

Manitowoc

TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

3900

Model

39515

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.

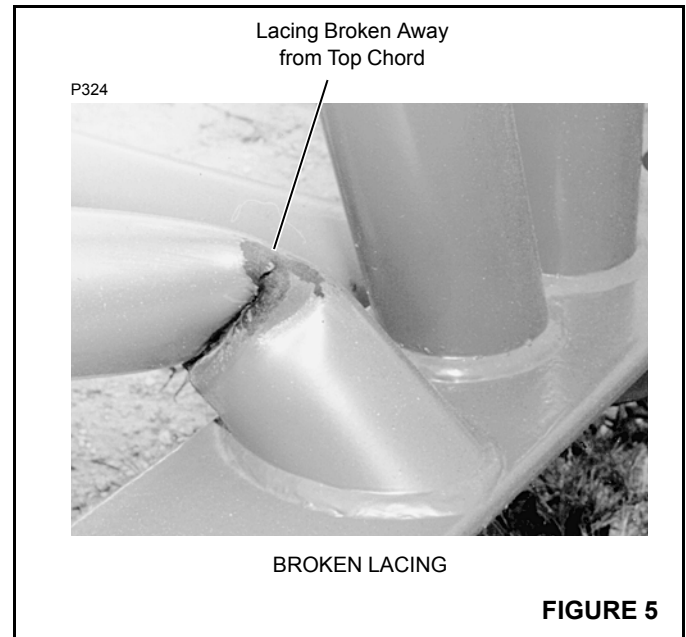
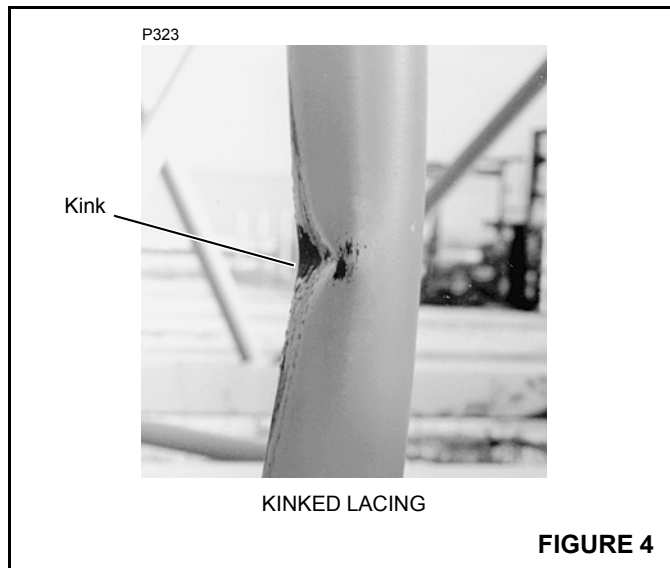
Corrosion and abrasion must not be deeper than 10 percent of the wall thickness, the angle thickness, or the plate thickness.

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.*

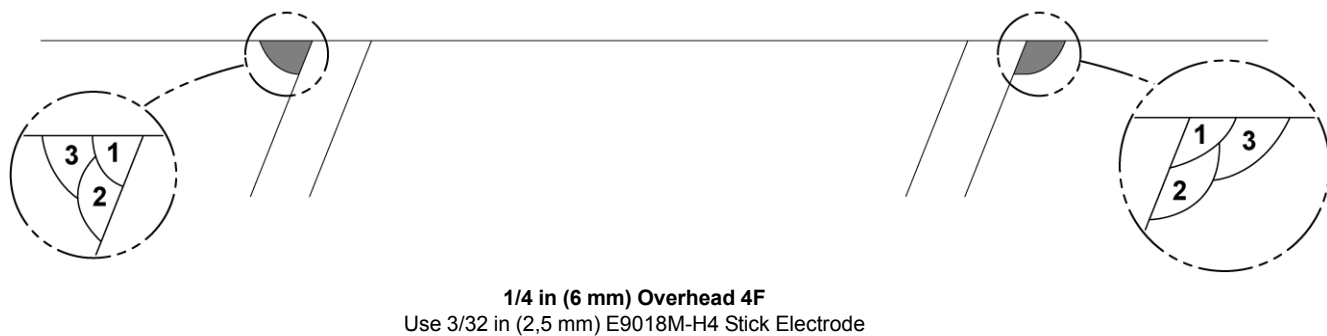
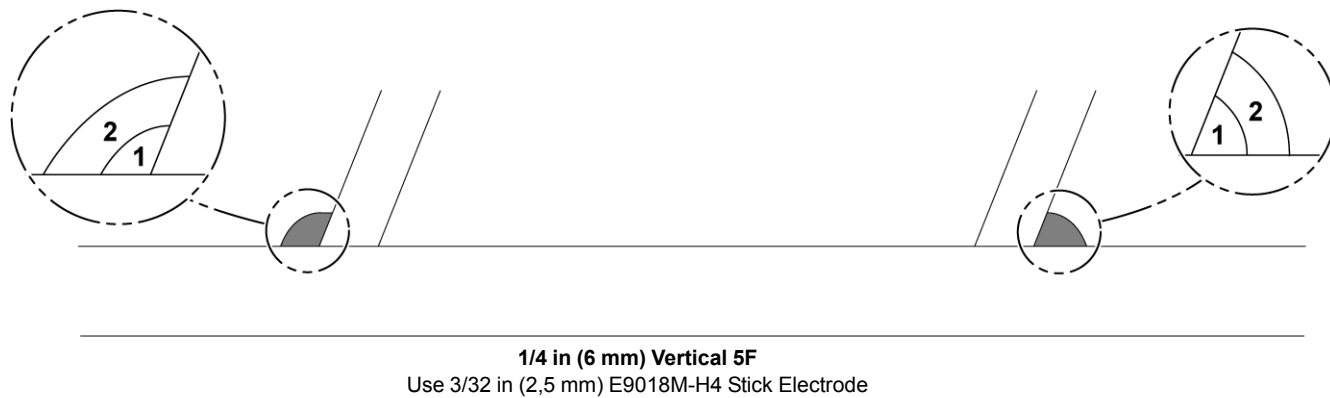
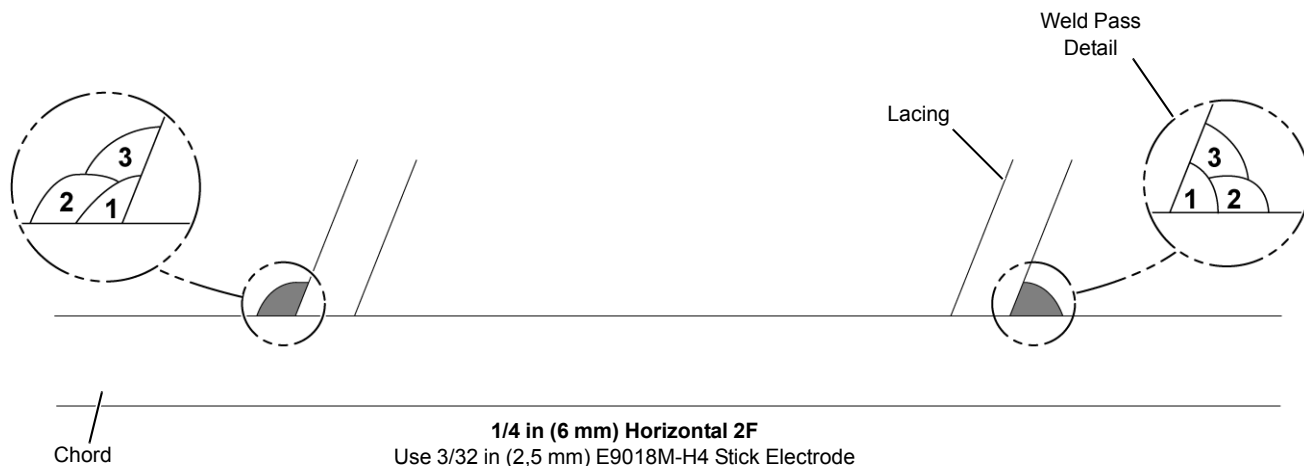


FIGURE 16



MANITOWOC ENGINEERING CO.

A division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin 54220

WEIGHTS

3900 VICON®

DESCRIPTION

APPROX. WEIGHT
(IN LBS.)

LIFTCRANE - w/60' No. 8 boom, 74,000# counterweight, gantry w/folding backhitch, 20'-4" crawlers w/48" treads, split drums, ind. swing, ind. boom hoist, Vicon controlled Cummins NT-855-C310 engine, 27" dia. lagging for left drum, boom hoist rope, equalizer, telescopic air cushioned boom stop, 100 ton load block, 10 ton hook and weight ball, double sheave upper boom point, and upper wire rope guide	229,485*
UPPERWORKS - w/Vicon controlled Cummins NT-855-C310 engine, ind. boom hoist, ind. swing, split drums, and 27" dia. lagging for left drum; <u>LESS</u> boom, gantry and backhitch, equalizer, load block, weight ball, counterweights, telescopic air cushioned boom stop, upper wire rope guide, and catwalks.	59,640*
UPPERWORKS as above - w/gantry and folding backhitch, equalizer, boom hoist rope and carbody; <u>LESS</u> crawlers	94,550*
CARBODY - w/roller path, ring gear and king pin; <u>LESS</u> crawlers.	29,000
CRAWLERS, 20'-4" w/48" treads	25,000 each
CRAWLERS, 20'-4" w/38" treads	20,830 each
SELF-REMOVING COUNTERWEIGHTS	
Inner	32,000
Middle.	26,500
Outer	15,500
BOOM NO. 8	
Boom Butt - 30'	3,250
Boom Top - 30' (w/lower boom point assembly).	4,075
Upper Boom Point (double sheave).	480
Boom Insert - 10' (w/rope guide roller assembly).	900
Boom Insert - 20' (w/rope guide roller assembly).	1,560
Boom Insert - 30' (w/rope guide roller assembly).	2,160
Boom Insert - 30' (w/rope guide roller assembly and jib backstay lugs).	2,210
Basic Pendant - 20' (2 req'd.).	185 each
Pendant - 10' (2 per insert).	130 each
Pendant - 20' (2 per insert).	185 each
Pendant - 30' (2 per insert).	225 each
Pendant Spreader Bar.	280

*Weights do not include hoist line, whip line, or fuel. For optional engines add the following weights to the upperworks of VICON machines: 1,095# for Cummins NTA-855-C380, 2,055# for Cat. D-343T and G.M. 12V-71N, 2,075# for Cat. D-343TA.

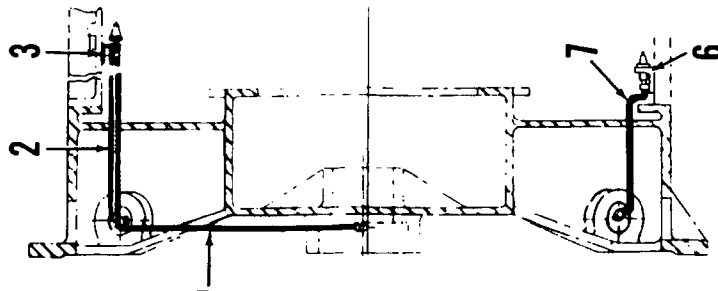
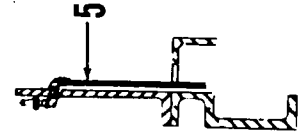
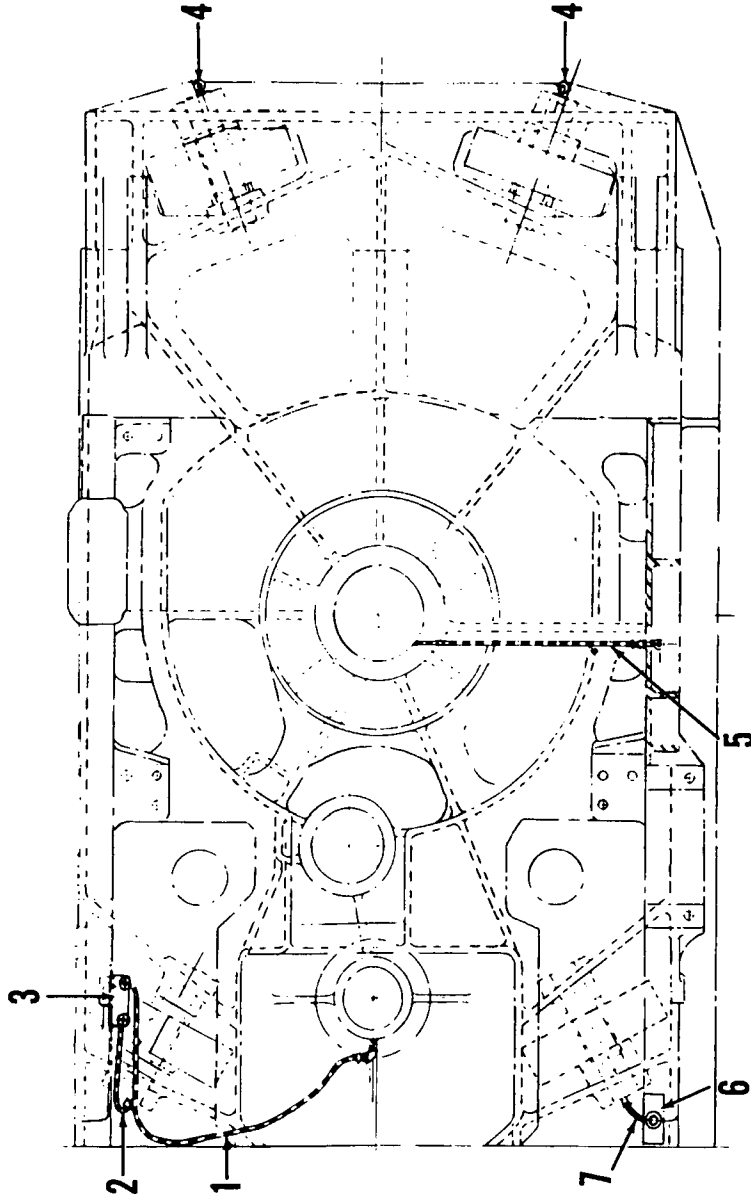
(Cont'd.)

