

MANITOWOC ENGINEERING CO.

Division of the Manitowoc Company, Inc. Manitowoc, Wisconsin 54220



LIFTCRANE BOOM CAPACITIES

MEETS
ANSI B30.5
REQUIREMENTS

M-250

NEW YORK CITY CODE

BOOM NO. 44 WITH LONG REACH TOP

167,000 LB. COUNTERWEIGHT

360 DEGREE RATING

CAPACITIES FOR VARIOUS BOOM LENGTHS AND OPERATING RADII ARE FOR FREELY SUSPENDED LOADS AND DO NOT EXCEED 75% OF A STATIC TIPPING LOAD FOR BOOM LENGTHS THRU 250' AND NEW YORK CITY CRITERIA OF 1.4 FACTOR APPLIED TO TOTAL MACHINE MOMENT FOR BOOM LENGTHS 260' ON UP. CAPACITIES BASED ON STRUCTURAL COMPETENCE ARE DENOTED BY AN ASTERISK (*).

UPPER BOOM POINT CAPACITY FOR LIFTCRANE SERVICE WITH SINGLE PART WHIP LINE IS 30,000 LBS. OR 60,000 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.

MACHINE TO OPERATE IN A LEVEL POSITION ON A FIRM UNIFORMLY SUPPORTING SURFACE WITH GANTRY UP. REFER TO BOOM RIGGING NO. 172612, WIRE ROPE SPECIFICATION CHART NO. 7581-B AND COUNTERWEIGHT ARRANGEMENT CHART NO. 7692-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.

MACHINE MAY BE OPERATED WITHIN WIND LIMITS SHOWN IN TABLE PROVIDED CRANE OPERATOR JUDGMENT IS USED TO ALLOW FOR WIND EFFECT ON LIFTED LOAD AND OTHER CONSIDERATIONS NOTED ON THE CAPACITY CHART ARE FOLLOWED. WIND WILL HAVE A CONSIDERABLE EFFECT ON A LOAD WITH A LARGE 'SAIL AREA' AND MUST BE COMPENSATED FOR ACCORDINGLY BY REDUCING LOAD RATINGS, REDUCING OPERATING SPEEDS OR BY A COMBINATION OF BOTH. RECOMMEND STOPPING OPERATION AND LOWERING BOOM AND JIB TO APPROXIMATELY 70 DEGREE BOOM ANGLE WHEN WIND EXCEEDS THOSE SHOWN IN TABLE TO PREVENT JIB BEING BLOWN OVER BACKWARDS. LOWER BOOM AND JIB TO GROUND WHEN WIND IS ABOVE 50 MPH.

MACHINE TO TRAVEL ON A FIRM, LEVEL AND UNIFORMLY SUPPORTING SURFACE AND BOOM WITHIN BOOM ANGLE RANGE SHOWN IN CAPACITY CHART.

OPERATING RADIUS IS HORIZONTAL DISTANCE FROM THE 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 IS VERTICAL DISTANCE FROM GROUND LEVEL TO CENTERLINE OF BOOM POINT SHAFT.

MACHINE EQUIPPED WITH 30'9" CRAWLERS, 48" TREADS, 28' RETRACTABLE GANTRY, 12 PART BOOM HOIST REEVING, FOUR 1-1/2" BOOM PENDANTS, AND 167,000 LB. COUNTERWEIGHT.

WIND LIMITS DURING OPERATION		
MAXIMUM WIND VELOCITY	BOOM LENGTH	JIB LENGTH
MPH	FEET	FEET
30	190 - 210	---
25	220 - 250	---
20	260 - 330	---
25	190 - 210	40 - 80
20	220 - 280	40 - 60
20	220 - 250	80
15	260 - 270	80
25	190 - 200	100 - 120
20	210 - 250	100 - 120
15	260	100 - 120

MAXIMUM BOOM AND JIB LENGTHS LIFTED UNASSISTED						DEDUCT FROM CAPACITIES WHEN JIB IS ATTACHED	
OVER FRONT OF BLOCKED CRAWLERS		OVER REAR OF BLOCKED CRAWLERS		OVER SIDE OF CRAWLERS			
BOOM LGTH.	JIB NO. 132	BOOM LGTH.	JIB NO. 132	BOOM LGTH.	JIB NO. 132	JIB LGTH.	JIB NO. 132
330'	---	310'	---	290'	---	40'	6,400 LBS.
320'	---	300'	---	280'	---	60'	8,200 LBS.
310'	---	290'	---	270'	---	80'	10,300 LBS.
300'	---	280'	40'	260'	60'	100'	12,800 LBS.
290'	---	270'	60'	250'	80'	120'	15,300 LBS.
280'	60'	260'	100'	240'	100'		
270'	80'	250'	120'	230'	120'		
260'	120'						
LOAD BLOCK, HOOK AND WEIGHT BALL ON GROUND AT START. UPPER BOOM POINT CANNOT BE USED ON 330' BOOM.							

