Liftcrane Boom Extended Upper Point Capacities

Boom No. 58WA with 24.9 ft Extended Upper Boom Point 368,000 lb Crane Counterweight 120,000 lb Carbody Counterweight 360 Degree Rating





16000 WA



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 (upper sheave) capacity for liftcrane service with single part whip line is 30,000 lb or 60,000 lb with two part line. In all cases, upper boom point capacities cannot exceed those listed for extended upper boom point (lower sheave) capacity.

Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath upper boom point sheaves, is considered part of extended upper boom point 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. 81009833**, Wire Rope Specification chart **No. 8889-A**, Counterweight Arrangement chart **No. 8898-A** and Wind Conditions chart **No. 8688-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 Operator's 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. 8890-A**



OPERATING RADIUS: Operating radius is horizontal distance from axis of rotation to center of vertical hoist line or load block.



BOOM ANGLE: Boom angle in degrees (°) 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.



EXTENDED UPPER BOOM POINT ELEVATION:

Extended upper boom point elevation is vertical distance from ground level to centerline of extended upper boom point (lower sheave) shaft.

MACHINE EQUIPMENT: Machine equipped with 34 ft crawlers, 60 in. treads, 32 ft live mast, 26 part boom hoist reeving, boom support straps, 368,000 lb crane counterweight, two 30,000 lb and four 15,000 lb carbody counterweights.

MACHINE MODIFICATION REQUIRED: This chart requires machines manufactured prior to S/N 16001122 receive rotating bed modification No. 81011993.

Maximum Boom Length Lifted Unassisted							
Over End of Blocked Crawlers	Over Side of Crawlers						
Boom Length	Boom Length						
301.8 ft (a)	272.3 ft						

Load block, hook and weight ball on ground at start. (a) Machine must be equipped with optional upperworks jacking cylinders to both reeve and use the whip line on 301.8 ft boom.



Explanation of Symbols



Boom No. 58 WA with 24.9 ft Extended Upper **Boom Point**



Crane Counterweight





360 Degree Rating



Operating Radius (see page 1)



Boom Angle (see page 1)



Extended Upper Boom Point Elevation (see page 1)



Lifting Capacities (see page 1)



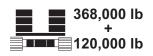
Boom Length



Extended Upper Boom Point Offset Angle







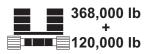




		7	28°		7	35°	
ft		ft	S		ft	S	ft
50	81.9	241.6	286,600 *	82.5	240.6	286,600 *	50
55 60	80.7	240.6 239.4	286,600 *	81.3	239.6	284,000 *	55 60
60 65	79.5 78.2	239.4	255,600 227,600	80.0 78.8	238.5 237.2	257,500 229,300	60 65
70	77.0	236.8	204,500	77.5	235.8	206,000	70
75	75.7	235.3	185,100	76.3	234.3	186,400	75
80	74.4	233.7	168,500	75.0	232.7	169,700	80
85	73.2	232.0	154,200	73.7	231.0	155,300	85
90	71.9	230.1	141,700	72.4	229.1	142,800	90
95 100	70.6 69.3	228.2 226.0	130,700 121,000	71.1 69.8	227.1 225.0	131,700 121,900	95 100
105	67.9	223.8	121,000	68.5	222.7	113,200	105
110	66.6	221.4	104,600	67.1	220.3	105,300	110
115	65.2	218.8	97,500	65.7	217.8	98,200	115
120	63.9	216.2	91,100	64.4	215.1	91,800	120
125	62.5	213.3	85,300	63.0	212.2	85,900	125
130	61.1	210.3	80,000	61.6	209.2	80,600	130
135 140	59.6	207.1 203.7	75,100	60.1	205.9 202.6	75,600	135 140
140	58.2 56.7	203.7	70,500 66,400	58.6 57.2	199.0	71,100 66,800	140
150	55.2	196.4	62,500	55.6	195.2	62,900	150
155	53.6	192.4	58,800	54.1	191.2	59,300	155
160	52.1	188.2	55,500	52.5	187.0	55,800	160
165	50.5	183.8	52,300	50.9	182.5	52,600	165
170	48.8	179.1	49,300	49.2	177.7	49,600	170
175 180	47.1 45.3	174.1 168.8	46,500 43,900	47.5 45.7	172.7 167.4	46,800 44,200	175 180
185	43.5	163.1	41,400	43.7	161.7	41,600	185
190	41.6	157.1	39,100	41.9	155.6	39,300	190
195	39.6	150.7	36,800	39.9	149.0	37,000	195
200	37.6	143.7	34,700	37.8	142.0	34,900	200
205	35.4	136.2	32,700	35.6	134.4	32,800	205
210 215	33.1	128.0	30,700				210 215
215	30.6	118.9	28,900				Z 15







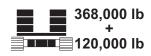




		7	28°		7	35°	
ft		ft	5		ft	S	- ft
50	82.3	251.6	286,600 *	82.8	250.6	286,600 *	50
55	81.1	250.6	286,600 *	81.6	249.6	284,000 *	55
60	79.9	249.5	255,200	80.4	248.5	257,100	60
65	78.7	248.3	227,200	79.3	247.3	228,900	65
70	77.5	247.0	204,000	78.0	246.0	205,500	70
75	76.3	245.6	184,500	76.8	244.6	185,900	75
80	75.1	244.1	167,900	75.6	243.1	169,200	80
85	73.9	242.4	153,600	74.4	241.4	154,800	85
90	72.6	240.6	141,100	73.2	239.6	142,200	90
95	71.4	238.8	130,100	71.9	237.7	131,100	95
100	70.1	236.7	120,400	70.7	235.7	121,300	100
105	68.9	234.6	111,700	69.4	233.5	112,600	105
110	67.6	232.3	103,900	68.1	231.2	104,700	110
115	66.3	229.9	96,900	66.8	228.8	97,600	115
120 125	65.0 63.7	227.3 224.6	90,500 84,600	65.5 64.2	226.2 223.5	91,200 85,300	120 125
130	62.4	221.8	79,300	62.8	220.6	79,900	130
135	61.0	218.8	79,300	61.5	217.6	79,900 75.000	135
140	59.6	215.6	69,800	60.1	217.0	70,400	140
145	58.2	212.2	65,700	58.7	211.0	66,200	145
150	56.8	208.7	61,800	57.2	207.5	62,200	150
155	55.4	205.0	58,100	55.8	203.7	58,600	155
160	53.9	201.0	54,800	54.3	199.8	55,200	160
165	52.4	196.9	51,600	52.8	195.6	52,000	165
170	50.8	192.5	48,600	51.2	191.2	49,000	170
175	49.3	187.9	45,800	49.7	186.6	46,200	175
180	47.6	183.0	43,200	48.0	181.7	43,500	180
185	46.0	177.9	40,700	46.3	176.4	41,000	185
190	44.3	172.4	38,400	44.6	170.9	38,600	190
195	42.5	166.5	36,100	42.8	165.0	36,400	195
200	40.6	160.3	34,000	40.9	158.7	34,200	200
205	38.7	153.7	32,000	39.0	152.0	32,200	205
210	36.7	146.5	30,100	36.9	144.7	30,200	210
215	34.5	138.7	28,300				215
220	32.2	130.3	26,500				220
225	29.8	121.0	24,800				225