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MASTER



30375-A-1

MATERIAL LIST ON BACK

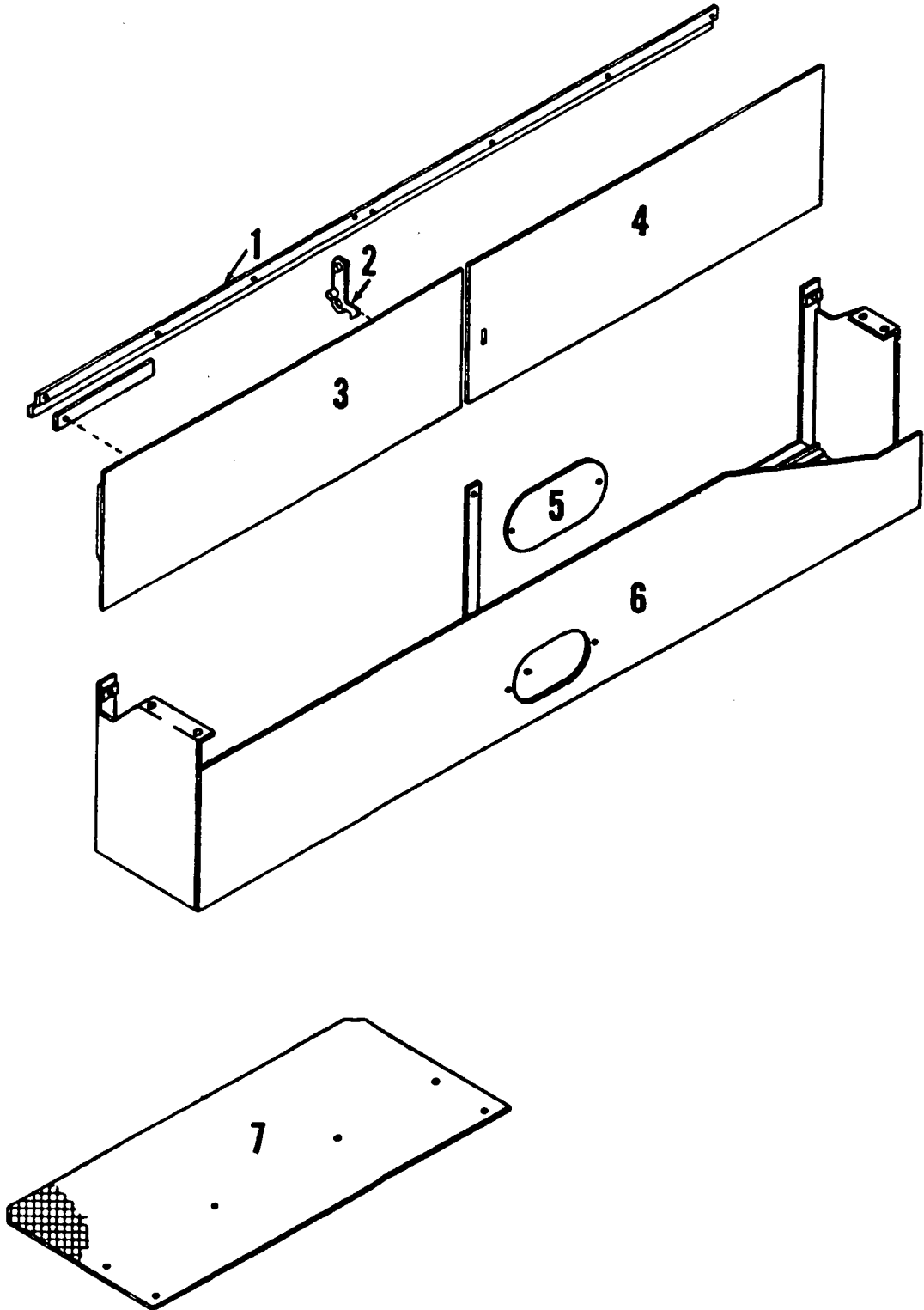
ROTATING BED PIPING

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32621 A 1

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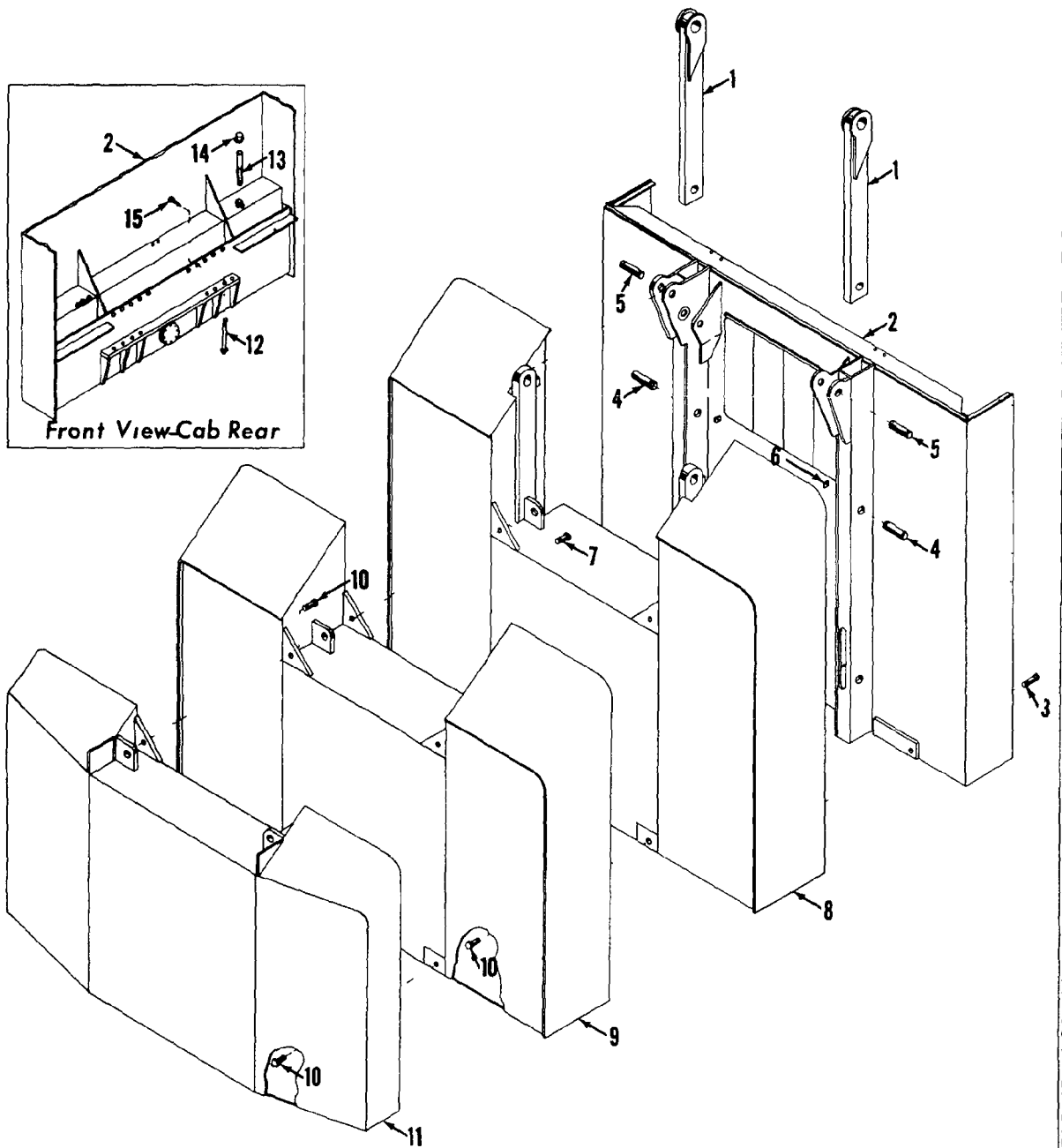
TOOL BOX

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ILLUST No 42525-A-1

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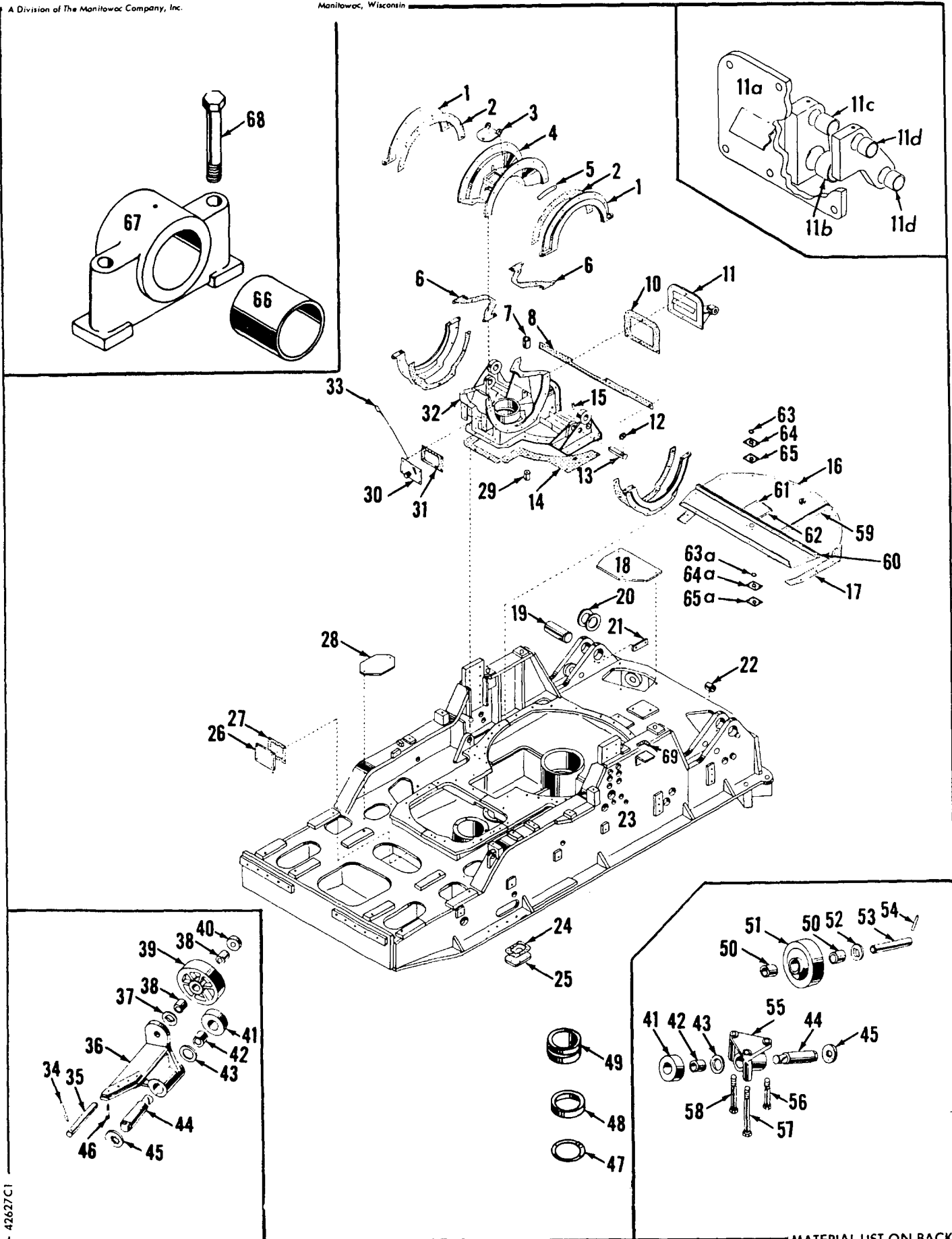
COUNTERWEIGHT ASSEMBLY

