

# Liftcrane Boom Capacities With Luffing Jib Attached

**Boom No. B65:685-680**  
**Luffing Jib No. LJ11:680-681-682**  
**with Mast No. M11:684**  
**440,900 lb VPC (Variable Position Counterweight)**  
**360 Degree Rating**

**MLC650**  
**VPC-MAX**  
**SERIES 1**



**LIFTING CAPACITIES:** Lifting capacities for various boom lengths, luffing jib lengths, boom-to-luffing jib angles, and boom 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 point sheaves, is considered part of load. Weight of luffing jib and 40,000 lb suspended beneath luffing jib point sheaves have been included in capacity determination. 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. Supporting surface and bearing turntable are to be level within a tolerance of 1/2 in. in 10 ft. During operation, luffing jib must be maintained at proper boom-to-luffing jib angle shown in table. Refer to Luffing Jib Rigging **No. 84038308**, Mast Rigging **No. 84050187**, Wire Rope Specifications chart **No. 9862-A**, Counterweight Arrangements chart **No. 9349-A**, Luffing Jib Raising Procedure chart **No. 9536-A**, and Wind Conditions chart **No. 9538-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 and luffing jib must be within angle range shown in capacity chart. Refer to Maximum Allowable Travel Specifications chart **No. 9537-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.


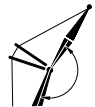


**BOOM POINT ELEVATION:** Boom point elevation is vertical distance from ground level to centerline of boom point shaft.

**MACHINE EQUIPMENT:** Machine equipped with VPC-MAX, 36 ft 6 in. crawlers, 60 in. or 80 in. treads, 36 ft 1 in. live mast, 118.1 ft mast, 16 part boom hoist reeving, boom support straps, 20 part luffing jib hoist reeving, luffing jib and backstay support straps, and 440,900 lb VPC.

Select counterweight position from Luffing Jib Raising Procedure chart **No. 9536-A** that will allow raising and lowering of boom and luffing jib length. Counterweight position selection may be changed with boom and luffing jib on ground or while boom and luffing jib are within operating range of capacity chart.

Consult Chart **No. 9535-A** for luffing jib capacities.

Luffing Jib Position During Operation	
 Luffing Jib Length Feet	 Boom-to-Luffing Jib Angle Degrees
85.3 - 105.0	135
114.8 - 173.9	150
193.6 - 331.4	169

**Explanation of Symbols**



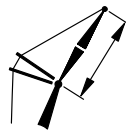
Luffing Jib No. LJ11:680-681-682  
+  
Boom No. B65:685-680



VPC (Variable Position Counterweight)



360 Degree Rating



Luffing Jib Length



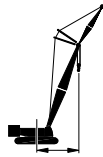
Boom-to-Luffing Jib Angle



Boom Length

REFERENCE ONLY!

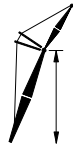
**Explanation of Symbols**  
(continued)



Operating Radius  
(see page 1)



Boom Angle  
(see page 1)



Boom Point Elevation  
(see page 1)



Counterweight Position  
from Axis of Rotation

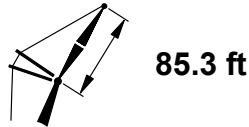


Lifting Capacities  
(see page 1)

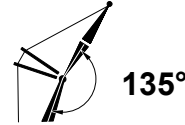
REFERENCE ONLY!

# MLC650 VPC-MAX S-1

ASME B30.5



85.3 ft



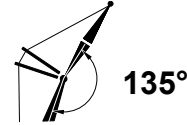
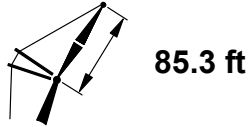
135°

183.7 ft				
ft	°	ft	lb	lb
32	83.0	192.0	580,600	773,600
34	82.4	191.7	523,400	773,600
36	81.7	191.4	473,700	773,600
38	81.1	191.0	430,000	773,600
40	80.5	190.6	391,400	773,600
45	78.9	189.6	311,900	768,800
50	77.3	188.4	249,600	679,900
55	75.7	187.1	198,400	605,000
60	74.0	185.6	156,600	541,100
65	72.4	183.9	121,700	486,000
70	70.7	182.1	92,300	438,000
75	69.1	180.2	67,000	395,800
80	67.4	178.0	45,200	358,400
85	65.6	175.7	26,100	325,100
90	63.9	173.2		295,100
95	62.1	170.5		268,100
100	60.3	167.5		243,700
105	58.5	164.4		221,400
110	56.6	161.1		200,500
115	54.7	157.5		178,700
120	52.7	153.6		159,000
125	50.7	149.4		140,900
130	48.6	145.0		124,500
135	46.4	140.1		109,300

203.4 ft				
ft	°	ft	lb	lb
36	82.5	211.3	475,900	773,600
38	82.0	211.0	431,800	773,600
40	81.4	210.7	392,700	773,600
45	80.0	209.7	312,400	758,000
50	78.5	208.6	250,000	670,900
55	77.1	207.4	199,400	597,400
60	75.6	206.1	157,200	534,500
65	74.2	204.6	122,000	480,200
70	72.7	203.0	92,300	432,700
75	71.2	201.3	66,800	390,900
80	69.7	199.4	44,700	353,900
85	68.2	197.3	25,400	320,800
90	66.6	195.1		291,000
95	65.1	192.7		264,200
100	63.5	190.1		239,800
105	61.9	187.4		217,600
110	60.2	184.5		197,300
115	58.6	181.4		176,100
120	56.9	178.1		156,300
125	55.2	174.5		138,200
130	53.4	170.8		121,600
135	51.6	166.7		106,400
140	49.7	162.4		92,400
145	47.8	157.9		79,400
150	45.9	153.0		67,400

# MLC650 VPC-MAX S-1

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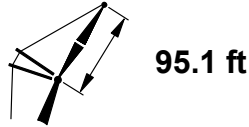


223.1 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	429,100	728,800
40	82.2	230.6	389,700	728,800
45	80.9	229.8	308,600	728,800
50	79.6	228.8	245,700	658,700
55	78.2	227.7	195,400	586,400
60	76.9	226.5	153,500	524,400
65	75.6	225.1	118,100	470,700
70	74.3	223.7	88,100	423,800
75	72.9	222.1	62,400	382,400
80	71.6	220.4	40,100	345,600
85	70.2	218.5	20,700	312,800
90	68.8	216.5		283,300
95	67.4	214.4		256,600
100	66.0	212.1		232,300
105	64.6	209.7		210,200
110	63.1	207.1		190,000
115	61.7	204.4		169,700
120	60.2	201.5		149,900
125	58.7	198.4		131,800
130	57.1	195.1		115,200
135	55.6	191.6		99,900
140	54.0	187.9		85,900
145	52.3	184.0		72,800
150	50.7	179.8		60,800
155	49.0	175.4		49,500
160	47.2	170.7		39,100
165	45.4	165.8		29,300

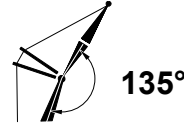
242.8 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
40	82.8	250.5	389,600	683,200
45	81.6	249.7	307,800	683,200
50	80.4	248.8	244,300	648,300
55	79.2	247.8	193,700	577,500
60	78.0	246.7	152,300	516,600
65	76.8	245.5	116,900	463,800
70	75.6	244.2	86,700	417,500
75	74.3	242.7	60,800	376,600
80	73.1	241.2	38,400	340,200
85	71.9	239.5	18,800	307,600
90	70.6	237.7		278,400
95	69.3	235.8		251,900
100	68.1	233.7		227,800
105	66.8	231.5		205,800
110	65.5	229.2		185,700
115	64.2	226.7		166,300
120	62.8	224.1		146,400
125	61.5	221.3		128,300
130	60.1	218.4		111,700
135	58.7	215.3		96,400
140	57.3	212.1		82,300
145	55.9	208.6		69,300
150	54.4	205.0		57,200
155	53.0	201.2		45,900
160	51.4	197.1		35,400
165	49.9	192.9		25,600

# MLC650 VPC-MAX S-1

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95.1 ft



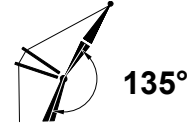
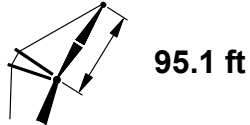
135°

183.7 ft				
ft	°	ft	lb	lb
32	83.0	192.0	547,400	773,600
34	82.4	191.7	491,900	773,600
36	81.7	191.4	443,700	773,600
38	81.1	191.0	401,300	773,600
40	80.5	190.6	363,900	773,600
45	78.9	189.6	286,800	749,200
50	77.3	188.4	226,400	661,200
55	75.7	187.1	176,800	587,100
60	74.0	185.6	136,200	523,900
65	72.4	183.9	102,400	469,500
70	70.7	182.1	73,800	422,000
75	69.1	180.2	49,400	380,300
80	67.4	178.0	28,200	343,300
85	65.6	175.7		310,400
90	63.9	173.2		280,800
95	62.1	170.5		254,200
100	60.3	167.5		230,000
105	58.5	164.4		208,100
110	56.6	161.1		185,900
115	54.7	157.5		164,500
120	52.7	153.6		145,100
125	50.7	149.4		127,400
130	48.6	145.0		111,200
135	46.4	140.1		96,400

