/4	1/8
429384	3/8	1/2
429385	5/16	1/8
429386	3/16	1/8
429401	1/2	3/4
429422	3/8	3/8
429453	3/4	3/4

MASTER

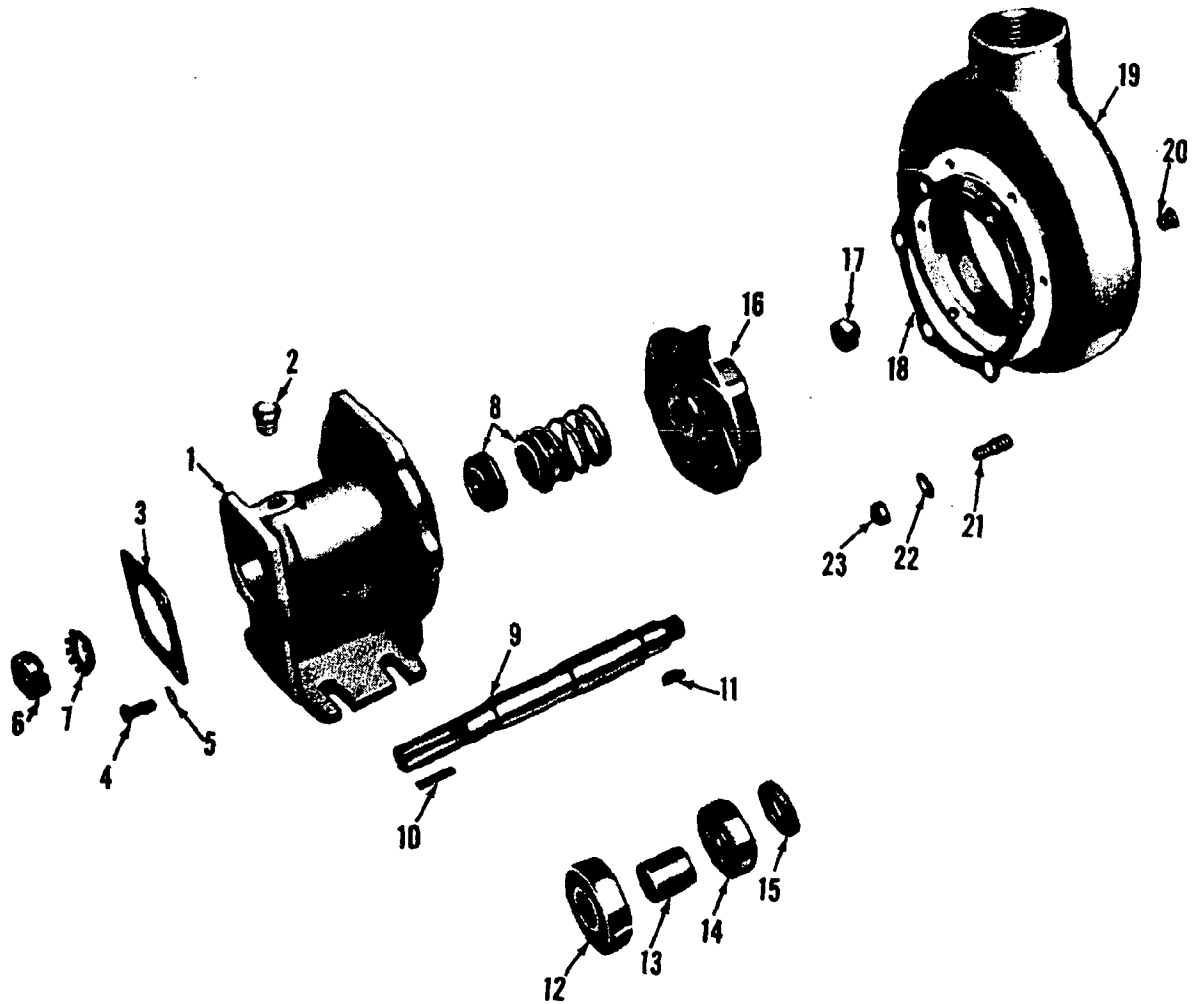


# MANITOWOC ENGINEERING CO.

A Division of The Manitowoc Company, Inc.

