Manitowoc Cranes, Inc.
Manitowoc, Wisconsin 54220 U.S.A.

Liftcrane Boom Capacities

Meets ANSI B30.5 Requirements

777 SERIES 1

New York City Code
Boom No. 78
105,000 Lb. Counterweight
360 Degree Rating

LIFTING CAPACITIES: Lifting capacities for various boom lengths and operating radii are for freely suspended loads and do not exceed 75% of a static tipping load. Capacities based on structural competence are denoted by an asterisk (*).

Upper boom point capacity for liftcrane service with single part whip line is 29,500 Lbs. or 59,000 Lbs. with two part whip line. When boom butt mounted auxiliary drum is used, capacity with single part whip line is 20,000 Lbs. or 40,000 Lbs. with two part whip line. In all cases, upper boom point capacities cannot exceed those listed for main boom capacity.

Weight of jib, all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath boom and jib point sheaves, is considered part of 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 uniformly supporting surface. Refer to boom rigging **No. 178288** and Wire Rope Specification chart **No. 7940-A**. 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. Refer to operators manual for operating guidelines.

MACHINE TRAVEL: Machine to travel on a firm, level and uniformly supporting surface and boom within boom angle range shown in capacity chart. Refer to Maximum Allowable Travel Specification chart **No. 7957-A**.

OPERATING RADIUS: Operating radius is horizontal distance from axis of rotation to center of vertical hoist line or load block. Boom angle is 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 is vertical distance from ground level to centerline of boom point shaft.

MACHINE EQUIPMENT: Machine equipped with 24 Ft. 9 in. crawlers, 38 in. or 48 in. treads, two 12 in. boom hoist cylinders, 26 Ft. mast, four 1-1/4 in. boom pendants, and 105,000 Lb. counterweight.

Deduct From Capacities When Jib Is Attached	
Jib Length	Jib No. 134
30 Ft.	3,900 Lbs.
40 Ft.	4,700 Lbs.
50 Ft.	5,600 Lbs.
60 Ft.	6,600 Lbs.
70 Ft.	7,600 Lbs.
80 Ft.	8,700 Lbs.

Upper Boom Point Deduct
Deduct 1,000 Lbs. from capacities when upper boom point is attached.

Auxiliary Drum Deduct
Deduct 1,700 Lbs. from capacities when boom butt is equipped with auxiliary drum.

Wire Rope Guide Deduct (For Third Line)
Deduct 500 Lbs. from boom capacities when boom top wire rope guide (No. 192312) for third line is attached.

Maximum Boom and Jib Lengths Lifted Unassisted					
Over Front of Blocked Crawlers		Over Rear of Blocked Crawlers		Over Side of Crawlers	
Boom Length	Jib No. 134	Boom Length	Jib No. 134	Boom Length	Jib No. 134
210 Ft.	---	210 Ft.	---	190 Ft.	---
200 Ft.	---	200 Ft.	---	180 Ft.	---
190 Ft.	50 Ft.	190 Ft.	40 Ft.	170 Ft.	50 Ft.
180 Ft.	80 Ft.	180 Ft.	70 Ft.	160 Ft.	70 Ft.
		170 Ft.	80 Ft.	150 Ft.	80 Ft.
Load block, hook and weight ball on ground at start.					

Consult jib chart for jib capacities. Upper boom point and boom top wire rope guide (No. 192312) for third line cannot be used when jib is attached.