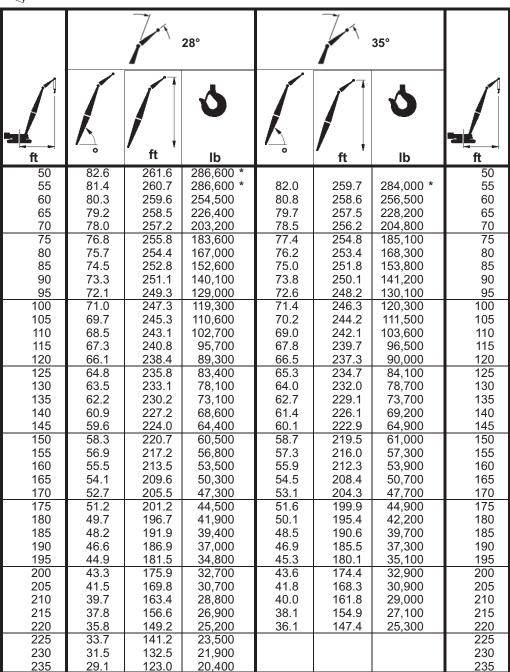




















		7	28°		35°		
The state of the s	Y.	# #	₽		ft	₽	ft
50	82.8	271.6	286,600 *				50
55	81.8	270.7	286,600 *	82.3	269.7	284,000 *	55
60	80.7	269.7	254,200	81.2	268.7	256,200	60
65	79.6	268.6	226,000	80.1	267.6	227,900	65
70	78.5	267.4	202,700	79.0	266.3	204,400	70
75 20	77.3	266.0	183,200	77.8	265.0	184,700	75
80 85	76.2	264.6	166,500	76.7	263.6	167,900 153,400	80 85
90	75.1 74.0	263.1 261.5	152,100 139,600	75.6 74.5	262.1 260.5	140,800	90
95	72.8	259.8	128,500	73.3	258.7	129,600	95
100	71.7	257.9	118,800	72.2	256.9	119,800	100
105	70.5	255.9	110,100	71.0	254.9	111,000	105
110	69.4	253.9	102,200	69.8	252.8	103,100	110
115	68.2	251.7	95,200	68.7	250.6	96,000	115
120	67.0	249.3	88,700	67.5	248.2	89,500	120
125	65.8	246.9	82,900	66.3	245.8	83,600	125
130	64.6	244.3	77,500	65.0	243.2	78,200	130
135	63.4	241.6	72,600	63.8	240.4	73,200	135
140	62.1	238.7	68,100	62.6	237.6	68,700	140
145 150	60.9 59.6	235.7 232.5	63,800 59,900	61.3 60.0	234.5 231.4	64,400 60,500	145 150
155	58.3	232.3	56,300	58.7	228.0	56,800	155
160	57.0	225.7	52,900	57.4	224.5	53,400	160
165	55.7	222.1	49,800	56.1	220.8	50,200	165
170	54.3	218.2	46,800	54.7	217.0	47,200	170
175	53.0	214.2	44,000	53.3	212.9	44,400	175
180	51.5	209.9	41,300	51.9	208.6	41,700	180
185	50.1	205.5	38,900	50.5	204.1	39,200	185
190	48.6	200.8	36,500	49.0	199.4	36,800	190
195	47.1	195.8	34,300	47.5	194.4	34,600	195
200	45.6	190.6	32,200	45.9	189.2	32,400	200
205	44.0	185.1	30,200	44.3	183.6	30,400	205
210 215	42.3 40.6	179.3 173.1	28,300 26,400	42.6 40.9	177.7 171.5	28,500 26,600	210 215
220	38.8	166.5	24,700	39.1	164.8	24,900	220
225	37.0	159.4	23,000	37.2	157.7	23,200	225
230	35.0	151.8	21,400	35.2	150.0	21,600	230
235	33.0	143.6	19,900				235
240	30.8	134.7	18,400				240
245	28.4	124.9	17,000				245