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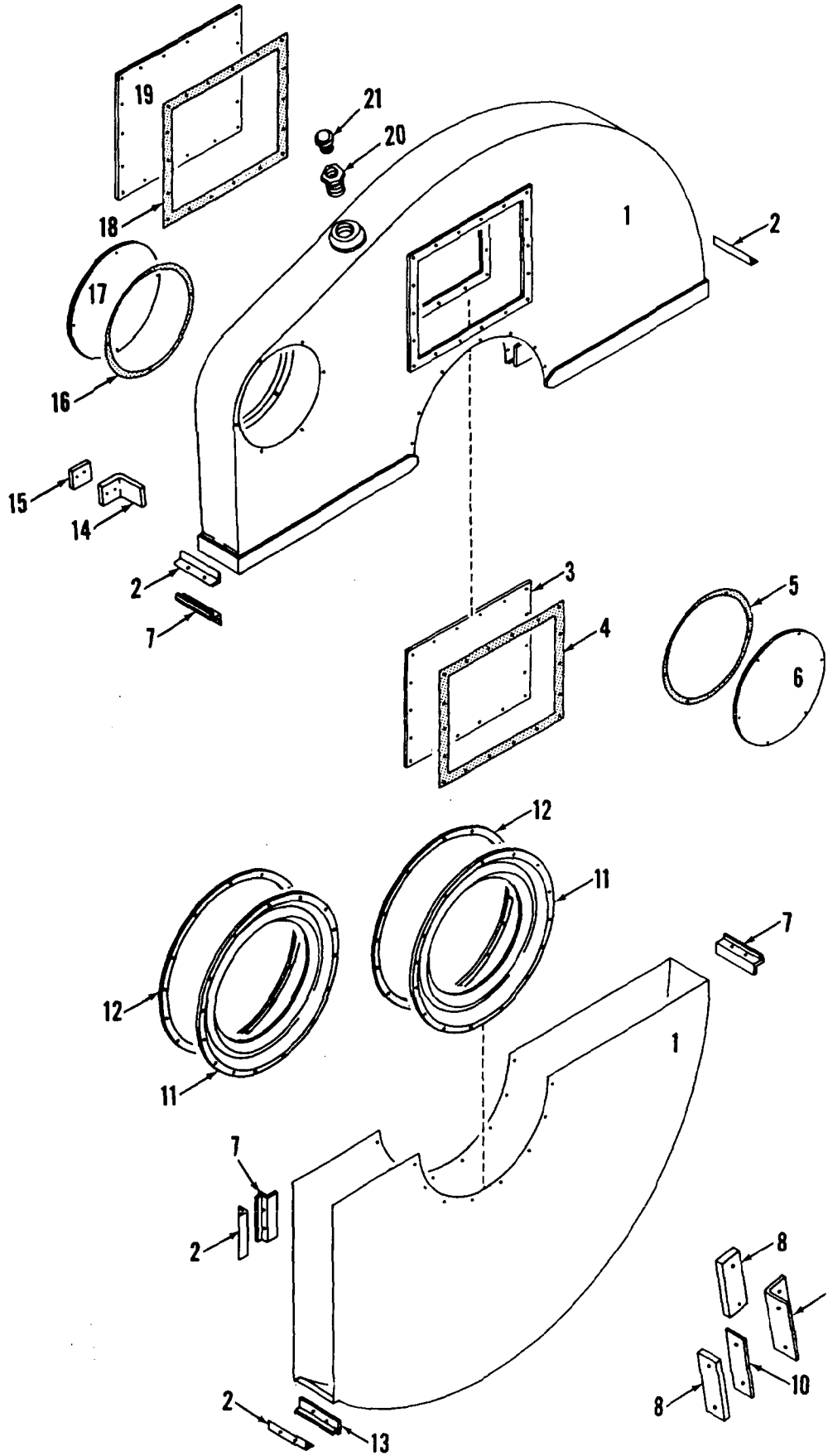


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ROTATING BED



MASTER

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GEAR CASE

22880 - 1 Cont.	REV. J	MODEL 3900, 3900T, 3900W
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SWING SHAFT

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
			<u>PINIONS FOR MACHS. PRIOR TO DESIGN CHANGE OF JUNE 16, 1964</u>	
18	23012		PINION (std. size)	
18	23017		PINION (3/16" undersize)	
18	23018		PINION (1/4" oversize)	
18	23019		PINION (3/4" oversize)	
18	23027		PINION (1/8" oversize)	
18	23028		PINION (3/8" oversize)	
18	23029		PINION (1/2" oversize)	
18	23030		PINION (5/8" oversize)	
<p><u>NOTE 1:</u> Machines after design change of 6-19-81 have a shrink fit of the pinion (Ref. No. 18) on the shaft (Ref. No. 12). These machines can be identified by the 6" overall diameter of the pinion retainer (Ref. No. 19). For machines with a pinion which has been shrunk fit delete above Ref. Nos. 17, 19, and 20, and replace with dirt guard 147348 (1/2" thick), pinion retainer 143795 (6" O.D.) and capscrews 621735 (5/8" - 18 NF x 2" lg. w/3/32" hole in hd.).</p> <p>Use Never-seez or equivalent under heads and on threads of capscrews 621730 and torque to 135 ft. lbs. while pinion is still hot.</p>				
			REV. J	22880 - 1

PLEASE GIVE MACHINE S/N W/ORDER

22880

Run As A Cont

22880

14000

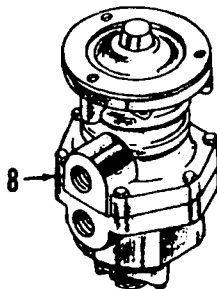
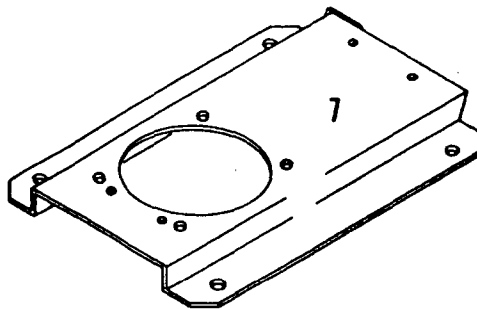
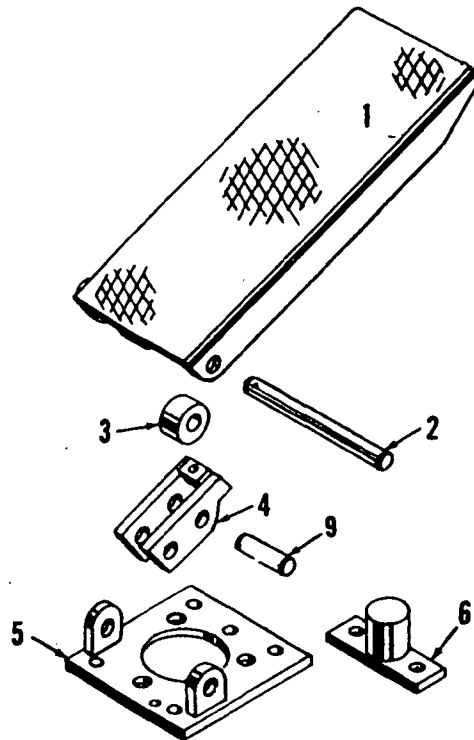
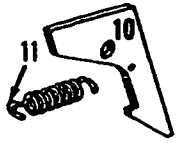
14000

14000

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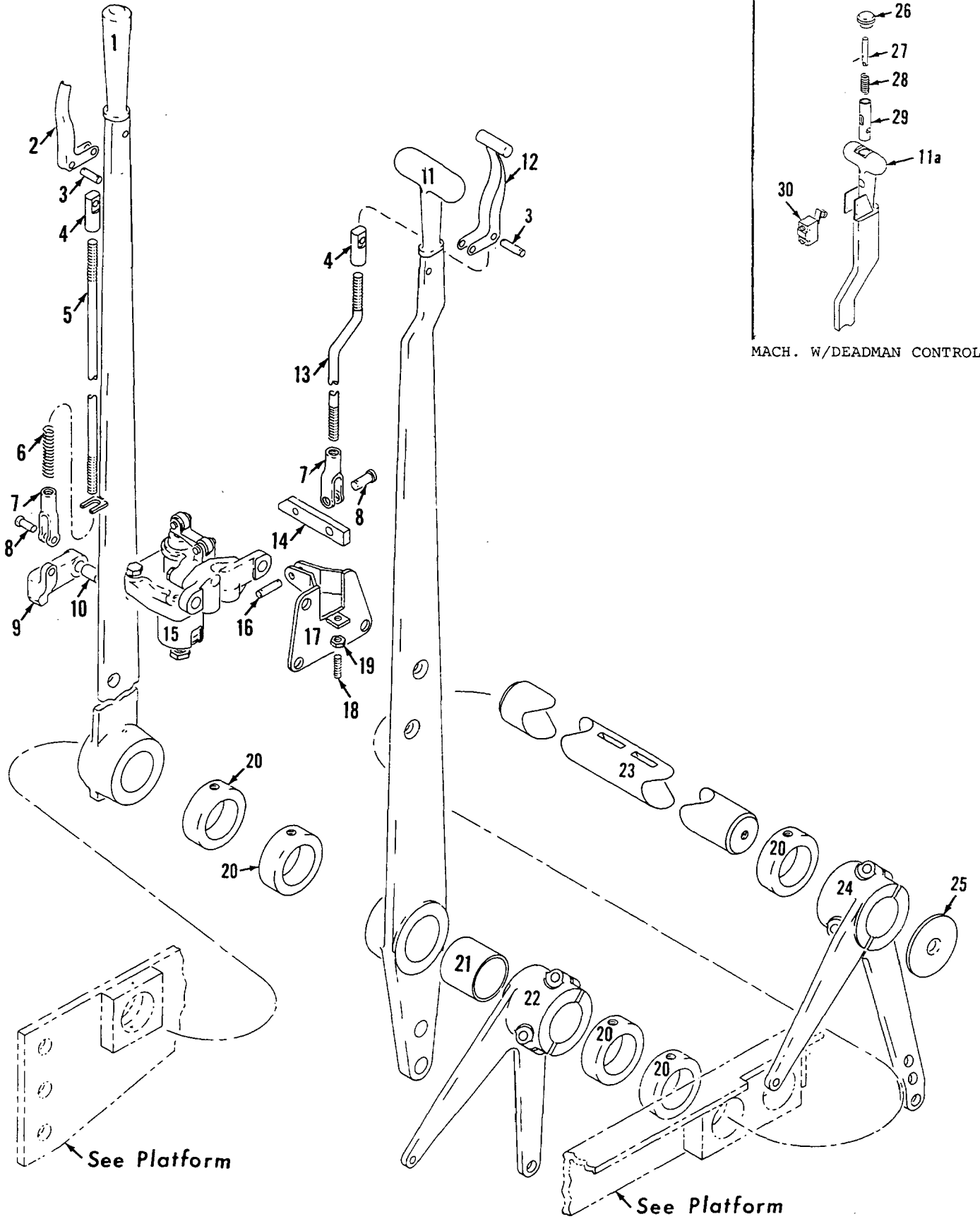
MATERIAL LIST ON BACK

CONVERTOR TREADLE VALVE

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MACH. W/DEADMAN CONTROL

32739A1

32739A1

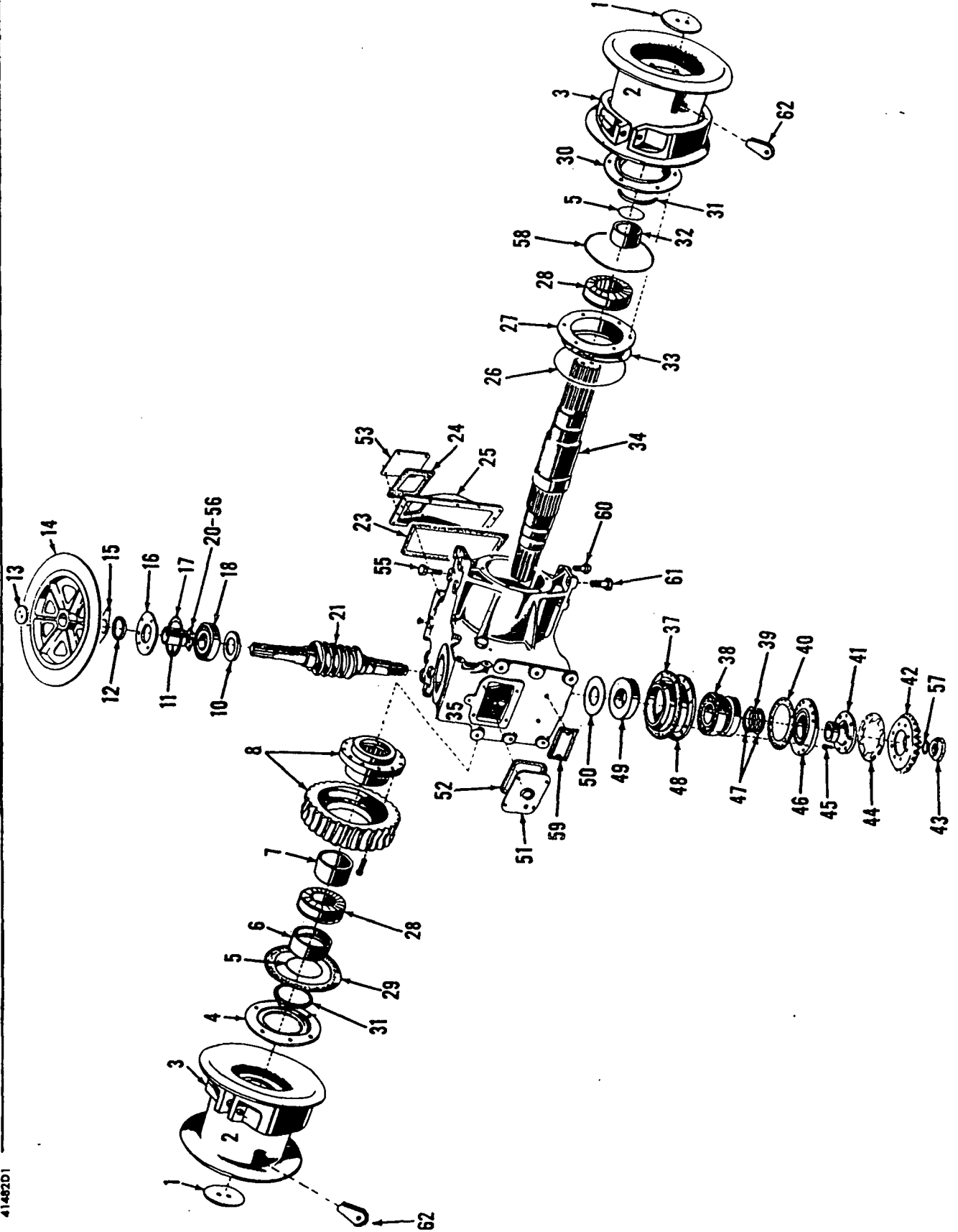
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HAND LEVERS

