



TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

4600

Model

460079

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

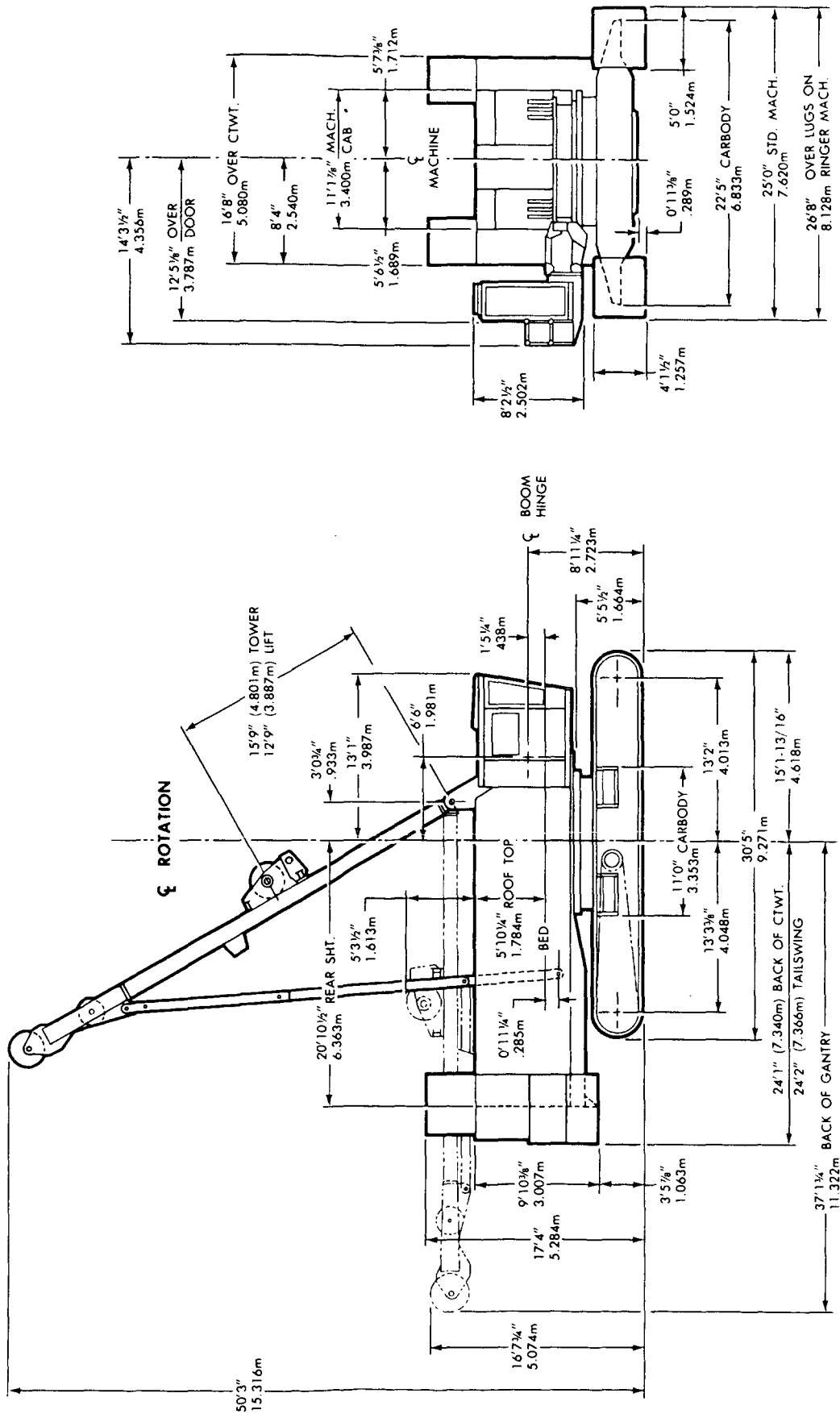
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4600 SERIES 5
W/Fixed Operator's Module

**PARTS MANUAL ALPHABETICAL INDEX
GROUP A - Rotating Structure**

DESCRIPTION	PUBLICATION	REV	START DATE	END DATE	GROUP
"A" Frame	49658	H1	09/22/72	12/15/80	A0101
Cab	65151	I1	02/02/73	06/24/86	A0201
Catwalk	190674	A1	01/16/78	05/04/81	A0801
Catwalk	65860	C1	09/06/78	05/21/91	A0801
Chain & Gear Case	190040	E1	07/12/74	03/07/85	A0401
Chain & Gear Case	49798	E1	07/03/73	10/05/90	A0401
Chart Holder	93994	D1	04/30/85	11/15/90	A0212
Chart Holder	95639	-	04/30/85	08/07/90	A0212
Counterweight & Cab Rear	191276	D1	01/20/82		A0301
Fuel Tank	182242	-	03/28/74	08/15/85	A0601
Nameplate/Decal Location	166447	D1	01/12/86	10/11/93	A0213
Operator's Station/Pilothouse	65763	E1	01/16/78	02/17/88	A0202
Operator's Station/Pilothouse	65763	A2	01/16/78	02/17/88	A0202
Operator's Station/Pilothouse	65763	-	02/17/88	05/12/97	A0202
Pilothouse Support	65910	A1	12/28/79		A0203
Platform	65861	B1	09/06/78	07/29/81	A0701
Rotating Bed Lubrication Piping	49853	-	06/14/73	09/26/76	A0104
Rotating Bed Lubrication Piping	65140	-	01/06/73	10/02/81	A0104
Rotating Bed/Hoist Frame/Transporter Platform	65086	L1	10/12/72	07/21/82	A0102
Windshield Wiper/Defogger	180880	-	08/04/76		A0210
Windshield Wiper/Defogger	190248	E1	12/17/75	03/02/84	A0210

65086-1 Cont.	REV. L	MODEL 4600 S4, S5
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ROTATING BED

MASTER

Run as Front

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
50	140756	6	PLATE, End W/capscrews and lockwashers	
	181764	2	ROLLER ASSEMBLY	
51	596084	8	RING, Nilos	
52	225540	4	BEARING (Set of two W/spacer)	
53	140718	4	ROLLER, Front House	
56	140735	4	SLEEVE	
57	49628	2	SUPPORT, Front Roller	
58	140727	4	PIN, Front Roller	
54	225218	4	LOCKNUT	
55	225170	4	LOCKWASHER	
59	140843	2	SPACER	
60	140848	2	PLATE, Keeper W/capscrews and lockwashers	
61	94330	2	SHAFT, Pivot	
62	141910	1	COVER W/capscrews and lockwashers	
63	141911	1	GASKET (1/16" Vellumoid)	
64	144359	1	PLATE, Cover W/capscrews and lockwashers	
65	145635	1	COVER W/capscrews and lockwashers	
66	145636	1	GASKET	
			NOTE 1: Capscrews w/Housing #181744 are #613813, 3/4" - 10 x 1 3/4" Grade 5. Torque to 250 foot pounds.	
			NOTE 2: Machine w/out air joint, cover opening in Ref. #28 with the following:	
67	146995	1	COVER w/capscrews and lockwashers	
68	16149	1	GASKET	
			NOTE 3: Machine w/out travel, cover openings in bed w/the following: (Weld in place)	
69	143221	1	COVER	
70	147010	1	COVER	
71	146993	1	COVER	
72	146992	1	COVER	
			NOTE 4: If converting S/N 460001 - 460049 incl. to a Series 5 machine, Rotating Bed #65085, Ref. #1, must be modified per Drwg. #420317.	
			NOTE 5: Install washer 140845 with relief facing roller.	
				REV. L
				65086-1

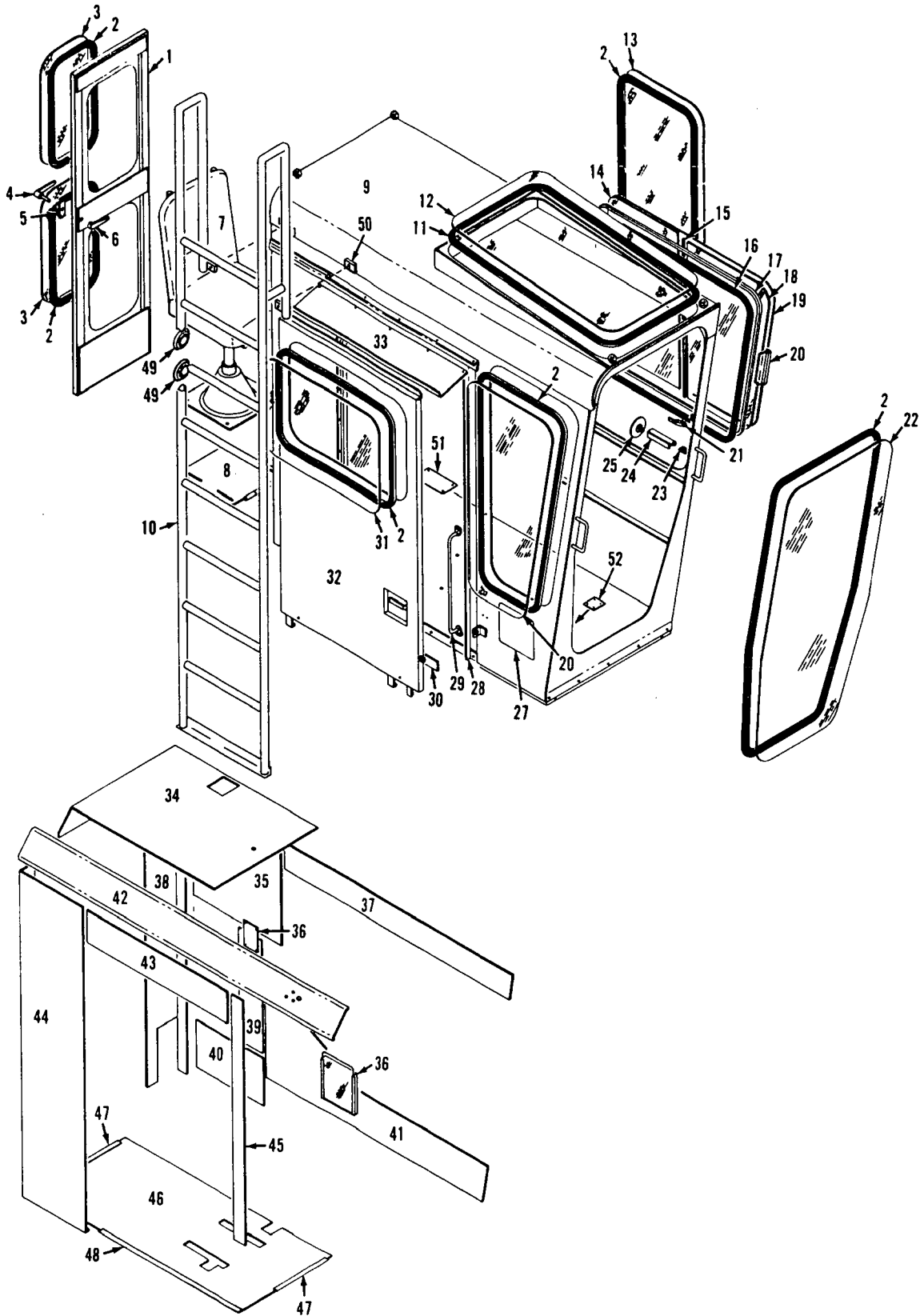
PLEASE GIVE MACHINE S/N W/ORDER

65086-1 Cont'd.

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Manitowoc, Wisconsin



6576381

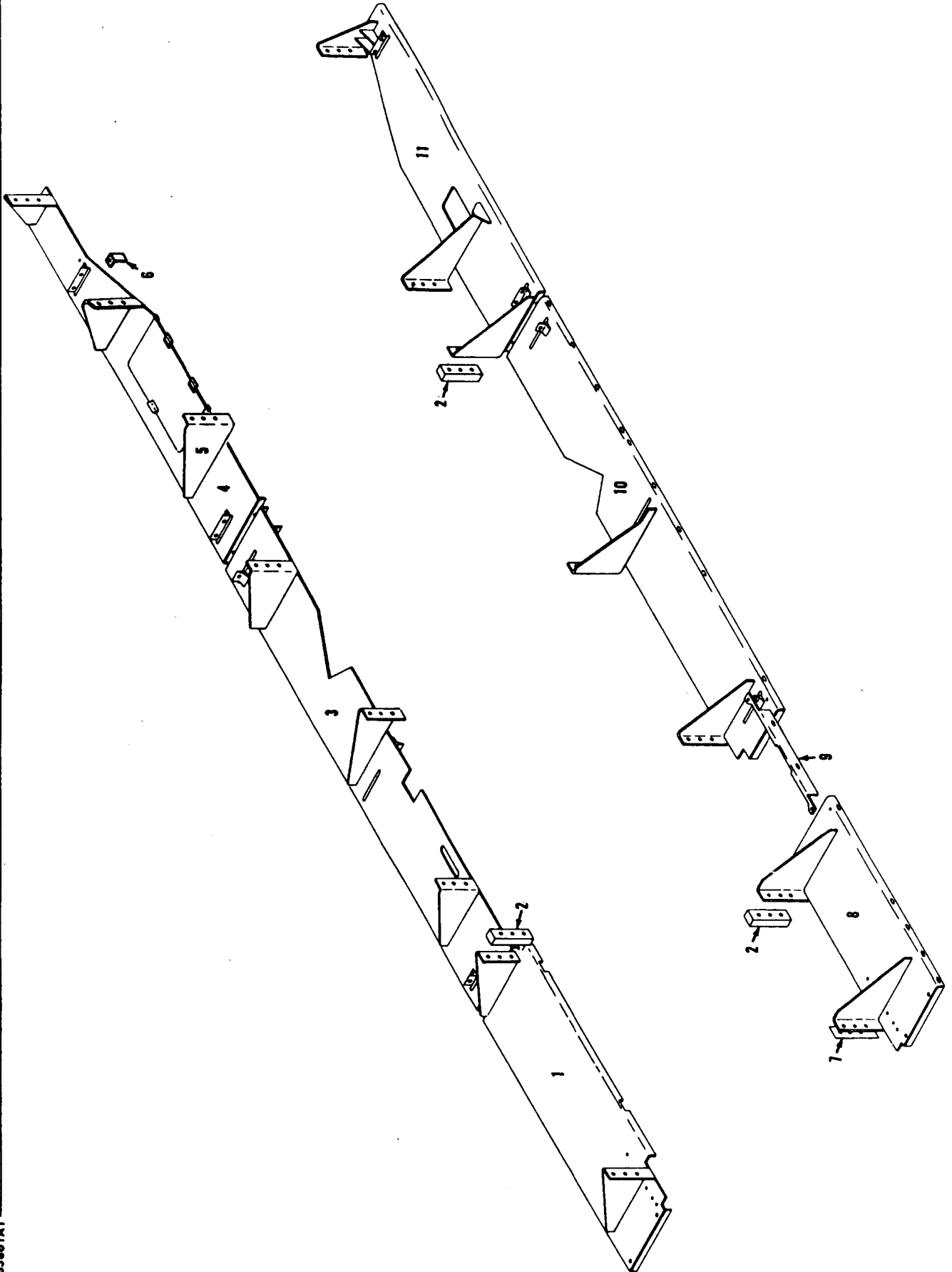
MATERIAL LIST ON BACK

Operator's Cab

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MASTER

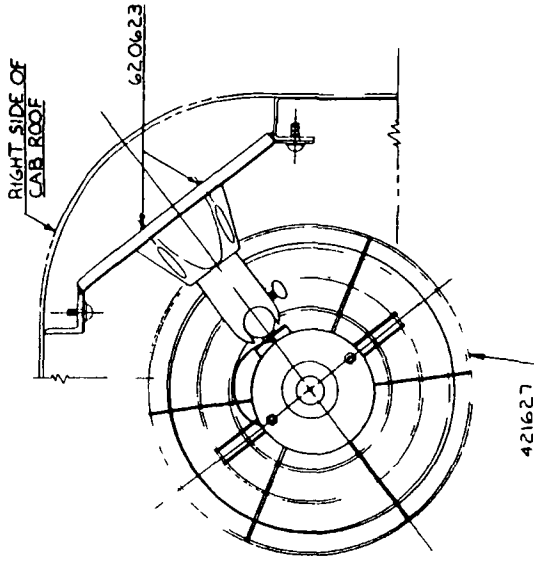
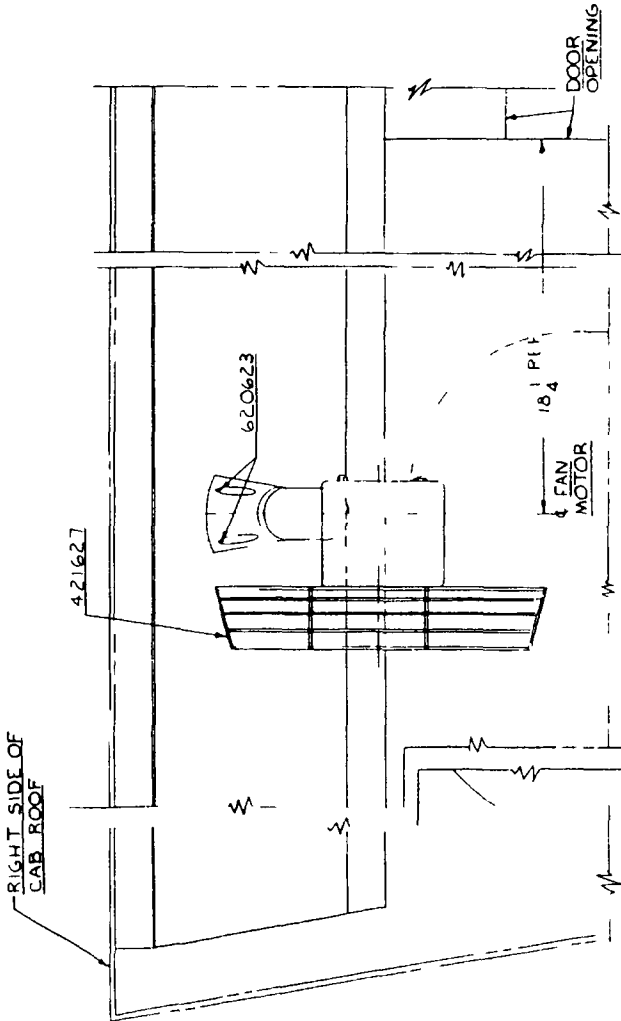
65861A1

MATERIAL LIST ON BACK

PLATFORM

BILL OF MATERIAL		REMARKS
QTY	DESCRIPTION	
1	FAN 24 VOLT	421627 SEE NOTE 1
4	NO 10 3/4 PANHD SHT MTL SCR	620623

NOTE 1
 FOR WIRING DIAGRAM
 SEE INSTRUMENT AND CONTROL
 GENERAL ARRANGEMENT 24V



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 ENGINEERING CO.

SUPERSEDES 180880 OF 4 21 70

DATE	4 21 70	BY	4100W 6000 W
JOB	FAN ASSEMBLY 24V	FOR	WINDOW DEFOGGING
COMPANY	MANTOWOC ENGINEERING CO		
PROJECT	4600 SERIES 4		

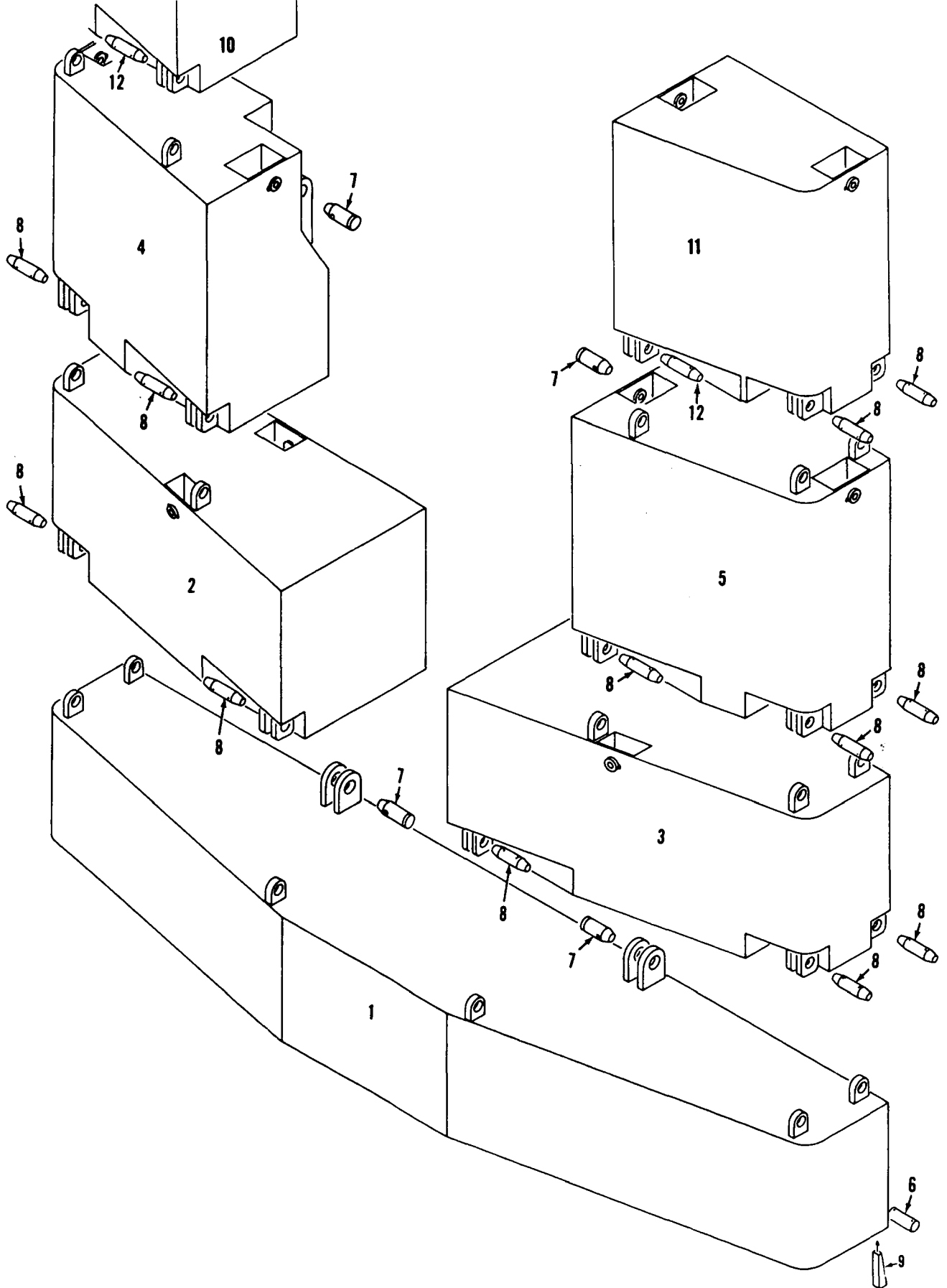
8 4 76

180880

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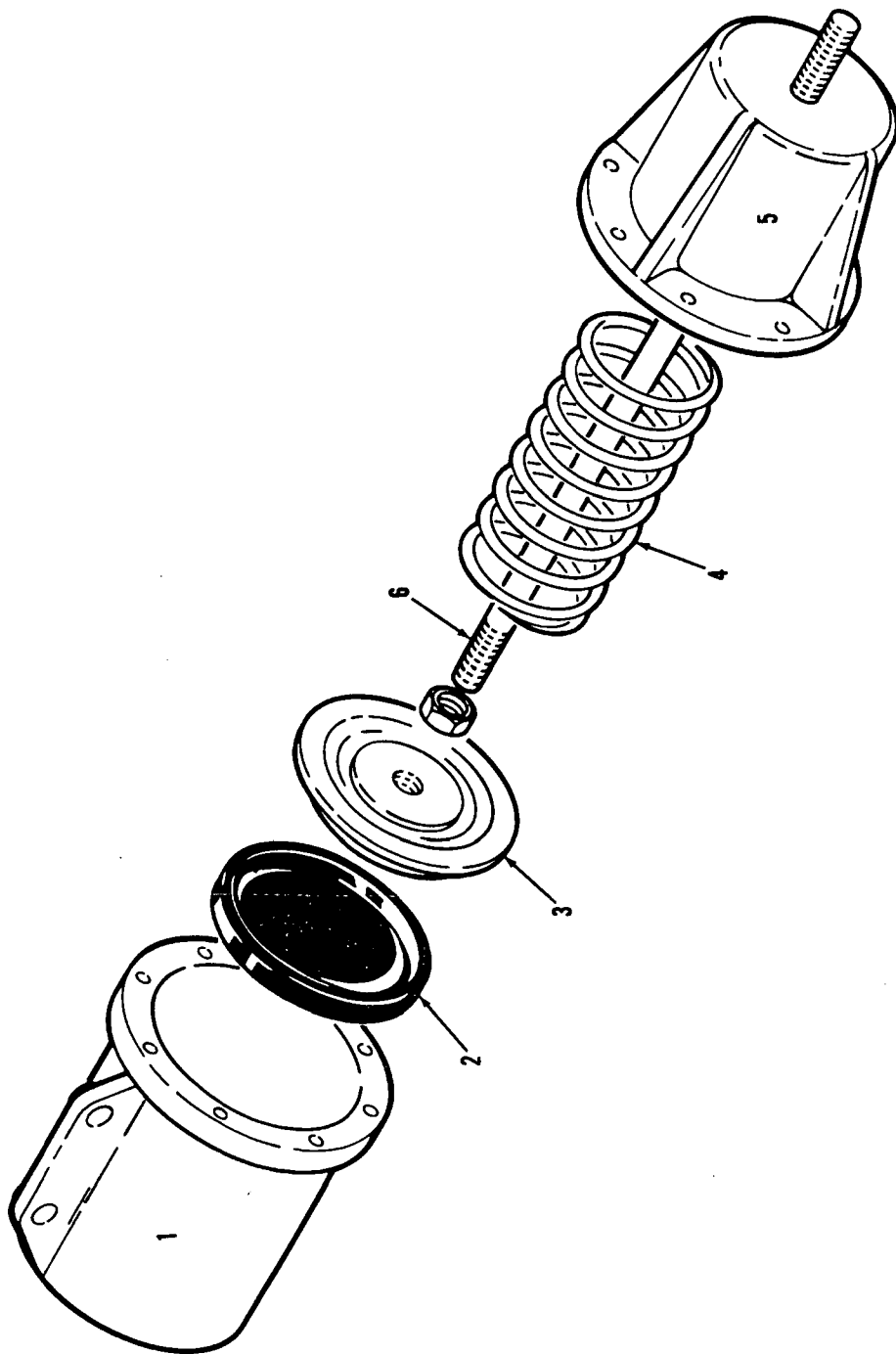