203.4 ft				
ft	°	ft	lb	lb
36	82.5	211.3	446,200	773,600
38	82.0	211.0	403,400	773,600
40	81.4	210.7	365,500	773,600
45	80.0	209.7	287,600	738,900
50	78.5	208.6	227,100	652,700
55	77.1	207.4	178,100	580,000
60	75.6	206.1	137,100	517,700
65	74.2	204.6	102,900	464,000
70	72.7	203.0	74,100	417,000
75	71.2	201.3	49,400	375,700
80	69.7	199.4	28,000	339,100
85	68.2	197.3		306,400
90	66.6	195.1		277,000
95	65.1	192.7		250,500
100	63.5	190.1		226,400
105	61.9	187.4		204,500
110	60.2	184.5		183,500
115	58.6	181.4		162,000
120	56.9	178.1		142,500
125	55.2	174.5		124,800
130	53.4	170.8		108,500
135	51.6	166.7		93,600
140	49.7	162.4		79,900
145	47.8	157.9		67,200
150	45.9	153.0		55,400

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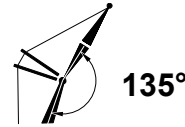
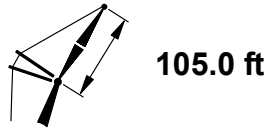


223.1 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	400,900	728,800
40	82.2	230.6	362,700	728,800
45	80.9	229.8	284,000	725,500
50	79.6	228.8	223,000	640,900
55	78.2	227.7	174,200	569,300
60	76.9	226.5	133,600	508,000
65	75.6	225.1	99,200	454,800
70	74.3	223.7	70,100	408,400
75	72.9	222.1	45,200	367,500
80	71.6	220.4	23,600	331,100
85	70.2	218.5		298,700
90	68.8	216.5		269,500
95	67.4	214.4		243,100
100	66.0	212.1		219,200
105	64.6	209.7		197,300
110	63.1	207.1		177,300
115	61.7	204.4		155,800
120	60.2	201.5		136,300
125	58.7	198.4		118,500
130	57.1	195.1		102,200
135	55.6	191.6		87,200
140	54.0	187.9		73,400
145	52.3	184.0		60,700
150	50.7	179.8		48,800
155	49.0	175.4		37,800
160	47.2	170.7		27,600
165	45.4	165.8		18,000

242.8 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
40	82.8	250.5	362,800	683,200
45	81.6	249.7	283,400	683,200
50	80.4	248.8	221,800	631,000
55	79.2	247.8	172,700	560,800
60	78.0	246.7	132,500	500,600
65	76.8	245.5	98,200	448,200
70	75.6	244.2	68,900	402,400
75	74.3	242.7	43,800	361,900
80	73.1	241.2	22,000	326,000
85	71.9	239.5		293,800
90	70.6	237.7		264,800
95	69.3	235.8		238,600
100	68.1	233.7		214,800
105	66.8	231.5		193,100
110	65.5	229.2		173,200
115	64.2	226.7		152,500
120	62.8	224.1		133,000
125	61.5	221.3		115,200
130	60.1	218.4		98,900
135	58.7	215.3		83,800
140	57.3	212.1		70,000
145	55.9	208.6		57,200
150	54.4	205.0		45,300
155	53.0	201.2		34,200
160	51.4	197.1		23,900

# MLC650 VPC-MAX S-1

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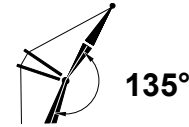
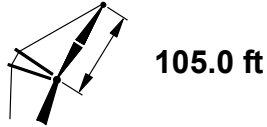
183.7 ft				
ft	°	ft	lb	lb
32	83.0	192.0	518,000	773,600
34	82.4	191.7	464,100	773,600
36	81.7	191.4	417,300	773,600
38	81.1	191.0	376,200	773,600
40	80.5	190.6	339,800	773,600
45	78.9	189.6	265,000	732,300
50	77.3	188.4	206,400	645,200
55	75.7	187.1	158,100	571,900
60	74.0	185.6	118,700	509,400
65	72.4	183.9	85,900	455,500
70	70.7	182.1	58,200	408,500
75	69.1	180.2	34,500	367,300
80	67.4	178.0		330,800
85	65.6	175.7		298,200
90	63.9	173.2		269,000
95	62.1	170.5		242,700
100	60.3	167.5		218,900
105	58.5	164.4		197,100
110	56.6	161.1		173,800
115	54.7	157.5		152,700
120	52.7	153.6		133,700
125	50.7	149.4		116,300
130	48.6	145.0		100,500
135	46.4	140.1		86,000

203.4 ft				
ft	°	ft	lb	lb
36	82.5	211.3	420,100	773,600
38	82.0	211.0	378,500	773,600
40	81.4	210.7	341,700	773,600
45	80.0	209.7	266,000	722,600
50	78.5	208.6	207,300	637,200
55	77.1	207.4	159,700	565,100
60	75.6	206.1	119,900	503,500
65	74.2	204.6	86,700	450,300
70	72.7	203.0	58,700	403,900
75	71.2	201.3	34,700	363,000
80	69.7	199.4		326,800
85	68.2	197.3		294,500
90	66.6	195.1		265,400
95	65.1	192.7		239,200
100	63.5	190.1		215,500
105	61.9	187.4		193,800
110	60.2	184.5		171,500
115	58.6	181.4		150,400
120	56.9	178.1		131,300
125	55.2	174.5		113,800
130	53.4	170.8		97,900
135	51.6	166.7		83,200
140	49.7	162.4		69,700
145	47.8	157.9		57,300
150	45.9	153.0		45,800



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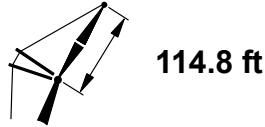


223.1 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	376,300	728,800
40	82.2	230.6	339,100	728,800
45	80.9	229.8	262,700	709,500
50	79.6	228.8	203,400	625,700
55	78.2	227.7	156,100	554,800
60	76.9	226.5	116,600	494,000
65	75.6	225.1	83,200	441,500
70	74.3	223.7	54,900	395,500
75	72.9	222.1	30,700	355,000
80	71.6	220.4		319,100
85	70.2	218.5		287,000
90	68.8	216.5		258,100
95	67.4	214.4		232,000
100	66.0	212.1		208,400
105	64.6	209.7		186,800
110	63.1	207.1		165,600
115	61.7	204.4		144,400
120	60.2	201.5		125,200
125	58.7	198.4		107,700
130	57.1	195.1		91,700
135	55.6	191.6		77,000
140	54.0	187.9		63,400
145	52.3	184.0		50,900
150	50.7	179.8		39,200
155	49.0	175.4		28,400
160	47.2	170.7		18,400

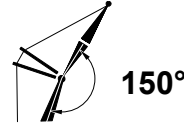
242.8 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
40	82.8	250.5	339,400	683,200
45	81.6	249.7	262,300	683,200
50	80.4	248.8	202,500	616,200
55	79.2	247.8	154,700	546,700
60	78.0	246.7	115,700	487,000
65	76.8	245.5	82,400	435,100
70	75.6	244.2	53,900	389,800
75	74.3	242.7	29,500	349,700
80	73.1	241.2		314,100
85	71.9	239.5		282,300
90	70.6	237.7		253,600
95	69.3	235.8		227,700
100	68.1	233.7		204,200
105	66.8	231.5		182,700
110	65.5	229.2		162,400
115	64.2	226.7		141,300
120	62.8	224.1		122,000
125	61.5	221.3		104,500
130	60.1	218.4		88,500
135	58.7	215.3		73,700
140	57.3	212.1		60,100
145	55.9	208.6		47,500
150	54.4	205.0		35,800
155	53.0	201.2		24,900

# MLC650 VPC-MAX S-1

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114.8 ft



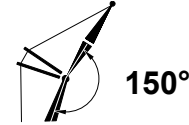
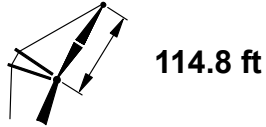
150°