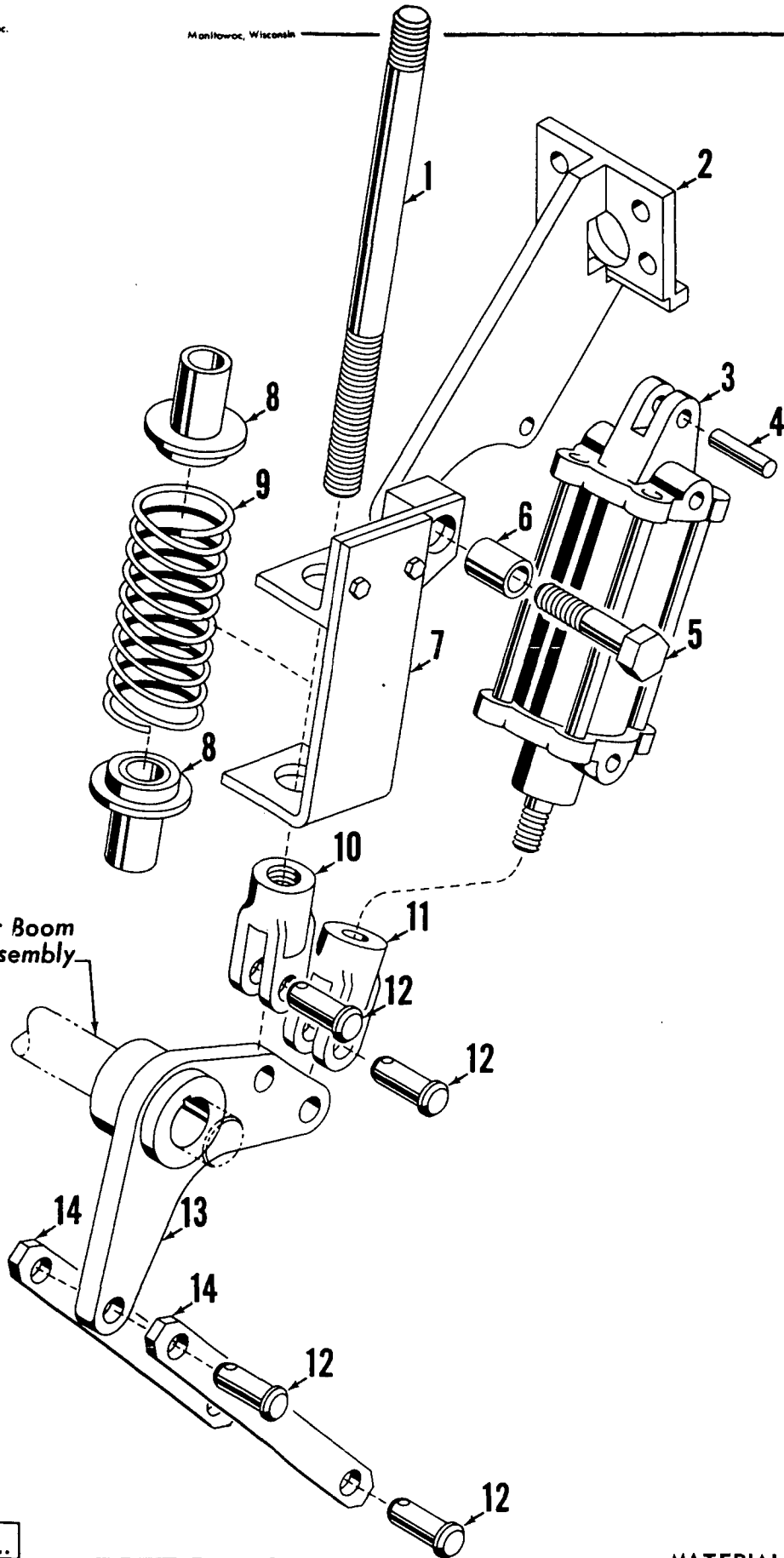
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41482-D1

41482D1



MASTER

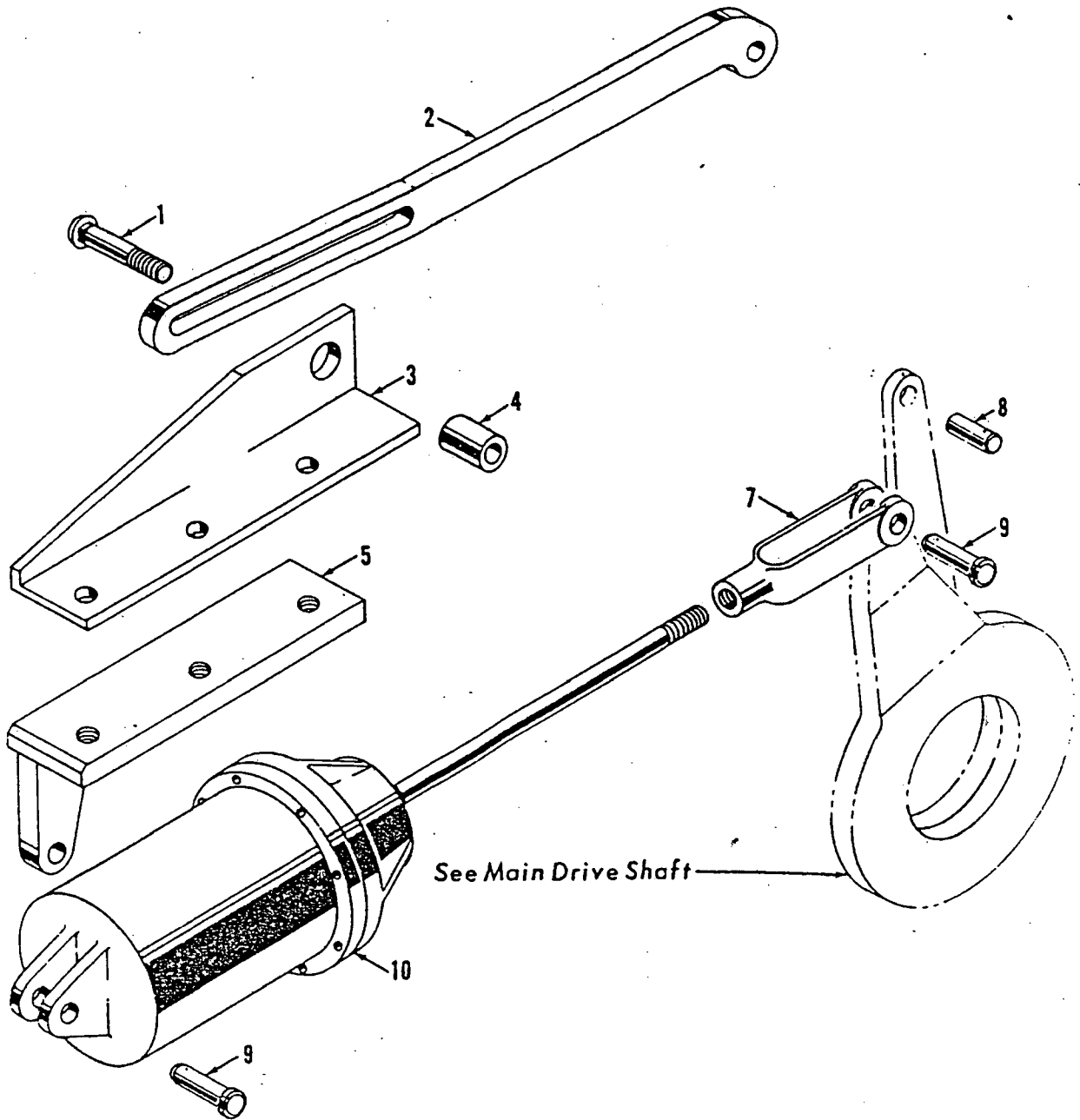


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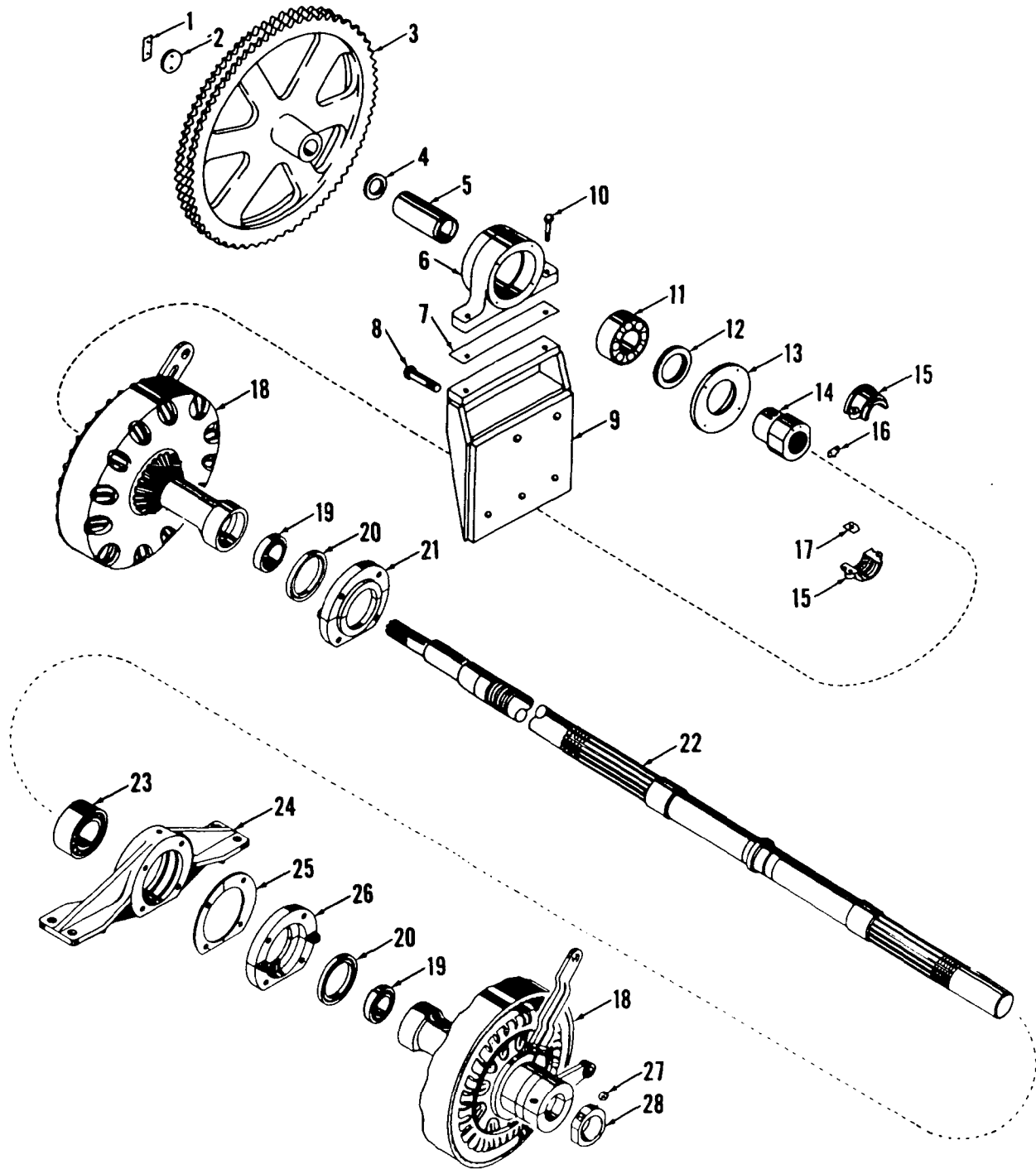
Manitowoc, Wisconsin



42565B1

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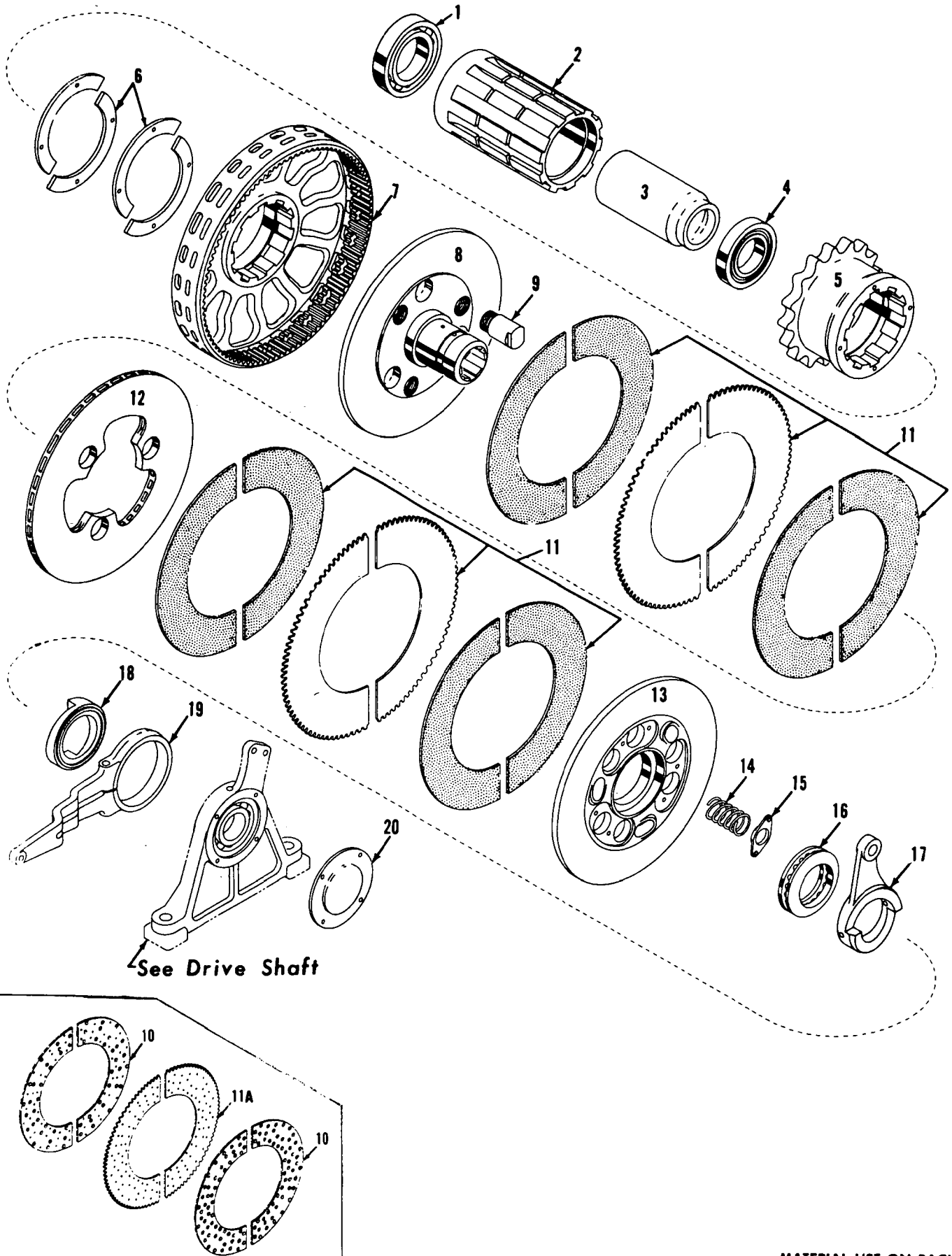
Right Swing Clutch Control