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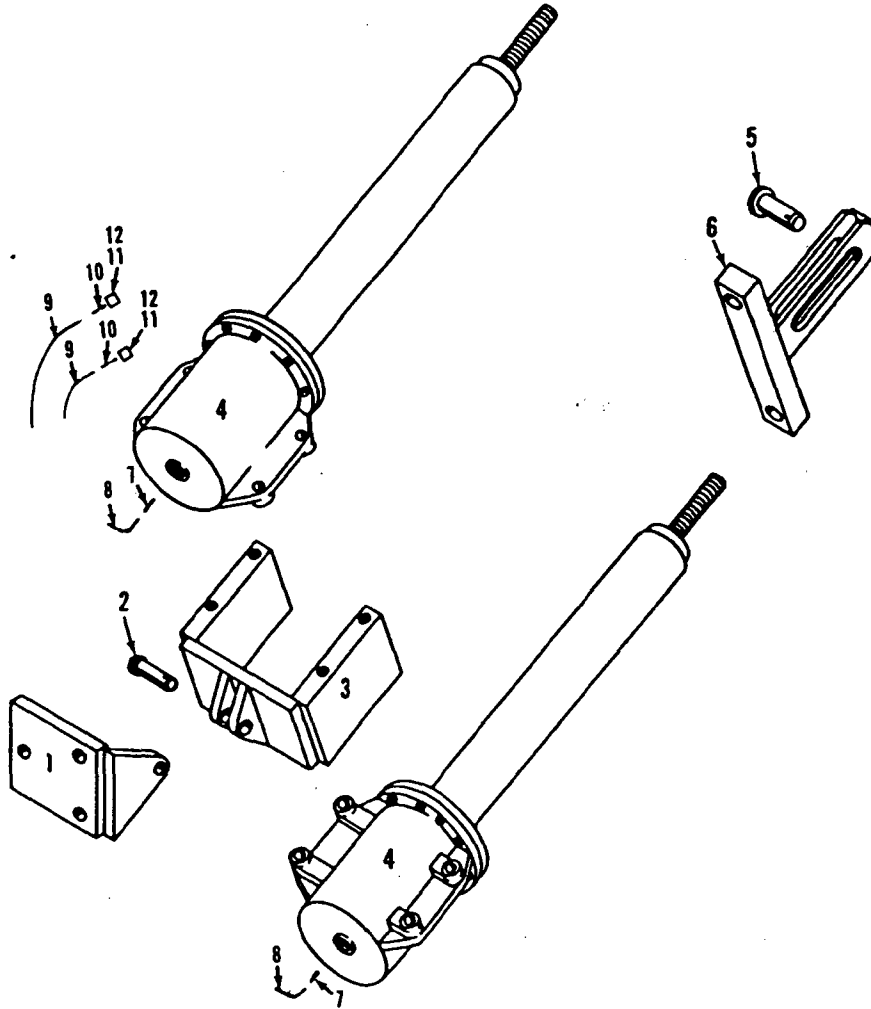
19127681

MATERIAL LIST ON BACK

COUNTERWEIGHT



MASTER



42768B1

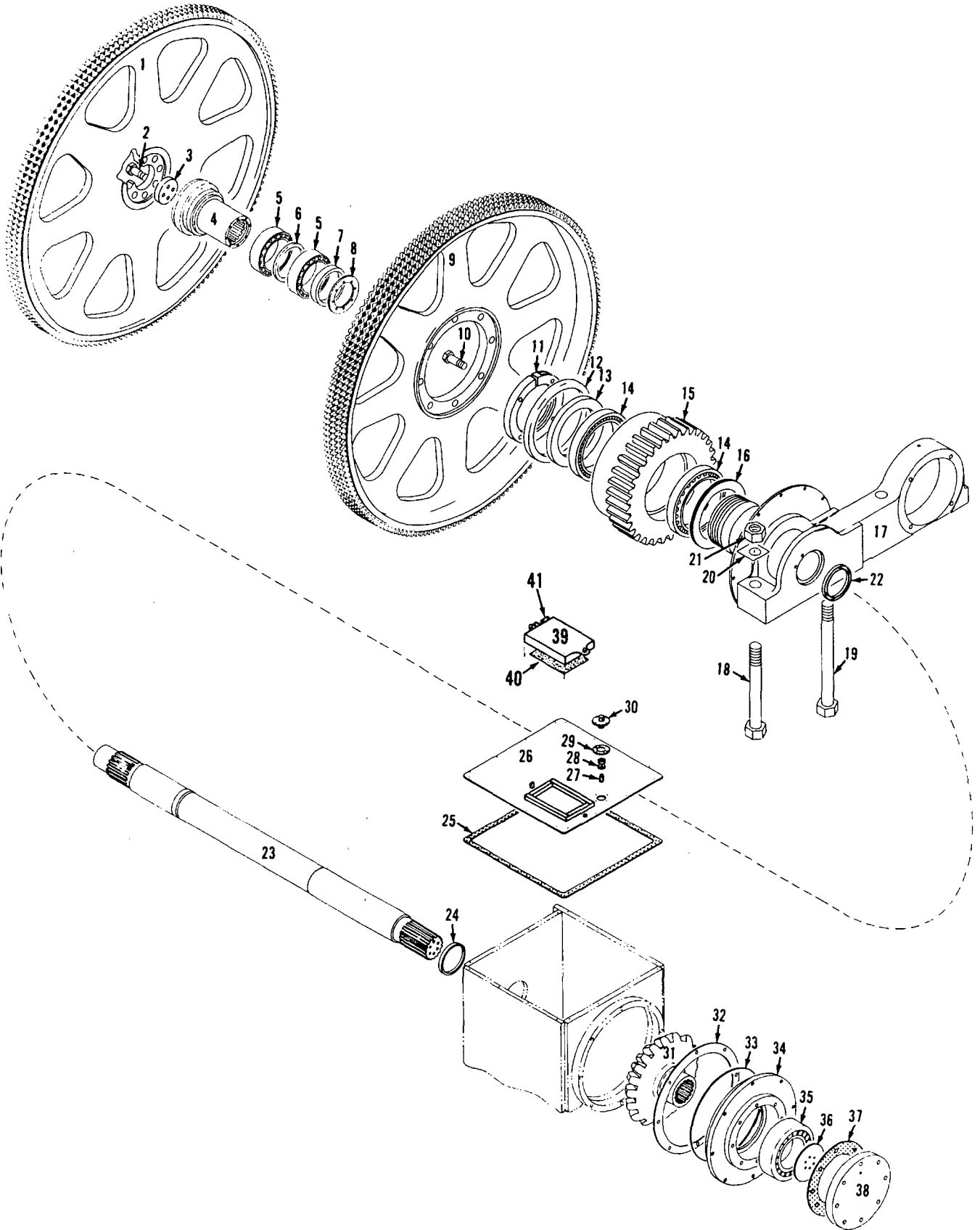
MATERIAL LIST ON BACK

FRONT DRUM PARKING BRAKE CONTROL

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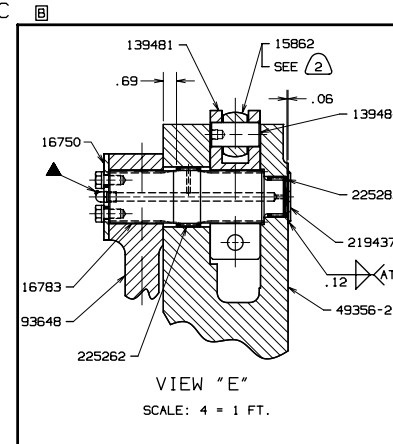
Manitowoc, Wisconsin



49645C1

MATERIAL LIST ON BACK

MAIN DRIVE SHAFT



- SCALE: 4 = 1 FT.
- THE PROPER WIDTH SPACER (18620) IS TO BE USED TO CONTROL END PLAY OF DRUM TO .025 MIN. - .062 MAX.
- THIS ASSEMBLY IS EQUIPPED WITH CORROSION RESISTANT PINS.
- CANNOT BE USED WITH RATCHET RING.
- MUST BE USED WITH RATCHET RING.
- WITH 16745 REACH ROD.
- DRUM PLUG ASSEMBLY (94565) IS TO BE USED WITH DRUM (49265) WHEN LAGGING IS NOT REQUIRED.
- DELETE DRUM (49265) WHEN AN OPTIONAL DRUM IS USED.
- IF BEARING 224332 IS SUPPLIED WITHOUT A 90.50 RETAINING HOLE IN OUTER RACE, BACK OUT DOWEL SCREW 140082 UNTIL IT CLEARS BEARING OUTER RACE AND LOCK DOWN WITH JAM NUT.

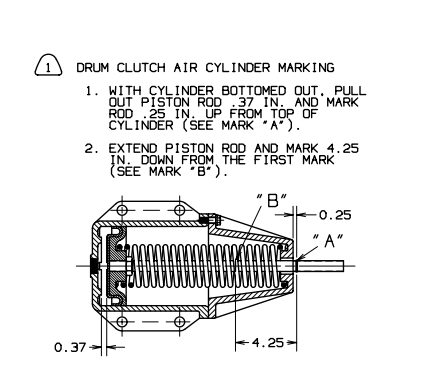
- CLUTCH ADJUSTMENT**
- APPLY CLUTCH, MARK "B" SHOULD BE FLUSH WITH END OF CYLINDER.
 - IF MARK "B" IS NOT FLUSH, RELEASE CLUTCH AND ADJUST EYE BOLT (15862). REAPPLY CLUTCH AND CHECK MARK "B". ADJUST UNTIL MARK "B" IS FLUSH.
 - APPLY CLUTCH POSITION GUIDES (139610) TO OBTAIN APPROX. .015 CLEARANCE BETWEEN GUIDES AND CLUTCH BAND.
 - RELEASE CLUTCH, MARK "A" SHOULD BE .25 BEYOND END OF CYLINDER.
 - IF MARK "A" IS NOT IN CORRECT POSITION READJUST GUIDES.
 - CHECK THAT THERE IS A MIN. OF .015 CLEARANCE ALL AROUND BETWEEN CLUTCH LINING AND DRUM FLANGE.
- NEVER-SEEZ**
- APPLY NEVER-SEEZ OR EQUIVALENT TO THE FOLLOWING:
- ALL SPLINED SURFACES
 - ALL THREADED SURFACES
 - ALL PINS
 - ALL BORES
 - ALL ROLLER BEARING BORES
- GREASE LUBRICATION**
- BEFORE ASSEMBLING, MAKE SURE ALL GREASE HOLES ARE OPEN. GREASE FITTING LOCATIONS ARE MARKED WITH SYMBOL ▲. USE MOBILUX E.P. #2 GREASE (M.E.C. CODE NO. 471197) OR THE EQUIVALENT.
- BOLT TORQUE**
- APPLY NEVER-SEEZ OR EQUIVALENT TO THREADS AND UNDER HEADS.
- TORQUE BOLTS 14423 TO 360 FT. LBS.
 - TORQUE BOLTS WITH RATCHET RING (160293) TO 360 FT. LBS.
 - TORQUE BOLTS 19809 TO 700 FT. LBS.
 - TORQUE BOLTS 76282 TO 2500 FT. LBS.
 - TORQUE NUTS 73518 TO 3500 FT. LBS.
- WHEN RATCHET RING (160293) IS USED, DELETE 12 COUPLING BOLTS (14423) AND REPLACE WITH 12 COUPLING BOLTS FURNISHED WITH RATCHET RING.
- TO REMOVE PIN (139494) WHEN REPLACING CLUTCH BAND, SHAFT (16783) MUST BE REMOVED TO ALLOW PIN TO SWING CLEAR OF CASTING.

DRUMS - OPTIONAL

1 29.12 DIA. DRUM W/LEBUS LAGGING FOR 1.625 ROPE	160269
1 28.75 DIA. DRUM W/LEBUS LAGGING FOR 1.25 ROPE	184624
1 29.12 DIA. DRUM W/LEBUS LAGGING FOR 1.50 ROPE	166985
1 28.70 DIA. DRUM W/LEBUS LAGGING FOR 1.25 ROPE	167504

LAGGINGS - OPTIONAL

1 41.00 DIA. LAGGING FOR 1.625 ROPE	49716
1 41.50 DIA. PLAIN LAGGING	49910
1 41.00 DIA. LAGGING FOR 1.625 ROPE	163037
1 41.50 DIA. PLAIN LAGGING	190311
1 41.125 DIA. LAGGING FOR 1.50 ROPE	190703



3.25 X .125 MALE CONNECTOR	429363
1.25 MALE CONNECTOR	429364
1.50 HOSE - 29.00 LG.	485938
2.188 HOSE - 20.00 LG.	486083
1.75 EX. HVY. CLOSE NIPPLE	543272
1.50 X 3.50 LG. NIPPLE	543519
1.75-16UNF-2B JAM NUT	546273
2.25-20UNC-2A X .75 LG. CAPSCREW	612353
2.25-20UNC-2A X .50 LG SELF TAP CAPS	620589
1 OIL SEAL	622538
2 OIL SEAL	622539
1 OIL SEAL	622931
3.25 PIPE STRAP	667202
1.50 PIPE STRAP	667219
1.25 COPPER TUBING	696210
1 QUICK RELEASE VALVE	702465

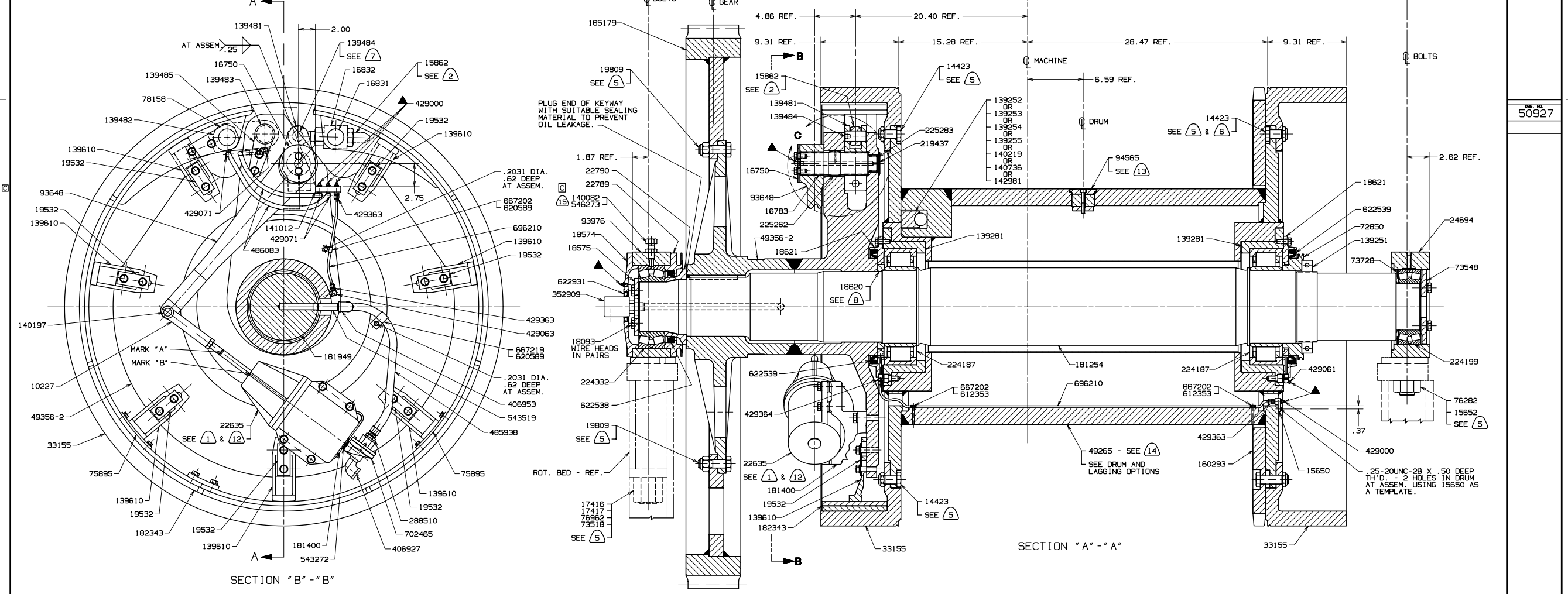
WEDGES

1 ANCHOR WEDGE FOR 1.625 ROPE	139252
1 ANCHOR WEDGE FOR 1.50 ROPE	139253
1 ANCHOR WEDGE FOR 1.75 ROPE	139254
1 ANCHOR WEDGE FOR 1.00 ROPE	139255
1 ANCHOR WEDGE FOR 1.25 ROPE	140219
1 ANCHOR WEDGE FOR 1.125 ROPE	140736
1 ANCHOR WEDGE FOR 1.375 ROPE	142981

1 CLUTCH LEVER	93648
1 BEARING HOUSING	93976
1 DRUM PLUG ASSEMBLY	94565
1 NUT	139251
2 BEARING SLEEVE	139281
1 CLUTCH LEVER	139481
1 DEAD END LINK	139482
1 PIN	139483
1 PIN	139484
1 KEEPER PLATE	139485
7 CLUTCH BAND GUIDE	139610
1 DOWEL SCREW	140082
1 PIN	140197
1 GREASE FITTING PANEL	141012
1 RATCHET RING	160293
1 DRUM GEAR - 99 TOOTH	165179
1 DRUM SHAFT	181254
1 CYLINDER SUPPORT	181400
1 CLUTCH BAND SUB-ASSEMBLY	182343
1 1.125 X 1.00 X 2.50 LG. BAR	219437
2 ROLLER BEARING	224187
1 SPHERICAL ROLLER BEARING	224199
1 SPHERICAL ROLLER BEARING	224332
1 NEEDLE BEARING	225262
1 NEEDLE BEARING	225283
1 1.75 X .50 BUSH NUT	288753
1 ROTOR SEAL	352909
1 1.50 X 90° ELBOW	406953
4 1.125 GREASE FITTING	429000
1 1.25 X 67° GREASE FITTING	429061
1 1.125 X .25 X 90° ELBOW	429063

BILL OF MATERIAL

QTY	DESCRIPTION	MATERIAL	QTY
1	1.75 ADJUSTABLE YOKE END	14423	1
1	481.00 COUPLING BOLT	10227	1
1	LUBRICATING PIPE SUPPORT	15650	1
2	NUT LOCK	15652	2
1	EYE BOLT	15862	1
1	COVER	16750	1
1	CLUTCH OPERATING SHAFT	16783	1
1	PIN	16831	1
1	SPACER FOR LIVE END OF DRUM CLUTCH	16832	1
2	STUD	17416	2
2	NUT	17417	2
6	1.75-16UNF-2A X 1.25 LG GR 5 CAPSCR.	18093	6
1	OUTER BEARING RETAINER	18574	1
1	SHAFT END PLATE	18575	1
1	DRUM SHAFT SPACER	18620	1
2	BEARING RETAINER	18621	2
7	BOLT LOCK	19532	7
1	1.00 COUPLING BOLT	19809	1
1	AIR CYLINDER ASSEMBLY	22635	1
1	INNER BEARING RETAINER	22789	1
1	DRUM SHAFT SPACER	22790	1
1	BEARING HOUSING	24694	1
2	DRUM FLANGE	33155	2
1	DRUM CLUTCH SPIDER	49356-2	1
1	128.00 DIA. PLAIN DRUM	49265	1
1	SPACER	72850	1
2	NUT	73518	2
1	END PLATE	73548	1
1	SPACER	73728	1
4	ROLLER GUIDE	75895	4
2	1.75 COUPLING BOLT	76282	2
2	NUT LOCK	76962	2
1	PIN	78158	1

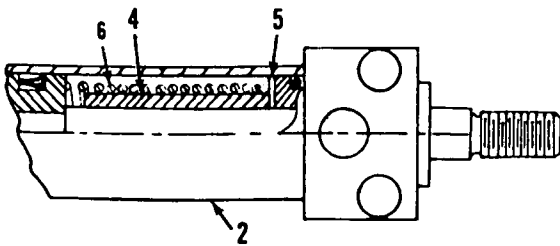
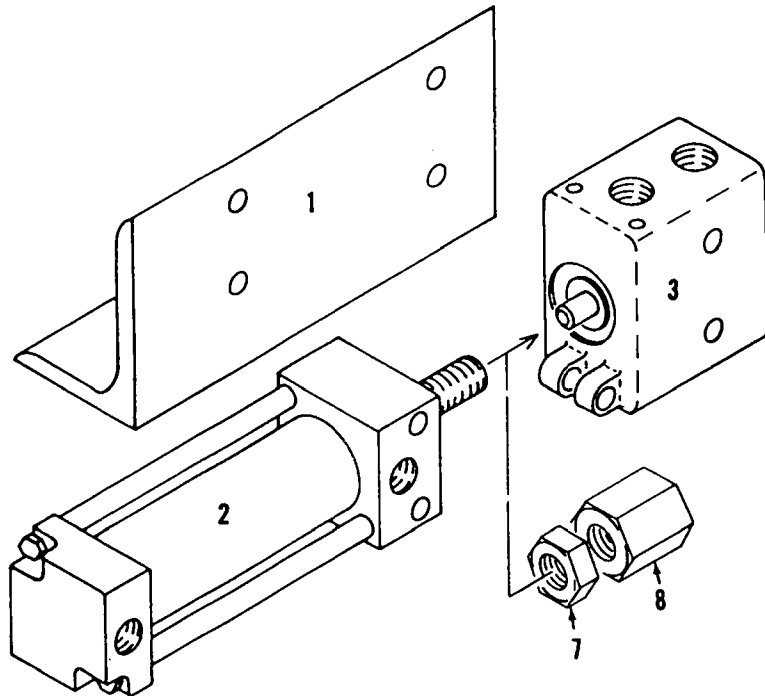


65213-1 Cont.	REV. K	MODEL 4600 S3, S4
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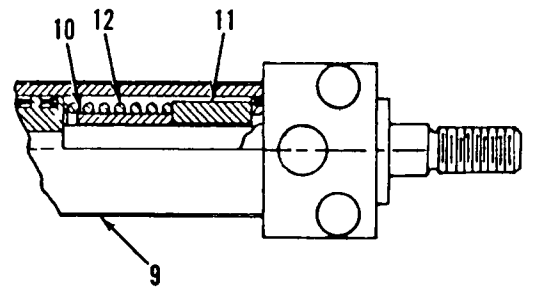
FRONT DRUM SHAFT
(99T. Gear - 63" Dia. Flange)

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
	191269	1	LAGGING (41-1/8" dia. 1-1/2" gr. - optional) (not shown) (Drum #65199 only)	
	163013	1	LAGGING (Optional) (41" Dia. - 1-5/8" Wire Rope) (Not shown) (Drum 65199 only)	
	72439	4	STUD w/hex nut and lockwasher	
<p><u>NOTE 1:</u> Torque nuts on bolts #19809 to 700 ft. lbs. and nuts on bolts #257153 to 360 ft. lbs. Lubricate w/Never Seez on threads and under face of nut.</p> <p><u>NOTE 2:</u> Optional lagging cannot be used on Lebus drum #160270 & 166986</p> <p><u>NOTE 3:</u> 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. #17) contacts spacer 18620 and not bearing retainer (Ref. #19), leaving .025" - .062" end play in drum.</p>				
				REV. K
				65213-1