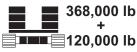




-7							
			28°		35°		
Talk ft	K.	ft	\$	K.	/ft	S	
55	82.1	280.7	286,600 *	82.5	279.7	284,000 *	55
60	81.0	279.7	253,700	81.5	278.7	255,800	60
65	79.9	278.6	225,500	80.4	277.6	227,400	65
70	78.9	277.5	202,100	79.4	276.5	203,900	70
75	77.8	276.2	182,500	78.3	275.2	184,100	75
80	76.7	274.9	165,800	77.2	273.8	167,200	80
85	75.7	273.4	151,400	76.1	272.4	152,700	85
90	74.6	271.8	138,800	75.0	270.8	140,000	90
95	73.5	270.2	127,800	73.9	269.1	128,900	95
100	72.4	268.4	118,000	72.8	267.4	119,000	100
105	71.3	266.5	109,200	71.7	265.5	110,200	105
110	70.2	264.5	101,400	70.6	263.5	102,300	110
115	69.0	262.4	94,300	69.5	261.3	95,200	115
120	67.9	260.2	87,900	68.3	259.1	88,700	120
125	66.7	257.8	82,000	67.2	256.7	82,700	125
130	65.6	255.4	76,600	66.0	254.3	77,300	130
135 140	64.4 63.2	252.8 250.0	71,700 67,100	64.8 63.7	251.6 248.9	72,400	135 140
140	62.0	247.2	62,900	62.5	246.9	67,800 63,500	145
150	60.8	244.2	59,000	61.2	243.0	59,600	150
155	59.6	241.0	55,400	60.0	239.8	55,900	155
160	58.4	237.7	52,000	58.8	236.5	52,500	160
165	57.1	234.2	48,800	57.5	233.0	49,300	165
170	55.8	230.6	45,800	56.2	229.4	46,300	170
175	54.5	226.8	43,000	54.9	225.5	43,400	175
180	53.2	222.8	40,400	53.6	221.5	40,800	180
185	51.8	218.6	37,900	52.2	217.3	38,300	185
190	50.5	214.2	35,600	50.8	212.9	35,900	190
195	49.1	209.6	33,300	49.4	208.2	33,600	195
200	47.6	204.7	31,200	47.9	203.4	31,500	200
205	46.1	199.6	29,200	46.5	198.2	29,500	205
210	44.6	194.3	27,300	44.9	192.8	27,500	210
215	43.0	188.6	25,500	43.3	187.1	25,700	215
220 225	41.4 39.7	182.6 176.2	23,700 22,100	41.7 40.0	181.0 174.6	23,900 22,300	220 225
230	38.0	169.4	20,500	38.2	167.7	20,700	230
235	36.2	162.2	19,000	36.4	160.4	19,100	235
240	34.3	154.4	17,500	55.7	100.7	10,100	240
245	32.2	146.0	16,100				245
250	30.1	136.9	14,700				250
		. 30.0	,	•	•		

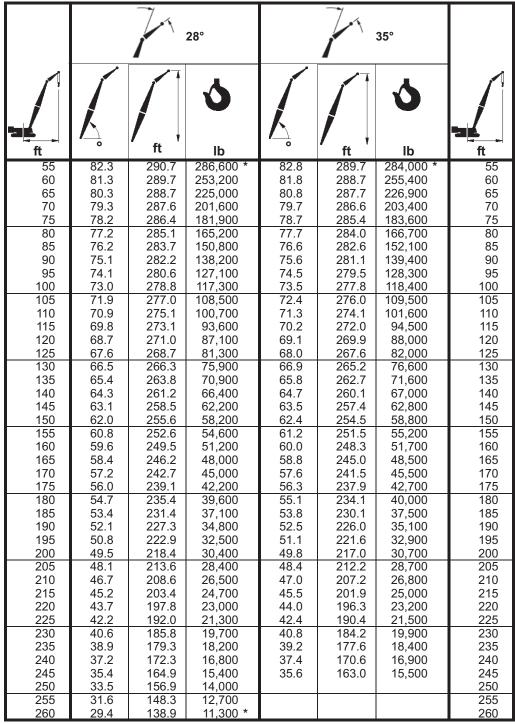














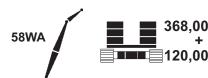






14							
		7	28°		35°		
	Y.	ft	5		∫ ft	S	-a
55	82.6	300.7	286,600 *				55
60	81.6	299.7	252,700	82.1	298.7	254,900	60
65	80.6	298.8	224,400	81.1	297.7	226,400	65
70	79.6	297.7	200,900	80.1	296.7	202,800	70
75	78.6	296.5	181,200	79.1	295.5	182,900	75
80	77.6	295.2	164,500	78.1	294.2	166,000	80
85	76.6	293.9	150,000	77.1	292.9	151,400	85
90	75.6	292.4	137,400	76.1	291.4	138,700	90
95 400	74.6	290.9	126,300	75.1	289.9	127,500	95 400
100 105	73.6 72.6	289.2 287.5	116,400 107,700	74.0 73.0	288.2 286.5	117,600 108,700	100 105
110	71.5	285.7	99,800	73.0 72.0	284.6	100,700	110
115	70.5	283.7	92,700	70.9	282.6	93,600	115
120	69.5	281.7	86,200	69.9	280.6	87,100	120
125	68.4	279.5	80,300	68.8	278.4	81,200	125
130	67.3	277.2	75,000	67.7	276.1	75,700	130
135	66.3	274.8	70,000	66.7	273.7	70,700	135
140	65.2	272.3	65,400	65.6	271.2	66,100	140
145	64.1	269.7	61,200	64.5	268.6	61,800	145
150	63.0	267.0	57,300	63.4	265.8	57,900	150
155	61.9	264.1	53,600	62.3	263.0	54,200	155
160 165	60.7 59.6	261.1 258.0	50,200 47,000	61.1 60.0	259.9 256.8	50,800 47,600	160 165
170	58.4	254.7	44,100	58.8	253.5	44,500	170
175	57.3	251.2	41,300	57.6	250.0	41,700	175
180	56.1	247.7	38,600	56.4	246.4	39,000	180
185	54.9	243.9	36,100	55.2	242.7	36,500	185
190	53.6	240.0	33,800	54.0	238.7	34,200	190
195	52.4	235.9	31,500	52.7	234.6	31,900	195
200	51.1	231.6	29,400	51.5	230.3	29,800	200
205	49.8	227.2	27,400	50.1	225.8	27,700	205
210 215	48.5 47.1	222.5 217.6	25,500 23,700	48.8 47.4	221.1 216.2	25,800 24,000	210 215
220	45.8	217.0	23,700	46.0	211.0	22,200	220
225	44.3	207.0	20,300	44.6	205.5	20,600	225
230	42.9	201.3	18,700	43.1	199.8	19,000	230
235	41.3	195.3	17,200	41.6	193.7	17,400	235
240	39.8	189.0	15,800	40.0	187.3	15,900	240
245	38.2	182.2	14,400	38.4	180.5	14,500	245
250	36.5	175.1	13,000	36.7	173.3	13,200	250
255	34.7	167.5	11,600 *				255
260	32.9	159.3	10,000 *				260