4286681

MATERIAL LIST ON BACK

IND. SWING HORIZONTAL DRIVE SHAFT



See Drive Shaft

43132A3

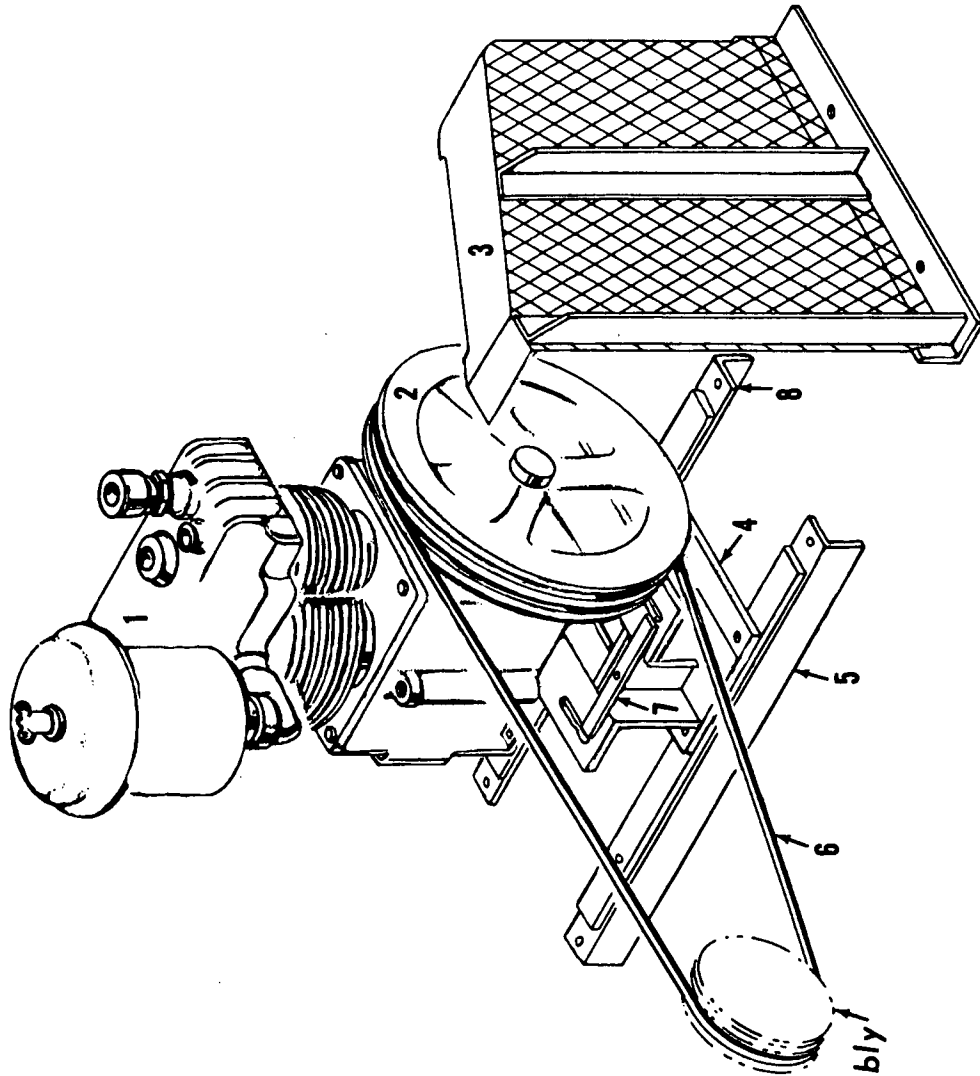
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MAIN DRIVE SHAFT

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See Power Plant Assembly

MASTER

41994 A2

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COMPRESSOR

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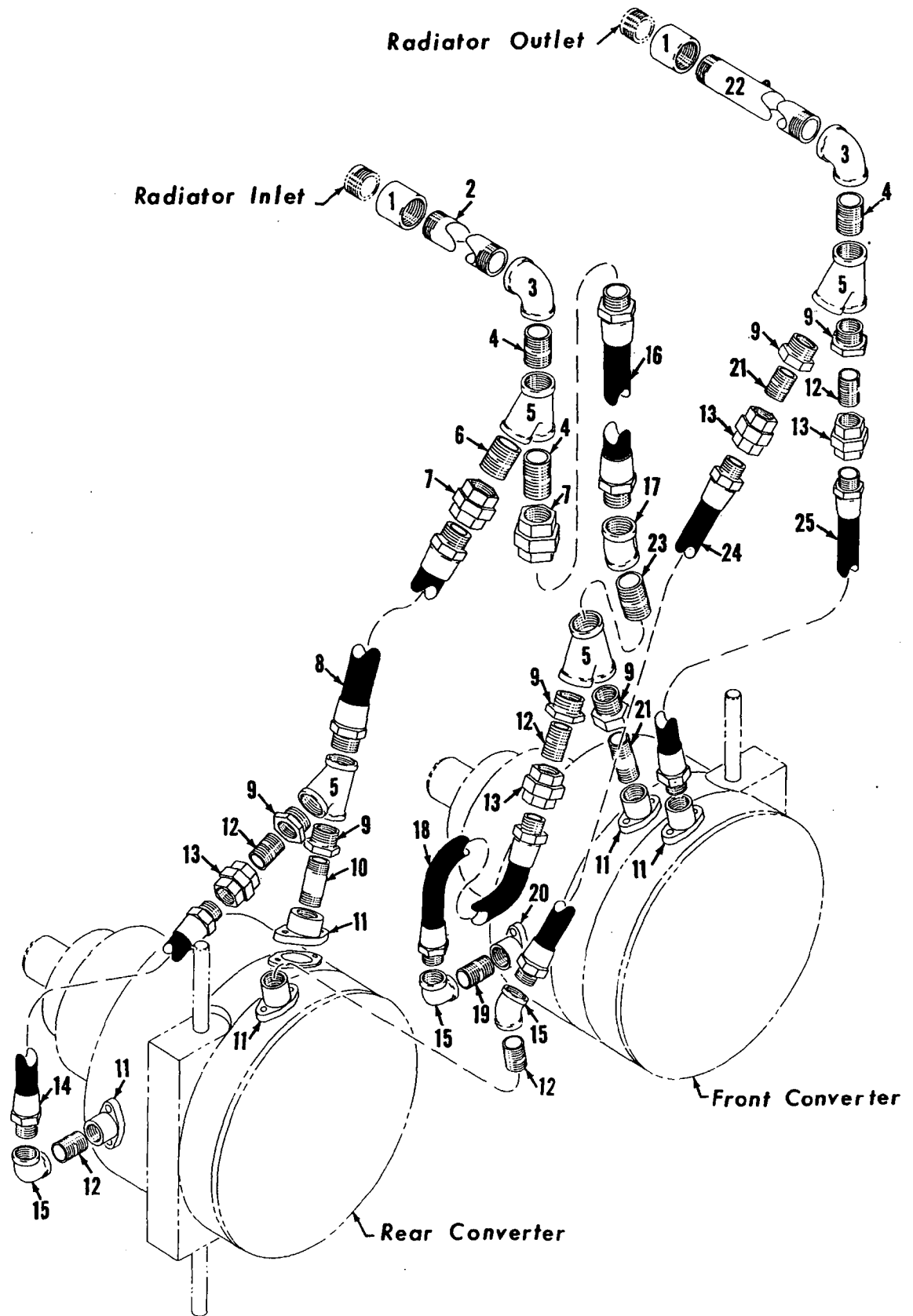
GROUP D - Power Components

42743-1 Cont. REV. E Mach Vicon 3000-4000 Incl.

POWER PLANT ASSEMBLY
(GENERAL MOTORS #6-110)

