

**MANITOWOC**

# 2900WC

**LIFTCRANE**

**PILEDRIVER**



specifications

# 2900WC

## MANITOWOC

- 11' 1" crawler width for close-quarter portability . . . quickly converted to
- 18' 8" crawler width for wide-track, maximum-lift stability
- Independent hydraulic drive crawlers for on-axis short turning radius . . . crawlers may be driven in opposite directions independently
- Low clearance profile . . . 12' overall height with gantry down

## SPECIFICATIONS

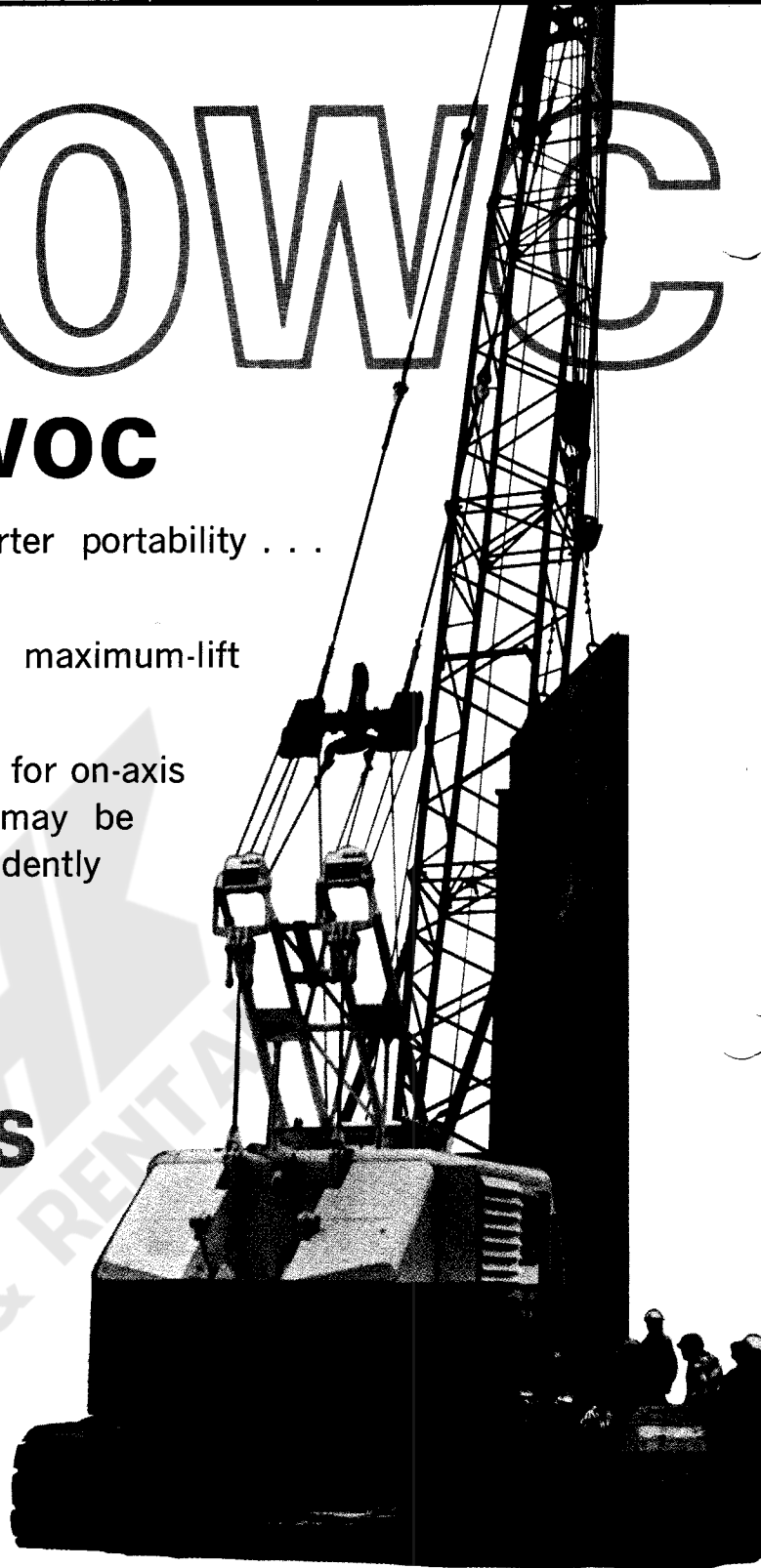
### POWER

**BASIC** — Cummins HS-672-B (previously HS-6-B1) Diesel with three stage Twin Disc torque converter; 6 cylinder; 4 $\frac{7}{8}$ " bore, 6" stroke; 672 cu. in. displacement; 180 net H.P. @ 1700 rpm.

**OPTIONAL** — GM 6-71 Diesel, Model 6055C, with three stage Twin Disc torque converter; 6 cylinder; 4 $\frac{1}{4}$ " bore, 5" stroke; 426 cu. in. displacement; 165 net H.P. @ 1600 rpm with master engine clutch engaged for hoist, swing or travel; 195 net H.P. @ 2000 rpm with master engine clutch disengaged for travel only.

### CONTROLS

	AIR	MANUAL	MANUAL-HYDRAULIC
Travel (hydraulic system) . . . . .			X
Swing . . . . .		X	
Swing Brake . . . . .	X		
Rear Drum Clutch . . . . .	X		
Rear Drum Brake . . . . .		X	
Right Front Drum Clutch . . . . .	X		
Right Front Drum Brake . . . . .		X	
Left Front Drum Clutch . . . . .	X		
Left Front Drum Brake . . . . .		X	
Independent Boom Hoist . . . . .	X		
Auxiliary Boom Hoist Brake . . . . .		X	
Engine Clutch Control . . . . .	X		
Swing Lock Control . . . . .	X		
Two-Speed Shift Control . . . . .	X		
Crawler Brakes — spring applied . . . . .	X		
Carbody Hydraulic Jacks and Rams (optional) . . . . .			X
Carbody Manual Jacks and Rams . . . . .		X	



### TANK AND GEAR CASE CAPACITY

Fuel Tank . . . . .	75 Gal.
Cooling System with:	
Cummins HS-672-B . . . . .	18 Gal.
GM 6-71 (optional) . . . . .	12 Gal.
Drive Chain Case . . . . .	3 $\frac{1}{2}$ Gal.
Engine Crankcase with:	
Cummins HS-672-B — less filter . . . . .	7 Gal.
GM 6-71 (optional) — less filter . . . . .	4 $\frac{1}{2}$ Gal.
Crawler Drive Transmission (both crawlers) . . . . .	29 Gal.
Air Compressor . . . . .	1 Qt.
Hydraulic Travel System . . . . .	102 Gal.

## ROTATING BED

House Rollers — 4: 2 front, 2 rear, anti-friction bearings.

Hook Rollers — 6: 2 front, 4 rear, anti-friction bearings.

Ring Gear — Roller Path: 86½" outside dia. with 4¼" pitch, internal teeth.

## DRUM SHAFT DATA

	FRONT DRUM		REAR DRUM
	RIGHT	LEFT	
Drum Diameter	15½"	15½"	16"
Drum Width	10½"	9⅞"	22¼"
Lagging Rod Diameter	1"	21½"	none
Lagging Rod Spacing	7/8"	3/4"	7/8"
Lagging Capacity	42'	65'	98'
No. of Layers	9	5	8
Spooling Capacity	550'	370'	1200'

\*Must have lagging — can't be used as bare drum.

## SWING CLUTCHES (Main Drive Shaft)

CLUTCH SHAFT: Manitowoc, two (2) piece replaceable clutch friction disc. Roller bearing clutch cams. Anti-friction bearing mounted bevel pinions and clutch components.

SWING SPEED: 0 to 5.0 rpm

## HYDRAULIC TRAVEL SYSTEM

Hydraulic Travel System consists of:

- Two stage hydraulic pump mounted on front of power plant, with each stage providing a rated flow of 80 gal. per min. @ 2000 rpm.
- Hydraulic control valves in back of operator, one valve for each crawler.
- Hydraulic motor mounted in each crawler frame, with two speed hydraulic control valve.

Each stage powers one (1) crawler through control system and each hydraulic valve will control hydraulic oil to crawlers from 0 to maximum GPM depending on travel control lever position.

The hydraulic motor in each crawler is a two (2) stage motor. Hydraulic fluid to the motor is routed through a diverting valve providing two travel speeds: total flow through one (1) stage for high speed, or total flow through each of two (2) stages for low speed. Shifting is air controlled.

## TRAVEL SPEEDS

	HIGH SPEED	LOW SPEED
Cummins HS-672-B	.81 mph	.42 mph
GM 6-71 (optional)	.96 mph	.50 mph

## INDEPENDENT BOOM HOIST

DRUM: Double

CLUTCH SHAFT: Manitowoc, two (2) piece replaceable clutch disc, driven from the rear drum gear. Roller bearing clutch cams. Anti-friction bearing mounted bevel pinions and clutch components.

BRAKE: Automatic spring applied, air released.

AUXILIARY BOOM HOIST BRAKE: Manually controlled.

WORM GEAR & WHEEL: Bronze, fully enclosed, lubricated by circulating oil.

BEARINGS: Anti-friction.

## BOOM STOPS

Automatic B.H. Clutch Throwout (air) with exclusive\* Manitowoc Telescopic Air Cushioned Boom Stop.

## LIFTCRANE BOOM (NO. 16)

The No. 16 Boom is standard on the 2900WC and is of tubular construction with pin joints.

BUTT SECTION: 16' long

Lower End — 45¾" wide

Upper End — 48¾" wide x 38¼" deep

INSERT "SHALLOW": 10' long

Both ends — 48¾" wide x 38¼" deep

May be fitted with a jib backstay lug and a pendant attachment lug.