CONSULT JIB CHART FOR JIB CAPACITIES. UPPER BOOM POINT CANNOT BE USED WHEN JIB IS ATTACHED.

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BOOM NO. 44 WITH LONG REACH TOP

167,000 LB. COUNTERWEIGHT

360 DEGREE RATING

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	BOOM CAPACITY POUNDS
190	32	82.7	196.3	210,000*
	34	82.1	196.0	210,000*
	36	81.5	195.7	210,000*
	38	80.8	195.4	210,000*
	40	80.2	195.0	202,100
	42	79.6	194.7	187,900
	44	79.0	194.3	175,400
	46	78.4	193.9	164,300
	48	77.8	193.4	154,500
	50	77.2	193.0	145,700
	55	75.6	191.7	127,100
	60	74.0	190.3	112,400
	65	72.5	188.8	100,400
	70	70.9	187.1	90,500
	75	69.3	185.2	82,100
	80	67.6	183.2	75,000
	85	66.0	181.0	68,800
	90	64.3	178.7	63,400
	95	62.6	176.1	58,600
	100	60.9	173.4	54,400
200	105	59.2	170.5	50,700
	110	57.4	167.3	47,300
	115	55.6	164.0	44,200
	120	53.7	160.4	41,400
	125	51.8	156.5	38,900
	130	49.8	152.4	36,600
	135	47.8	148.0	34,500
	140	45.8	143.2	32,500
	145	43.6	138.1	30,700
	150	41.3	132.5	29,000
	155	39.0	126.5	27,400
	160	36.5	120.0	25,900
	165	33.9	112.8	24,600
	170	31.0	104.8	23,300
	175	27.9	95.8	22,100
	32	83.0	206.4	210,000*
	34	82.5	206.1	210,000*
	36	81.9	205.8	210,000*
	38	81.3	205.5	210,000*
	40	80.7	205.2	201,600
	42	80.1	204.8	187,300
	44	79.6	204.5	174,800
	46	79.0	204.1	163,800
	48	78.4	203.7	153,900
	50	77.8	203.2	145,100
	55	76.3	202.0	126,500
	60	74.9	200.7	111,800
	65	73.4	199.3	99,800
	70	71.9	197.7	89,900
	75	70.3	195.9	81,500
	80	68.8	194.0	74,300
	85	67.3	192.0	68,100
	90	65.7	189.7	62,700
	95	64.1	187.4	58,000
	100	62.5	184.8	53,700
	105	60.9	182.1	50,000
	110	59.2	179.1	46,600
	115	57.5	176.0	43,500
	120	55.8	172.7	40,700
	125	54.0	169.1	38,200
	130	52.2	165.3	35,900
	135	50.4	161.3	33,800
	140	48.5	156.9	31,800
	145	46.5	152.3	30,000