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

REV. E 42743 - 1

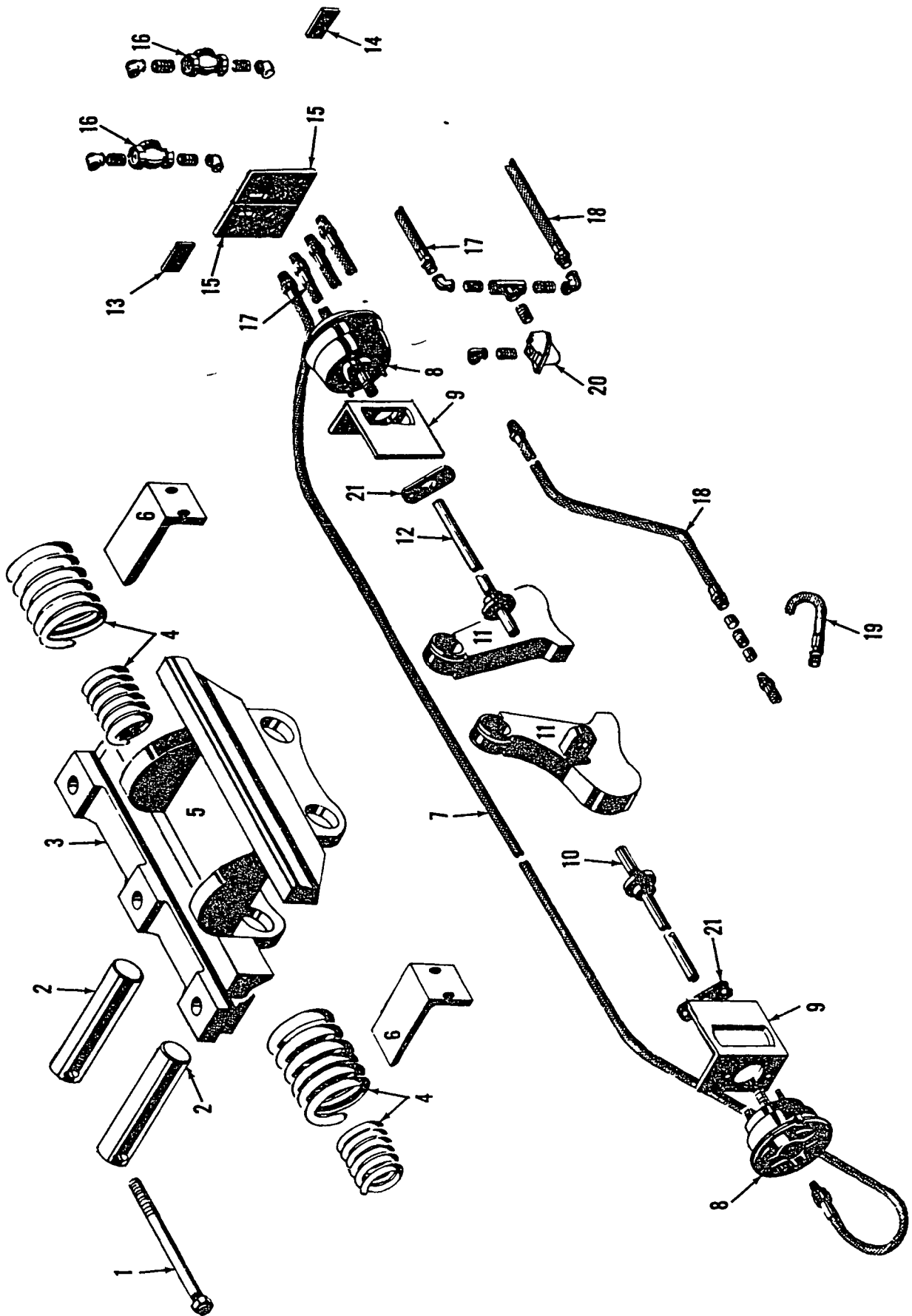


42877 B 2

MATERIAL LIST ON BACK

CONVERTER COOLING SYSTEM

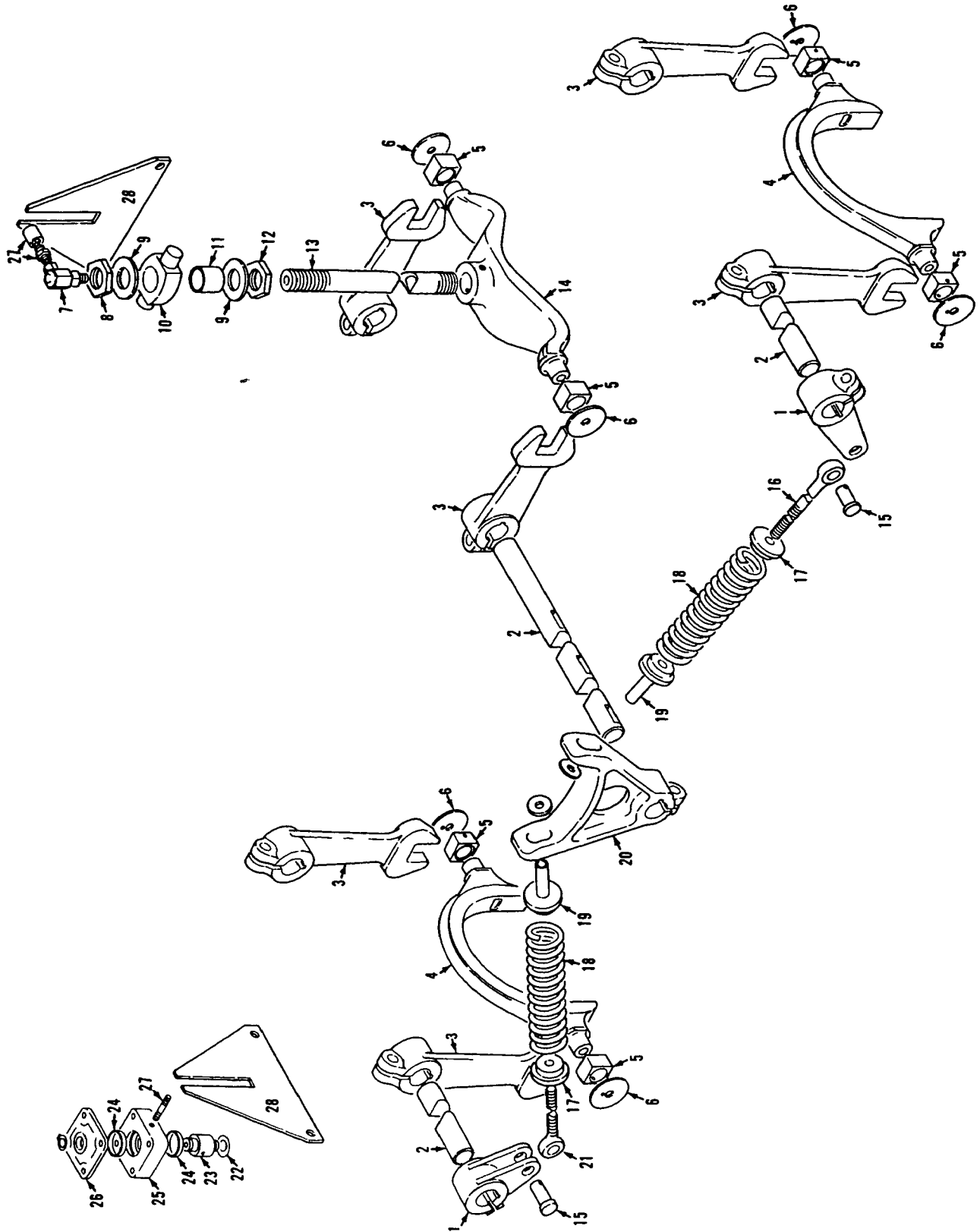
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TRAVEL LOCKS



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MATERIAL LIST ON BACK

Steering Control Carbody

PARTS MANUAL ALPHABETICAL INDEX
Group F - Attachments

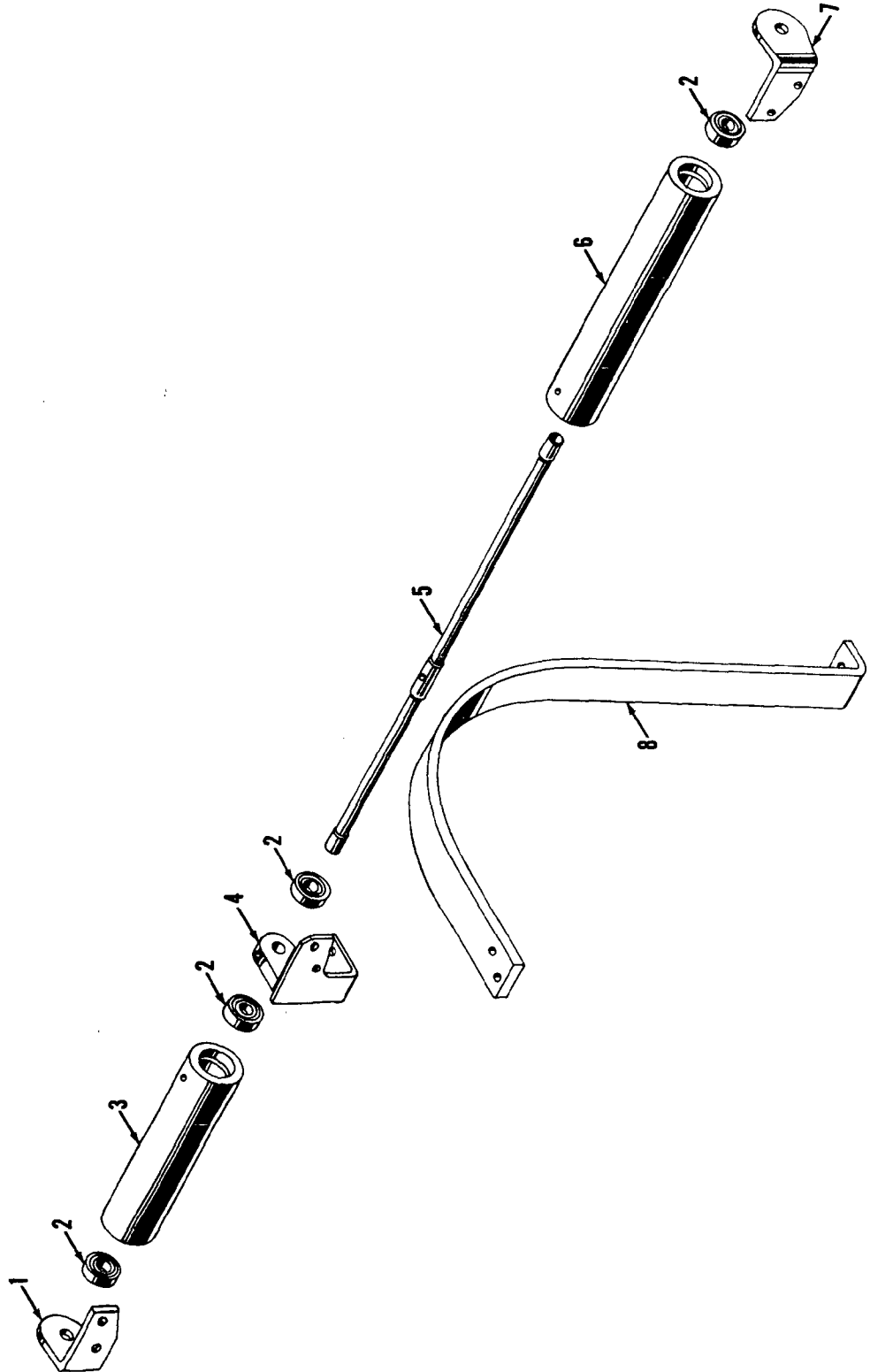
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Backhitch & Gantry	42533	D1	12/18/62	03/30/64	F1001
Boom	42925	-	09/21/62	08/09/01	F0101
Boom Point	24166	E1	11/17/59	08/03/82	F0401
Boom Point	24825	A1	09/18/62		F0401
Boom Stop, Clutch Throw-Out	42567	C	06/20/60	02/13/63	F0201
Boom Stop, Mechanical	42680	J1	04/21/62	09/27/95	F0202
Dragline Fairlead	41537	C1	08/03/53	03/26/56	F1701
Equalizer/Pull-Out	32668	C1	09/17/62	09/15/67	F0601
Guard Rollers On "A" Frame	32332	A1	06/21/60	03/27/79	F0901
Hook & Weight Ball	70403	A1	10/10/57	10/15/63	F1401
Jib	42484	C1	01/18/61	06/27/73	F1301
Jib Backstay	24436	A1	03/06/61	04/14/65	F1302
Jib Rope Guide/Roller	23947	B1	02/13/39	12/01/65	F1303
Wire Rope Guide	32659	D1	09/12/62	09/08/80	F0701
Wire Rope Roller Guide	73649	-	09/12/62	09/13/79	F0801

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ILLUST. No. 32332-A-1

MATERIAL LIST ON BACK

CABLE GUIDE ROLLER

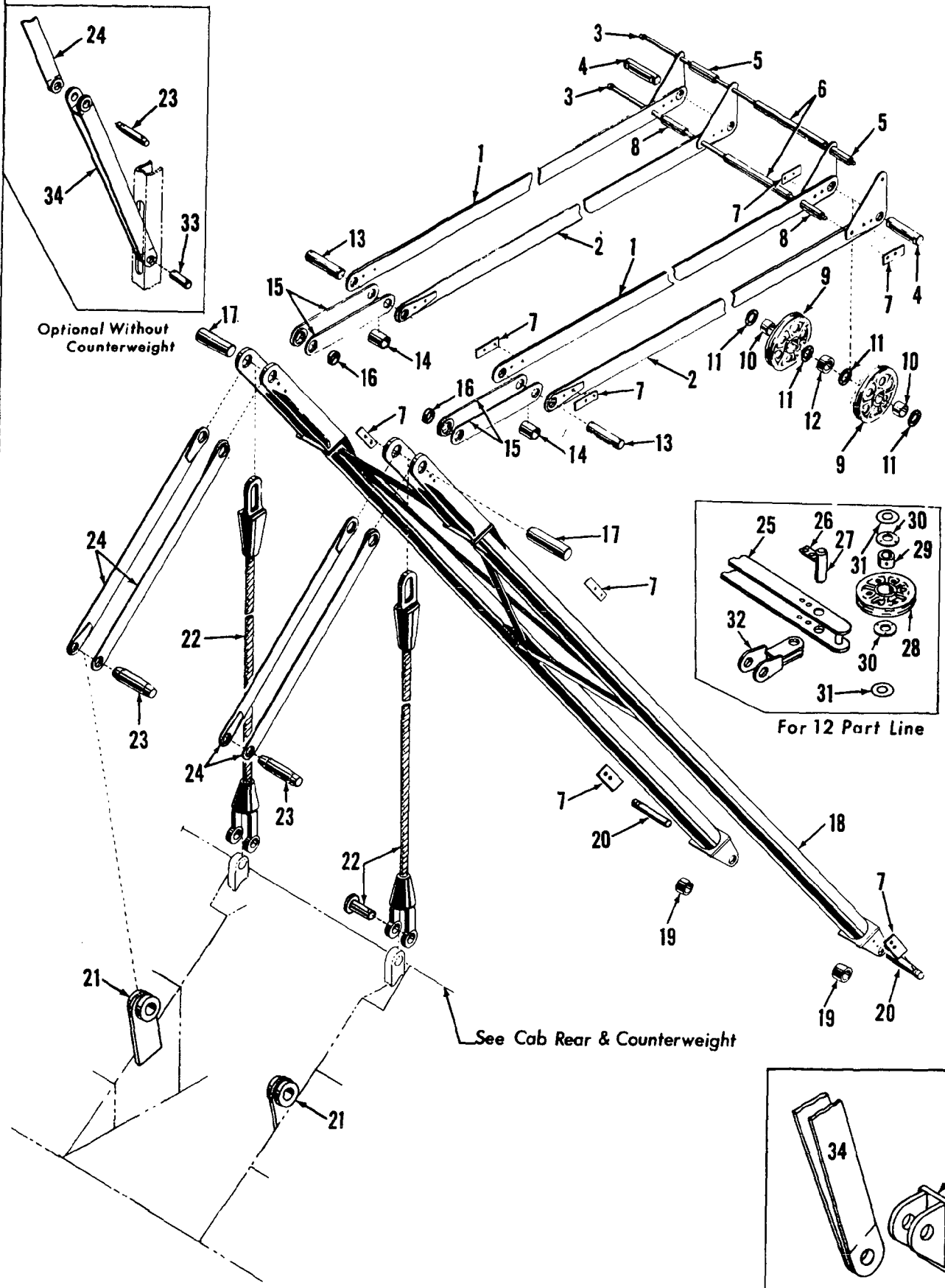
32332 A

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MASTER



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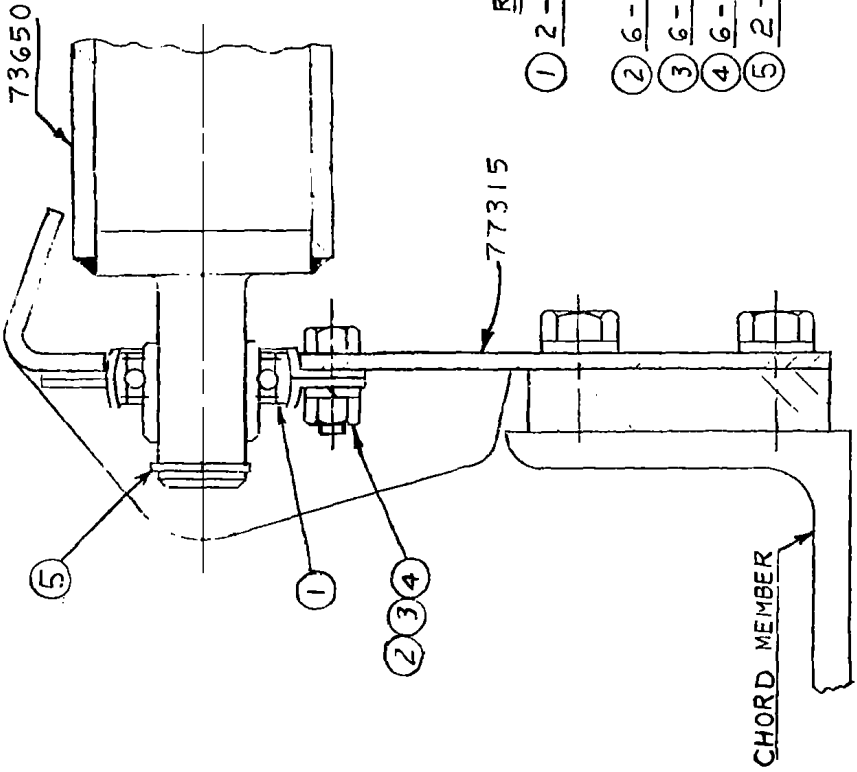
42533C1