NOTE: The 10' long shallow insert is used only between the boom butt and upper butt section, and between the boom butt and boom top.

UPPER BUTT SECTION (tapered): 15' long

Lower End — 48¾" wide x 38¼" deep

Upper End — 48¾" wide x 48¾" deep

May be fitted with jib backstay anchor lugs and pendant attachment lugs.

INSERT "DEEP": 10' long

Both Ends — 48¾" wide x 48¾" deep

May be fitted with jib backstay anchor lugs.

INSERT "DEEP": 20' long

Both Ends — 48¾" wide x 48¾" deep

May be fitted with pendant attachment lug or jib backstay anchor lugs.

LOWER TOP SECTION: 15' long

Lower End — 48¾" wide x 48¾" deep

Upper End — 48¾" wide x 38¼" deep

BOOM TOP SECTION: 25' long

Lower End — 48¾" wide x 38¼" deep

Open throat with an upper and lower point, with wire rope dead end anchors for the load line as an integral part of the boom point.

Lower Boom Point includes three (3) tapered roller bearing mounted 24" OD sheaves.

Upper Boom Point consisting of one (1) straight roller bearings mounted, wide flange 27" OD sheave.

NOTE: The upper boom point may have a two (2) straight roller bearings sheave arrangement in place of the single sheave.

## EQUALIZER

The equalizer is fitted with 12" OD bushed sheaves. There is an additional sheave mounted ahead of the equalizer that may be used for handling light loads while setting up the boom, or other light work when the machine is rigged with the boom butt only.

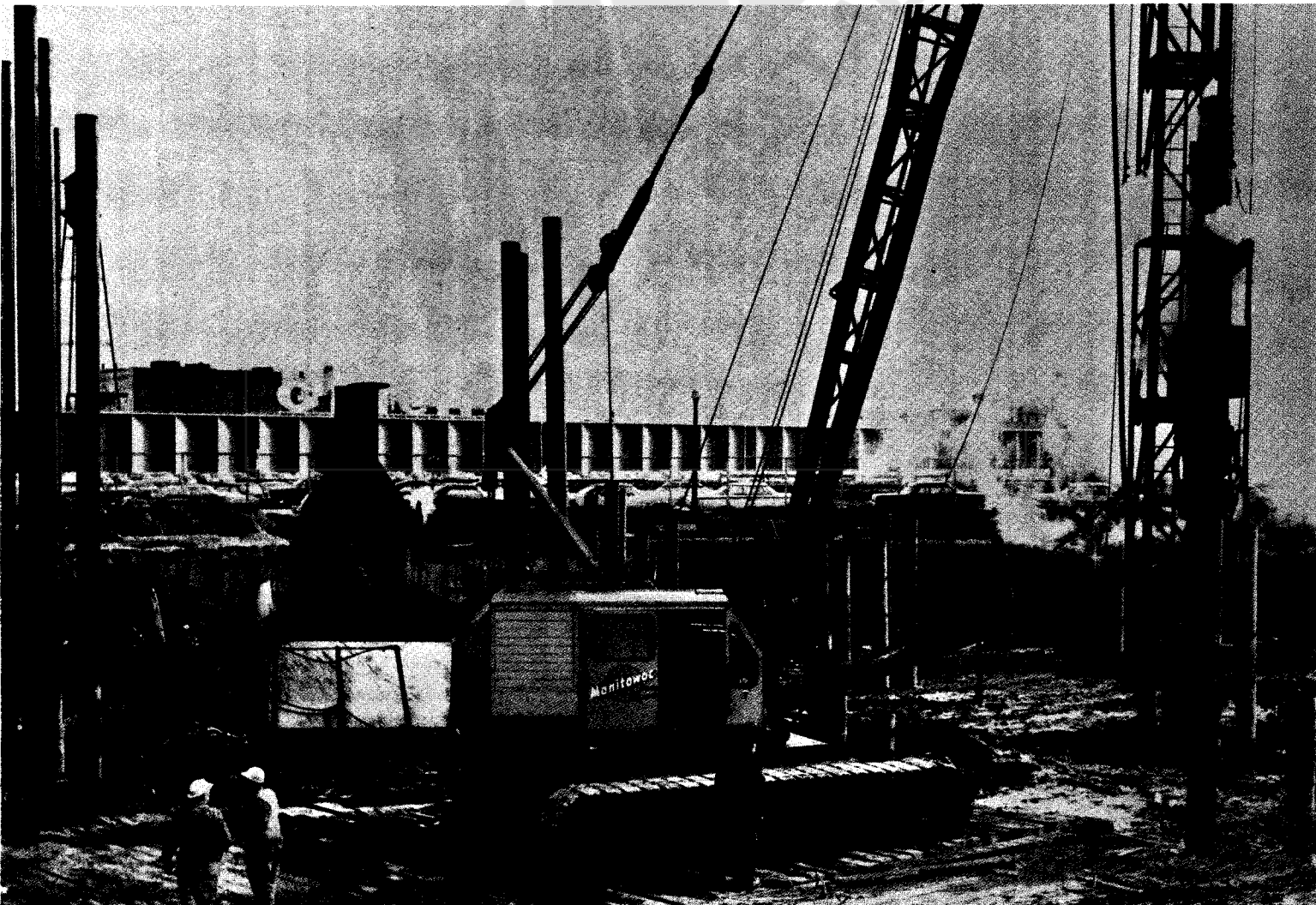
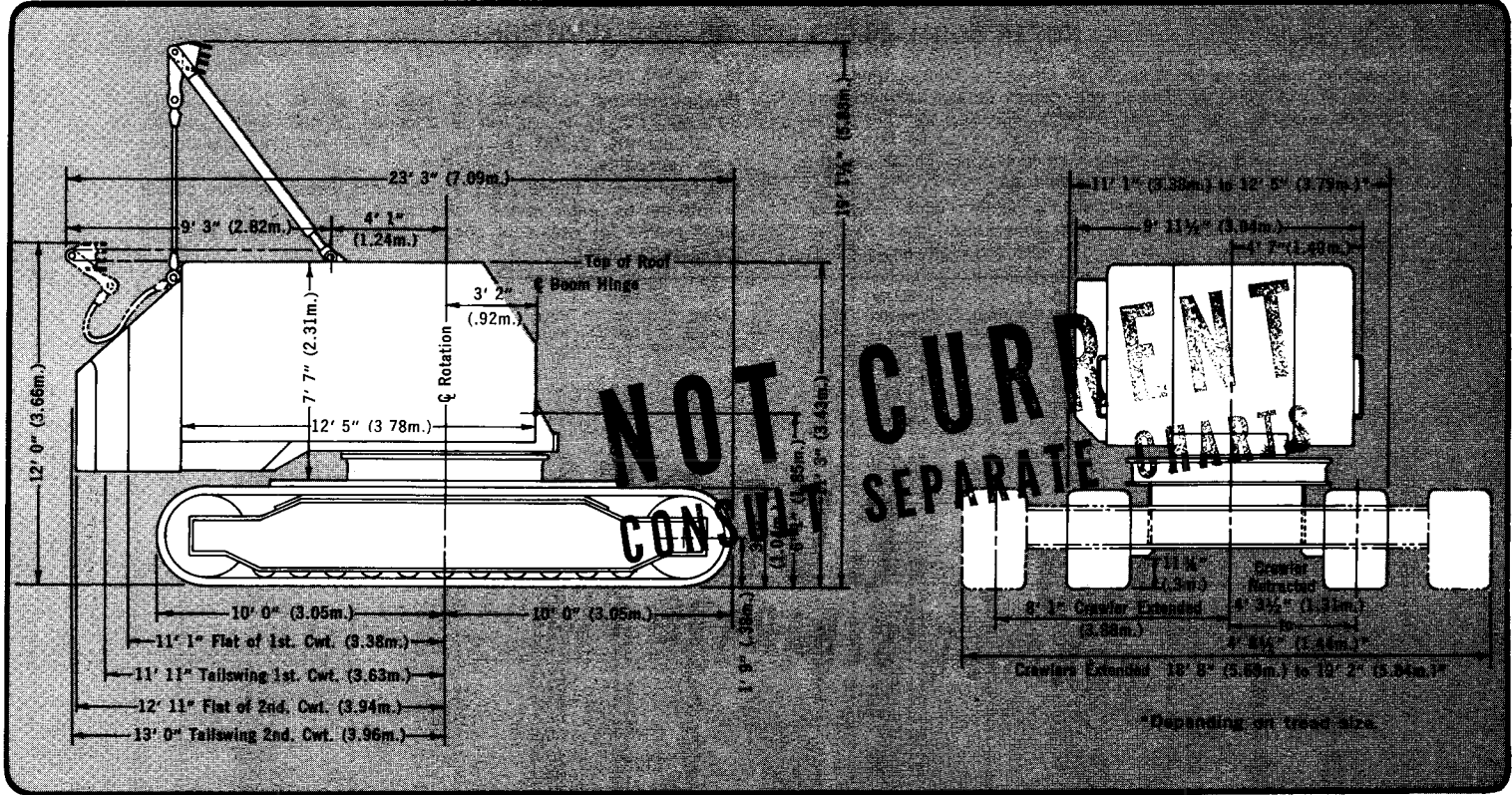
Wire top guides with 12" OD sheaves and rollers are used to guide the hoist wire ropes.

The nine foot retractable gantry is fitted with 12" OD, bushing mounted sheaves. Gantry has pendant type back hitch and hold down links for traveling with gantry down.

