

Duty Cycle Notes

1. The capacities included in the following charts are the maximum allowable, and are based on a 218 HSL crawler crane with "A+0" counterweight standing level on firm supporting surface under ideal job conditions.
2. Capacities are for 360° rotation.
3. Capacities are based on 67.5% of minimum tipping loads for clamshell and magnet.
4. Capacities are maximum recommended by PCSA Standard #4. User must make allowances for soft or uneven supporting surfaces, rapid cycle operations, bucket suction, or other unfavorable conditions which may require smaller buckets for most efficient operation.
5. Weight of bucket, plus load must not exceed these capacities.
6. Boom length for duty cycle operation must not exceed 80'.
7. These capacities apply to the crane as originally manufactured and normally equipped by Link-Belt Construction Equipment Company (LBCE).
8. The crane capacities in the shaded areas are based on structural strength. The crane capacities in the non-shaded areas are based on stability.
9. All other notes listed in this Crane Rating Manual must be followed.

Duty Cycle Capacities For Open Throat Tube Boom

Main Boom Capacities – 40' Open Throat Tube Boom		
Load Radius (ft)	Boom Angle (deg)	Extended Side Frames
		"A + 0" Counterweight
		Clam/Magnet Duty Cycle
		(All capacities listed in pounds)
11.3	80.0	16,800
12.0	78.9	16,800
13.0	77.5	16,800
14.0	76.0	16,800
15.0	74.5	16,800
16.0	73.0	16,800
17.0	71.5	16,800
18.0	70.0	16,800
19.0	68.5	16,800
20.0	66.9	16,800
25.0	58.9	16,800
30.0	50.1	16,800
35.0	39.9	16,800
40.0	26.9	16,800
41.9	20.0	16,800

Main Boom Capacities – 50' Open Throat Tube Boom		
Load Radius (ft)	Boom Angle (deg)	Extended Side Frames
		"A + 0" Counterweight
		Clam/Magnet Duty Cycle
		(All capacities listed in pounds)
13.0	80.0	16,800
14.0	78.8	16,800
15.0	77.7	16,800
16.0	76.5	16,800
17.0	75.3	16,800
18.0	74.1	16,800
19.0	72.9	16,800
20.0	71.7	16,800
25.0	65.6	16,800
30.0	59.1	16,800
35.0	52.2	16,800
40.0	44.5	16,800
50.0	24.0	16,800
51.3	20.0	16,800

Note: Refer To Page 26 For "Capacity Deductions" Caused By Any Attachment On The Boom.

Duty Cycle Capacities For Open Throat Tube Boom

Main Boom Capacities – 60' Open Throat Tube Boom		
Load Radius (ft)	Boom Angle (deg)	Extended Side Frames
		"A + 0" Counterweight
		Clam/Magnet Duty Cycle
		(All capacities listed in pounds)
14.8	80.0	16,800
15.0	79.8	16,800
16.0	78.8	16,800
17.0	77.8	16,800
18.0	76.8	16,800
19.0	75.8	16,800
20.0	74.9	16,800
25.0	69.8	16,800
30.0	64.7	16,800
35.0	59.3	16,800
40.0	53.5	16,800
50.0	40.4	16,800
60.0	21.9	14,100
60.7	20.0	13,800

Main Boom Capacities – 70' Open Throat Tube Boom		
Load Radius (ft)	Boom Angle (deg)	Extended Side Frames
		"A + 0" Counterweight
		Clam/Magnet Duty Cycle
		(All capacities listed in pounds)
16.5	80.0	16,800
17.0	79.6	16,800
18.0	78.7	16,800
19.0	77.9	16,800
20.0	77.1	16,800
25.0	72.8	16,800
30.0	68.5	16,800
35.0	64.0	16,800
40.0	59.4	16,800
50.0	49.3	16,800
60.0	37.3	14,000
70.0	20.3	11,300
70.1	20.0	11,300

Note: Refer To Page 26 For "Capacity Deductions" Caused By Any Attachment On The Boom.