MATERIAL LIST ON BACK

GANTRY & BACK HITCH

DWG. NO. 73649	WIRE ROPE ROLLER GUIDE	SCALE 6" = 1'-0"	UNLESS NOTED FRACT. DIM.	DATE 6-30-67
CODE NO.	ASSEMBLY	DR. R/JL	HOLE DIA.	REVISED DATE 9-13-79 JN
PATTERN NO.	# 8 & # 9 BOOMS	CK.	HOLE CENTERS	REVISIONS (A) REVERSED POSITION OF HEX SCREW
	MODEL 3900	APP.	FINISH	
			MATERIAL	

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MANITOWOC, WISCONSIN



NOTE:
SET SCREWS TO BE
REMOVED FROM
BOTH BEARINGS

REQ'D	CODE NO.
① 2 - # F 116 NICE FLANGE MOUNTED BEARING	<u>224218</u>
② 6 - 5/16" - 18 N.C. - 7/8" HEX SCREW	<u>612404</u>
③ 6 - 5/16" - 18 N.C. HEX NUT	<u>546053</u>
④ 6 - 5/16" LOCKWASHER	<u>710303</u>
⑤ 2 - TRUARC RETAINE RING	<u>596823</u>

NO REQ'D	DWG NO.	TITLE
<u>1</u>	<u>73650</u>	<u>ROLLER</u>
<u>2</u>	<u>77315</u>	<u>BRG. BRACKET</u>

- 190401
- 65550
- 65541
- 190281
- 47447
- 49761
- 49759
- 65136
- 43991
- 48074
- 42425
- 43258

SUPERSEDES 73649 OF 3-5-65

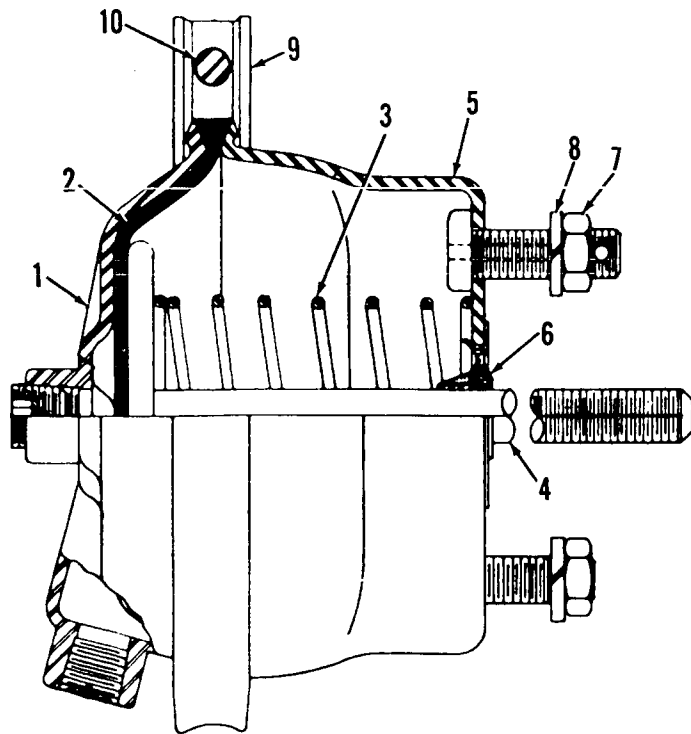
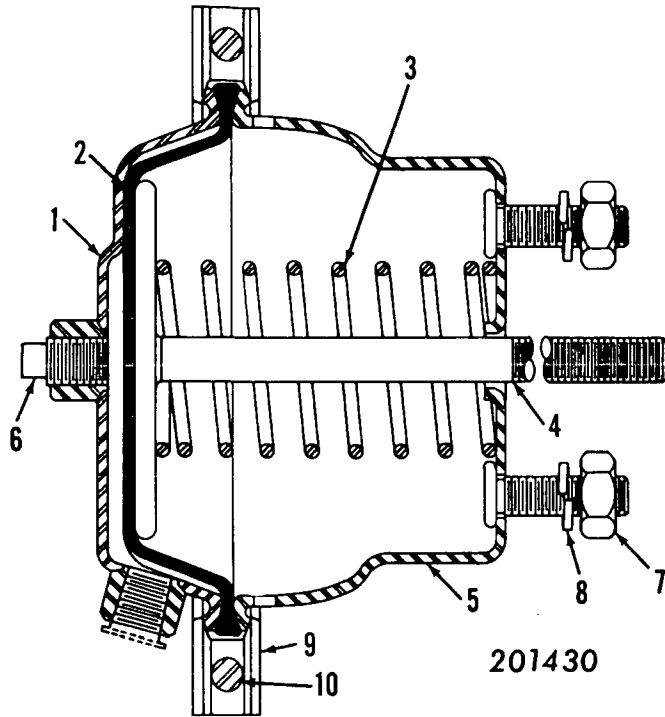
ASSEMBLIES
USED ON

DWG. NO.
73649

MANITOWOC ENGINEERING CO.

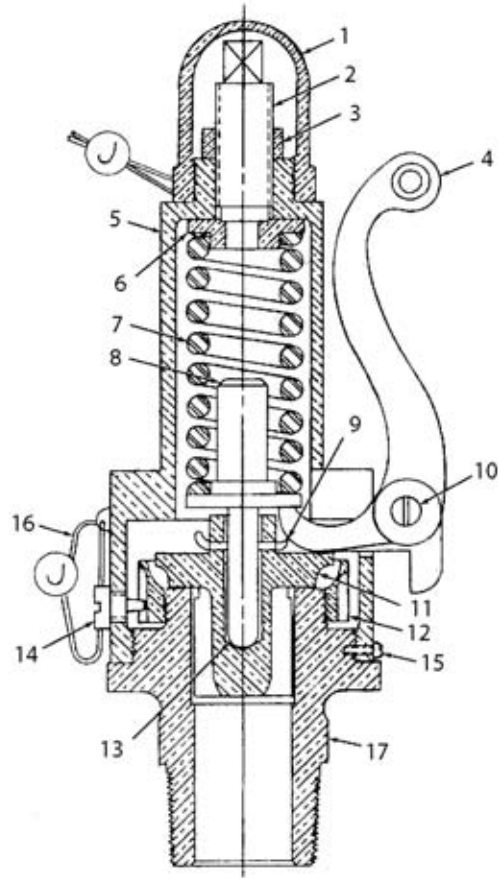
A Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin

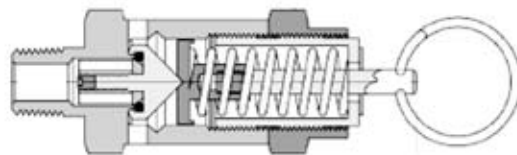


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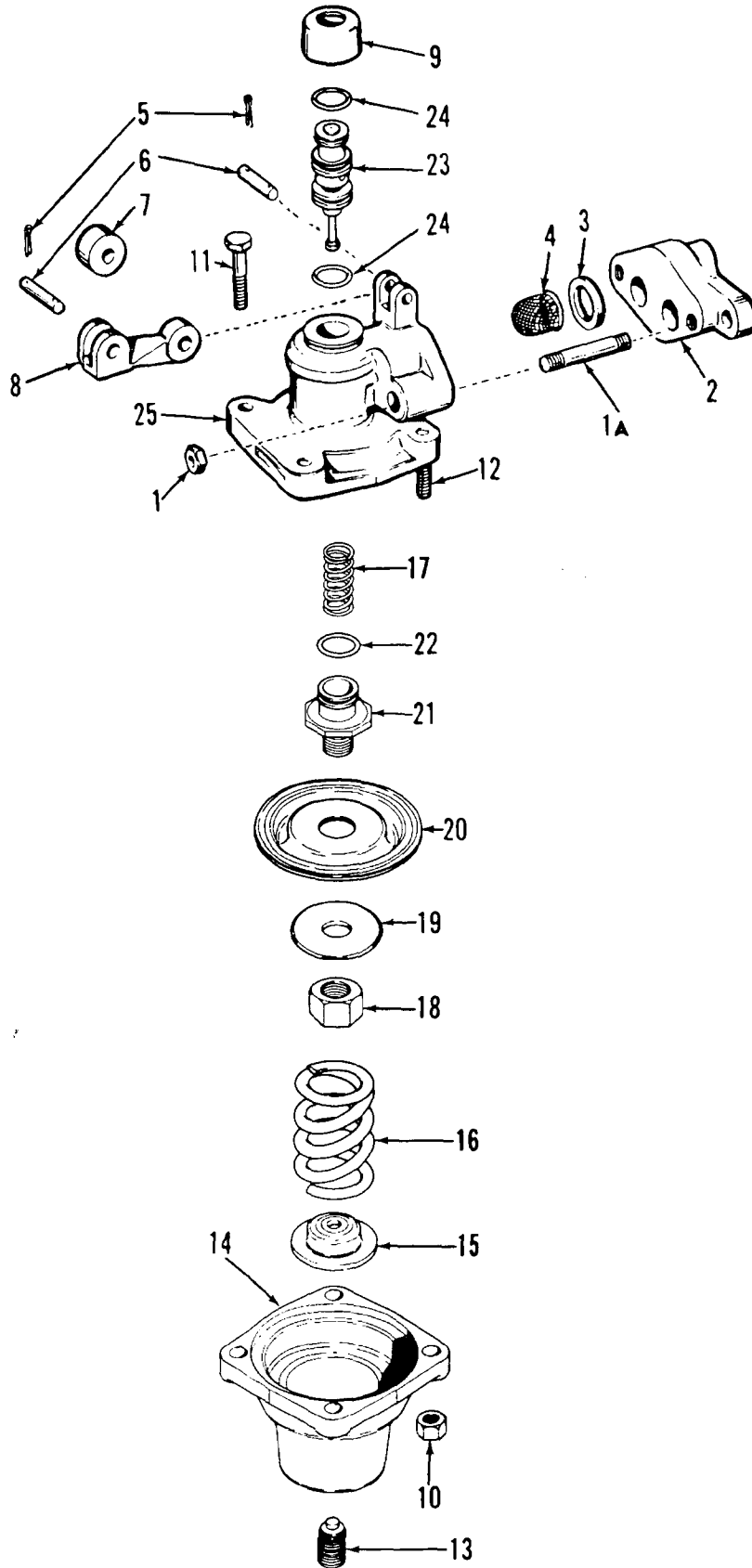
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ASSEMBLY	REVISION
O-156	F

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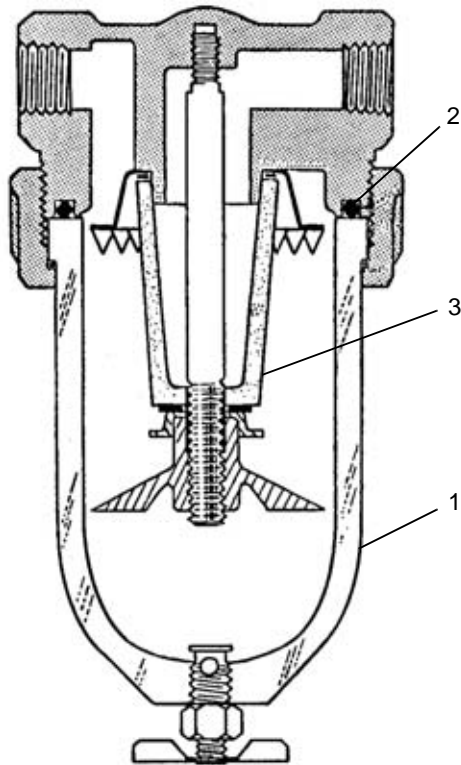
Manitowoc, Wisconsin



