

Liftcrane Jib Capacities

Jib No. 117 on
 Boom No. B10:290
 45,400 lb Crane Counterweight
 0 lb Carbody Counterweight
 360 Degree Rating

MLC90A-1 SERIES 1



LIFTING CAPACITIES: Chart supplements Boom Capacity chart No. 9748-A. Lifting capacities for various boom lengths, jib lengths, and jib 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.

Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath boom and jib point sheaves is considered part of load. Boom and jib are 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. 80121887, Jib Rigging No. 84054323, Wire Rope Specifications chart No. 9756-A, Counterweight Arrangements chart No. 9745-A, and Wind Conditions chart No. 9755-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. 9754-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 ($^{\circ}$) 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.



JIB POINT ELEVATION: Jib point elevation is vertical distance from ground level to centerline of jib point shaft.

MACHINE EQUIPMENT: Machine equipped with 21 ft 3 in. crawlers, 35 in. treads, 14 ft 5 in. gantry, 8 part boom hoist reeving, two 32 mm boom pendants, 45,400 lb crane counterweight, and 0 lb carbody counterweight.

Refer to Tables 1 and 2 for raising ability with the maximum weight of all load blocks, hooks, weight ball, slings, and hoist lines beneath boom and jib point 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.

Caution: Combined weight beneath boom and jib point sheaves must not exceed block weight shown. Total weight beneath jib point must not exceed 700 lb.

Table 1

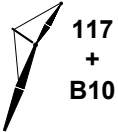



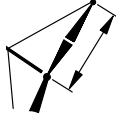

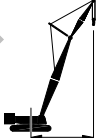



Over End or Side of Crawlers				
Boom Length (ft)	Jib No. 117			
	30.0 ft	40.0 ft	50.0 ft	60.0 ft
	Block Weight (lb)			
62.3 - 101.7	3,800	3,800	3,800	3,800
111.5	3,800	3,800	2,650	2,650
121.4	2,650	700	700	700
131.2	700	700	700	#
141.1	#	#	#	
150.9	Raising Not Permitted			
160.8				

Table 2

Over End of Blocked Crawlers				
Boom Length (ft)	Jib No. 117			
	30.0 ft	40.0 ft	50.0 ft	60.0 ft
	Block Weight (lb)			
62.3 - 101.7	3,800	3,800	3,800	3,800
111.5	3,800	3,800	3,800	3,800
121.4	3,800	3,800	3,800	2,650
131.2	2,650	2,650	2,650	700
141.1	700	700	700	700
150.9	700	700	#	#
160.8	#	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.

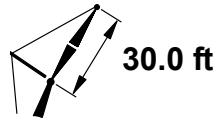
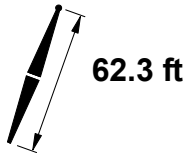
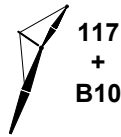
Explanation of Symbols

	Jib No. 117 + Boom No. B10:290
	Crane Counterweight + Carbody Counterweight
	360 Degree Rating
	Boom Length
	Jib Length
	Jib Offset Angle
	Operating Radius (see page 1)
	Boom Angle (see page 1)
	Jib Point Elevation (see page 1)
	Lifting Capacities (see page 1)

REFERENCE ONLY!

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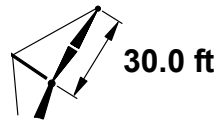
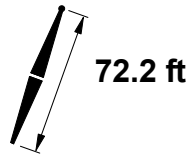
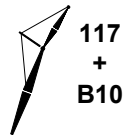
ASME B30.5



ft	10°			30°			ft
	ft	ft	lb	ft	ft	lb	
26	80.7	97.6	27,600				26
28	79.4	97.2	27,600				28
30	78.2	96.6	27,600				30
32	76.9	96.0	27,600				32
34	75.6	95.4	27,600	80.8	92.9	20,900	34
36	74.3	94.7	27,600	79.4	92.2	20,400	36
38	73.0	94.0	27,600	78.1	91.5	19,900	38
40	71.7	93.2	27,600	76.7	90.6	19,400	40
42	70.3	92.3	27,600	75.3	89.8	19,000	42
44	69.0	91.4	27,600	74.0	88.8	18,600	44
46	67.6	90.4	27,600	72.5	87.8	18,200	46
48	66.2	89.4	26,300	71.1	86.8	17,800	48
50	64.8	88.3	24,800	69.7	85.7	17,400	50
55	61.2	85.3	21,800	66.0	82.6	16,600	55
60	57.5	81.9	19,300	62.1	79.0	15,900	60
65	53.6	77.9	17,200	58.0	74.9	15,200	65
70	49.4	73.3	15,500	53.6	70.1	14,700	70
75	44.9	68.0	14,000	48.9	64.4	14,200	75
80	40.0	61.7	12,700	43.6	57.7	12,900	80
85	34.4	54.1	11,600	37.4	49.3	11,700	85
90	27.6	44.3	10,600				90

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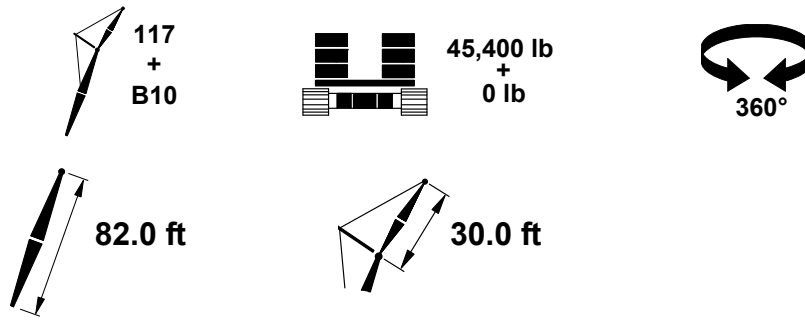
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ft	10°			30°			ft
	ft	ft	lb	ft	ft	lb	
28	80.5	107.3	27,600				28
30	79.3	106.8	27,600				30
32	78.2	106.2	27,600				32
34	77.0	105.7	27,600				34
36	75.9	105.1	27,600	80.5	102.5	20,800	36
38	74.7	104.4	27,600	79.3	101.8	20,300	38
40	73.5	103.7	27,600	78.1	101.1	19,900	40
42	72.3	102.9	27,600	76.9	100.3	19,500	42
44	71.1	102.1	27,600	75.6	99.5	19,100	44
46	69.9	101.3	27,600	74.4	98.6	18,700	46
48	68.7	100.4	26,100	73.1	97.7	18,300	48
50	67.5	99.4	24,600	71.9	96.7	18,000	50
55	64.3	96.8	21,600	68.6	94.0	17,200	55
60	61.1	93.8	19,100	65.3	90.9	16,400	60
65	57.7	90.4	17,000	61.8	87.4	15,800	65
70	54.2	86.5	15,300	58.2	83.4	15,200	70
75	50.5	82.2	13,800	54.3	78.8	14,100	75
80	46.6	77.2	12,500	50.2	73.5	12,700	80
85	42.3	71.4	11,400	45.7	67.4	11,600	85
90	37.6	64.6	10,400	40.6	60.1	10,500	90
95	32.3	56.4	9,500	34.7	51.1	9,600	95
100	25.8	45.8	8,700				100

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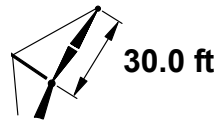
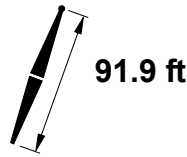
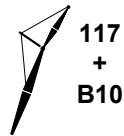
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	10°			30°			
	ft	°	ft	lb	ft	lb	
30	80.3	116.9	27,600				30
32	79.2	116.4	27,600				32
34	78.2	115.9	27,600				34
36	77.1	115.3	27,600				36
38	76.1	114.7	27,600	80.3	112.1	20,700	38
40	75.0	114.1	27,600	79.2	111.4	20,300	40
42	73.9	113.4	27,600	78.1	110.7	19,900	42
44	72.9	112.7	27,600	77.0	110.0	19,500	44
46	71.8	111.9	27,400	75.9	109.2	19,100	46
48	70.7	111.1	25,800	74.8	108.4	18,800	48
50	69.6	110.3	24,400	73.6	107.5	18,400	50
55	66.8	107.9	21,300	70.8	105.1	17,600	55
60	63.9	105.3	18,800	67.8	102.4	16,900	60
65	60.9	102.3	16,800	64.7	99.3	16,300	65
70	57.9	98.9	15,000	61.6	95.8	15,400	70
75	54.7	95.1	13,500	58.3	91.9	13,900	75
80	51.4	90.9	12,300	54.8	87.5	12,500	80
85	47.9	86.1	11,100	51.2	82.5	11,400	85
90	44.1	80.7	10,100	47.2	76.8	10,300	90
95	40.1	74.5	9,300	42.9	70.2	9,400	95
100	35.6	67.2	8,500	38.1	62.4	8,600	100
105	30.5	58.5	7,800	32.4	52.7	7,800	105
110	24.2	47.3	7,100				110

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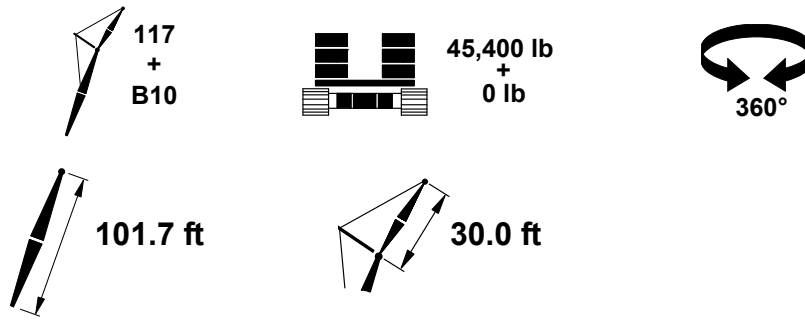
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	10°			30°				
	ft	°	ft	lb	ft	lb		ft
32	80.1		126.5	27,600			32	
34	79.2		126.0	27,600			34	
36	78.2		125.5	27,600			36	
38	77.2		125.0	27,600			38	
40	76.3		124.4	27,600	80.1	121.7	20,600	40
42	75.3		123.8	27,600	79.1	121.1	20,200	42
44	74.3		123.1	27,600	78.1	120.4	19,900	44
46	73.3		122.4	27,200	77.1	119.7	19,500	46
48	72.3		121.7	25,600	76.1	118.9	19,200	48
50	71.3		120.9	24,200	75.1	118.1	18,800	50
55	68.8		118.8	21,100	72.5	115.9	18,100	55
60	66.2		116.4	18,700	69.8	113.5	17,400	60
65	63.5		113.7	16,600	67.1	110.7	16,800	65
70	60.8		110.7	14,900	64.3	107.7	15,300	70
75	58.0		107.4	13,400	61.4	104.2	13,800	75
80	55.1		103.7	12,100	58.4	100.4	12,400	80
85	52.1		99.6	11,000	55.3	96.2	11,300	85
90	48.9		95.0	10,000	52.0	91.4	10,200	90
95	45.6		89.9	9,100	48.5	86.0	9,300	95
100	42.0		84.1	8,300	44.7	79.9	8,500	100
105	38.1		77.4	7,600	40.6	72.9	7,700	105
110	33.8		69.7	7,000	35.9	64.5	7,100	110
115	28.9		60.4	6,400	30.5	54.2	6,400	115
120	22.9		48.6	5,800				120

