

MANITOWOC

CAPACITY CHART INDEX

MLC300 with B10:500 Boom
Serial Number 605804

US

GENERAL

F2081 06/03/2015 Capacity Chart Information

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CAPACITY CHART INFORMATION

All Models

THE ORIGINAL LANGUAGE OF THIS PUBLICATION IS ENGLISH.

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GUIDE FOR DETERMINING TOTAL LOAD AND MAXIMUM WORKING RADIUS



WARNING

Falling Load Hazard!

Prevent the crane from tipping or structural failure of attachment. Perform the following steps prior to lifting any load:

- Read capacity chart to determine what is considered part of total load.
- Calculate total load to be lifted.
- Do not exceed maximum working radius for total load to be lifted.

Capacity charts for Manitowoc cranes show the total weight of freely-suspended loads for various boom/jib lengths and operating radii.

NOTE “*Freely-suspended load*” is a load that is hanging free with no direct external force applied except by the crane’s load-line reeving.

To determine the total weight of the load that can be lifted at a given radius, the operator shall include the weight of certain lifting equipment, such as the following:

- Jib
- Upper boom point
- Intermediate fall point
- Wire rope below boom, jib, and intermediate fall points.
- Load blocks and hook and weight balls below boom, jib, and intermediate fall points.
- Slings and other lifting equipment below boom, jib, and intermediate fall points.

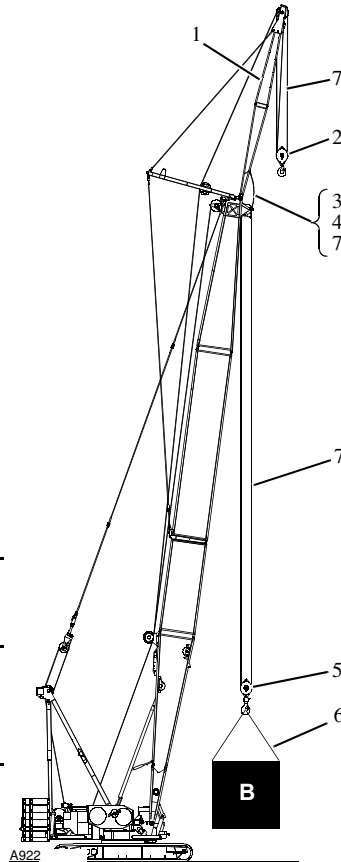
This folio contains worksheets to assist qualified operators in determining the total load to be lifted and the maximum working radius for that load.

The worksheets provided in this folio are for standard lifting arrangements. What is and is not considered part of the total load can vary from one capacity chart to another and from one attachment to another. **Read capacity chart in use to determine what is considered part of total load.** If in doubt, contact your Manitowoc Crane Care Lattice Team for assistance.

EXAMPLE – Determining Total Load and Maximum Working Radius From Lower Boom Point

For this example, an M-250 equipped as follows has been used:

- B30.5 Capacity Chart
- 130 ft (39,6 m) of #44 Heavy Lift Boom
- 40 ft (12,2 m) of #132 Jib
- 60 U.S. Ton Block with 4-Part Load Line Suspended 30 ft (9,1 m) below Jib Point
- 100 U.S. Ton Block with 4-Part Load Line from Lower Boom Point (full block travel)
- 50,000 lb (2 2679,6 kg) Load from Lower Boom Point
- 2.7 lb/ft (1,2 kg/m) Weight of Wire Rope.



Boom Lgth. Feet	Oper. Rad. Feet	Boom Ang. Deg.	Boom Point Elev. Feet	Capacity Pounds
26	27	82.7	136.6	350,700*
27	28	82.2	136.4	348,700*
28	29	81.8	136.2	346,700*
29	30	81.3	136.1	337,400
30	32	80.9	135.9	378,300
32	34	80.0	135.5	285,800
34	36	79.1	135.1	259,100
36	38	78.2	134.6	236,600
38	40	77.3	134.2	217,600
40	42	76.4	133.6	201,200
42	44	75.4	133.1	186,900
44	46	74.5	132.5	174,400
46	48	73.6	131.9	163,300
48	50	72.7	131.2	153,500
50	55	71.7	130.5	144,600
55	60	69.4	128.7	126,100
60	65	67.0	126.5	111,300
65	70	64.5	124.1	99,300
70	75	62.1	121.5	89,400
75	80	59.5	118.5	81,000
80	85	56.9	115.3	73,800
85	90	54.2	111.7	67,600 — D
90	95	51.3	107.7	62,200
95	100	48.4	103.3	57,400
100	105	45.3	98.4	53,200
105	110	42.0	92.9	49,400
110	115	38.5	86.7	46,000
115	120	34.7	79.7	42,900
120	125	30.5	71.5	40,100
125		25.6	61.5	37,600

130**Deduct from Capacities when Jib is Attached**

Jib Length	Jib No. 132
40 in (1 016 mm)	6,400 lb (2 903 kg)
60 in (1 524 mm)	8,200 lb (3 719,6 kg)
100 in (2 540 mm)	10,300 lb (4 672 kg)
120 in (3 048 mm)	12,800 lb (5806 kg)
	15,300 lb (6 940 kg)

DESCRIPTION**Component Weights**

	WEIGHT (lb)	WEIGHT (kg)
1 Fixed Jib (see Jib Deduct table in capacity chart)	6,400	2 903
2 Load Block/Hook and Weight Ball (below jib point)	2,825	1 281,4
3 Upper Boom Point (from capacity chart if noted)	Does Not Apply	Does Not Apply
4 Load Block/Hook and Weight Ball (below upper boom point)	Does Not Apply	Does Not Apply
5 Load Block/Hook and Weight Ball (below lower boom point)	4,800	2 177,2
6 Total Weight of Slings and Other Lifting Equipment Below Jib Point, Upper Boom Point, and Lower Boom Point	700	317,5
7 Total Weight of Wire Rope Below Fixed Jib Point, Upper Boom Point, and Lower Boom Point (see below)	1,530	694

for this example: Jib: 30 ft of rope x 4 parts of line x 2.7 lb/ft = 324 lb **plus**
 Boom: 111.7 ft of rope x 4 parts of line x 2.7 lb/ft = 1,206 lb

Totals

A Total Component Weights (ADD items 1 – 7 above)	16,255	7 373,1
B Weight of Load to be Lifted	50,000	2 2679,6
C Total Load to be Lifted (ADD A and B above)	66,255	30 052,8
D Maximum Working Radius (for Total Load to be Lifted from C above — see correct capacity chart)	85 ft	25,9 m

Equation — Use the following equation to calculate weight of wire rope below any point (boom, fixed jib, luffing jib, intermediate fall):

Length of Wire Rope Below Given Point **times** Number of Parts of Line **times** Weight of Wire rope per Foot

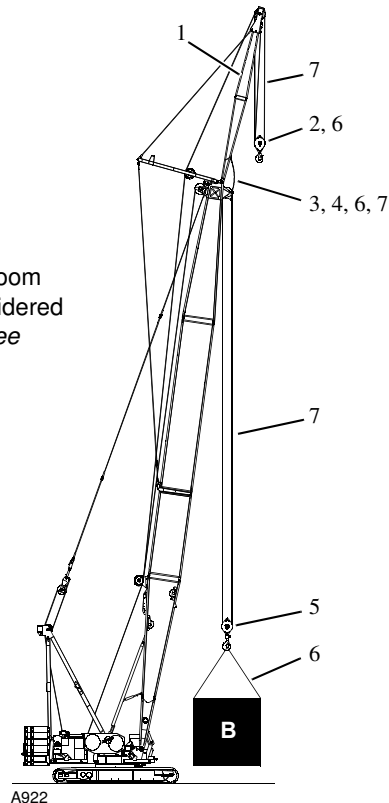
Determined by Operator or
by Person Directing Lift

Provided in Load Line or Wire
Rope Specifications Chart

Worksheet A – Determining Total Load and Maximum Working Radius From Lower Boom Point

DESCRIPTION	WEIGHT
Component Weights (see Note 1:)	
1 Fixed Jib (see <i>Jib Deduct table in capacity chart</i>)	_____
2 Load Block/Hook and Weight Ball (below fixed jib point)	_____
3 Upper Boom Point (from capacity chart, if noted)	_____
4 Load Block/Hook and Weight Ball (below upper boom point, if installed)	_____
5 Load Block/Hook and Weight Ball (below lower boom point)	_____
6 Total Weight of Slings and Other Lifting Equipment Below Fixed Jib Point, Upper Boom Point, and Lower Boom Point	_____
7 Total Weight of Wire Rope Below Fixed Jib Point, Upper Boom Point, and Lower Boom Point (see <i>Load Line or Wire Rope Specifications Chart for weight of wire rope</i>)	_____
Totals	
A Total Component Weights (ADD items 1 – 7 above)	_____
B Weight of Load to be Lifted	_____
C Total Load to be Lifted (ADD A and B above)	_____
D Maximum Working Radius (for Total Load to be Lifted from C above — see correct capacity chart)	_____

Note 1: For cranes so equipped, auxiliary drum in the boom butt and special rope guides or guards are considered part of the load from the boom and jib points. See deduct tables in the capacity chart for detailed information.

