

Liftcrane Boom

Extended Upper Point Capacities

MLC300 SERIES 2

Boom No. B45:505-500

with 23.0 ft Extended Upper Boom Point
397,300 lb Fixed Position Counterweight
at 13.4 ft Position
360 Degree Rating



LIFTING CAPACITIES: Lifting capacities for various boom lengths and operating radii are for freely suspended loads and may be based on percent of static tipping or strength of structural components. Capacities must be reduced by applicable deducts.

Upper boom point (upper sheave) capacity for liftcrane service with single part whip line from Drum 6 is 30,000 lb. When Drum 2 or Drum 3 is used, capacity with single part whip line is 36,700 lb. 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 sheaves is considered part of 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 on a firm, level, and uniformly supporting surface. Refer to Boom Rigging **No. 84049567**, Wire Rope Specifications chart **No. 9647-A**, Counterweight Arrangements chart **No. 9345-A**, and Wind Conditions chart **No. 9646-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 the Operator Manual for operating guidelines.

MACHINE TRAVEL: Machine to travel on a firm, level, and uniformly supporting surface. Boom must be within boom angle range shown in capacity chart. Refer to Maximum Allowable Travel Specifications chart **No. 9644-A**.



EXTENDED UPPER BOOM POINT OPERATING RADIUS: Extended upper boom point 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 shaft.

MACHINE EQUIPMENT: Machine equipped with 31 ft 10 in. crawlers, 48 in. or 60 in. treads, 30 ft live mast, 24 part boom hoist reeving, boom support straps, and 397,300 lb Fixed Position Counterweight.

Luffing Jib Backstay Deduct	
Boom Length (ft)	Deduct (lb)
114.8	3,100
134.5	3,700
154.2	4,300
173.9	4,800
193.6	5,400
213.3	6,000
232.9	6,600
Deduct the appropriate value from capacities when luffing jib backstays are stored on boom.	

Refer to Table 1 (with luffing jib backstays stored) and Table 2 (without luffing jib backstays stored) for raising ability with the maximum weight of all load blocks, hooks, weight ball, slings, and hoist lines beneath extended upper boom point (lower or upper sheaves). For block weights shown with #, load blocks, hooks, weight ball, and slings must remain on ground until combined weights are within rated capacity of chart. Raising is not permitted in shaded areas of table.

Combined weight beneath extended upper boom point (lower or upper sheaves) must not exceed block weight shown.

Table 1a: With Luffing Jib Backstays

Over End or Side of Crawlers	
Boom Length (ft)	Block Weight (lb)
114.8	7,600
134.5	7,600
154.2	7,600
173.9	7,600
193.6	7,600
213.3	7,600
232.9	#
252.6	Raising Not Permitted

Table 1b: With Luffing Jib Backstays

Over End of Blocked Crawlers	
Boom Length (ft)	Block Weight (lb)
114.8	7,600
134.5	7,600
154.2	7,600
173.9	7,600
193.6	7,600
213.3	7,600
232.9	#
252.6	Raising Not Permitted

Warning: Crane must remain in-line with crawlers when raising over end of blocked crawlers until operating radius is within 360 degree chart. Crane tipping or structural damage can occur.

Table 2a: Without Luffing Jib Backstays

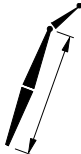
Over End or Side of Crawlers	
Boom Length (ft)	Block Weight (lb)
114.8	7,600
134.5	7,600
154.2	7,600
173.9	7,600
193.6	7,600
213.3	7,600
232.9	#
252.6	Raising Not Permitted

Table 2b: Without Luffing Jib Backstays

Over End of Blocked Crawlers	
Boom Length (ft)	Block Weight (lb)
114.8	7,600
134.5	7,600
154.2	7,600
173.9	7,600
193.6	7,600
213.3	7,600
232.9	#
252.6	#

Warning: Crane must remain in-line with crawlers when raising over end of blocked crawlers until operating radius is within 360 degree chart. Crane tipping or structural damage can occur.