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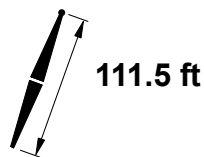
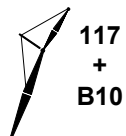
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	10°			30°			
	ft	°	ft	lb	ft	lb	
32	80.9	136.6	27,600				32
34	80.0	136.1	27,600				34
36	79.1	135.7	27,600				36
38	78.2	135.2	27,600				38
40	77.3	134.6	27,600				40
42	76.4	134.1	27,600	80.9	131.9	20,900	42
44	75.5	133.4	27,600	79.1	130.7	20,200	44
46	74.6	132.8	27,000	78.1	130.0	19,800	46
48	73.7	132.1	25,400	77.2	129.3	19,500	48
50	72.8	131.4	24,000	76.3	128.6	19,200	50
55	70.4	129.5	20,900	73.9	126.6	18,500	55
60	68.1	127.3	18,400	71.5	124.4	17,800	60
65	65.7	124.9	16,400	69.0	121.9	16,900	65
70	63.2	122.2	14,600	66.5	119.1	15,100	70
75	60.7	119.2	13,100	63.9	116.1	13,600	75
80	58.1	115.9	11,900	61.2	112.7	12,200	80
85	55.4	112.3	10,700	58.5	108.9	11,100	85
90	52.7	108.3	9,700	55.6	104.8	10,000	90
95	49.8	103.8	8,900	52.6	100.2	9,100	95
100	46.8	98.9	8,100	49.5	95.1	8,300	100
105	43.5	93.4	7,400	46.1	89.3	7,500	105
110	40.1	87.3	6,700	42.5	82.8	6,900	110
115	36.4	80.2	6,100	38.5	75.3	6,200	115
120	32.2	72.1	5,600	34.0	66.5	5,700	120
125	27.5	62.3	5,100				125
130	21.7	49.8	4,600				130

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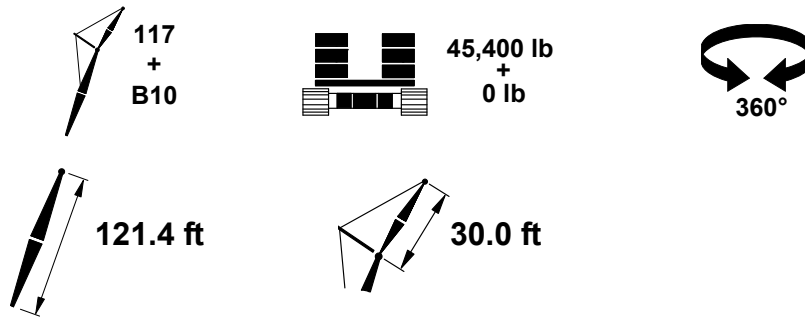
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	10°			30°			
	ft	°	ft	lb	ft	lb	
34	80.7	146.2	27,600				34
36	79.9	145.8	27,600				36
38	79.0	145.3	27,600				38
40	78.2	144.8	27,600				40
42	77.4	144.3	27,600	80.7	141.5	20,800	42
44	76.5	143.7	27,600	79.9	140.9	20,500	44
46	75.7	143.1	26,700	79.0	140.3	20,100	46
48	74.9	142.5	25,200	78.2	139.7	19,800	48
50	74.0	141.8	23,700	77.3	139.0	19,500	50
55	71.9	140.1	20,700	75.1	137.2	18,800	55
60	69.7	138.1	18,200	72.9	135.1	18,200	60
65	67.5	135.8	16,100	70.6	132.8	16,700	65
70	65.3	133.4	14,400	68.3	130.3	14,900	70
75	63.0	130.6	12,900	66.0	127.5	13,400	75
80	60.6	127.7	11,600	63.6	124.5	12,000	80
85	58.2	124.4	10,500	61.1	121.1	10,900	85
90	55.7	120.8	9,500	58.6	117.4	9,800	90
95	53.2	116.9	8,600	55.9	113.4	8,900	95
100	50.5	112.6	7,900	53.2	108.9	8,100	100
105	47.7	107.8	7,200	50.3	104.0	7,400	105
110	44.8	102.6	6,500	47.3	98.6	6,700	110
115	41.7	96.8	5,900	44.0	92.5	6,100	115
120	38.4	90.3	5,400	40.5	85.6	5,500	120
125	34.8	82.9	4,900	36.7	77.7	5,000	125
130	30.8	74.3	4,500	32.4	68.4	4,500	130
135	26.2	64.0	4,000				135
140	20.6	50.9	3,600				140

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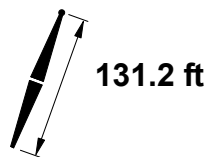
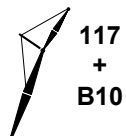
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
36	80.5	155.8	27,600				36
38	79.8	155.4	27,600				38
40	79.0	154.9	27,600				40
42	78.2	154.4	27,600				42
44	77.4	153.9	27,600				44
46	76.7	153.4	26,500	80.6	151.1	20,700	46
48	75.9	152.8	24,900	79.8	150.5	20,400	48
50	75.1	152.2	23,500	79.0	149.9	20,100	50
55	73.1	150.5	20,400	78.2	149.3	19,800	55
60	71.1	148.7	17,900	76.1	147.6	19,100	60
65	69.1	146.6	15,900	74.1	145.7	18,500	65
70	67.0	144.3	14,100	72.0	143.6	16,500	70
75	64.9	141.8	12,600	69.9	141.3	14,700	75
80	62.7	139.1	11,400	67.7	138.8	13,200	80
85	60.5	136.1	10,200	65.5	136.0	11,800	85
90	58.3	132.9	9,300	63.3	132.9	10,600	90
95	56.0	129.4	8,400	61.0	129.6	9,600	95
100	53.6	125.5	7,600	58.6	125.9	8,700	100
105	51.2	121.3	6,900	56.2	122.0	7,900	105
110	48.6	116.7	6,300	53.6	117.6	7,100	110
115	45.9	111.7	5,700	51.0	112.9	6,500	115
120	43.1	106.1	5,100	48.2	107.7	5,900	120
125	40.1	100.0	4,700	45.3	101.9	5,300	125
130	36.9	93.2	4,200	42.2	95.5	4,800	130
135	33.5	85.4	3,800	38.8	88.2	4,300	135
140	29.6	76.4	3,400	35.1	79.9	3,900	140
145	25.1	65.6	3,000	30.9	70.2	3,400	145

MLC90A-1 S-1

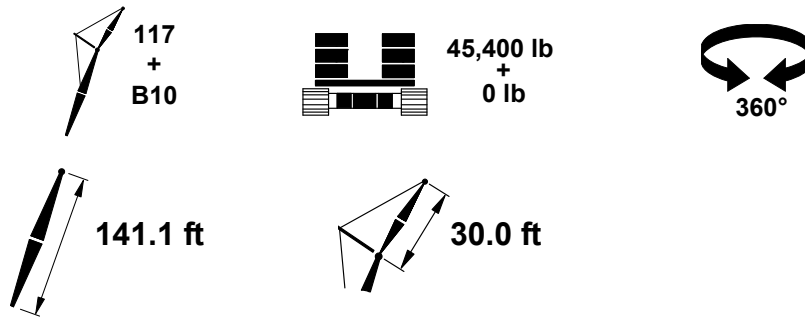
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
38	80.4		165.5				38
40	79.7		165.0				40
42	78.9		164.6				42
44	78.2		164.1				44
46	77.5		163.6				46
48	76.8		163.0	80.4	160.7	20,700	48
50	76.0		162.5	79.7	160.1	20,400	50
55	74.2		160.9	78.9	159.6	20,100	55
60	72.3		159.2	77.0	158.0	19,400	60
65	70.4		157.3	75.1	156.2	18,500	65
70	68.5		155.2	73.2	154.3	16,300	70
75	66.5		152.8	71.2	152.1	14,500	75
80	64.6		150.3	69.2	149.8	13,000	80
85	62.5		147.6	67.2	147.2	11,600	85
90	60.5		144.6	65.2	144.4	10,500	90
95	58.4		141.4	63.1	141.3	9,500	95
100	56.2		137.9	60.9	138.0	8,500	100
105	54.0		134.1	58.7	134.4	7,700	105
110	51.7		130.0	56.4	130.5	7,000	110
115	49.3		125.5	54.0	126.3	6,300	115
120	46.9		120.6	51.6	121.7	5,700	120
125	44.3		115.3	49.0	116.7	5,200	125
130	41.6		109.5	46.4	111.1	4,600	130
135	38.7		103.1	43.5	105.1	4,200	135
140	35.6		95.9	40.5	98.3	3,700	140
145	32.2		87.8	37.2	90.7	3,300	145
150	28.5		78.4	33.6	82.1	2,900	150
155	24.1		67.2				155

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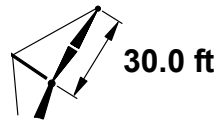
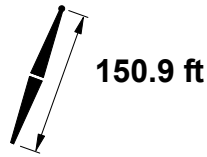
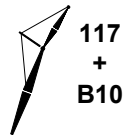
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
38	81.0	175.5	27,600				38
40	80.3	175.1	27,600				40
42	79.6	174.7	27,600				42
44	78.9	174.2	27,600				44
46	78.2	173.7	26,000	81.0	170.8	20,900	46
48	77.5	173.2	24,500	80.3	170.3	20,600	48
50	76.8	172.7	23,000	79.6	169.8	20,300	50
55	75.1	171.2	20,000	77.8	168.3	19,700	55
60	73.4	169.6	17,500	76.0	166.6	18,300	60
65	71.6	167.8	15,400	74.2	164.8	16,100	65
70	69.8	165.8	13,700	72.4	162.8	14,300	70
75	68.0	163.7	12,200	70.6	160.6	12,800	75
80	66.1	161.4	10,900	68.7	158.2	11,400	80
85	64.3	158.8	9,800	66.8	155.6	10,300	85
90	62.4	156.1	8,800	64.8	152.8	9,200	90
95	60.4	153.1	7,900	62.8	149.8	8,300	95
100	58.4	149.9	7,200	60.8	146.5	7,500	100
105	56.4	146.4	6,500	58.7	142.9	6,800	105
110	54.3	142.7	5,800	56.6	139.1	6,100	110
115	52.2	138.6	5,200	54.4	134.9	5,500	115
120	50.0	134.3	4,700	52.1	130.5	4,900	120
125	47.7	129.6	4,200	49.7	125.6	4,400	125
130	45.3	124.4	3,800	47.3	120.3	3,900	130
135	42.8	118.9	3,400	44.7	114.5	3,500	135
140	40.2	112.8	3,000	41.9	108.1	3,100	140
145	37.4	106.0	2,600	39.0	101.1	2,700	145
150	34.4	98.5	2,300	35.8	93.1	2,400	150
155	31.1	90.1	2,000	32.3	84.1	2,000	155