PLEASE GIVE MACHINE S/N W/ORDER



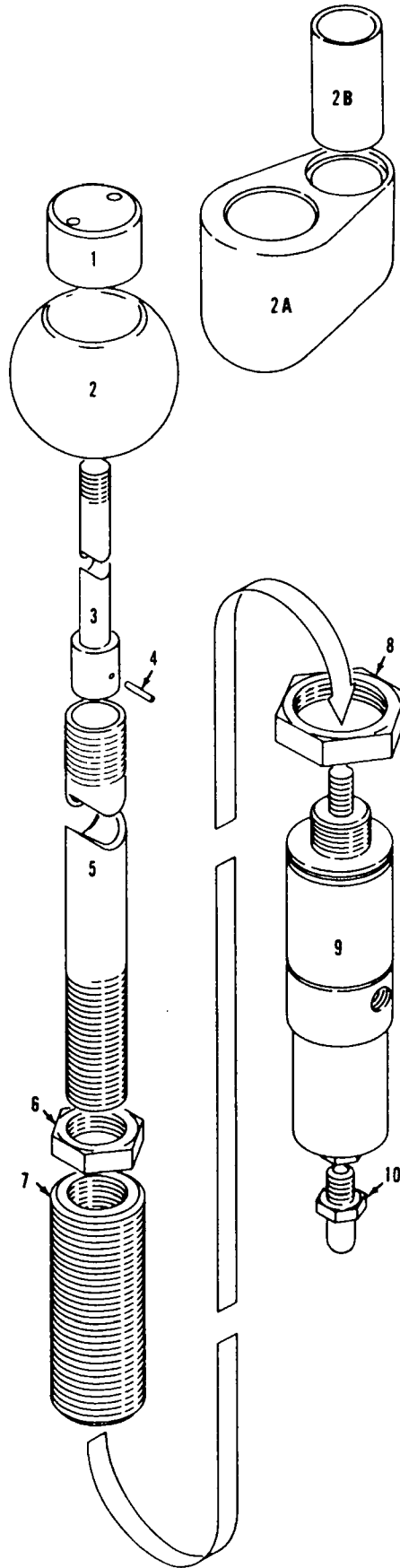
HYDRAULIC CYLINDER 147767



HYDRAULIC CYLINDER 163682

93059D1

MASTER



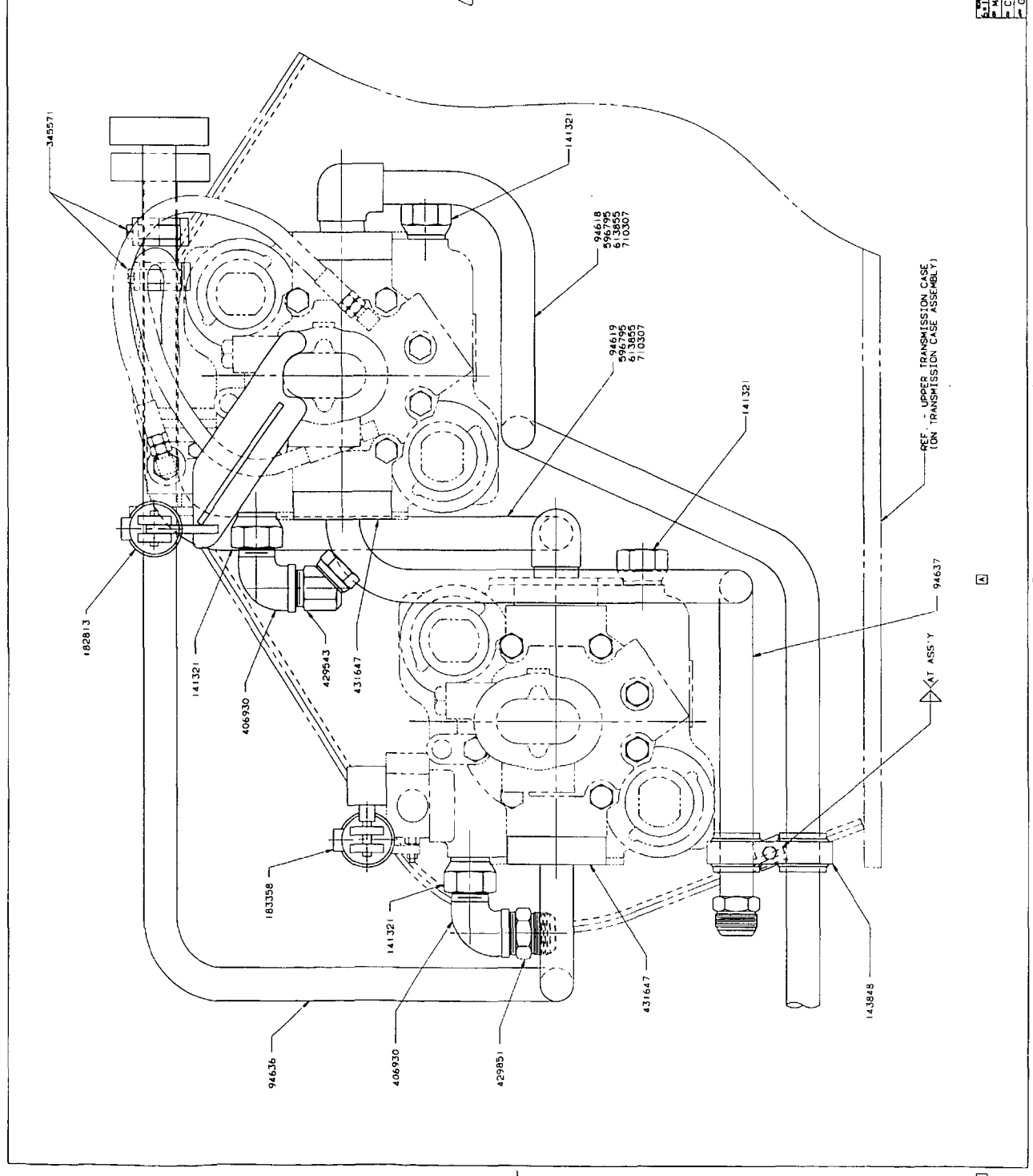
95822A1

QTY	NO.	DESCRIPTION	UNIT	QTY	NO.	DESCRIPTION	UNIT	QTY
		1 TUBE, PREFORMED 1.50 OD			94619			
		1 TUBE, PREFORMED 1.50 OD			94619			
		1 TUBE, PREFORMED 1.50 OD			94636			
		1 TUBE, PREFORMED 1.50 OD			94637			
		4 ADAPTER 1/2 SAE X 1.25 FE NPT			141321			
		1 CLAMP ASS'Y, TUBE			143848			
		1 PUMP POSITIONER ASS'Y			182813			
		1 PUMP POSITIONER ASS'Y			183358			
		2 CLAMP ASSEMBLY VERMATIC 1.50			345571			
		2 90° STREET ELBOW 1.25 NPT			406930			
		1 45° SWIVEL ADAPTER 1.25 NPT X 1.25 NPT			429943			
		1 MALE CONNECTOR 24 JIC X 1.25 NPT			429951			
		2 BRIT FLANGE ASS'Y (24 Phi)			431647			
		2 10" RING			596795			
		8 625-11 UNC-2A X 2.25 GR 5 CAPSCREW			163855			
		8 625 LOCKWASHER			710307			

10" RING REPLACEMENT BILL
 USE
 141321
 431647
 596795

WELD CLAMPS, MEC # 345571, AT FINAL ASS'Y.

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FORMERLY WAS 49773

DATE	12-17-83
BY	
CHKD	
APP'D	
TITLE	92 12 91
SCALE	
PROJECT	MANITOWOC ENGINEERING CO. HYDRAULIC PIPING ASS'Y
DRAWING NO.	ON TRANSMISSION CASE
REV.	FOR BODY HOIST & TRAVEL
REV.	4600 SERIES 4
REV.	1-PUMPS 1-LOCK-UP-AND-SYSTEMS
REV.	163136

BILL OF MATERIAL

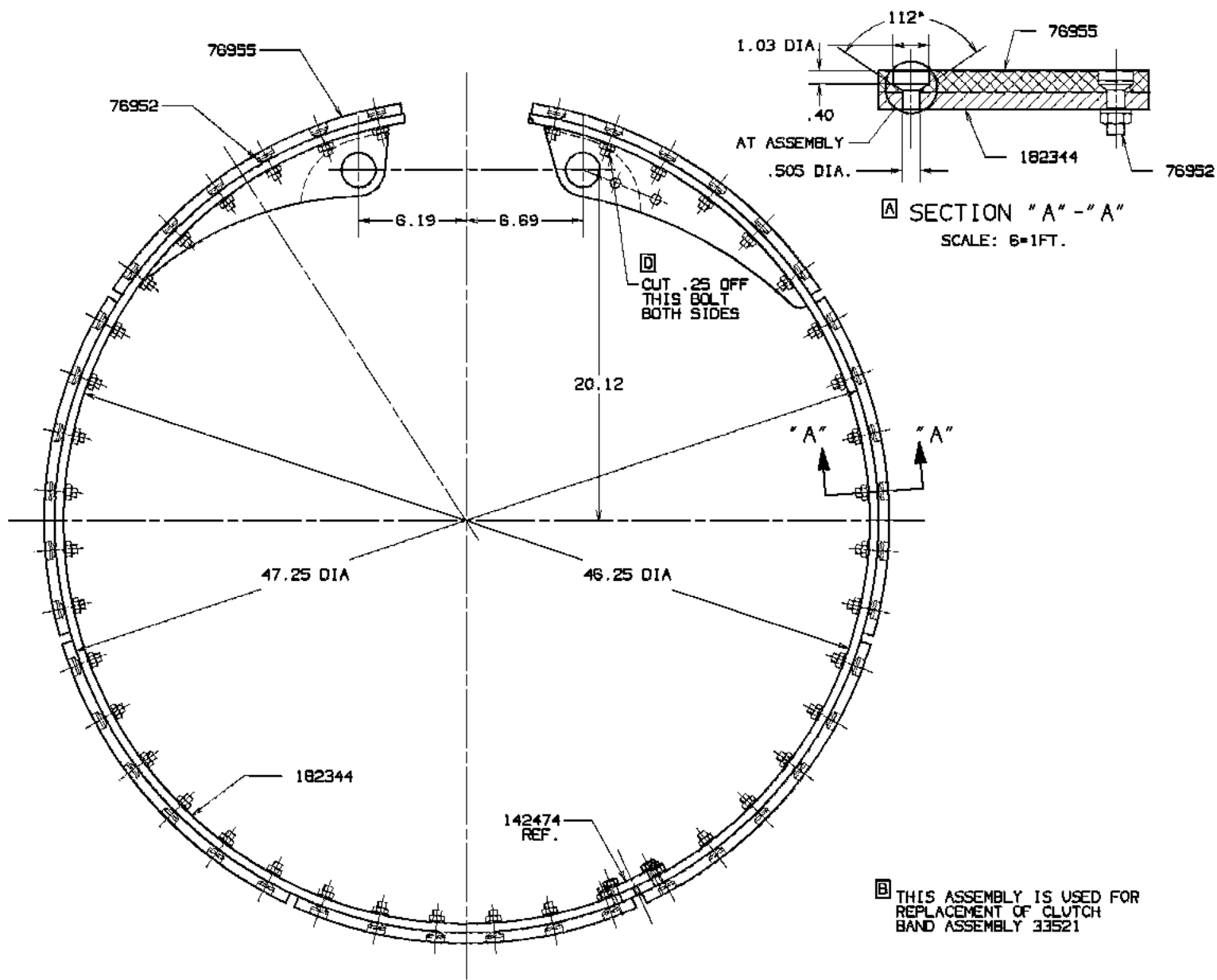
QTY.	DESCRIPTION	MATERIAL	QTY. OF DWG. NO.
1	CLUTCH BAND	182344	
1	CLUTCH BAND LINING	76955	
1	CLUTCH BAND BOLT	76952	

ASSEMBLY USED ON

50250
50376
50451
50477
50922
65193
65194
65213
192225

REVISIONS

12-19-74	LJG	AI ADDED
2-11-76	EAR	BI NOTE ADDED
6-7-83	RRE	REDRAW CADAM
CK	KP	APP. TLP
5-6-86	LPW	CJ ADDED
5-12-95	TMB	DI ADDED



SECTION "A" - "A"
SCALE: 6=1FT.

THIS ASSEMBLY IS USED FOR REPLACEMENT OF CLUTCH BAND ASSEMBLY 33521

DWG. NO.
182345

DWG. NO.
7-25-74

PATTERN NO.
182345-1
182345

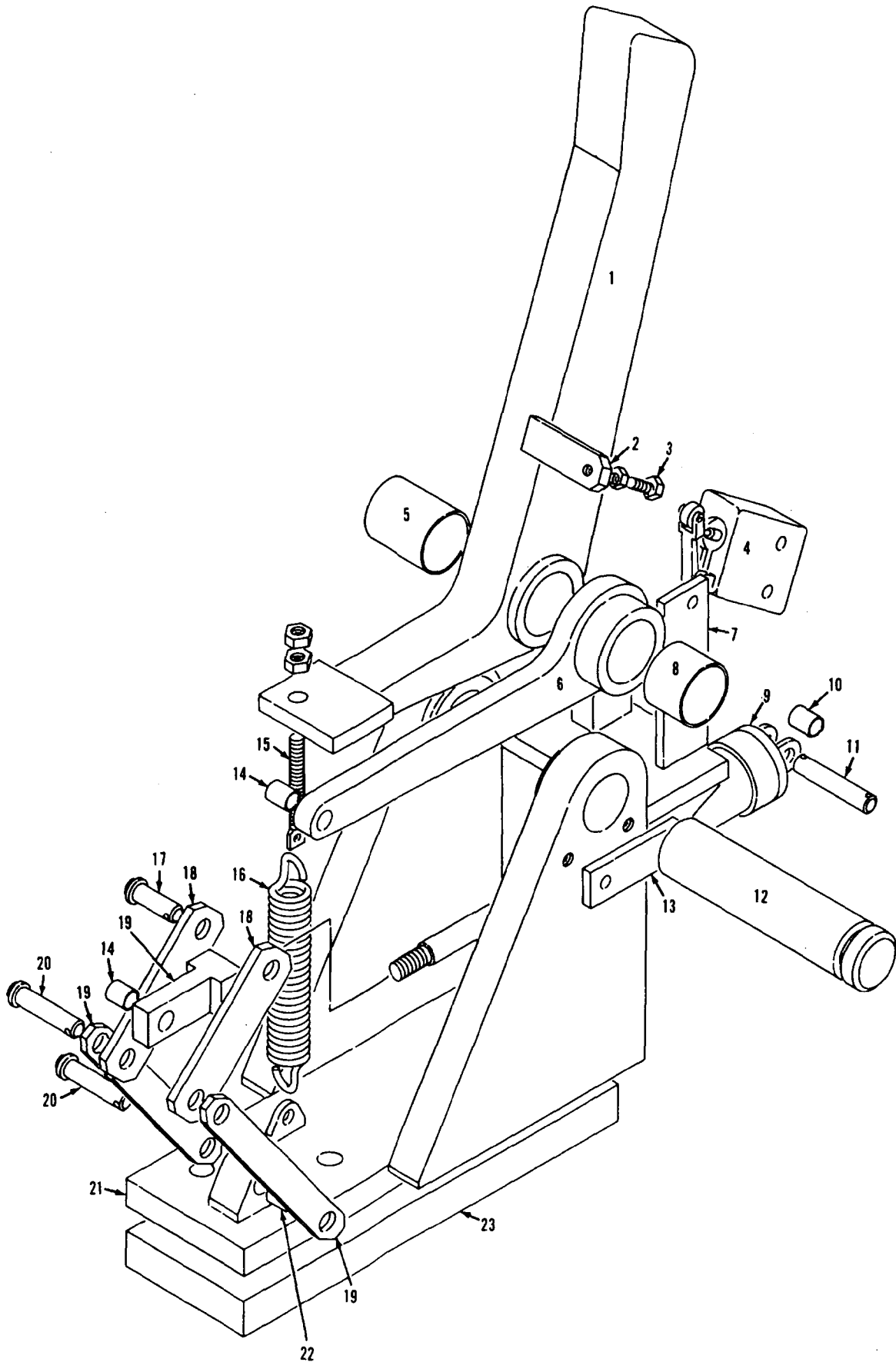
CLUTCH BAND SUB ASSEM. CODE NO.	CLUTCH BAND LINING PER DWG. 76955		NO. OF BOLTS REQ'D. PER DWG. 76952	NO. OF BANDS REQ'D. PER DWG. 182344
	NO. REQ'D.	CODE NO.		
182345-1	7	508560	84	1
182345-2	7	508650	84	1

SUPERSEDES 33522

3-11-74	Martinez Crane, Inc.	
BY HLW	Martinez, Wisconsin	CLUTCH BAND
BY JMB	REV. 4600, 4600 S-3	SUB-ASSEMBLY
BY		FOR 7.75 BAND