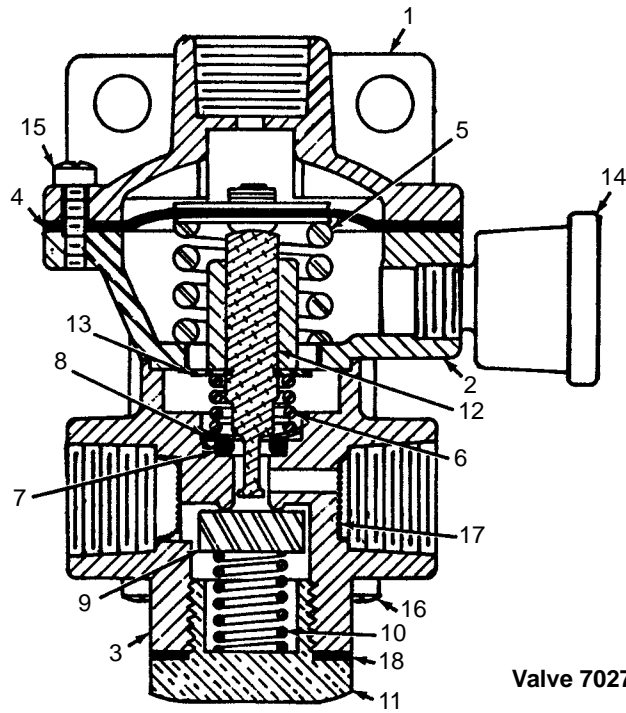
Manitowoc, Wisconsin

MASTER

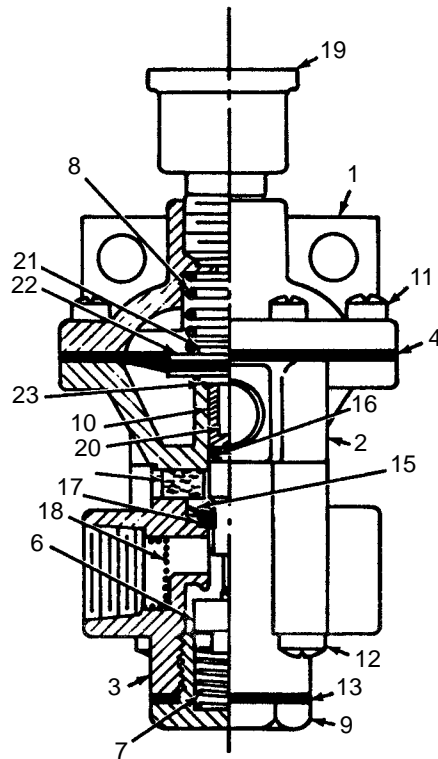


43051A6

MATERIAL LIST ON BACK



Valve 702755



Valve 702756

ASSEMBLY	REVISION
<b>O-294</b>	<b>E</b>

RELAY VALVE

0-337 - 1 Cont	REV. B	MODEL 4100W-SC600
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AIR CONTROL VALVE (2-HA-2Y)  
 (MANITOWOC #715531)  
 (WESTINGHOUSE #P59340 - OLD #P54426-0241) (See Note 2)