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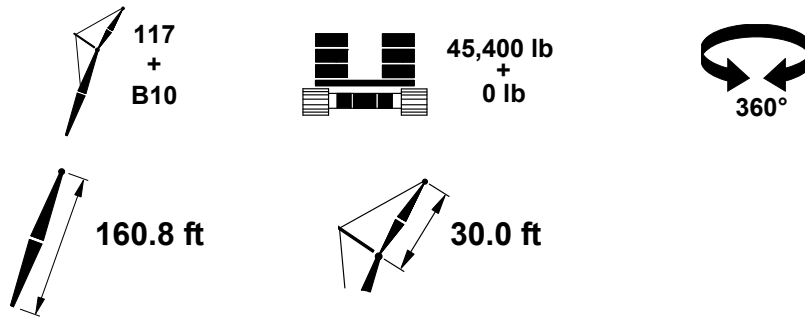
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
40	80.8	185.1	27,600				40
42	80.2	184.7	27,600				42
44	79.5	184.3	27,500				44
46	78.9	183.8	25,800				46
48	78.2	183.4	24,200				48
50	77.6	182.8	22,800	80.8	180.4	20,800	50
55	75.9	181.5	19,700	80.2	179.9	20,600	55
60	74.3	180.0	17,200	78.5	178.5	19,900	60
65	72.6	178.3	15,200	76.8	177.0	18,100	65
70	70.9	176.4	13,400	75.1	175.3	15,900	70
75	69.2	174.4	12,000	73.4	173.4	14,100	75
80	67.5	172.2	10,700	71.7	171.3	12,600	80
85	65.8	169.9	9,600	69.9	169.1	11,200	85
90	64.0	167.3	8,600	68.2	166.7	10,100	90
95	62.2	164.5	7,700	66.4	164.1	9,000	95
100	60.4	161.6	6,900	64.5	161.2	8,100	100
105	58.5	158.4	6,200	62.6	158.2	7,300	105
110	56.6	154.9	5,600	60.7	154.9	6,600	110
115	54.6	151.2	5,000	58.8	151.4	5,900	115
120	52.6	147.3	4,500	56.8	147.6	5,300	120
125	50.5	143.0	4,000	54.7	143.6	4,700	125
130	48.4	138.4	3,500	52.6	139.2	4,200	130
135	46.2	133.4	3,100	50.4	134.4	3,700	135
140	43.9	128.1	2,800	48.1	129.3	3,300	140
145	41.4	122.2	2,400	45.7	123.8	2,900	145
150	38.9	115.9	2,100	43.2	117.7	2,500	145
				40.5	111.1	2,200	150

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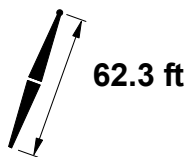
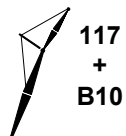
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
42	80.7	194.8	27,600				42
44	80.1	194.4	27,300				44
46	79.5	193.9	25,500				46
48	78.8	193.5	24,000				48
50	78.2	193.0	22,500	80.7	190.0	20,800	50
55	76.7	191.7	19,500	79.1	188.7	20,200	55
60	75.1	190.3	17,000	77.6	187.3	17,900	60
65	73.6	188.7	14,900	76.0	185.6	15,700	65
70	72.0	186.9	13,200	74.3	183.9	13,900	70
75	70.4	185.0	11,700	72.7	182.0	12,300	75
80	68.8	183.0	10,400	71.1	179.9	11,000	80
85	67.1	180.8	9,300	69.4	177.6	9,800	85
90	65.5	178.4	8,300	67.7	175.1	8,800	90
95	63.8	175.8	7,400	66.0	172.5	7,900	95
100	62.1	173.0	6,700	64.3	169.7	7,100	100
105	60.3	170.0	5,900	62.5	166.6	6,300	105
110	58.5	166.8	5,300	60.7	163.4	5,700	110
115	56.7	163.4	4,700	58.8	159.9	5,000	115
120	54.9	159.8	4,200	56.9	156.2	4,500	120
125	53.0	155.9	3,700	55.0	152.2	4,000	125
130	51.0	151.7	3,300	53.0	147.9	3,500	130
135	49.0	147.2	2,900	50.9	143.3	3,100	135
140	46.9	142.4	2,500	48.8	138.3	2,700	140
145	44.8	137.2	2,100	46.5	132.9	2,300	145

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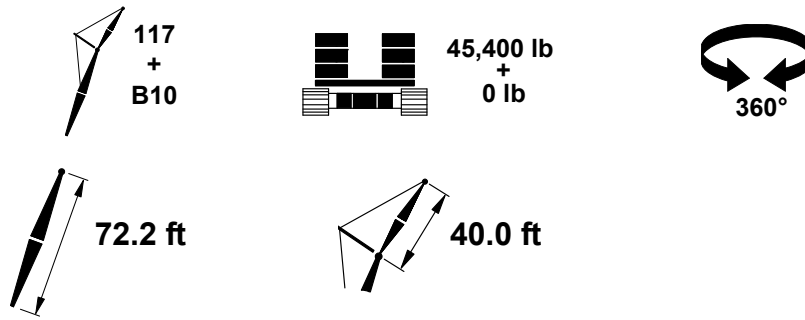
ASME B30.5



ft	10°			30°			ft
	ft	ft	lb	ft	ft	lb	
30	80.9	106.8	26,500				30
32	79.7	106.3	26,200				32
34	78.6	105.7	25,900				34
36	77.4	105.1	25,700				36
38	76.2	104.4	25,400				38
40	75.0	103.7	25,200				40
42	73.8	102.9	25,000	80.1	99.8	16,400	42
44	72.6	102.1	24,700	78.8	99.0	16,100	44
46	71.4	101.3	24,600	77.6	98.1	15,700	46
48	70.2	100.4	24,300	76.3	97.1	15,300	48
50	69.0	99.4	24,100	75.0	96.2	15,000	50
55	65.8	96.8	22,100	71.8	93.4	14,300	55
60	62.6	93.8	19,600	68.4	90.3	13,600	60
65	59.2	90.4	17,600	64.9	86.8	13,000	65
70	55.7	86.5	15,800	61.2	82.7	12,500	70
75	52.0	82.2	14,300	57.3	78.1	12,000	75
80	48.1	77.2	13,000	53.1	72.8	11,600	80
85	43.8	71.4	11,900	48.6	66.6	11,300	85
90	39.1	64.6	10,900	43.4	59.2	11,000	90
95	33.8	56.4	10,000	37.4	49.9	10,100	95
100	27.3	45.9	9,200				100

MLC90A-1 S-1

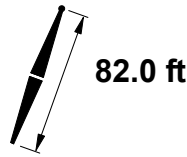
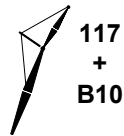
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
32	80.6	116.4	26,300				32
34	79.6	115.9	26,100				34
36	78.5	115.3	25,900				36
38	77.5	114.7	25,600				38
40	76.4	114.1	25,400				40
42	75.3	113.4	25,300	81.0	110.1	16,700	42
44	74.2	112.7	25,000	79.9	109.4	16,400	44
46	73.2	111.9	24,800	78.8	108.6	16,000	46
48	72.1	111.1	24,700	77.6	107.7	15,700	48
50	71.0	110.2	24,500	76.5	106.9	15,400	50
55	68.2	107.9	21,900	73.6	104.4	14,700	55
60	65.3	105.2	19,400	70.6	101.7	14,000	60
65	62.3	102.2	17,400	67.5	98.6	13,400	65
70	59.3	98.9	15,600	64.4	95.1	12,900	70
75	56.1	95.1	14,100	61.0	91.1	12,500	75
80	52.8	90.9	12,800	57.5	86.7	12,000	80
85	49.2	86.1	11,700	53.8	81.7	11,700	85
90	45.5	80.7	10,700	49.8	75.9	11,000	90
95	41.4	74.5	9,800	45.5	69.2	10,000	95
100	37.0	67.2	9,000	40.6	61.2	9,200	100
105	31.8	58.4	8,300	34.8	51.3	8,400	105
110	25.6	47.2	7,600				110

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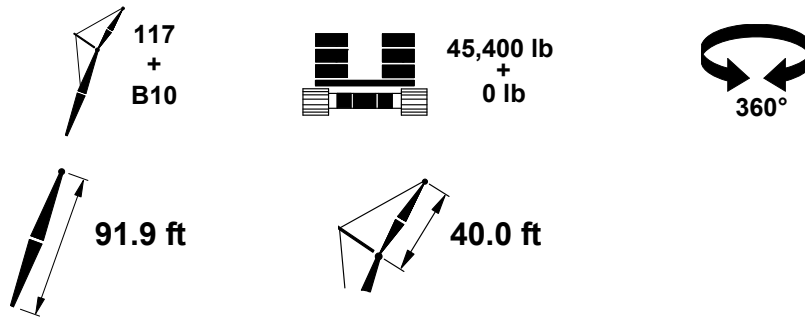
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	°	
34	80.4	126.0	26,200				34
36	79.5	125.5	26,100				36
38	78.5	124.9	25,800				38
40	77.5	124.4	25,600				40
42	76.6	123.7	25,500				42
44	75.6	123.1	25,300	80.8	119.7	16,600	44
46	74.6	122.4	25,100	79.8	119.0	16,300	46
48	73.6	121.6	24,900	78.7	118.2	16,000	48
50	72.6	120.9	24,700	77.7	117.4	15,700	50
55	70.0	118.7	21,700	75.1	115.2	15,000	55
60	67.5	116.4	19,200	72.4	112.7	14,400	60
65	64.8	113.7	17,100	69.7	110.0	13,800	65
70	62.1	110.7	15,400	66.8	106.9	13,300	70
75	59.3	107.4	13,900	63.9	103.4	12,800	75
80	56.4	103.7	12,600	60.9	99.6	12,400	80
85	53.3	99.6	11,500	57.7	95.3	11,800	85
90	50.2	95.0	10,500	54.4	90.4	10,800	90
95	46.8	89.8	9,600	50.8	85.0	9,800	95
100	43.2	84.0	8,800	47.0	78.8	9,000	100
105	39.4	77.4	8,100	42.8	71.6	8,200	105
110	35.1	69.7	7,400	38.1	63.1	7,500	110
115	30.1	60.4	6,800	32.5	52.5	6,900	115
120	24.1	48.5	6,200				120

MLC90A-1 S-1

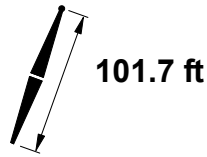
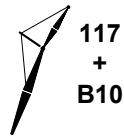
ASME B30.5



ft	10°			30°			ft
	°	ft	lb	°	ft	lb	
36	80.3	135.6	26,200				36
38	79.4	135.1	25,900				38
40	78.5	134.6	25,800				40
42	77.6	134.0	25,600				42
44	76.7	133.4	25,400				44
46	75.8	132.8	25,300	80.6	129.3	16,500	46
48	74.9	132.1	25,100	79.6	128.6	16,200	48
50	73.9	131.4	24,600	78.7	127.8	16,000	50
55	71.6	129.4	21,500	76.3	125.8	15,300	55
60	69.3	127.3	19,000	73.9	123.6	14,700	60
65	66.9	124.8	16,900	71.4	121.1	14,100	65
70	64.4	122.1	15,200	68.8	118.3	13,700	70
75	61.9	119.1	13,700	66.2	115.2	13,200	75
80	59.3	115.8	12,400	63.5	111.8	12,800	80
85	56.6	112.2	11,300	60.8	108.0	11,700	85
90	53.8	108.2	10,300	57.9	103.8	10,700	90
95	51.0	103.8	9,400	54.8	99.2	9,700	95
100	47.9	98.8	8,600	51.6	94.0	8,900	100
105	44.7	93.4	7,900	48.2	88.2	8,100	105
110	41.3	87.2	7,300	44.6	81.6	7,400	110
115	37.5	80.1	6,700	40.5	73.9	6,800	115
120	33.4	72.0	6,100	35.9	64.9	6,200	120
125	28.6	62.2	5,600				125
130	22.8	49.6	5,200				130