		1	28°		35°			
ft		ft	5		ft	\$	Talk ft	
55	82.8	310.6	273,300 *				55	
60	81.9	309.8	252,300	82.3	308.7	254,600	60	
65	80.9	308.8	223,900	81.4	307.8	225,900	65	
70	80.0	307.8	200,400	80.4	306.7	202,300	70	
75	79.0	306.6	180,700	79.4	305.6	182,400	75	
80 85	78.0	305.4	163,900	78.5	304.4	165,500	80 85	
90	77.1 76.1	304.1 302.7	149,400 136,800	77.5 76.5	303.1 301.7	150,900 138,100	90	
90 95	75.1 75.1	302.7	125,700	75.6	300.2	126,900	90 95	
100	74.1	299.6	115,900	73.6 74.6	298.6	117,000	100	
105	73.2	297.9	107,100	73.6	296.9	108,200	105	
110	72.2	296.2	99,200	72.6	295.1	100,200	110	
115	71.2	294.3	92,100	71.6	293.2	93,000	115	
120	70.2	292.3	85,600	70.6	291.2	86,500	120	
125	69.1	290.2	79,700	69.5	289.1	80,600	125	
130	68.1	288.0	74,300	68.5	286.9	75,100	130	
135	67.1	285.7	69,400	67.5	284.6	70,100	135	
140	66.1	283.3	64,800	66.4	282.2	65,500	140	
145	65.0	280.8	60,600	65.4	279.7	61,200	145	
150	63.9	278.2	56,700	64.3	277.1	57,300	150	
155	62.9	275.4	53,000	63.3	274.3	53,600	155	
160 165	61.8 60.7	272.6 269.6	49,600 46,400	62.2 61.1	271.4 268.4	50,200 47,000	160 165	
170	59.6	266.4	43,400	60.0	265.3	43,900	170	
175	58.5	263.2	40,600	58.8	262.0	41,100	175	
180	57.3	259.7	38,000	57.7	258.5	38,400	180	
185	56.2	256.2	35,500	56.5	255.0	35,900	185	
190	55.0	252.5	33,100	55.4	251.2	33,500	190	
195	53.8	248.6	30,900	54.2	247.3	31,300	195	
200	52.6	244.5	28,800	53.0	243.3	29,200	200	
205	51.4	240.3	26,800	51.7	239.0	27,100	205	
210	50.2	235.9	24,900	50.5	234.6	25,200	210	
215	48.9	231.3	23,100	49.2	229.9	23,400	215	
220	47.6	226.5	21,400	47.9	225.1	21,600	220	
225	46.3	221.4	19,700	46.5 45.2	220.0	20,000	225	
230 235	44.9 43.5	216.1 210.5	18,100 16,600	45.2 43.8	214.6 209.0	18,400 16,800	230 235	
240	43.5	204.7	15,200	42.3	203.1	15,400	240	
245	40.6	198.5	13,800	40.8	196.9	14,000	245	
250	39.0	192.0	12,400 *	39.3	190.4	12,600	250	
255	37.4	185.2	10,800 *	37.7	183.4	11,000 *	255	





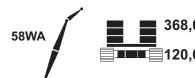






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235 45.4 225.2 15,600 45.7 223.7 15,900 235 240 44.1 219.7 14,200 44.3 218.2 14,400 240 245 42.7 214.0 12,600 * 43.0 212.5 12,900 * 245		48.0	235.3	18,700	48.3	233.9	19,000	
240 44.1 219.7 14,200 44.3 218.2 14,400 240 245 42.7 214.0 12,600 * 43.0 212.5 12,900 * 245			230.4			228.9		230
245								
250 41.3 208.0 10,900 * 41.5 206.4 11,200 * 250				12,600 *				
	250	41.3	208.0	10,900 *	41.5	206.4	11,200 *	250









		7	28°		35°		
Tale ft	Z.	ft	♦	Z.	ft	♦	Ft.
60	82.4	329.7	239,400 *	82.8	328.7	232,400 *	60
65	81.5	328.8	223,000	81.9	327.8	225,000	65
70	80.6	327.9	199,500	81.0	326.8	201,200	70
75	79.7	326.8	179,700	80.1	325.8	181,300	75
80	78.8	325.7	162,800	79.2	324.6	164,200	80
85 90	77.9 77.0	324.4 323.1	148,300	78.3 77.4	323.4 322.1	149,600	85 90
90 95	77.0 76.1	323.1	135,600 124,500	77. 4 76.5	320.7	136,800 125,500	90 95
100	75.1	320.2	114,600	75.5	319.2	115,600	100
105	74.2	318.7	105,800	74.6	317.6	106,700	105
110	73.3	317.0	97,900	73.7	316.0	98,700	110
115	72.4	315.3	90,700	72.7	314.2	91,500	115
120	71.4	313.4	84,200	71.8	312.4	84,900	120
125	70.5	311.5	78,300	70.9	310.4	79,000	125
130	69.5	309.5	72,900	69.9	308.4	73,500	130
135	68.6	307.3	67,900	68.9	306.2	68,500	135
140	67.6	305.1	63,400	68.0	304.0	63,800	140
145	66.6	302.8	59,100	67.0	301.7	59,600	145
150	65.7	300.3	55,200	66.0	299.2	55,600	150
155 160	64.7 63.7	297.8 295.2	51,500 48,100	65.0 64.0	296.7 294.0	51,900	155 160
165	62.7	295.2 292.4	46,100	63.0	294.0	48,400 45,200	165
170	61.7	289.5	41,900	62.0	288.3	42,200	170
175	60.6	286.5	39,100	61.0	285.3	39,400	175
180	59.6	283.4	36,500	59.9	282.2	36,700	180
185	58.5	280.1	34,000	58.9	278.9	34,200	185
190	57.5	276.8	31,600	57.8	275.5	31,800	190
195	56.4	273.2	29,400	56.7	272.0	29,500	195
200	55.3	269.6	27,300	55.6	268.3	27,400	200
205	54.2	265.7	25,300	54.5	264.5	25,400	205
210	53.1	261.8	23,300	53.4	260.5	23,400	210
215	51.9	257.6	21,500	52.2	256.3	21,600	215
220 225	50.8 49.6	253.3 248.8	19,800 18,100	51.1 49.9	252.0 247.5	19,800 18,200	220 225
225	49.6 48.4	240.0 244.2	16,100	49.9 48.7	247.5	16,200	223
235	47.2	239.3	15,100	47.4	237.9	15,000	235
240	45.9	234.2	13,400 *	46.2	232.7	13,400 *	240
245	44.6	228.9	11,700 *	44.9	227.4	11,600 *	245
250	43.3	223.3	10,100 *	43.6	221.8	10,000 *	250



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and 24.9 ft (7,6 m) Extended Upper	
Boom Point10	

Wind adversely affects lifting capacity and stability as shown in Figure 1. The result could be loss of control over the load and crane, even if the load is within the crane's capacity.