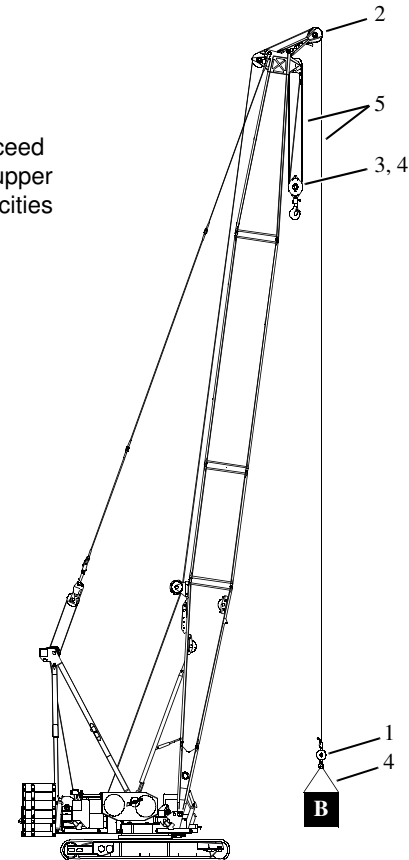


CAPACITY CHART INFORMATION

Worksheet B – Determining Total Load And Maximum Working Radius From Upper Boom Point

DESCRIPTION		WEIGHT
Component Weights		
1	Load Block/Hook and Weight Ball (below upper boom point)	_____
2	Upper Boom Point (from capacity chart if noted)	_____
3	Load Block/Hook and Weight Ball (below lower boom point)	_____
4	Total Weight of Slings and Other Lifting Equipment Below Upper Boom Point and Lower Boom Point . .	_____
5	Total Weight of Wire Rope Below Upper Boom Point and Lower Boom Point (see Load Line or Wire Rope Specifications Chart for weight of wire rope)	_____
Totals		
A	Total Component Weights (ADD items 1-5 above)	_____
B	Weight of Load to be Lifted	_____
C	Total Load to be Lifted (ADD A and B above) see NOTE 1	_____
D	Maximum Working Radius (for Total Load to be Lifted from C above – see correct capacity chart)	_____

Note 1: Total load to be lifted must not exceed maximum structural rating of the upper boom point or exceed boom capacities as specified in capacity chart.



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**Worksheet C – Determining Total Load and Maximum
Working Radius From Fixed Jib Point on Boom**

DESCRIPTION

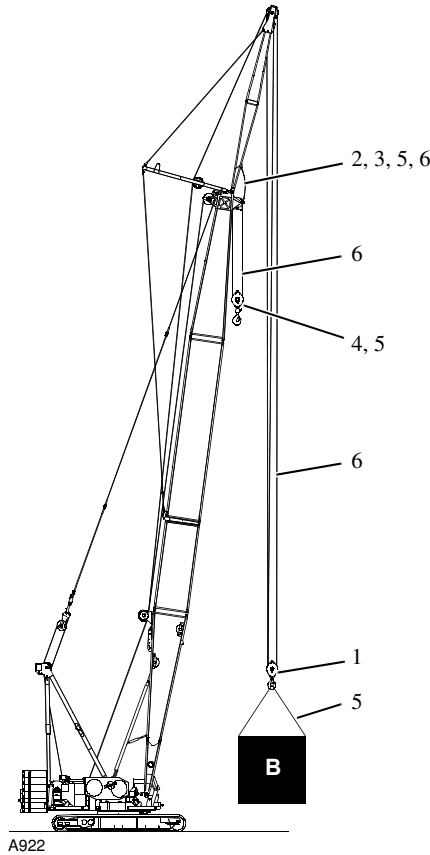
WEIGHT

Component Weights

1	Load Block/Hook and Weight Ball (<i>below fixed jib point</i>)	_____
2	Upper Boom Point (<i>from capacity chart if noted</i>)	_____
3	Load Block/Hook and Weight Ball (<i>below upper boom point, if installed</i>)	_____
4	Load Block/Hook and Weight Ball (<i>below lower boom point</i>)	_____
5	Total Weight of Slings and Other Lifting Equipment Below Fixed Jib Point, Upper Boom Point, and Lower Boom Point	_____
6	Total Weight of Wire Rope Below Fixed Jib Point, Upper Boom Point, and Lower Boom Point (<i>see Load Line or Wire Rope Specifications Chart for weight of wire rope</i>)	_____

Totals

A	Total Component Weights (<i>ADD items 1-6 above</i>)	_____
B	Weight of Load to be Lifted	_____
C	Total Load to be Lifted (<i>ADD A and B above</i>)	_____
D	Maximum Working Radius (<i>for Total Load to be Lifted from C above — see correct capacity chart</i>)	_____

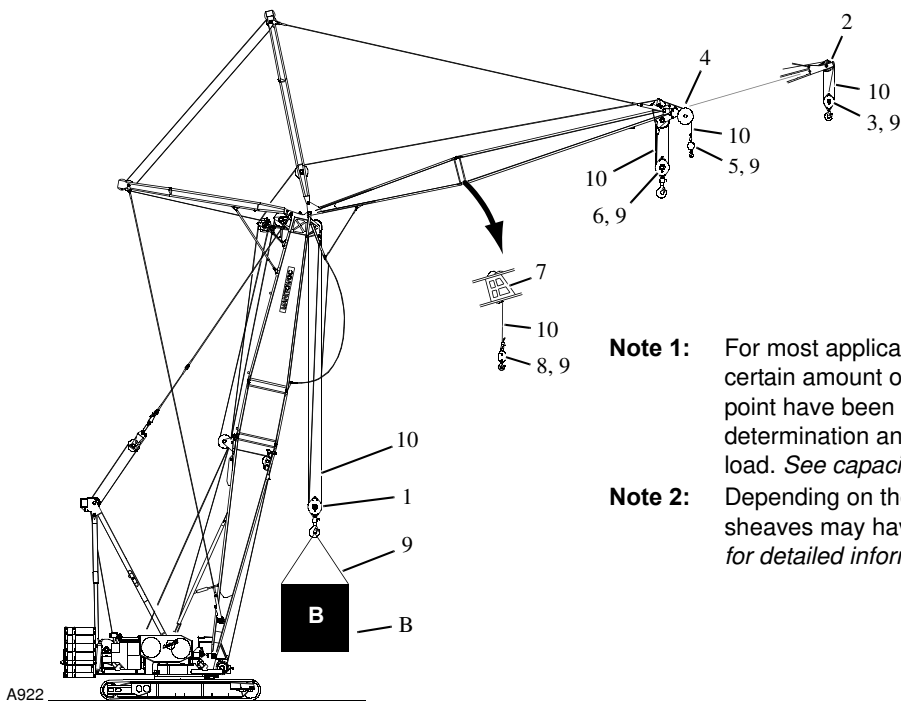


CAPACITY CHART INFORMATION

Worksheet D – Determining Total Load and Maximum Working Radius From Lower Boom Point with Luffing Jib Attached

(see Note 1:)

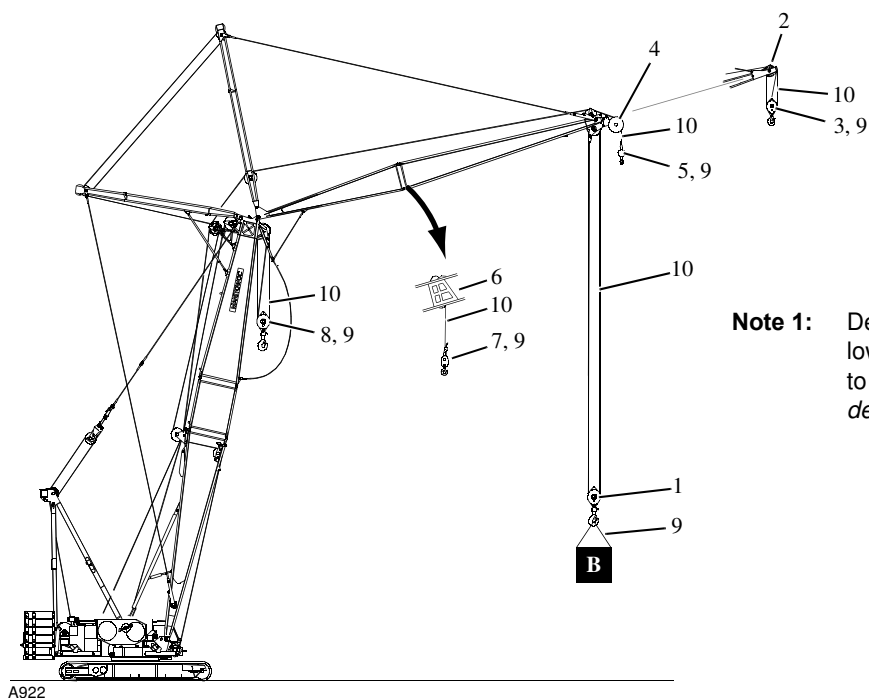
DESCRIPTION	WEIGHT
Component Weights	
1 Load Block/Hook and Weight Ball Below Lower Boom Point (see Note 2:)	_____
2 Fixed Jib (<i>see Jib Deduct Table in capacity chart</i>)	_____
3 Load Block/Hook and Weight Ball (<i>below fixed jib point, if installed</i>)	_____
4 Upper Luffing Jib Point (<i>from capacity chart, if noted</i>)	_____
5 Load Block/Hook and Weight Ball (<i>below upper luffing jib point, if installed</i>)	_____
6 Load Block/Hook and Weight Ball (<i>below lower luffing jib point, if installed</i>)	_____
7 Intermediate Fall Point (<i>see Intermediate Fall Deduct Table in capacity chart</i>)	_____
8 Load Block/Hook and Weight Ball (<i>below intermediate fall point</i>)	_____
9 Total Weight of Slings and Other Lifting Equipment Below Fixed Jib Point, Upper Luffing Jib Point, Lower Luffing Jib Point, Intermediate Fall Point, and Lower Boom Point.	_____
10 Total Weight of Wire Rope Below Fixed Jib Point, Upper Luffing Jib Point, Lower Luffing Jib Point, Intermediate Fall Point, and Lower Boom Point (<i>see Load Line or Wire Rope Specifications Chart for weight of wire rope</i>)	_____
Totals	
A Total Component Weights (<i>ADD items 1-10 above</i>)	_____
B Weight of Load to be Lifted	_____
C Total Load to be Lifted (<i>ADD A and B above</i>)	_____
D Maximum Working Radius (<i>for Total Load to be Lifted from C above — see correct capacity chart</i>)	_____