MLC90A-1 S-1

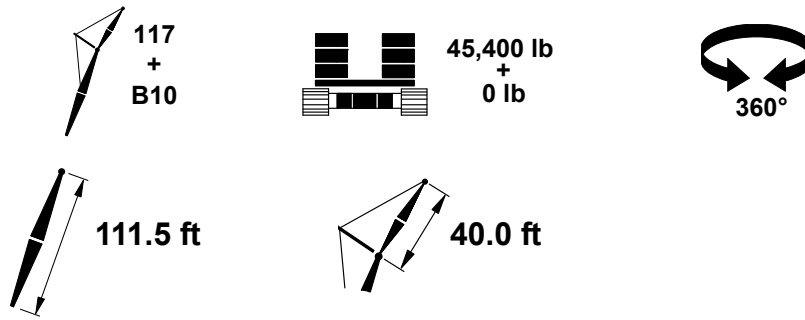
ASME B30.5



ft	10°			30°			ft
	ft	lb	ft	ft	lb	ft	
36	81.0	145.7	26,100				36
38	80.1	145.2	26,000				38
40	79.3	144.7	25,800				40
42	78.5	144.2	25,700				42
44	77.6	143.7	25,500				44
46	76.8	143.1	25,400				46
48	76.0	142.4	25,200	80.4	138.8	16,500	48
50	75.1	141.8	24,400	79.5	138.2	16,200	50
55	73.0	140.0	21,300	77.3	136.3	15,600	55
60	70.8	138.0	18,800	75.1	134.3	15,000	60
65	68.6	135.8	16,700	72.8	132.0	14,500	65
70	66.3	133.3	14,900	70.5	129.4	14,000	70
75	64.1	130.6	13,500	68.2	126.6	13,500	75
80	61.7	127.6	12,200	65.7	123.5	12,700	80
85	59.3	124.3	11,000	63.2	120.2	11,500	85
90	56.8	120.7	10,000	60.7	116.4	10,500	90
95	54.3	116.8	9,200	58.0	112.3	9,500	95
100	51.6	112.5	8,400	55.2	107.8	8,700	100
105	48.8	107.8	7,700	52.3	102.9	7,900	105
110	45.9	102.5	7,000	49.2	97.3	7,200	110
115	42.8	96.7	6,400	46.0	91.2	6,600	115
120	39.5	90.2	5,900	42.4	84.2	6,000	120
125	35.9	82.8	5,400	38.5	76.1	5,500	125
130	31.9	74.2	4,900	34.1	66.6	5,000	130
135	27.3	63.9	4,500				135
140	21.6	50.7	4,100				140

MLC90A-1 S-1

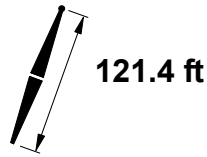
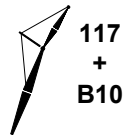
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
38	80.8	155.3	26,000				38
40	80.0	154.9	25,900				40
42	79.2	154.4	25,700				42
44	78.5	153.8	25,600				44
46	77.7	153.3	25,500				46
48	76.9	152.7	25,300				48
50	76.1	152.1	24,100	80.3	148.4	16,400	50
55	74.1	150.4	21,100	78.2	146.7	15,800	55
60	72.1	148.6	18,500	76.2	144.8	15,200	60
65	70.1	146.5	16,500	74.1	142.7	14,700	65
70	68.0	144.3	14,700	71.9	140.4	14,300	70
75	65.9	141.8	13,200	69.8	137.8	13,800	75
80	63.8	139.0	11,900	67.6	135.0	12,500	80
85	61.6	136.1	10,800	65.3	131.9	11,300	85
90	59.3	132.8	9,800	63.0	128.5	10,300	90
95	57.0	129.3	8,900	60.6	124.9	9,300	95
100	54.6	125.4	8,100	58.1	120.9	8,500	100
105	52.2	121.2	7,400	55.5	116.5	7,800	105
110	49.6	116.6	6,800	52.9	111.7	7,100	110
115	46.9	111.6	6,200	50.1	106.4	6,400	115
120	44.1	106.0	5,700	47.1	100.6	5,900	120
125	41.1	99.9	5,200	43.9	94.0	5,300	125
130	37.9	93.0	4,700	40.5	86.7	4,900	130
135	34.5	85.3	4,300	36.7	78.2	4,400	135
140	30.6	76.3	3,900	32.4	68.2	4,000	140
145	26.1	65.5	3,500				145
150	20.6	51.6	3,200				150

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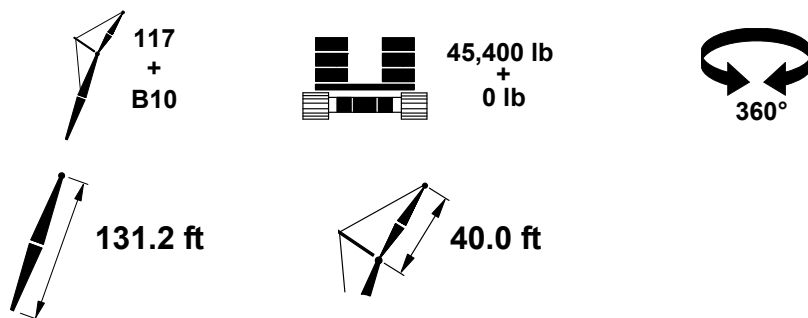
ASME B30.5



ft	10°			30°			ft
	ft	lb	ft	ft	lb	ft	
40	80.6	164.9	25,900				40
42	79.9	164.5	25,700				42
44	79.2	164.0	25,600				44
46	78.5	163.5	25,500				46
48	77.7	162.9	25,400				48
50	77.0	162.4	23,900	80.9	158.6	16,600	50
55	75.1	160.8	20,800	79.0	157.0	16,000	55
60	73.3	159.1	18,300	77.1	155.3	15,500	60
65	71.4	157.2	16,200	75.1	153.3	15,000	65
70	69.4	155.1	14,500	73.2	151.1	14,500	70
75	67.5	152.8	13,000	71.2	148.8	13,700	75
80	65.5	150.2	11,700	69.1	146.2	12,300	80
85	63.5	147.5	10,600	67.0	143.4	11,100	85
90	61.4	144.5	9,600	64.9	140.3	10,100	90
95	59.3	141.3	8,700	62.7	136.9	9,100	95
100	57.2	137.8	7,900	60.5	133.3	8,300	100
105	54.9	134.0	7,200	58.2	129.4	7,500	105
110	52.7	129.9	6,500	55.8	125.1	6,900	110
115	50.3	125.4	5,900	53.3	120.5	6,200	115
120	47.8	120.5	5,400	50.8	115.4	5,700	120
125	45.2	115.2	4,900	48.1	109.8	5,100	125
130	42.5	109.4	4,500	45.2	103.6	4,600	130
135	39.6	103.0	4,000	42.1	96.8	4,200	135
140	36.5	95.8	3,700	38.8	89.1	3,800	140
145	33.1	87.6	3,300	35.1	80.2	3,400	145
150	29.4	78.2	2,900				150
155	25.0	67.0	2,600				155

MLC90A-1 S-1

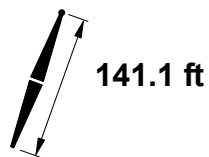
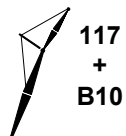
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
42	80.5	174.6	25,700				42
44	79.8	174.1	25,600				44
46	79.1	173.6	25,400				46
48	78.4	173.1	25,100				48
50	77.8	172.6	23,700				50
55	76.0	171.1	20,600	79.7	167.3	16,200	55
60	74.3	169.5	18,100	77.9	165.7	15,700	60
65	72.5	167.7	16,000	76.1	163.8	15,200	65
70	70.7	165.8	14,300	74.2	161.8	14,800	70
75	68.9	163.6	12,800	72.4	159.6	13,500	75
80	67.0	161.3	11,500	70.5	157.2	12,100	80
85	65.2	158.7	10,400	68.5	154.6	10,900	85
90	63.3	156.0	9,400	66.6	151.7	9,900	90
95	61.3	153.0	8,500	64.6	148.7	9,000	95
100	59.3	149.8	7,700	62.5	145.4	8,100	100
105	57.3	146.3	7,000	60.4	141.8	7,400	105
110	55.2	142.6	6,300	58.3	137.9	6,700	110
115	53.1	138.5	5,800	56.1	133.7	6,100	115
120	50.9	134.2	5,200	53.8	129.2	5,500	120
125	48.6	129.4	4,700	51.4	124.3	5,000	125
130	46.2	124.3	4,300	48.9	118.9	4,500	130
135	43.7	118.7	3,900	46.2	113.0	4,100	135
140	41.0	112.6	3,500	43.5	106.6	3,600	140
145	38.2	105.9	3,100	40.5	99.4	3,200	145
150	35.2	98.4	2,800	37.2	91.3	2,900	150
155	32.0	89.9	2,500	33.6	82.1	2,500	155
160	28.3	80.1	2,200				160

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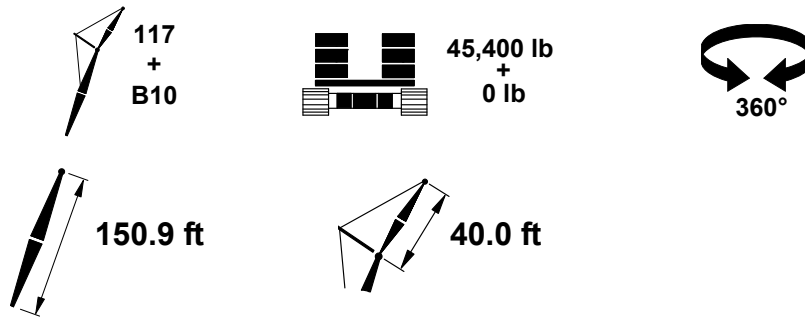
ASME B30.5



ft	10°			30°			ft
	ft	lb	ft	ft	lb	ft	
44	80.4	184.2	25,500				44
46	79.7	183.7	25,400				46
48	79.1	183.3	24,900				48
50	78.4	182.8	23,500				50
55	76.8	181.4	20,400	80.3	177.5	16,400	55
60	75.1	179.9	17,900	78.6	176.0	15,900	60
65	73.5	178.2	15,800	76.9	174.2	15,400	65
70	71.8	176.3	14,000	75.1	172.4	14,900	70
75	70.1	174.3	12,500	73.4	170.3	13,300	75
80	68.4	172.1	11,200	71.6	168.0	11,900	80
85	66.6	169.8	10,100	69.8	165.6	10,700	85
90	64.9	167.2	9,100	68.0	163.0	9,700	90
95	63.1	164.4	8,200	66.2	160.1	8,800	95
100	61.2	161.4	7,400	64.3	157.1	7,900	100
105	59.3	158.2	6,700	62.4	153.8	7,200	105
110	57.4	154.8	6,100	60.4	150.2	6,500	110
115	55.5	151.1	5,500	58.4	146.4	5,900	115
120	53.5	147.1	5,000	56.3	142.3	5,300	120
125	51.4	142.9	4,500	54.1	137.9	4,800	125
130	49.2	138.3	4,000	51.9	133.1	4,300	130
135	47.0	133.3	3,600	49.6	127.9	3,800	135
140	44.7	127.9	3,200	47.2	122.3	3,400	140
145	42.3	122.1	2,900	44.6	116.2	3,000	145
150	39.7	115.7	2,500	41.9	109.4	2,700	150
155	37.0	108.7	2,200	39.0	101.9	2,300	155
160				35.8	93.5	2,000	160