Wind speed (to include wind gusts) must be monitored by job planners and supervisors.

Beware that wind speed at boom point can be greater than wind speed at ground level. Also beware that the larger the sail area of the load, the greater the wind's affect on the load.

As a general rule, ratings and operating speeds must be reduced when:

Wind causes load to swing forward past allowable operating radius or sideways past either boom hinge pin.

GENERAL



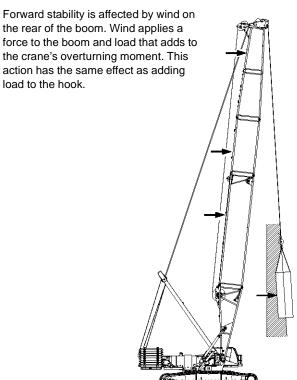
Judgment and experience of qualified operators, job planners, and supervisors must be used to compensate for affect of wind on lifted load and boom by reducing ratings, reducing operating speeds, or a combination of both.

Failing to observe this precaution can cause crane to tip or boom and/or jib to collapse. Death or serious injury to personnel can result.

...



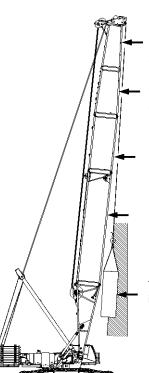
Wind Conditions



A910

The wind's affect on the rear of the load increases load radius. This condition can result in an overload hazard, possibly causing the crane to tip or the boom to collapse.

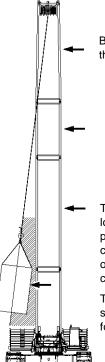
To avoid this hazard, reduce operating speeds and load (see Wind Conditions Chart at end of this section or see wind conditions in Capacity Charts if applicable).



Backward stability is affected by wind on the front of the boom. This condition is especially dangerous when the boom is at or near the maximum angle when operating without load.

Wind forces on the front of the boom reduce the normal forward tipping effect of the boom. The crane can tip or the boom can collapse if this condition is not avoided.

The boom can buckle and collapse if the load contacts the boom.



Boom strength is affected the most when the wind acts on the side of the boom.

The wind's affect on the side of the load can cause the load to swing out past the boom hinge pin. This condition can result in excessive side load forces on the boom, possibly causing the crane to tip or the boom to collapse.

To avoid this hazard, reduce operating speeds and load (see appropriate table for recommended capacity reductions).

FIGURE 1



RATING REDUCTIONS/OPERATION NOT PERMITTED

Boom No. 58 HL with 32.0 ft (9,75 m) Live Mast

Operation Permitted

Operation is permitted in steady winds or wind gusts up to the maximum speed given in Table 1, provided ratings are reduced the specified amount.

Table 1Rating Reductions for Various Wind Speeds and Wind Gusts

Boom L	.ength ft	98.4 - 157.5	177.2 - 236.2	255.9 - 315.0			
(r	n)	(30,0 - 48,0)	(54,0 - 72,0)	(78,0 - 96,0)			
Maximum \	Wind Speed	Percent					
mph	m/s	Rating Reduction					
15	7	0	0	0			
20	9	0	0	0			
25	11	0	0	10			
30	13	0	10	20			
35	16	0	30				
	35 mph m/s)	OPERA	TION NOT PERI	MITTED			

Wind speed to be measured at boom point elevation

Operation Not Permitted

Operation is not permitted in the areas indicated in Table 1. Observe the following options:

Boom

Up to 50 mph (22 m/s) -

Park crane (upper in line with crawlers) with load blocks and weight balls on ground or secured and position boom at 70°.

• 50 mph (22 m/s) and Above -

Lower boom onto blocking at ground level.

16000

Wind Conditions

Luffing Jib No. 59 on Boom No. 58 HL with 32.0 ft (9,75 m) Live Mast

Operation Permitted

Operation is permitted in steady winds or wind gusts up to the maximum speed given in Table 2, provided ratings are reduced the specified amount.

Table 2Rating Reductions for Various Wind Speeds and Wind Gusts

•	Length ft		78.7-137.8 (24,0-42,0)			157.5-196.9 (48,0-60,0)	216.5-275.6 (66,0-84,0)			
	Boom Length ft (m)		157.5-177.2 (48,0-54,0)	196.9-216.5 (60,0-66,0)	98.4-137.8 (30,0-42,0)	157.5-177.2 (48,0-54,0)	196.9 (60,0)	98.4-137.8 (30,0-42,0)	157.5-177.2 (48,0-54,0)	
Maximu Spe	m Wind eed					cent eduction				
mph	m/s									
15	7	0	0	0	0	0	0	0	0	
20	9	0	0	0	0	0	0	0	10	
25	11	0	0	0	0	0	10	30		
30	13	0	0	0	0	10	30			
35	16	0	10	10	20					
Above (16	35 mph m/s)	OPERATION NOT PERMITTED								

Wind speed to be measured at jib point elevation. Refer to luffing jib capacity chart for specific backward stability conditions.

Operation Not Permitted

Operation is not permitted in the areas indicated in Table 2. Observe the following options:

Boom with 78.7 - 196.9 ft (24,0 - 60,0 m) Luffing Jib

Up to 50 mph (22 m/s) -

Park crane (upper in line with crawlers) with load blocks and weight balls on ground or secured and position boom at 85° and luffing jib at 55°.

50 mph (22 m/s) and Above -

Lower boom and luffing jib onto blocking at ground level.

Boom with 216.5 - 275.6 ft (66,0 - 84,0 m) Luffing Jib

• Up to 40 mph (18 m/s) -

Park crane (upper in line with crawlers) with load blocks and weight balls on ground or secured and position boom at 85° and luffing jib at 65°.

40 mph (18 m/s) and Above -

Lower boom and luffing jib onto blocking at ground level.