- Note 1:** For most applications, weight of the luffing jib and a certain amount of weight below the lower luffing jib point have been included in boom capacity determination and do not have to be added to total load. See capacity chart for detailed information.
- Note 2:** Depending on the jib length, some lower boom point sheaves may have to be removed. See capacity chart for detailed information.

Worksheet E – Determining Total Load and Maximum Working Radius From Lower Luffing Jib Point

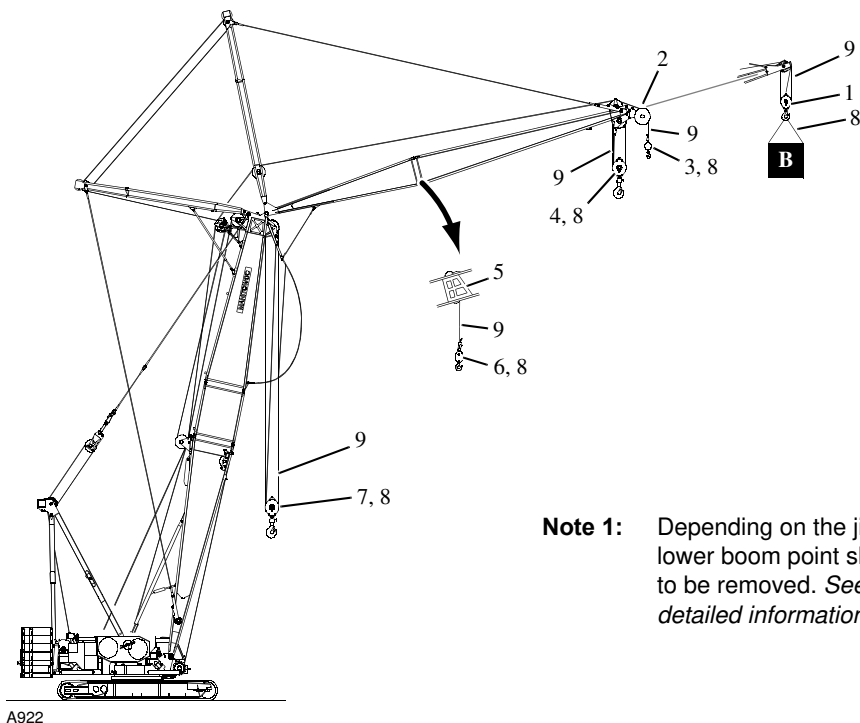
DESCRIPTION	WEIGHT
Component Weights	
1 Load Block/Hook and Weight Ball (below lower luffing jib point)	_____
2 Fixed Jib (see Jib Deduct Table in capacity chart)	_____
3 Load Block/Hook and Weight Ball (below fixed jib point, if installed)	_____
4 Upper Luffing Jib Point (from capacity chart, if noted)	_____
5 Load Block/Hook and Weight Ball (below upper luffing jib point, if installed)	_____
6 Intermediate Fall Point (see Intermediate Fall Deduct Table in capacity chart)	_____
7 Load Block/Hook and Weight Ball (below intermediate fall point)	_____
8 Load Block/Hook and Weight Ball (below lower boom point, if installed) see Note 1:	_____
9 Total Weight of Slings and Other Lifting Equipment Below Fixed Jib Point, Upper Luffing Jib Point, Lower Luffing Jib Point, Intermediate Fall Point, and Lower Boom Point	_____
10 Total Weight of Wire Rope Below Fixed Jib Point, Upper Luffing Jib Point, Lower Luffing Jib Point, Intermediate Fall Point, and Lower Boom Point (see Load Line or Wire Rope Specifications Chart for weight of wire rope)	_____
Totals	
A Total Component Weights (ADD items 1-10 above)	_____
B Weight of Load to be Lifted.	_____
C Total Load to be Lifted (ADD A and B above)	_____
D Maximum Working Radius (for Total Load to be Lifted from C above — see correct capacity chart)	_____



Note 1: Depending on the jib length, some lower boom point sheaves may have to be removed. See capacity chart for detailed information.

Worksheet F – Determining Total Load and Maximum Working Radius From Fixed Jib Point on Luffing Jib

DESCRIPTION	WEIGHT
Component Weights	
1 Load Block/Hook and Weight Ball (below fixed jib point)	_____
2 Upper Luffing Jib Point (from capacity chart if noted)	_____
3 Load Block/Hook and Weight Ball (below upper luffing jib point, if installed)	_____
4 Load Block/Hook and Weight Ball (below lower luffing jib point, if installed)	_____
5 Intermediate Fall Point (see Intermediate Fall Deduct Table in capacity chart)	_____
6 Load Block/Hook and Weight Ball (below intermediate fall point)	_____
7 Load Block/Hook and Weight Ball (below lower boom point) see Note 1:	_____
8 Total Weight of Slings and Other Lifting Equipment Below Fixed Jib Point, Upper Luffing Jib Point, Lower Luffing Jib Point, Intermediate Fall Point, and Lower Boom Point	_____
9 Total Weight of Wire Rope Below Fixed Jib Point, Upper Luffing Jib Point, Lower Luffing Jib Point, Intermediate Fall Point, and Lower Boom Point (see Load Line or Wire Rope Specifications Chart for weight of wire rope)	_____
Totals	
A Total Component Weights (ADD items 1-9 above)	_____
B Weight of Load to be Lifted	_____
C Total Load to be Lifted (ADD A and B above)	_____
D Maximum Working Radius (for Total Load to be Lifted from C above — see correct capacity chart)	_____

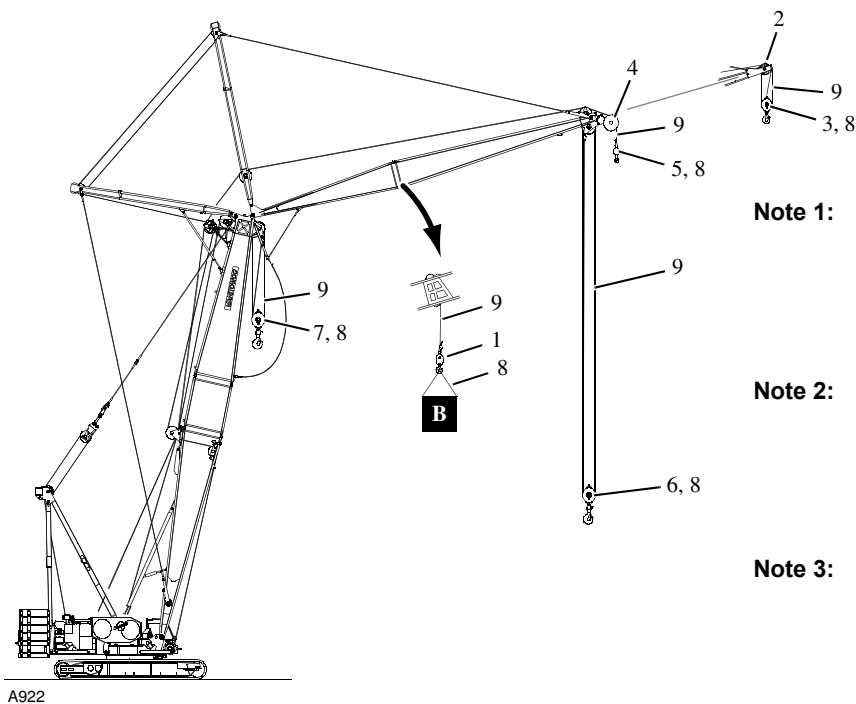


Note 1: Depending on the jib length, some lower boom point sheaves may have to be removed. See capacity chart for detailed information.