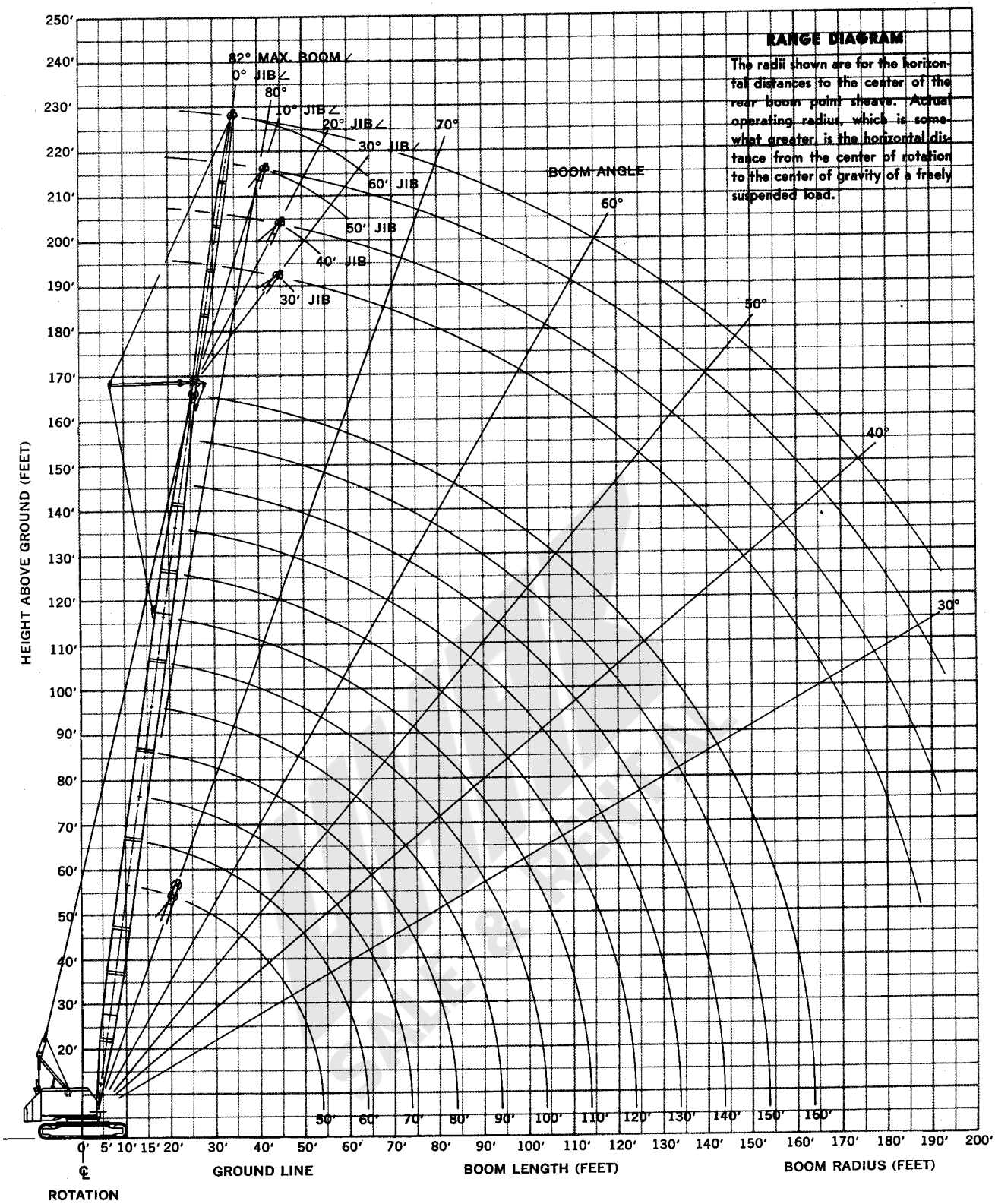
## CRAWLER DATA

Crawler Length — over ends	20'
⊕ Rotation over Drive Sprocket	10'
⊕ Rotation over Front Roller	10'
Tread Width (36" optional)	30"
Pitch	10¾" (both)
Number of pads per crawler	96
Intermediate Double Flange Rollers Required per Crawler	11
Roller Diameter	12" Dia.
Width of Face (contact area)	3"
Roller Shaft Diameter (stationary)	4" Dia.
Front Double Flange Roller Diameter	33¾" Dia.
Width of Face (contact area)	3"
Roller Shaft Diameter (stationary)	6¼" Dia.
Drive Sprocket Diameter	40-3/16" Dia.
Width of Face (contact area)	4"
Sprocket Shaft Diameter (stationary)	6¼" Dia.
Bearings are Bronze Bushed with center grease pocket.	

# OUTLINE DIMENSIONS







Because of a program of continuing improvements, Manitowoc Engineering Co. reserves the right to change this description at any time, without notice.