183.7 ft				
ft	°	ft	lb	lb
32	83.0	192.0	554,900	773,600
34	82.4	191.7	497,300	773,600
36	81.7	191.4	447,200	773,600
38	81.1	191.0	403,300	773,600
40	80.5	190.6	364,400	773,600
45	78.9	189.6	284,300	746,400
50	77.3	188.4	221,600	656,500
55	75.7	187.1	170,000	580,900
60	74.0	185.6	127,900	516,300
65	72.4	183.9	92,800	460,700
70	70.7	182.1	63,100	412,200
75	69.1	180.2	37,700	369,600
80	67.4	178.0		331,800
85	65.6	175.7		298,100
90	63.9	173.2		267,900
95	62.1	170.5		240,700
100	60.3	167.5		216,000
105	58.5	164.4		193,100
110	56.6	161.1		168,900
115	54.7	157.5		147,100
120	52.7	153.6		127,300
125	50.7	149.4		109,300
130	48.6	145.0		92,800
135	46.4	140.1		77,600
140	44.2	134.9		63,700
145	41.8	129.3		50,800
150	39.4	123.1		38,900
155	36.8	116.4		27,900
160	34.0	109.0		17,600

203.4 ft				
ft	°	ft	lb	lb
36	82.5	211.3	451,100	773,600
38	82.0	211.0	406,700	773,600
40	81.4	210.7	367,400	773,600
45	80.0	209.7	286,500	737,300
50	78.5	208.6	223,700	649,300
55	77.1	207.4	172,800	575,000
60	75.6	206.1	130,300	511,400
65	74.2	204.6	94,800	456,500
70	72.7	203.0	64,900	408,600
75	71.2	201.3	39,200	366,400
80	69.7	199.4	17,000	329,000
85	68.2	197.3		295,600
90	66.6	195.1		265,600
95	65.1	192.7		238,500
100	63.5	190.1		213,900
105	61.9	187.4		191,500
110	60.2	184.5		168,300
115	58.6	181.4		146,500
120	56.9	178.1		126,600
125	55.2	174.5		108,500
130	53.4	170.8		91,900
135	51.6	166.7		76,700
140	49.7	162.4		62,700
145	47.8	157.9		49,700
150	45.9	153.0		37,700
155	43.8	147.7		26,500

# MLC650 VPC-MAX S-1

ASME B30.5

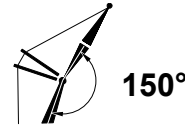
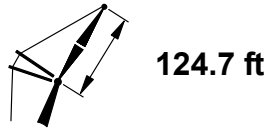


223.1 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	405,300	728,800
40	82.2	230.6	365,700	728,800
45	80.9	229.8	284,100	724,800
50	79.6	228.8	220,700	638,400
55	78.2	227.7	170,200	565,300
60	76.9	226.5	128,000	502,700
65	75.6	225.1	92,300	448,500
70	74.3	223.7	62,100	401,100
75	72.9	222.1	36,300	359,300
80	71.6	220.4		322,200
85	70.2	218.5		289,100
90	68.8	216.5		259,300
95	67.4	214.4		232,300
100	66.0	212.1		207,900
105	64.6	209.7		185,600
110	63.1	207.1		163,600
115	61.7	204.4		141,800
120	60.2	201.5		121,900
125	58.7	198.4		103,800
130	57.1	195.1		87,100
135	55.6	191.6		71,900
140	54.0	187.9		57,800
145	52.3	184.0		44,800
150	50.7	179.8		32,700
155	49.0	175.4		21,400

242.8 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
40	82.8	250.5	366,700	683,200
45	81.6	249.7	284,400	683,200
50	80.4	248.8	220,600	629,300
55	79.2	247.8	169,600	557,700
60	78.0	246.7	127,900	496,200
65	76.8	245.5	92,400	442,800
70	75.6	244.2	62,000	396,000
75	74.3	242.7	35,900	354,700
80	73.1	241.2		318,000
85	71.9	239.5		285,100
90	70.6	237.7		255,600
95	69.3	235.8		228,900
100	68.1	233.7		204,600
105	66.8	231.5		182,400
110	65.5	229.2		161,500
115	64.2	226.7		139,700
120	62.8	224.1		119,800
125	61.5	221.3		101,600
130	60.1	218.4		85,000
135	58.7	215.3		69,700
140	57.3	212.1		55,600
145	55.9	208.6		42,600
150	54.4	205.0		30,400
155	53.0	201.2		19,200

# MLC650 VPC-MAX S-1

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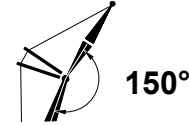
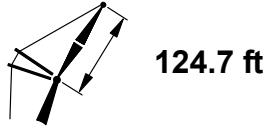


183.7 ft				
ft	°	ft	lb	lb
32	83.0	192.0	675,900	773,600
34	82.4	191.7	609,700	773,600
36	81.7	191.4	552,000	773,600
38	81.1	191.0	501,400	773,600
40	80.5	190.6	456,600	773,600
45	78.9	189.6	364,500	736,000
50	77.3	188.4	292,300	646,700
55	75.7	187.1	233,300	571,400
60	74.0	185.6	185,000	507,300
65	72.4	183.9	144,700	452,000
70	70.7	182.1	110,800	403,800
75	69.1	180.2	81,600	361,500
80	67.4	178.0	56,400	324,000
85	65.6	175.7	34,400	290,500
90	63.9	173.2		260,500
95	62.1	170.5		233,500
100	60.3	167.5		208,900
105	58.5	164.4		184,900
110	56.6	161.1		161,000
115	54.7	157.5		139,500
120	52.7	153.6		119,900
125	50.7	149.4		102,100
130	48.6	145.0		85,800
135	46.4	140.1		70,800
140	44.2	134.9		57,000
145	41.8	129.3		44,300
150	39.4	123.1		32,600
155	36.8	116.4		21,700

203.4 ft				
ft	°	ft	lb	lb
36	82.5	211.3	556,600	773,600
38	82.0	211.0	505,500	773,600
40	81.4	210.7	460,300	773,600
45	80.0	209.7	367,200	727,400
50	78.5	208.6	295,000	639,800
55	77.1	207.4	236,500	566,000
60	75.6	206.1	187,800	502,800
65	74.2	204.6	147,300	448,200
70	72.7	203.0	113,000	400,600
75	71.2	201.3	83,600	358,600
80	69.7	199.4	58,200	321,500
85	68.2	197.3	36,000	288,300
90	66.6	195.1		258,500
95	65.1	192.7		231,600
100	63.5	190.1		207,100
105	61.9	187.4		184,600
110	60.2	184.5		160,700
115	58.6	181.4		139,100
120	56.9	178.1		119,400
125	55.2	174.5		101,500
130	53.4	170.8		85,100
135	51.6	166.7		70,100
140	49.7	162.4		56,200
145	47.8	157.9		43,400
150	45.9	153.0		31,500
155	43.8	147.7		20,500

# MLC650 VPC-MAX S-1

ASME B30.5

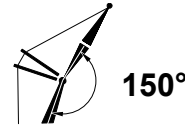
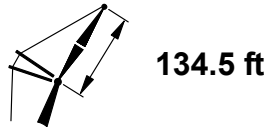


223.1 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	504,700	728,800
40	82.2	230.6	459,200	728,800
45	80.9	229.8	365,300	715,200
50	79.6	228.8	292,500	629,300
55	78.2	227.7	234,400	556,600
60	76.9	226.5	186,000	494,300
65	75.6	225.1	145,200	440,400
70	74.3	223.7	110,600	393,300
75	72.9	222.1	81,100	351,800
80	71.6	220.4	55,400	314,900
85	70.2	218.5	33,000	282,000
90	68.8	216.5		252,400
95	67.4	214.4		225,600
100	66.0	212.1		201,300
105	64.6	209.7		179,200
110	63.1	207.1		156,200
115	61.7	204.4		134,600
120	60.2	201.5		114,900
125	58.7	198.4		97,000
130	57.1	195.1		80,600
135	55.6	191.6		65,500
140	54.0	187.9		51,500
145	52.3	184.0		38,600
150	50.7	179.8		26,700

242.8 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
40	82.8	250.5	460,700	683,200
45	81.6	249.7	366,200	683,200
50	80.4	248.8	292,800	620,600
55	79.2	247.8	234,200	549,300
60	78.0	246.7	186,300	488,100
65	76.8	245.5	145,600	435,000
70	75.6	244.2	110,800	388,500
75	74.3	242.7	81,000	347,400
80	73.1	241.2	55,300	310,900
85	71.9	239.5	32,700	278,300
90	70.6	237.7		248,900
95	69.3	235.8		222,300
100	68.1	233.7		198,200
105	66.8	231.5		176,200
110	65.5	229.2		154,300
115	64.2	226.7		132,700
120	62.8	224.1		113,000
125	61.5	221.3		95,100
130	60.1	218.4		78,600
135	58.7	215.3		63,500
140	57.3	212.1		49,500
145	55.9	208.6		36,600
150	54.4	205.0		24,600