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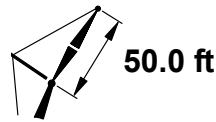
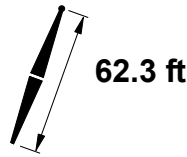
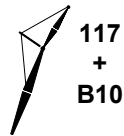
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
44	80.9	194.3	25,300				44
46	80.3	193.8	25,200				46
48	79.7	193.4	24,700				48
50	79.0	192.9	23,200				50
55	77.5	191.6	20,100	80.8	187.7	16,600	55
60	75.9	190.2	17,600	79.2	186.2	16,100	60
65	74.4	188.6	15,500	77.6	184.6	15,600	65
70	72.8	186.8	13,800	76.0	182.8	14,700	70
75	71.2	184.9	12,300	74.3	180.9	13,100	75
80	69.6	182.9	11,000	72.7	178.8	11,700	80
85	67.9	180.7	9,900	71.0	176.5	10,600	85
90	66.3	178.3	8,900	69.3	174.0	9,500	90
95	64.6	175.7	8,000	67.6	171.4	8,600	95
100	62.9	172.9	7,200	65.8	168.5	7,700	100
105	61.1	169.9	6,500	64.0	165.5	7,000	105
110	59.4	166.7	5,900	62.2	162.2	6,300	110
115	57.5	163.3	5,300	60.3	158.7	5,700	115
120	55.7	159.7	4,700	58.4	154.9	5,100	120
125	53.8	155.8	4,200	56.5	150.9	4,600	125
130	51.8	151.6	3,800	54.4	146.6	4,100	130
135	49.8	147.1	3,400	52.4	141.9	3,600	135
140	47.7	142.2	3,000	50.2	136.9	3,200	140
145	45.6	137.1	2,600	47.9	131.5	2,800	145
150	43.3	131.4	2,300	45.6	125.6	2,500	150
155	41.0	125.4	2,000	43.1	119.2	2,100	155

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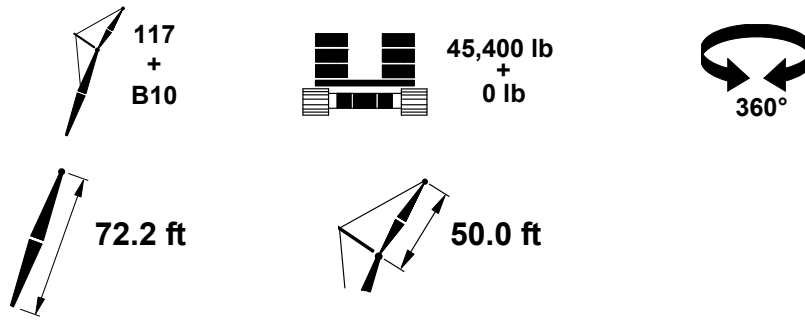
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
34	80.5	116.0	23,000				34
36	79.4	115.5	22,800				36
38	78.4	114.9	22,500				38
40	77.3	114.3	22,300				40
42	76.2	113.6	22,100				42
44	75.2	112.8	21,900				44
46	74.1	112.1	21,700				46
48	73.0	111.3	21,500	80.1	107.8	14,200	48
50	71.9	110.4	21,300	79.0	106.9	13,800	50
55	69.1	108.1	20,900	76.1	104.4	13,100	55
60	66.2	105.4	19,900	73.1	101.7	12,400	60
65	63.3	102.4	17,800	70.1	98.6	11,800	65
70	60.2	99.1	16,100	66.9	95.1	11,300	70
75	57.0	95.3	14,600	63.5	91.2	10,900	75
80	53.7	91.1	13,300	60.0	86.7	10,400	80
85	50.2	86.4	12,100	56.3	81.7	10,100	85
90	46.5	80.9	11,100	52.4	75.9	9,700	90
95	42.4	74.8	10,300	48.0	69.2	9,400	95
100	38.0	67.5	9,500	43.1	61.2	9,200	100
105	32.9	58.8	8,700	37.3	51.3	8,900	105
110	26.7	47.7	8,100				110

MLC90A-1 S-1

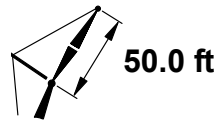
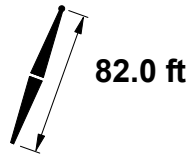
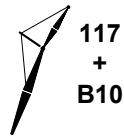
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
36	80.3	125.7	22,800				36
38	79.3	125.1	22,700				38
40	78.4	124.5	22,500				40
42	77.4	123.9	22,300				42
44	76.4	123.2	22,100				44
46	75.4	122.6	21,900				46
48	74.4	121.8	21,700				48
50	73.4	121.0	21,500	80.0	117.3	14,100	50
55	70.9	118.9	21,200	77.4	115.1	13,400	55
60	68.3	116.5	19,700	74.7	112.7	12,800	60
65	65.7	113.9	17,600	71.9	109.9	12,200	65
70	62.9	110.9	15,800	69.1	106.8	11,700	70
75	60.1	107.6	14,300	66.2	103.3	11,200	75
80	57.2	103.9	13,100	63.2	99.5	10,800	80
85	54.2	99.8	11,900	60.0	95.2	10,400	85
90	51.1	95.2	10,900	56.7	90.3	10,100	90
95	47.7	90.1	10,000	53.1	84.9	9,800	95
100	44.1	84.3	9,300	49.3	78.7	9,500	100
105	40.3	77.7	8,500	45.1	71.5	8,800	105
110	36.0	70.0	7,900	40.3	63.0	8,100	110
115	31.1	60.7	7,300	34.7	52.3	7,400	115
120	25.1	48.9	6,700				120

MLC90A-1 S-1

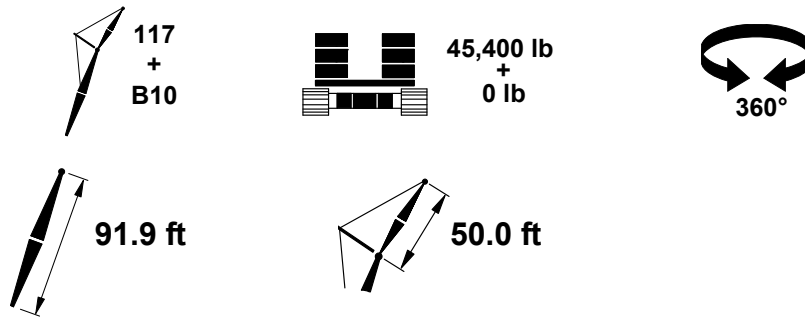
ASME B30.5



	10°			30°				
	ft	°	ft	lb	ft	lb		ft
38	80.2		135.3	22,800			38	
40	79.3		134.7	22,600			40	
42	78.4		134.2	22,400			42	
44	77.5		133.6	22,200			44	
46	76.5		132.9	22,100			46	
48	75.6		132.2	21,900			48	
50	74.7		131.5	21,700	80.8	127.7	14,300	50
55	72.4		129.6	21,400	78.4	125.7	13,600	55
60	70.0		127.4	19,400	76.0	123.4	13,000	60
65	67.6		125.0	17,300	73.5	120.9	12,500	65
70	65.2		122.3	15,600	70.9	118.1	12,000	70
75	62.7		119.3	14,100	68.3	115.0	11,500	75
80	60.1		116.0	12,800	65.6	111.6	11,100	80
85	57.4		112.4	11,700	62.8	107.8	10,700	85
90	54.6		108.4	10,700	59.9	103.6	10,400	90
95	51.8		104.0	9,800	56.9	99.0	10,100	95
100	48.7		99.1	9,000	53.7	93.8	9,300	100
105	45.5		93.6	8,300	50.3	87.9	8,600	105
110	42.1		87.4	7,600	46.6	81.3	7,900	110
115	38.4		80.4	7,000	42.5	73.7	7,200	115
120	34.3		72.3	6,500	37.9	64.6	6,600	120
125	29.5		62.5	6,000	32.4	53.2	6,100	125
130	23.7		50.1	5,500				130

MLC90A-1 S-1

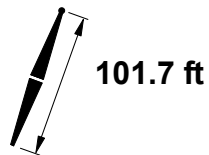
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
38	80.9	145.4	22,800				38
40	80.0	144.9	22,700				40
42	79.2	144.4	22,500				42
44	78.4	143.8	22,300				44
46	77.5	143.2	22,200				46
48	76.7	142.6	22,000				48
50	75.8	141.9	21,900				50
55	73.7	140.1	21,600	79.3	136.1	13,900	55
60	71.5	138.1	19,200	77.1	134.0	13,300	60
65	69.3	135.9	17,200	74.8	131.7	12,800	65
70	67.1	133.5	15,400	72.5	129.2	12,300	70
75	64.8	130.7	13,900	70.1	126.4	11,800	75
80	62.4	127.8	12,600	67.7	123.3	11,400	80
85	60.0	124.5	11,500	65.2	119.9	11,100	85
90	57.6	120.9	10,500	62.6	116.2	10,700	90
95	55.0	117.0	9,600	59.9	112.1	10,100	95
100	52.4	112.7	8,800	57.1	107.6	9,200	100
105	49.6	108.0	8,100	54.2	102.6	8,500	105
110	46.7	102.7	7,500	51.1	97.0	7,800	110
115	43.6	96.9	6,900	47.8	90.8	7,100	115
120	40.3	90.4	6,300	44.3	83.8	6,600	120
125	36.7	83.0	5,800	40.3	75.7	6,000	125
130	32.7	74.5	5,400	35.9	66.1	5,500	130
135	28.1	64.2	5,000	30.5	54.1	5,000	135
140	22.5	51.1	4,500				140