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	BOOM CAPACITY POUNDS
200	150	44.5	147.3	28,300
	155	42.4	142.0	26,700
	160	40.2	136.2	25,200
	165	38.0	130.0	23,900
	170	35.5	123.2	22,600
	175	33.0	115.8	21,400
	180	30.2	107.5	20,200
	185	27.2	98.2	19,200
	34	82.8	216.2	210,000*
	36	82.3	215.9	210,000*
210	38	81.7	215.6	210,000*
	40	81.2	215.3	201,400
	42	80.6	215.0	187,100
	44	80.1	214.6	174,600
	46	79.5	214.3	163,500
	48	79.0	213.9	153,700
	50	78.4	213.5	144,800
	55	77.0	212.3	126,300
	60	75.6	211.1	111,600
	65	74.2	209.7	99,600
	70	72.8	208.2	89,600
	75	71.3	206.5	81,200
	80	69.9	204.7	74,100
	85	68.4	202.8	67,900
	90	66.9	200.7	62,500
	95	65.4	198.4	57,700
	100	63.9	196.0	53,500
	105	62.4	193.5	49,700
	110	60.8	190.7	46,400
	115	59.2	187.8	43,300
	120	57.6	184.7	40,500
	125	56.0	181.4	38,000
	130	54.3	177.9	35,700
	135	52.6	174.1	33,500
	140	50.9	170.1	31,600
	145	49.1	165.9	29,700
	150	47.2	161.3	28,000
	155	45.4	156.5	26,500
	160	43.4	151.3	25,000
	165	41.3	145.8	23,600
	170	39.2	139.8	22,300
	175	37.0	133.3	21,100
	180	34.6	126.3	20,000
	185	32.1	118.6	18,900
	190	29.4	110.1	17,900
	195	26.5	100.6	17,000
220	36	82.6	226.0	210,000*
	38	82.1	225.7	210,000*
	40	81.6	225.4	200,800
	42	81.1	225.1	186,600
	44	80.5	224.8	174,000
	46	80.0	224.4	163,000
	48	79.5	224.1	153,100
	50	78.9	223.7	144,300
	55	77.6	222.6	125,700
	60	76.3	221.4	110,900
	65	74.9	220.1	98,900
	70	73.6	218.6	89,000
	75	72.2	217.1	80,600
	80	70.8	215.4	73,400
	85	69.4	213.5	67,200
	90	68.0	211.5	61,800
	95	66.6	209.4	57,100

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	BOOM CAPACITY POUNDS
220	100	65.2	207.2	52,800
	105	63.7	204.7	49,100
	110	62.3	202.1	45,700
	115	60.8	199.4	42,600
	120	59.3	196.5	39,800
	125	57.7	193.4	37,300
	130	56.2	190.1	35,000
	135	54.6	186.6	32,800
	140	53.0	182.9	30,900
	145	51.3	178.9	29,000
230	150	49.6	174.8	27,400
	155	47.9	170.3	25,800
	160	46.1	165.6	24,300
	165	44.2	160.6	22,900
	170	42.3	155.2	21,700
	175	40.3	149.5	20,400
	180	38.3	143.3	19,300
	185	36.1	136.6	18,200
	190	33.8	129.4	17,200
	195	31.4	121.4	16,300
230	200	28.8	112.7	15,400
	205	25.9	102.9	14,500
	36	83.0	236.1	196,300*
	38	82.5	235.8	194,300*
	40	81.9	235.6	192,400*
	42	81.4	235.3	186,100
	44	80.9	234.9	173,500
	46	80.4	234.6	162,500
	48	79.9	234.2	152,600
	50	79.4	233.9	143,700
230	55	78.1	232.8	125,200
	60	76.9	231.7	110,400
	65	75.6	230.4	98,400
	70	74.3	229.1	88,400
	75	73.0	227.6	80,000
	80	71.7	225.9	72,900
	85	70.4	224.2	66,700
	90	69.0	222.3	61,300
	95	67.7	220.3	56,500
	100	66.3	218.1	52,300
230	105	65.0	215.8	48,500
	110	63.6	213.4	45,100
	115	62.2	210.8	42,000
	120	60.8	208.1	39,300
	125	59.3	205.1	36,700
	130	57.8	202.0	34,400
	135	56.4	198.8	32,300
	140	54.8	195.3	30,300
	145	53.3	191.6	28,500
	150	51.7	187.8	26,800
230	155	50.1	183.6	25,200
	160	48.5	179.3	23,700
	165	46.8	174.7	22,300
	170	45.0	169.8	21,100
	175	43.2	164.6	19,900
	180	41.4	159.0	18,700
	185	39.4	153.1	17,600
	190	37.4	146.7	16,600
	195	35.3	139.8	15,700
	200	33.0	132.3	14,800
230	205	30.7	124.2	13,900
	210	28.1	115.2	13,100
	215	25.3	105.1	12,300