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Oper. Rad. Feet	Boom Ang. Deg.	Boom Point Elev. Feet	Boom Capacity Pounds
60 Ft. BOOM			
13	82.4	66.8	339,300 *
14	81.4	66.7	316,700 *
15	80.5	66.5	296,900 *
16	79.5	66.3	279,300 *
17	78.5	66.1	263,700 *
18	77.5	65.8	249,600 *
19	76.5	65.6	236,800 *
20	75.6	65.3	225,200 *
22	73.6	64.7	198,900
24	71.5	64.0	171,600
26	69.5	63.2	150,500
28	67.4	62.4	133,800
30	65.3	61.4	120,300
32	63.2	60.4	109,100
34	61.0	59.3	99,600
36	58.7	58.0	91,500
38	56.4	56.7	84,500
40	54.1	55.2	78,400
45	47.8	50.9	66,100
50	40.7	45.5	56,700
55	32.4	38.4	49,300
60	21.2	27.8	43,200
70 Ft. BOOM			
14	82.7	76.8	309,900 *
15	81.8	76.6	296,900 *
16	81.0	76.5	279,300 *
17	80.2	76.3	263,700 *
18	79.3	76.1	249,600 *
19	78.5	75.9	236,800 *
20	77.7	75.6	225,200 *
22	76.0	75.1	199,900
24	74.3	74.5	172,400
26	72.6	73.9	151,300
28	70.8	73.2	134,500
30	69.1	72.4	120,900
32	67.3	71.5	109,600
34	65.5	70.6	100,200
36	63.6	69.6	92,000
38	61.8	68.5	85,000
40	59.9	67.3	78,900
45	54.9	64.0	66,600
50	49.7	59.9	57,200
55	43.9	55.0	49,800
60	37.5	48.9	43,800
65	29.9	41.0	38,800
70	19.5	29.5	34,600

Oper. Rad. Feet	Boom Ang. Deg.	Boom Point Elev. Feet	Boom Capacity Pounds
80 Ft. BOOM			
15	82.9	86.8	275,500 *
16	82.1	86.6	267,600 *
17	81.4	86.4	259,900 *
18	80.7	86.3	249,400 *
19	80.0	86.1	236,600 *
20	79.2	85.9	224,900 *
22	77.8	85.4	200,500
24	76.3	84.9	173,000
26	74.8	84.4	151,800
28	73.3	83.8	135,000
30	71.8	83.1	121,300
32	70.3	82.3	110,000
34	68.7	81.6	100,500
36	67.2	80.7	92,300
38	65.6	79.8	85,300
40	64.0	78.8	79,200
45	59.9	76.0	66,800
50	55.6	72.7	57,400
55	51.1	68.8	50,000
60	46.2	64.2	44,000
65	40.9	58.8	39,100
70	34.9	52.1	34,900
75	27.8	43.5	31,300
80	18.2	31.0	28,200
90 Ft. BOOM			
16	83.0	96.7	256,700 *
17	82.4	96.6	249,700 *
18	81.7	96.4	243,100 *
19	81.1	96.2	236,200 *
20	80.4	96.1	224,600 *
22	79.1	95.7	200,600
24	77.8	95.2	173,000
26	76.5	94.7	151,800
28	75.2	94.2	135,000
30	73.9	93.6	121,300
32	72.5	93.0	110,000
34	71.2	92.3	100,500
36	69.8	91.5	92,400
38	68.5	90.7	85,300
40	67.1	89.9	79,200
45	63.6	87.5	66,800
50	59.9	84.7	57,400
55	56.1	81.4	50,100
60	52.1	77.7	44,100
65	47.9	73.3	39,200
70	43.4	68.2	35,100
75	38.4	62.3	31,600
80	32.8	55.0	28,500
85	26.1	45.8	25,800
90	17.1	32.5	23,400

Oper. Rad. Feet	Boom Ang. Deg.	Boom Point Elev. Feet	Boom Capacity Pounds
100 Ft. BOOM			
18	82.6	106.5	221,400 *
19	82.0	106.4	215,900 *
20	81.4	106.2	210,700 *
22	80.2	105.9	200,800 *
24	79.1	105.5	173,300
26	77.9	105.0	152,000
28	76.7	104.5	135,200
30	75.5	104.0	121,500
32	74.4	103.4	110,100
34	73.2	102.8	100,600
36	71.9	102.2	92,400
38	70.7	101.5	85,400
40	69.5	100.7	79,200
45	66.4	98.6	66,800
50	63.2	96.1	57,400
55	59.9	93.3	50,000
60	56.5	90.1	44,000
65	53.0	86.4	39,100
70	49.2	82.3	35,000
75	45.3	77.5	31,500
80	41.0	72.0	28,400
85	36.3	65.5	25,800
90	31.0	57.8	23,500
95	24.7	48.0	21,400
100	16.1	33.9	19,400
110 Ft. BOOM			
19	82.7	116.5	211,100 *
20	82.2	116.3	205,700 *
22	81.1	116.0	195,600 *
24	80.1	115.7	173,500
26	79.0	115.3	152,200
28	78.0	114.8	135,300
30	76.9	114.4	121,600
32	75.8	113.8	110,200
34	74.7	113.3	100,600
36	73.6	112.7	92,400
38	72.5	112.0	85,400
40	71.4	111.4	79,200
45	68.7	109.5	66,800
50	65.8	107.3	57,400
55	62.9	104.8	50,000
60	59.9	102.0	44,000
65	56.8	98.8	39,100
70	53.6	95.2	35,000
75	50.3	91.2	31,500
80	46.8	86.6	28,500
85	43.0	81.5	25,800
90	39.0	75.6	23,500
95	34.5	68.7	21,400
100	29.5	60.4	19,600
105	23.5	50.0	17,900
110	15.3	35.2	16,300