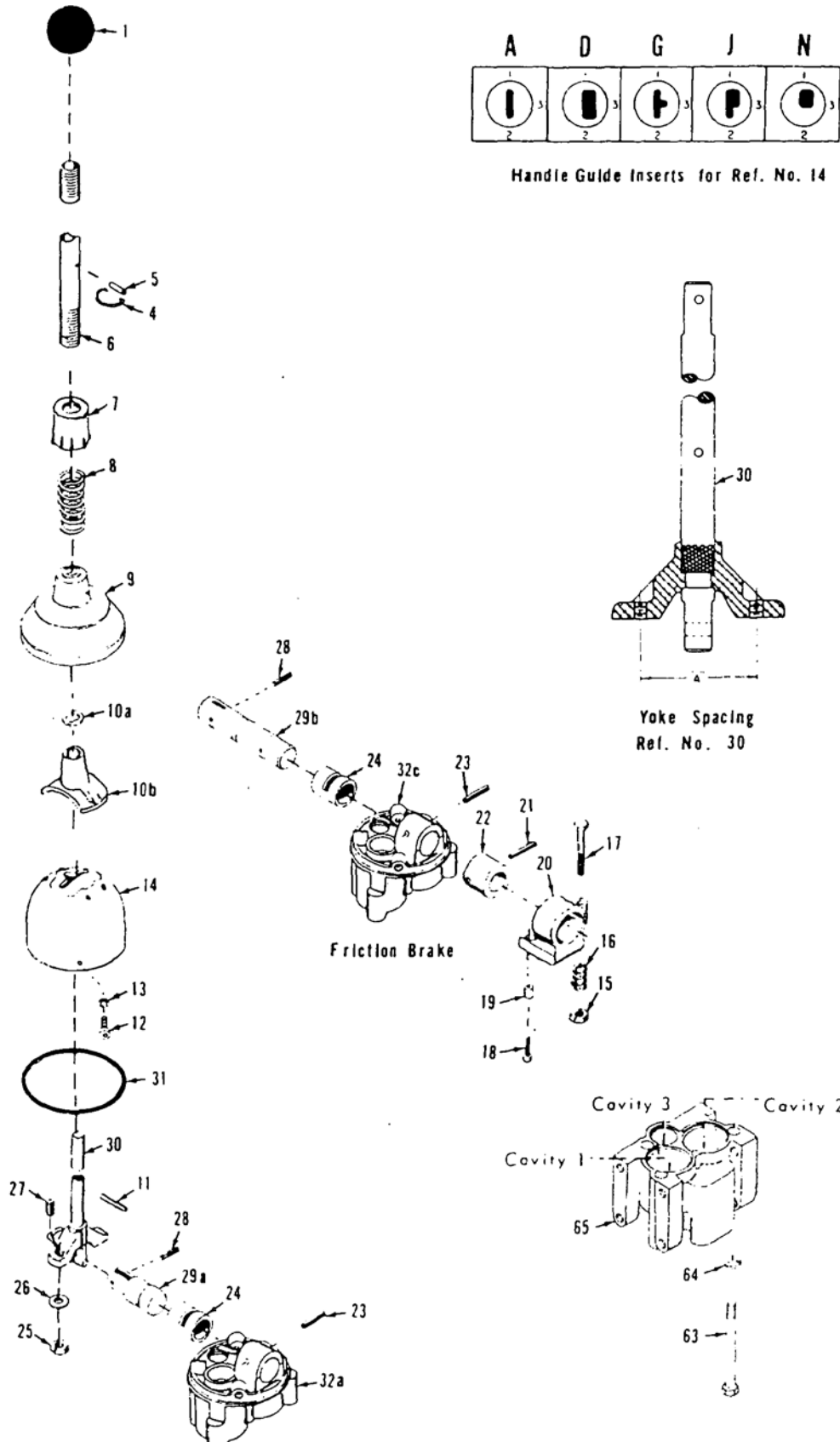
REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
18	714430	2	RING, "0" (15/16" O.D.)	P49708-16
19		2	GUIDE, Plunger	P54147
20	714506	2	RING, "0" (7/16" O.D.)	P49708-11
21		2	PLUNGER, Valve	P54146
22	714525	2	SPRING, Exhaust Valve	P54144
23		2	SEAT, Inlet Valve	P54145
24	714441	2	RING, "0" (7/8" O.D.)	P49708-115
25		2	WASHER	P53455-3
26	714442	2	VALVE, Inlet	P5125
27	714526	2	SPRING, Inlet Valve	539115
28		2	SPACER, Valve	P54794
29		2	BODY	P54306
30		2	WASHER, Lock	506607
31		2	SCREW	P49835
NOTE 1: Part numbers at right are Westinghouse. Please so specify when ordering.				
NOTE 2: Valves changed approx. July 1969. Check nameplate (Ref. #7) for accurate identification of valve.				

Run as Front

0-337 - 1B Cont.