Worksheet G – Determining Total Load and Maximum Working Radius From Intermediate Fall Point on Luffing Jib

(see Note 1:)

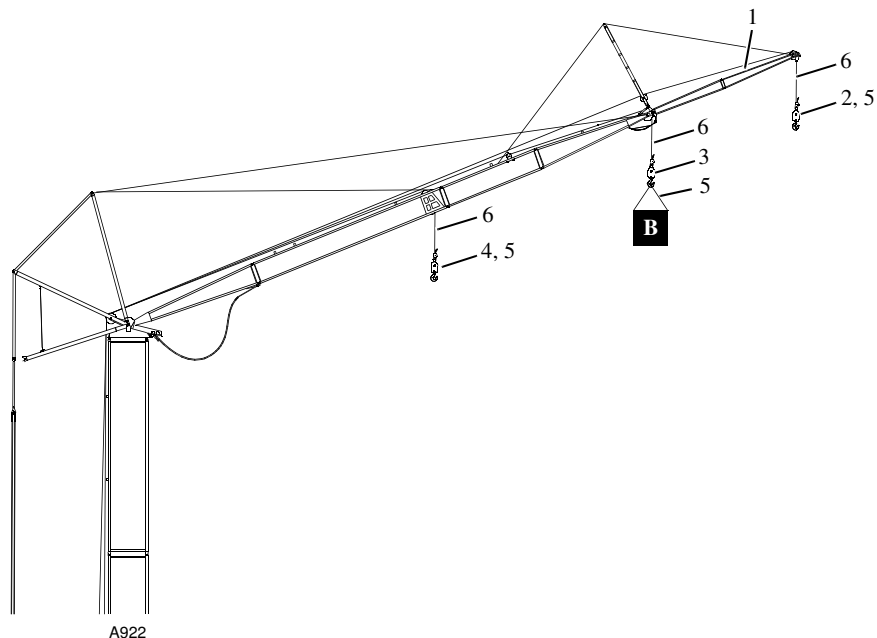
DESCRIPTION	WEIGHT
Component Weights	
1 Load Block/Hook and Weight Ball (below intermediate fall point)	_____
2 Fixed Jib (see Jib Deduct Table in capacity chart) see Note 2:	_____
3 Load Block/Hook and Weight Ball (below fixed jib point, if installed)	_____
4 Upper Luffing Jib Point (from capacity chart if noted)	_____
5 Load Block/Hook and Weight Ball (below upper luffing jib point, if installed)	_____
6 Load Block/Hook and Weight Ball (below lower luffing jib point, if installed)	_____
7 Load Block/Hook and Weight Ball (below lower boom point, if installed) see Note 3:	_____
8 Total Weight of Slings and Other Lifting Equipment Below Fixed Jib Point, Upper Luffing Jib Point, Lower Luffing Jib Point, Intermediate Fall Point, and Lower Boom Point	_____
9 Total Weight of Wire Rope Below Fixed Jib Point, Upper Luffing Jib Point, Lower Luffing Jib Point, Intermediate Fall Point, and Lower Boom Point (see Load Line or Wire Rope Specifications Chart for weight of wire rope)	_____
Totals	
A Total Component Weights (ADD items 1-9 above)	_____
B Weight of Load to be Lifted	_____
C Total Load to be Lifted (ADD A and B above)	_____
D Maximum Working Radius (for Total Load to be Lifted from C above — see correct capacity chart)	_____



- Note 1:** For most applications, weight of the luffing jib and a certain amount of weight below the lower luffing jib point have been included in intermediate fall capacity determination and do not have to be added to total load. See capacity chart for detailed information.
- Note 2:** For most applications, weight of the fixed jib and a certain amount of weight below fixed jib point have been included in intermediate fall capacity determination and do not have to be added to total load. See capacity chart for detailed information.
- Note 3:** Depending on the jib length, some lower boom point sheaves may have to be removed. See capacity chart for detailed information.

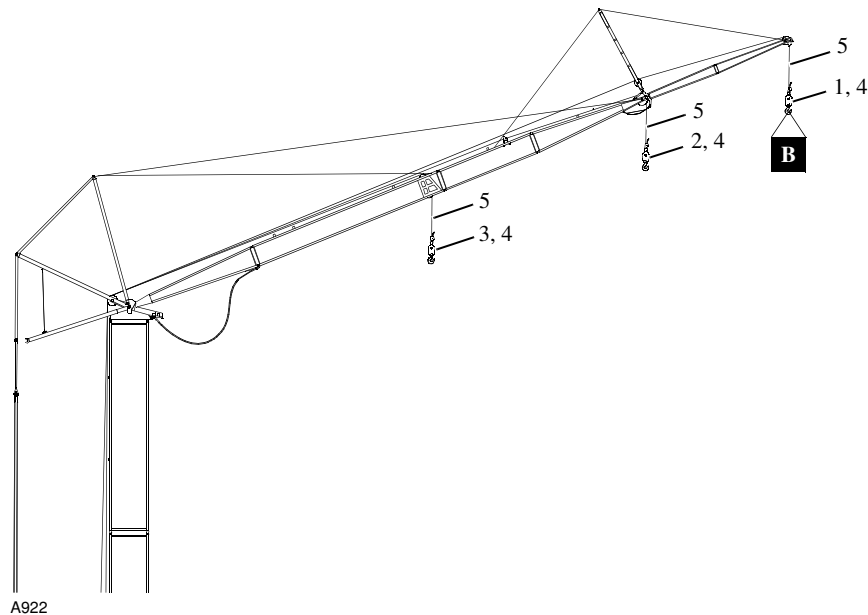
Worksheet H – Determining Total Load and Maximum Working Radius From Tower Boom Point

DESCRIPTION	WEIGHT
Component Weights	
1 Jib (see Jib Deduct Table in capacity chart).	
2 Load Block/Hook and Weight Ball (below jib point, if installed)	
3 Load Block/Hook and Weight Ball (below boom point)	
4 Load Block/Hook and Weight Ball (below intermediate fall, if installed).	
5 Total Weight of Slings and Other Lifting Equipment Below Jib Point, Boom Point, and Intermediate Fall.	
6 Total Weight of Wire Rope Below Jib Point, Boom Point, and Intermediate Fall (see Load Line or Wire Rope Specifications Chart for weight of wire rope)	
Totals	
A Total Component Weights (ADD items 1-6 above)	
B Weight of Load to be Lifted	
C Total Load to be Lifted (ADD A and B above)	
D Maximum Working Radius (for Total Load to be Lifted from C above — see correct capacity chart)	



Worksheet J – Determining Total Load and Maximum Working Radius Tower Jib Point

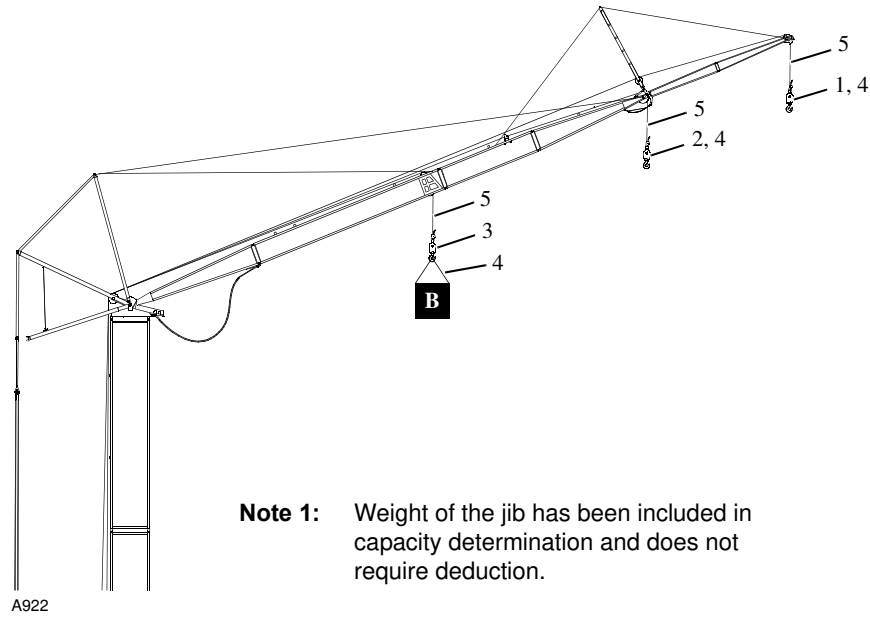
DESCRIPTION	WEIGHT
Component Weights	
1 Load Block/Hook and Weight Ball (<i>below jib point</i>)	_____
2 Load Block/Hook and Weight Ball (<i>below boom point, if installed</i>)	_____
3 Load Block/Hook and Weight Ball (<i>below intermediate fall, if installed</i>)	_____
4 Total Weight of Slings and Other Lifting Equipment Below Jib Point, Boom Point, and Intermediate Fall .	_____
5 Total Weight of Wire Rope Below Jib Point, Boom Point, and Intermediate Fall (<i>see Load Line or Wire Rope Specifications Chart for weight of wire rope</i>)	_____
Totals	
A Total Component Weights (<i>ADD items 1-5 above</i>)	_____
B Weight of Load to be Lifted	_____
C Total Load to be Lifted (<i>ADD A and B above</i>)	_____
D Maximum Working Radius (<i>for Total Load to be Lifted from C above — see correct capacity chart</i>)	_____



Worksheet K – Determining Total Load and Maximum Working Radius From Tower Intermediate Fall

(see Note 1:)

DESCRIPTION		WEIGHT
Component Weights		
1	Load Block/Hook and Weight Ball (<i>below jib point, if installed</i>) (see Note 1:)	_____
2	Load Block/Hook and Weight Ball (<i>below boom point, if installed</i>)	_____
3	Load Block/Hook and Weight Ball (<i>below intermediate fall</i>).	_____
4	Total Weight of Slings and Other Lifting Equipment Below Jib Point, Boom Point, and Intermediate Fall.	_____
5	Total Weight of Wire Rope Below Jib Point, Boom Point, and Intermediate Fall (<i>see Load Line or Wire Rope Specifications Chart for weight of wire rope</i>)	_____
Totals		
A	Total Component Weights (<i>ADD items 1-5 above</i>)	_____
B	Weight of Load to be Lifted	_____
C	Total Load to be Lifted (<i>ADD A and B above</i>)	_____
D	Maximum Working Radius (<i>for Total Load to be Lifted from C above — see correct capacity chart</i>)	_____



Note 1: Weight of the jib has been included in capacity determination and does not require deduction.