Duty Cycle Capacities For Open Throat Tube Boom

Main Boom Capacities – 80' Open Throat Tube Boom		
Load Radius (ft)	Boom Angle (deg)	Extended Side Frames
		"A + 0" Counterweight
		Clam/Magnet Duty Cycle
		(All capacities listed in pounds)
18.2	80.0	16,800
19.0	79.4	16,800
20.0	78.7	16,800
25.0	75.0	16,800
30.0	71.3	16,800
35.0	67.5	16,800
40.0	63.5	16,800
50.0	55.2	16,800
60.0	45.9	13,900
70.0	34.8	11,200
80.0	18.9	9,200

Note: Refer To Page 26 For "Capacity Deductions" Caused By Any Attachment On The Boom.

List Capacity Notes

1. All list capacities as shown in this Crane Rating Manual are applicable to crane list (not support vessel list).
2. Crane list is an out-of-level condition to the side of the crane as defined by the angle between horizontal and a line drawn through the centerline of the boom foot pins.
3. Crane trim is an out-of-level condition to the front or rear of the crane upper as defined by the angle between horizontal and the crane supporting surface.
4. Crane trim does not affect capacity but does affect load radius. Minimum load radius will be limited by the boom backstops and the upper limit of the boom hoist limit switch.
5. The crane owner and/or the crane user shall have the crane support vessel fully certified and approved to work within the limits listed in this Crane Rating Manual.
6. The crane shall be blocked and/or secured to prevent shifting or sliding.
7. All other notes listed in this Crane Rating Manual must be followed.
8. Shaded capacities are limited by factors other than those that would cause a tipping condition.
9. All capacities are for boom lengths 40' to 160' with ABC+0 counterweight, extended side frames, and 360° rotation.

Main Boom List Capacities – 40 Ft Open Throat Tube Boom						
Load Radius (ft)	Boom Angle (deg)	360 Degree Rotation, Extended Side Frames, ABC + 0 Counterweight				Load Radius (ft)
		1 Degree	2 Degree	3 Degree	5 Degree	
11.28	80.0	190,500	167,400	150,500	124,300	11.28
12	78.9	187,500	165,300	146,800	123,100	12
13	77.5	184,000	162,200	144,500	121,600	13
14	76.0	180,600	159,200	142,200	120,000	14
15	74.5	170,400	157,200	140,400	116,300	15
16	73.0	163,000	154,200	138,200	114,800	16
17	71.5	154,800	152,300	136,500	113,800	17
18	70.0	147,200	146,300	134,800	112,300	18
19	68.5	137,500	137,500	133,100	111,300	19
20	66.9	126,600	126,600	126,600	109,900	20
25	58.9	90,200	90,200	90,200	90,200	25
30	50.1	69,800	69,800	69,800	69,800	30
35	39.9	56,700	56,700	56,700	56,700	35
40	26.9	47,600	47,600	47,600	47,600	40
41.92	20.0	44,800	44,800	44,800	44,800	41.92

Main Boom List Capacities – 50 Ft Open Throat Tube Boom						
Load Radius (ft)	Boom Angle (deg)	360 Degree Rotation, Extended Side Frames, ABC + 0 Counterweight				Load Radius (ft)
		1 Degree	2 Degree	3 Degree	5 Degree	
13.01	80.0	162,700	140,500	125,200	101,400	13.01
14	78.8	159,600	138,300	123,200	100,100	14
15	77.7	156,600	135,700	121,700	98,900	15
16	76.5	153,700	134,000	119,800	97,700	16
17	75.3	151,300	131,500	116,000	96,400	17
18	74.1	146,500	129,800	114,600	95,500	18
19	72.9	137,700	127,800	113,100	94,300	19
20	71.7	126,700	126,200	111,700	93,400	20
25	65.6	90,300	90,300	90,300	88,800	25
30	59.1	69,900	69,900	69,900	69,900	30
35	52.2	56,800	56,800	56,800	56,800	35
40	44.5	47,700	47,700	47,700	47,700	40
50	24.0	35,800	35,800	35,800	35,800	50
51.32	20.0	34,700	34,700	34,700	34,700	51.32

Note: Refer To Page 26 For "Capacity Deductions" Caused By Any Attachment On The Boom.