# MLC650 VPC-MAX S-1

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**183.7 ft**

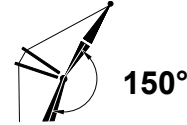
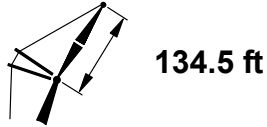
ft	°	ft	lb	
			38.7 ft	60.0 ft
32	83.0	192.0	646,500	773,600
34	82.4	191.7	581,600	773,600
36	81.7	191.4	525,100	773,600
38	81.1	191.0	475,600	773,600
40	80.5	190.6	431,700	773,600
45	78.9	189.6	341,400	717,800
50	77.3	188.4	270,800	629,100
55	75.7	187.1	212,900	554,500
60	74.0	185.6	165,600	490,900
65	72.4	183.9	126,200	436,000
70	70.7	182.1	92,900	388,200
75	69.1	180.2	64,400	346,200
80	67.4	178.0	39,700	309,100
85	65.6	175.7	18,200	275,900
90	63.9	173.2		246,200
95	62.1	170.5		219,400
100	60.3	167.5		195,100
105	58.5	164.4		169,500
110	56.6	161.1		145,900
115	54.7	157.5		124,700
120	52.7	153.6		105,400
125	50.7	149.4		87,900
130	48.6	145.0		71,800
135	46.4	140.1		57,100
140	44.2	134.9		43,600
145	41.8	129.3		31,100
150	39.4	123.1		19,600

**203.4 ft**

ft	°	ft	lb	
			38.7 ft	60.0 ft
36	82.5	211.3	530,100	773,600
38	82.0	211.0	480,100	773,600
40	81.4	210.7	435,800	773,600
45	80.0	209.7	344,600	709,800
50	78.5	208.6	273,800	622,900
55	77.1	207.4	216,600	549,500
60	75.6	206.1	168,900	486,900
65	74.2	204.6	129,100	432,700
70	72.7	203.0	95,500	385,400
75	71.2	201.3	66,800	343,900
80	69.7	199.4	41,900	307,000
85	68.2	197.3	20,100	274,100
90	66.6	195.1		244,600
95	65.1	192.7		217,900
100	63.5	190.1		193,700
105	61.9	187.4		169,600
110	60.2	184.5		146,000
115	58.6	181.4		124,700
120	56.9	178.1		105,300
125	55.2	174.5		87,700
130	53.4	170.8		71,500
135	51.6	166.7		56,700
140	49.7	162.4		43,100
145	47.8	157.9		30,400
150	45.9	153.0		18,800

# MLC650 VPC-MAX S-1

ASME B30.5

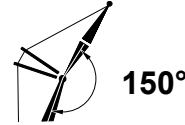
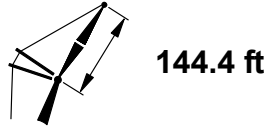


223.1 ft				
ft	°	ft	lb	lb
38	82.7	230.9	479,600	728,800
40	82.2	230.6	435,000	728,800
45	80.9	229.8	343,100	698,100
50	79.6	228.8	271,700	612,800
55	78.2	227.7	214,800	540,600
60	76.9	226.5	167,400	478,800
65	75.6	225.1	127,300	425,300
70	74.3	223.7	93,500	378,600
75	72.9	222.1	64,500	337,400
80	71.6	220.4	39,400	300,800
85	70.2	218.5	17,500	268,200
90	68.8	216.5		238,800
95	67.4	214.4		212,300
100	66.0	212.1		188,200
105	64.6	209.7		165,500
110	63.1	207.1		141,800
115	61.7	204.4		120,500
120	60.2	201.5		101,100
125	58.7	198.4		83,400
130	57.1	195.1		67,200
135	55.6	191.6		52,300
140	54.0	187.9		38,600
145	52.3	184.0		25,900

242.8 ft				
ft	°	ft	lb	lb
40	82.8	250.5	436,800	683,200
45	81.6	249.7	344,200	683,200
50	80.4	248.8	272,300	604,500
55	79.2	247.8	214,900	533,800
60	78.0	246.7	168,000	473,000
65	76.8	245.5	128,000	420,300
70	75.6	244.2	94,000	374,100
75	74.3	242.7	64,800	333,400
80	73.1	241.2	39,500	297,200
85	71.9	239.5	17,400	264,800
90	70.6	237.7		235,700
95	69.3	235.8		209,400
100	68.1	233.7		185,400
105	66.8	231.5		163,600
110	65.5	229.2		140,200
115	64.2	226.7		118,900
120	62.8	224.1		99,500
125	61.5	221.3		81,800
130	60.1	218.4		65,500
135	58.7	215.3		50,600
140	57.3	212.1		36,900
145	55.9	208.6		24,100

# MLC650 VPC-MAX S-1

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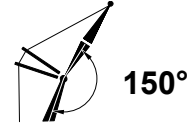
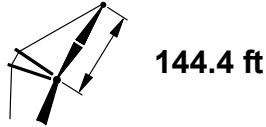
183.7 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
32	83.0	192.0	619,200	773,600
34	82.4	191.7	555,600	773,600
36	81.7	191.4	500,300	773,600
38	81.1	191.0	451,800	773,600
40	80.5	190.6	408,800	773,600
45	78.9	189.6	320,400	701,500
50	77.3	188.4	251,200	613,500
55	75.7	187.1	194,500	539,500
60	74.0	185.6	148,200	476,400
65	72.4	183.9	109,600	422,000
70	70.7	182.1	77,100	374,600
75	69.1	180.2	49,200	333,000
80	67.4	178.0	25,000	296,100
85	65.6	175.7		263,300
90	63.9	173.2		233,800
95	62.1	170.5		207,300
100	60.3	167.5		181,900
105	58.5	164.4		156,000
110	56.6	161.1		132,800
115	54.7	157.5		111,900
120	52.7	153.6		93,000
125	50.7	149.4		75,700
130	48.6	145.0		59,900
135	46.4	140.1		45,500
140	44.2	134.9		32,200
145	41.8	129.3		19,900

203.4 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
36	82.5	211.3	505,700	773,600
38	82.0	211.0	456,700	773,600
40	81.4	210.7	413,300	773,600
45	80.0	209.7	324,000	694,000
50	78.5	208.6	254,700	607,800
55	77.1	207.4	198,700	535,000
60	75.6	206.1	151,900	472,800
65	74.2	204.6	113,000	419,100
70	72.7	203.0	80,100	372,200
75	71.2	201.3	51,900	331,000
80	69.7	199.4	27,600	294,500
85	68.2	197.3		261,900
90	66.6	195.1		232,600
95	65.1	192.7		206,200
100	63.5	190.1		182,200
105	61.9	187.4		156,500
110	60.2	184.5		133,300
115	58.6	181.4		112,300
120	56.9	178.1		93,200
125	55.2	174.5		75,800
130	53.4	170.8		59,900
135	51.6	166.7		45,300
140	49.7	162.4		31,900
145	47.8	157.9		19,500



# MLC650 VPC-MAX S-1

ASME B30.5

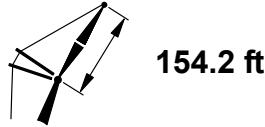


223.1 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	456,600	728,800
40	82.2	230.6	412,900	728,800
45	80.9	229.8	322,800	682,900
50	79.6	228.8	252,900	598,200
55	78.2	227.7	197,200	526,500
60	76.9	226.5	150,800	465,200
65	75.6	225.1	111,600	412,100
70	74.3	223.7	78,400	365,700
75	72.9	222.1	50,000	324,900
80	71.6	220.4	25,500	288,700
85	70.2	218.5		256,300
90	68.8	216.5		227,200
95	67.4	214.4		200,900
100	66.0	212.1		177,100
105	64.6	209.7		152,800
110	63.1	207.1		129,500
115	61.7	204.4		108,400
120	60.2	201.5		89,300
125	58.7	198.4		71,900
130	57.1	195.1		55,900
135	55.6	191.6		41,300
140	54.0	187.9		27,700

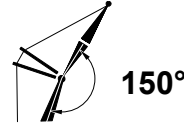
242.8 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
40	82.8	250.5	414,900	683,200
45	81.6	249.7	324,200	673,100
50	80.4	248.8	253,800	590,300
55	79.2	247.8	197,600	520,100
60	78.0	246.7	151,700	459,700
65	76.8	245.5	112,500	407,400
70	75.6	244.2	79,200	361,600
75	74.3	242.7	50,600	321,200
80	73.1	241.2	25,800	285,300
85	71.9	239.5		253,200
90	70.6	237.7		224,400
95	69.3	235.8		198,300
100	68.1	233.7		174,500
105	66.8	231.5		151,400
110	65.5	229.2		128,100
115	64.2	226.7		107,100
120	62.8	224.1		87,900
125	61.5	221.3		70,500
130	60.1	218.4		54,500
135	58.7	215.3		39,800
140	57.3	212.1		26,200