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BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	BOOM CAPACITY POUNDS
240	38	82.8	245.9	188,100*
	40	82.3	245.7	186,300*
	42	81.8	245.4	184,600*
	44	81.3	245.1	173,000
	46	80.8	244.7	161,900
	48	80.4	244.4	152,000
	50	79.9	244.0	143,200
	55	78.6	243.1	124,600
	60	77.4	242.0	109,800
	65	76.2	240.8	97,800
	70	75.0	239.5	87,800
	75	73.7	238.0	79,400
	80	72.5	236.5	72,200
	85	71.2	234.8	66,000
	90	69.9	233.0	60,600
	95	68.7	231.1	55,800
	100	67.4	229.0	51,600
	105	66.1	226.9	47,800
	110	64.8	224.5	44,400
	115	63.4	222.1	41,300
	120	62.1	219.5	38,600
	125	60.7	216.7	36,000
	130	59.3	213.8	33,700
	135	57.9	210.7	31,600
	140	56.5	207.5	29,600
250	145	55.1	204.0	27,800
	150	53.6	200.4	26,100
	155	52.1	196.5	24,500
	160	50.5	192.5	23,000
	165	49.0	188.2	21,600
	170	47.4	183.7	20,400
	175	45.7	178.9	19,100
	180	44.0	173.8	18,000
	185	42.3	168.4	16,900
	190	40.4	162.7	15,900
	195	38.6	156.6	15,000
	200	36.6	150.0	14,100
	205	34.5	142.9	13,200
	210	32.3	135.2	12,400
	215	30.0	126.9	11,600
	220	27.5	117.6	10,900
	40	82.6	255.8	178,800*
	42	82.1	255.5	177,200*
	44	81.7	255.2	172,700
	46	81.2	254.9	161,600
	48	80.7	254.5	151,700
	50	80.3	254.2	142,800
	55	79.1	253.3	124,200
	60	77.9	252.2	109,500
	65	76.8	251.1	97,500
	70	75.6	249.8	87,500
	75	74.4	248.4	79,100
	80	73.2	247.0	71,900
	85	72.0	245.4	65,700
	90	70.8	243.7	60,300
	95	69.6	241.8	55,500
	100	68.3	239.9	51,300
	105	67.1	237.8	47,500
	110	65.8	235.6	44,100
	115	64.6	233.2	41,000
	120	63.3	230.8	38,200
	125	62.0	228.1	35,700
	130	60.7	225.4	33,400
	135	59.4	222.5	31,200
	140	58.0	219.4	29,300

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	BOOM CAPACITY POUNDS
250	145	56.7	216.1	27,400
	150	55.3	212.7	25,700
	155	53.9	209.1	24,200
	160	52.4	205.3	22,700
	165	51.0	201.3	21,300
	170	49.5	197.1	20,000
	175	47.9	192.7	18,800
	180	46.3	188.0	17,700
	185	44.7	183.0	16,600
	190	43.1	177.8	15,600
	195	41.4	172.2	14,600
	200	39.6	166.3	13,700
	205	37.7	160.0	12,900
	210	35.8	153.2	12,100
	215	33.8	146.0	11,300
	220	31.6	138.1	10,500
	225	29.4	129.5	9,800
	230	26.9	120.0	9,200
260	40	82.9	265.8	172,600*
	42	82.4	265.6	168,500
	44	82.0	265.3	156,500
	46	81.5	265.0	145,900
	48	81.1	264.7	136,500
	50	80.7	264.3	128,000
	55	79.5	263.4	110,300
	60	78.4	262.4	96,200
	65	77.3	261.3	84,700
	70	76.1	260.1	75,200
	75	75.0	258.8	67,200
	80	73.9	257.4	60,300
	85	72.7	255.9	54,400
	90	71.6	254.2	49,200
	95	70.4	252.5	44,700
	100	69.2	250.6	40,600
	105	68.0	248.6	37,000
	110	66.8	246.5	33,800
	115	65.6	244.3	30,800
	120	64.4	241.9	28,200
	125	63.2	239.4	25,800
	130	61.9	236.8	23,500
	135	60.7	234.0	21,500
	140	59.4	231.1	19,600
	145	58.1	228.0	17,900
	150	56.8	224.8	16,200
	155	55.5	221.4	14,700
	160	54.1	217.9	13,300
	165	52.7	214.1	12,000
	170	51.3	210.2	10,800
	175	49.9	206.0	9,600
	180	48.4	201.7	8,600
	185	46.9	197.1	7,500
	190	45.4	192.2	6,600
	195	43.8	187.1	5,600
	200	42.2	181.7	4,800
	205	40.5	175.9	4,000
270	42	82.7	275.7	154,500*
	44	82.3	275.4	153,700*
	46	81.9	275.1	145,200
	48	81.4	274.8	135,800
	50	81.0	274.5	127,300
	55	79.9	273.6	109,500
	60	78.8	272.7	95,400
	65	77.8	271.6	83,900
	70	76.7	270.4	74,400