MLC90A-1 S-1

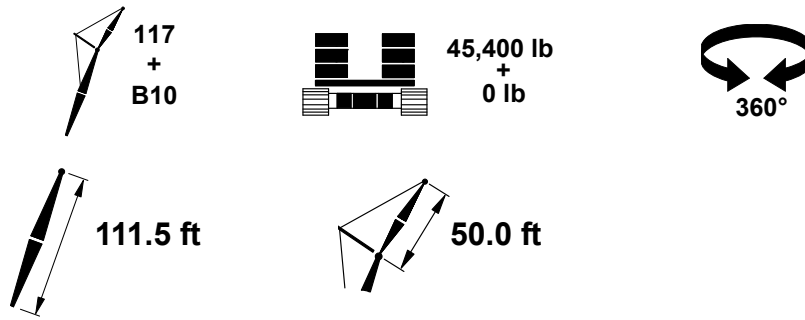
ASME B30.5



ft	10°			30°			ft
	ft	lb	ft	ft	lb	ft	
40	80.7	155.0	22,700				40
42	79.9	154.5	22,600				42
44	79.1	154.0	22,400				44
46	78.3	153.4	22,300				46
48	77.6	152.9	22,100				48
50	76.8	152.2	22,000				50
55	74.8	150.6	21,500	80.0	146.5	14,100	55
60	72.8	148.7	19,000	78.0	144.5	13,500	60
65	70.8	146.7	16,900	75.9	142.4	13,000	65
70	68.7	144.4	15,200	73.7	140.1	12,500	70
75	66.6	141.9	13,700	71.6	137.5	12,100	75
80	64.4	139.2	12,400	69.4	134.7	11,700	80
85	62.2	136.2	11,200	67.1	131.6	11,300	85
90	60.0	133.0	10,300	64.8	128.2	10,800	90
95	57.7	129.4	9,400	62.4	124.6	9,900	95
100	55.3	125.6	8,600	59.9	120.5	9,000	100
105	52.9	121.4	7,900	57.3	116.1	8,300	105
110	50.3	116.8	7,200	54.6	111.3	7,600	110
115	47.6	111.8	6,600	51.8	106.0	6,900	115
120	44.8	106.2	6,100	48.8	100.2	6,400	120
125	41.9	100.1	5,600	45.6	93.6	5,800	125
130	38.7	93.3	5,100	42.2	86.2	5,300	130
135	35.2	85.5	4,700	38.4	77.7	4,900	135
140	31.3	76.5	4,300	34.0	67.5	4,400	140
145	26.9	65.8	3,900				145
150	21.4	52.1	3,600				150

MLC90A-1 S-1

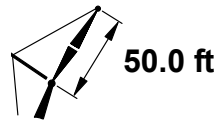
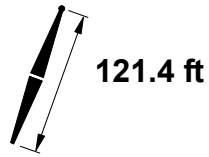
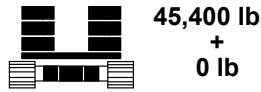
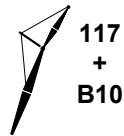
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
42	80.5	164.6	22,500				42
44	79.8	164.1	22,400				44
46	79.1	163.6	22,300				46
48	78.3	163.1	22,200				48
50	77.6	162.5	22,100				50
55	75.8	161.0	21,300	80.7	156.7	14,300	55
60	73.9	159.2	18,800	78.8	155.0	13,700	60
65	72.0	157.3	16,700	76.8	153.0	13,200	65
70	70.1	155.2	14,900	74.8	150.8	12,800	70
75	68.1	152.9	13,400	72.8	148.4	12,300	75
80	66.1	150.4	12,200	70.8	145.8	11,900	80
85	64.1	147.6	11,000	68.7	143.0	11,600	85
90	62.1	144.7	10,000	66.6	139.9	10,600	90
95	60.0	141.4	9,100	64.4	136.6	9,700	95
100	57.8	137.9	8,400	62.2	132.9	8,800	100
105	55.6	134.1	7,600	59.8	129.0	8,100	105
110	53.3	130.0	7,000	57.5	124.7	7,400	110
115	50.9	125.6	6,400	55.0	120.0	6,800	115
120	48.5	120.7	5,900	52.4	114.9	6,200	120
125	45.9	115.4	5,400	49.7	109.3	5,700	125
130	43.2	109.6	4,900	46.8	103.1	5,200	130
135	40.3	103.2	4,500	43.7	96.2	4,700	135
140	37.2	96.0	4,100	40.3	88.5	4,300	140
145	33.8	87.9	3,700	36.6	79.5	3,900	145
150	30.1	78.5	3,400	32.4	68.9	3,500	150
155	25.7	67.3	3,100				155
160	20.4	52.9	2,700				160

MLC90A-1 S-1

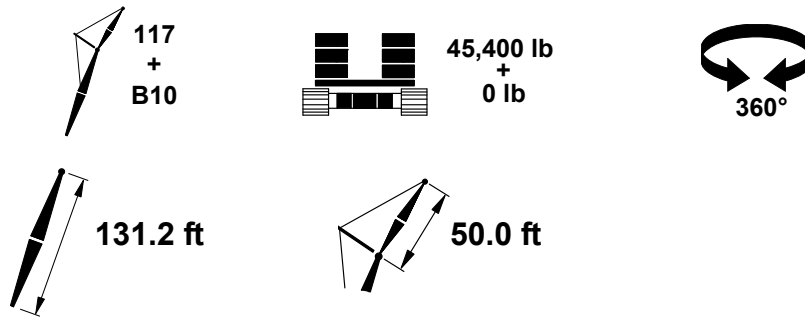
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
44	80.4	174.2	22,400				44
46	79.7	173.8	22,300				46
48	79.0	173.2	22,200				48
50	78.3	172.7	22,100				50
55	76.6	171.3	21,100				55
60	74.9	169.6	18,600	79.5	165.3	13,900	60
65	73.1	167.9	16,500	77.6	163.5	13,400	65
70	71.3	165.9	14,700	75.8	161.4	13,000	70
75	69.5	163.7	13,200	73.9	159.2	12,600	75
80	67.6	161.4	11,900	72.0	156.8	12,200	80
85	65.8	158.9	10,800	70.1	154.2	11,500	85
90	63.9	156.1	9,800	68.1	151.3	10,400	90
95	61.9	153.1	8,900	66.1	148.3	9,500	95
100	59.9	149.9	8,100	64.1	144.9	8,600	100
105	57.9	146.4	7,400	62.0	141.3	7,900	105
110	55.8	142.7	6,700	59.8	137.5	7,200	110
115	53.7	138.7	6,100	57.6	133.3	6,600	115
120	51.5	134.3	5,600	55.3	128.7	6,000	120
125	49.2	129.6	5,100	52.9	123.8	5,400	125
130	46.8	124.5	4,700	50.4	118.4	5,000	130
135	44.3	118.9	4,200	47.7	112.5	4,500	135
140	41.7	112.8	3,900	44.9	106.0	4,100	140
145	38.9	106.1	3,500	41.9	98.8	3,700	145
150	35.9	98.6	3,100	38.7	90.6	3,300	150
155	32.6	90.1	2,800	35.0	81.3	2,900	155
160	28.9	80.4	2,500	30.9	70.2	2,600	160
165	24.7	68.7	2,200				165

MLC90A-1 S-1

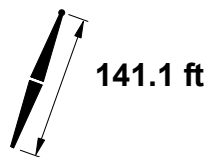
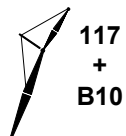
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
44	80.9	184.3	22,300				44
46	80.3	183.9	22,300				46
48	79.6	183.4	22,100				48
50	79.0	182.9	22,100				50
55	77.4	181.5	20,900				55
60	75.7	180.0	18,300	80.1	175.6	14,100	60
65	74.0	178.3	16,300	78.4	173.8	13,600	65
70	72.4	176.5	14,500	76.6	171.9	13,200	70
75	70.7	174.4	13,000	74.9	169.9	12,800	75
80	68.9	172.3	11,700	73.1	167.6	12,400	80
85	67.2	169.9	10,600	71.3	165.2	11,300	85
90	65.4	167.3	9,600	69.5	162.5	10,300	90
95	63.6	164.6	8,700	67.6	159.7	9,300	95
100	61.8	161.6	7,900	65.8	156.6	8,500	100
105	59.9	158.4	7,200	63.8	153.3	7,700	105
110	58.0	154.9	6,500	61.8	149.8	7,000	110
115	56.0	151.3	6,000	59.8	145.9	6,400	115
120	54.0	147.3	5,400	57.7	141.8	5,800	120
125	52.0	143.0	4,900	55.6	137.4	5,300	125
130	49.8	138.4	4,500	53.3	132.6	4,800	130
135	47.6	133.5	4,100	51.0	127.4	4,300	135
140	45.3	128.1	3,700	48.5	121.7	3,900	140
145	42.9	122.3	3,300	46.0	115.5	3,500	145
150	40.3	115.9	3,000	43.3	108.8	3,200	150
155	37.6	108.9	2,600	40.3	101.2	2,800	155
160	34.7	101.1	2,400	37.2	92.7	2,500	160
165	31.5	92.3	2,100	33.6	83.0	2,200	165

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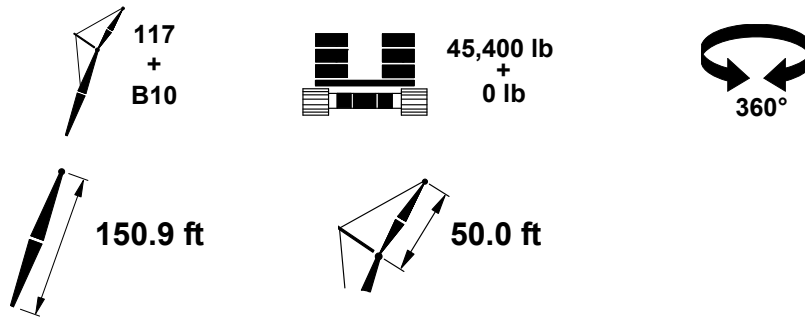
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
46	80.8	193.9	22,100				46
48	80.2	193.5	22,000				48
50	79.6	193.0	22,000				50
55	78.0	191.7	20,600				55
60	76.5	190.3	18,100	80.6	185.8	14,200	60
65	74.9	188.7	16,000	79.0	184.2	13,800	65
70	73.3	187.0	14,300	77.4	182.4	13,300	70
75	71.7	185.1	12,800	75.7	180.4	13,000	75
80	70.1	183.0	11,500	74.1	178.3	12,400	80
85	68.5	180.8	10,300	72.4	176.0	11,100	85
90	66.8	178.4	9,300	70.7	173.6	10,100	90
95	65.1	175.8	8,400	69.0	170.9	9,100	95
100	63.4	173.0	7,600	67.2	168.1	8,300	100
105	61.7	170.0	6,900	65.4	165.0	7,500	105
110	59.9	166.9	6,300	63.6	161.7	6,800	110
115	58.1	163.4	5,700	61.7	158.2	6,200	115
120	56.2	159.8	5,200	59.8	154.4	5,600	120
125	54.3	155.9	4,700	57.8	150.3	5,100	125
130	52.4	151.7	4,200	55.8	146.0	4,600	130
135	50.4	147.2	3,800	53.7	141.3	4,100	135
140	48.3	142.4	3,400	51.5	136.3	3,700	140
145	46.1	137.2	3,100	49.3	130.8	3,300	145
150	43.9	131.6	2,700	46.9	124.9	3,000	150
155	41.5	125.5	2,400	44.4	118.5	2,600	155
160	39.0	118.9	2,100	41.7	111.4	2,300	160
165				38.9	103.6	2,000	165