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120 Ft. BOOM			
20	82.9	126.4	192,200 *
22	81.9	126.2	183,700 *
24	80.9	125.8	173,700
26	79.9	125.5	152,400
28	79.0	125.1	135,400
30	78.0	124.6	121,700
32	77.0	124.2	110,300
34	76.0	123.6	100,700
36	75.0	123.1	92,500
38	74.0	122.5	85,400
40	73.0	121.9	79,300
45	70.5	120.2	66,800
50	68.0	118.2	57,400
55	65.3	116.0	50,000
60	62.7	113.5	44,000
65	59.9	110.6	39,100
70	57.1	107.5	35,000
75	54.2	104.0	31,500
80	51.2	100.0	28,500
85	48.0	95.7	25,800
90	44.6	90.8	23,500
95	41.1	85.2	21,500
100	37.2	78.9	19,600
105	33.0	71.6	18,000
110	28.2	62.9	16,500
115	22.5	52.0	15,100
130 Ft. BOOM			
22	82.5	136.3	176,100 *
24	81.6	136.0	168,300 *
26	80.7	135.6	152,400
28	79.8	135.3	135,400
30	78.9	134.9	121,700
32	78.0	134.4	110,300
34	77.1	134.0	100,700
36	76.2	133.5	92,500
38	75.3	132.9	85,400
40	74.4	132.4	79,200
45	72.1	130.8	66,700
50	69.7	129.0	57,300
55	67.4	127.0	49,900
60	64.9	124.7	43,900
65	62.5	122.1	39,000
70	59.9	119.3	34,800
75	57.3	116.2	31,300

Oper. Rad. Feet	Boom Ang. Deg.	Boom Point Elev. Feet	Boom Capacity Pounds
130 Ft. BOOM			
80	54.7	112.7	28,300
85	51.9	108.9	25,700
90	49.0	104.6	23,400
95	46.0	99.9	21,300
100	42.8	94.7	19,500
105	39.4	88.8	17,900
110	35.7	82.1	16,400
115	31.6	74.4	15,000
120	27.0	65.3	13,800
125	21.5	53.8	12,600
140 Ft. BOOM			
24	82.2	146.1	157,900 *
26	81.4	145.8	151,800 *
28	80.6	145.4	135,500
30	79.7	145.1	121,700
32	78.9	144.7	110,200
34	78.1	144.2	100,600
36	77.2	143.8	92,400
38	76.4	143.3	85,300
40	75.5	142.7	79,100
45	73.4	141.3	66,600
50	71.3	139.6	57,100
55	69.1	137.8	49,600
60	66.8	135.7	43,600
65	64.6	133.4	38,700
70	62.3	130.8	34,600
75	59.9	128.0	31,100
80	57.5	124.8	28,000
85	55.0	121.4	25,400
90	52.5	117.7	23,100
95	49.8	113.6	21,100
100	47.1	109.0	19,200
105	44.2	104.0	17,600
110	41.1	98.5	16,100
115	37.9	92.3	14,800
120	34.3	85.2	13,500
125	30.4	77.2	12,400
130	26.0	67.6	11,300
135	20.7	55.6	10,300
150 Ft. BOOM			
24	82.8	156.2	152,500 *
26	82.0	155.9	146,300 *
28	81.2	155.6	135,400
30	80.4	155.2	121,600
32	79.7	154.9	110,100
34	78.9	154.5	100,500
36	78.1	154.0	92,200
38	77.3	153.6	85,100
40	76.5	153.1	78,900
45	74.5	151.7	66,400
50	72.5	150.2	56,900