# MLC650 VPC-MAX S-1

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154.2 ft



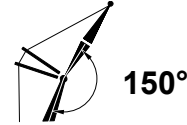
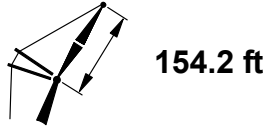
150°

183.7 ft				
ft	°	ft	lb	lb
32	83.0	192.0	588,000	773,600
34	82.4	191.7	525,900	773,600
36	81.7	191.4	471,800	773,600
38	81.1	191.0	424,400	773,600
40	80.5	190.6	382,400	773,600
45	78.9	189.6	296,000	682,300
50	77.3	188.4	228,400	595,000
55	75.7	187.1	173,000	521,600
60	74.0	185.6	127,700	459,000
65	72.4	183.9	90,100	405,100
70	70.7	182.1	58,200	358,200
75	69.1	180.2	31,000	317,000
80	67.4	178.0		280,500
85	65.6	175.7		247,900
90	63.9	173.2		218,800
95	62.1	170.5		192,500
100	60.3	167.5		165,200
105	58.5	164.4		139,800
110	56.6	161.1		117,000
115	54.7	157.5		96,400
120	52.7	153.6		77,700
125	50.7	149.4		60,800
130	48.6	145.0		45,300
135	46.4	140.1		31,100
140	44.2	134.9		18,100

203.4 ft				
ft	°	ft	lb	lb
36	82.5	211.3	477,700	773,600
38	82.0	211.0	429,800	773,600
40	81.4	210.7	387,400	773,600
45	80.0	209.7	300,100	675,400
50	78.5	208.6	232,400	589,800
55	77.1	207.4	177,600	517,700
60	75.6	206.1	131,900	456,000
65	74.2	204.6	93,900	402,800
70	72.7	203.0	61,700	356,300
75	71.2	201.3	34,200	315,500
80	69.7	199.4		279,300
85	68.2	197.3		247,000
90	66.6	195.1		218,000
95	65.1	192.7		191,800
100	63.5	190.1		166,200
105	61.9	187.4		140,700
110	60.2	184.5		117,800
115	58.6	181.4		97,100
120	56.9	178.1		78,400
125	55.2	174.5		61,300
130	53.4	170.8		45,700
135	51.6	166.7		31,300
140	49.7	162.4		18,100

# MLC650 VPC-MAX S-1

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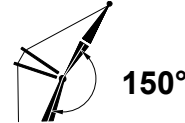
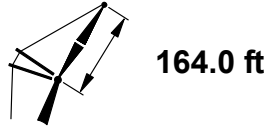


223.1 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	430,000	728,800
40	82.2	230.6	387,300	728,800
45	80.9	229.8	299,300	664,800
50	79.6	228.8	231,000	580,700
55	78.2	227.7	176,500	509,700
60	76.9	226.5	131,100	448,900
65	75.6	225.1	92,800	396,200
70	74.3	223.7	60,400	350,300
75	72.9	222.1	32,700	309,800
80	71.6	220.4		273,900
85	70.2	218.5		241,800
90	68.8	216.5		213,000
95	67.4	214.4		187,000
100	66.0	212.1		162,800
105	64.6	209.7		137,300
110	63.1	207.1		114,400
115	61.7	204.4		93,600
120	60.2	201.5		74,800
125	58.7	198.4		57,700
130	57.1	195.1		42,000
135	55.6	191.6		27,600

242.8 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
40	82.8	250.5	389,700	683,200
45	81.6	249.7	301,000	655,600
50	80.4	248.8	232,100	573,400
55	79.2	247.8	177,200	503,700
60	78.0	246.7	132,300	443,800
65	76.8	245.5	94,100	392,000
70	75.6	244.2	61,500	346,600
75	74.3	242.7	33,500	306,500
80	73.1	241.2		270,900
85	71.9	239.5		239,100
90	70.6	237.7		210,500
95	69.3	235.8		184,600
100	68.1	233.7		161,100
105	66.8	231.5		136,300
110	65.5	229.2		113,400
115	64.2	226.7		92,600
120	62.8	224.1		73,800
125	61.5	221.3		56,600
130	60.1	218.4		40,800
135	58.7	215.3		26,400

# MLC650 VPC-MAX S-1

ASME B30.5

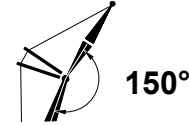
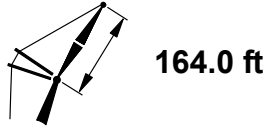


183.7 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
32	83.0	192.0	564,600	773,600
34	82.4	191.7	503,700	773,600
36	81.7	191.4	450,600	773,600
38	81.1	191.0	404,100	773,600
40	80.5	190.6	362,900	773,200
45	78.9	189.6	278,200	668,400
50	77.3	188.4	211,900	581,800
55	75.7	187.1	157,500	508,900
60	74.0	185.6	113,100	446,800
65	72.4	183.9	76,200	393,300
70	70.7	182.1	45,000	346,800
75	69.1	180.2	18,300	305,900
80	67.4	178.0		269,700
85	65.6	175.7		237,400
90	63.9	173.2		208,500
95	62.1	170.5		181,800
100	60.3	167.5		153,700
105	58.5	164.4		128,600
110	56.6	161.1		106,100
115	54.7	157.5		85,800
120	52.7	153.6		67,400
125	50.7	149.4		50,700
130	48.6	145.0		35,500
135	46.4	140.1		21,500

203.4 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
36	82.5	211.3	456,900	773,600
38	82.0	211.0	409,800	773,600
40	81.4	210.7	368,200	764,500
45	80.0	209.7	282,600	662,100
50	78.5	208.6	216,200	577,100
55	77.1	207.4	162,500	505,500
60	75.6	206.1	117,600	444,300
65	74.2	204.6	80,300	391,400
70	72.7	203.0	48,800	345,300
75	71.2	201.3	21,800	304,800
80	69.7	199.4		268,900
85	68.2	197.3		236,800
90	66.6	195.1		208,100
95	65.1	192.7		182,200
100	63.5	190.1		155,000
105	61.9	187.4		129,900
110	60.2	184.5		107,300
115	58.6	181.4		86,900
120	56.9	178.1		68,400
125	55.2	174.5		51,500
130	53.4	170.8		36,100
135	51.6	166.7		22,000

# MLC650 VPC-MAX S-1

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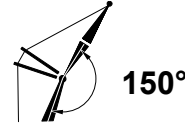
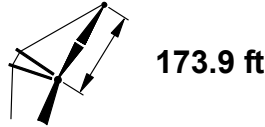


223.1 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	410,400	728,800
40	82.2	230.6	368,500	728,800
45	80.9	229.8	282,100	651,900
50	79.6	228.8	215,100	568,400
55	78.2	227.7	161,700	497,800
60	76.9	226.5	117,100	437,400
65	75.6	225.1	79,500	385,200
70	74.3	223.7	47,800	339,600
75	72.9	222.1	20,600	299,400
80	71.6	220.4		263,800
85	70.2	218.5		232,000
90	68.8	216.5		203,400
95	67.4	214.4		177,600
100	66.0	212.1		152,000
105	64.6	209.7		126,800
110	63.1	207.1		104,100
115	61.7	204.4		83,700
120	60.2	201.5		65,100
125	58.7	198.4		48,200
130	57.1	195.1		32,700
135	55.6	191.6		18,400

242.8 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
40	82.8	250.5	371,100	683,200
45	81.6	249.7	284,100	643,200
50	80.4	248.8	216,500	561,500
55	79.2	247.8	162,600	492,200
60	78.0	246.7	118,600	432,800
65	76.8	245.5	81,100	381,300
70	75.6	244.2	49,100	336,200
75	74.3	242.7	21,700	296,400
80	73.1	241.2		261,100
85	71.9	239.5		229,500
90	70.6	237.7		201,200
95	69.3	235.8		175,500
100	68.1	233.7		151,300
105	66.8	231.5		126,000
110	65.5	229.2		103,400
115	64.2	226.7		82,900
120	62.8	224.1		64,300
125	61.5	221.3		47,300
130	60.1	218.4		31,800
135	58.7	215.3		17,500

# MLC650 VPC-MAX S-1

ASME B30.5

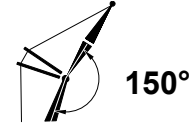
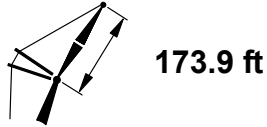