CRAWLER BLOCKING

**WARNING****READ CAPACITY CHARTS!**

Do not attempt to operate the crane without first reading and understanding capacity charts.

Crane must be rigged, blocked, and operated according to instructions given in capacity charts.

All operations must be performed with crane level as specified in capacity charts; otherwise the crane could tip.

Failing to comply with capacity charts can result in tipping or structural failure of the boom, boom and fixed jib, tower attachment, or luffing jib attachment.

Death or serious injury to personnel can result.

[Figure 1](#) shows proper blocking of the crawlers for the following operating conditions:

- Raising and lowering the booms, boom and fixed jibs, tower attachments, and luffing jib attachments which require increased stability as stated on the capacity chart.
- Capacity chart ratings which require front of the crawlers to be blocked (limited swing).
- Capacity chart ratings which require front **and** rear of the crawlers to be blocked (360° rating).

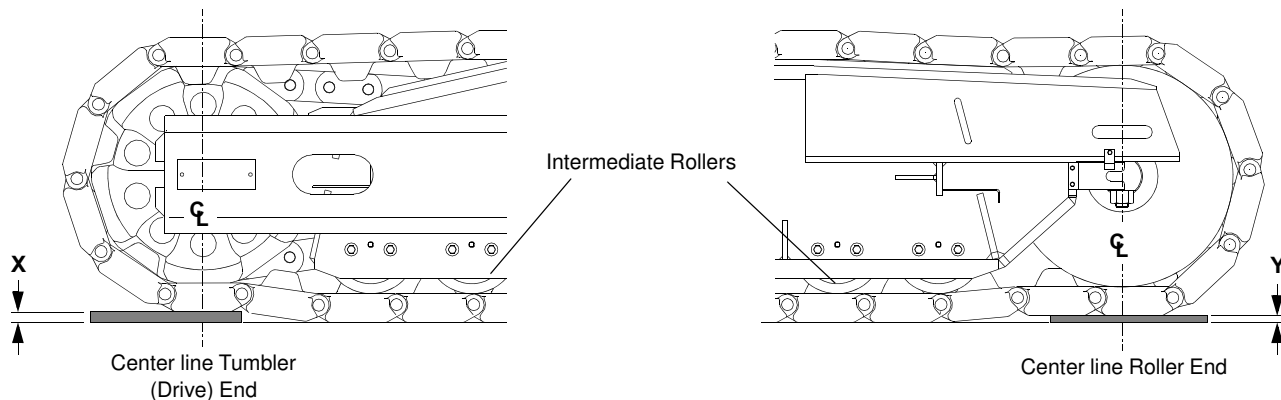
Hardwood or steel blocking must provide even support, equal to the width of crawler pads under the centerline of the crawler rollers and/or the tumblers. **Blocking must be thick enough to maintain dimensions given in table even after ground and blocking are compacted.**

The blocking ensures that the centerline of the crawler rollers or the tumblers becomes the tipping fulcrum.

CAUTION**Crawler Damage!**

DO NOT extend blocking into area of intermediate rollers. Damage to crawler components may result.

B173

**FIGURE 1**

Model	Blocking Dimensions				Notes
	Tolerance: minus 0, plus 1/2 in (12,7 mm)				
	X		Y		
	Tumbler (Drive) End		Roller End		
	in	mm	in	mm	
M-50W	1-1/2	38,10	1-3/8	34,93	S/N 91651001 - 91651029 S/N 91651101 and newer 5 7
M-65W	1-1/4	31,75	1-1/4	31,75	
M-80W	1-1/2	38,10	1-1/4	31,75	
M-85W	1-1/2	38,10	1-1/4	31,75	
MLC165	1	25,40	1-3/8	34,93	
MLC165	1-3/8	34,93	1-1/4	31,75	
MLC300	2-3/4	69,85	1-3/4	44,45	
MLC650	2-3/8	60,33	2-5/8	66,68	
111	1/2	12,70	1/2	12,70	
180	1-1/2	38,10	1-1/2	38,10	
222	1-1/2	38,10	1-1/2	38,10	
M-250, S2	1-1/4	31,75	1/2	12,70	
555	1-1/4	31,75	1-1/4	31,75	
777	1-1/2	38,10	3/4	19,05	4
777	1	25,40	1/4	6,35	5
888 S1, S2	1-1/8	28,58	1/2	12,70	
999	1	25,40	1/2	12,70	
1015	1/4	6,35	7/8	22,22	
2250	1	25,40	1/2	12,70	
2900WC	3/4	19,05	3/4	19,05	1
2900WC	1	25,40	1	25,40	2
3000W	1/4	6,35	1	25,40	3
3900	1/4	6,35	1/2	12,70	4, 5
3900W	1/4	6,35	1/2	12,70	6
3950D	1/4	6,35	3/4	19,05	
3950W	1/4	6,35	3/4	19,05	
4000	1/2	12,70	3/4	19,05	
4000W	1/4	6,35	1/2	12,70	
4100W S1, S2	5/8	15,88	1/2	12,70	
4600	5/8	15,88	5/8	15,88	
4600 S3	5/8	15,88	5/8	15,88	
4600 S4, S5	5/8	15,88	5/8	15,88	
6000W	1	25,40	1-1/4	31,75	
6000 S2	1	25,40	1-1/4	31,75	
7000	1	25,40	1-1/4	31,75	
14000	1	25,40	1/2	12,70	
15000	--	25,40	--	12,70	
16000	1-7/8	47,62	2-1/8	53,97	
18000	2-3/8	60,30	2-5/8	66,67	
21000	1-1/4	31,75	Not Applicable		
31000	Not Applicable		Not Applicable		

NOTES

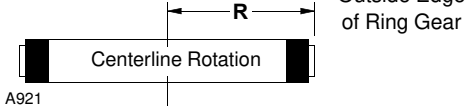
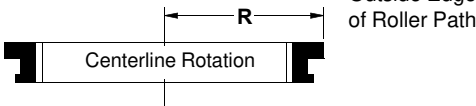
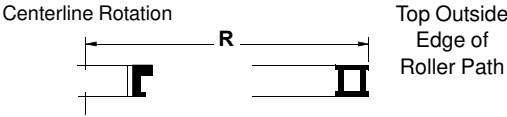
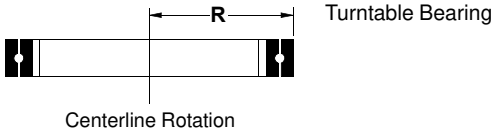
- 1 – 30 in (762 mm) Crawler Treads
- 2 – 36 in (914 mm) Crawler Treads
- 3 – 33 in (838 mm) Crawler Treads
- 4 – 38 in (965 mm) Crawler Treads
- 5 – 48 in (1 219 mm) Crawler Treads
- 6 – 24 in (610 mm) or 27 in (686 mm) Crawler Treads
- 7 – 60 in (1 524 mm) or 80 in (2 032 mm) Crawler Treads

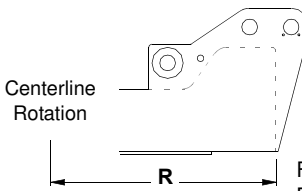
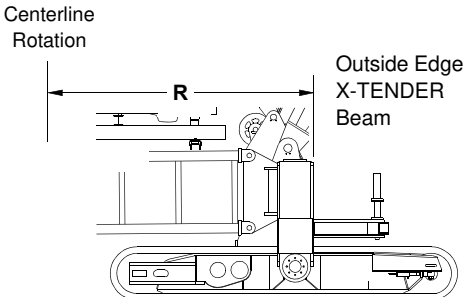
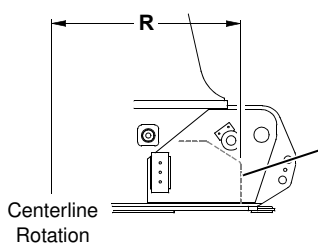
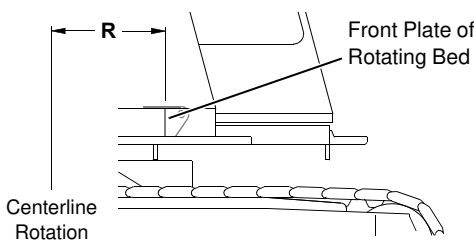
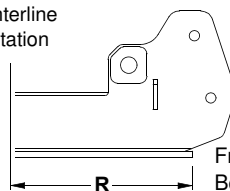
OPERATING RADIUS

OPERATING RADIUS is the horizontal distance from the crane's centerline of rotation to the center of the freely suspended load line or load block.