DO NOT SCALE THIS DRAWING

MASTER

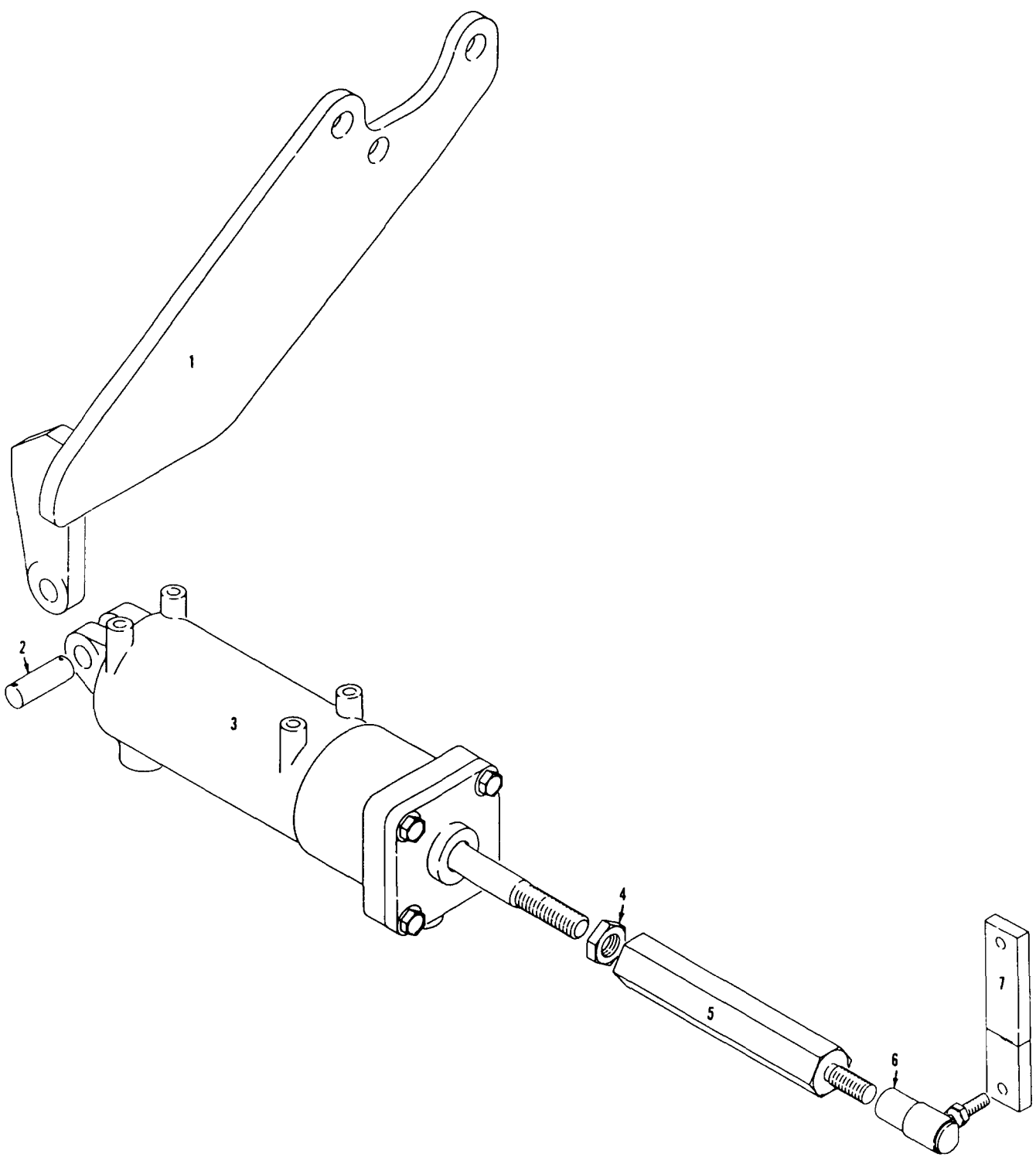


182761A1

MATERIAL LIST ON BACK

DRUM PAWL

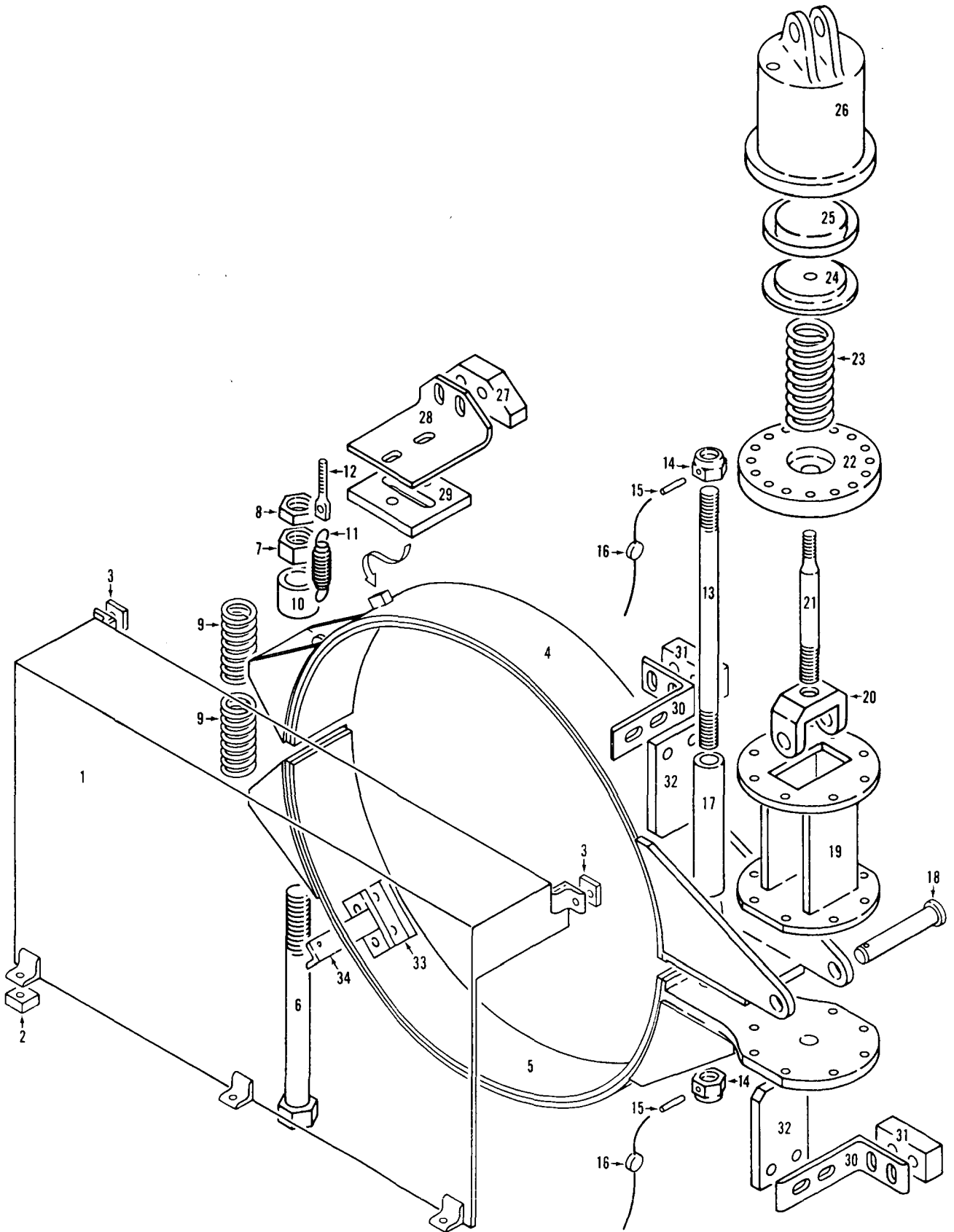
MAST



182813A1

MATERIAL LIST ON BACK

Hyd Swing Pump Control

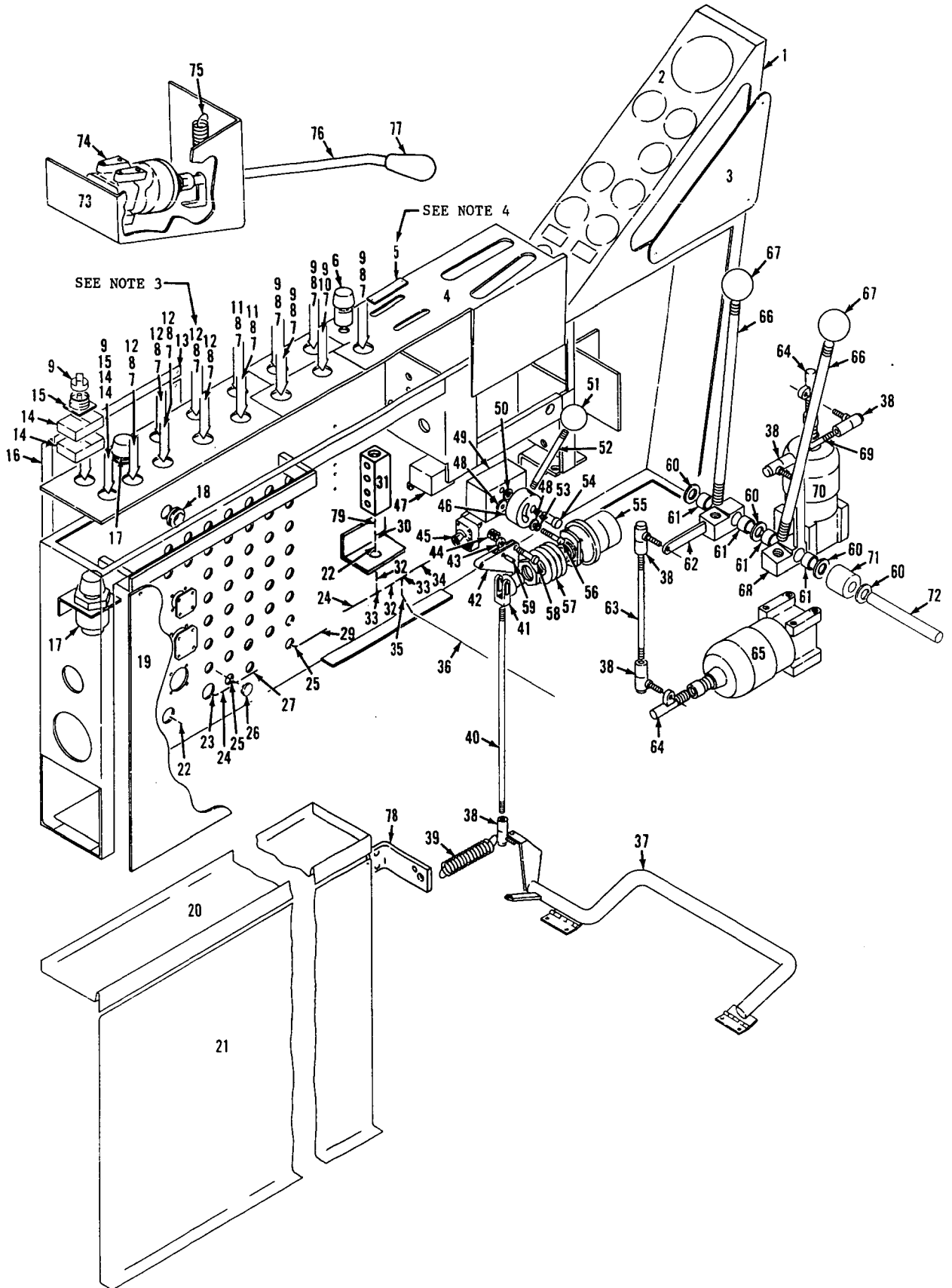


184084C1

MATERIAL LIST ON BACK

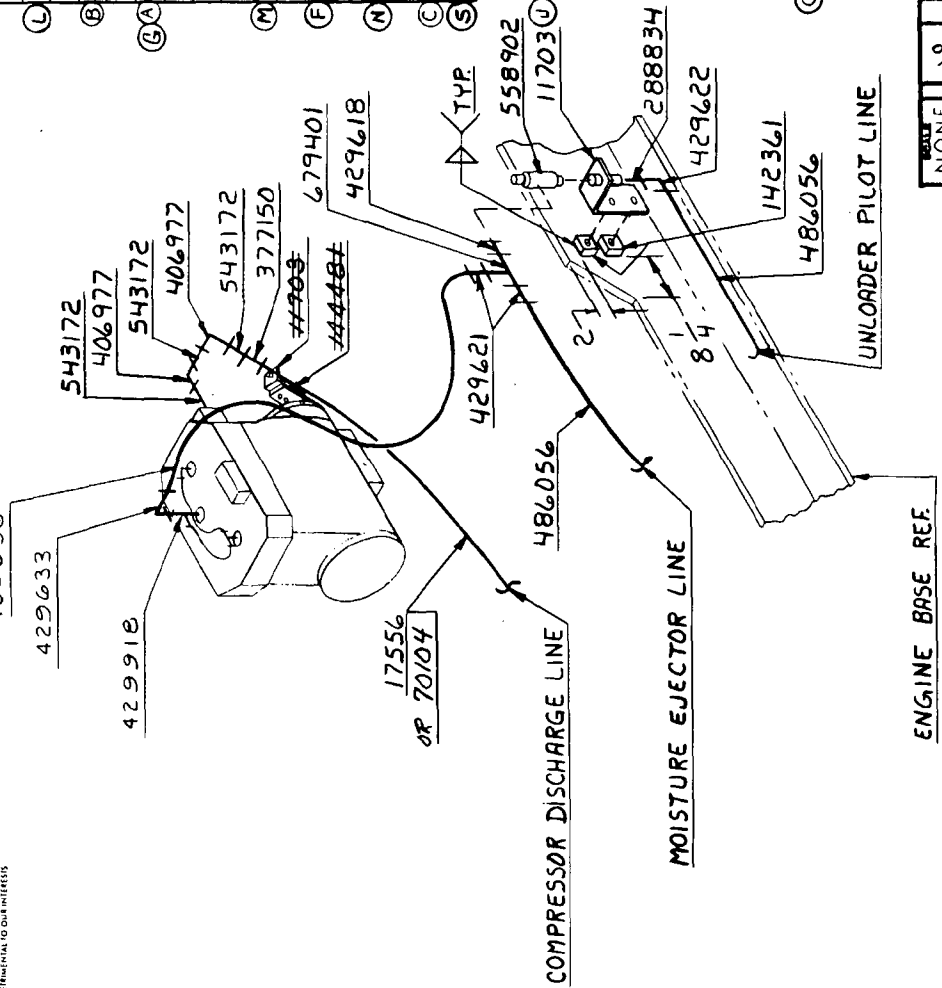
TRAVEL BRAKE

GROUP C - Air Components & Electrical



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 PERMISSION OF OUR INTERESTS



ITEM NO.	QTY	DESCRIPTION	MATERIAL	CODE NO. OR ENG. NO.	REMARKS	ASSEMBLED USED ON
1		BRACKET		11703		65595
1		SUPPORT		14448		65229
1		1 I.D. X 8 FT. I.L.G. HOSE		17556	SERIES 4 ONLY	65967
2		MOUNTING PAD		142361		65970
1		1/2 X 1/4 NUT BUSHING		288834		65970
1		PIPE COUPLING 1 x 3/4		377150		65970
2		3/4 X 90° ELBOW		406977		65970
1		3/8 X 1/4 CONNECTOR		429618		2-13-78 R.L.K.
1		1/4 HEX. NIPPLE		429621	I.E. 268 P	A WAS 2 REQD
2		3/8 X 1/4 MALE CONNECTOR		429633	I.E. 269 P	B DELETED
1		3/8 X 1/8 MALE CONNECTOR		429633	I.E. 269 P	C DELETED
1		1/4 TUBE X 1/8 PIPE TEE		429918	I.E. 53 F	D ADDED S-4
AS REQD		3/8 PLASTIC TUBE		486056		12-15-80 SJH
1		3/8 X 1/4 MALE ELBOW		429622		E DELETED
1		3/4 X 3 LG. NIPPLE		542993		F WAS 3 READ
1		3/4 X 5 LG. NIPPLE		542997		G WAS 15760
1		PILOT UNLOADER		558902		J BRACKET
3		NIPPLE 3/4 X 1/8		543172		K RELOCATED
1		1/4 TEE		679401		L (N) ADDED
AS REQD		3/8 COPPER TUBE		696216		M 10-6-83 CRW
1		1 I.D. X 78 LG. HOSE		70104	SERIES 1 & 3	N (S) ADDED

NOTE 1
 OPERATING PRESSURE TO BE SET AT 120 ± 12 P.S.I.
 FOR SERIES 4 ONLY

NOTE 2
 FOR ADDITIONAL PIPING SEE AIR TANK
 AND PIPING ASSY.

NOTE 3
 OPERATING PRESSURE TO BE SET AT 105 ± 12 P.S.I.
 FOR SERIES 1 & 3 ONLY

DATE	6-1-77
PATTERN NO.	
CODE NO.	
ENGR. NO.	96516

SCALE	NONE
DR. R.L.K.	9
CHK. J.D.W.	15
APP. G.M.P.	19

MANTOWOC ENGINEERING CO.	POWER PLANT SUB-ASSY
MANTOWOC, WISCONSIN	COMPRESSOR - ENG. MTD
MODEL 4600 SERIES 1,3,4	30 CFM FOR CUMMINS
	VTA-1710-C700 ENGINE

AB

BILL OF MATERIAL					ASSEMBLIES USED ON
ITEM NO.	SEC. NO.	DESCRIPTION	QTY.	MATERIAL	CHECK NO. OR Dwg. NO.
BASIC BILL OF MATERIAL					65405
(1-1)	1	163088 NAMEPLATE			65517
(1-2)	AS REQ'D.	306008 IDENTIFICATION TAG-SEE (4)			
(1-3)	4	350317 PLUG BUTTON - SEE (2)(3)(5)			
(1-4)	AS REQ'D.	371837 14 GA. WIRE			
(1-5)	1	460338 TEMPERATURE GAUGE - SEE (6)			
(1-6)	1	460356 TEMPERATURE GAUGE - SEE (7)			
(1-7)	1	460308 PRESS. GAUGE			
(1-8)	1	460355 PRESS. GAUGE - SEE (7)			
(1-9)	2	460388 PRESS. GAUGE - SEE (6)			
(1-10)	3	483692 LAMPHOLDER			
(1-11)	2	502614 BULB SEE (6)			
(1-12)	2	594819 RESISTOR - SEE (6)			
(1-13)	1	594854 RESISTOR			
(1-14)	2	667706 TERMINAL STRIP			
(1-15)	1	137951 COVER			
(1-16)	1	673244 ROCKER SWITCH			
(1-17)	3	502639 BULB			
(1-18)	2	A01608 LAMP (BEEDE GAUGE)			
(1-19)					
(1-20)					
(1-21)					

REVISIONS	
4-26-91	CPC
1-10	WAS
460309	
1-12	WAS 4
REDD.	
A	WAS 460309
B	DELETED
9-17-01	DW
C	ADDED

- (1) FOR MACH'S. W/OUT CLAM CLOSING ADD:
1 350319 PLUG BUTTON
- (2) FOR MACH'S. W/OUT ENG. STARTER AIR TANKS ADD:
1 350317 PLUG BUTTON
1 350319 PLUG BUTTON
- (3) FOR MACH'S. W/OUT DRUM BRAKES & CLUTCH COOLING FAN ADD:
1 350317 PLUG BUTTON
- (4) IDENTIFY ALL WIRES THE SAME AS SHOWN ON TERMINAL STRIP, FOR WIRE IDENTIFICATION NUMBERS SEE CHART NO. 5605 (MASTER NUMBERING INDEX)
- (5) FOR MACH W/OUT ETHER STARTING AID OR GLO - PLUG ADD:
1 350317 PLUG BUTTON
- (6) FOR MACH'S. W/OUT TRAVEL CONTROL
A DELETE: 1 460388 PRESS. GAUGE
B ~~502614 BULB~~
ADD: 1 350319 PLUG BUTTON
- (7) FOR MACH'S. REQUIRING METRIC GAUGES ONLY

- FOR MACHINES W/CLAM CLOSING
- (2-1) 1 460310 AIR PRESS. GAUGE
 - (2-2) 1 502614 BULB

- FOR MACHINES W/CAT. ENG. AIR START
- (3-1) 1 460328 GAUGE
 - (3-2) 1 500818 KNOB
 - (3-3) 1 539691 NAMEPLATE
 - (3-4) 1 673377 SWITCH OPERATOR
 - (3-5) 1 673379 CONTACT BLOCK

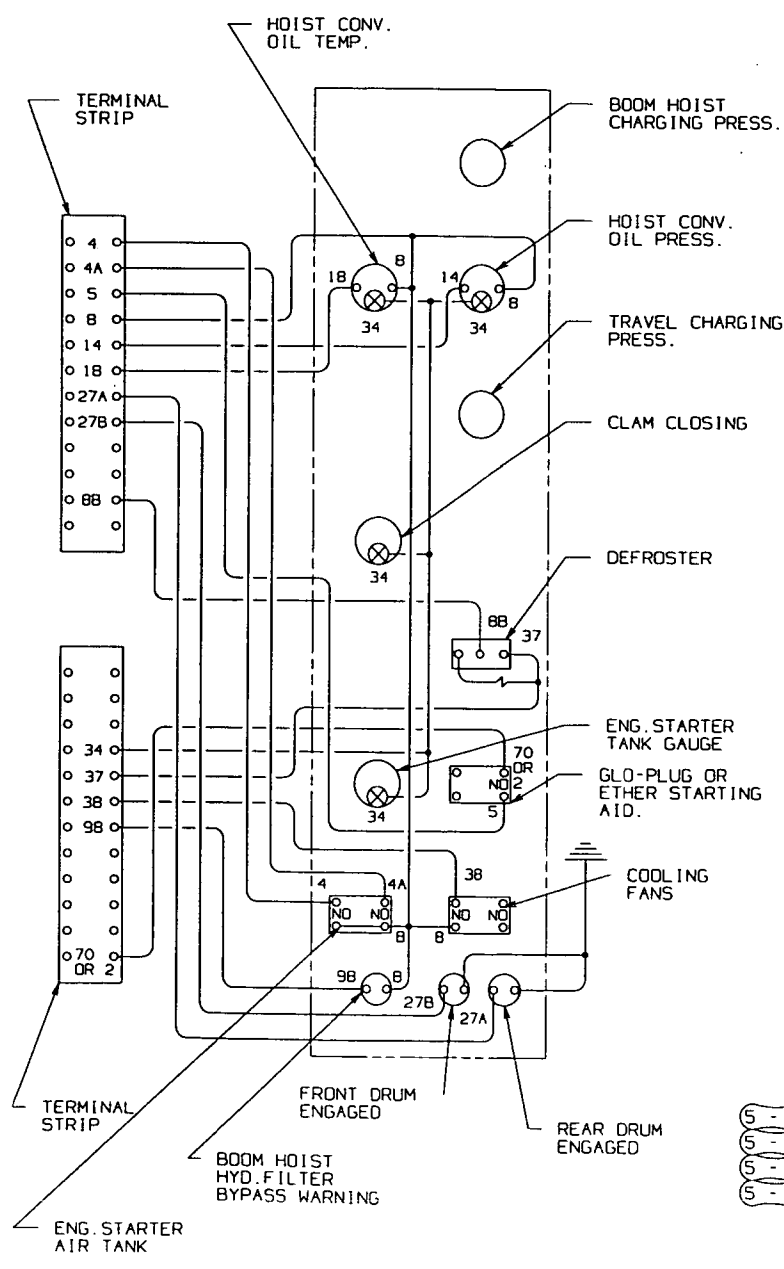
- FOR MACHINE WITH DRUM BRAKES & CLUTCH COOLING FANS
- (4-1) 1 500818 KNOB
 - (4-2) 1 539730 NAMEPLATE
 - (4-3) 1 673380 CONTACT BLOCK
 - (4-4) 1 673376 SWITCH OPERATOR

- FOR MACHINES WITH GLO - PLUG
- (5-1) 1 500839 KNOB
 - (5-2) 1 539694 NAMEPLATE
 - (5-3) 1 673382 SWITCH-OPERATOR
 - (5-4) 1 673380 CONTACT BLOCK

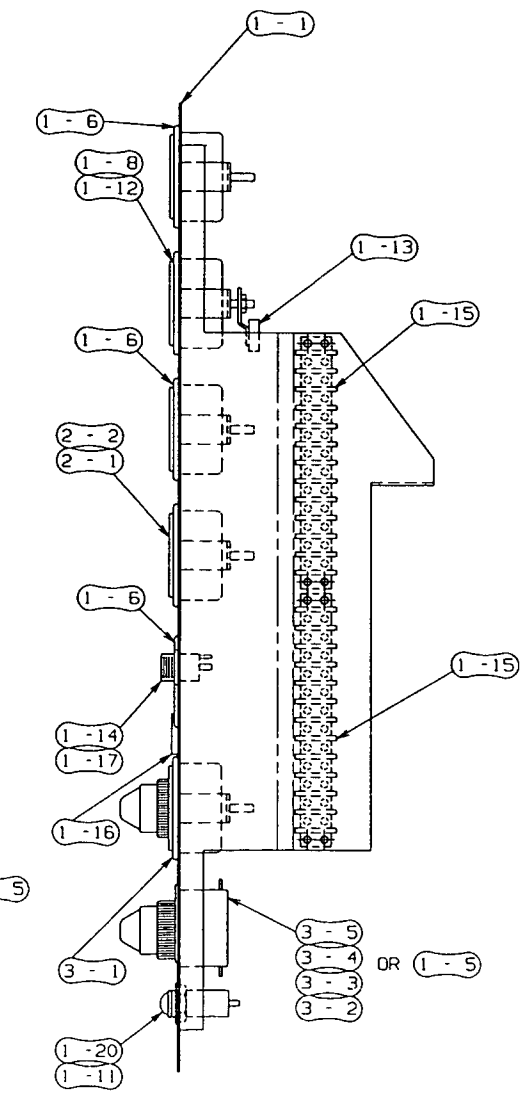
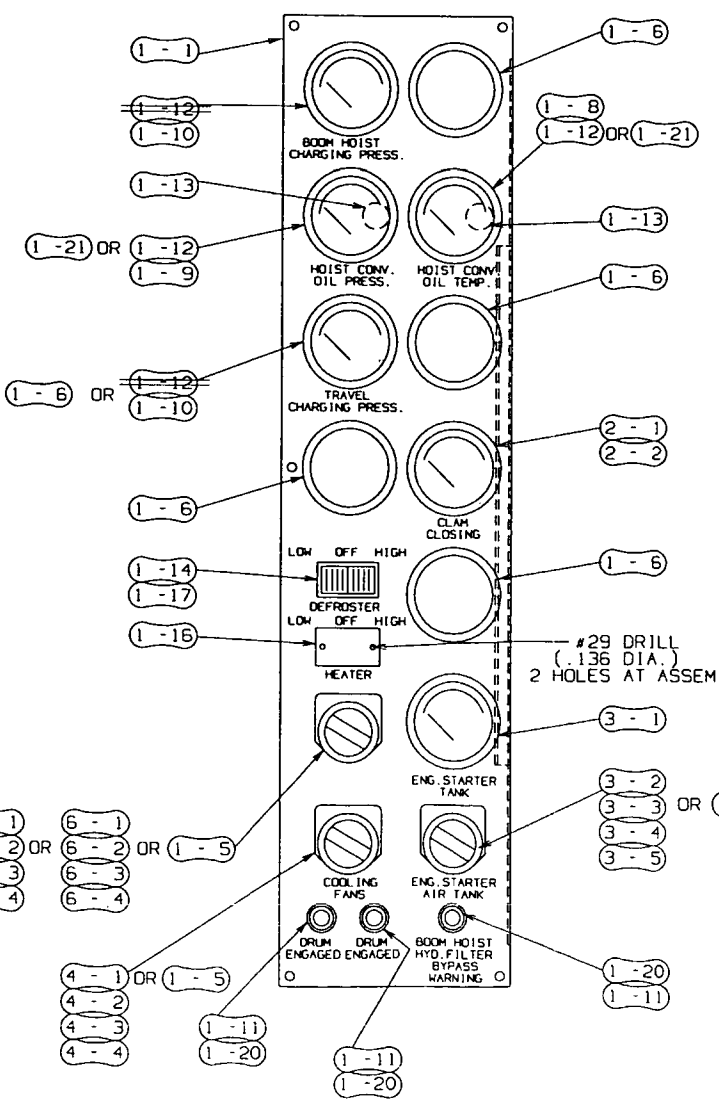
- FOR MACH'S. WITH ETHER STARTING AID
- (6-1) 1 500839 KNOB
 - (6-2) 1 539734 NAMEPLATE
 - (6-3) 1 673382 SWITCH-OPERATOR
 - (6-4) 1 673380 CONTACT BLOCK

SUPERSEDES DWG. 190215 DATED 12-1-83

SCALE	190215	Manitowoc Cranes, Inc.	INSTRUMENT PANEL	DATE	1-26-84
BY	LPW	Manitowoc, Wisconsin	ASSEM. (R.H.) 24 VOLT	PATTERN NO.	
CH	DS	MODEL 4600 SERIES 4	(UNIVERSAL OPER. CAB)		
APP	CWH				190215



WIRING DIAGRAM-REAR VIEW



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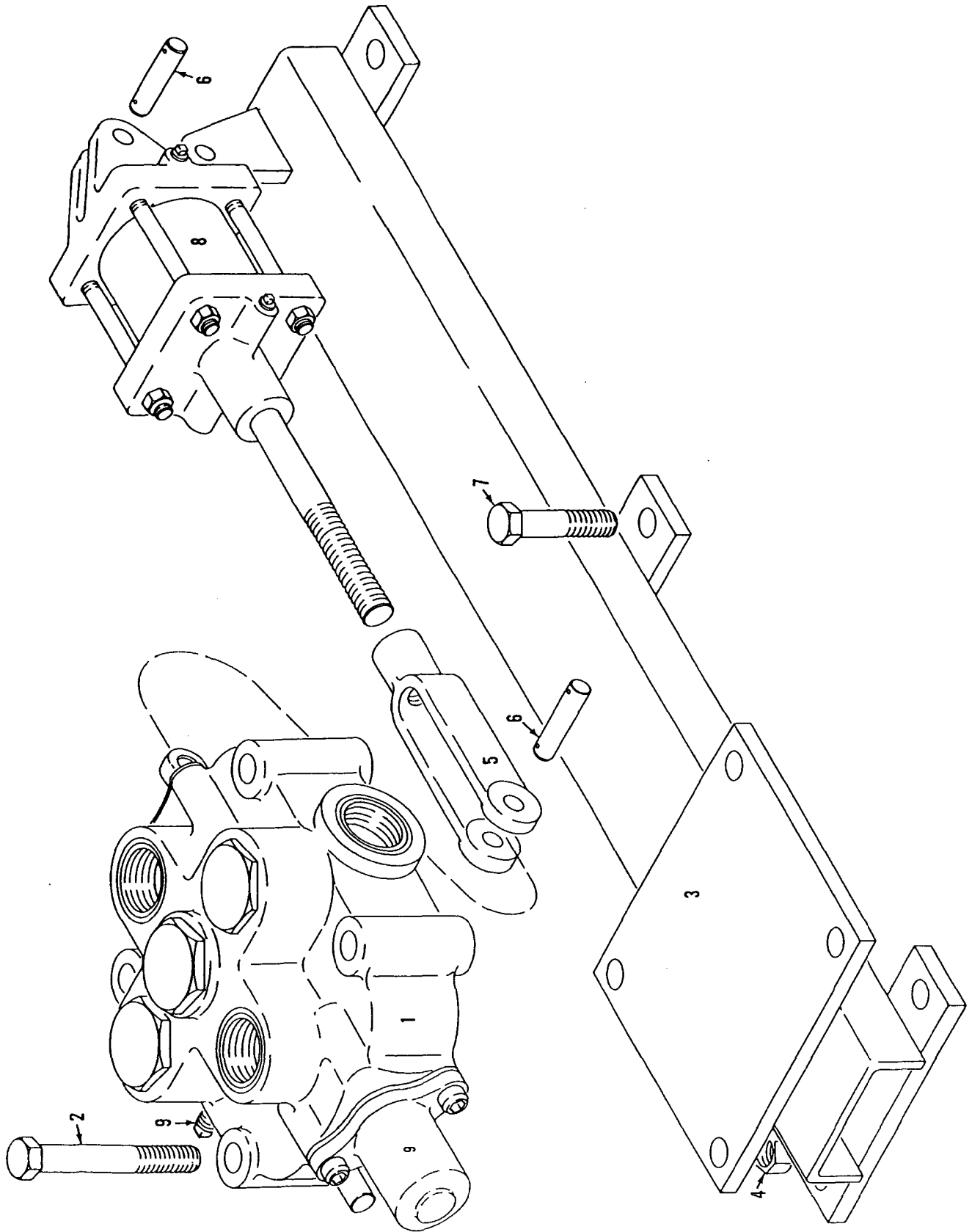
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- You can download the complete manual from: www.heydownloads.com by clicking the link below



- Please note: If there is no response to CLICKING the link, please download this PDF first and then click on it.