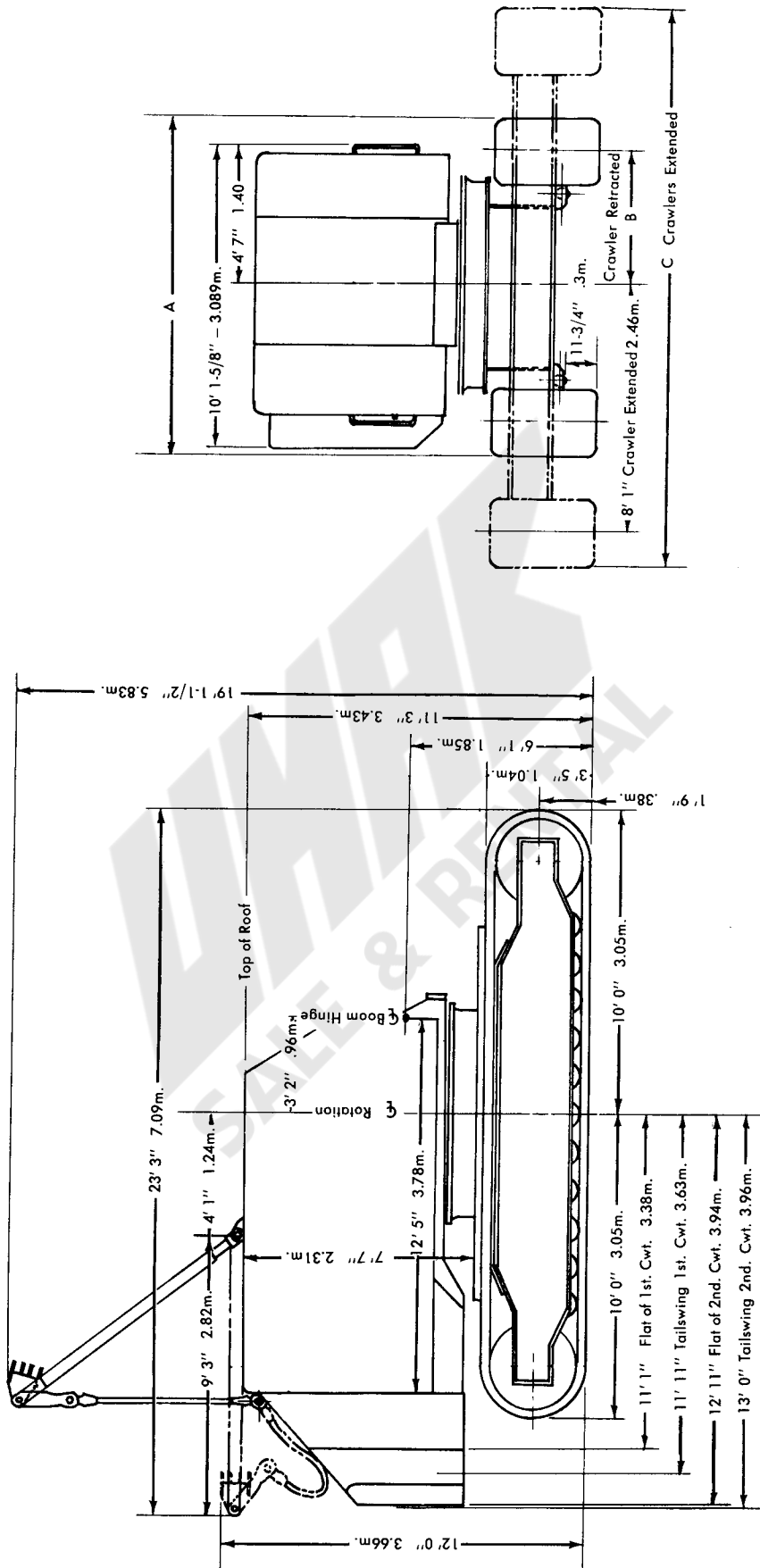


**MANITOWOC ENGINEERING CO.**  
 (A division of The Manitowoc Company, Inc.)  
 Manitowoc, Wisconsin 54220

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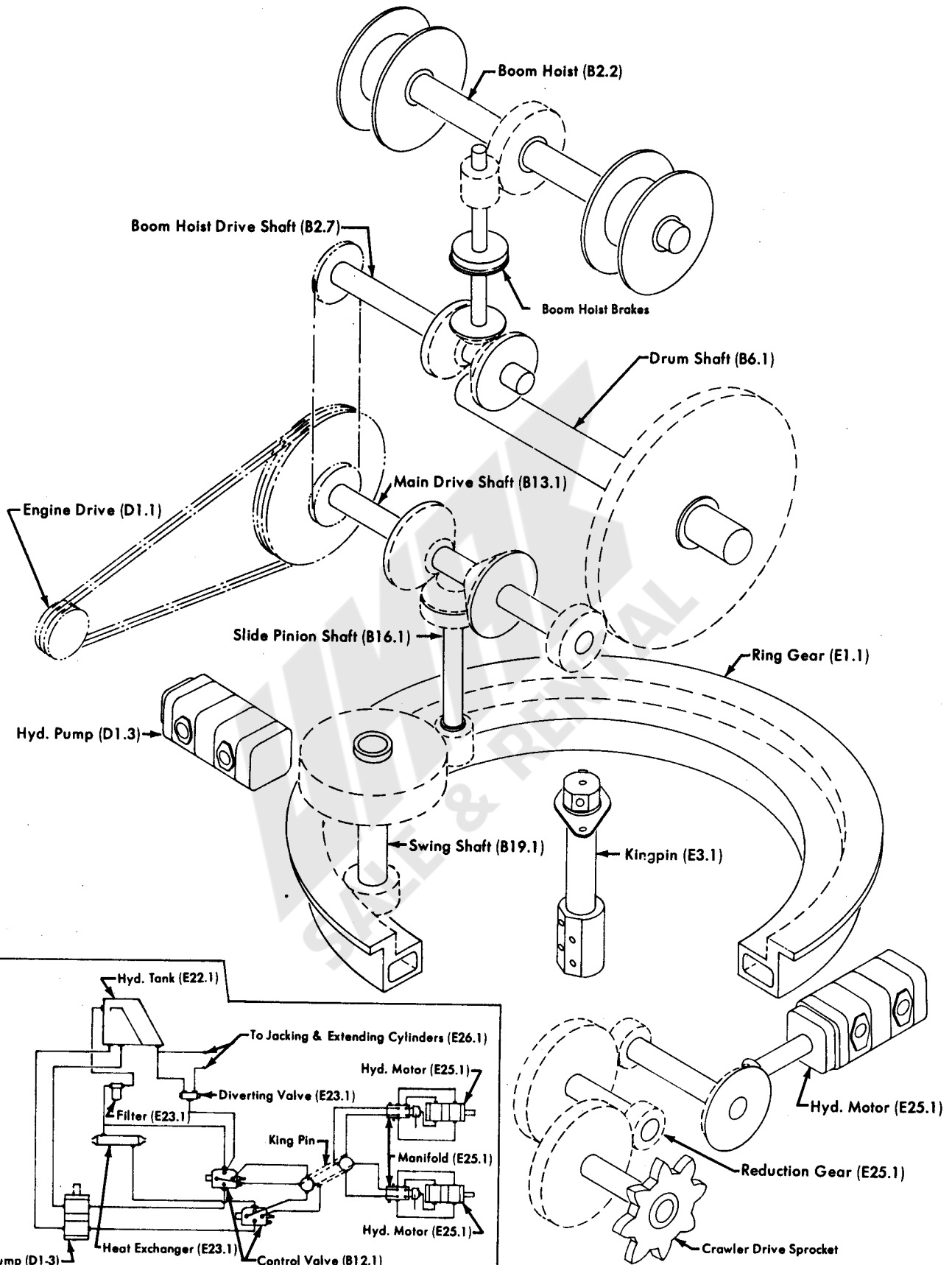
Dimension	30" Treads	36" Treads
A	11' 5" - 3.48m.	12' 5" - 3.78m.
B	4' 5½" - 1.36m.	4' 8½" - 1.44m.
C	18' 8" - 5.69m.	19' 2" - 5.84m.

7-26-71  
9-14-67  
Date 8-25-67

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Manitowoc, Wisconsin



Schematic - Crawler Drive

MODEL 2900WC

NOTE: The numbers following the descriptions above are the Parts Manual page numbers.

O-347

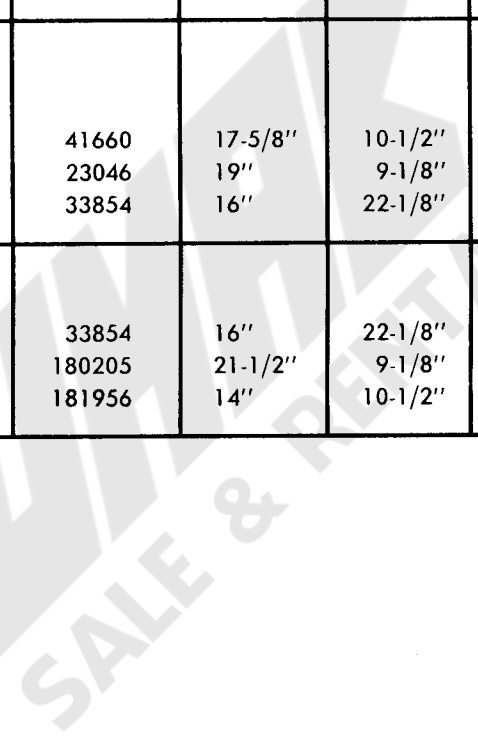
POWER TRAIN





**DRUM AND LAGGING CHART** \_\_\_\_\_ **2900WC**

APPLICATION	DRUM	PART NUMBER	DIA.	WIDTH	TYPE OF DRUM OR LAGGING	WIRE ROPE SIZES
<b>LIFTCRANE</b>						
Hoist	Rear	33854	16"	22-1/8"	Bare	3/4"
Whip	Left Front	180205	21-1/2"	9-1/8"	Plain	3/4"
Auxiliary	Right Front	181956	14"	10-1/2"	Plain	3/4"
<b>CLAMSHELL</b>						
Closing	Right Front	31612	20"	10-1/2"	Grooved	3/4"
Holding	Left Front	23041	21-1/2"	9-1/8"	Grooved	3/4"
Auxiliary	Rear	33854	16"	22-1/8"	Bare	7/8"
<b>DRAGLINE – HINGED FAIRLEAD</b>						
Drag	Right Front	41660	17-5/8"	10-1/2"	Grooved	7/8"
Hoist	Left Front	23046	19"	9-1/8"	Grooved	3/4"
Auxiliary	Rear	33854	16"	22-1/8"	Bare	7/8"
<b>PILEDRIVER</b>						
Hoist	Rear	33854	16"	22-1/8"	Bare	7/8"
Whip	Left Front	180205	21-1/2"	9-1/8"	Plain	3/4"
Auxiliary	Right Front	181956	14"	10-1/2"	Plain	3/4"



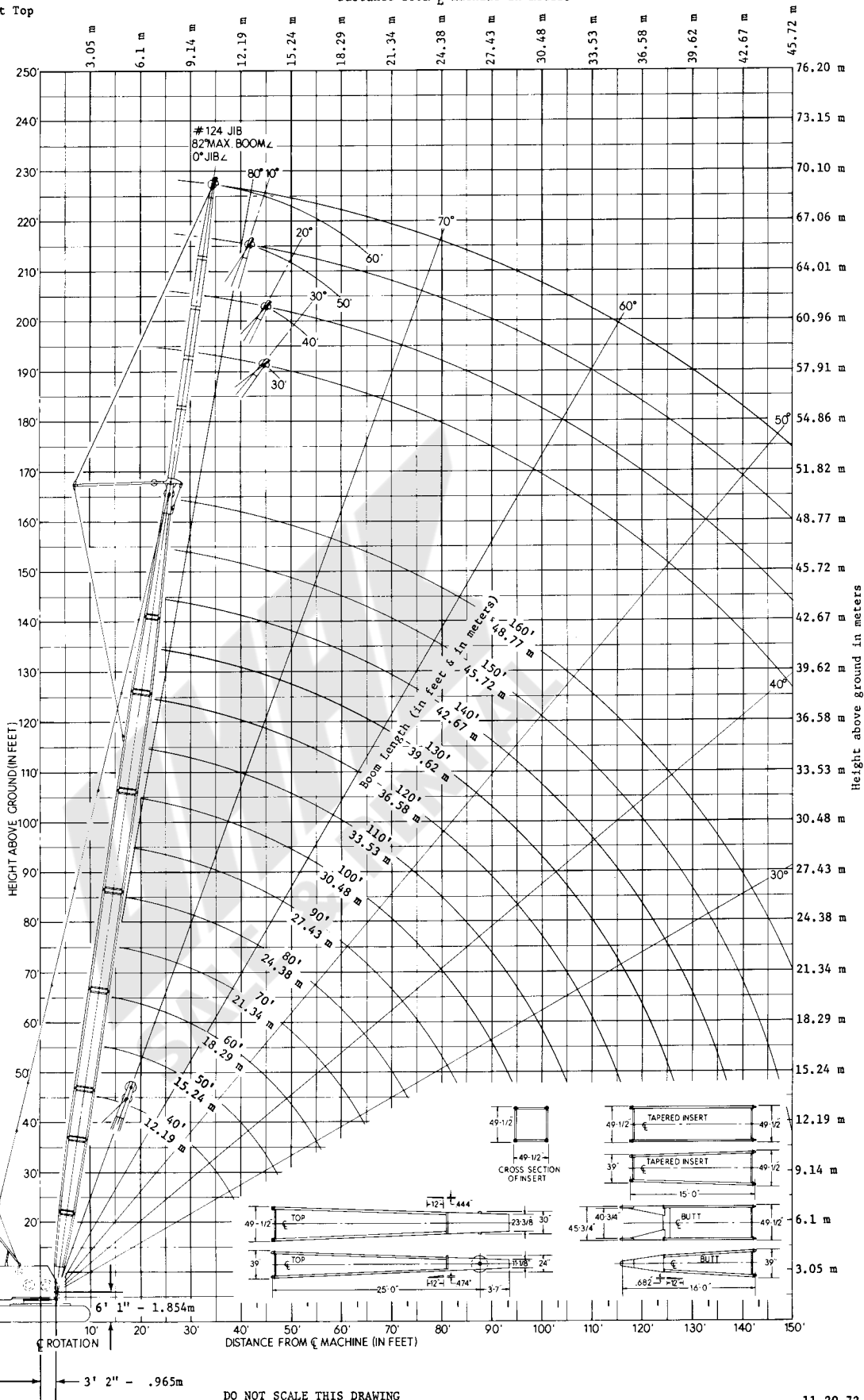
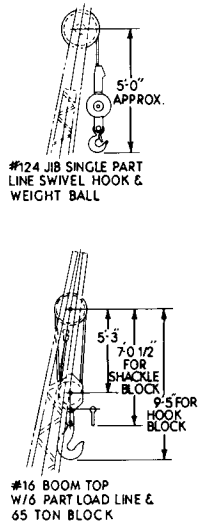
# MANITOWOC ENGINEERING CO.