Main Boom List Capacities – 60 Ft Open Throat Tube Boom						
Load Radius (ft)	Boom Angle (deg)	360 Degree Rotation, Extended Side Frames, ABC + 0 Counterweight				Load Radius (ft)
		1 Degree	2 Degree	3 Degree	5 Degree	
14.75	80.0	141,600	122,500	106,300	84,400	14.75
15	79.8	140,700	121,800	105,900	84,100	15
16	78.8	138,500	120,200	104,600	83,300	16
17	77.8	135,900	116,500	103,300	82,300	17
18	76.8	133,800	114,700	102,000	81,500	18
19	75.8	131,700	113,200	100,700	80,500	19
20	74.9	126,800	111,400	99,500	80,000	20
25	69.8	90,400	90,400	90,400	76,000	25
30	64.7	69,900	69,900	69,900	69,900	30
35	59.3	56,800	56,800	56,800	56,800	35
40	53.5	47,700	47,700	47,700	47,700	40
50	40.4	35,900	35,900	35,900	35,900	50
60	21.9	28,500	28,500	28,500	28,500	60
60.71	20.0	28,000	28,000	28,000	28,000	60.71

Main Boom List Capacities – 70 Ft Open Throat Tube Boom						
Load Radius (ft)	Boom Angle (deg)	360 Degree Rotation, Extended Side Frames, ABC + 0 Counterweight				Load Radius (ft)
		1 Degree	2 Degree	3 Degree	5 Degree	
16.49	80.0	126,300	106,300	93,100	73,400	16.49
17	79.6	125,500	105,600	92,600	73,000	17
18	78.7	123,100	104,300	91,400	72,300	18
19	77.9	121,600	103,000	90,500	71,600	19
20	77.1	119,300	101,400	87,400	71,000	20
25	72.8	90,300	90,300	82,500	67,800	25
30	68.5	69,900	69,900	69,900	64,900	30
35	64.0	56,800	56,800	56,800	56,800	35
40	59.4	47,600	47,600	47,600	47,600	40
50	49.3	35,800	35,800	35,800	35,800	50
60	37.3	28,400	28,400	28,400	28,400	60
70	20.3	23,300	23,300	23,300	23,300	70
70.11	20.0	23,300	23,300	23,300	23,300	70.11

Note: Refer To Page 26 For "Capacity Deductions" Caused By Any Attachment On The Boom.

Main Boom List Capacities – 80 Ft Open Throat Tube Boom						
Load Radius (ft)	Boom Angle (deg)	360 Degree Rotation, Extended Side Frames, ABC + 0 Counterweight				Load Radius (ft)
		1 Degree	2 Degree	3 Degree	5 Degree	
18.22	80.0	110,900	94,300	80,500	64,300	18.22
19	79.4	109,500	93,400	79,800	63,700	19
20	78.7	108,100	92,200	78,800	63,100	20
25	75.0	90,200	85,000	74,900	60,500	25
30	71.3	69,800	69,800	69,800	56,200	30
35	67.5	56,700	56,700	56,700	54,100	35
40	63.5	47,500	47,500	47,500	47,500	40
50	55.2	35,700	35,700	35,700	35,700	50
60	45.9	28,300	28,300	28,300	28,300	60
70	34.8	23,300	23,300	23,300	23,300	70
80	18.9	19,600	19,600	19,600	19,600	80

Main Boom List Capacities – 90 Ft Open Throat Tube Boom						
Load Radius (ft)	Boom Angle (deg)	360 Degree Rotation, Extended Side Frames, ABC + 0 Counterweight				Load Radius (ft)
		1 Degree	2 Degree	3 Degree	5 Degree	
19.96	80.0	100,300	82,800	71,900	55,300	19.96
25	76.7	90,200	78,400	68,500	53,100	25
30	73.4	69,700	69,700	65,500	51,100	30
35	70.1	56,500	56,500	56,500	49,200	35
40	66.7	47,400	47,400	47,400	47,400	40
50	59.5	35,600	35,600	35,600	35,600	50
60	51.8	28,200	28,200	28,200	28,200	60
70	43.1	23,100	23,100	23,100	23,100	70
80	32.8	19,500	19,500	19,500	19,500	80
90	17.8	16,700	16,700	16,700	16,700	90

Note: Refer To Page 26 For "Capacity Deductions" Caused By Any Attachment On The Boom.