CLICK HERE TO **DOWNLOAD** THE COMPLETE MANUAL



32986B1

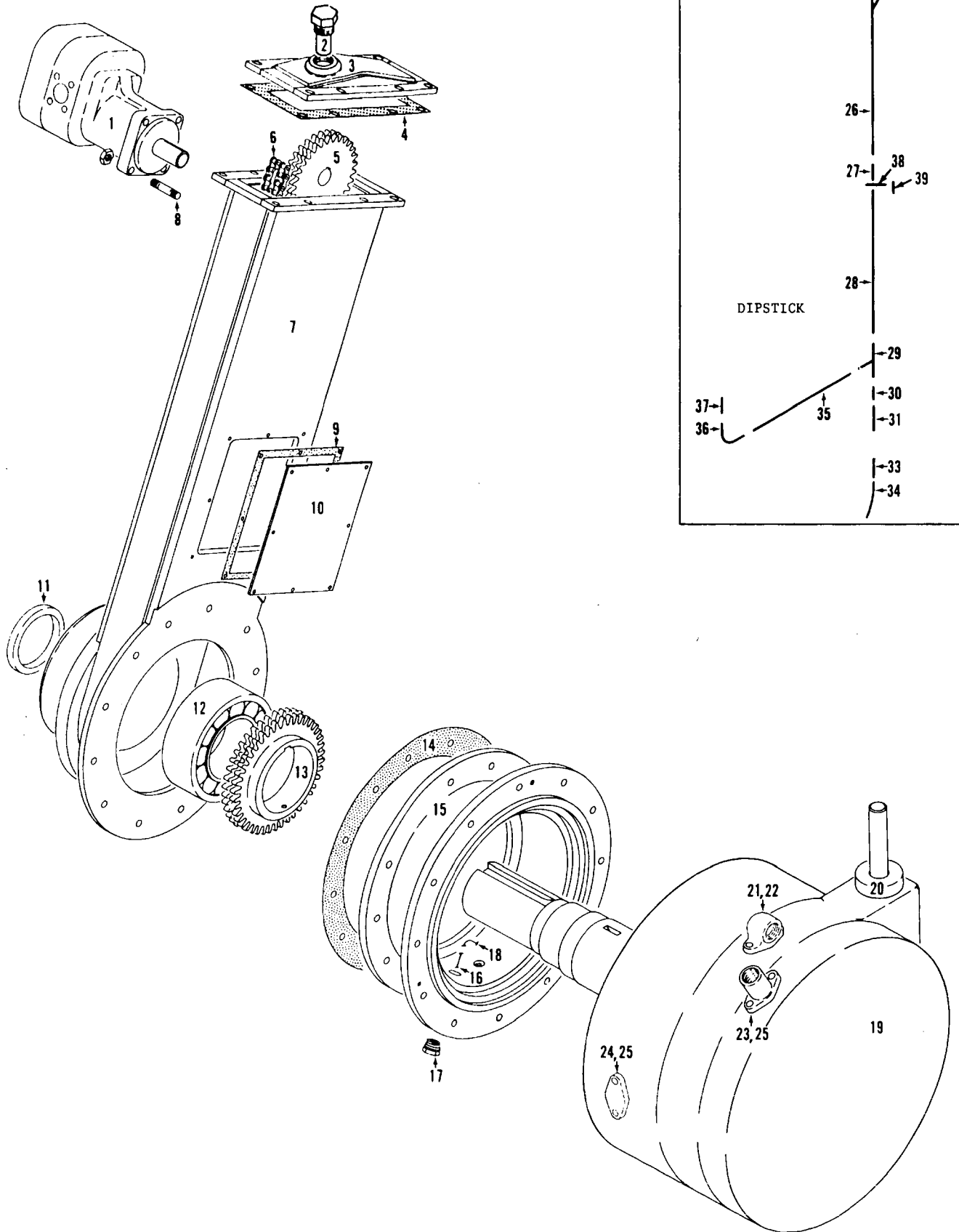
MATERIAL LIST ON BACK

HYDRAULIC CONTROL VALVE

MANITOWOC ENGINEERING CO.

A Division of The Manitowoc Company, Inc

Manitowoc, Wisconsin



49907E1

MATERIAL LIST ON BACK

FULL RANGE VICON® POWER LOAD LOWERING

65106-1 Cont.	REV. I	MODEL 4600 S4
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LOWER TRANSMISSION CASE

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
40	93360	1	SPROCKET (56T) (W/1300 R.P.M. Engine Speed)	
40	94357	1	SPROCKET (37T) (W/2000 R.P.M. Engine Speed)	
41	335277	1	CHAIN, Swing Drive (3/4" P., 5 strand, 102 links)	
42	94323	1	SPROCKET (57T) (W/1300 R.P.M. Engine Speed)	
42	94359	1	SPROCKET (46T) (W/2000 R.P.M. Engine Speed)	
43	138037	1	SPACER	
44	32470	1	SHAFT, Take Off	
45	335258	1	CHAIN, Drive (3/4" P., 8 strand, 132 links) (W/1300 R.P.M. Engine Speed)	
45	335281	1	CHAIN, Drive (3/4" P., 8 strand, 116 links) (W/2000 R.P.M. Engine Speed)	
46	93359	1	SPROCKET (79T) (W/1300 R.P.M. Engine Speed)	
46	94314	1	SPROCKET (50T) (W/2000 R.P.M. Engine Speed)	
47	224414	1	BEARING, Roller	
48	76616	1	SPACER	
49	90761	1	RETAINER, Bearing and Seal W/capscrews and lockwashers	
50	622588	1	SEAL, Oil	
			<u>COUPLING FOR MACHINES W/CAT. D-379 ENGINE (1300 R.P.M.)</u>	
	49459	1	COUPLING ASSEMBLY W/capscrews, hex nuts and lockwashers	
51	181530	1	HUB	
52	377884	10	SPOOL, Rubber	
53	49458	1	FLANGE	
54	93968	1	RING, Retaining W/capscrews and lockwashers	
55	352061	1	RING, Driving	
			<u>COUPLING FOR MACHINES W/CUMMINS VTA-1710-C700 OR CAT. 3412 ENGINES (2000 R.P.M.)</u>	
	181740	1	COUPLING ASSEMBLY W/hex nuts and lockwashers (W/2000 R.P.M. Engine Speed)	
51	181737	1	HUB	
52	377884	9	SPOOL, Rubber	
53	181738	1	FLANGE	
54	94257	1	RING, Retaining W/capscrews and lockwashers	
55	181739	1	RING, Driving	
56	73510	1	PLATE, End W/capscrews	
57	335182	1	CHAIN, Drive (1 1/4" P., 5 strand, 165 links)	
58	91384	1	SPROCKET, Drive (23T)	
59	66066	1	CONVERTER, Hoist (See Note 1)	
60	73093	2	RETAINER, Oil Seal W/capscrews (Grade 5) and lockwashers	
	596524	4	RING, "0" (1 1/4" x 1 1/2" x 1/8")	
	596692	2	RING, "0" (1 1/2" x 1-3/4" x 1/8")	
61	596980	1	RING, Snap	
62	146401	1	SPACER	
64	98226	1	SPROCKET, Driven (51T) (W/1300 R.P.M. Engine Speed)	
64	97769	1	SPROCKET, Driven (49T) (W/2000 R.P.M. Engine Speed)	
65	76625	1	SPACER	
66	76659	1	SHEAVE W/set screw	
67	138477	1	BRACKET, Pump W/capscrews and lockwashers	

Run As Front

65106 I1 Cont'd.

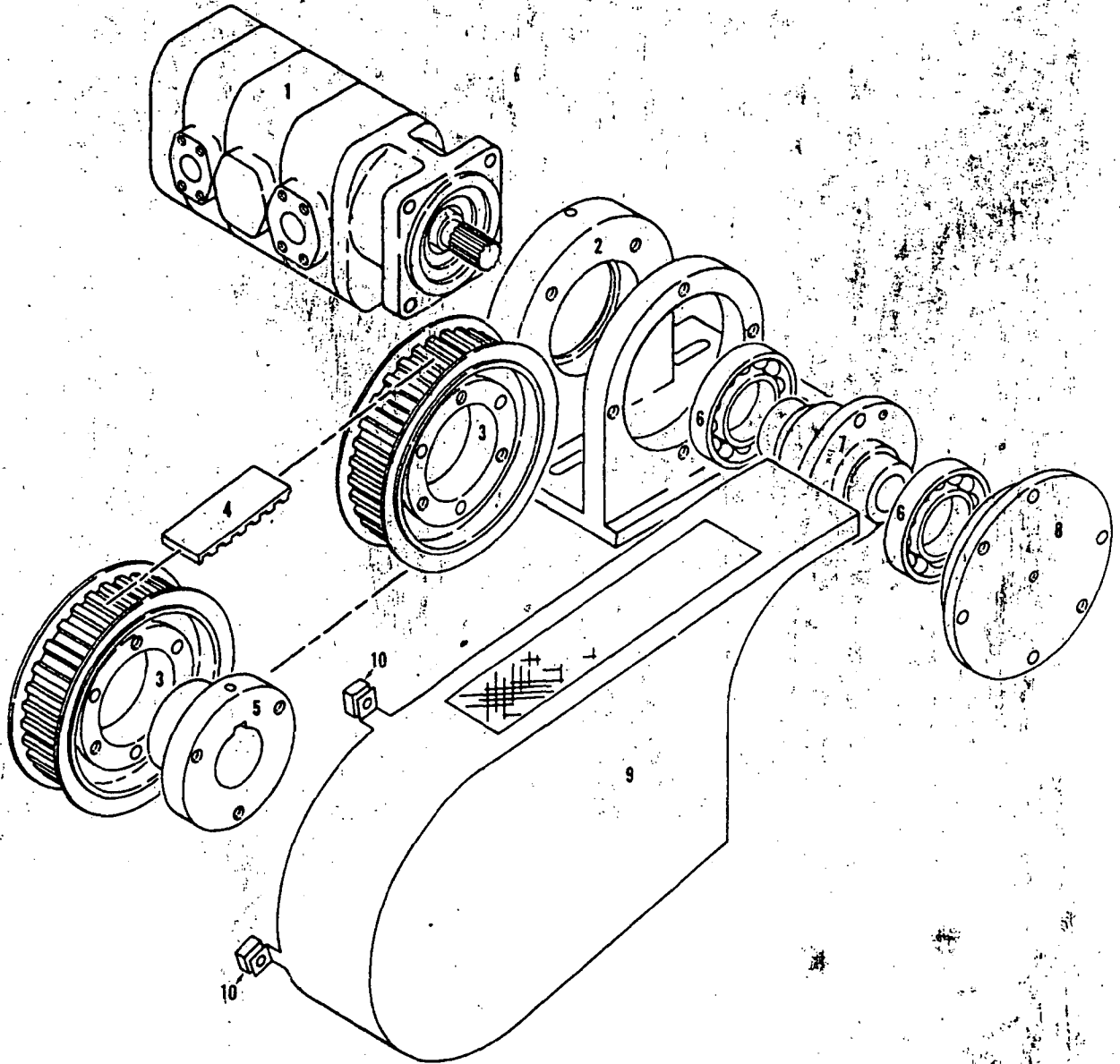
REV. I	65106-1 Cont.
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PLEASE GIVE MACHINE S/N W/ORDER

MANITOWOC ENGINEERING CO.

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Manitowoc, Wisconsin



MASTER

65115A2

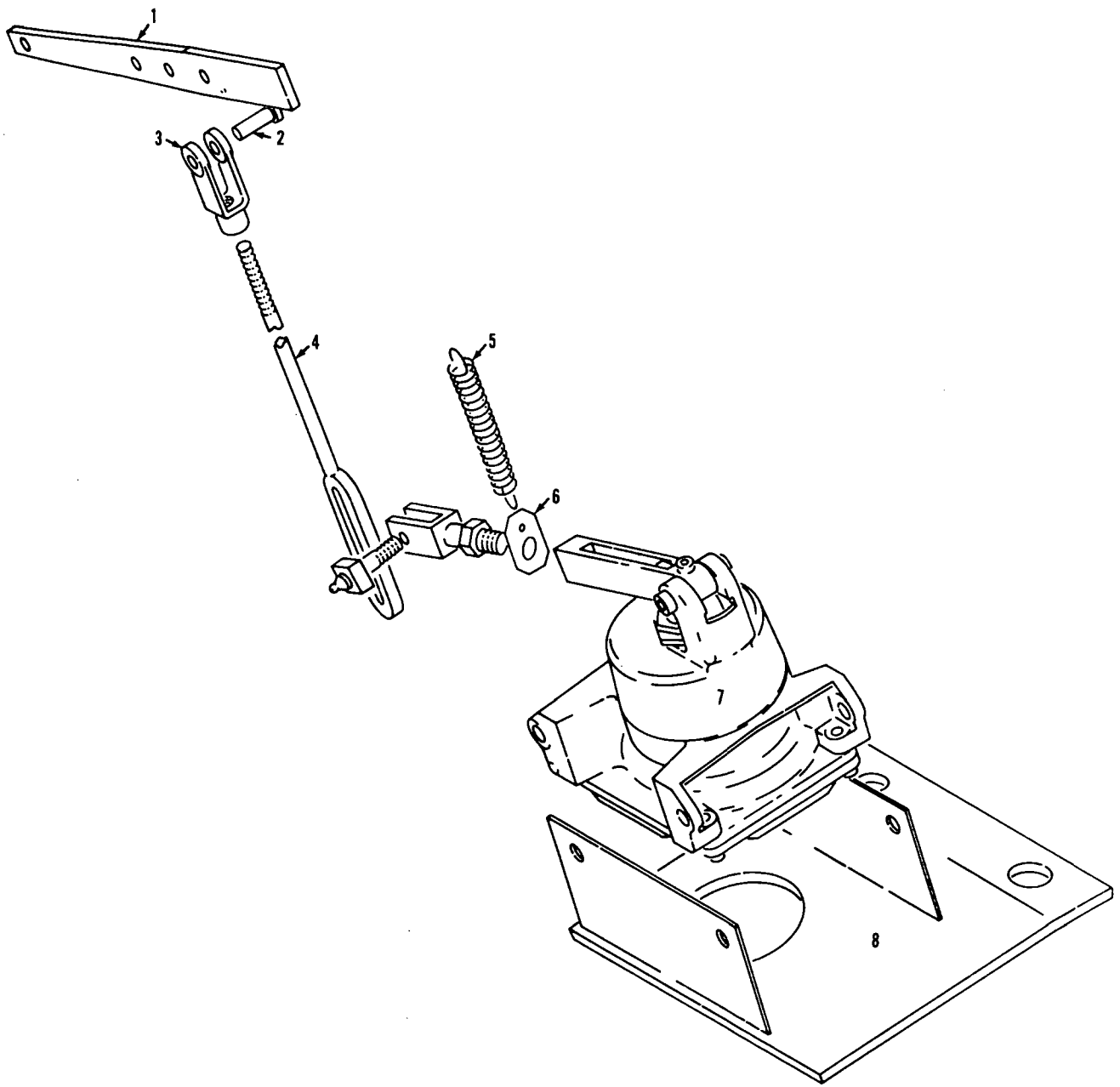
MATERIAL LIST ON BACK

PUMP DRIVE

MANITOWOC ENGINEERING CO.

A Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin

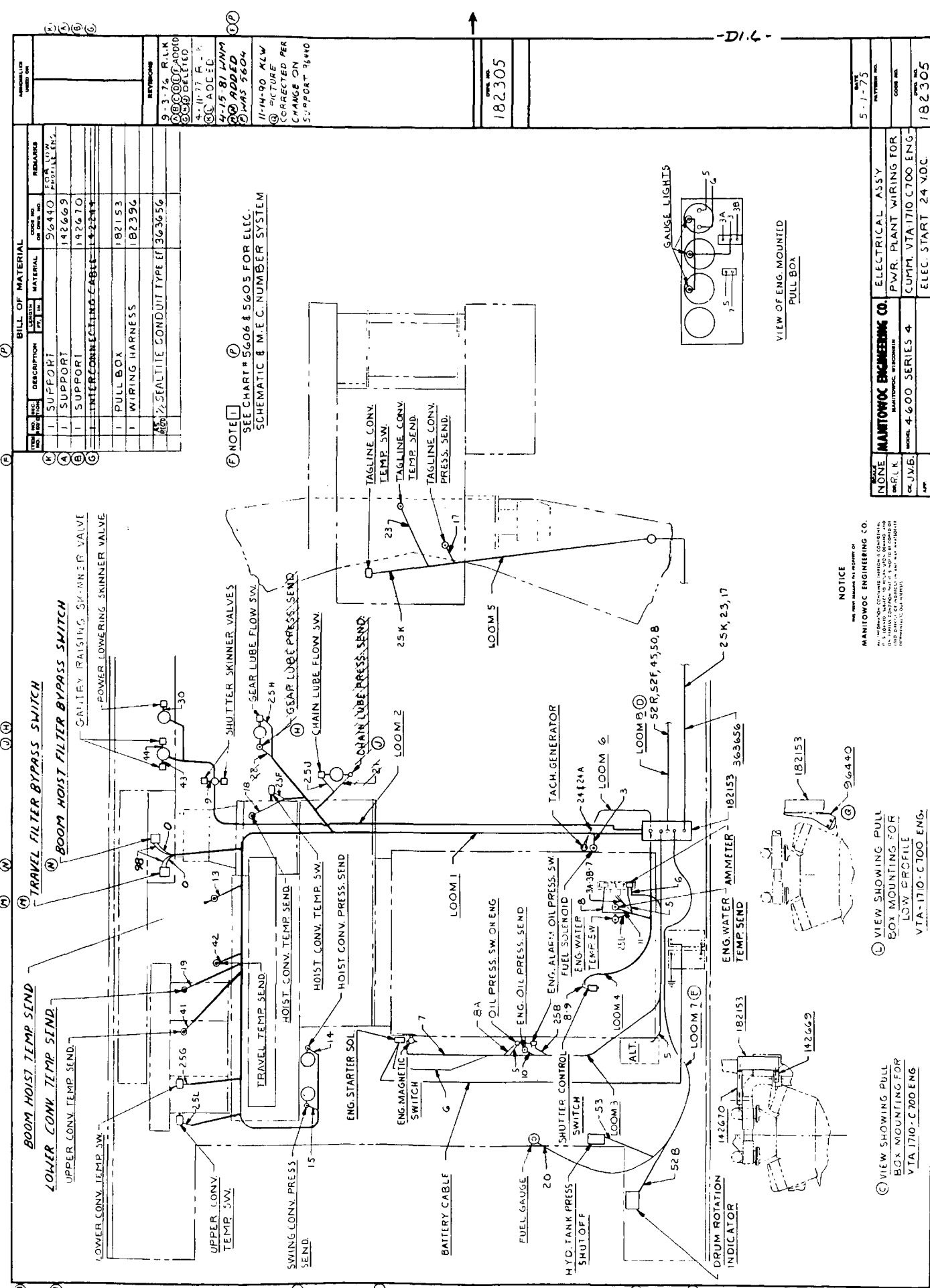


MASTER

95236A1

MATERIAL LIST ON BACK

ENGINE CONTROL



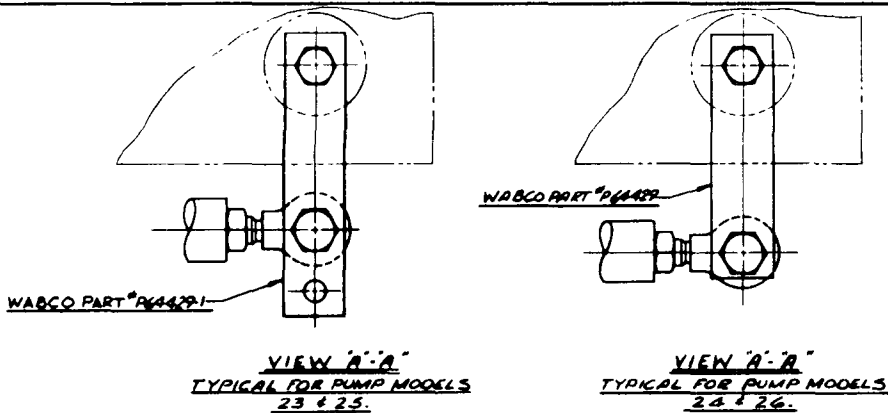
BILL OF MATERIAL

NO.	DESCRIPTION	QTY.	UNIT	MATERIAL	REMARKS
K	1 SUPPORT	96440	LOC. 1077		CHASSIS LUG
A	1 SUPPORT	142669			
B	1 SUPPORT	142670			
C	1 INTERCONNECTING CABLE	142284			
	1 PULL BOX	182153			
	1 WIRING HARNESS	182396			
	ASSEMBLY SEALTIE CONDUIT TYPE ET	363656			

NOTE 1
SEE CHART # 5606 & 5605 FOR ELEC. SCHEMATIC & M.E.C. NUMBER SYSTEM

REVISIONS

NO.	DATE	DESCRIPTION
9-3-76	R.L.K.	ADDED
11-14-90	ALW	CORRECTED PER CHANGE ON
4-11-77	F.A.	ADDED
4-15-81	MM	ADDED
2-11-77	F.A.	ADDED
11-14-90	ALW	CORRECTED PER CHANGE ON
5-11-77	F.A.	ADDED
4-15-81	MM	ADDED
2-11-77	F.A.	ADDED
11-14-90	ALW	CORRECTED PER CHANGE ON
5-11-77	F.A.	ADDED
4-15-81	MM	ADDED
2-11-77	F.A.	ADDED

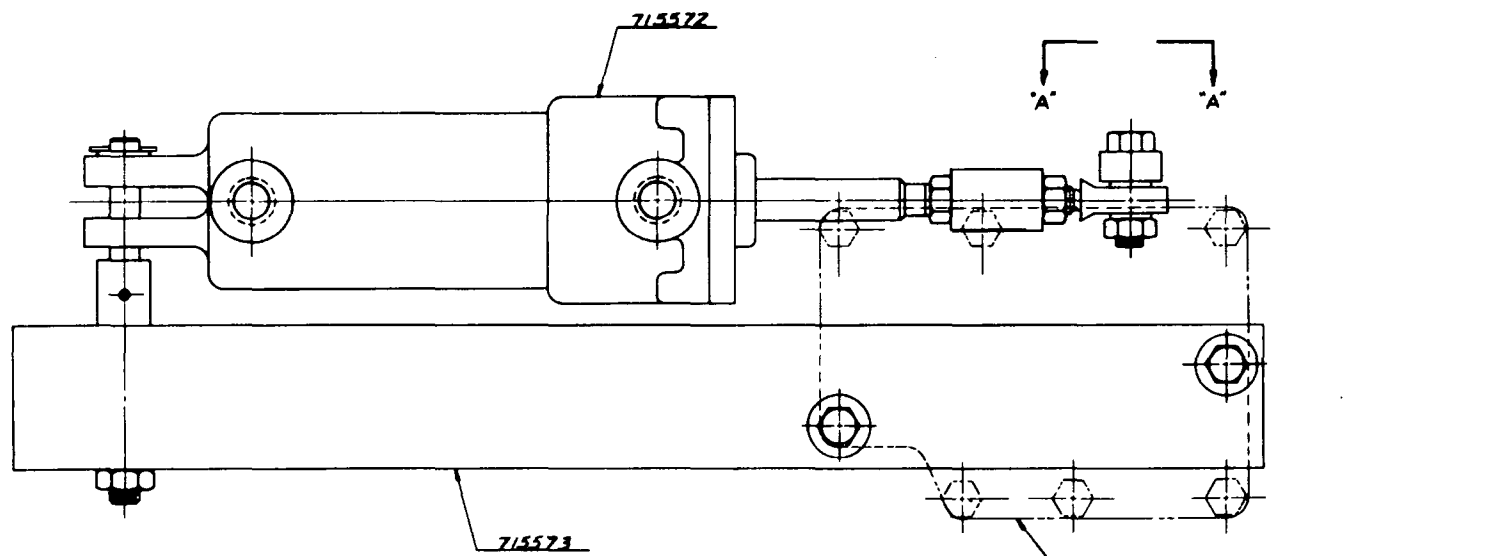


BILL OF MATERIAL					
QTY	UNIT	DESCRIPTION	ITEM NO.	MATERIAL	REMARKS
1		AIR POSITIONER	715572		
1		POSITIONER BRACKET	715573		

49773
65358
65432

REVISIONS
B-22-78 JUN.
A DELETED

NOTE:
POSITIONER OPERATES FROM 20-70 P.S.I.



SUNDSTRAND PUMP DISPLACEMENT
CONTROL VALVE - REF.