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Manitowoc, Wisconsin

MAXIMUM BOOM ANGLE  
82° For No. 16 Boom W/Open Throat Top

Distance from  $\zeta$  machine in meters



- NOTE 1: This drawing is intended only as a guide to assist in job planning.
- NOTE 2: For planning a lift, this drawing is to be used in conjunction with appropriate-  
A. Capacity Charts. C. Load Line Specifications. E. Outline Dimensions.  
B. Range Chart. D. Rigging Drawing.
- NOTE 3: For planning lifts where clearances are limited and accuracy is desired, a detailed layout should be prepared.
- NOTE 4: Distance of MANITOWOC load block to boom point based on 3° fleet angle or physical limitations.
- NOTE 5: When equipped with hoist line limit switch, contact factory for load block to boom point minimum distance.

DO NOT SCALE THIS DRAWING  
Larger Size Diagrams Available - Contact Dealer.

11-20-72

RANGE DIAGRAM-M2900WC-No.16 BOOM-124 JIB

49707







# LIFTCRANE CAPACITIES

MEETS  
ANSI B30.5  
REQUIREMENTS

# 2900WC CRAWLER

## BOOM NO. 16 WITH OPEN THROAT TOP 20'0" CRAWLERS EXTENDED AND BLOCKED 36,000 LB. COUNTERWEIGHT

**LIFTING CAPACITIES:** Capacities for various boom lengths and operating radii may be based on per cent of tipping, strength of structural components, operating speeds and other factors. Capacities are for freely suspended loads and do not exceed 75% of static tipping loads. Capacities based on structural competence are shown by shaded areas.

Capacities are shown in pounds. Weight of jib, (see chart A), all load blocks, hooks, weight ball, slings, hoist lines beneath boom and jib point sheaves, etc., is considered part of the main boom load. Boom is not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved.

**OPERATING CONDITIONS:** Machine to operate in a level position on a firm surface with crawlers fully extended and blocked, and gantry in working position, and under conditions referred to in rigging drawing No. 49598 and wire rope specification chart No. 6445-A.

Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, as well as adverse operating conditions or physical machine depreciation.

**OPERATING RADIUS:** Operating radius is the horizontal distance from the axis of rotation to the center of vertical hoist line or load block with the load freely suspended. Add 11" to boom point radius for radius of sheave when using single part hoist line.

Boom angle is the angle between horizontal and centerline of boom butt and inserts and is an indication of operating radius. In all cases, operating radius shall govern capacity.

**BOOM POINT ELEVATION:** Boom point elevation, in feet, is the vertical distance from ground level to centerline of boom point shaft.

**MACHINE EQUIPMENT:** Machine equipped with 20'0" ex-

tensible crawlers, 30" or 36" treads, 9' retractable gantry, 10 part boom hoist reeving, two 1-3/8" pendants, 1st cwt. 18,000 lbs., 2nd cwt. 18,000 lbs. Total counterweight 36,000 pounds.

HOIST REEVING FOR MAIN LOAD BLOCK						
No. Parts of Line	1	2	3	4	5	6
Max. Load - Lbs.	18,400	36,800	55,200	73,600	92,000	110,400
No. Parts of Line	7	8				
Max. Load - Lbs.	123,500	140,000				

LOAD AND WHIP LINE SPECIFICATIONS	
LOAD LINE:	3/4" - 6x25 Bright Super Tensile, Monitor AAA, Regular Lay, IWRC. Minimum Breaking Strength 32.3 Ton.
WHIP LINE:	3/4" - 6x25 Filler Wire, Improved Plow Steel, Regular Lay, IWRC. Minimum Breaking Strength 25.6 Ton. Maximum Load - 13,000 lbs. per Line.

MAXIMUM BOOM AND JIB LENGTHS LIFTED UNASSISTED			
OVER FRONT OF BLOCKED CRAWLERS		OVER SIDE OF EXTENDED CRAWLERS	
Boom Length	Jib No. 124	Boom Length	Jib No. 124
160'	---	160'	---
160'	60'	150'	60'

Load block, hook and weight ball on ground at start.

(A) DEDUCT FROM CAPACITIES WHEN JIB IS ATTACHED	
Jib Length	Jib No. 124
30'	1,800 Lb.
40'	2,050 Lb.
50'	2,300 Lb.
60'	2,500 Lb.

For jib capacities, consult jib chart.

Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Angle: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended	Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Angle: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended	Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Angle: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended		
40	12	77.6	46.1	140,000	50	34	52.8	46.7	40,800	70	28	69.5	72.6	53,700		
	13	76.1	45.9	135,800		36	49.9	45.1	37,700		30	67.8	71.8	48,500		
	14	74.7	45.6	129,500		38	46.9	43.3	34,900		32	66.0	70.9	44,100		
	15	73.2	45.3	125,500		40	43.8	41.3	32,600		34	64.3	70.0	40,400		
	16	71.8	45.0	122,800		45	34.9	35.2	27,700		36	62.5	69.0	37,300		
	17	70.3	44.7	119,100		50	23.3	26.3	23,900		80	38	60.6	67.9	34,500	
	18	68.8	44.3	112,700		13	80.7	66.3	134,600			40	58.7	66.8	32,100	
	19	67.3	43.9	102,000		14	79.8	66.1	125,500			45	53.9	63.4	27,300	
	20	65.8	43.4	93,100		15	78.8	65.9	122,900			50	48.7	59.4	23,600	
	22	62.7	42.5	79,200		16	77.9	65.7	120,300			55	43.1	54.6	20,700	
	24	59.5	41.4	68,800		17	76.9	65.5	117,300			60	36.8	48.6	18,400	
	26	56.2	40.1	60,700		60	18	75.9	65.2			112,400	65	29.4	41.0	16,500
	28	52.7	38.7	54,300			19	75.0	65.0			101,700	70	19.7	30.0	14,900
	30	49.1	37.1	49,100			20	74.0	64.7		92,700	90	15	81.6	86.2	109,500
	32	45.3	35.2	44,700			22	72.0	64.1		78,800		16	80.9	86.0	107,400
	34	41.2	33.1	41,100			24	70.0	63.4		68,400		17	80.2	85.9	105,400
36	36.8	30.6	37,900	26	68.0		62.6	60,300	18	79.4	85.7		103,500			
38	31.8	27.7	35,200	28	66.0		61.8	53,900	19	78.7	85.5		101,400			
40	26.1	24.1	31,600	30	63.9		60.8	48,600	20	78.0	85.3		92,500			
12	80.0	56.3	140,000	32	61.8	59.8	44,300	22	76.6	84.8	78,500					
13	78.9	56.1	135,200	34	59.6	58.7	40,600	24	75.1	84.3	68,100					
14	77.7	55.9	127,500	36	57.4	57.5	37,400	26	73.6	83.8	60,000					
15	76.6	55.7	124,200	38	55.2	56.1	34,700	28	72.1	83.2	53,500					
16	75.4	55.4	121,500	40	52.9	54.7	32,300	80	30	70.7	82.5	48,300				
17	74.3	55.2	118,200	45	46.7	50.5	27,500		32	69.1	81.8	43,900				
18	73.1	54.9	112,600	50	39.8	45.1	23,800		34	67.6	81.0	40,200				
19	71.9	54.5	101,800	55	31.8	38.2	20,900		36	66.1	80.1	37,000				
20	70.7	54.2	92,900	60	21.3	28.2	18,600		38	64.5	79.2	34,300				
22	68.3	53.5	79,000	70	14	81.2	76.2		123,500	40	63.0	78.2	31,900			
24	65.9	52.6	68,600		15	80.4	76.1		121,600	45	58.9	75.4	27,100			
26	63.4	51.7	60,500		16	79.6	75.9		119,100	50	54.7	72.2	23,400			
28	60.9	50.6	54,100		17	78.8	75.7	116,400	55	50.2	68.3	20,500				
30	58.3	49.4	48,900		18	77.9	75.5	112,300	60	45.4	63.8	18,100				
32	55.6	48.1	44,500		19	77.1	75.3	101,600	65	40.2	58.4	16,200				
18	73.1	54.9	112,600		20	76.3	75.0	92,600	70	34.4	51.8	14,600				
19	71.9	54.5	101,800		22	74.6	74.5	78,700	75	27.5	43.5	13,200				
20	70.7	54.2	92,900	24	72.9	73.9	68,200	80	18.5	31.7	12,100					
22	68.3	53.5	79,000	26	71.2	73.3	60,200									

Capacities continued on reverse side.