Explanation of Symbols

	Boom No. B45:505-500
	Fixed Position Counterweight
	360 Degree Rating
	Boom Length
	Extended Upper Boom Point Operating Radius (see page 1)
	Boom Angle (see page 1)
	Extended Upper Boom Point Elevation (see page 1)
	Lifting Capacities (see page 1)

B45



397,300 lb

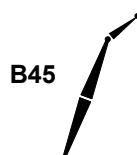


360°

114.8 ft			
ft	°	ft	lb
39	81.4	138.7	188,800
40	80.9	138.5	188,000
45	78.7	137.1	184,500
50	76.5	135.4	181,200
55	74.3	133.5	178,200
60	72.0	131.4	175,400
65	69.7	129.1	165,000
70	67.3	126.5	148,600
75	64.9	123.7	134,900
80	62.4	120.5	123,100
85	59.8	117.0	112,900
90	57.1	113.2	104,000
95	54.4	109.0	96,100
100	51.5	104.4	89,100
105	48.5	99.2	82,800
110	45.3	93.5	77,100
115	41.8	87.0	72,000
120	38.1	79.6	67,300

134.5 ft			
ft	°	ft	lb
38	82.9	159.1	207,500
39	82.5	158.9	207,100
40	82.1	158.7	206,600
41	81.7	158.4	206,200
42	81.3	158.2	205,700
45	80.2	157.4	204,500
50	78.3	156.0	202,500
55	76.4	154.4	200,700
60	74.4	152.6	184,100
65	72.4	150.6	164,400
70	70.4	148.4	148,000
75	68.4	146.0	134,200
80	66.3	143.4	122,400
85	64.2	140.5	112,200
90	62.0	137.4	103,300
95	59.8	134.0	95,400
100	57.5	130.3	88,400
105	55.1	126.3	82,100
110	52.6	121.9	76,500
115	50.1	117.1	71,400
120	47.4	111.8	66,700
125	44.6	106.1	62,500
130	41.6	99.7	58,500
135	38.4	92.5	54,900

154.2 ft			
ft	°	ft	lb
41	82.7	178.5	220,500
42	82.3	178.3	220,500
43	82.0	178.1	220,500
44	81.7	177.9	220,500
45	81.3	177.7	220,500
50	79.7	176.4	218,900
55	78.0	175.0	207,800
60	76.2	173.4	183,500
65	74.5	171.7	163,700
70	72.8	169.8	147,200
75	71.0	167.7	133,400
80	69.2	165.4	121,500
85	67.4	162.9	111,300
90	65.5	160.3	102,300
95	63.6	157.4	94,400
100	61.7	154.3	87,400
105	59.7	150.9	81,200
110	57.7	147.3	75,500
115	55.6	143.4	70,400
120	53.5	139.2	65,800
125	51.3	134.7	61,500
130	49.0	129.8	57,600
135	46.6	124.5	54,000
140	44.1	118.7	50,700
145	41.5	112.4	47,600
150	38.7	105.4	44,700
155	35.6	97.5	42,000



173.9 ft			
ft	o	ft	lb
43	82.8	198.2	220,500
44	82.5	198.0	220,500
45	82.2	197.8	220,500
46	81.9	197.5	220,500
47	81.6	197.3	220,500
50	80.7	196.6	220,500
55	79.2	195.4	207,200
60	77.7	194.0	182,700
65	76.1	192.4	162,800
70	74.6	190.7	146,300
75	73.0	188.9	132,400
80	71.4	186.9	120,500
85	69.8	184.7	110,300
90	68.2	182.4	101,300
95	66.6	179.9	93,400
100	64.9	177.2	86,300
105	63.2	174.3	80,100
110	61.5	171.2	74,400
115	59.7	167.9	69,300
120	57.9	164.3	64,600
125	56.0	160.6	60,400
130	54.2	156.5	56,500
135	52.2	152.2	52,900
140	50.2	147.5	49,600
145	48.1	142.5	46,500
150	46.0	137.2	43,600
155	43.7	131.4	40,900
160	41.3	125.1	38,400
165	38.8	118.2	36,100
170	36.2	110.6	33,800

193.6 ft			
ft	o	ft	lb
45	83.0	217.8	220,500
46	82.7	217.6	220,500
47	82.4	217.4	220,500
48	82.1	217.2	220,500
49	81.9	217.0	220,500
50	81.6	216.8	220,500
55	80.2	215.6	206,400
60	78.8	214.4	181,900
65	77.5	213.0	161,900
70	76.1	211.5	145,400
75	74.7	209.8	131,400
80	73.2	208.0	119,500
85	71.8	206.1	109,100
90	70.4	204.0	100,100
95	68.9	201.7	92,200
100	67.4	199.4	85,100
105	65.9	196.8	78,800
110	64.4	194.1	73,200
115	62.8	191.2	68,000
120	61.3	188.1	63,400
125	59.7	184.8	59,100
130	58.0	181.3	55,200
135	56.4	177.6	51,600
140	54.7	173.7	48,300
145	52.9	169.5	45,200
150	51.2	165.1	42,400
155	49.3	160.3	39,700
160	47.4	155.3	37,200
165	45.4	149.9	34,900
170	43.4	144.1	32,700
175	41.3	137.8	30,600
180	39.0	131.0	28,600
185	36.6	123.6	26,800