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SUPERSEDES 181945, 182756 & 182682

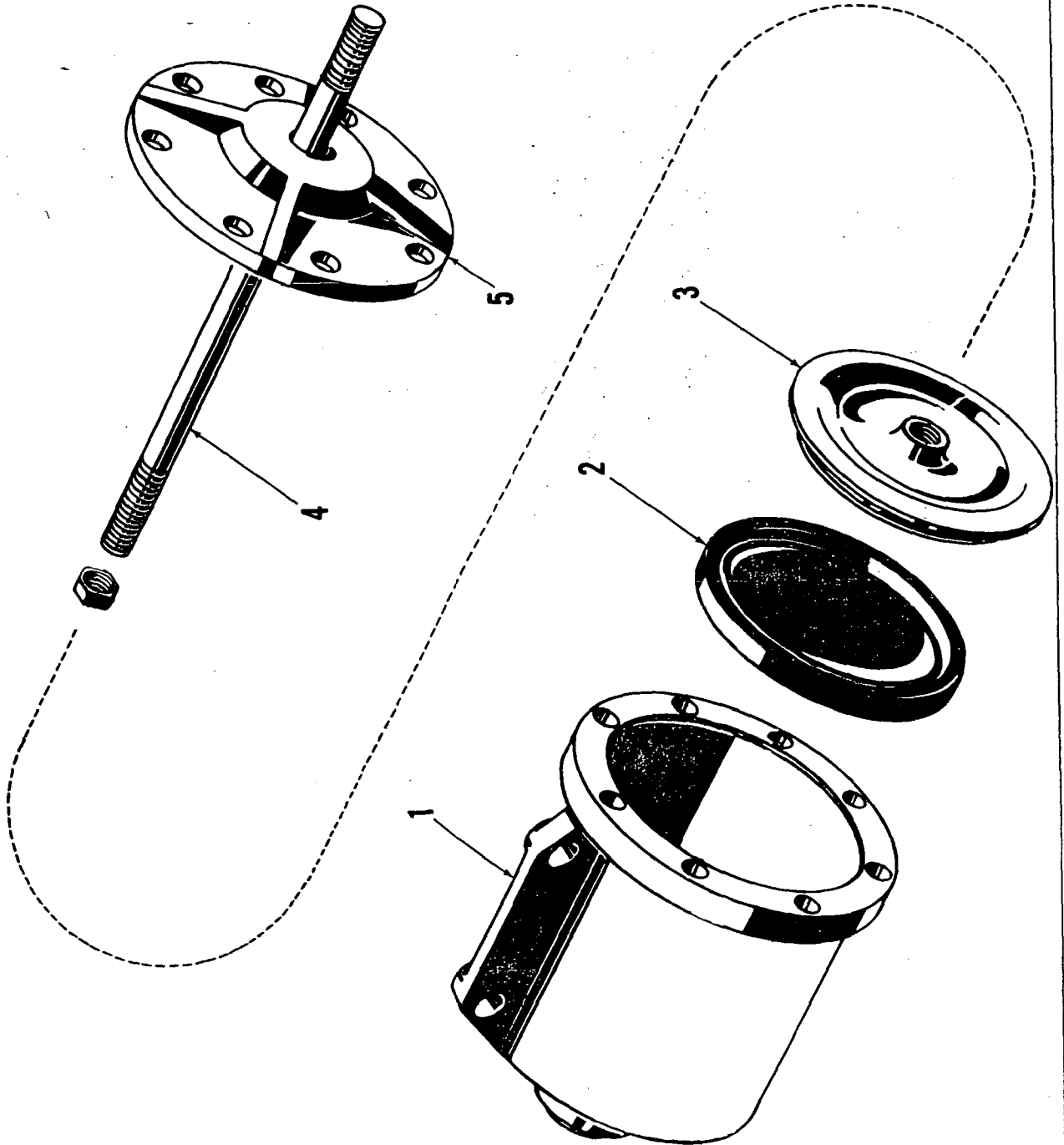
DATE	12-17-77	MANITOWOC ENGINEERING CO.	AIR POSITIONER	DATE	10-12-77
BY	MPS	MANITOWOC ENGINEERING	ASSEMBLY	PATTERN NO.	
CHKD	CAH	ALL	FOR SUNDSTRAND PUMPS	CHG. NO.	
APP.				183358	

-82-6-82-9-DW1-

MANITOWOC ENGINEERING CO.

A Division of the Manitowoc Company, Inc.

Manitowoc, Wisconsin



ILLUST. No. 20729 -A-1

MATERIAL LIST ON BACK

AIR CYLINDER

207291.

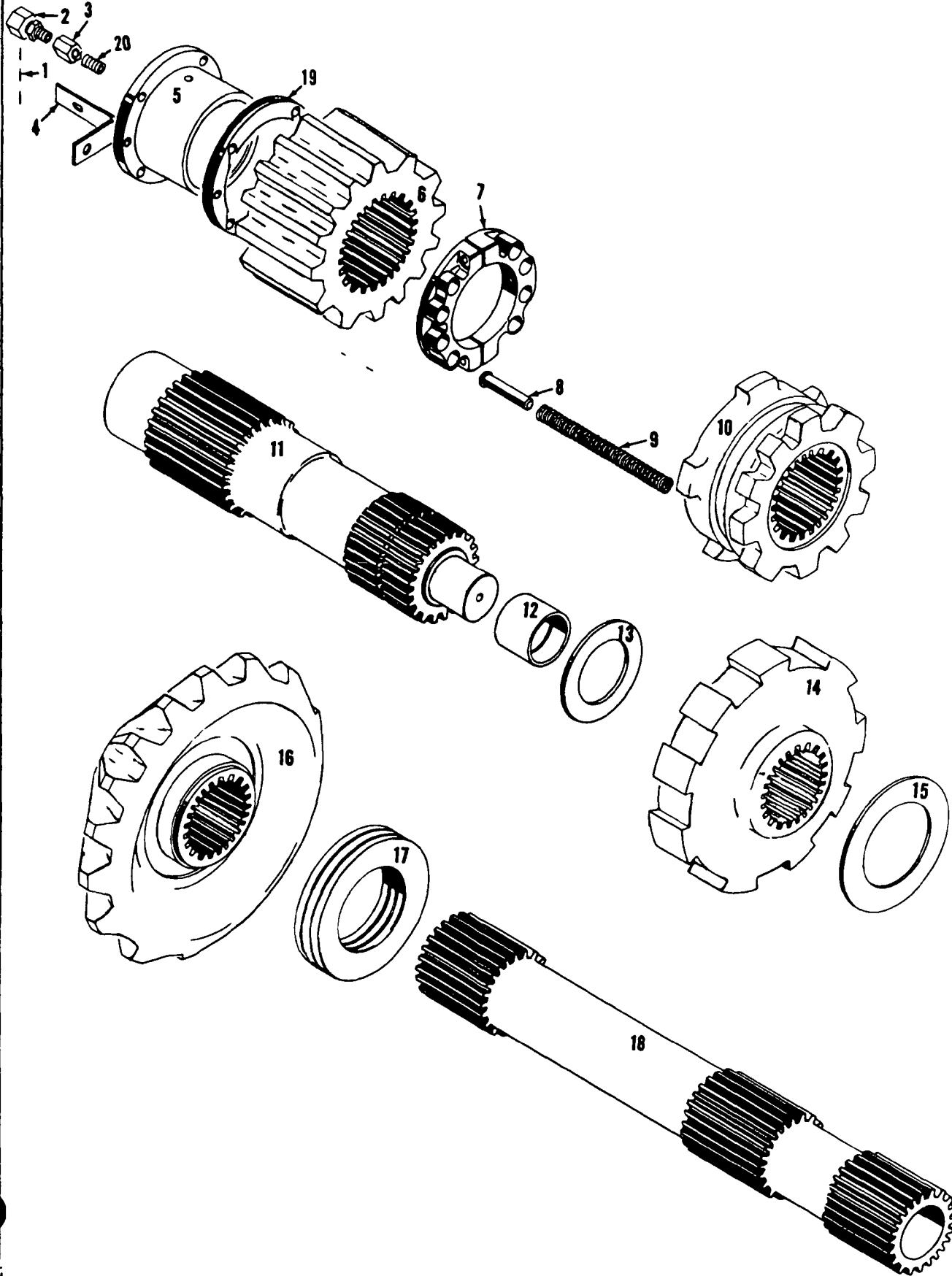
MANITOWOC

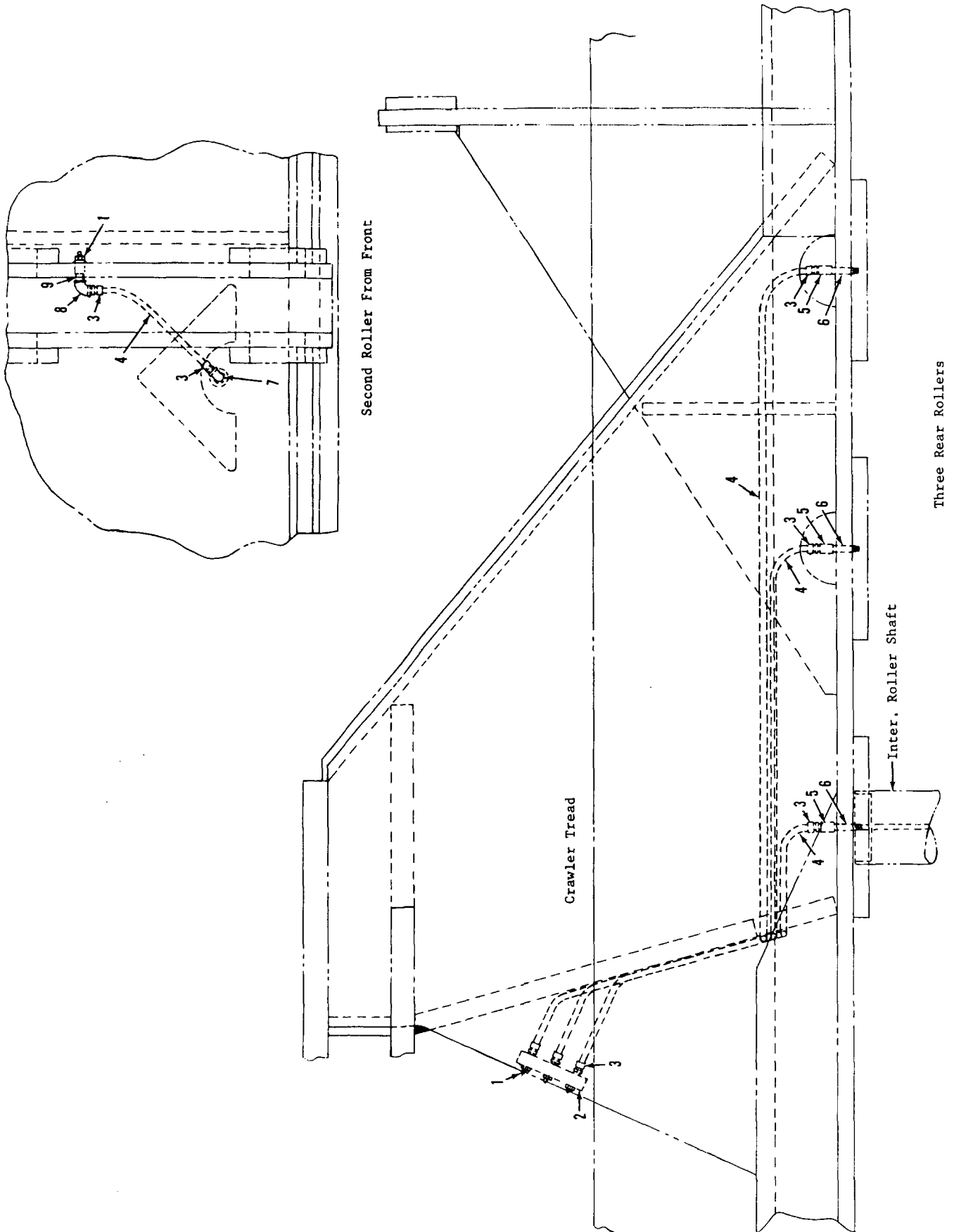
65064	REV. J	MODEL 4600 SERIES 4-5
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30'5" CRAWLERS
(QUANTITIES FOR BOTH CRAWLERS)

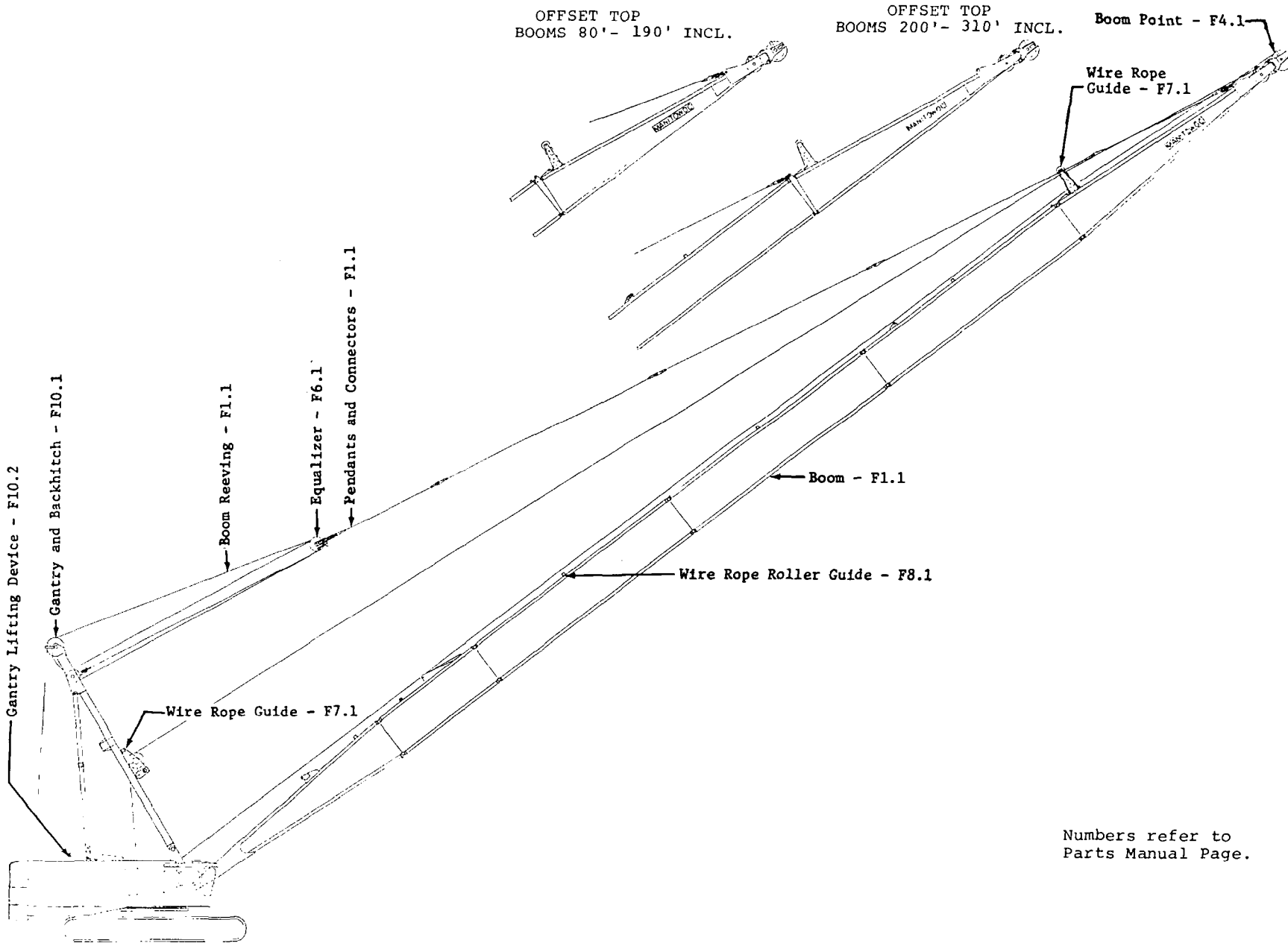
REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.		
			<p><u>NOTE 1:</u> Oversize pin #147301 (2-1/16" dia.) is available to replace pin #15378 (2" dia.)</p> <p><u>NOTE 2:</u> Bushings #14308, 14309 or 146255 to have grease groove open end facing centerline of crawler frame.</p> <p><u>NOTE 3:</u> Chain used prior to change of April 20, 1981. (Check Specification Sheet for Chain Used)</p>			
22	335357	2	CHAIN, Drive Roller (60 P. - 6.0" pitch)			
	509079	120	LINK, Chain			
22	335358	2	CHAIN, Drive Roller (60 P. - 6.0" pitch)			
	509086	120	LINK, Chain			
			<p><u>NOTE 4:</u> Chain used prior to design change of Jan. 12, 1983</p>			
22	335351	2	CHAIN, Drive Roller (60 P. - 6'0" pitch)			
			<p><u>NOTE 5:</u> Chain 335375 to be installed W/open end toward driving sprocket 31477</p> <p><u>Note 6:</u> For crawler chain (#335375) use replacement crawler chain link and pin (#509116) and additional pin (#563540)</p>			
			0-471	<table border="1"> <tr> <td data-bbox="1198 1948 1318 2011">REV. J</td> <td data-bbox="1318 1948 1567 2011">65064</td> </tr> </table>	REV. J	65064
REV. J	65064					

MASTER





65234C1



Numbers refer to
Parts Manual Page.

M4600 Series 4, Series 5

ARRGT. BOOM NO. 27B

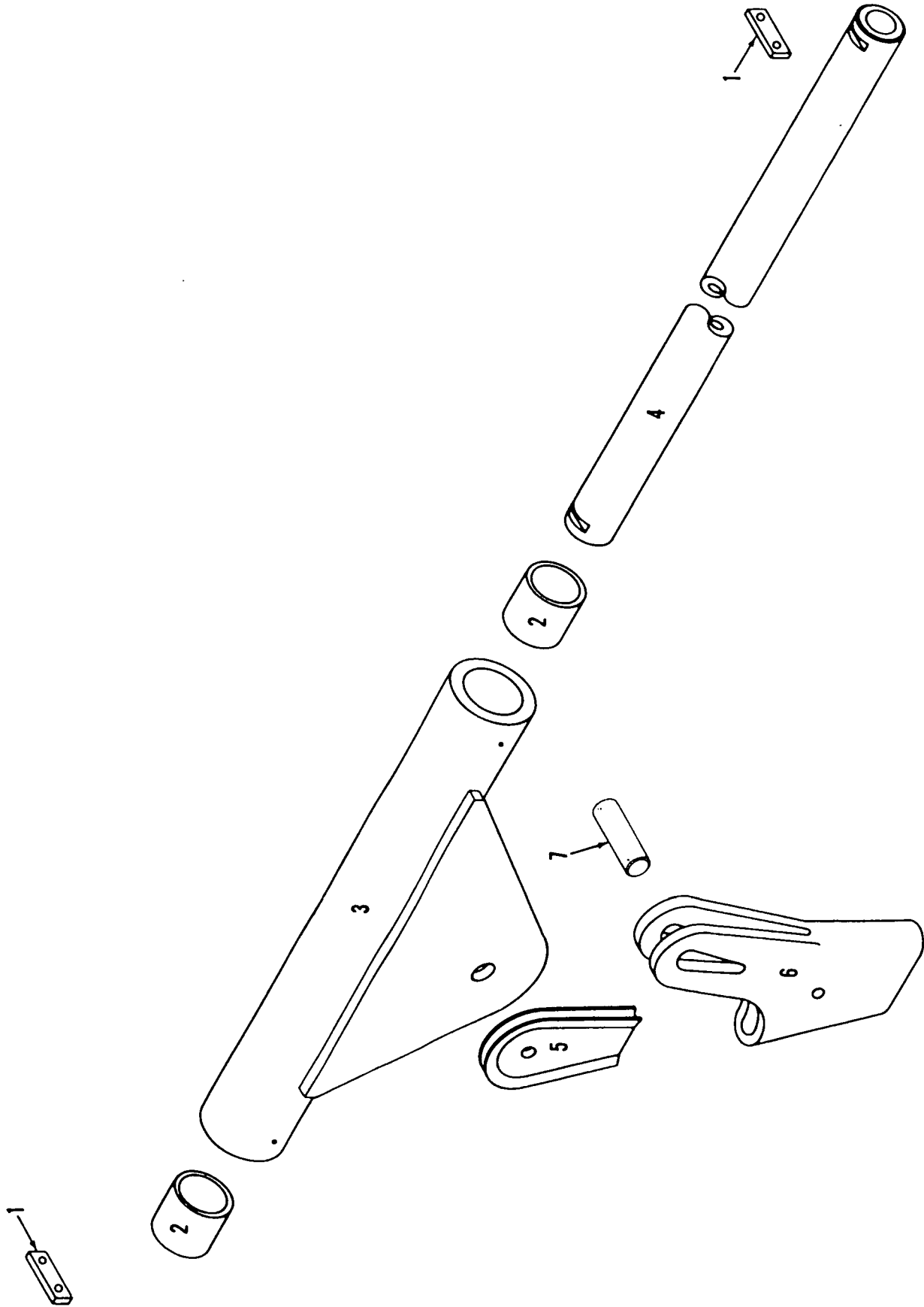
66115-1 Cont.	REV. B	MODEL 4600 S4, S5
---------------	-----------	----------------------

GANTRY

REF. NO.	PART NUMBER	QUANTITY REQUIRED	DESCRIPTION OF PART	VENDORS PART NO.
40	543298	8	NIPPLE (3/8" x 14'0")	
41	429368	8	CONNECTOR (3/8" x 3/8")	
42	696216	8	TUBE, Copper (specify length)	
43	429367	8	CONNECTOR (3/8" x 1/4")	
44	406952	8	ELBOW, 90° (1/4")	
45	543402	4	NIPPLE, Close (1/4")	
46	543561	4	NIPPLE (1/4" x 2-1/2")	
47	667304	15	STRAP, Tube	
48	140858	2	SHAFT, Sheave	
49	11412	2	KEEPER, Shaft w/capscrews and lockwashers	
50	2129	2	PIN w/cotter pins (See Note 1)	
51	182105	1	GUIDE, Left wire rope w/capscrews, lockwashers and flatwashers (Tower Attachment Only)	
51	182104	1	GUIDE, Right wire rope w/capscrews, lockwashers and flatwashers (Not Shown) (Tower Attachment Only)	
52	224169	2	BEARING	
53	471682	1	GRIPPER, Cord	
54	471715	2	GRIPPER, Cord	
55	673397	2	SWITCH, Limit	
56	673364	1	SWITCH, Limit	
	673454	1	LEVER, Limit Switch (Adjustable) (Replaces fixed lever)	
57	96431	1	ACTUATOR, Right side (shown) w/capscrews and hex nuts	
57	96432	1	ACTUATOR, Left side (not shown) w/capscrews and hex nuts	
58	546061	2	NUT, Hex (1" - 8 UNC)	
59	96433	2	COVER w/capscrews and lockwashers	
60	144564	4	BAR w/capscrews and lockwashers	
			NOTE 1: Pin, Ref. #50, used only for Gantry and Backhitch removal. Do NOT store in Gantry Bracket when not being used for this purpose.	
			0-462	
				REV. B
				66115 - 1

Run as Front

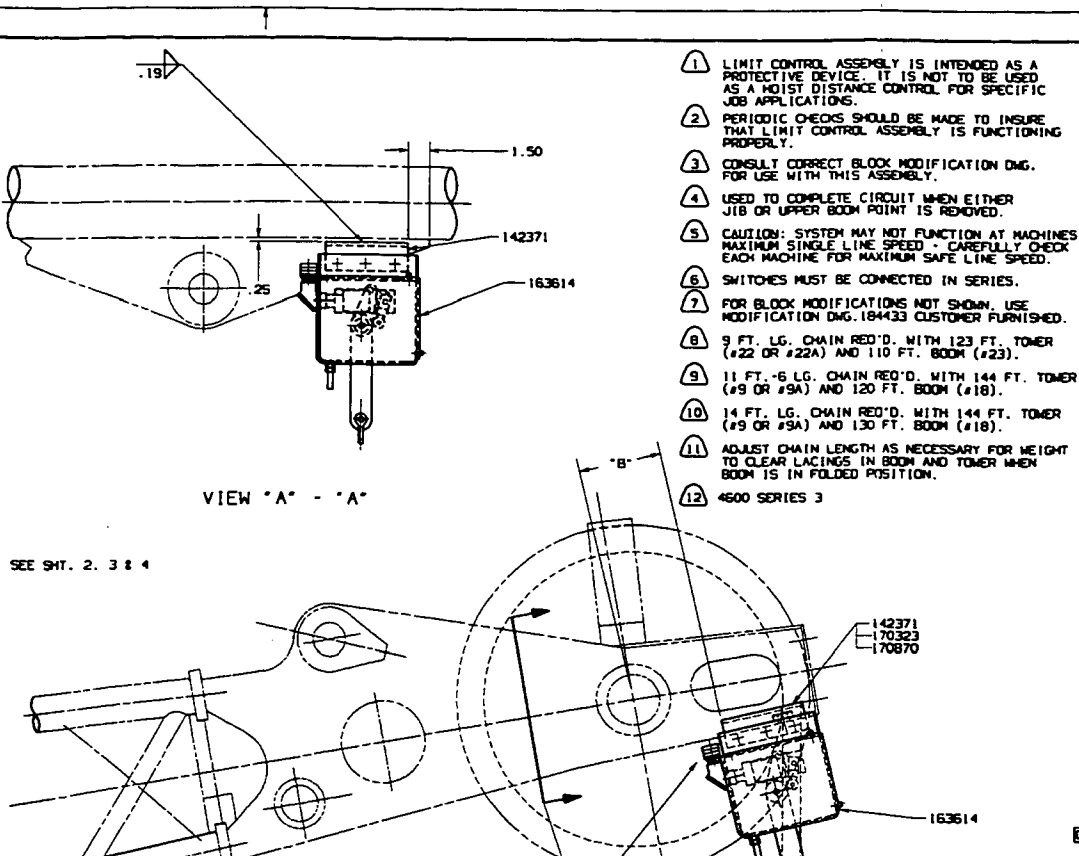
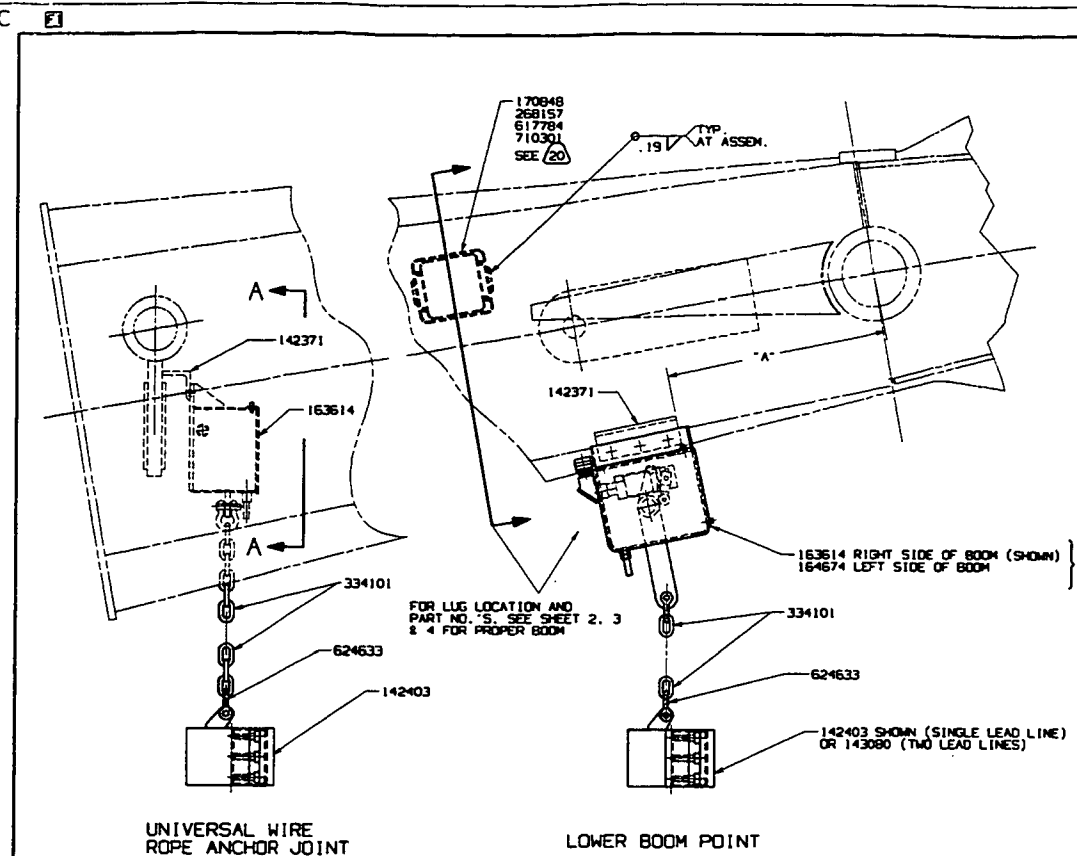
MASTER