Boom No. 58 HL with 32.0 ft (9,75 m) Live Mast and 23.0 ft (7,0 m) Extended Upper Boom Point

Operation Permitted

Operation is permitted in steady winds or wind gusts up to the maximum speed given in Table 3, provided ratings are reduced the specified amount.

Table 3Rating Reductions for Various Wind Speeds and Wind Gusts

Boom Length ft (m)		137.8 - 196.9 (42,0 - 60,0)	216.5 - 236.2 (66,0 - 72,0)	255.9 - 295.3 (78,0 - 90,0)		
Maximum Wind Speed			Percent			
mph m/s			Rating Reduction			
15	7	0 0 0				
20	9	0	0			
25	11	0	0			
30	13	0	0	10		
35 16		0	10	20		
Above 35 mph (16 m/s)			OPERATION NO	OT PERMITTED		

Wind speed to be measured at boom point elevation

Operation Not Permitted

Operation is not permitted in the areas indicated in Table 3. Observe the following options:

Boom

Up to 50 mph (22 m/s) -

Park crane (upper in line with crawlers) with load blocks and weight balls on ground or secured and position boom at 70°.

50 mph (22 m/s) and Above -

Lower boom onto blocking at ground level.



Boom No. 58 HL with 98.4 ft (30,0 m) Mast No. 59A and 23.0 ft (7,0 m) Extended Upper Boom Point

Operation Permitted

Operation is permitted in steady winds or wind gusts up to the maximum speed given in Table 4, provided ratings are reduced the specified amount.

Table 4Rating Reductions for Various Wind Speeds and Wind Gusts

	Length ft m)	315.0 (96,0)		
Maximum	Wind Speed	Percent		
mph	m/s	Rating Reduction		
15	7	0		
20	9	0		
25	11	0		
30	13	10		
35	16	10		
	35 mph m/s)	OPERATION NOT PERMITTED		

Wind speed to be measured at boom point elevation

Operation Not Permitted

Operation is not permitted in the areas indicated in Table 4. Observe the following options:

Boom

• Up to 50 mph (22 m/s) -

Park crane (upper in line with crawlers) with load blocks and weight balls on ground or secured and position boom at 70°.

50 mph (22 m/s) and Above -

Lower boom onto blocking at ground level.

Mast

Above 50 mph (22m/s) -

Haul in boom hoist wire rope just enough to tension mast straps. Do not raise boom off blocking. Wind can cause mast stops to collapse if this step is not performed.

Above 75 mph (34 m/s) -

Lower mast onto blocking at ground level.



Boom No. 58 HL with 98.4 ft (30,0 m) Mast No. 59A and with or without MAX-ER Attachment

Operation Permitted

Operation is permitted in steady winds or wind gusts up to the maximum speed given in Table 5, provided ratings are reduced the specified amount.

Table 5Rating Reductions for Various Wind Speeds and Wind Gusts

	.ength ft	137.8 - 236.2 (42.0 - 72.0)	255.9 - 315.0 (78.0 - 96.0)	334.6 - 393.7 (102.0 - 120.0)		
Maximum Wind Speed		(,,-)	Percent	(10-,0 1-0,0)		
mph	m/s		Rating Reduction	1		
15	7	0 0 0				
20	9	0	10			
25	11	0	20			
30	13	10	20	30		
35 16		20	30	40		
Above 35 mph (16 m/s)		OPERA	TION NOT PERM	ITTED		

Wind speed to be measured at boom point elevation

Operation Not Permitted

Operation is not permitted in the areas indicated in Table 5. Observe the following options:

Boom

Up to 50 mph (22 m/s) -

Park crane (upper in line with crawlers) with load blocks and weight balls on ground or secured and position boom at 70°.

50 mph (22 m/s) and Above -

Lower boom onto blocking at ground level.

Mast

Above 50 mph (22m/s) -

Haul in boom hoist wire rope just enough to tension mast straps. Do not raise boom off blocking. Wind can cause mast stops to collapse if this step is not performed.

Above 75 mph (34 m/s) -

Lower mast onto blocking at ground level.

16000

Wind Conditions

Luffing Jib No. 59 on Boom No. 58 HL with 98.4 ft (30,0 m) Mast No. 59A and without MAX-ER Attachment

Operation Permitted

Operation is permitted in steady winds or wind gusts up to the maximum speed given in Table 6, provided ratings are reduced the specified amount.

Table 6Rating Reductions for Various Wind Speeds and Wind Gusts

Luffing Jib Length ft		78.7 - 137.8	157.5 - 196.9	216.5 - 275.6	
(r	n)	(24,0 - 42,0)	(48,0 - 60,0)	(66,0 - 84,0)	
	,				
	ength ft	137.8 - 196.9	137.8 - 196.9	137.8 - 196.9	
(r	n)	(42,0 - 60,0) (42,0 - 60,0) (42		(42,0 - 60,0)	
Maximum \	Wind Speed		Percent		
mph	m/s		Rating Reduction	1	
15	7	0 0 0			
20	9	0	0	20	
25	11	0	20		
30	13	20	50		
35 16		40			
Above 35 mph (16 m/s)		OPERA	TION NOT PERM	TTED	

Wind speed to be measured at jib point elevation. Refer to Luffing Jib Capacity Chart for specific backward stability conditions.

Operation Not Permitted

Operation is not permitted in the areas indicated in Table 6. Observe the following options:

Boom with 78.7 - 196.9 ft (24,0 - 60,0 m) Luffing Jib

Up to 50 mph (22 m/s) -

Park crane (upper in line with crawlers) with load blocks and weight balls on ground or secured, and position boom at 80° and luffing jib at 50°.

50 mph (22 m/s) and Above -

Lower boom and luffing jib onto blocking at ground level.

Boom with 216.5 - 276.5 ft (66,0 - 84,0 m) Luffing Jib

Up to 40 mph (18 m/s) -

Park crane (upper in line with crawlers) with load blocks and weight balls on ground or secured, and position boom at 80° and luffing jib at 50°.

40 mph (18 m/s) and above -

Lower boom and luffing jib onto blocking at ground level.