Oper. Rad. Feet	Boom Ang. Deg.	Boom Point Elev. Feet	Boom Capacity Pounds
150 Ft. BOOM			
55	70.5	148.5	49,400
60	68.5	146.5	43,500
65	66.4	144.4	38,500
70	64.3	142.0	34,400
75	62.1	139.5	30,900
80	59.9	136.6	27,800
85	57.7	133.5	25,200
90	55.4	130.1	22,900
95	53.0	126.4	20,900
100	50.6	122.4	19,000
105	48.0	118.0	17,400
110	45.4	113.2	15,900
115	42.6	107.9	14,600
120	39.7	102.1	13,300
125	36.5	95.6	12,200
130	33.1	88.2	11,200
135	29.4	79.8	10,200
140	25.1	69.8	9,300
145	20.0	57.4	8,400
160 Ft. BOOM			
26	82.5	166.0	139,000 *
28	81.8	165.7	133,400 *
30	81.0	165.4	121,600
32	80.3	165.0	110,100
34	79.6	164.7	100,400
36	78.8	164.3	92,200
38	78.1	163.8	85,000
40	77.4	163.4	78,800
45	75.5	162.1	66,300
50	73.7	160.7	56,800
55	71.8	159.1	49,300
60	69.9	157.3	43,300
65	68.0	155.3	38,400
70	66.0	153.1	34,200
75	64.0	150.7	30,700
80	62.0	148.1	27,700
85	59.9	145.3	25,100
90	57.8	142.2	22,700
95	55.7	138.8	20,700
100	53.5	135.2	18,900
105	51.2	131.3	17,200
110	48.8	127.0	15,800
115	46.4	122.3	14,400
120	43.8	117.3	13,200
125	41.2	111.7	12,100
130	38.3	105.6	11,000
135	35.3	98.7	10,100
140	32.0	91.1	9,200
145	28.4	82.3	8,300
150	24.3	71.9	7,600
155	19.3	59.1	6,800

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170 Ft. BOOM			
26	82.9	176.1	133,600 *
28	82.2	175.8	128,200 *
30	81.6	175.5	121,400
32	80.9	175.2	109,900
34	80.2	174.8	100,300
36	79.5	174.5	92,000
38	78.8	174.0	84,900
40	78.1	173.6	78,600
45	76.4	172.4	66,100
50	74.7	171.1	56,600
55	72.9	169.6	49,100
60	71.1	167.9	43,100
65	69.3	166.1	38,100
70	67.5	164.0	34,000
75	65.7	161.8	30,500
80	63.8	159.4	27,400
85	61.9	156.8	24,800
90	59.9	153.9	22,500
95	58.0	150.9	20,500
100	55.9	147.5	18,600
105	53.9	144.0	17,000
110	51.7	140.1	15,500
115	49.5	135.9	14,200
120	47.3	131.4	12,900
125	44.9	126.5	11,800
130	42.5	121.2	10,800
135	39.9	115.3	9,800
140	37.1	108.9	9,000
145	34.2	101.8	8,100
150	31.0	93.8	7,400
155	27.5	84.7	6,600
160	23.5	74.0	6,000
165	18.7	60.7	5,300
180 Ft. BOOM			
28	82.7	185.9	122,000 *
30	82.0	185.6	117,400 *
32	81.4	185.3	109,900
34	80.7	185.0	100,100
36	80.1	184.6	91,900
38	79.5	184.2	84,700
40	78.8	183.8	78,500
45	77.2	182.7	65,900
50	75.5	181.5	56,300
55	73.9	180.1	48,800
60	72.2	178.5	42,800
65	70.5	176.8	37,800
70	68.8	174.9	33,700
75	67.1	172.8	30,200
80	65.4	170.5	27,100
85	63.6	168.1	24,500
90	61.8	165.4	22,200
95	60.0	162.6	20,100