# SEE CONDITIONS ON REVERSE SIDE

Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Angle: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended
19	81.0	105.8		83,500
20	80.4	105.6		82,300
22	79.3	105.3		78,400
24	78.1	104.9		67,900
26	76.9	104.4		59,800
28	75.8	104.0		53,400
30	74.6	103.4		48,100
32	73.4	102.9		43,700
34	72.2	102.2		40,000
36	71.0	101.6		36,800
38	69.8	100.9		34,100
40	68.6	100.1		31,700
45	65.5	98.0		26,800
50	62.4	95.5		23,100
55	59.1	92.7		20,200
60	55.8	89.6		17,900
65	52.3	85.9		16,000
70	48.6	81.8		14,400
75	44.7	77.1		13,000
80	40.5	71.6		11,800
85	35.9	65.3		10,800
90	30.7	57.6		9,900
95	24.6	48.1		9,100
22	80.2	115.5		72,200
24	79.2	115.1		67,800
26	78.1	114.7		59,700
28	77.1	114.2		53,200
30	76.0	113.8		47,900
32	74.9	113.3		43,500
34	73.9	112.7		39,800
36	72.8	112.1		36,600
38	71.7	111.5		33,900
40	70.6	110.8		31,500
45	67.9	108.9		26,600
50	65.0	106.7		22,900
55	62.2	104.2		20,000
60	59.2	101.4		17,700
65	56.1	98.2		15,800
70	53.0	94.7		14,100
75	49.7	90.7		12,800
80	46.2	86.2		11,600
85	42.5	81.1		10,600
90	38.5	75.2		9,600
95	34.2	68.4		8,800
100	29.3	60.3		8,100
105	23.4	50.2		7,500
26	79.1	124.9		59,500
28	78.2	124.5		53,000
30	77.2	124.0		47,700
32	76.2	123.6		43,300
34	75.2	123.1		39,600
36	74.3	122.5		36,400
38	73.3	121.9		33,700
40	72.3	121.3		31,300
45	69.8	119.6		26,400
50	67.2	117.6		22,700
55	64.6	115.4		19,800
60	62.0	112.9		17,400
65	59.3	110.1		15,500
70	56.5	106.9		13,900
75	53.6	103.4		12,500
80	50.6	99.5		11,300
85	47.4	95.2		10,300
90	44.1	90.3		9,400
95	40.6	84.9		8,600
100	36.8	78.6		7,900
105	32.7	71.4		7,200
110	28.0	62.9		6,700
115	22.4	52.3		6,100

Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Angle: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended
28	79.1	134.7		52,800
30	78.2	134.3		47,500
32	77.3	133.8		43,100
34	76.4	133.4		39,400
36	75.5	132.9		36,200
38	74.6	132.3		33,500
40	73.7	131.8		31,100
45	71.4	130.2		26,200
50	69.1	128.4		22,500
55	66.7	126.4		19,600
60	64.3	124.1		17,200
65	61.8	121.6		15,300
70	59.3	118.7		13,700
75	56.7	115.6		12,300
80	54.1	112.2		11,100
85	51.3	108.4		10,100
90	48.5	104.1		9,200
95	45.5	99.5		8,400
100	42.3	94.3		7,700
105	39.0	88.5		7,000
110	35.4	81.9		6,400
115	31.4	74.3		5,900
120	26.9	65.3		5,400
125	21.6	54.2		5,000
30	79.0	144.5		47,300
32	78.2	144.1		42,900
34	77.4	143.6		39,200
36	76.5	143.2		36,000
38	75.7	142.7		33,200
40	74.9	142.2		30,800
45	72.7	140.7		26,000
50	70.6	139.1		22,200
55	68.5	137.2		19,300
60	66.2	135.1		17,000
65	64.0	132.8		15,000
70	61.7	130.2		13,400
75	59.4	127.4		12,000
80	57.0	124.3		10,900
85	54.5	120.9		9,800
90	52.0	117.2		8,900
95	49.4	113.1		8,100
100	46.6	108.6		7,400
105	43.8	103.6		6,800
110	40.7	98.1		6,200
115	37.5	91.9		5,700
120	34.0	85.0		5,200
125	30.2	77.0		4,700
130	25.9	67.7		4,300
135	20.8	56.1		4,000
34	78.2	153.9		39,000
36	77.4	153.4		35,800
38	76.7	153.0		33,000
40	75.9	152.5		30,600
45	73.9	151.2		25,800
50	71.9	149.6		22,000
55	69.9	147.9		19,100
60	67.9	146.0		16,800
65	65.8	143.8		14,800
70	63.7	141.5		13,200
75	61.6	138.9		11,800
80	59.4	136.1		10,600
85	57.2	133.0		9,600
90	54.9	129.6		8,700
95	52.5	125.9		7,900
100	50.1	121.9		7,200
105	47.6	117.6		6,500
110	45.0	112.8		6,000
115	42.2	107.5		5,400
120	39.3	101.7		5,000
125	36.2	95.3		4,500
130	32.9	88.0		4,100
135	29.2	79.7		3,800
140	25.0	69.9		3,400

Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Angle: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended
36	78.2	163.7		33,400
38	77.5	163.2		32,800
40	76.8	162.8		30,400
45	74.9	161.5		25,500
50	73.1	160.1		21,800
55	71.2	158.5		18,900
60	69.3	156.7		16,500
65	67.4	154.7		14,600
70	65.5	152.5		13,000
75	63.5	150.1		11,600
80	61.5	147.5		10,400
85	59.5	144.7		9,300
90	57.4	141.6		8,400
95	55.2	138.3		7,600
100	53.0	134.7		6,900
105	50.8	130.8		6,300
110	48.4	126.5		5,700
115	46.0	121.9		5,200
120	43.5	116.8		4,700
125	40.8	111.3		4,300
130	38.0	105.2		3,900
135	35.0	98.5		3,500
140	31.8	90.9		3,100

Combined From Charts:  
 No. 6723-A 2-9-76  
 No. 6445-A 1-29-75  
 No. 6720 12-5-75











# JIB LIFTING CAPACITIES

MEETS  
ANSI B30.5  
REQUIREMENTS

# 2900WC

**JIB NO. 124 WITH 18' STRUT ON  
 BOOM NO. 16 WITH OPEN THROAT TOP  
 20' CRAWLERS EXTENDED AND BLOCKED**

**30 DEGREE JIB OFFSET ANGLE**

Chart supplements boom capacity chart No. 6723-A. Capacities are for freely suspended loads based on tipping, strength of structural components or other factors. Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, as well as adverse operating conditions or physical machine depreciation.

machine on firm level surface. Capacities based on structural competence are denoted by shaded areas. Operating radius is horizontal distance from axis of rotation to center of vertical hoist line or load block. Weight of all load blocks, hooks, weight ball, slings, hoist lines beneath boom and jib point sheaves, etc., including those on the main boom is considered part of the jib load. Maximum capacity on 3/4" - 6x25 IPS, IWRC is 13,000 lbs./line.

Capacities do not exceed 75% of static tipping loads with

30 FOOT JIB	JIB POINT RADIUS: FEET	CAPACITIES IN POUNDS										JIB POINT RADIUS: FEET
		BOOM LENGTH - FEET										
		70	80	90	100	110	120	130	140	150	160	
45*	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	18,400	17,700	16,800	45*
50	20,000	20,000	20,000	20,000	20,000	20,000	19,300	18,600	17,000	16,200	15,200	50
55	19,800	20,000	20,000	20,000	20,000	20,000	18,800	18,000	17,000	16,000	15,000	55
60	19,000	19,200	19,000	18,900	18,800	18,600	17,900	17,100	16,300	15,600	14,800	60
65		17,100	17,000	16,900	16,700	16,500	16,400	16,200	15,800	15,000		65
70			15,200	15,200	15,000	14,800	14,800	14,400	14,300	14,100		70
75				13,700	13,500	13,300	13,100	12,900	12,800	12,600		75
80					12,200	12,000	11,900	11,700	11,500	11,300		80
85						10,900	10,700	10,500	10,400	10,200		85
90								9,500	9,400	9,200		90
95									8,500	8,300		95
100										7,500		100

40 FOOT JIB	JIB POINT RADIUS: FEET	CAPACITIES IN POUNDS										JIB POINT RADIUS: FEET
		BOOM LENGTH - FEET										
		70	80	90	100	110	120	130	140	150	160	
55*	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	55*
60	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	13,400		60
65	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	13,500	12,900	65
70	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	13,700	13,000	12,500	70
75		14,000	14,000	14,000	13,900	13,700	13,600	13,200	12,600	12,000		75
80			12,800	12,800	12,600	12,400	12,300	12,100	11,900	11,700		80
85					11,500	11,300	11,100	10,900	10,800	10,600		85
90						10,300	10,100	9,900	9,800	9,600		90
95								9,200	8,900	8,700		95
100									8,200	8,100	7,900	100
105										7,300	7,100	105
110											6,500	110

50 FOOT JIB	JIB POINT RADIUS: FEET	CAPACITIES IN POUNDS										JIB POINT RADIUS: FEET
		BOOM LENGTH - FEET										
		70	80	90	100	110	120	130	140	150	160	
80*	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	80*
85		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	9,800	85
90			10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	9,500	90
95				10,000	10,000	9,800	9,700	9,500	9,300	9,200	9,000	95
100							8,900	8,700	8,500	8,400	8,200	100
105								8,000	7,800	7,600	7,400	105
110									7,100	7,000	6,800	110
115										6,400	6,200	115
120											5,600	120

60 FOOT JIB	JIB POINT RADIUS: FEET	CAPACITIES IN POUNDS										JIB POINT RADIUS: FEET
		BOOM LENGTH - FEET										
		70	80	90	100	110	120	130	140	150	160	
90*	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	90*
95		5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	95
100			5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	100
105				5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	105
110					5,000	5,000	5,000	5,000	5,000	5,000	5,000	110
115						5,000	5,000	5,000	5,000	5,000	5,000	115
120							5,000	5,000	5,000	5,000	5,000	120
125								5,000	5,000	5,000	5,000	125
130									5,000	4,900		130
135										4,500		135

\* These capacities apply for ALL lesser radii obtainable.