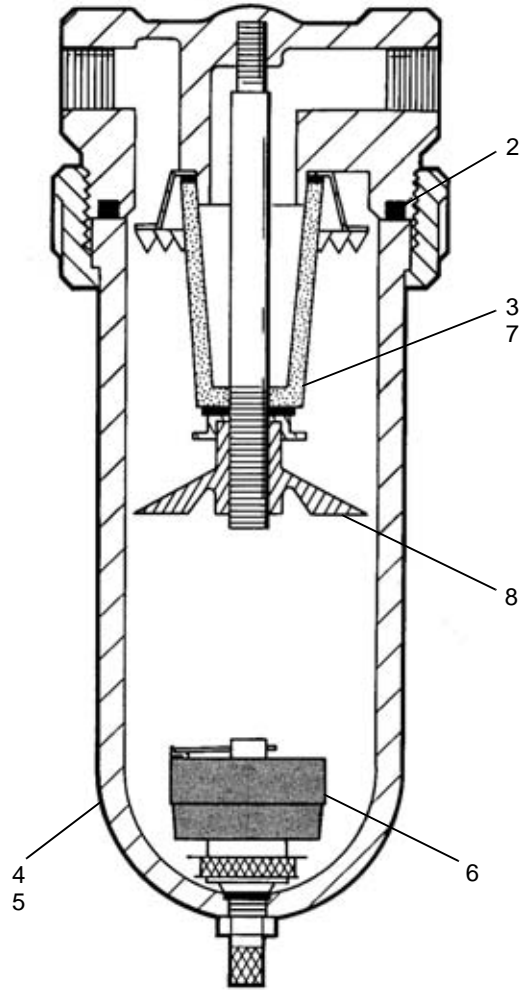
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MATERIAL LIST ON BACK

VALVE ASSEMBLY

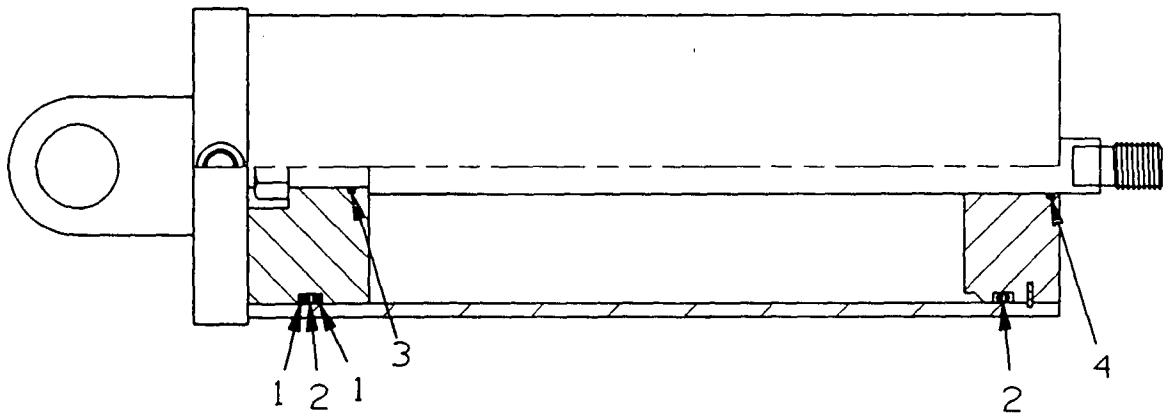


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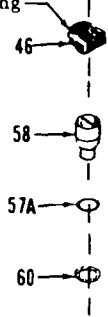
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ASSEMBLY	REVISION
O-289	G

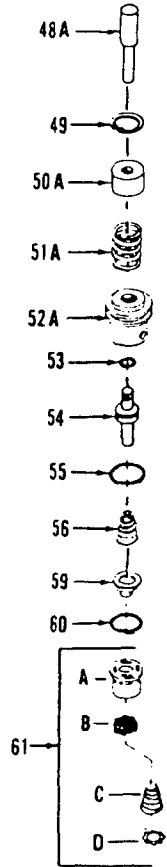


Cavity Plugged

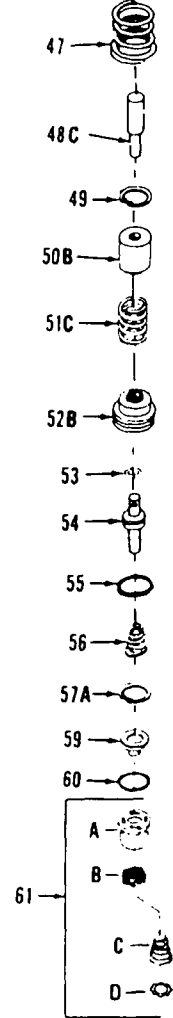
Fasten to Housing
Ref. #32



3 Way Valve



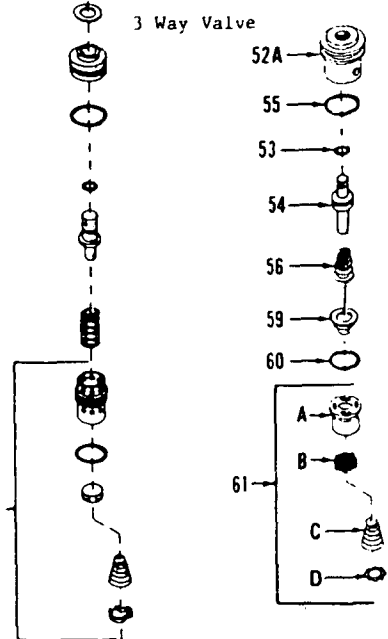
Modulating Valve



REPAIR AND CONVERSION KITS

Obsolete

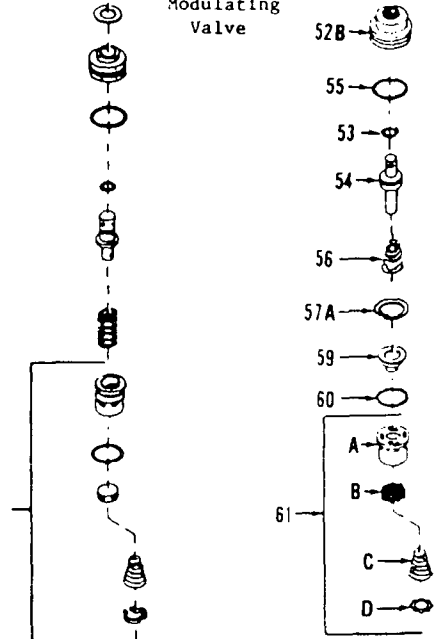
Replace With



Obsolete

Modulating Valve

Replace With



MANITOWOC ENGINEERING CO.

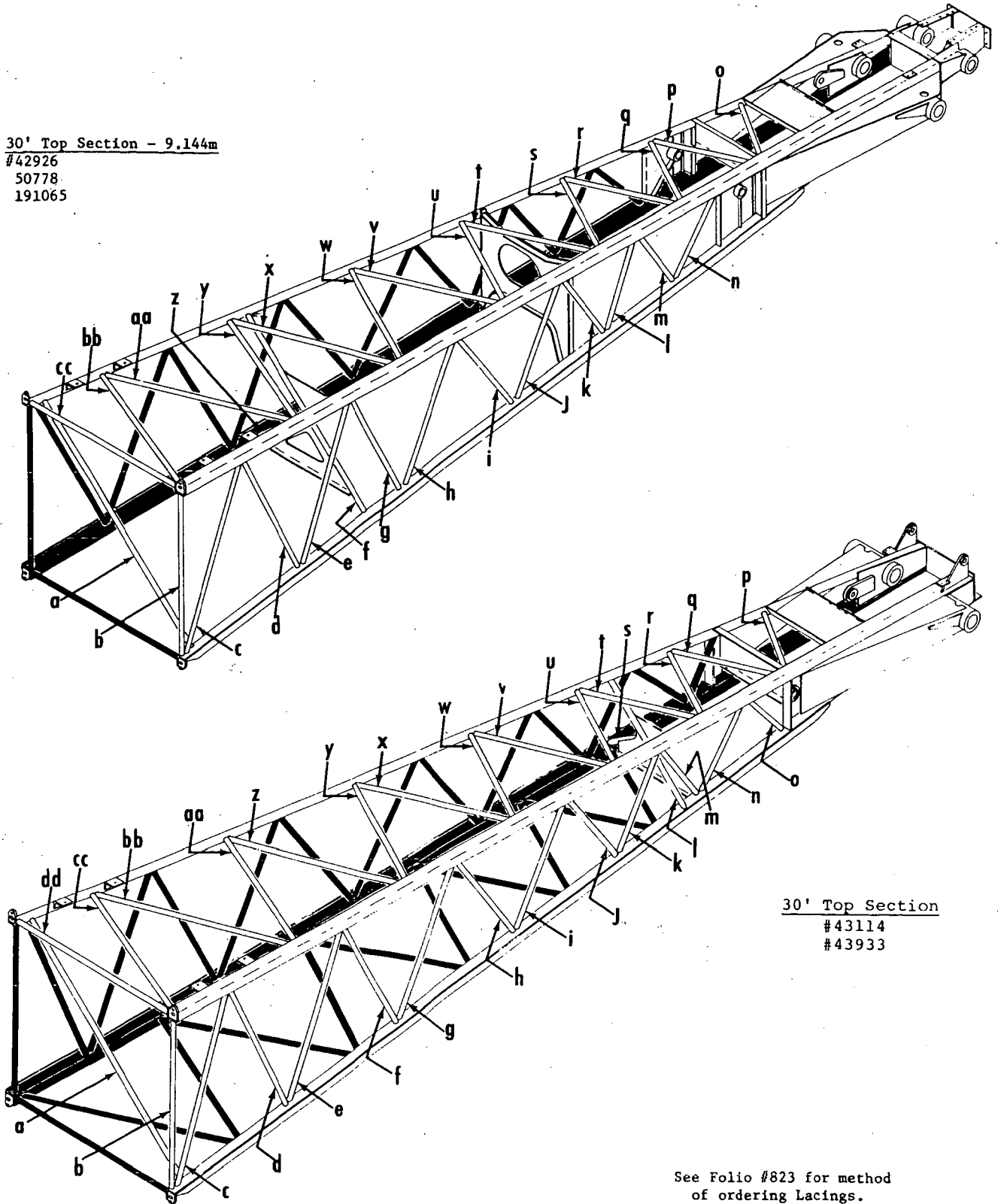
A Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin

Boom #8 and #8A
Left Side and Bottom Lacings Black
Opposite Lacings Same Unless Noted.

30' Top Section - 9.144m

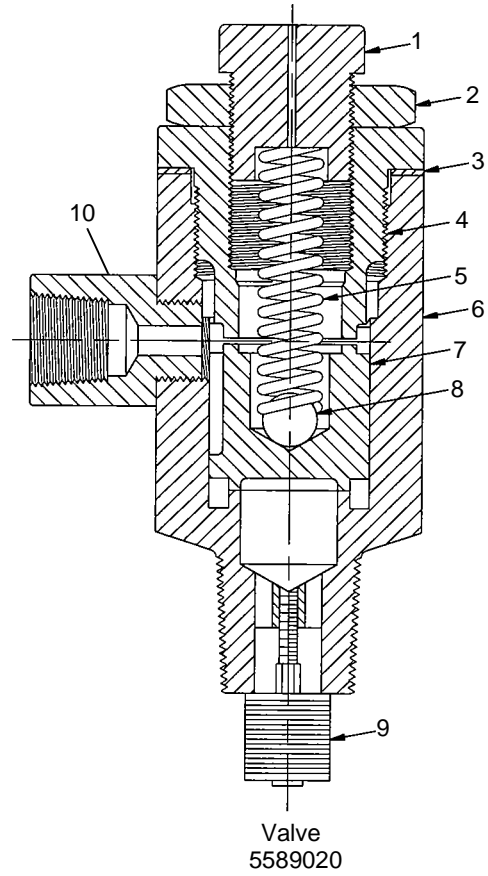
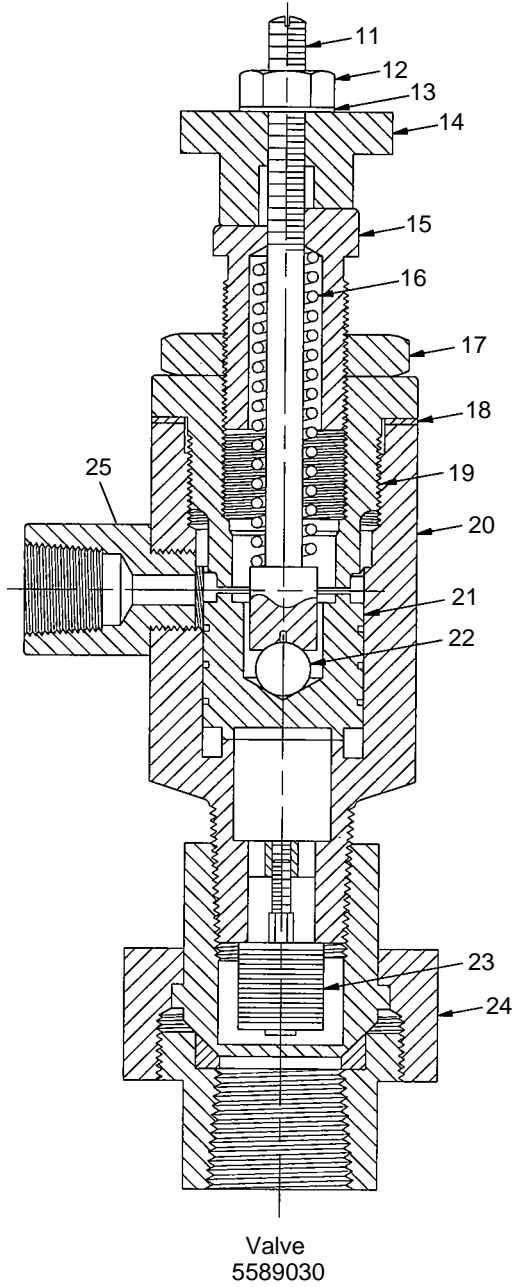
#42926
50778
191065



30' Top Section

#43114
#43933

See Folio #823 for method
of ordering Lacings.



ASSEMBLY	REVISION
O-72	B

VALVE, UNLOADER PILOT

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