Main Boom List Capacities — 100 Ft Open Throat Tube Boom						
Load Radius (ft)	Boom Angle (deg)	360 Degree Rotation, Extended Side Frames, ABC + 0 Counterweight				Load Radius (ft)
		1 Degree	2 Degree	3 Degree	5 Degree	
21.7	80.0	91,300	75,100	64,700	49,400	21.7
25	78.1	85,600	72,500	62,900	48,300	25
30	75.1	69,500	69,100	60,200	46,500	30
35	72.1	56,400	56,400	55,800	45,100	35
40	69.1	47,300	47,300	47,300	43,500	40
50	62.8	35,400	35,400	35,400	35,400	50
60	56.2	28,000	28,000	28,000	28,000	60
70	49.0	23,000	23,000	23,000	23,000	70
80	40.8	19,300	19,300	19,300	19,300	80
90	31.1	16,500	16,500	16,500	16,500	90
100	16.9	14,300	14,300	14,300	14,300	100

Main Boom List Capacities — 110 Ft Open Throat Tube Boom						
Load Radius (ft)	Boom Angle (deg)	360 Degree Rotation, Extended Side Frames, ABC + 0 Counterweight				Load Radius (ft)
		1 Degree	2 Degree	3 Degree	5 Degree	
23.43	80.0	81,500	68,000	56,800	44,600	23.43
25	79.2	79,900	67,200	56,100	44,200	25
30	76.5	69,400	64,000	54,000	42,700	30
35	73.8	56,300	56,300	51,800	41,300	35
40	71.1	47,100	47,100	47,100	40,000	40
50	65.5	35,200	35,200	35,200	35,200	50
60	59.6	27,900	27,900	27,900	27,900	60
70	53.3	22,800	22,800	22,800	22,800	70
80	46.5	19,200	19,200	19,200	19,200	80
90	38.8	16,400	16,400	16,400	16,400	90
100	29.6	14,200	14,200	14,200	14,200	100
110	16.1	12,400	12,400	12,400	12,400	110

Note: Refer To Page 26 For "Capacity Deductions" Caused By Any Attachment On The Boom.

Main Boom List Capacities – 120 Ft Open Throat Tube Boom						
Load Radius (ft)	Boom Angle (deg)	360 Degree Rotation, Extended Side Frames, ABC + 0 Counterweight				Load Radius (ft)
		1 Degree	2 Degree	3 Degree	5 Degree	
25.17	80.0	74,500	62,000	51,700	40,500	25.17
30	77.6	69,300	57,700	49,900	39,200	30
35	75.2	56,100	55,200	48,100	38,000	35
40	72.7	47,000	47,000	46,200	36,800	40
50	67.6	35,100	35,100	35,100	33,900	50
60	62.4	27,700	27,700	27,700	27,700	60
70	56.8	22,700	22,700	22,700	22,600	70
80	50.9	19,000	19,000	19,000	19,000	80
90	44.4	16,200	16,200	16,200	16,200	90
100	37.1	14,000	14,000	14,000	14,000	100
110	28.3	12,300	12,300	12,300	12,300	110
120	15.4	10,800	10,800	10,800	10,800	120

Main Boom List Capacities – 130 Ft Open Throat Tube Boom						
Load Radius (ft)	Boom Angle (deg)	360 Degree Rotation, Extended Side Frames, ABC + 0 Counterweight				Load Radius (ft)
		1 Degree	2 Degree	3 Degree	5 Degree	
26.91	80.0	68,300	55,100	47,300	36,600	26.91
30	78.6	66,400	53,700	46,200	35,900	30
35	76.4	55,900	51,700	44,600	34,900	35
40	74.1	46,800	46,800	43,100	33,800	40
50	69.4	34,900	34,900	34,900	31,300	50
60	64.6	27,500	27,500	27,500	27,200	60
70	59.7	22,500	22,500	22,500	22,500	70
80	54.4	18,800	18,800	18,800	18,800	80
90	48.8	16,000	16,000	16,000	16,000	90
100	42.6	13,800	13,800	13,800	13,800	100
110	35.6	12,100	12,100	12,100	12,100	110
120	27.2	10,600	10,600	10,600	10,600	120
130	14.8	9,400	9,400	9,400	9,400	130

Note: Refer To Page 26 For "Capacity Deductions" Caused By Any Attachment On The Boom.