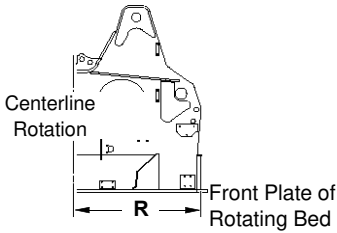
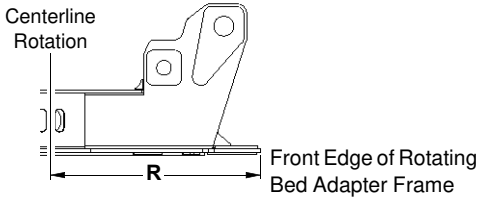
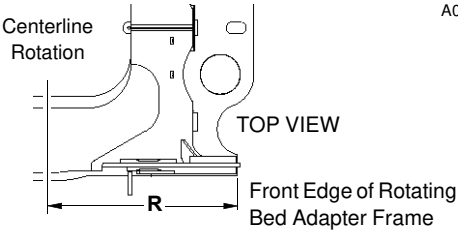
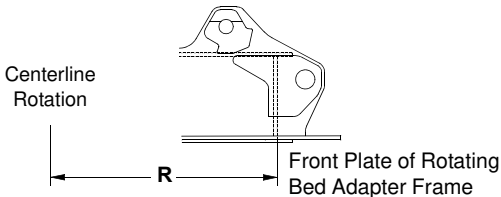
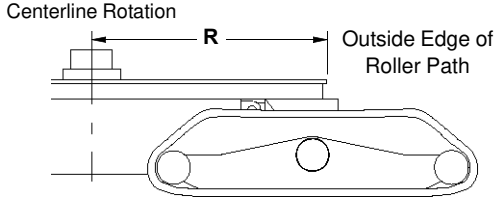
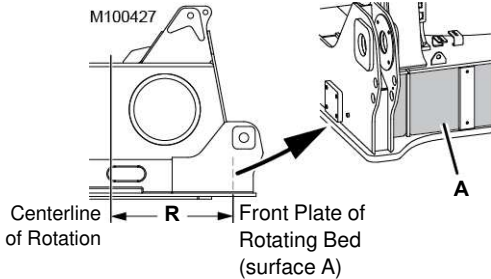
The centerline of rotation is difficult to locate. Therefore, deduct the radius (**R**) given in the table from the operating radius given on the capacity chart. Then measure from the point indicated in the appropriate illustration to the center of the load line or load block.

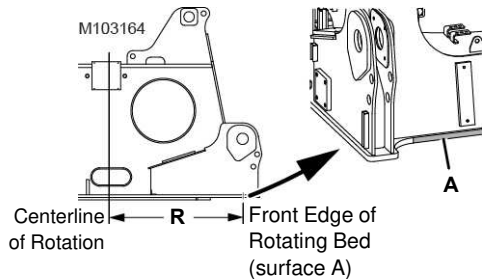
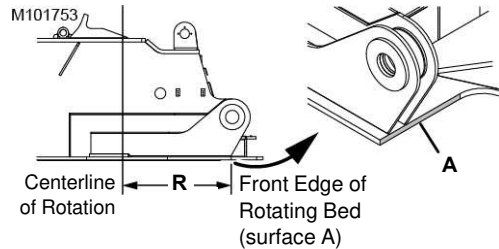
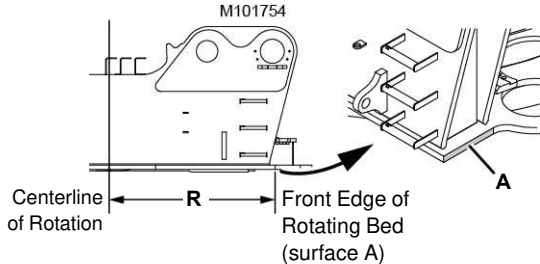
This practice will eliminate the need to find the crane's centerline of rotation when measuring operating radius.

Model	Radius – R		Identification
	ft-in	meters	
2000 2300	2-7	0,79	
3000 3000W 3600	3-2	0,96	
888	4-6	1,37	
2900T 2900WC	3-7	1,09	
3900 3900T 3900W or WT 3950D 3950W or WT 4000 4000W	4-5	1,35	
4100W	4-6	1,37	
4600 S-1, 2, 3	5-6	1,68	
4600 S-4, 5 6000W 6000 S-2 6400	5-7	1,70	
4000W RINGER® 4100W RINGER 36' P.R.	18-1	5,51	
7000	18-4	5,59	
4600 RINGERS 60' P.R.	30-0	9,14	
M-1200 RINGER	30-2	9,19	
888 RINGER	22-7	6,88	
M-50W	2-4	0,71	
M-80W	2-9	0,84	
M-65SC M-65T M-65W M-85T M-85W 111 180 222 222 Wagon	2-8	0,81	

Model	Radius – R		Identification
	ft-in	meters	
M-250 2250	6-1	1,85	 Centerline Rotation Front Plate of Rotating Bed Adapter Frame
4100W S-2 X-TENDER™ S-2	67-4	20,52	 Centerline Rotation Outside Edge of X-TENDER Beam
555	4-7 ¹ OR 5-4 ²	1,40 ¹ OR 1,63 ²	 Centerline Rotation Front Plate of Rotating Bed OR Front of Front Counterweight A01066
¹ Without front counterweight (cranes with free fall on both drums).			
² With front counterweight (cranes with free fall on both drums)			
777 777T	3-11	1,19	
999	4-11	1,50	
15000	-	1,49	 Centerline Rotation Front Plate of Rotating Bed A967
1015	4-6	1,37	 Centerline Rotation Front Edge of Rotating Bed Adapter Frame

CAPACITY CHART INFORMATION

Model	Radius – R		Identification
	ft-in	meters	
14000	4-9	1,44	A15809  Centerline Rotation Front Plate of Rotating Bed
16000	6-1	1,85	A10393  Centerline Rotation Front Edge of Rotating Bed Adapter Frame
18000	5-7	1,79	A04300  Centerline Rotation TOP VIEW Front Edge of Rotating Bed Adapter Frame
21000	4-8	1,42	 Centerline Rotation Front Plate of Rotating Bed Adapter Frame
31000	20-3	6,17	 Centerline Rotation Outside Edge of Roller Path
MLC165 (S/N 91651001 – 91651029)	4-3	1,30	M100427  Centerline of Rotation Front Plate of Rotating Bed (surface A)

Model	Radius – R		Identification
	ft-in	meters	
MLC165 (S/N 91651101 and newer)	4-7	1,40	 M103164 Centerline of Rotation R Front Edge of Rotating Bed (surface A) A
MLC300	4-11	1,51	 M101753 Centerline of Rotation R Front Edge of Rotating Bed (surface A) A
MLC650	5-1	1,55	 M101754 Centerline of Rotation R Front Edge of Rotating Bed (surface A) A

CRANE STABILITY AND CRAWLER LIFT

Regarding “lifting” of crawlers during craning activities, be advised that the rated loads for these cranes as indicated on the crane’s Capacity Chart, do not exceed the stability requirements of the **ASME B30.5 Table 5-1.1.1-1 Crane Load Ratings** as determined by **SAE J765 OCT 90 “Cranes Stability Test Code.”** A portion of a crawler may lift off the ground or supporting surface during operation of the crane within the limits of the Capacity Chart, yet the crane will not have reached instability. The “balance point” for stability testing according to SAE and Manitowoc criteria is a condition of the loading wherein the load moment acting to overturn the crane is equal to the maximum moment of the crane available to resist overturning. This balance point or point of instability for a crane does not depend on the “lifting” of a crawler but rather a comparison of the “opposing” load moments.

The occurrence of a portion of a crawler lifting from the ground or supporting surface is often attributed to the natural flex in the crane’s lower works. This may happen when lifting a load in certain configurations within the limits of the Capacity Chart and is not necessarily an indication of an unstable condition.

Provided the crane is properly set up, the crane is in good working condition, that all operational aids are properly programmed, that the qualified crane operator adheres to the instructions found in the applicable Capacity Chart, Operator Manual, and decals on the crane, the crane should be stable.

Liftcrane Boom Capacities

Boom No. B10:500

474,400 lb VPC (Variable Position Counterweight)

360 Degree Rating

**MLC300
SERIES 3**



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

Upper boom point capacity for liftcrane service with single part whip line from Drum 6 is 30,000 lb or 60,000 lb with two part whip line. When Drum 2 or Drum 3 is used, capacity with single part whip line is 36,700 lb or 73,500 lb with two part whip line. In all cases, upper boom point capacities cannot exceed those listed for main boom capacity.

Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath boom point sheaves is considered part of the main load. Boom is not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved.

BOOM BACKWARD STABILITY: Capacities indicated by (b) require 5,000 lb minimum weight. **Caution: Do not operate in areas indicated by (b) without required minimum weights.** Boom will not lower and boom hoist wire may go slack causing wire rope damage or failure.