213.3 ft			
ft	o	ft	lb
48	82.8	237.2	220,500
49	82.6	237.0	220,500
50	82.3	236.8	220,500
51	82.1	236.6	220,500
52	81.8	236.4	220,500
55	81.1	235.8	205,700
60	79.8	234.6	181,000
65	78.5	233.4	161,000
70	77.3	232.0	144,300
75	76.0	230.5	130,300
80	74.7	228.9	118,300
85	73.4	227.1	108,000
90	72.1	225.2	98,900
95	70.8	223.2	91,000
100	69.4	221.1	83,900
105	68.1	218.8	77,600
110	66.7	216.3	71,900
115	65.4	213.7	66,700
120	64.0	211.0	62,100
125	62.6	208.1	57,800
130	61.1	205.0	53,900
135	59.7	201.8	50,300
140	58.2	198.3	47,000
145	56.7	194.7	43,900
150	55.1	190.9	41,000
155	53.5	186.8	38,300
160	51.9	182.5	35,900
165	50.3	178.0	33,500
170	48.6	173.1	31,300
175	46.8	168.0	29,300
180	45.0	162.6	27,300
185	43.1	156.7	25,500
190	41.2	150.5	23,700
195	39.1	143.8	22,000
200	37.0	136.6	20,500

B45



397,300 lb



360°

232.9 ft				252.6 ft			
ft	°	ft	lb	ft	°	ft	lb
50	82.9	256.8	220,500	53	82.8	276.3	215,900
51	82.7	256.6	220,500	54	82.6	276.1	209,900
52	82.5	256.5	220,500	55	82.4	275.9	204,300
53	82.2	256.3	216,700	56	82.2	275.7	198,900
54	82.0	256.1	210,700	57	81.9	275.5	193,700
55	81.8	255.9	205,100	60	81.3	274.9	179,400
60	80.6	254.8	180,300	65	80.2	273.8	159,200
65	79.5	253.7	160,200	70	79.2	272.7	142,400
70	78.3	252.4	143,500	75	78.1	271.4	128,300
75	77.1	251.0	129,400	80	77.0	270.0	116,200
80	75.9	249.5	117,400	85	75.9	268.5	105,700
85	74.8	247.9	107,000	90	74.8	267.0	96,600
90	73.6	246.2	97,900	95	73.7	265.3	88,600
95	72.4	244.4	89,900	100	72.6	263.5	81,400
100	71.1	242.4	82,800	105	71.5	261.6	75,100
105	69.9	240.3	76,500	110	70.3	259.5	69,400
110	68.7	238.1	70,800	115	69.2	257.4	64,200
115	67.4	235.8	65,600	120	68.0	255.1	59,500
120	66.2	233.3	60,900	125	66.9	252.8	55,200
125	64.9	230.7	56,600	130	65.7	250.3	51,200
130	63.6	227.9	52,700	135	64.5	247.6	47,600
135	62.3	225.0	49,100	140	63.3	244.8	44,300
140	61.0	222.0	45,800	145	62.1	241.9	41,200
145	59.6	218.7	42,700	150	60.9	238.9	38,300
150	58.3	215.3	39,800	155	59.6	235.7	35,600
155	56.9	211.8	37,200	160	58.4	232.3	33,100
160	55.5	208.0	34,700	165	57.1	228.8	30,800
165	54.0	204.0	32,300	170	55.8	225.1	28,600
170	52.6	199.9	30,100	175	54.5	221.2	26,500
175	51.1	195.5	28,100	180	53.1	217.2	24,600
180	49.5	190.8	26,100	185	51.7	212.9	22,800
185	47.9	185.9	24,300	190	50.3	208.4	21,000
190	46.3	180.8	22,600	195	48.9	203.7	19,400
195	44.6	175.3	20,900	200	47.4	198.7	17,800
200	42.9	169.4	19,300	205	45.9	193.5	16,300
205	41.1	163.2	17,800	210	44.3	188.0	14,900
210	39.2	156.6	16,400	215	42.7	182.2	13,600
215	37.3	149.5	15,100	220	41.0	176.0	12,300
220	35.2	141.8	13,700	225	39.3	169.4	10,900