Main Boom List Capacities – 140 Ft Open Throat Tube Boom						
Load Radius (ft)	Boom Angle (deg)	360 Degree Rotation, Extended Side Frames, ABC + 0 Counterweight				Load Radius (ft)
		1 Degree	2 Degree	3 Degree	5 Degree	
28.64	80.0	62,800	50,600	43,300	32,800	28.64
30	79.4	62,000	50,000	42,900	32,800	30
35	77.3	55,800	48,100	41,500	32,000	35
40	75.2	46,600	46,400	40,100	31,300	40
50	71.0	34,700	34,700	34,700	27,400	50
60	66.6	27,300	27,300	27,300	25,200	60
70	62.0	22,300	22,300	22,300	22,300	70
80	57.3	18,600	18,600	18,600	18,600	80
90	52.3	15,800	15,800	15,800	15,800	90
100	46.9	13,700	13,700	13,700	13,700	100
110	41.0	11,900	11,900	11,900	11,900	110
120	34.3	10,400	10,400	10,400	10,400	120
130	26.2	9,200	9,200	9,200	9,200	130
140	14.3	8,200	8,200	8,200	8,200	140

Main Boom List Capacities – 150 Ft Open Throat Tube Boom						
Load Radius (ft)	Boom Angle (deg)	360 Degree Rotation, Extended Side Frames, ABC + 0 Counterweight				Load Radius (ft)
		1 Degree	2 Degree	3 Degree	5 Degree	
30.38	80.0	55,900	46,500	38,400	26,500	30.38
35	78.2	53,800	44,900	38,400	26,500	35
40	76.2	46,500	43,300	37,300	26,500	40
50	72.3	34,500	34,500	34,000	25,400	50
60	68.2	27,100	27,100	27,100	23,400	60
70	64.0	22,100	22,100	22,100	21,500	70
80	59.7	18,400	18,400	18,400	18,400	80
90	55.2	15,700	15,700	15,700	15,600	90
100	50.4	13,500	13,500	13,500	13,500	100
110	45.2	11,700	11,700	11,700	11,700	110
120	39.5	10,300	10,300	10,300	10,300	120
130	33.1	9,000	9,000	9,000	9,000	130
140	25.2	8,000	8,000	8,000	8,000	140
150	13.8	7,100	7,100	7,100	7,100	150

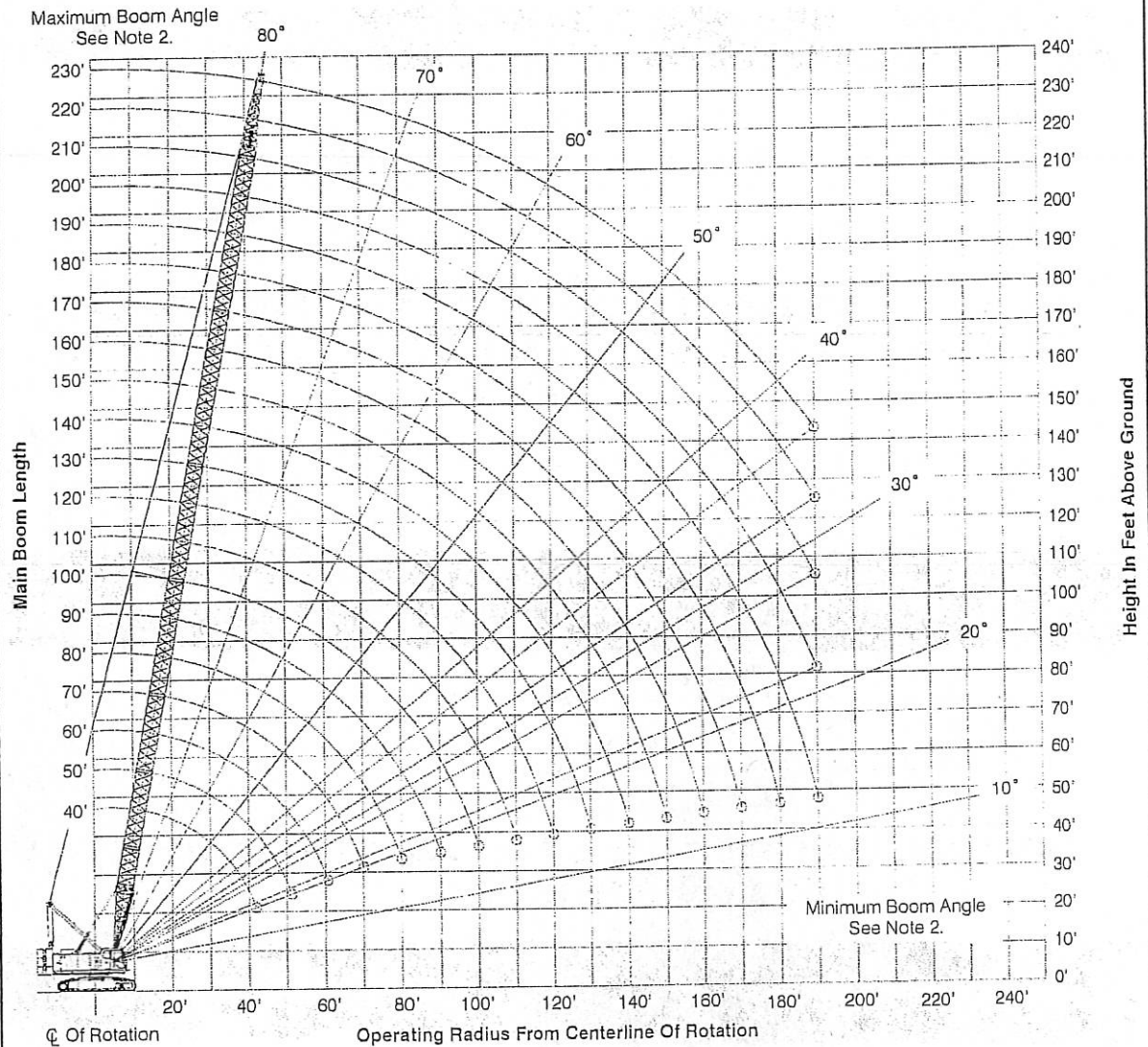
Note: Refer To Page 26 For "Capacity Deductions" Caused By Any Attachment On The Boom.