OPERATING CONDITIONS: Machine to operate on a firm, level, and uniformly supporting surface. Refer to Boom Rigging **No. 81023380**, Wire Rope Specification chart **No. 9341-A**, Counterweight Arrangement **No. 9345-A**, and Wind Conditions chart **No. 9344-A**. Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, travel, wind conditions, as well as adverse operating conditions and physical machine depreciation. Refer to Operator's Manual for operating guidelines.

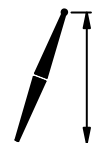
MACHINE TRAVEL: Machine to travel on a firm, level, and uniformly supporting surface. Boom must be within boom angle range shown in capacity chart. Refer to Maximum Allowable Travel Specification chart **No. 9342-A**.



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 31 ft 10 in. crawlers, 48 in. or 60 in. treads, 30 ft live mast, 24 part boom hoist reeving, boom support straps, and 474,400 lb VPC.

Luffing Jib Backstay Deduct	
Boom Length	Deduct
98.4 ft	2,900 lb
118.1 ft	3,500 lb
137.8 ft	4,100 lb
157.5 ft	4,600 lb
177.2 ft	5,200 lb
196.9 ft	5,800 lb
216.5 ft	6,400 lb
236.2 ft	6,900 lb
255.9 ft	7,500 lb
275.6 ft	8,100 lb
295.3 ft	8,700 lb
Deduct the appropriate value from capacities when luffing jib backstays are stored on boom.	

Refer to **Tables 1 and 2** (with luffing jib backstays stored) and **Tables 3 and 4** (without luffing jib backstays stored) for raising ability with the maximum weight of all load blocks, hooks, weight balls, slings, and hoist lines beneath lower and/or upper point sheaves. For block weights shown with #, load blocks, hooks, weight balls, and slings must remain on ground until combined weights are within rated capacity of chart. For boom lengths shown with (a), upper boom point must be removed. Raising is not permitted in shaded areas of table.

Caution: Combined weight beneath upper and/or lower boom point sheaves must not exceed block weight shown.

Raising With Block and With Luffing Jib Backstays

Table 1

Over End or Side of Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	22,900 lb
236.2 ft	15,800 lb
255.9 ft	15,800 lb
275.5 ft	#
295.3 ft	#
315.0 ft	Raising Not Permitted
334.6 ft	

Table 2

Over End of Blocked Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	22,900 lb
236.2 ft	15,800 lb
255.9 ft	15,800 lb
275.5 ft	#
295.3 ft	#
315.0 ft	Raising Not Permitted
334.6 ft	

Raising With Block and Without Luffing Jib Backstays

Table 3

Over End or Side of Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	22,900 lb
236.2 ft	22,900 lb
255.9 ft	15,800 lb
275.5 ft	8,300 lb
295.3 ft	#
315.0 ft	#
(a) 334.6 ft	#

Table 4

Over End of Blocked Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	22,900 lb
236.2 ft	22,900 lb
255.9 ft	15,800 lb
275.5 ft	8,300 lb
295.3 ft	#
315.0 ft	#
(a) 334.6 ft	#

Explanation of Symbols



Boom No. B10:500



VPC (Variable Position Counterweight)



360 Degree Rating



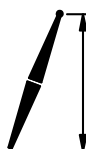
Boom Length



Operating Radius
(see page 1)



Boom Angle
(see page 1)



Boom Point Elevation
(see page 1)



Lifting Capacities
(see page 1)



474,400 lb



98.4 ft			
ft	°	ft	lb
18	84.5	104.8	661,400 b
19	83.9	104.6	661,400 b
20	83.3	104.5	661,400 b
21	82.7	104.3	661,400 b
22	82.1	104.2	654,900 b
24	80.9	103.8	612,400
26	79.8	103.4	575,000
28	78.6	102.9	541,700
30	77.4	102.4	512,000
32	76.2	101.9	484,300
34	74.9	101.3	455,800
36	73.7	100.6	422,000
38	72.5	99.9	389,500
40	71.3	99.2	361,600
45	68.1	97.1	306,400
50	64.9	94.8	265,500
55	61.6	92.0	234,100
60	58.1	88.8	209,100
65	54.5	85.2	188,700
70	50.8	81.1	171,900
75	46.8	76.4	157,700
80	42.5	71.0	145,500
85	37.7	64.6	135,000
90	32.4	56.9	125,900
95	26.0	47.1	117,800
100	17.4	33.1	110,600

118.1 ft			
ft	°	ft	lb
19	84.9	124.5	649,700 b
20	84.4	124.4	646,400 b
21	83.9	124.2	643,200
22	83.5	124.1	637,600
24	82.5	123.8	597,800
26	81.5	123.4	562,500
28	80.5	123.0	530,900
30	79.5	122.6	502,600
32	78.5	122.2	477,000
34	77.5	121.7	453,800
36	76.5	121.2	426,000
38	75.5	120.6	393,300
40	74.5	120.0	365,100
45	71.9	118.3	309,500
50	69.3	116.4	268,400
55	66.7	114.2	236,600
60	64.0	111.7	211,500
65	61.2	108.9	191,000
70	58.3	105.8	174,000
75	55.4	102.3	159,700
80	52.3	98.5	147,500
85	49.1	94.1	136,900
90	45.7	89.2	127,700
95	42.1	83.7	119,600
100	38.2	77.4	112,400
105	33.9	70.1	105,900
110	29.0	61.3	100,100
115	23.1	50.3	94,900

137.8 ft			
ft	°	ft	lb
21	84.8	144.1	590,500
22	84.4	143.9	587,600
24	83.6	143.7	579,800
26	82.7	143.4	546,900
28	81.9	143.1	517,300
30	81.0	142.7	490,600
32	80.2	142.3	466,300
34	79.3	141.9	444,300
36	78.5	141.5	424,200
38	77.6	141.0	395,100
40	76.8	140.5	366,900
45	74.6	139.1	311,000
50	72.4	137.4	269,600
55	70.2	135.6	237,700
60	68.0	133.5	212,400
65	65.7	131.2	191,800
70	63.3	128.7	174,700
75	61.0	125.9	160,300
80	58.5	122.8	148,000
85	56.0	119.4	137,400
90	53.4	115.7	128,200
95	50.7	111.5	120,000
100	47.9	107.0	112,800
105	45.0	102.0	106,300
110	41.9	96.4	100,500
115	38.5	90.2	95,200
120	34.9	83.1	90,500
125	31.0	75.0	86,100
130	26.4	65.2	82,100
135	20.9	53.0	78,500

B10



474,400 lb



360°

157.5 ft			
ft	°	ft	lb
24	84.4	163.5	536,900
26	83.6	163.3	530,400
28	82.9	163.0	502,800
30	82.2	162.7	477,900
32	81.4	162.3	455,100
34	80.7	162.0	434,300
36	79.9	161.6	415,200
38	79.2	161.2	397,600
40	78.5	160.7	369,300
45	76.6	159.5	312,900
50	74.7	158.1	271,200
55	72.8	156.5	239,100
60	70.9	154.8	213,600
65	68.9	152.8	192,900
70	66.9	150.6	175,700
75	64.9	148.3	161,200
80	62.9	145.7	148,800
85	60.8	142.8	138,200
90	58.6	139.8	128,800
95	56.4	136.4	120,600
100	54.2	132.8	113,300
105	51.9	128.9	106,800
110	49.5	124.6	101,000
115	47.0	119.9	95,700
120	44.4	114.8	90,900
125	41.7	109.2	86,500
130	38.8	103.0	82,500
135	35.7	96.1	78,800
140	32.3	88.3	75,400
145	28.6	79.3	72,300
150	24.3	68.7	69,300
155	19.1	55.2	66,600

177.2 ft			
ft	°	ft	lb
24	85.0	183.3	491,000
26	84.3	183.1	486,800
28	83.7	182.8	482,800
30	83.0	182.6	464,400
32	82.4	182.3	443,300
34	81.7	182.0	423,900
36	81.1	181.6	406,000
38	80.4	181.2	389,500
40	79.8	180.9	372,200
45	78.1	179.8	315,600
50	76.4	178.5	273,700
55	74.8	177.1	241,400
60	73.1	175.6	215,800
65	71.4	173.9	195,000
70	69.6	172.0	177,700
75	67.9	169.9	163,100
80	66.1	167.7	150,700
85	64.3	165.3	140,000
90	62.5	162.6	130,600
95	60.6	159.8	122,300
100	58.7	156.7	115,000
105	56.8	153.4	108,500
110	54.8	149.9	102,600
115	52.8	146.1	97,300
120	50.7	142.0	92,500
125	48.5	137.5	88,100
130	46.3	132.7	84,100
135	44.0	127.6	80,400
140	41.5	121.9	76,900
145	39.0	115.8	73,800
150	36.2	109.0	70,900
155	33.3	101.5	67,800
160	30.1	93.0	63,900
165	26.6	83.3	60,200
170	22.5	71.8	56,600
175	17.5	57.1	52,900