Mast

• Above 50 mph (22m/s) -

Haul in boom hoist wire rope just enough to tension mast straps. Do not raise boom off blocking. *Wind can cause mast stops to collapse if this step is not performed.*

Above 75 mph (34 m/s) -

Lower mast onto blocking at ground level.



Luffing Jib No. 59 on Boom No. 58 HL with 98.4 ft (30,0 m) Mast No. 59A and with MAX-ER Attachment

Operation Permitted

Operation is permitted in steady winds or wind gusts up to the maximum speed given in Table 7, provided ratings are reduced the specified amount.

Table 7Rating Reductions for Various Wind Speeds and Wind Gusts

•	b Length ft	78.7-137.8 157.5-196.9				216.5-275.6				
(r	m)		(24,0-42,0)			(48,0-60,0)			(66,0-84,0)	
	_ength ft		37.8 - 196.9 216.5 - 255.9 275.6 - 315.0 137.8 - 196.9 216.5 - 255.9 275.6 - 315.0							
(r	m)	42,0 - 60,0	66,0 - 78,0	84,0 - 96,0	42,0 - 60,0	66,0 - 78,0	84,0 - 96,0	42,0 - 60,0	66,0 - 78,0	84,0 - 96,0
	ım Wind eed				Ra	Percent ting Reduction	nn.			
mph	m/s		Rating Reduction							
15	7	0	0	0	0	0	0	0	0	0
20	9	0	0	0	0	0	10	20	40	
25	11	0	0	10	20	30	50			
30	13	20	20	40	50	60				
35	16	40	50	60						
	35 mph m/s)			ОР	PERATION NO	OT PERMITTE	D			

Wind speed to be measured at jib point elevation. Refer to luffing jib capacity chart for specific backward stability conditions.

Operation Not Permitted

Operation is not permitted in the areas indicated in Table 7. Observe the following options:

Boom with 78.7 - 137.8 ft (24,0 - 42,0 m) Luffing Jib

• Up to 50 mph (22 m/s) -

Park crane (upper in line with crawlers) with load blocks and weight balls on ground or secured, and position boom at 75° and luffing jib at 45°.

50 mph (22 m/s) and Above -

Lower boom and luffing jib onto blocking at ground level.

Boom with 157.5 - 196.9 ft (48,0 - 60,0 m) Luffing Jib

Up to 40 mph (18 m/s) -

Park crane (upper in line with crawlers) with load blocks and weight balls on ground or secured, and position boom at 75° and luffing jib at 50°.

40 mph (18 m/s) and Above -

Lower boom and luffing jib onto blocking at ground level.

Boom with 216.5 - 275.6 ft (66,0 - 84,0 m) Luffing Jib

Up to 30 mph (13 m/s) -

Park crane (upper in line with crawlers) with load blocks and weight balls on ground or secured, and position boom at 75° and luffing jib at 55°.

30 mph (13 m/s) and Above -

Lower boom and luffing jib onto blocking at ground level.

Mast

Above 50 mph (22m/s) -

Haul in boom hoist wire rope just enough to tension mast straps. Do not raise boom off blocking. Wind can cause mast stops to collapse if this step is not performed.

Above 75 mph (34 m/s) -

Lower mast onto blocking at ground level.

•

Manitowoc Cranes, Inc. 8688-A, 2011-06-13

Manitowoc, Wisconsin 54220 U.S.A.



Boom No. 58WA with 32.0 ft (9,75 m) Live Mast and 24.9 ft (7,6 m) Extended Upper Boom Point

Operation Permitted

Operation is permitted in steady winds or wind gusts up to the maximum speed given in Table 8, provided ratings are reduced the specified amount.

Table 8Rating Reductions for Various Wind Speeds and Wind Gusts for both offset angles

Boom Length ft (m)		213.3 - 252.6 (65,0 - 77,0)	262.5 - 272.3 (80,0 - 83,0)	282.2 - 301.8 (86,0 - 92,0)
Maximum Wind Speed			Percent	
mph m/s			Rating Reduction	
15	7	0	0	
20	9	0	0	
25	11	0	10	
30	13	10 10		20
35 16		20	20	30
Above 35 mph (16 m/s)		OPE	RATION NOT PERMIT	TED

Wind speed to be measured at boom point elevation

Operation Not Permitted

Operation is not permitted in the areas indicated in Table 8. Observe the following options:

Boom

• Up to 50 mph (22 m/s) -

Park crane (upper in line with crawlers) with load blocks and weight balls on ground or secured and position boom at 70°.

50 mph (22 m/s) and Above -

Lower boom onto blocking at ground level.



Maximum Allowable Travel Specifications

Boom No. 58WA with 24.9 ft (7,6 m) Extended Upper Boom Point

Jobsite Travel

16000 WA must be equipped with 368,000 lb (166 920 kg) crane counterweight and 120,000 lb (54 430 kg) carbody counterweight. Refer to capacity chart for maximum boom length lifted unassisted.

1. Machine Travel With Load

- A. Machine can swing and travel with 360 degree rating.
- B. Grade in any direction must not exceed 1 percent (0.5 degrees).
- C. Travel surface must be firm, level and uniformly supporting. Capacity charts are based on static conditions; therefore judgment must be used to allow for dynamic effects of traveling with load. Carry load as close to ground as possible. Stabilize load with taglines. Travel slowly and smoothly to avoid shock loading boom and rigging.

2. Machine Travel Without Load

- A. Load blocks and/or hook and weight balls may be suspended beneath upper boom points or tied off to machine. Total combined suspended weight beneath upper boom points must not exceed 14,500 b (6 577 kg).
- B. Machine to travel on a firm and uniformly supporting surface. Travel allowed with 360 degree swing up to 1 percent (0.5 degrees) grade; crane upperworks must be in-line with crawlers and grade when grade exceeds 1 percent. Grade in direction of travel should not exceed 20 percent (11.3 degrees); side-to-side grade must not exceed 2 percent (1.1 degrees) measured at boom hinge pins.
- C. Refer to table 1 for boom angle and boom length for various grades. Adjust boom within boom angle range shown in table with machine in a level position before traveling onto grade. Do not change boom angle after crane has been traveled onto grade. Boom angle is angle between horizontal and centerline of boom butt and inserts. Refer to table below for grade vs. angle when traveling.
- D. Do not exceed 2 percent (1.1 degrees) side-to-side grade at boom hinge pins when cutting (turning on grade).
- E. Warning: Travel prohibited for boom angle range not shown in table 1. Crane could tip.