183.7 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
32	83.0	192.0	531,900	773,600
34	82.4	191.7	472,500	773,600
36	81.7	191.4	420,800	773,600
38	81.1	191.0	375,400	773,600
40	80.5	190.6	335,200	752,100
45	78.9	189.6	252,700	648,300
50	77.3	188.4	188,100	562,400
55	75.7	187.1	135,000	490,200
60	74.0	185.6	91,700	428,700
65	72.4	183.9	55,700	375,800
70	70.7	182.1	25,300	329,700
75	69.1	180.2		289,200
80	67.4	178.0		253,400
85	65.6	175.7		221,500
90	63.9	173.2		192,900
95	62.1	170.5		164,000
100	60.3	167.5		136,300
105	58.5	164.4		111,700
110	56.6	161.1		89,600
115	54.7	157.5		69,700
120	52.7	153.6		51,600
125	50.7	149.4		35,200
130	48.6	145.0		20,300

203.4 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
36	82.5	211.3	427,400	773,600
38	82.0	211.0	381,600	773,600
40	81.4	210.7	341,000	744,100
45	80.0	209.7	257,600	642,600
50	78.5	208.6	192,800	558,300
55	77.1	207.4	140,400	487,300
60	75.6	206.1	96,700	426,700
65	74.2	204.6	60,300	374,400
70	72.7	203.0	29,600	328,700
75	71.2	201.3		288,600
80	69.7	199.4		253,100
85	68.2	197.3		221,400
90	66.6	195.1		192,900
95	65.1	192.7		165,900
100	63.5	190.1		138,200
105	61.9	187.4		113,400
110	60.2	184.5		91,200
115	58.6	181.4		71,200
120	56.9	178.1		53,000
125	55.2	174.5		36,400
130	53.4	170.8		21,300

# MLC650 VPC-MAX S-1

ASME B30.5

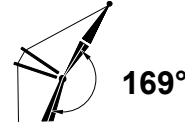
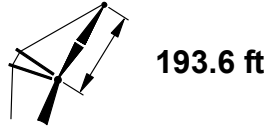


223.1 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	382,600	728,800
40	82.2	230.6	341,700	728,800
45	80.9	229.8	257,500	632,900
50	79.6	228.8	192,100	550,100
55	78.2	227.7	140,000	480,200
60	76.9	226.5	96,600	420,400
65	75.6	225.1	60,000	368,600
70	74.3	223.7	29,000	323,400
75	72.9	222.1		283,700
80	71.6	220.4		248,400
85	70.2	218.5		216,900
90	68.8	216.5		188,600
95	67.4	214.4		163,100
100	66.0	212.1		135,500
105	64.6	209.7		110,700
110	63.1	207.1		88,400
115	61.7	204.4		68,300
120	60.2	201.5		50,100
125	58.7	198.4		33,400
130	57.1	195.1		18,200

242.8 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
40	82.8	250.5	344,600	683,200
45	81.6	249.7	259,700	624,700
50	80.4	248.8	193,900	543,700
55	79.2	247.8	141,300	475,100
60	78.0	246.7	98,400	416,200
65	76.8	245.5	61,800	365,100
70	75.6	244.2	30,600	320,500
75	74.3	242.7		281,100
80	73.1	241.2		246,100
85	71.9	239.5		214,800
90	70.6	237.7		186,700
95	69.3	235.8		161,300
100	68.1	233.7		135,100
105	66.8	231.5		110,300
110	65.5	229.2		88,000
115	64.2	226.7		67,900
120	62.8	224.1		49,600
125	61.5	221.3		32,900
130	60.1	218.4		17,600

# MLC650 VPC-MAX S-1

ASME B30.5



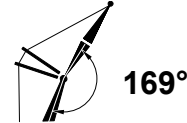
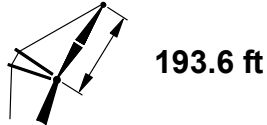
183.7 ft				
ft	°	ft	lb	lb
32	83.0	192.0	680,600	773,600
34	82.4	191.7	608,700	773,600
36	81.7	191.4	546,200	773,600
38	81.1	191.0	491,300	773,600
40	80.5	190.6	442,700	773,600
45	78.9	189.6	342,600	716,100
50	77.3	188.4	264,300	621,500
55	75.7	187.1	200,300	541,900
60	74.0	185.6	147,900	474,000
65	72.4	183.9	104,200	415,500
70	70.7	182.1	67,300	364,400
75	69.1	180.2	35,600	319,600
80	67.4	178.0		279,800
85	65.6	175.7		244,400
90	63.9	173.2		212,500
95	62.1	170.5		183,800
100	60.3	167.5		153,000
105	58.5	164.4		125,200
110	56.6	161.1		100,200
115	54.7	157.5		77,500
120	52.7	153.6		57,000
125	50.7	149.4		38,200
130	48.6	145.0		21,100

203.4 ft				
ft	°	ft	lb	lb
36	82.5	211.3	555,000	773,600
38	82.0	211.0	499,700	773,600
40	81.4	210.7	450,700	773,600
45	80.0	209.7	349,800	711,200
50	78.5	208.6	271,500	618,600
55	77.1	207.4	208,200	540,400
60	75.6	206.1	155,400	473,700
65	74.2	204.6	111,500	415,900
70	72.7	203.0	74,300	365,500
75	71.2	201.3	42,400	321,200
80	69.7	199.4		281,900
85	68.2	197.3		246,700
90	66.6	195.1		215,200
95	65.1	192.7		186,700
100	63.5	190.1		158,200
105	61.9	187.4		130,400
110	60.2	184.5		105,400
115	58.6	181.4		82,800
120	56.9	178.1		62,200
125	55.2	174.5		43,500
130	53.4	170.8		26,300



# MLC650 VPC-MAX S-1

ASME B30.5

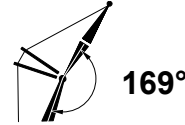
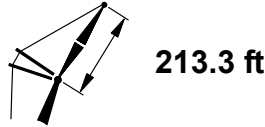


223.1 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	502,400	728,800
40	82.2	230.6	453,100	728,800
45	80.9	229.8	351,600	702,200
50	79.6	228.8	272,700	611,300
55	78.2	227.7	209,700	534,400
60	76.9	226.5	157,400	468,600
65	75.6	225.1	113,200	411,600
70	74.3	223.7	75,900	361,800
75	72.9	222.1	43,800	317,900
80	71.6	220.4		279,000
85	70.2	218.5		244,200
90	68.8	216.5		212,900
95	67.4	214.4		184,600
100	66.0	212.1		158,200
105	64.6	209.7		130,400
110	63.1	207.1		105,500
115	61.7	204.4		82,800
120	60.2	201.5		62,300
125	58.7	198.4		43,500
130	57.1	195.1		26,300

242.8 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
40	82.8	250.5	457,500	683,200
45	81.6	249.7	355,400	683,200
50	80.4	248.8	276,000	605,300
55	79.2	247.8	212,700	529,900
60	78.0	246.7	160,900	465,200
65	76.8	245.5	116,800	409,100
70	75.6	244.2	79,300	360,000
75	74.3	242.7	47,100	316,600
80	73.1	241.2	19,200	278,100
85	71.9	239.5		243,600
90	70.6	237.7		212,600
95	69.3	235.8		184,500
100	68.1	233.7		159,000
105	66.8	231.5		132,200
110	65.5	229.2		107,200
115	64.2	226.7		84,700
120	62.8	224.1		64,100
125	61.5	221.3		45,400
130	60.1	218.4		28,200

# MLC650 VPC-MAX S-1

ASME B30.5



**183.7 ft**

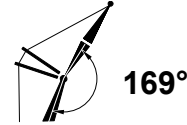
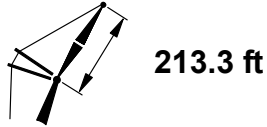
ft	°	ft	lb	
			38.7 ft	60.0 ft
32	83.0	192.0	646,700	773,600
34	82.4	191.7	575,800	773,600
36	81.7	191.4	514,000	773,600
38	81.1	191.0	459,900	773,600
40	80.5	190.6	411,900	773,600
45	78.9	189.6	313,200	692,700
50	77.3	188.4	235,900	598,300
55	75.7	187.1	172,700	518,900
60	74.0	185.6	121,000	451,200
65	72.4	183.9	77,900	392,800
70	70.7	182.1	41,400	341,900
75	69.1	180.2		297,200
80	67.4	178.0		257,600
85	65.6	175.7		222,200
90	63.9	173.2		190,500
95	62.1	170.5		158,400
100	60.3	167.5		127,600
105	58.5	164.4		100,100
110	56.6	161.1		75,400
115	54.7	157.5		53,100
120	52.7	153.6		32,800