# MANITOWOC ENGINEERING CO.

A Division of The Manitowoc Company, Inc.

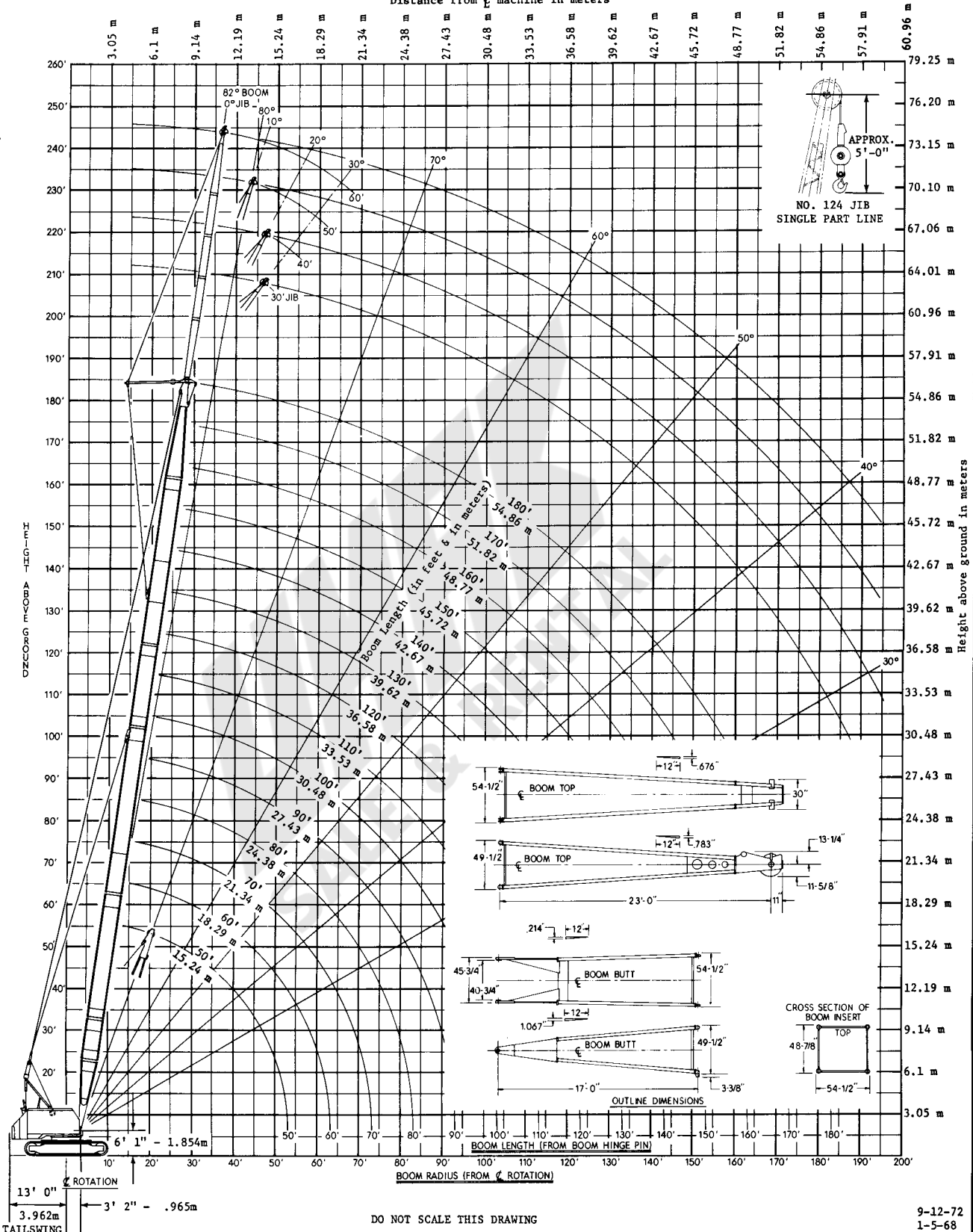
Manitowoc, Wisconsin

**NOTE 1:** This drawing is intended only as a guide to assist in job planning.  
**NOTE 2:** For planning a lift, this drawing is to be used in conjunction with appropriate-  
 A. Capacity Charts. C. Load Line Specifications. E. Outline Dimensions.  
 B. Range Chart. D. Rigging Drawing.

**NOTE 3:** For planning lifts where clearances are limited and accuracy is  
 desired, a detailed layout should be prepared.  
**NOTE 4:** When equipped with hoist line limit switch, contact  
 factory for load block to boom point minimum distance.

MAXIMUM BOOM ANGLE  
 82° For No. 18 Boom w/Open Throat Top

Distance from  $\epsilon$  machine in meters



RANGE DIAGRAM - M2900WC - No. 18 BOOM w/No. 124 JIB

50603

DO NOT SCALE THIS DRAWING

9-12-72  
1-5-68

Larger Size Diagrams Available - Contact Dealer.



# LIFTCRANE CAPACITIES

MEETS  
ANSI B30.5  
REQUIREMENTS

# 2900WC CRAWLER

## BOOM NO. 18 WITH OPEN THROAT TOP 20'0" CRAWLERS EXTENDED AND BLOCKED 36,000 LB. COUNTERWEIGHT

**LIFTING CAPACITIES:** Capacities for various boom lengths and operating radii may be based on per cent of tipping, strength of structural components, operating speeds and other factors. Capacities are for freely suspended loads and do not exceed 75% of static tipping loads. Capacities based on structural competence are shown by shaded areas.

Capacities are shown in pounds. Weight of jib, (see chart A), all load blocks, hooks, weight ball, slings, hoist lines beneath boom and jib point sheaves, etc., is considered part of the main boom load. Boom is not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved.

**OPERATING CONDITIONS:** Machine to operate in a level position on a firm surface with crawlers fully extended and blocked, and gantry in working position, and under conditions referred to in rigging drawing No. 190077 and wire rope specification chart No. 6483-A.

Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, as well as adverse operating conditions or physical machine depreciation.

**OPERATING RADIUS:** Operating radius is the horizontal distance from the axis of rotation to the center of vertical hoist line or load block with the load freely suspended. Add 11" to boom point radius for radius of sheave when using single part hoist line.

Boom angle is the angle between horizontal and centerline of boom butt and inserts and is an indication of operating radius. In all cases, operating radius shall govern capacity.

**BOOM POINT ELEVATION:** Boom point elevation, in feet, is the vertical distance from ground level to centerline of boom point shaft.

**MACHINE EQUIPMENT:** Machine equipped with 20'0" extendible crawlers, 30" or 36" treads, 9' retractable gantry, 10

part boom hoist reeving, two 1-3/8" pendants, 1st ctwt. 18,000 lbs., 2nd ctwt. 18,000 lbs. Total counterweight 36,000 pounds.

HOIST REEVING FOR MAIN LOAD BLOCK						
No. Parts of Line	1	2	3	4	5	6
Max. Load - Lbs.	18,400	36,800	55,200	73,600	92,000	110,400
No. Parts of Line	7	8				
Max. Load - Lbs.	123,500	130,000				

LOAD AND WHIP LINE SPECIFICATIONS	
LOAD LINE:	3/4" - 6x25 Bright Super Tensile, Monitor AAA, Regular Lay, IWRC. Minimum Breaking Strength 32.3 Ton.
WHIP LINE:	3/4" - 6x25 Filler Wire, Improved Plow Steel, Regular Lay, IWRC. Minimum Breaking Strength 25.6 Ton. Maximum Load - 13,000 lbs. per Line.

MAXIMUM BOOM AND JIB LENGTHS LIFTED UNASSISTED			
OVER FRONT OF BLOCKED CRAWLERS		OVER SIDE OF EXTENDED CRAWLERS	
Boom Length	Jib No. 124	Boom Length	Jib No. 124
180'	---	180'	---
180'	60'	180'	30'
		170'	50'
		160'	60'

Load block, hook and weight ball on ground at start.

(A) DEDUCT FROM CAPACITIES WHEN JIB IS ATTACHED	
Jib Length	Jib No. 124
30'	1,800 Lb.
40'	2,050 Lb.
50'	2,300 Lb.
60'	2,500 Lb.

For jib capacities, consult jib chart.

Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Angle: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended	Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Angle: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended	Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Angle: Deg.	Boom Point: Elev.	Capacity: Crawlers Extended		
40	12	77.2	45.1	130,000	50	34	51.9	45.4	41,000	70	14	81.1	75.2	92,700		
	13	75.8	44.8	128,000		36	49.0	43.8	37,900		15	80.3	75.1	90,400		
	14	74.3	44.6	126,000		38	45.8	41.9	35,200		16	79.4	74.9	88,200		
	15	72.8	44.4	124,500		40	42.6	39.9	32,800		17	78.6	74.7	86,100		
	16	71.3	43.9	122,800		45	33.2	33.4	28,000		18	77.8	74.5	84,100		
						50	20.5	23.6	23,700							
	17	69.8	43.6	119,900							19	76.9	74.2	82,200		
	18	68.2	43.2	117,700							20	76.1	74.0	80,400		
	19	66.7	42.8	115,200		13	80.6	65.3	102,900		22	74.4	73.5	77,000		
	20	65.1	42.3	112,000		14	79.6	65.1	100,300		24	72.7	72.9	74,000		
	22	61.9	41.4	79,200		15	78.6	64.9	97,900		26	71.0	72.2	70,300		
						16	77.6	64.7	95,600							
	24	58.6	40.2	68,900		17	76.7	64.4	93,400							
	26	55.2	38.9	60,900							28	69.2	71.5	53,900		
	28	51.6	37.4	54,500		18	75.7	64.2	91,300		30	67.5	70.7	48,700		
	30	47.9	35.7	49,300		19	74.7	63.9	89,300		32	65.7	69.8	44,300		
32	43.9	33.8	44,900	20	73.7	63.7	87,300	34	63.9	68.9	40,700					
				22	71.7	63.0	78,800	36	62.0	67.9	37,500					
34	39.6	31.5	41,300	24	69.7	62.3	68,400									
36	34.8	28.9	38,200					38	60.2	66.8	34,800					
38	29.4	25.7	35,500	26	67.6	61.5	60,400	40	58.3	65.6	32,400					
40	23.0	21.7	31,000	28	65.6	60.7	54,000	45	53.3	62.2	27,600					
				30	63.4	59.7	48,800	50	48.0	58.1	24,000					
12	79.8	55.3	116,600	32	61.3	58.7	44,400	55	42.2	53.1	21,100					
13	78.7	55.1	113,600	34	59.1	57.5	40,800									
14	77.5	54.9	110,700					60	35.7	46.9	18,800					
15	76.3	54.6	108,000	36	56.8	56.3	37,600	65	28.0	38.9	16,900					
16	75.1	54.4	105,400	38	54.5	54.9	34,900	70	17.3	26.9	15,200					
				40	52.1	53.4	32,500									
17	73.9	54.1	102,900	45	45.8	49.1	27,700									
18	72.7	53.8	100,500	50	38.7	43.6	24,100									
19	71.5	53.5	98,300					55	30.2	36.3	21,200					
20	70.3	53.1	92,900	55	30.2	36.3	21,200	60	18.7	25.3	18,700					
22	67.9	52.4	79,000													
24	65.4	51.5	68,700													
26	62.8	50.5	60,600													
28	60.2	49.3	54,200													
30	57.5	48.3	49,000													
32	54.8	46.9	44,700													

Capacities continued on reverse side.





# SEE CONDITIONS ON REVERSE SIDE

Boom Lgth.: Feet	Oper. Rad.: Feet	Bm. Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Retracted	Capacity: Crawlers Extended	Boom Lgth.: Feet	Oper. Rad.: Feet	Bm. Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Retracted	Capacity: Crawlers Extended	Boom Lgth.: Feet	Oper. Rad.: Feet	Bm. Ang.: Deg.	Boom Point: Elev.	Capacity: Crawlers Retracted	Capacity: Crawlers Extended
<b>90</b>	17	81.2	95.0	60,600	72,700	<b>120</b>	26	79.0	123.9	33,100	42,400	<b>160</b>	36	78.2	162.7	20,300	26,000
	18	80.5	94.8	55,800	71,100		28	78.1	123.5	29,900	38,100		55	71.1	157.4	10,800	14,000
	19	79.9	94.7	51,600	67,900		30	77.1	123.0	27,200	34,600		60	69.2	155.6	9,400	12,200
	20	79.2	94.5	48,100	62,800		32	76.1	122.5	25,000	31,600		65	67.3	153.6	8,200	10,800
	22	77.9	94.1	42,100	54,400		34	75.1	122.0	23,000	29,100		70	65.3	151.4	7,200	9,500
	24	76.6	93.6	37,400	48,000		36	74.1	121.5	21,300	26,900		75	63.3	149.0	6,300	8,500
	26	75.3	93.1	33,600	42,800		38	73.1	120.9	19,800	24,900		80	61.3	146.4	5,600	7,600
	28	74.0	92.6	30,400	38,600		40	72.1	120.3	18,400	23,200		85	59.2	143.6	4,900	6,800
	30	72.7	92.0	27,700	35,100		45	69.6	118.5	15,600	19,700		90	57.1	140.4	4,400	6,100
	32	71.3	91.3	25,500	32,100		50	67.0	116.5	13,500	17,000		95	55.0	137.1	3,800	5,500
<b>100</b>	34	70.0	90.6	23,500	29,600	<b>130</b>	80	50.2	98.2	6,500	8,500	<b>170</b>	105	50.5	129.5	3,000	4,400
	36	68.6	89.9	21,800	27,400		85	47.0	93.8	5,900	7,700		110	48.1	125.2	2,500	4,000
	38	67.2	89.0	20,300	25,400		90	43.6	88.9	5,300	7,000		115	45.7	120.5	2,100	3,600
	40	65.8	88.2	18,900	23,700		95	40.1	83.3	4,800	6,400		120	43.1	115.4	1,800	3,200
	45	62.3	85.7	16,200	20,200		100	36.2	76.9	4,300	5,900		125	41.4	111.4	1,500	2,800
	50	58.6	82.9	14,000	17,600		105	31.9	69.5	3,900	5,400		130	38.2	107.1	1,200	2,400
	55	54.8	79.6	12,300	15,400		110	27.1	60.7	3,600	4,900		135	34.7	102.8	900	2,100
	60	50.8	75.8	10,900	13,700		115	21.3	49.6	3,000	4,500		140	31.9	98.1	800	1,900
	65	46.6	71.5	9,700	12,200		120	21.3	49.6	3,000	4,500		145	29.7	94.9	700	1,700
	70	42.0	66.3	8,700	11,000		125	21.3	49.6	3,000	4,500		150	28.2	91.1	600	1,500
<b>110</b>	75	37.0	60.3	7,800	10,000	<b>140</b>	130	19.9	42.8	2,800	3,900	<b>180</b>	160	20.1	80.9	2,100	2,900
	80	31.4	52.9	7,100	9,100		135	18.5	40.8	2,600	3,700		165	18.4	77.9	1,900	2,700
	85	24.6	43.5	6,400	8,300		140	17.2	38.9	2,400	3,500		170	17.4	74.9	1,700	2,500
	90	15.2	29.7	5,900	7,600		145	16.0	37.1	2,200	3,300		175	16.2	71.9	1,600	2,400
	19	80.9	104.8	51,500	62,900		150	14.9	35.3	2,000	3,100		180	15.6	68.9	1,500	2,300
	20	80.3	104.6	47,900	58,300		155	13.7	33.7	1,800	2,900		185	14.4	65.9	1,400	2,200
	22	79.1	104.3	42,000	54,300		160	12.5	32.2	1,600	2,700		190	13.2	62.9	1,300	2,100
	24	78.0	103.9	37,300	48,800		165	11.4	30.8	1,400	2,500		195	12.1	59.9	1,200	2,000
	26	76.8	103.4	33,400	42,700		170	10.3	29.4	1,200	2,300		200	11.0	56.9	1,100	1,900
	30	75.6	102.9	30,300	38,400		175	9.2	28.0	1,100	2,100		205	10.5	53.9	1,000	1,800
<b>120</b>	32	74.4	102.4	27,600	34,900	<b>150</b>	180	8.1	26.6	1,000	1,900	<b>190</b>	210	8.0	25.2	900	1,800
	33	73.2	101.8	25,300	32,000		185	7.0	25.2	900	1,800		215	7.9	23.8	800	1,700
	34	72.0	101.2	23,300	29,400		190	6.0	23.8	800	1,700		220	6.8	22.4	700	1,600
	36	70.8	100.5	21,600	27,200		195	5.0	22.4	700	1,600		225	6.6	21.0	600	1,500
	38	69.6	99.8	20,100	25,300		200	4.0	21.0	600	1,500		230	6.4	19.6	500	1,400
	40	68.4	99.0	18,800	23,600		205	3.0	19.6	500	1,400		235	6.2	18.2	400	1,300
	45	65.3	96.9	16,000	20,100		210	2.0	18.2	400	1,300		240	6.0	16.8	300	1,200
	50	62.1	94.4	13,800	17,400		215	1.0	16.8	300	1,200		245	5.8	15.4	200	1,100
	55	58.8	91.6	12,100	15,300		220	1.0	15.4	200	1,100		250	5.6	14.0	100	1,000
	60	55.4	88.3	10,700	13,500		225	1.0	14.0	100	1,000		255	5.4	12.6	100	1,000

*Combined From Charts:*  
 No. 6774-B 2-9-76  
 No. 6774-C 2-23-76  
 No. 6483-A 5-9-75  
 No. 6772-A 10-2-74













# LOAD LINE SPECIFICATIONS 2900WC

LIFTCRANE — BOOM NO. 18 WITH OPEN THROAT TOP

BOOM OR BOOM AND JIB LENGTH FEET	WHIP LINE LEFT FRONT DRUM FEET		LOAD LINE REAR DRUM FEET	MAXIMUM REQUIRED PARTS OF LINE
	1 PART	2 PART		
40	100	140	380	8
50	120	170	420	7
60	140	200	440	6
70	160	230	510	6
80	180	260	510	5
90	200	290	570	5
100	220	320	570	4
110	240	350	570	4
120	260	380	570	3
130	280	410	620	3
140	300	440	620	3
150	320	470	620	2
160	340	500	620	2
170	360	530	620	2
180	380	560	620	2
190	400	590		
200	420	620		
210	440	650		
220	460	---		
230	480	---		
240	500	---		

**LOAD LINE:** 3/4" — 6 x 25 Bright Super Tensile, Monitor AAA, Regular Lay, IWRC. Minimum Breaking Strength 32.3 Ton.  
 (Approx. Weight Per Ft. in Lbs. 1.04)

HOIST REEVING FOR MAIN LOAD BLOCK								
No. Parts of Line	1	2	3	4	5	6	7	8
Maximum Load — Lbs.	18,400	36,800	55,200	73,600	92,000	110,400	123,500	130,000

**WHIP LINE:** 3/4" — 6 x 25 Filler Wire, Improved Plow Steel, Regular Lay, IWRC. Minimum Breaking Strength 25.6 Ton.  
 Maximum Load = 13,000 lbs./Line.  
 (Approx. Weight Per Ft. in Lbs. 1.04)