REV. B	0 - 337 - 1
--------	-------------

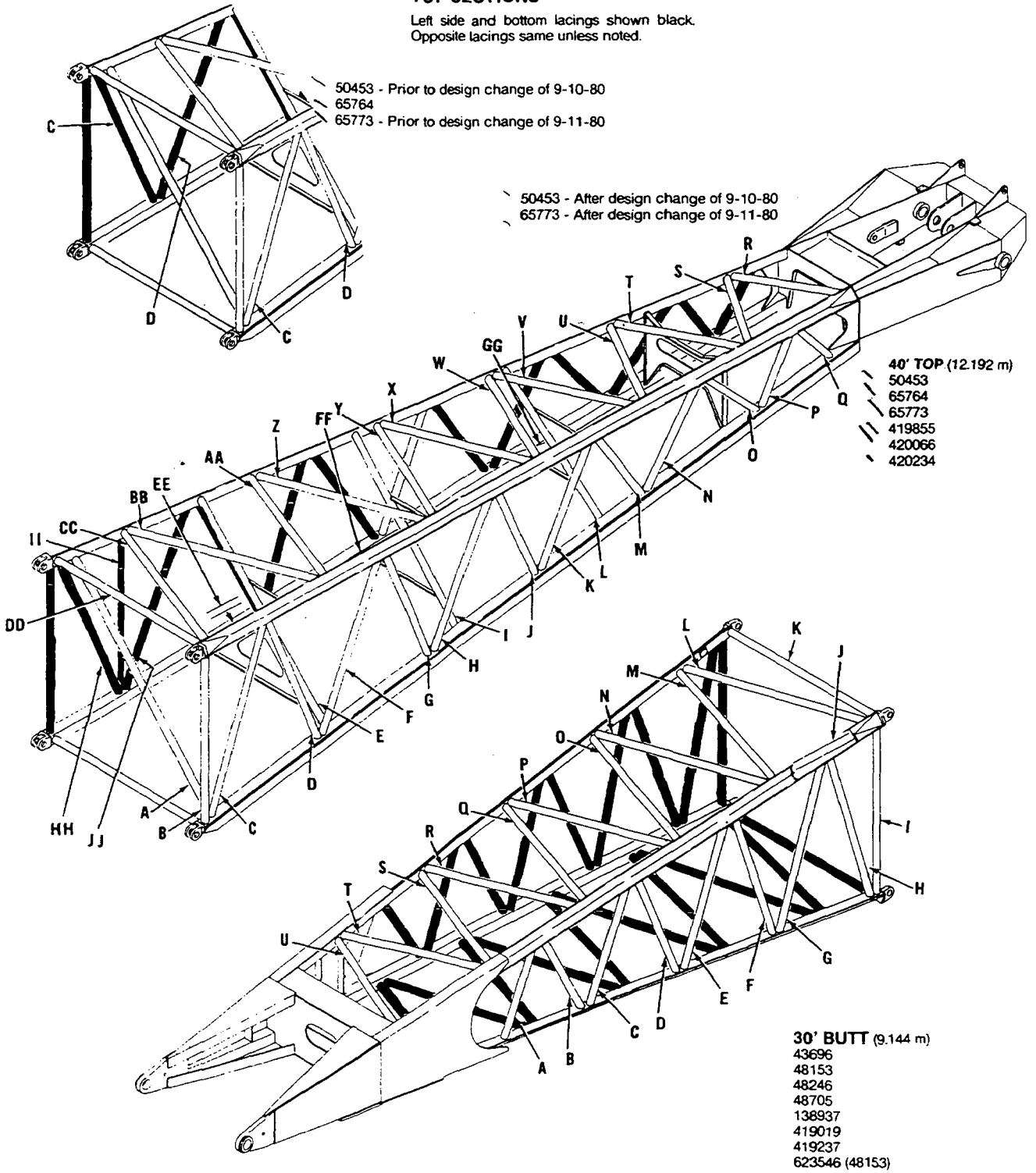
PLEASE GIVE MACHINE S/N W/ORDER



ASSEMBLY	REVISION
<b>O-441</b>	<b>B</b>

**BOOMS #22, #22A, #22C-BUTT & TOP SECTIONS**

Left side and bottom lacings shown black.  
Opposite lacings same unless noted.