Main Boom List Capacities – 160 Ft Open Throat Tube Boom						
Load Radius (ft)	Boom Angle (deg)	360 Degree Rotation, Extended Side Frames, ABC + 0 Counterweight				Load Radius (ft)
		1 Degree	2 Degree	3 Degree	5 Degree	
32.11	80.0	51,500	40,600	33,100	22,400	32.11
35	78.9	50,400	40,600	33,100	22,400	35
40	77.1	46,300	40,600	33,100	22,400	40
50	73.4	34,400	34,400	31,700	22,400	50
60	69.6	27,000	27,000	26,900	21,700	60
70	65.8	21,900	21,900	21,900	19,900	70
80	61.8	18,200	18,200	18,200	18,200	80
90	57.6	15,500	15,500	15,500	15,500	90
100	53.3	13,300	13,300	13,300	13,300	100
110	48.7	11,500	11,500	11,500	11,500	110
120	43.7	10,100	10,100	10,100	10,100	120
130	38.2	8,800	8,800	8,800	8,800	130
140	32.0	7,800	7,800	7,800	7,800	140
150	24.4	6,900	6,900	6,900	6,900	150
160	13.4	6,100	6,100	6,100	6,100	160

Note: Refer To Page 26 For "Capacity Deductions" Caused By Any Attachment On The Boom.

Working Range Diagram

40' To 230' Main Boom



Notes:

1. Boom geometry shown is for unloaded condition and crane standing level on firm supporting surface. Boom deflection, subsequent radius, and boom angle change must be accounted for when applying load to hook.
2. Maximum and minimum boom angles are equal to the values listed in the capacity chart for each boom length.

Capacity Deductions For Lifting Off Main Boom Hook With Jib Installed

When using main boom hook, while jib is attached, reduce boom capacities by the values in the following chart:

Jib Length (ft)	Capacity Deduction (lb)
30	2,100
45	2,800
60	3,500
75	4,400

Capacity Deductions For Lifting Off Main Boom Hook With Auxiliary Tip Extension Or Pile Driver Lead Adapter Installed

When using main boom hook, while auxiliary tip extension or pile driver lead adapter is attached, reduce boom capacities by the values in the following chart:

Extension/Adapter	Capacity Deduction (lb)
Auxiliary Tip With Nylon Sheaves	900
Auxiliary Tip With Steel Sheaves	1,150
Pile Driver Lead Adapter	200

Capacity Deductions For Lifting Loads With Luffing Jib Bridle Guide Rails Installed

Guide Rails (ft)	Capacity Deduction (lb)
20	700
30	1,050
50	1,750