MLC90A-1 S-1

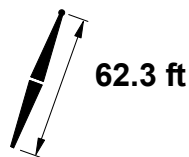
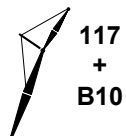
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
48	80.7	203.6	21,900				48
50	80.1	203.1	21,800				50
55	78.6	201.9	20,400				55
60	77.2	200.5	17,900				60
65	75.7	199.0	15,800	79.6	194.4	13,900	65
70	74.2	197.4	14,000	78.1	192.8	13,500	70
75	72.7	195.6	12,500	76.5	190.9	13,100	75
80	71.1	193.6	11,200	74.9	188.9	12,200	80
85	69.6	191.5	10,100	73.4	186.8	11,000	85
90	68.0	189.3	9,100	71.8	184.5	9,900	90
95	66.4	186.9	8,200	70.1	182.0	8,900	95
100	64.8	184.3	7,400	68.5	179.3	8,100	100
105	63.2	181.5	6,700	66.8	176.4	7,300	105
110	61.6	178.5	6,100	65.1	173.4	6,600	110
115	59.9	175.3	5,500	63.4	170.1	6,000	115
120	58.2	171.9	4,900	61.6	166.6	5,400	120
125	56.4	168.3	4,400	59.8	162.9	4,900	125
130	54.6	164.5	4,000	57.9	158.9	4,400	130
135	52.8	160.4	3,600	56.0	154.6	3,900	135
140	50.9	156.0	3,200	54.0	150.0	3,500	140
145	48.9	151.3	2,800	52.0	145.1	3,100	145
150	46.9	146.2	2,500	49.9	139.9	2,800	150
155	44.8	140.8	2,200	47.7	134.2	2,400	155
160				45.4	128.0	2,100	160

MLC90A-1 S-1

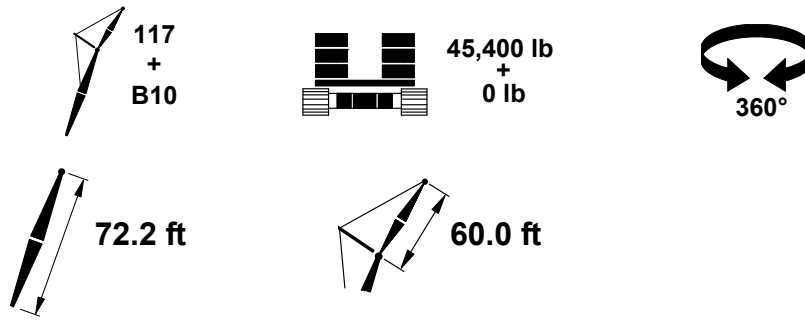
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	°	
36	80.7		126.0	20,600			36
38	79.7		125.4	20,300			38
40	78.7		124.8	20,200			40
42	77.8		124.2	20,000			42
44	76.8		123.5	19,800			44
46	75.8		122.9	19,600			46
48	74.8		122.1	19,400			48
50	73.8		121.3	19,300			50
55	71.3		119.2	18,800	79.3	115.6	55
60	68.7		116.9	18,400	76.6	113.1	60
65	66.1		114.2	17,900	73.9	110.3	65
70	63.4		111.2	16,200	71.1	107.2	70
75	60.6		107.9	14,700	68.2	103.8	75
80	57.7		104.2	13,400	65.1	100.0	80
85	54.7		100.1	12,300	62.0	95.7	85
90	51.5		95.6	11,300	58.7	90.9	90
95	48.2		90.5	10,400	55.1	85.5	95
100	44.6		84.7	9,600	51.4	79.3	100
105	40.8		78.2	8,900	47.2	72.2	105
110	36.5		70.5	8,300	42.5	63.8	110
115	31.7		61.4	7,700	37.0	53.3	115
120	25.8		49.8	7,100	29.6	38.9	120

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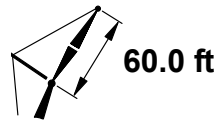
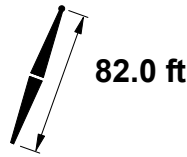
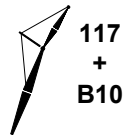
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
38	80.5	135.6	20,500				38
40	79.6	135.0	20,300				40
42	78.7	134.5	20,100				42
44	77.8	133.8	19,900				44
46	76.9	133.2	19,800				46
48	76.0	132.5	19,600				48
50	75.1	131.8	19,400				50
55	72.8	129.9	19,000	80.2	126.0	12,800	55
60	70.4	127.7	18,600	77.7	123.8	12,100	60
65	68.0	125.3	17,700	75.3	121.3	11,500	65
70	65.6	122.6	16,000	72.7	118.5	11,000	70
75	63.1	119.6	14,500	70.1	115.4	10,500	75
80	60.5	116.4	13,200	67.4	112.0	10,100	80
85	57.8	112.7	12,100	64.7	108.2	9,700	85
90	55.1	108.8	11,100	61.8	104.0	9,300	90
95	52.2	104.3	10,200	58.7	99.4	9,000	95
100	49.2	99.5	9,400	55.6	94.2	8,700	100
105	46.0	94.0	8,700	52.2	88.4	8,500	105
110	42.6	87.9	8,100	48.5	81.9	8,200	110
115	38.9	80.9	7,500	44.5	74.3	7,700	115
120	34.8	72.8	6,900	39.9	65.3	7,100	120
125	30.1	63.2	6,400	34.5	54.1	6,500	125
130	24.4	50.9	6,000				130

MLC90A-1 S-1

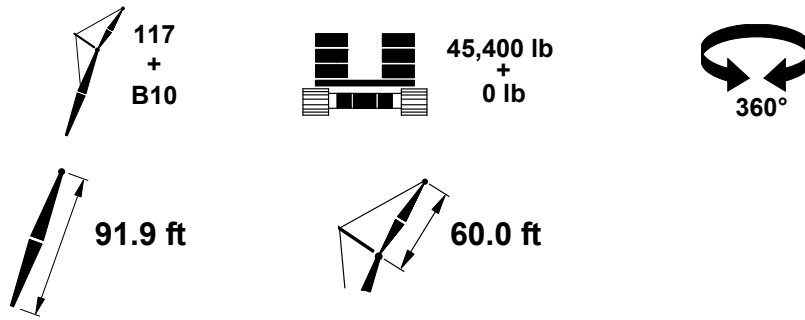
ASME B30.5



	10°			30°				
	ft	°	ft	lb	ft	°		ft
40	80.3		145.2	20,400			40	
42	79.5		144.6	20,200			42	
44	78.7		144.1	20,100			44	
46	77.8		143.5	19,900			46	
48	77.0		142.9	19,700			48	
50	76.2		142.2	19,600			50	
55	74.0		140.4	19,200	80.9	136.4	13,000	55
60	71.9		138.4	18,800	78.7	134.3	12,300	60
65	69.7		136.2	17,500	76.4	132.0	11,800	65
70	67.4		133.8	15,700	74.1	129.5	11,300	70
75	65.1		131.1	14,200	71.7	126.7	10,800	75
80	62.8		128.1	12,900	69.3	123.6	10,400	80
85	60.4		124.8	11,800	66.8	120.2	10,000	85
90	57.9		121.3	10,800	64.2	116.5	9,600	90
95	55.4		117.4	9,900	61.6	112.4	9,300	95
100	52.7		113.1	9,100	58.8	107.9	9,000	100
105	50.0		108.3	8,400	55.9	102.9	8,700	105
110	47.1		103.1	7,800	52.8	97.4	8,100	110
115	44.0		97.4	7,200	49.6	91.3	7,500	115
120	40.7		90.9	6,700	46.0	84.3	6,900	120
125	37.2		83.5	6,200	42.1	76.2	6,400	125
130	33.2		75.0	5,700	37.7	66.7	5,900	130
135	28.7		64.9	5,300	32.3	54.8	5,400	135
140	23.1		52.0	4,900			140	

MLC90A-1 S-1

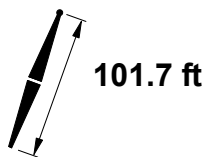
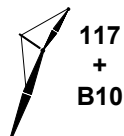
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
40	81.0	155.3	20,300				40
42	80.2	154.8	20,200				42
44	79.4	154.3	20,100				44
46	78.6	153.7	19,900				46
48	77.9	153.1	19,800				48
50	77.1	152.5	19,700				50
55	75.1	150.9	19,300				55
60	73.1	149.0	19,000	79.5	144.8	12,500	60
65	71.1	147.0	17,300	77.4	142.7	12,000	65
70	69.0	144.7	15,500	75.3	140.3	11,500	70
75	66.9	142.2	14,000	73.1	137.7	11,100	75
80	64.8	139.5	12,800	70.9	134.9	10,600	80
85	62.6	136.5	11,600	68.6	131.8	10,300	85
90	60.3	133.3	10,600	66.3	128.5	9,900	90
95	58.0	129.8	9,800	63.9	124.8	9,600	95
100	55.7	125.9	9,000	61.4	120.8	9,300	100
105	53.2	121.7	8,300	58.9	116.4	8,700	105
110	50.7	117.2	7,600	56.2	111.6	8,000	110
115	48.0	112.2	7,000	53.4	106.3	7,400	115
120	45.2	106.7	6,500	50.4	100.5	6,800	120
125	42.3	100.6	6,000	47.2	94.0	6,300	125
130	39.1	93.7	5,500	43.8	86.6	5,800	130
135	35.6	86.0	5,100	40.0	78.1	5,300	135
140	31.8	77.1	4,700	35.7	68.1	4,900	140
145	27.4	66.5	4,400	30.4	55.5	4,400	145
150	22.0	53.0	4,000				150

MLC90A-1 S-1

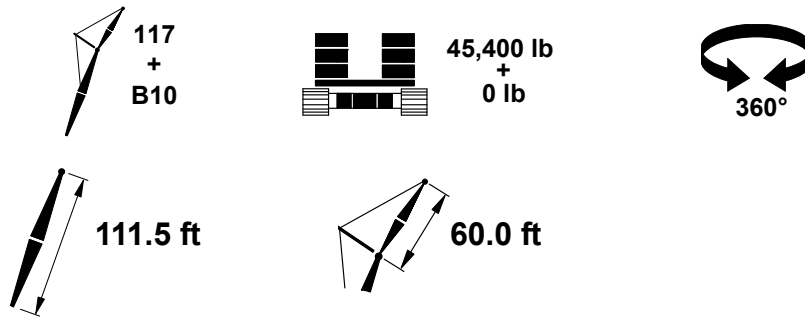
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
42	80.8	164.9	20,200				42
44	80.1	164.4	20,100				44
46	79.4	163.9	20,000				46
48	78.6	163.3	19,800				48
50	77.9	162.8	19,700				50
55	76.0	161.2	19,400				55
60	74.2	159.5	19,100	80.2	155.1	12,700	60
65	72.3	157.6	17,100	78.2	153.2	12,200	65
70	70.4	155.5	15,300	76.3	151.0	11,700	70
75	68.4	153.2	13,800	74.3	148.6	11,300	75
80	66.5	150.7	12,500	72.2	146.0	10,900	80
85	64.4	148.0	11,400	70.1	143.2	10,500	85
90	62.4	145.0	10,400	68.0	140.1	10,200	90
95	60.3	141.8	9,500	65.8	136.8	9,800	95
100	58.1	138.3	8,700	63.6	133.2	9,300	100
105	55.9	134.5	8,000	61.3	129.2	8,500	105
110	53.6	130.4	7,400	58.9	124.9	7,800	110
115	51.3	125.9	6,800	56.4	120.3	7,200	115
120	48.8	121.1	6,200	53.8	115.2	6,600	120
125	46.3	115.8	5,700	51.1	109.6	6,100	125
130	43.6	110.0	5,300	48.2	103.4	5,600	130
135	40.7	103.6	4,900	45.2	96.5	5,100	135
140	37.6	96.5	4,500	41.8	88.8	4,700	140
145	34.3	88.4	4,100	38.1	79.9	4,300	145
150	30.5	79.1	3,800	33.9	69.3	3,900	150
155	26.2	68.0	3,400				155
160	20.9	53.9	3,100				160