Oper. Rad. Feet	Boom Ang. Deg.	Boom Point Elev. Feet	Boom Capacity Pounds
180 Ft. BOOM			
100	58.1	159.5	18,300
105	56.2	156.2	16,600
110	54.2	152.7	15,200
115	52.2	148.9	13,800
120	50.2	144.8	12,600
125	48.1	140.4	11,500
130	45.9	135.6	10,400
135	43.6	130.5	9,500
140	41.2	124.9	8,600
145	38.7	118.8	7,800
150	36.0	112.2	7,000
155	33.2	104.8	6,300
160	30.1	96.5	5,600
165	26.7	87.1	5,000
170	22.8	76.0	4,400
190 Ft. BOOM			
30	82.5	195.7	116,600 *
32	81.9	195.4	109,500
34	81.2	195.1	99,800
36	80.6	194.8	91,500
38	80.0	194.4	84,300
40	79.4	194.0	78,100
45	77.9	193.0	65,500
50	76.3	191.8	55,900
55	74.8	190.5	48,400
60	73.2	189.0	42,300
65	71.6	187.4	37,400
70	70.0	185.6	33,200
75	68.4	183.6	29,700
80	66.7	181.5	26,600
85	65.1	179.2	24,000
90	63.4	176.8	21,700
95	61.7	174.1	19,600
100	60.0	171.3	17,800
105	58.2	168.2	16,100
110	56.4	164.9	14,600
115	54.5	161.4	13,300
120	52.7	157.7	12,100
125	50.7	153.7	10,900
130	48.7	149.4	9,900
135	46.7	144.7	9,000
140	44.6	139.8	8,100
145	42.3	134.4	7,300
150	40.0	128.6	6,500
155	37.6	122.3	5,800
160	35.0	115.3	5,100
165	32.3	107.7	4,500

Oper. Rad. Feet	Boom Ang. Deg.	Boom Point Elev. Feet	Boom Capacity Pounds
200 Ft. BOOM			
30	82.8	205.8	109,700 *
32	82.3	205.5	106,300 *
34	81.7	205.2	99,700
36	81.1	204.9	91,400
38	80.5	204.6	84,200
40	79.9	204.2	77,900
45	78.5	203.2	65,300
50	77.0	202.1	55,700
55	75.5	200.8	48,200
60	74.0	199.4	42,100
65	72.5	197.9	37,100
70	71.0	196.2	33,000
75	69.5	194.4	29,400
80	68.0	192.4	26,400
85	66.4	190.2	23,700
90	64.8	187.9	21,400
95	63.2	185.4	19,400
100	61.6	182.8	17,500
105	60.0	179.9	15,900
110	58.3	176.9	14,400
115	56.6	173.6	13,000
120	54.8	170.2	11,800
125	53.0	166.5	10,700
130	51.2	162.5	9,700
135	49.3	158.3	8,700
140	47.4	153.8	7,800
145	45.4	148.9	7,000
150	43.4	143.7	6,300
155	41.2	138.2	5,500
160	39.0	132.1	4,900
165	36.6	125.6	4,300

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105,000 Lb. Counterweight
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Oper. Rad. Feet	Boom Ang. Deg.	Boom Point Elev. Feet	Boom Capacity Pounds
210 Ft. BOOM			
32	82.6	215.6	105,700 *
34	82.1	215.4	99,400
36	81.5	215.1	91,100
38	81.0	214.7	83,900
40	80.4	214.4	77,700
45	79.0	213.4	65,000
50	77.6	212.4	55,400
55	76.2	211.2	47,900
60	74.8	209.8	41,900
65	73.4	208.4	36,900
70	72.0	206.8	32,700
75	70.5	205.0	29,200
80	69.1	203.2	26,100
85	67.6	201.1	23,500
90	66.1	198.9	21,200
95	64.6	196.6	19,100
100	63.1	194.1	17,300
105	61.5	191.4	15,600
110	60.0	188.6	14,100
115	58.4	185.5	12,800
120	56.7	182.3	11,600
125	55.1	178.9	10,500
130	53.4	175.2	9,400
135	51.7	171.3	8,500
140	49.9	167.2	7,600
145	48.1	162.8	6,800
150	46.2	158.0	6,000
155	44.3	153.0	5,300
160	42.3	147.6	4,700
165	40.2	141.8	4,000