Percent Grade Vs. Angle In Degrees					
Percent Grade	Angle				
1	0.5				
10	5.7				
15	8.5				
20	11.3				



Maximum Allowable Travel Specifications Boom No. 58WA with 24.9 ft (7,6 m) Extended Upper Boom Point

Table 1: Boom 58WA with 24.9 ft (7,6 m) Extended Upper Boom Point

Boom Angle Range in Degrees Feet Meters 0 - 1% 2 - 10% 1 - 15% 16 - 20% BOOM FACING DOWNHILL OR ÚPHIL 213.3 65,0 40 - 72 40 - 66 45 - 63 45 - 60 223.1 68,0 40 - 72 40 - 66 45 - 63 50 - 60 232.9 71,0 40 - 72 45 - 66 50 - 63 55 - 60 242.8 74,0 40 - 72 50 - 66 55 - 63 — 252.6 77,0 45 - 72 55 - 66 55 - 63 — 262.5 80,0 50 - 72 55 - 66 60 - 63 — 272.3 83,0 50 - 72 60 - 66 60 - 63 — 282.2 86,0 55 - 72 60 - 66 62 - 63 — 292.0 89,0 55 - 72 60 - 66 — — 301.8 92,0 55 - 72 65 - 66 — —	MACHINE TRAVEL WITHOUT LOAD							
Feet Meters 0 - 1% 2 - 10% 1 - 15% 16 - 20% BOOM FACING DOWNHILL OR ÚPHILL 213.3 65,0 40 - 72 40 - 66 45 - 63 45 - 60 223.1 68,0 40 - 72 40 - 66 45 - 63 50 - 60 232.9 71,0 40 - 72 45 - 66 50 - 63 55 - 60 242.8 74,0 40 - 72 50 - 66 55 - 63 — 252.6 77,0 45 - 72 55 - 66 55 - 63 — 262.5 80,0 50 - 72 55 - 66 60 - 63 — 272.3 83,0 50 - 72 60 - 66 60 - 63 — 282.2 86,0 55 - 72 60 - 66 62 - 63 — 292.0 89,0 55 - 72 60 - 66 — 62 - 63 —	Boom Length Boom Angle Range in Degrees							
BOOM FACING DOWNHILL OR 19HILL 213.3 65,0 40 - 72 40 - 66 45 - 63 45 - 60 223.1 68,0 40 - 72 40 - 66 45 - 63 50 - 60 232.9 71,0 40 - 72 45 - 66 50 - 63 55 - 60 242.8 74,0 40 - 72 50 - 66 55 - 63 — 252.6 77,0 45 - 72 55 - 66 55 - 63 — 262.5 80,0 50 - 72 55 - 66 60 - 63 — 272.3 83,0 50 - 72 60 - 66 60 - 63 — 282.2 86,0 55 - 72 60 - 66 62 - 63 — 292.0 89,0 55 - 72 60 - 66 60 - 66 —				Percen	t Grade			
213.3 65,0 40 - 72 40 - 66 45 - 63 45 - 60 223.1 68,0 40 - 72 40 - 66 45 - 63 50 - 60 232.9 71,0 40 - 72 45 - 66 50 - 63 55 - 60 242.8 74,0 40 - 72 50 - 66 55 - 63 — 252.6 77,0 45 - 72 55 - 66 55 - 63 — 262.5 80,0 50 - 72 55 - 66 60 - 63 — 272.3 83,0 50 - 72 60 - 66 60 - 63 — 282.2 86,0 55 - 72 60 - 66 62 - 63 — 292.0 89,0 55 - 72 60 - 66 60 - 66 —	Feet	Meters	0 - 1%	2 - 10%	11 - 15%	16 - 20%		
223.1 68,0 40 - 72 40 - 66 45 - 63 50 - 60 232.9 71,0 40 - 72 45 - 66 50 - 63 55 - 60 242.8 74,0 40 - 72 50 - 66 55 - 63 — 252.6 77,0 45 - 72 55 - 66 55 - 63 — 262.5 80,0 50 - 72 55 - 66 60 - 63 — 272.3 83,0 50 - 72 60 - 66 62 - 63 — 282.2 86,0 55 - 72 60 - 66 62 - 63 — 292.0 89,0 55 - 72 60 - 66 60 - 66 —		BOOI	M FACING DO	WNHILL OR VE	РНИ			
232.9 71,0 40 - 72 45 - 66 50 - 63 55 - 60 242.8 74,0 40 - 72 50 - 66 55 - 63 — 252.6 77,0 45 - 72 55 - 66 55 - 63 — 262.5 80,0 50 - 72 55 - 66 60 - 63 — 272.3 83,0 50 - 72 60 - 66 60 - 63 — 282.2 86,0 55 - 72 60 - 66 62 - 63 — 292.0 89,0 55 - 72 60 - 66 —								
242.8 74,0 40 - 72 50 - 66 55 - 63 — 252.6 77,0 45 - 72 55 - 66 55 - 63 — 262.5 80,0 50 - 72 55 - 66 60 - 63 — 272.3 83,0 50 - 72 60 - 66 60 - 63 — 282.2 86,0 55 - 72 60 - 66 62 - 63 292.0 89,0 55 - 72 60 - 66 -								
252.6 77,0 45 - 72 55 - 66 55 - 63 — 262.5 80,0 50 - 72 55 - 66 60 - 63 — 272.3 83,0 50 - 72 60 - 66 60 - 63 — 282.2 86,0 55 - 72 60 - 66 62 - 63 292.0 89,0 55 - 72 60 - 66 —				,		55 - 60		
262.5 80,0 50 - 72 55 - 66 60 - 63 — 60 — 60 — 60 — 60 — 60 — 60 — 60 —						_		
272.3 83,0 50 - 72 60 - 66 60 - 63 — 62 - 63 292.0 89,0 55 - 72 60 - 66				_				
282.2 86,0 55-72 60 66 62 - 63 292.0 89,0 55 - 72 60 - 66								
292.0 89,0 35 - 72 60 - 66			55-72			_		
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