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	BOOM CAPACITY POUNDS
270	75	75.6	269.2	66,400
	80	74.5	267.8	59,500
	85	73.4	266.3	53,600
	90	72.3	264.8	48,400
	95	71.1	263.1	43,900
	100	70.0	261.3	39,800
	105	68.9	259.4	36,200
	110	67.7	257.4	33,000
	115	66.6	255.2	30,000
	120	65.4	253.0	27,400
	125	64.2	250.6	24,900
	130	63.1	248.1	22,700
	135	61.9	245.5	20,700
	140	60.6	242.7	18,800
	145	59.4	239.8	17,000
	150	58.2	236.7	15,400
	155	56.9	233.5	13,900
	160	55.6	230.1	12,500
	165	54.3	226.6	11,200
	170	53.0	222.9	10,000
	175	51.7	219.0	8,800
	180	50.3	214.9	7,700
	185	48.9	210.6	6,700
	190	47.5	206.1	5,700
	195	46.0	201.3	4,800
	200	44.5	196.3	4,000
280	42	83.0	285.7	143,000*
	44	82.6	285.5	142,300*
	46	82.2	285.2	141,600*
	48	81.7	284.9	134,900
	50	81.3	284.6	126,500
	55	80.3	283.8	108,700
	60	79.2	282.8	94,600
	65	78.2	281.8	83,100
	70	77.2	280.7	73,500
	75	76.1	279.5	65,500
	80	75.0	278.2	58,600
	85	74.0	276.8	52,700
	90	72.9	275.3	47,500
	95	71.8	273.7	42,900
	100	70.8	271.9	38,900
	105	69.7	270.1	35,300
	110	68.6	268.2	32,000
	115	67.5	266.1	29,100
	120	66.4	264.0	26,400
	125	65.2	261.7	24,000
	130	64.1	259.3	21,800
	135	62.9	256.8	19,700
	140	61.8	254.1	17,800
	145	60.6	251.4	16,100
	150	59.4	248.4	14,500
	155	58.2	245.4	13,000
	160	57.0	242.2	11,600
	165	55.8	238.8	10,300
	170	54.5	235.3	9,000
	175	53.3	231.6	7,900
	180	52.0	227.8	6,800
	185	50.7	223.7	5,800
	190	49.3	219.5	4,800

MANITOWOC ENGINEERING CO.

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LIFTCRANE BOOM CAPACITIES

MEETS
ANSI B30.5
REQUIREMENTS

M-250

NEW YORK CITY CODE

BOOM NO. 44 WITH LONG REACH TOP

167,000 LB. COUNTERWEIGHT

360 DEGREE RATING

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	BOOM CAPACITY POUNDS
290	44	82.8	295.6	132,600*
	46	82.4	295.3	131,900*
	48	82.0	295.0	131,300*
	50	81.6	294.7	126,000
	55	80.6	293.9	108,200
	60	79.6	293.0	94,100
	65	78.6	292.0	82,600
	70	77.6	291.0	73,000
	75	76.6	289.8	65,000
	80	75.6	288.5	58,100
	85	74.6	287.2	52,200
	90	73.5	285.7	47,000
	95	72.5	284.2	42,500
	100	71.4	282.5	38,400
	105	70.4	280.8	34,800
	110	69.3	278.9	31,500
	115	68.3	276.9	28,600
	120	67.2	274.9	25,900
	125	66.1	272.7	23,500
	130	65.1	270.4	21,300
300	135	64.0	268.0	19,200
	140	62.8	265.5	17,400
	145	61.7	262.8	15,600
	150	60.6	260.0	14,000
	155	59.5	257.1	12,500
	160	58.3	254.1	11,100
	165	57.1	250.9	9,800
	170	55.9	247.5	8,500
	175	54.7	244.0	7,400
	180	53.5	240.4	6,300
	185	52.3	236.6	5,300
	190	51.0	232.6	4,300
	46	82.7	305.4	119,900*
	48	82.3	305.1	119,200*
	50	81.9	304.8	118,500*
	55	80.9	304.1	107,300
	60	80.0	303.2	93,200
	65	79.0	302.2	81,600
	70	78.0	301.2	72,100
	75	77.0	300.1	64,000
	80	76.1	298.9	57,200
	85	75.1	297.6	51,200
	90	74.1	296.2	46,000
	95	73.1	294.7	41,500
	100	72.1	293.1	37,400
	105	71.1	291.4	33,800
	110	70.1	289.6	30,500
310	115	69.0	287.7	27,600
	120	68.0	285.7	24,900
	125	67.0	283.6	22,500
	130	65.9	281.4	20,300
	135	64.9	279.1	18,200
	140	63.8	276.7	16,300
	145	62.8	274.1	14,600
	150	61.7	271.5	13,000
	155	60.6	268.7	11,400
	160	59.5	265.8	10,000
	165	58.4	262.7	8,700
	170	57.2	259.5	7,500
	175	56.1	256.2	6,300
	180	54.9	252.7	5,200
	185	53.7	249.1	4,200
	46	82.9	315.5	108,000*
	48	82.5	315.2	107,500*
	50	82.2	314.9	105,900*
	55	81.2	314.2	101,600*
	60	80.3	313.4	92,300
	65	79.4	312.4	80,800
	70	78.4	311.4	71,300
	75	77.5	310.3	63,200
	80	76.5	309.2	56,300
	85	75.6	307.9	50,400

