MANITOWOC ENGINEERING CO.
Division of The Manitowoc Company, Inc. Manitowoc, Wisconsin 54220

TOWER CRANE CAPACITIES — 4600

184' NO. 27B TOWER
BOOM NO. 22B WITH LIGHT TAPERED TOP
123,000 LB. COUNTERWEIGHT

SERIES-4

CRAWLER

LIFTING CAPACITIES: Capacities for 184' tower with various boom lengths and operating radii are for freely suspended loads and do not exceed **75%** of a static tipping load. **CAPACITIES SHOWN BY SHADED AREAS ARE BASED ON STRUCTURAL COMPETENCE.**

Capacities are shown in pounds. Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath boom point sheaves, 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.

CAPACITY INDICATED BY "B" REPRESENTS A BOOM POSITION WHICH REQUIRES LOAD HANDLING DEVICES OF AT LEAST 2,000 POUNDS TO PREVENT BOOM FROM COMING BACK AGAINST BOOM STOP AS LOAD IS RELEASED.

OPERATING CONDITIONS: Machine to operate on a firm surface with roller path level within a tolerance of 1/2" in 10 feet and properly supported, and be rigged in accordance with and under conditions referred to in rigging drawing No. 65156 or No. 66235 and load line specification chart No. 6517-A and chart No. 7264-A for recommended procedure for operating under various wind conditions.

Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, travel, wind conditions, as well as adverse operating conditions and 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. Add 1.2' to boom point radius for radius of sheave when using single part of 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 30'5" crawlers, 60" treads, 33' retractable gantry, 12 part boom hoist reeving, four 1-1/2" tower pendants, four 1-3/8" boom pendants, and 123,000 lb. counterweight (120,000 lb. with counterweight assembly No. 49667).

HOIST REEVING FOR MAIN LOAD BLOCK				
No. Parts of Line	1	2	3	4
Maximum Load — Lbs.	40,000	80,000	120,000	160,000

LOAD AND WHIP LINE SPECIFICATIONS
LOAD LINE: 1-1/4" — 6x31 Warrington-Seale, Extra Improved Plow Steel, Regular Lay, IWRC. Minimum Breaking Strength 79.9 Ton. Approx. Weight Per Ft. in lbs. 2.89.
WHIP LINE: 1-1/4" — 6x31 Warrington-Seale, Extra Improved Plow Steel, Regular Lay, IWRC. Minimum Breaking Strength 79.9 Ton. Maximum Load — 40,000 lbs. Per Line. Approx. Weight Per Ft. in lbs. 2.89.

MAXIMUM TOWER AND BOOM LENGTHS LIFTED UNASSISTED			
OVER FRONT OF BLOCKED CRAWLERS		OVER SIDE OF CRAWLERS	
Tower	Boom	Tower	Boom
194'	180'	174'	160'
Load block, hook & weight ball on ground until tower is in vertical position and boom is in operating range.			

Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity:
100	35	73.4	289.2	129,100B
	40	70.4	287.6	126,200B
	45	67.4	285.7	116,500B
	50	64.2	283.4	110,300
	55	61.0	280.8	105,100
	60	57.7	277.9	100,500
	65	54.2	274.5	96,600
	70	50.6	270.6	93,100
	75	46.8	266.2	90,200
	80	42.7	261.2	87,300
	85	38.3	255.3	81,100
	90	33.4	248.4	75,700
	95	27.7	239.9	70,800
	100	20.8	228.9	66,500
110	40	72.3	298.2	116,900B
	45	69.5	296.4	115,300B
	50	66.7	294.4	106,500
	55	63.8	292.1	101,300
	60	60.9	289.5	96,800
	65	57.9	286.5	93,000
	70	54.7	283.2	89,600
	75	51.5	279.5	86,600
	80	48.1	275.2	84,000
	85	44.5	270.4	79,800
	90	40.6	265.0	74,900
	95	36.4	258.7	70,100
	100	31.8	251.3	65,700
	105	26.4	242.4	61,800
	110	19.8	230.6	58,300
120	40	73.8	308.6	115,200B
	45	71.3	307.0	107,000
	50	68.7	305.2	106,100
	55	66.2	303.1	98,000
	60	63.5	300.8	93,600
	65	60.8	298.2	89,800
	70	58.1	295.2	86,500
	75	55.2	291.9	83,500
	80	52.2	288.2	80,900
	85	49.1	284.1	77,600
	90	45.9	279.6	72,800
	95	42.5	274.4	68,500
	100	38.8	268.6	64,600
	105	34.8	261.9	61,000
	110	30.4	254.1	57,500
	115	25.3	244.6	54,300
	120	18.9	232.3	51,400

Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity:
130	45	72.8	317.6	105,000
	50	70.5	315.9	98,600
	55	68.1	314.0	94,400
	60	65.7	311.9	90,700
	65	63.3	309.5	87,000
	70	60.8	306.8	83,700
	75	58.2	303.9	80,800
	80	55.6	300.6	78,200
	85	52.9	297.0	75,500
	90	50.0	293.0	70,900
	95	47.1	288.6	66,700
	100	44.0	283.7	62,900
	105	40.7	278.2	59,500
	110	37.2	272.0	56,400
	115	33.4	265.0	53,500
	120	29.2	256.8	50,600
	125	24.3	246.8	47,900
	130	18.2	234.0	45,400
140	45	74.0	328.0	101,700
	50	71.9	326.5	96,600
	55	69.7	324.7	91,600
	60	67.5	322.8	88,000
	65	65.3	320.6	84,400
	70	63.0	318.2	81,300
	75	60.7	315.5	78,400
	80	58.3	312.5	75,900
	85	55.9	309.3	73,500
	90	53.4	305.8	69,200
	95	50.8	301.9	65,200
	100	48.1	297.6	61,500
	105	45.3	292.9	58,100
	110	42.3	287.7	55,100
	115	39.2	281.9	52,300
	120	35.8	275.3	49,700
	125	32.2	267.9	47,400
	130	28.1	259.3	45,000
	135	23.4	249.0	42,700
	140	17.5	235.6	40,200

Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity:
150	50	73.1	336.9	93,500
	55	71.1	335.3	89,200
	60	69.1	333.5	85,400
	65	67.0	331.5	81,900
	70	65.0	329.3	78,800
	75	62.8	326.8	76,100
	80	60.7	324.1	73,600
	85	58.4	321.2	71,300
	90	56.2	318.0	67,400
	95	53.8	314.5	63,600
	100	51.4	310.7	60,100
	105	49.0	306.5	56,900
	110	46.4	302.0	53,900
	115	43.7	297.0	51,200
	120	40.8	291.5	48,700
	125	37.8	285.4	46,400
	130	34.6	278.5	44,200
	135	31.1	270.8	41,900
	140	27.1	261.8	39,800
	145	22.6	251.0	37,900
	150	16.9	237.1	35,400
160	55	72.4	345.9	86,500
	60	70.5	344.2	80,200
	65	68.6	342.3	78,100
	70	66.6	340.2	76,600
	75	64.7	338.0	73,900
	80	62.7	335.5	71,500
	85	60.6	332.8	69,300
	90	58.5	329.9	65,600
	95	56.4	326.7	62,100
	100	54.2	323.2	58,700
	105	52.0	319.5	55,700
	110	49.7	315.4	52,800
	115	47.3	311.0	50,200
	120	44.8	306.2	47,700
	125	42.2	300.9	45,500
	130	39.5	295.1	43,500
	135	36.6	288.7	41,200
	140	33.4	281.6	39,100
	145	30.0	273.5	37,100
	150	26.2	264.2	35,300
	155	21.9	253.0	33,600
	160	16.4	238.5	31,200

Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity:
170	55	73.4	356.3	83,900
	60	71.7	354.7	80,500
	65	69.9	353.0	75,300
	70	68.1	351.1	73,600
	75	66.2	349.0	71,900
	80	64.4	346.7	69,500
	85	62.5	344.2	67,300
	90	60.6	341.5	63,800
	95	58.6	338.5	60,400
	100	56.6	335.4	57,400
	105	54.6	331.9	54,500
	110	52.5	328.2	51,700
	115	50.3	324.3	49,200
	120	48.1	319.9	46,900
	125	45.8	315.3	44,700
	130	43.4	310.2	42,600
	135	40.9	304.7	40,400
	140	38.3	298.6	38,300
	145	35.4	292.0	36,300
	150	32.4	284.5	34,500
	155	29.1	276.1	32,800
	160	25.5	266.4	31,200
	165	21.2	254.9	29,800
	170	15.9	239.9	27,400

Combined From Charts:
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