**203.4 ft**

ft	°	ft	lb	
			38.7 ft	60.0 ft
36	82.5	211.3	524,000	773,600
38	82.0	211.0	469,400	773,600
40	81.4	210.7	421,000	773,600
45	80.0	209.7	321,500	689,100
50	78.5	208.6	244,200	596,600
55	77.1	207.4	181,700	518,600
60	75.6	206.1	129,700	452,000
65	74.2	204.6	86,300	394,400
70	72.7	203.0	49,600	344,200
75	71.2	201.3	18,200	300,000
80	69.7	199.4		260,700
85	68.2	197.3		225,700
90	66.6	195.1		194,300
95	65.1	192.7		164,900
100	63.5	190.1		134,100
105	61.9	187.4		106,600
110	60.2	184.5		81,900
115	58.6	181.4		59,600
120	56.9	178.1		39,200
125	55.2	174.5		20,700

# MLC650 VPC-MAX S-1

ASME B30.5

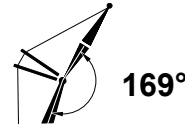
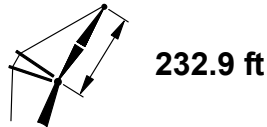


223.1 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	473,000	728,800
40	82.2	230.6	424,300	728,800
45	80.9	229.8	324,200	681,000
50	79.6	228.8	246,400	590,200
55	78.2	227.7	184,300	513,600
60	76.9	226.5	132,600	447,900
65	75.6	225.1	89,000	391,100
70	74.3	223.7	52,200	341,400
75	72.9	222.1	20,600	297,700
80	71.6	220.4		258,800
85	70.2	218.5		224,100
90	68.8	216.5		192,900
95	67.4	214.4		164,700
100	66.0	212.1		135,200
105	64.6	209.7		107,700
110	63.1	207.1		83,000
115	61.7	204.4		60,600
120	60.2	201.5		40,300
125	58.7	198.4		21,800

242.8 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
40	82.8	250.5	429,500	683,200
45	81.6	249.7	328,800	673,800
50	80.4	248.8	250,500	585,200
55	79.2	247.8	188,000	510,000
60	78.0	246.7	136,900	445,400
65	76.8	245.5	93,500	389,400
70	75.6	244.2	56,400	340,400
75	74.3	242.7	24,700	297,200
80	73.1	241.2		258,800
85	71.9	239.5		224,400
90	70.6	237.7		193,500
95	69.3	235.8		165,500
100	68.1	233.7		137,800
105	66.8	231.5		110,400
110	65.5	229.2		85,700
115	64.2	226.7		63,300
120	62.8	224.1		43,000
125	61.5	221.3		24,500

# MLC650 VPC-MAX S-1

ASME B30.5

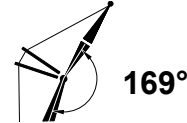
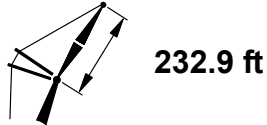


183.7 ft				
ft	°	ft	lb	lb
32	83.0	192.0	602,200	773,600
34	82.4	191.7	532,500	773,600
36	81.7	191.4	471,800	773,600
38	81.1	191.0	418,600	773,600
40	80.5	190.6	371,400	773,600
45	78.9	189.6	274,400	661,400
50	77.3	188.4	198,400	567,300
55	75.7	187.1	136,300	488,200
60	74.0	185.6	85,500	420,700
65	72.4	183.9	43,100	362,600
70	70.7	182.1		311,900
75	69.1	180.2		267,400
80	67.4	178.0		227,900
85	65.6	175.7		192,700
90	63.9	173.2		158,700
95	62.1	170.5		124,500
100	60.3	167.5		94,200
105	58.5	164.4		67,100
110	56.6	161.1		42,800
115	54.7	157.5		20,800

203.4 ft				
ft	°	ft	lb	lb
36	82.5	211.3	483,000	773,600
38	82.0	211.0	429,400	773,600
40	81.4	210.7	381,900	770,400
45	80.0	209.7	284,100	659,300
50	78.5	208.6	208,100	567,100
55	77.1	207.4	146,700	489,400
60	75.6	206.1	95,600	423,000
65	74.2	204.6	53,000	365,600
70	72.7	203.0		315,600
75	71.2	201.3		271,600
80	69.7	199.4		232,500
85	68.2	197.3		197,600
90	66.6	195.1		166,300
95	65.1	192.7		132,600
100	63.5	190.1		102,300
105	61.9	187.4		75,200
110	60.2	184.5		50,800
115	58.6	181.4		28,800

# MLC650 VPC-MAX S-1

ASME B30.5

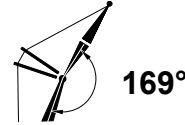
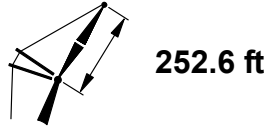


ft	°	ft	lb	lb
38	82.7	230.9	434,100	728,800
40	82.2	230.6	386,300	728,800
45	80.9	229.8	287,900	652,500
50	79.6	228.8	211,500	562,000
55	78.2	227.7	150,400	485,500
60	76.9	226.5	99,700	420,100
65	75.6	225.1	56,800	363,500
70	74.3	223.7	20,600	314,000
75	72.9	222.1		270,400
80	71.6	220.4		231,800
85	70.2	218.5		197,200
90	68.8	216.5		166,200
95	67.4	214.4		134,900
100	66.0	212.1		104,600
105	64.6	209.7		77,500
110	63.1	207.1		53,100
115	61.7	204.4		31,100

ft	°	ft	lb	lb
40	82.8	250.5	392,400	683,200
45	81.6	249.7	293,400	646,500
50	80.4	248.8	216,500	558,000
55	79.2	247.8	155,100	483,000
60	78.0	246.7	104,900	418,700
65	76.8	245.5	62,200	362,900
70	75.6	244.2	25,800	314,100
75	74.3	242.7		271,000
80	73.1	241.2		232,700
85	71.9	239.5		198,500
90	70.6	237.7		167,700
95	69.3	235.8		138,500
100	68.1	233.7		108,300
105	66.8	231.5		81,200
110	65.5	229.2		56,900
115	64.2	226.7		34,800

# MLC650 VPC-MAX S-1

ASME B30.5



**183.7 ft**

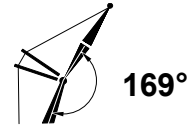
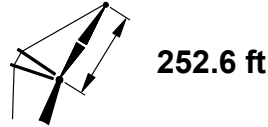
			38.7 ft		60.0 ft	
ft	°	ft	lb	lb		
32	83.0	192.0	564,300	773,600		
34	82.4	191.7	495,700	773,600		
36	81.7	191.4	436,000	773,600		
38	81.1	191.0	383,600	773,600		
40	80.5	190.6	337,300	748,900		
45	78.9	189.6	241,800	635,500		
50	77.3	188.4	167,100	541,700		
55	75.7	187.1	105,900	462,900		
60	74.0	185.6	55,900	395,700		
65	72.4	183.9		337,700		
70	70.7	182.1		287,200		
75	69.1	180.2		242,900		
80	67.4	178.0		203,600		
85	65.6	175.7		168,400		
90	63.9	173.2		130,100		
95	62.1	170.5		96,400		
100	60.3	167.5		66,500		
105	58.5	164.4		39,800		

**203.4 ft**

			38.7 ft		60.0 ft	
ft	°	ft	lb	lb		
36	82.5	211.3	448,500	773,600		
38	82.0	211.0	395,700	773,600		
40	81.4	210.7	349,000	745,500		
45	80.0	209.7	252,700	634,700		
50	78.5	208.6	178,000	542,800		
55	77.1	207.4	117,600	465,400		
60	75.6	206.1	67,300	399,200		
65	74.2	204.6	25,400	342,100		
70	72.7	203.0		292,200		
75	71.2	201.3		248,400		
80	69.7	199.4		209,500		
85	68.2	197.3		174,800		
90	66.6	195.1		139,600		
95	65.1	192.7		105,900		
100	63.5	190.1		76,000		
105	61.9	187.4		49,300		
110	60.2	184.5		25,200		

# MLC650 VPC-MAX S-1

ASME B30.5

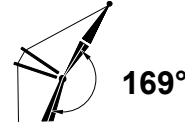


ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	401,400	728,800
40	82.2	230.6	354,400	728,800
45	80.9	229.8	257,600	629,000
50	79.6	228.8	182,400	538,800
55	78.2	227.7	122,400	462,600
60	76.9	226.5	72,500	397,400
65	75.6	225.1	30,300	341,000
70	74.3	223.7		291,700
75	72.9	222.1		248,300
80	71.6	220.4		209,800
85	70.2	218.5		175,400
90	68.8	216.5		143,000
95	67.4	214.4		109,400
100	66.0	212.1		79,500
105	64.6	209.7		52,800
110	63.1	207.1		28,700

REFERENCE ONLY!