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	BOOM CAPACITY POUNDS
310	90	74.6	306.5	45,200
	95	73.7	305.1	40,600
	100	72.7	303.6	36,600
	105	71.7	301.9	32,900
	110	70.7	300.2	29,700
	115	69.8	298.4	26,700
	120	68.8	296.5	24,100
	125	67.8	294.5	21,600
	130	66.8	292.3	19,400
	135	65.8	290.1	17,300
	140	64.7	287.8	15,500
	145	63.7	285.3	13,700
	150	62.7	282.8	12,100
	155	61.6	280.1	10,600
	160	60.6	277.3	9,200
320	165	59.5	274.4	7,800
	170	58.4	271.4	6,600
	175	57.3	268.2	5,400
	180	56.2	264.9	4,400
	48	82.8	325.3	99,700*
	50	82.4	325.0	98,100*
	55	81.5	324.3	94,500*
	60	80.6	323.5	90,500*
	65	79.7	322.6	80,200
	70	78.8	321.6	70,700
	75	77.9	320.6	62,600
	80	77.0	319.5	55,700
	85	76.0	318.2	49,800
	90	75.1	316.9	44,600
	95	74.2	315.5	40,000
330	100	73.2	314.0	35,900
	105	72.3	312.5	32,300
	110	71.4	310.8	29,000
	115	70.4	309.1	26,100
	120	69.5	307.2	23,400
	125	68.5	305.3	21,000
	130	67.5	303.2	18,800
	135	66.6	301.1	16,700
	140	65.6	298.8	14,800
	145	64.6	296.5	13,100
	150	63.6	294.0	11,400
	155	62.6	291.5	9,900
	160	61.6	288.8	8,500
	165	60.5	286.0	7,200
	170	59.5	283.1	6,000
	175	58.5	280.1	4,800
330	48	83.0	335.4	87,800*
	50	82.6	335.1	86,400*
	55	81.8	334.4	82,500*
	60	80.9	333.6	78,900*
	65	80.0	332.8	75,700*
	70	79.1	331.8	71,700
	75	78.2	330.8	63,700
	80	77.4	329.7	56,800
	85	76.5	328.5	50,800
	90	75.6	327.3	45,700
	95	74.7	325.9	41,100
	100	73.8	324.5	37,000
	105	72.9	323.0	33,400
	110	71.9	321.4	30,100
	115	71.0	319.7	27,200
	120	70.1	317.9	24,500
	125	69.2	316.0	22,100
	130	68.2	314.0	19,900
	135	67.3	312.0	17,800
	140	66.4	309.8	15,900
	145	65.4	307.5	14,200
	150	64.4	305.2	12,500

BOOM LGTH. FEET	OPER. RAD. FEET	BOOM ANG. DEG.	BOOM POINT ELEV. FEET	BOOM CAPACITY POUNDS
330	155	63.5	302.7	11,000
	160	62.5	300.1	9,600
	165	61.5	297.5	8,300
	170	60.5	294.7	7,100
	175	59.5	291.7	5,900
0	180	58.5	288.7	4,800