95304A1

MATERIAL LIST ON BACK

ANCHOR JOINT

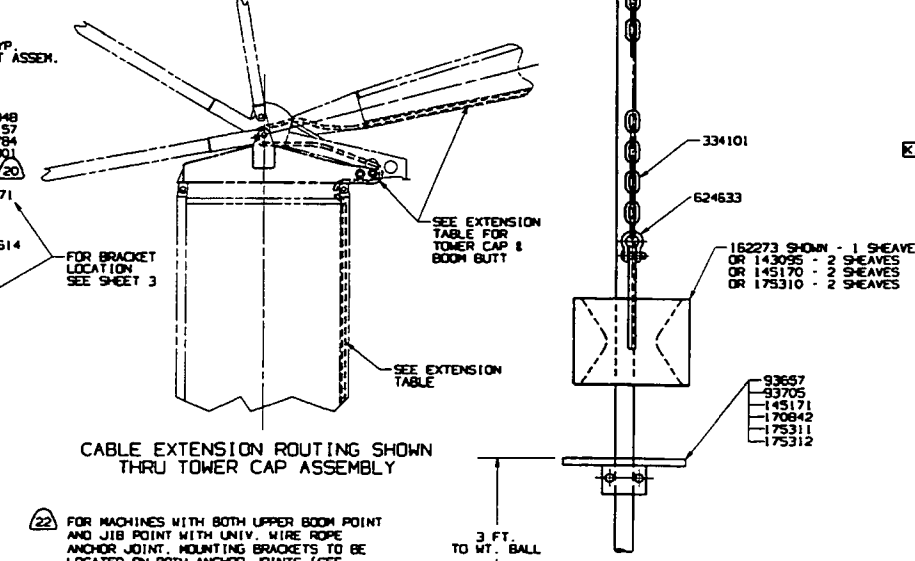
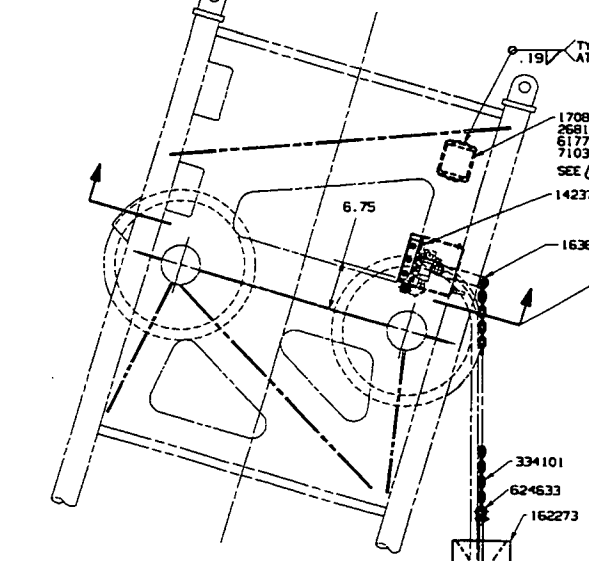


UNIVERSAL WIRE ROPE ANCHOR JOINT
 (SEE SHEET 3 FOR ADDITIONAL MOUNTING LOCATIONS)

LOWER BOOM POINT

BLOCK MODIFICATIONS FOR LIMIT CONTROLS - SEE (3) & (7)

CAPACITY (TONS)	HOOK OR SHACKLE	MANUFACTURER	MEC. PART OR CODE NO.	CONVERSION DRAWING	LIMIT SWITCH	HAND GUARD	GRIP OPTIONS
30		JOHNSON	420270	X			
35	HOOK	WILLER	419452	X	X	X	X
40	HOOK	JOHNSON	236490	173671	X		
40	HOOK	MANITOMOC	180617	170890	X		
40	HOOK	JOHNSON	237055	171288	X		
40	HOOK	JOHNSON	237056	171288	X		
45	SHACKLE	JOHNSON	237059	175458	X		
50	HOOK	WILLER	236137	419881	X	X	X
50	HOOK	WILLER	236428	419881	X	X	X
50	HOOK	JOHNSON	237054	420862	X		
50	HOOK	MANITOMOC	182406	419858	X		
60		ANSSELL JONES		420267	X		
65	HOOK	MANITOMOC	90783	419514	X	X	X
65	SHACKLE	MANITOMOC	91024	419514	X	X	X
70	HOOK	MANITOMOC	180457	419700	X	X	X
70	HOOK	MANITOMOC	182407	420161	X		
70	HOOK	JOHNSON	237069	176897	X		
75	HOOK	WILLER	236418	419714	X	X	X
80	HOOK	MANITOMOC	184454	420369	X		
100	HOOK	MANITOMOC	181978	419721	X		
100	SHACKLE	MANITOMOC	32675	419721	X		
100	HOOK	MANITOMOC	182521	419971	X		
100	SHACKLE	MANITOMOC	182521	419971	X		
100	HOOK	JOHNSON	236492	179915	X		
130	HOOK	JOHNSON	236487	174063	X		
140	HOOK	MANITOMOC	32843	419935	X		
140	SHACKLE	MANITOMOC	32964	419935	X		
150	SHACKLE	MANITOMOC	32703	419935	X		
150	HOOK	MANITOMOC	33007	419935	X		
155	HOOK	MANITOMOC	181506	419935	X		
155	SHACKLE	MANITOMOC	181508	419935	X		
155	DUPLEX	JOHNSON	236483	171262	X		
155	HOOK	JOHNSON	237063	171262	X		
200	HOOK	MANITOMOC	180879	419788	X		
200	DUPLEX	JOHNSON	236482	171183	X		
200	HOOK	MANITOMOC	183769	173172	X		
200	HOOK	MANITOMOC	183822	419788	X		
200	HOOK	JOHNSON	237060	171183	X		
230	HOOK	MANITOMOC	184190	175559	X		
230	DUPLEX	JOHNSON	236485	175559	X		
250	HOOK	WILLER	236415	419736	X		
250	SHACKLE	WILLER	236135	419736	X		
260	DUPLEX	MANITOMOC	182549	419784	X		
300	HOOK	MANITOMOC	180324	420380	X		
300	SHACKLE	MANITOMOC	180114	419786	X		
350	HOOK	MANITOMOC	191175-3	173655	X		
350	DUPLEX	MANITOMOC	181802	419784	X		
350	HOOK	MANITOMOC	49775	419982	X		
350	SHACKLE	MANITOMOC	49775	419982	X		
350	DUPLEX	MANITOMOC	184198	419784	X		
600	HOOK	MANITOMOC	50809	419857	X		
600	SHACKLE	MANITOMOC	65357	419857	X		



TOWER BOOM INTERMEDIATE FALL

CABLE EXTENSION ROUTING SHOWN THRU TOWER CAP ASSEMBLY

22 LIFT BLOCK 175311 FOR .75 ROPE & LIFT BLOCK 175312 FOR 1.50 ROPE FOR USE WITH (2) 47 DIA. SHEAVE UPPER BOOM POINT #27 BOOM. SPECIAL FOR S.O. 4622

23 FOR LOWER BOOM POINT OR CONTAINER HANDLING BOOM POINT WITH TWO SINGLE PART LINES ON THE OUTER SHEAVES. (SEE SHEET 4). TWO MOUNTING BRACKETS (142371), ONE OF EACH SWITCH ASSEMBLY (163614 & 164874), TWO CHAINS - 8 FT. (334101), AND TWO ANCHOR SHACKLES (624633) ARE REQUIRED.

24 FOR (2) 47 DIA. SHEAVE UPPER BOOM POINT #27 BOOM.

22 FOR MACHINES WITH BOTH UPPER BOOM POINT AND JIB POINT WITH UNIV. WIRE ROPE ANCHOR JOINT. MOUNTING BRACKETS TO BE LOCATED ON BOTH ANCHOR JOINTS (SEE SHEET 3) SO LIMIT CONTROL ASSEM. CAN BE MOUNTED TO EITHER ANCHOR JOINT AS REQUIRED.

23 FOR LOWER BOOM POINT OR CONTAINER HANDLING BOOM POINT WITH TWO SINGLE PART LINES ON THE OUTER SHEAVES. (SEE SHEET 4). TWO MOUNTING BRACKETS (142371), ONE OF EACH SWITCH ASSEMBLY (163614 & 164874), AND FIVE OR SIX ANCHOR SHACKLES (624633) ARE REQUIRED.

24 FOR (2) 47 DIA. SHEAVE UPPER BOOM POINT #27 BOOM.

EXTENSIONS (ADD ONE FOR EACH BOOM AND/OR JIB SECTION)						EXTENSIONS (TOWER CAP & BOOM BUTT)					
BOOM SECTION	EXTENSION	INSERT	EXTENSION	TOWER CAP SECTION	EXTENSION	BOOM BUTT SECTION	EXTENSION	BOOM BUTT SECTION	EXTENSION	BOOM BUTT SECTION	EXTENSION
LENGTH	CODE NO & LG	LENGTH	CODE NO & LG	LENGTH	CODE NO & LG	LENGTH	CODE NO & LG	LENGTH	CODE NO & LG	LENGTH	CODE NO & LG
10 FT	477366-16FT	10 FT	477365-11FT	15 FT	477365-11FT	3900T	17 FT	477368-26FT			
15 FT	477367-21FT	15 FT	477366-16FT	20 FT	477366-16FT	4000M	17 FT	477368-26FT			
20 FT	477368-26FT	20 FT	477367-21FT	25 FT	477367-21FT	4000M	27 FT	477353-36FT			
25 FT	477369-31FT	30 FT	477369-31FT	30 FT	477368-26FT	4100M	27 FT	477353-36FT			
30 FT	477353-36FT	40 FT	477370-41FT	40 FT	477353-36FT	4600 S1	30 FT	477370-41FT			
40 FT	477382-46FT			50 FT	477382-46FT	6000 S2	40 FT	477381-56FT			
50 FT	477381-56FT										

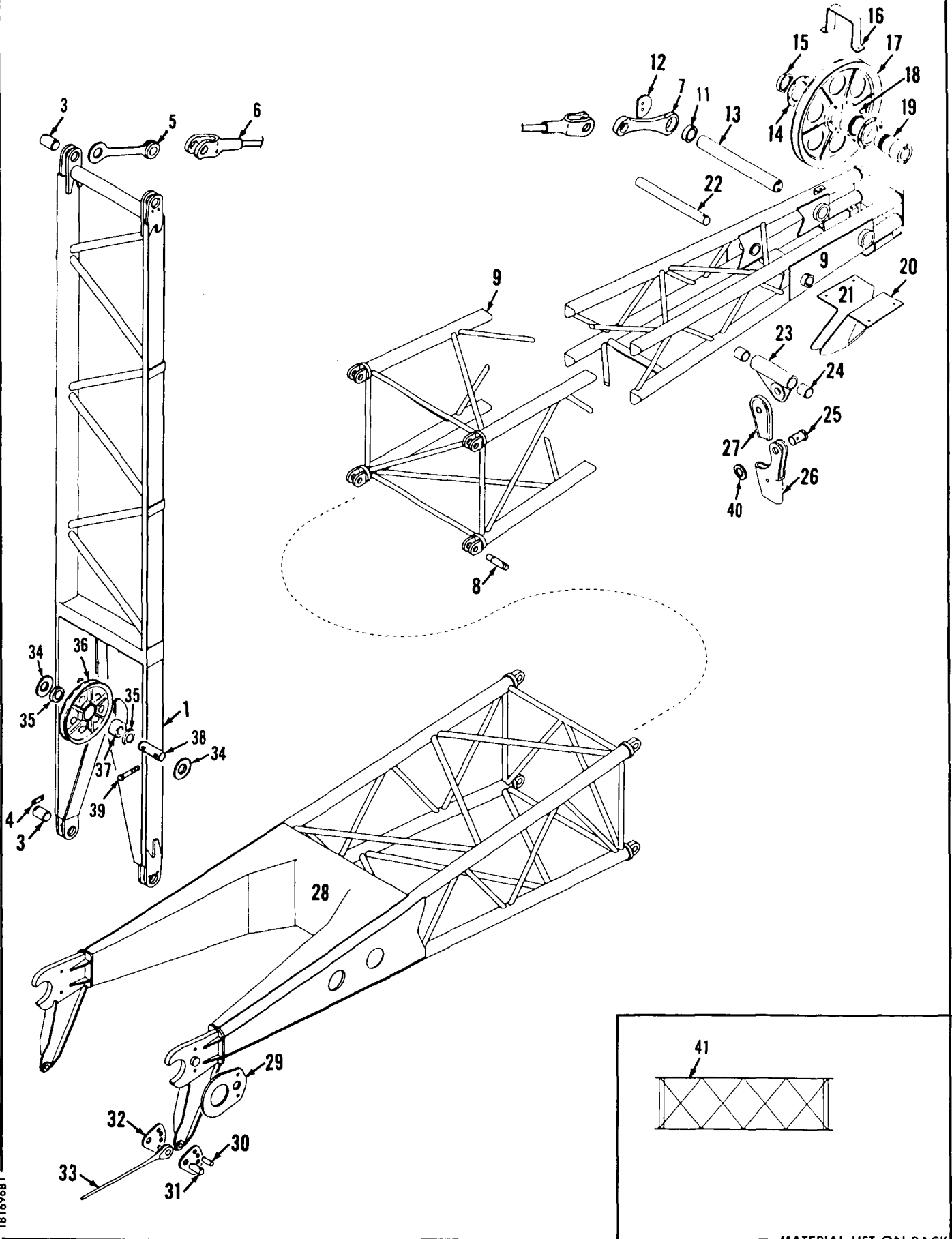
- 1 LIMIT CONTROL ASSEMBLY IS INTENDED AS A PROTECTIVE DEVICE. IT IS NOT TO BE USED AS A MOIST DISTANCE CONTROL FOR SPECIFIC JOB APPLICATIONS.
- 2 PERIODIC CHECKS SHOULD BE MADE TO INSURE THAT LIMIT CONTROL ASSEMBLY IS FUNCTIONING PROPERLY.
- 3 CONSULT CORRECT BLOCK MODIFICATION Dwg. FOR USE WITH THIS ASSEMBLY.
- 4 USED TO COMPLETE CIRCUIT WHEN EITHER JIB OR UPPER BOOM POINT IS REMOVED.
- 5 CAUTION: SYSTEM MAY NOT FUNCTION AT MACHINES MAXIMUM SINGLE LINE SPEED - CAREFULLY CHECK EACH MACHINE FOR MAXIMUM SAFE LINE SPEED.
- 6 SWITCHES MUST BE CONNECTED IN SERIES.
- 7 FOR BLOCK MODIFICATIONS NOT SHOWN, USE MODIFICATION Dwg. 184433 CUSTOMER FURNISHED.
- 8 9 FT. LG. CHAIN RED'D. WITH 123 FT. TOWER (#22 OR #22A) AND 110 FT. BOOM (#23).
- 9 11 FT. -6 LG. CHAIN RED'D. WITH 144 FT. TOWER (#9 OR #9A) AND 120 FT. BOOM (#18).
- 10 14 FT. LG. CHAIN RED'D. WITH 144 FT. TOWER (#9 OR #9A) AND 130 FT. BOOM (#18).
- 11 ADJUST CHAIN LENGTH AS NECESSARY FOR HEIGHT TO CLEAR LACINGS IN BOOM AND TOWER WHEN BOOM IS IN FOLDED POSITION.
- 12 4600 SERIES 3

QTY	DESCRIPTION	PART NO.	REVISION	DATE
2	MOUNTING PAD	170848		
1	ELEC. WIRING - CAB TO OUTLET	184000		
1	ELEC. WIRING - CAB TO OUTLET	184320		
1	JUNCTION BOX	268157		
1	CORD GRIP	471715		
1	PIGTAIL - 6 FT.	477351		
4	#10-24UNC-2A X .38 LG. RD HD MACH SCREWS	17784		
4	#10 LOCKWASHER	710301		
FOR LOWER BOOM POINT OR CONTAINER HANDLING BOOM POINT (ADD)				
2	WEIGHT	162273		
1	WEIGHT	142403		
1	WEIGHT	143080		
1	MOUNTING BRACKET	142371		
1	SWITCH ASSEMBLY	163614		
1	SWITCH ASSEMBLY	164674		
1	MOUNTING PAD	171914		
2	MOUNTING BRACKET	170323		
1	CHAIN - 6 FT. LG.	334101		
1	CHAIN - 8 FT. LG.	334101		
1	#14-2 TYPE 5 "TIREX" CORD	371802		
1	CORD GRIP	471715		
1	ANCHOR SHACKLE	624633		
1	BRACKET	171915		
2	LUG	168091		
2	LIFT BLOCK	93657		
1	MOUNTING PAD	139588		
FOR UPPER BOOM POINT OR JIB POINT (ADD)				
1	LIFT BLOCK	175311		
1	LIFT BLOCK	175312		
1	LIFT BLOCK	93657		
1	LIFT BLOCK	93705		
2	LIFT BLOCK	145171		
1	LIFT BLOCK	170842		
1	WEIGHT	143095		
1	WEIGHT	145170		
1	WEIGHT	162273		
1	WEIGHT	175310		
2	MOUNTING BRACKET	142371		
1	SHORTING PLUG	145848		
1	SWITCH ASSEMBLY	163614		
1	LUG	168091		
2	MOUNTING BRACKET	170323		
2	MOUNTING BRACKET	170870		
2	CHAIN - 8 FT. LG.	334101		
1	CORD GRIP	471715		
1	EXTENSION - 16 FT.	477366		
3	ANCHOR SHACKLE	624633		
2	MOUNTING BRACKET	171641		
FOR UNIVERSAL WIRE ROPE ANCHOR JOINT WITH UPPER BOOM POINT OR JIB POINT (ADD)				
1	MOUNTING BRACKET	142371		
1	WEIGHT	142403		
1	SWITCH ASSEMBLY	163614		
1	MOUNTING BRACKET	171665		
1	CHAIN - 6 FT. LG.	334101		
1	CORD GRIP	471715		
1	ANCHOR SHACKLE	624633		
FOR REGULAR TOP - 1 - SHEAVE (ADD)				
1	LIFT BLOCK	93657		
2	MOUNTING BRACKET	142371		
1	WEIGHT	162273		
1	SWITCH ASSEMBLY	163614		
1	LUG	168091		
2	CHAIN - 8 FT. LG.	334101		
1	#14-2 TYPE 5 "TIREX" CORD	371802		
1	CORD GRIP	471715		
3	ANCHOR SHACKLE	624633		
FOR REGULAR TOP - 2 - SHEAVE (ADD)				
2	MOUNTING BRACKET	142371		
1	WEIGHT	145170		
2	LIFT BLOCK	145171		
1	SWITCH ASSEMBLY	163614		
1	LUG	168091		
2	CHAIN - 8 FT. LG.	334101		
1	CORD GRIP	471715		
3	ANCHOR SHACKLE	624633		
FOR TOWER BOOM INTERMEDIATE FALL (ADD)				
1	LIFT BLOCK	93657		
2	MOUNTING BRACKET	142371		
1	WEIGHT	162273		
1	SWITCH ASSEMBLY	163614		
1	LUG	168091		
1	ANCHOR SHACKLE	624633		
1	CORD GRIP	471715		
3	ANCHOR SHACKLE	624633		
FOR UNIVERSAL WIRE ROPE ANCHOR JOINT WITH LOWER BOOM POINT (ADD)				
1	MOUNTING BRACKET	142371		
1	WEIGHT	142403		
1	SWITCH ASSEMBLY	163614		
1	MOUNTING BRACKET	171665		
1	CHAIN - 6 FT. LG.	334101		
1	CORD GRIP	471715		
1	ANCHOR SHACKLE	624633		

MANITOWOC ENGINEERING CO.

A Division of The Manitowoc Company, Inc.

Manitowoc, Wisconsin



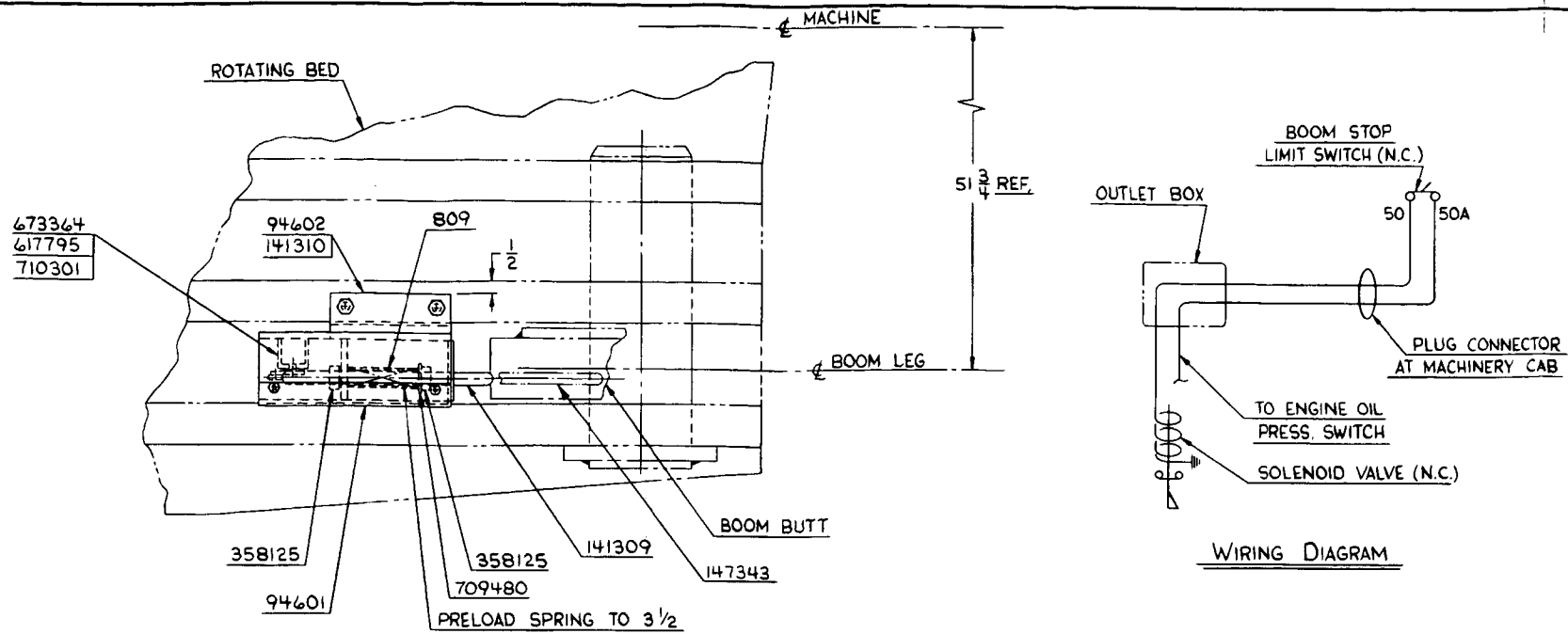
18169681

MATERIAL LIST ON BACK

J1B

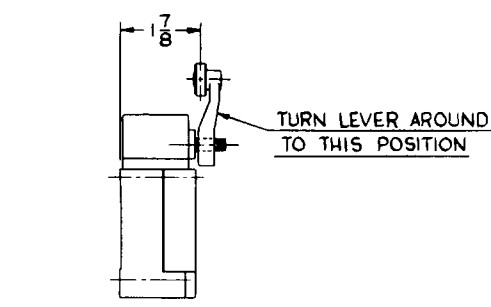
WIRING IDENTIFICATION NUMBERS

50 - BOOM STOP LIMIT SWITCH TO SOLENOID VALVE.
50A - 24 VOLT POWER SUPPLY TO LIMIT SWITCH.