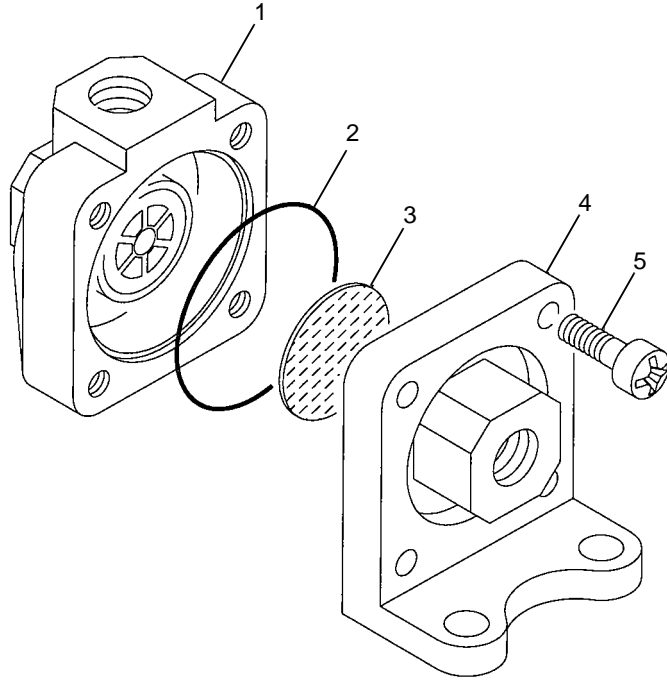


O-503 C1

To order lacings see Folio #823

2-13-92  
9-91

LACINGS



**MODEL-**

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

**SHUTTLE VALVE**  
7146470

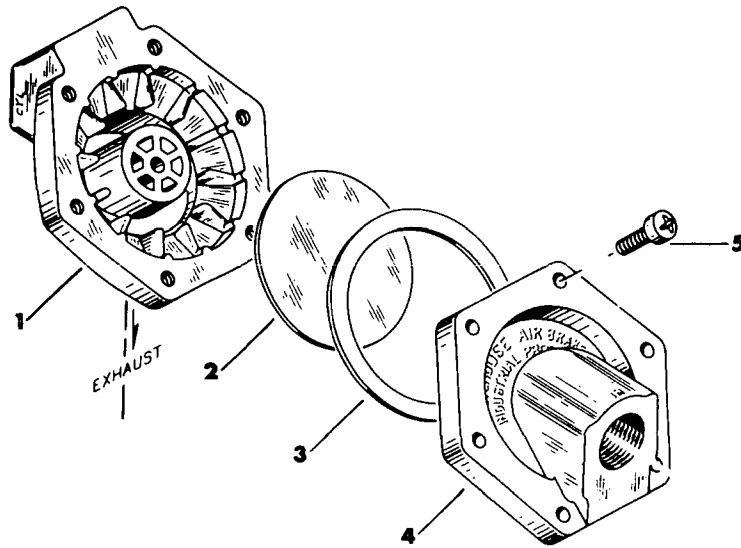
ITEM	PART #	QTY.	DESCRIPTION OF PART
1		1	BODY
2	7146960	1	GASKET
3	7146970	1	DIAPHRAGM
4		1	COVER
5		4	SCREW

**PLEASE GIVE MACHINE SERIAL NUMBER WITH ORDER**

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

**SHUTTLE VALVE**

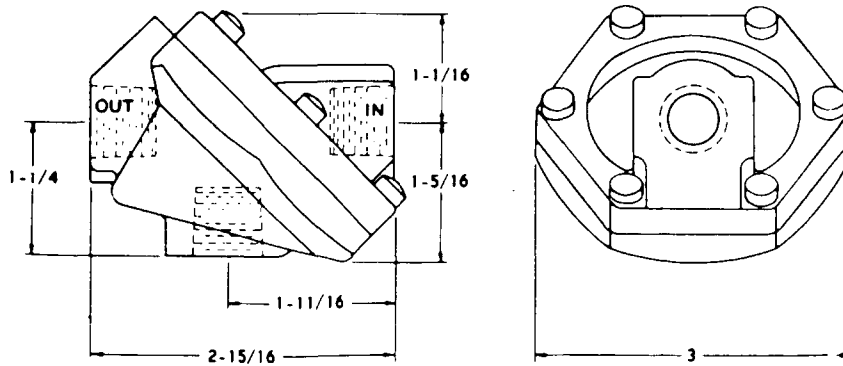
MANITOWOC NO. 714688 - WESTINGHOUSE NO. P52935-3



EXPLODED VIEW

PARTS LIST

Manitowoc Number	Westinghouse Number	Ref. No.	Description
	P52966	1	Body, Valve
714693	P5112	2	Diaphragm
714694	P5111-6	3	Gasket
	P52967	4	Cover, Valve
	P49502	5	Screw, Washer Head



OUTLINE VIEW

Used Approx. 1962 to \_\_\_\_\_. (See Reverse Side of Sheet)

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