# MLC650 VPC-MAX S-1

ASME B30.5



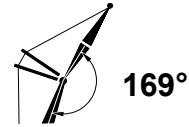
183.7 ft				
ft	°	ft	lb	lb
32	83.0	192.0	530,000	773,600
34	82.4	191.7	462,500	773,600
36	81.7	191.4	403,700	773,600
38	81.1	191.0	352,100	773,600
40	80.5	190.6	306,500	725,400
45	78.9	189.6	212,500	612,400
50	77.3	188.4	139,000	518,900
55	75.7	187.1	78,800	440,300
60	74.0	185.6	29,500	373,400
65	72.4	183.9		315,700
70	70.7	182.1		265,400
75	69.1	180.2		221,300
80	67.4	178.0		182,200
85	65.6	175.7		142,500
90	63.9	173.2		104,800
95	62.1	170.5		71,500
100	60.3	167.5		42,000

203.4 ft				
ft	°	ft	lb	lb
36	82.5	211.3	417,300	773,600
38	82.0	211.0	365,300	773,600
40	81.4	210.7	319,300	723,200
45	80.0	209.7	224,600	612,800
50	78.5	208.6	151,100	521,200
55	77.1	207.4	91,600	444,000
60	75.6	206.1	42,100	378,100
65	74.2	204.6		321,200
70	72.7	203.0		271,500
75	71.2	201.3		227,900
80	69.7	199.4		189,200
85	68.2	197.3		153,300
90	66.6	195.1		115,500
95	65.1	192.7		82,300
100	63.5	190.1		52,800
105	61.9	187.4		26,400



# MLC650 VPC-MAX S-1

ASME B30.5

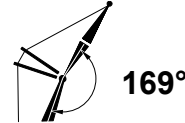
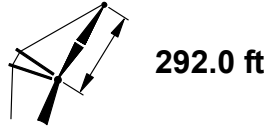


ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	372,000	728,800
40	82.2	230.6	325,700	716,000
45	80.9	229.8	230,400	608,000
50	79.6	228.8	156,400	518,100
55	78.2	227.7	97,400	442,200
60	76.9	226.5	48,200	377,200
65	75.6	225.1		321,000
70	74.3	223.7		272,000
75	72.9	222.1		228,800
80	71.6	220.4		190,400
85	70.2	218.5		156,200
90	68.8	216.5		120,100
95	67.4	214.4		86,800
100	66.0	212.1		57,300
105	64.6	209.7		30,900

REFERENCE ONLY!

# MLC650 VPC-MAX S-1

ASME B30.5

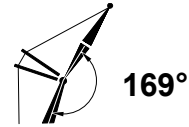
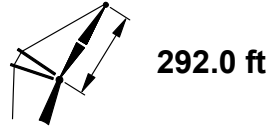


183.7 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
32	83.0	192.0	468,600	773,600
34	82.4	191.7	402,700	773,600
36	81.7	191.4	345,400	773,600
38	81.1	191.0	295,000	733,300
40	80.5	190.6	250,500	681,400
45	78.9	189.6	158,800	568,900
50	77.3	188.4	87,100	475,800
55	75.7	187.1	28,300	397,700
60	74.0	185.6		331,100
65	72.4	183.9		273,700
70	70.7	182.1		223,700
75	69.1	180.2		179,800
80	67.4	178.0		136,500
85	65.6	175.7		94,100
90	63.9	173.2		57,100
95	62.1	170.5		24,600

203.4 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
36	82.5	211.3	360,700	773,600
38	82.0	211.0	310,000	731,700
40	81.4	210.7	265,200	681,100
45	80.0	209.7	172,800	571,200
50	78.5	208.6	101,100	480,100
55	77.1	207.4	43,100	403,300
60	75.6	206.1		337,700
65	74.2	204.6		281,100
70	72.7	203.0		231,700
75	71.2	201.3		188,300
80	69.7	199.4		149,400
85	68.2	197.3		107,100
90	66.6	195.1		70,100
95	65.1	192.7		37,500

# MLC650 VPC-MAX S-1

ASME B30.5

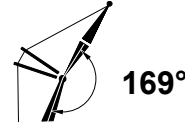
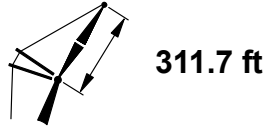


ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	318,200	725,100
40	82.2	230.6	273,100	675,700
45	80.9	229.8	180,100	568,100
50	79.6	228.8	108,000	478,600
55	78.2	227.7	50,400	403,000
60	76.9	226.5		338,400
65	75.6	225.1		282,500
70	74.3	223.7		233,700
75	72.9	222.1		190,800
80	71.6	220.4		152,700
85	70.2	218.5		113,300
90	68.8	216.5		76,400
95	67.4	214.4		43,800

REFERENCE ONLY!

# MLC650 VPC-MAX S-1

ASME B30.5

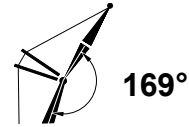
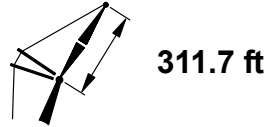


183.7 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
32	83.0	192.0	432,700	773,600
34	82.4	191.7	367,900	773,600
36	81.7	191.4	311,600	764,800
38	81.1	191.0	262,100	708,400
40	80.5	190.6	218,300	656,700
45	78.9	189.6	128,200	544,600
50	77.3	188.4	57,600	451,900
55	75.7	187.1		374,000
60	74.0	185.6		307,700
65	72.4	183.9		250,500
70	70.7	182.1		200,700
75	69.1	180.2		157,000
80	67.4	178.0		108,700
85	65.6	175.7		66,900
90	63.9	173.2		30,400

203.4 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
36	82.5	211.3	328,100	763,000
38	82.0	211.0	278,300	708,100
40	81.4	210.7	234,200	657,700
45	80.0	209.7	143,400	548,200
50	78.5	208.6	72,900	457,400
55	77.1	207.4		380,800
60	75.6	206.1		315,500
65	74.2	204.6		259,200
70	72.7	203.0		210,000
75	71.2	201.3		166,800
80	69.7	199.4		123,000
85	68.2	197.3		81,200
90	66.6	195.1		44,700

# MLC650 VPC-MAX S-1

ASME B30.5

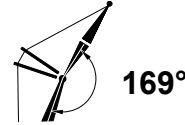
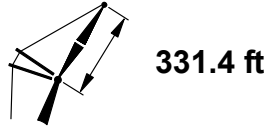


ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	287,500	702,600
40	82.2	230.6	243,100	653,400
45	80.9	229.8	151,700	546,100
50	79.6	228.8	80,800	457,000
55	78.2	227.7	24,200	381,700
60	76.9	226.5		317,300
65	75.6	225.1		261,600
70	74.3	223.7		213,000
75	72.9	222.1		170,300
80	71.6	220.4		130,400
85	70.2	218.5		88,700
90	68.8	216.5		52,200
95	67.4	214.4		20,100

REFERENCE ONLY!

# MLC650 VPC-MAX S-1

ASME B30.5

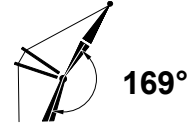
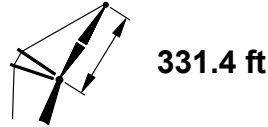


183.7 ft				
ft	°	ft	lb	lb
32	83.0	192.0	388,800	773,600
34	82.4	191.7	325,300	773,600
36	81.7	191.4	270,100	734,000
38	81.1	191.0	221,700	677,800
40	80.5	190.6	178,800	626,300
45	78.9	189.6	90,500	514,700
50	77.3	188.4	21,500	422,400
55	75.7	187.1		344,900
60	74.0	185.6		278,900
65	72.4	183.9		222,000
70	70.7	182.1		172,500
75	69.1	180.2		122,100
80	67.4	178.0		74,500
85	65.6	175.7		33,500

203.4 ft				
ft	°	ft	lb	lb
36	82.5	211.3	288,200	733,700
38	82.0	211.0	239,400	679,000
40	81.4	210.7	196,200	628,900
45	80.0	209.7	107,300	519,800
50	78.5	208.6	38,300	429,400
55	77.1	207.4		353,200
60	75.6	206.1		288,200
65	74.2	204.6		232,100
70	72.7	203.0		183,300
75	71.2	201.3		138,100
80	69.7	199.4		90,600
85	68.2	197.3		49,500

# MLC650 VPC-MAX S-1

ASME B30.5



 223.1 ft				
ft	°	ft	38.7 ft lb	60.0 ft lb
38	82.7	230.9	249,700	674,800
40	82.2	230.6	206,300	625,800
45	80.9	229.8	116,900	519,000
50	79.6	228.8	47,500	430,200
55	78.2	227.7		355,300
60	76.9	226.5		291,200
65	75.6	225.1		235,900
70	74.3	223.7		187,500
75	72.9	222.1		145,000
80	71.6	220.4		99,500
85	70.2	218.5		58,400
90	68.8	216.5		22,600

REFERENCE ONLY!