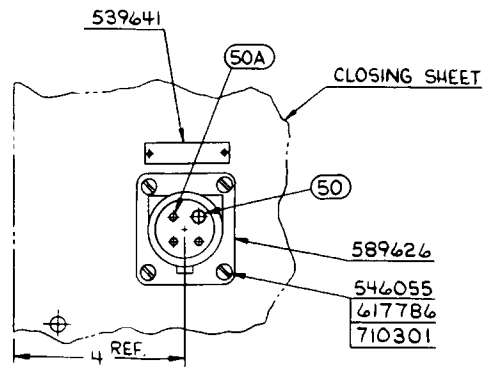
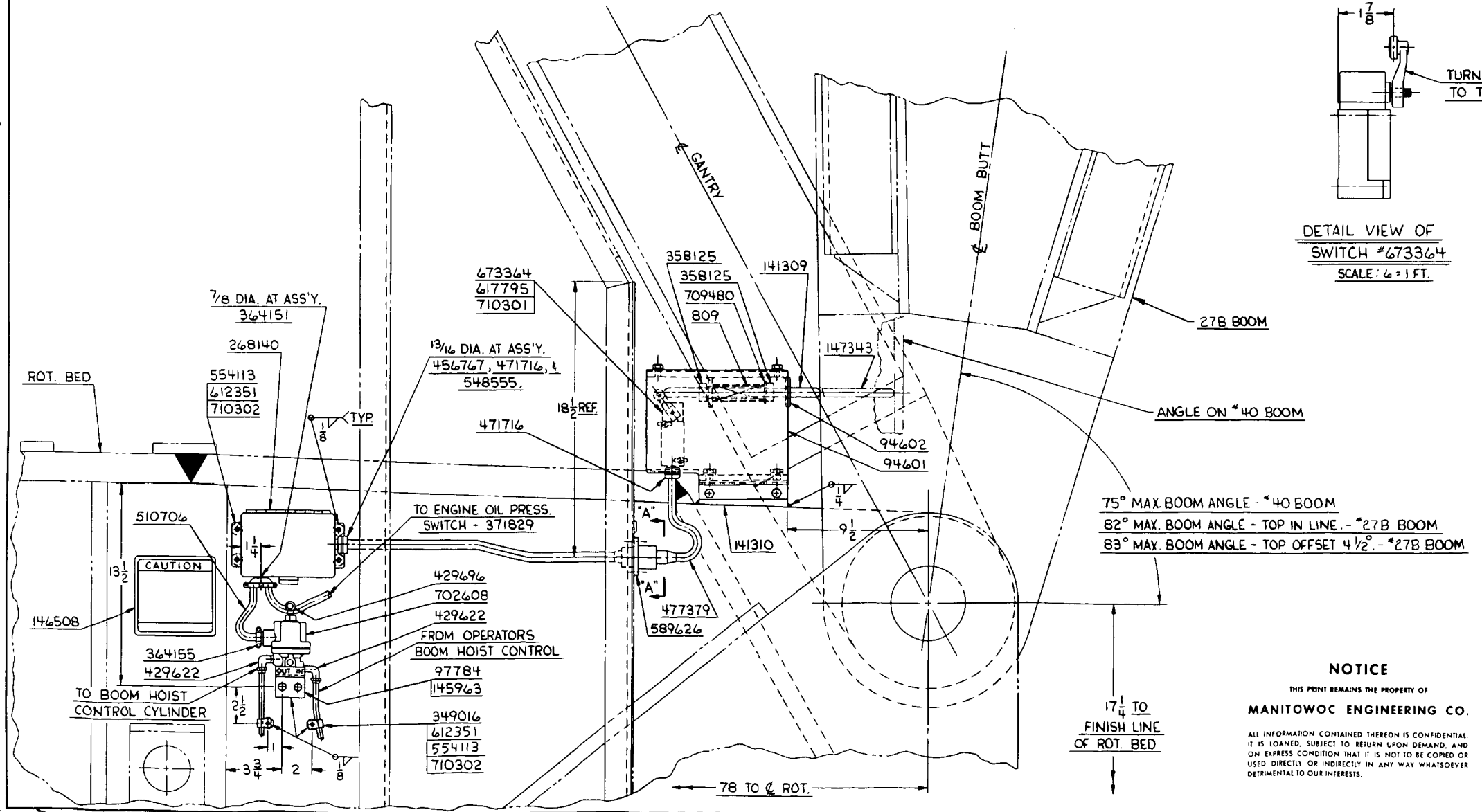
BILL OF MATERIAL						
ITEM NO.	QTY.	DESCRIPTION	LENGTH	MATERIAL	CODE NO. OR OPT. NO.	REMARKS
1		SPRING			809	
1		COVER			94601	
1		BRACKET			94602	
1		BRACKET			97784	
1		ACTUATOR			147343	40 BOOM ONLY
1		ACTUATOR			141309	27 BOOM ONLY
1		MOUNTING PAD			141310	
1		MOUNTING PAD			145963	
1		CAUTION DECAL			146508	
1		OUTLET BOX			268140	
2		STRAP			349016	
2		5/8 SET COLLAR			358125	
1		BX DUPLEX CONNECTOR			364151	
1		BX STRAIGHT CONNECTOR			364155	
15'		#14-1 TYPE 50 CORD			371829	
2		3/8 x 1/4 MALE ELBOW			429622	
1		1/8 STREET ELBOW			429696	
1		GASKET			456767	
2		CORD GRIPPER			471716	
1		PIGTAIL - 2 FT. LG.			477379	REF. 94886
1		1/4 I.D. LOOM (1 FT. - 0 LG.)			510706	
1		NAMEPLATE			539641	
4		#10-24 UNC. HEX. NUT			546055	
1		LOCK NUT			548555	
6		MOUNTING PAD			554113	
1		FEMALE RECEPTACLE			589626	
6		1/4-20 UNC. 1/2 LG. HEX. SCR.			612351	
4		#10-24 UNC. 1/2 LG. MACH. SCR.			617786	RD. HD.
2		#10-24 UNC. 2 LG. MACH. SCR.			617795	RD. HD.
1		LIMIT SWITCH			673364	SEE DETAIL
1		SOLENOID VALVE (N.C.)			702608	
1		5/8 WASHER			709480	
6		#10 LOCKWASHER			710301	
6		1/4 LOCKWASHER			710302	

REVISIONS
11-13-80 DWB
(A) ADDED



DETAIL VIEW OF SWITCH #673364
SCALE: 6=1 FT.

NOTE 1
ALLOW 1/8 TRAVEL TO ACTIVATE LIMIT SWITCH BEFORE BOOM IS IN ITS MAXIMUM POSITION.



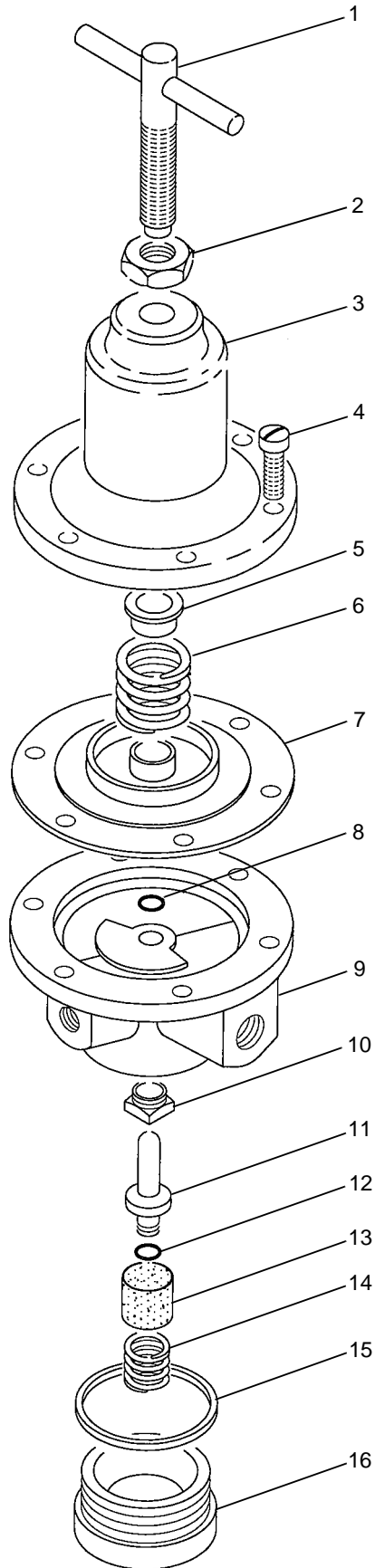
VIEW "A-A"
SCALE: 6=1 FT.

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SUPERSEDES DWG. # 181944

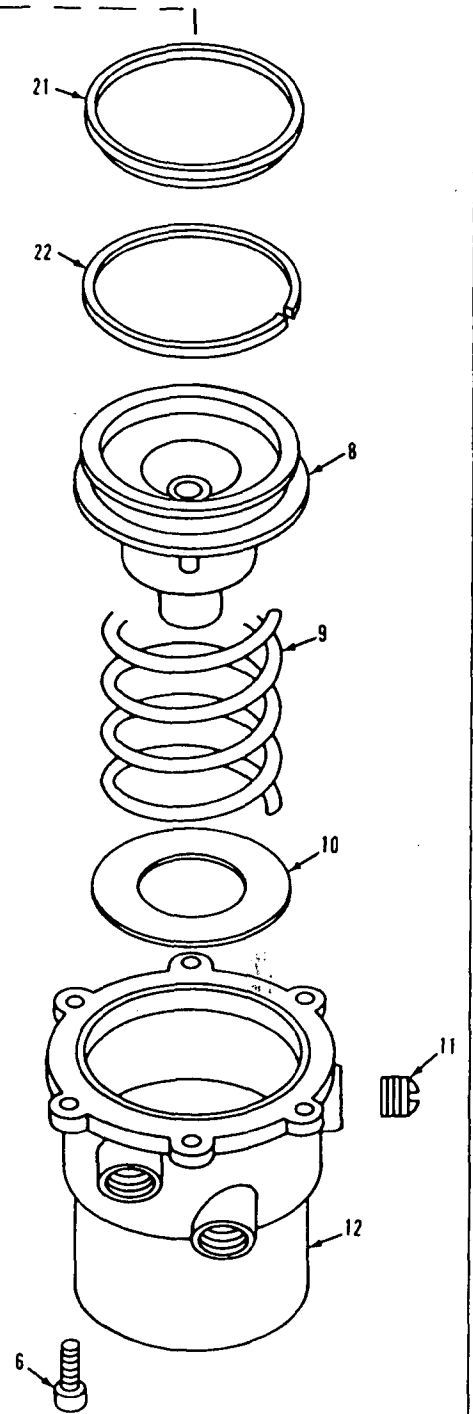
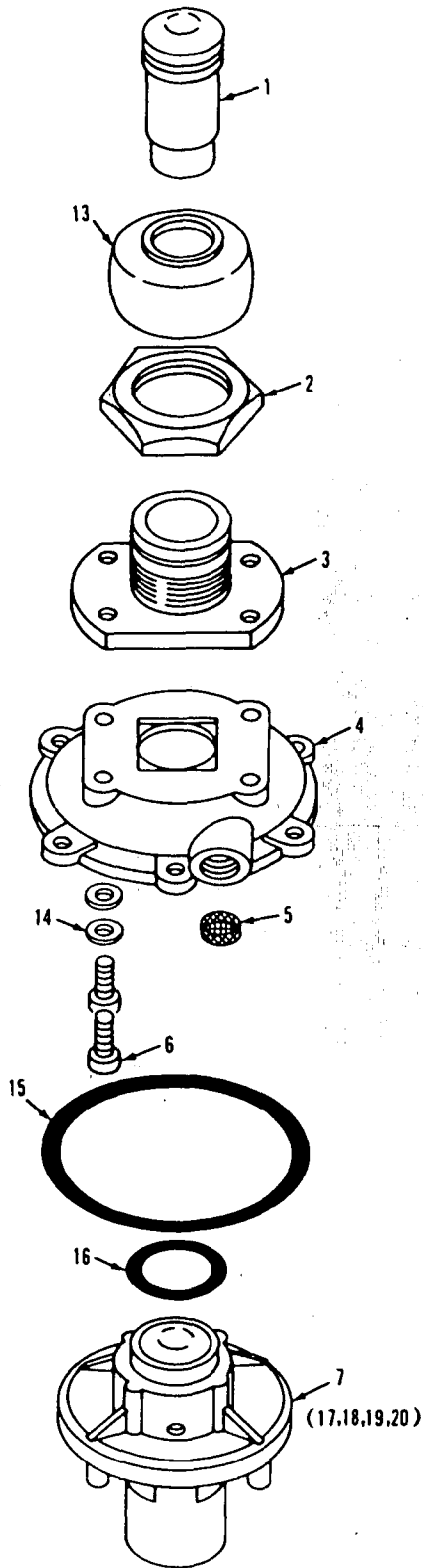
SCALE 3=1 FT. OR TJC OR CWH APP	DWG NO. 191212	MANITOWOC ENGINEERING CO. MANITOWOC, WISCONSIN MODEL 4600 SERIES 4, 4600 SERIES 5	BOOM STOP ASSEMBLY AUTOMATIC (ELEC. TO AIR) FOR # 27B BOOM AND #40 BOOM(B)	DATE 8-8-80	PATTERN NO.	CODE NO.	DWG NO. 191212
---------------------------------------------	-------------------	--------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	----------------	-------------	----------	-------------------

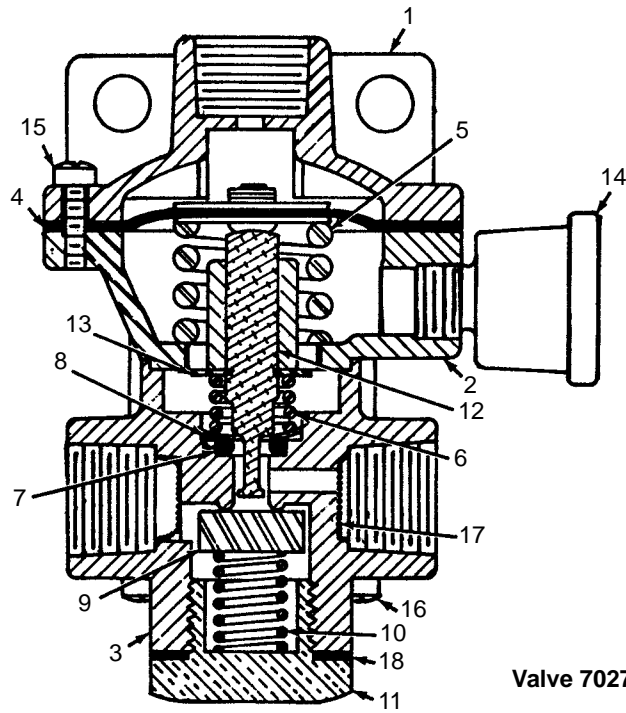


ASSEMBLY	REVISION
O-117	C

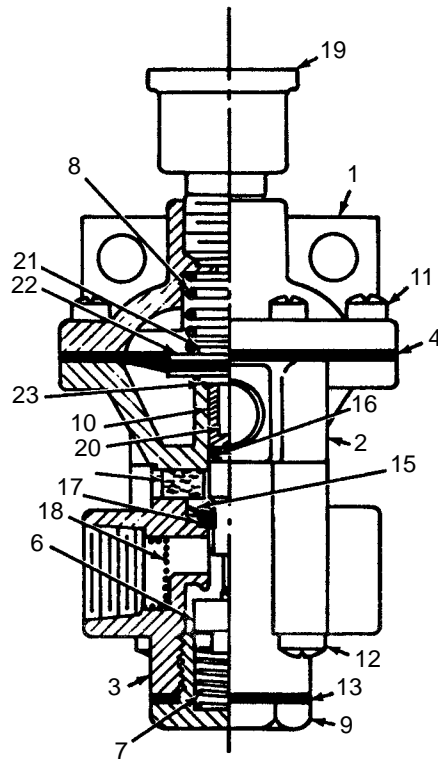
VALVE, PRESSURE REGULATING

MASTER





Valve 702755

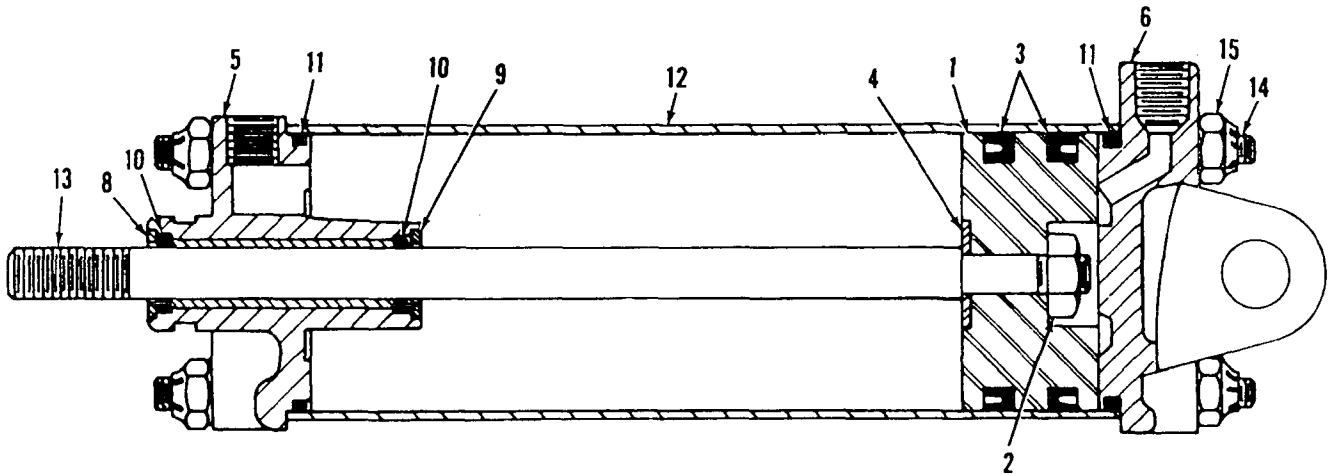


Valve 702756

ASSEMBLY	REVISION
O-294	E

RELAY VALVE

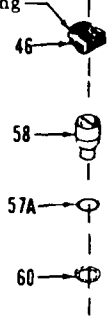
MASTER



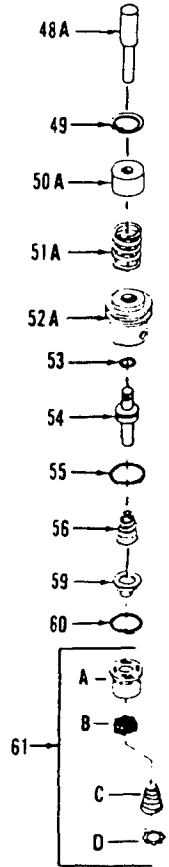
0-414

Cavity Plugged

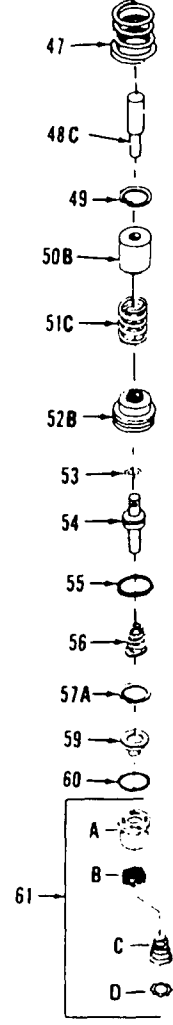
Fasten to Housing
Ref. #32



3 Way Valve



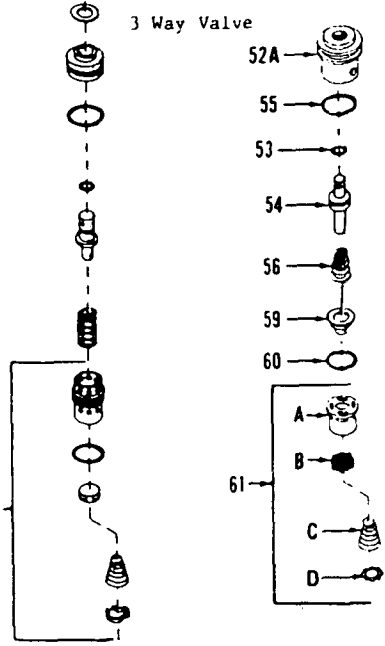
Modulating Valve



REPAIR AND CONVERSION KITS

Obsolete

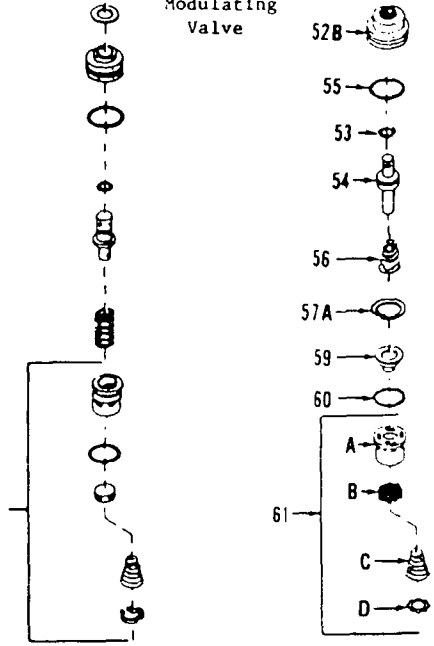
Replace With



Obsolete

Modulating Valve

Replace With

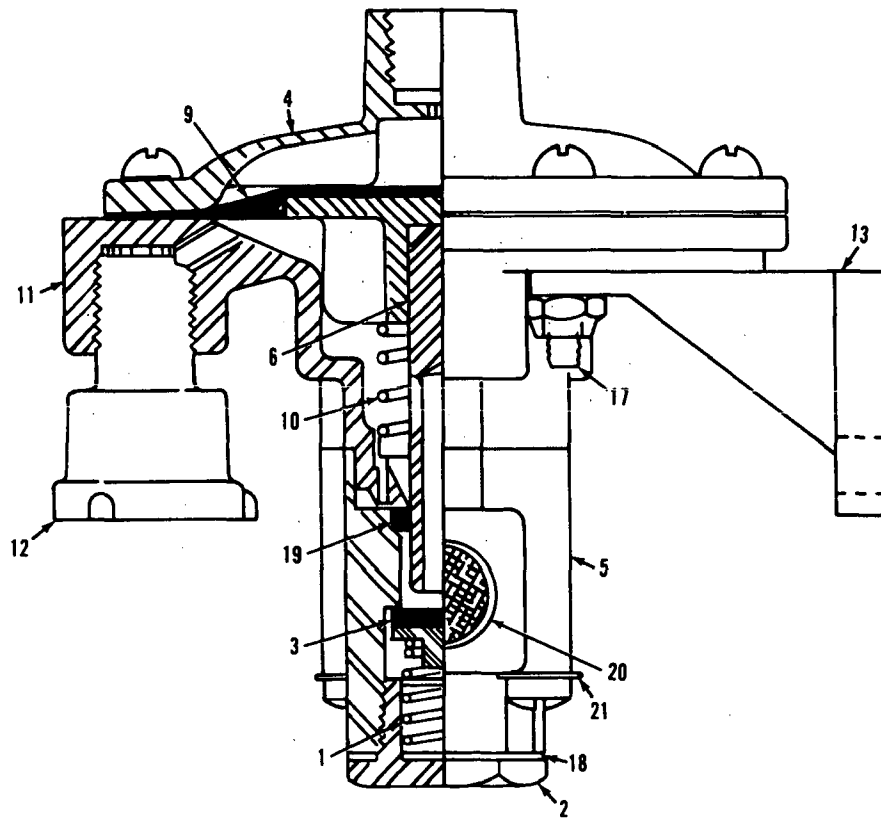


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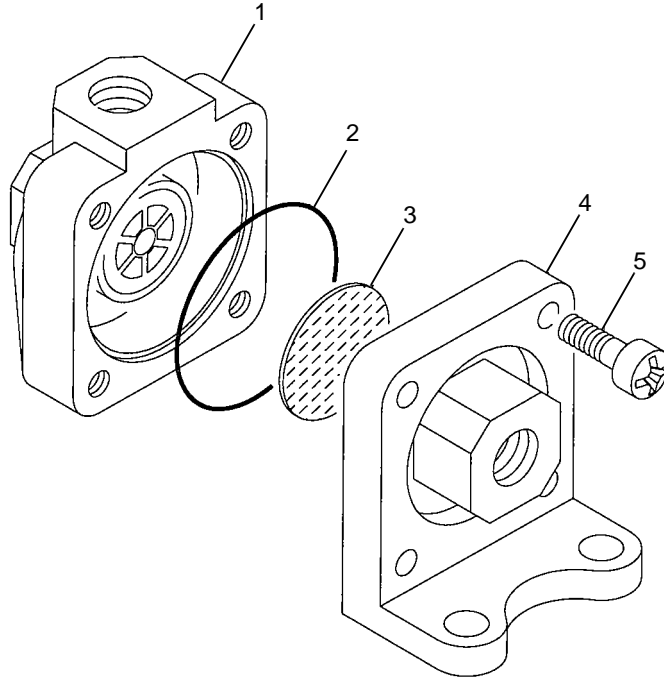
MASTER



0-472-1A

MATERIAL LIST ON BACK

Relay Valve



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
O-63	C

SHUTTLE VALVE

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