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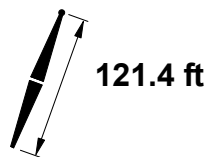
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
44	80.7	174.5	20,000				44
46	80.0	174.0	20,000				46
48	79.3	173.5	19,800				48
50	78.6	173.0	19,700				50
55	76.9	171.5	19,500				55
60	75.1	169.9	18,900	80.8	165.4	12,900	60
65	73.4	168.1	16,800	79.0	163.6	12,400	65
70	71.6	166.2	15,100	77.1	161.6	11,900	70
75	69.8	164.0	13,600	75.3	159.4	11,500	75
80	67.9	161.7	12,300	73.4	156.9	11,100	80
85	66.1	159.2	11,200	71.4	154.3	10,700	85
90	64.2	156.4	10,200	69.5	151.5	10,400	90
95	62.2	153.4	9,300	67.5	148.4	10,000	95
100	60.2	150.2	8,500	65.4	145.1	9,100	100
105	58.2	146.8	7,800	63.3	141.5	8,300	105
110	56.1	143.0	7,100	61.2	137.6	7,600	110
115	54.0	139.0	6,500	58.9	133.4	7,000	115
120	51.8	134.7	6,000	56.6	128.9	6,400	120
125	49.5	130.0	5,500	54.2	124.0	5,900	125
130	47.1	124.9	5,100	51.7	118.6	5,400	130
135	44.7	119.3	4,600	49.1	112.7	5,000	135
140	42.0	113.2	4,300	46.3	106.2	4,500	140
145	39.2	106.5	3,900	43.3	99.0	4,100	145
150	36.3	99.1	3,600	40.1	90.9	3,700	150
155	33.0	90.7	3,200	36.4	81.6	3,400	155
160	29.4	81.0	2,900	32.3	70.5	3,000	160
165	25.2	69.4	2,600				165

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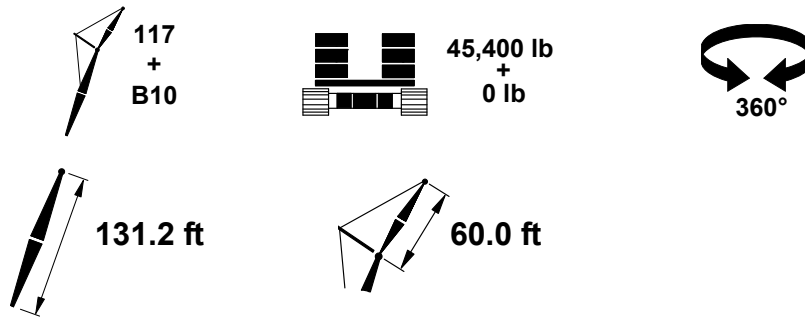
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
46	80.5	184.1	19,900				46
48	79.9	183.6	19,800				48
50	79.2	183.1	19,700				50
55	77.6	181.8	19,500				55
60	76.0	180.3	18,700				60
65	74.3	178.6	16,600	79.6	173.9	12,600	65
70	72.6	176.7	14,800	77.9	172.0	12,100	70
75	70.9	174.7	13,300	76.1	170.0	11,700	75
80	69.2	172.5	12,000	74.4	167.7	11,300	80
85	67.5	170.2	10,900	72.6	165.3	10,900	85
90	65.7	167.6	9,900	70.8	162.6	10,600	90
95	63.9	164.9	9,000	68.9	159.8	9,800	95
100	62.1	161.9	8,200	67.0	156.7	8,900	100
105	60.2	158.7	7,500	65.1	153.4	8,100	105
110	58.3	155.3	6,900	63.1	149.9	7,400	110
115	56.3	151.6	6,300	61.1	146.0	6,800	115
120	54.3	147.6	5,800	59.0	141.9	6,200	120
125	52.3	143.4	5,300	56.8	137.5	5,700	125
130	50.1	138.8	4,800	54.6	132.7	5,200	130
135	47.9	133.9	4,400	52.3	127.5	4,700	135
140	45.6	128.5	4,000	49.8	121.9	4,300	140
145	43.2	122.7	3,600	47.3	115.7	3,900	145
150	40.6	116.4	3,300	44.5	108.9	3,500	150
155	37.9	109.4	3,000	41.6	101.4	3,200	155
160	35.0	101.6	2,700	38.5	92.9	2,900	160
165	31.9	92.9	2,400	34.9	83.2	2,500	165
170	28.3	82.8	2,100	30.9	71.6	2,200	170

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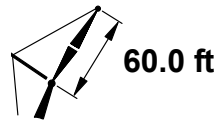
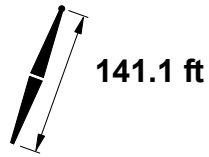
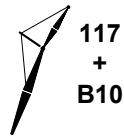
ASME B30.5



	10°			30°			
	ft	°	ft	lb	ft	lb	
48	80.4	193.7	19,700				48
50	79.8	193.3	19,600				50
55	78.3	192.0	19,400				55
60	76.7	190.5	18,500				60
65	75.1	189.0	16,400	80.2	184.2	12,700	65
70	73.6	187.2	14,600	78.6	182.5	12,300	70
75	72.0	185.3	13,100	76.9	180.5	11,900	75
80	70.3	183.3	11,800	75.3	178.4	11,500	80
85	68.7	181.1	10,700	73.6	176.1	11,100	85
90	67.1	178.7	9,700	71.9	173.6	10,600	90
95	65.4	176.1	8,800	70.1	171.0	9,600	95
100	63.7	173.3	8,000	68.4	168.1	8,700	100
105	61.9	170.3	7,300	66.6	165.1	8,000	105
110	60.2	167.2	6,700	64.8	161.8	7,300	110
115	58.4	163.8	6,100	62.9	158.3	6,700	115
120	56.5	160.1	5,600	61.0	154.5	6,100	120
125	54.6	156.2	5,100	59.0	150.4	5,500	125
130	52.7	152.1	4,600	57.0	146.1	5,000	130
135	50.7	147.6	4,200	54.9	141.4	4,600	135
140	48.6	142.8	3,800	52.7	136.4	4,200	140
145	46.4	137.6	3,400	50.5	130.9	3,800	145
150	44.2	132.0	3,100	48.1	125.0	3,400	150
155	41.8	125.9	2,800	45.6	118.6	3,100	155
160	39.4	119.3	2,500	42.9	111.5	2,700	160
165	36.7	112.1	2,200	40.1	103.7	2,400	165
170	33.9	104.0	2,000	37.0	94.9	2,100	170

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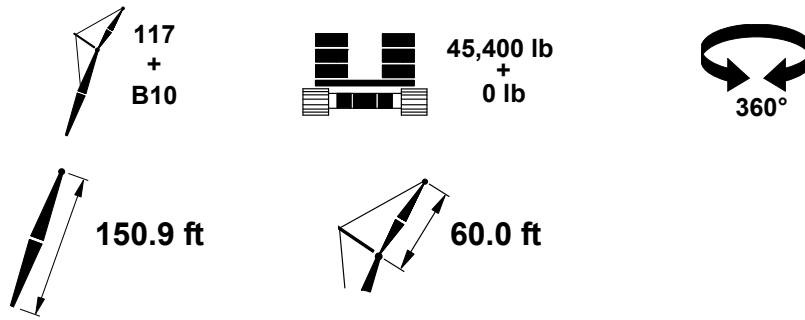
ASME B30.5



	10°			30°			
	ft	o	ft	lb	o	ft	
48	80.9	203.8	19,600				48
50	80.3	203.4	19,500				50
55	78.9	202.1	19,300				55
60	77.4	200.8	18,200				60
65	75.9	199.3	16,200	80.7	194.5	12,900	65
70	74.4	197.6	14,400	79.2	192.8	12,400	70
75	72.9	195.9	12,900	77.6	191.0	12,000	75
80	71.4	193.9	11,600	76.1	189.0	11,700	80
85	69.8	191.8	10,500	74.5	186.8	11,300	85
90	68.3	189.6	9,500	72.9	184.5	10,400	90
95	66.7	187.1	8,600	71.2	182.0	9,400	95
100	65.1	184.6	7,800	69.6	179.3	8,600	100
105	63.5	181.8	7,100	67.9	176.5	7,800	105
110	61.8	178.8	6,400	66.2	173.4	7,100	110
115	60.1	175.6	5,800	64.5	170.1	6,500	115
120	58.4	172.3	5,300	62.7	166.6	5,900	120
125	56.7	168.7	4,800	60.9	162.9	5,300	125
130	54.9	164.8	4,400	59.0	158.9	4,800	130
135	53.0	160.7	3,900	57.1	154.7	4,400	135
140	51.1	156.3	3,600	55.1	150.1	4,000	140
145	49.2	151.6	3,200	53.1	145.2	3,600	145
150	47.2	146.6	2,900	51.0	139.9	3,200	150
155	45.1	141.2	2,500	48.8	134.2	2,800	155
160	42.9	135.4	2,200	46.5	128.1	2,500	160
165	40.6	129.1	2,000	44.1	121.4	2,200	165

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ASME B30.5



	10°			30°				
	ft	°	ft	lb	ft	lb		ft
50	80.8		213.4	19,400			50	
55	79.4		212.3	19,200			55	
60	78.0		211.0	18,000			60	
65	76.6		209.6	15,900			65	
70	75.2		208.0	14,200			70	
75	73.7		206.3	12,700	79.7	203.1	12,600	75
80	72.3		204.5	11,400	76.8	199.5	11,800	80
85	70.8		202.5	10,200	75.3	197.4	11,300	85
90	69.4		200.4	9,200	73.8	195.3	10,200	90
95	67.9		198.1	8,300	72.2	192.9	9,200	95
100	66.4		195.6	7,500	70.7	190.4	8,400	100
105	64.8		193.0	6,800	69.1	187.7	7,600	105
110	63.3		190.2	6,200	67.5	184.8	6,900	110
115	61.7		187.3	5,600	65.9	181.8	6,300	115
120	60.1		184.1	5,100	64.2	178.5	5,700	120
125	58.5		180.8	4,600	62.5	175.0	5,100	125
130	56.8		177.2	4,100	60.8	171.3	4,700	130
135	55.1		173.4	3,700	59.1	167.4	4,200	135
140	53.4		169.3	3,300	57.2	163.2	3,800	140
145	51.6		165.0	3,000	55.4	158.7	3,400	145
150	49.7		160.5	2,600	53.5	154.0	3,000	150
155	47.8		155.6	2,300	51.5	148.8	2,700	155
160	45.9		150.3	2,000	49.4	143.3	2,300	160
165					47.3	137.4	2,000	165