196.9 ft			
ft	°	ft	lb
26	84.9	202.9	424,000
28	84.3	202.7	420,800
30	83.7	202.4	410,900
32	83.2	202.2	399,600
34	82.6	201.9	388,600
36	82.0	201.6	378,100
38	81.4	201.2	367,800
40	80.8	200.9	357,900
45	79.3	199.9	318,100
50	77.8	198.8	275,900
55	76.3	197.6	243,400
60	74.8	196.2	217,600
65	73.3	194.7	196,600
70	71.8	193.0	179,200
75	70.2	191.2	164,600
80	68.6	189.2	152,100
85	67.1	187.0	141,200
90	65.5	184.7	131,800
95	63.8	182.3	123,500
100	62.2	179.6	116,100
105	60.5	176.7	109,500
110	58.8	173.7	103,600
115	57.1	170.4	98,300
120	55.3	167.0	93,400
125	53.5	163.2	89,000
130	51.6	159.3	84,900
135	49.7	155.0	81,200
140	47.7	150.5	77,800
145	45.7	145.6	73,800
150	43.6	140.3	69,700
155	41.4	134.7	65,800
160	39.1	128.5	62,200
165	36.7	121.9	58,700
170	34.1	114.6	55,400
175	31.3	106.5	52,200
180	28.3	97.4	49,200
185	24.9	86.9	46,200
190	21.0	74.5	43,300
195	16.2	58.7	40,300



216.5 ft			
ft	°	ft	lb
28	84.8	222.5	373,400
30	84.3	222.3	366,500
32	83.8	222.0	357,400
34	83.2	221.8	348,600
36	82.7	221.5	339,900
38	82.2	221.2	331,500
40	81.6	220.9	323,300
45	80.3	220.0	303,600
50	78.9	219.0	277,400
55	77.6	217.9	244,800
60	76.2	216.6	218,800
65	74.9	215.2	197,800
70	73.5	213.7	180,300
75	72.1	212.1	165,500
80	70.7	210.3	153,000
85	69.3	208.4	142,100
90	67.8	206.3	132,600
95	66.4	204.1	124,300
100	64.9	201.8	116,900
105	63.4	199.2	110,200
110	61.9	196.6	104,300
115	60.4	193.7	98,900
120	58.9	190.7	94,100
125	57.3	187.4	89,600
130	55.7	184.0	85,500
135	54.0	180.4	81,700
140	52.4	176.5	77,100
145	50.7	172.4	72,800
150	48.9	168.0	68,700
155	47.1	163.4	64,900
160	45.2	158.4	61,400
165	43.3	153.1	58,000
170	41.3	147.4	54,800
175	39.2	141.3	51,800
180	37.0	134.7	48,900
185	34.7	127.6	46,100
190	32.3	119.7	43,500
195	29.6	111.1	41,000
200	26.7	101.4	38,500
205	23.5	90.2	36,100
210	19.7	77.0	33,600
215	15.1	60.1	31,200

236.2 ft			
ft	°	ft	lb
30	84.8	242.1	308,900
32	84.3	241.8	307,700
34	83.8	241.6	306,500
36	83.3	241.3	302,800
38	82.8	241.1	295,800
40	82.3	240.8	289,000
45	81.1	240.0	272,500
50	79.9	239.1	257,000
55	78.6	238.0	242,300
60	77.4	236.9	220,500
65	76.1	235.6	199,300
70	74.9	234.3	181,700
75	73.6	232.8	166,900
80	72.4	231.2	154,200
85	71.1	229.4	143,300
90	69.8	227.6	133,700
95	68.5	225.6	125,300
100	67.2	223.5	117,800
105	65.8	221.2	111,200
110	64.5	218.8	105,200
115	63.1	216.2	99,800
120	61.7	213.5	94,900
125	60.3	210.6	89,100
130	58.9	207.6	83,700
135	57.5	204.4	78,800
140	56.0	201.0	74,200
145	54.5	197.4	69,900
150	53.0	193.7	65,900
155	51.4	189.7	62,200
160	49.9	185.4	58,600
165	48.2	181.0	55,300
170	46.6	176.2	52,200
175	44.8	171.2	49,300
180	43.1	165.9	46,400
185	41.2	160.2	43,800
190	39.3	154.1	41,200
195	37.3	147.5	38,800
200	35.2	140.5	36,500
205	33.0	132.9	34,200
210	30.7	124.6	32,100
215	28.1	115.4	30,000
220	25.3	105.1	27,900
225	22.2	93.2	25,900
230	18.6	79.2	23,800

255.9 ft			
ft	°	ft	lb
32	84.7	261.6	256,400
34	84.3	261.4	255,300
36	83.8	261.2	254,300
38	83.4	260.9	253,300
40	82.9	260.7	252,300
45	81.8	259.9	249,900
50	80.7	259.1	247,400
55	79.5	258.1	243,900
60	78.4	257.1	221,800
65	77.2	255.9	200,500
70	76.1	254.7	182,800
75	74.9	253.3	167,900
80	73.8	251.8	155,200
85	72.6	250.3	144,200
90	71.4	248.5	134,600
95	70.2	246.7	126,100
100	69.0	244.8	118,600
105	67.8	242.7	111,900
110	66.6	240.5	105,900
115	65.3	238.2	99,400
120	64.1	235.8	93,100
125	62.8	233.2	87,400
130	61.6	230.5	82,000
135	60.3	227.6	77,100
140	59.0	224.6	72,600
145	57.6	221.4	68,300
150	56.3	218.0	64,400
155	54.9	214.5	60,700
160	53.5	210.8	57,200
165	52.1	206.9	54,000
170	50.7	202.8	50,900
175	49.2	198.5	48,000
180	47.7	193.9	45,200
185	46.1	189.1	42,600
190	44.5	184.0	40,100
195	42.9	178.6	37,800
200	41.2	172.9	35,500
205	39.4	166.8	33,300
210	37.6	160.4	31,300
215	35.7	153.4	29,300
220	33.6	146.0	27,300
225	31.5	137.9	25,500
230	29.3	129.1	23,700
235	26.8	119.4	21,900
240	24.1	108.5	20,200
245	21.1	96.0	18,500
250	17.6	81.1	16,700

B10



474,400 lb



360°

275.6 ft			
ft	°	ft	lb
34	84.7	281.2	216,000
36	84.3	281.0	215,100
38	83.9	280.8	214,200
40	83.4	280.5	213,300
45	82.4	279.8	211,000
50	81.3	279.1	208,800
55	80.3	278.2	206,700
60	79.2	277.2	201,900
65	78.2	276.1	193,300
70	77.1	275.0	184,200
75	76.0	273.7	169,200
80	74.9	272.4	156,300
85	73.9	270.9	145,300
90	72.8	269.3	135,600
95	71.7	267.7	127,100
100	70.6	265.9	118,500
105	69.5	264.0	110,200
110	68.3	262.0	102,700
115	67.2	259.9	95,900
120	66.1	257.6	89,700
125	64.9	255.3	84,000
130	63.8	252.8	78,700
135	62.6	250.2	73,800
140	61.4	247.4	69,300
145	60.2	244.6	65,100
150	59.0	241.5	61,200
155	57.8	238.4	57,500
160	56.5	235.0	54,100
165	55.3	231.6	50,800
170	54.0	227.9	47,800
175	52.7	224.1	44,900
180	51.3	220.1	42,200
185	50.0	215.9	39,600
190	48.6	211.4	37,200
195	47.2	206.8	34,900
200	45.7	201.9	32,600
205	44.2	196.8	30,500
210	42.7	191.4	28,500
215	41.1	185.6	26,600
220	39.5	179.6	24,700
225	37.8	173.2	22,900
230	36.0	166.3	21,200
235	34.2	159.0	19,500
240	32.2	151.2	17,900
245	30.2	142.7	16,400
250	28.0	133.4	14,800
255	25.6	123.2	13,300
260	23.0	111.7	11,400

295.3 ft			
ft	°	ft	lb
36	84.7	300.8	181,900
38	84.3	300.6	181,100
40	83.9	300.4	180,300
45	82.9	299.7	178,500
50	81.9	299.0	172,400
55	80.9	298.2	165,100
60	80.0	297.3	158,300
65	79.0	296.3	152,100
70	78.0	295.2	146,300
75	77.0	294.0	140,900
80	76.0	292.8	135,700
85	75.0	291.4	131,000
90	74.0	289.9	126,500
95	72.9	288.4	122,400
100	71.9	286.7	118,400
105	70.9	285.0	110,500
110	69.9	283.1	103,000
115	68.8	281.2	96,100
120	67.8	279.1	89,800
125	66.7	277.0	84,100
130	65.6	274.7	78,800
135	64.6	272.3	73,900
140	63.5	269.8	69,400
145	62.4	267.1	65,100
150	61.3	264.4	61,200
155	60.2	261.5	57,500
160	59.0	258.5	54,100
165	57.9	255.3	50,800
170	56.7	252.0	47,800
175	55.5	248.6	44,900
180	54.3	245.0	42,200
185	53.1	241.2	39,600
190	51.9	237.3	37,200
195	50.6	233.2	34,900
200	49.4	228.9	32,700
205	48.1	224.4	30,600
210	46.7	219.7	28,500
215	45.4	214.8	26,600
220	44.0	209.6	24,800
225	42.5	204.1	23,000
230	41.1	198.4	21,300
235	39.5	192.3	19,700
240	38.0	186.0	18,100
245	36.3	179.2	16,600
250	34.6	172.0	15,100
255	32.8	164.3	13,700
260	31.0	156.1	12,300
265	29.0	147.1	10,900

315.0 ft			
ft	°	ft	lb
36	85.0	320.6	156,700
38	84.6	320.4	155,900
40	84.3	320.2	155,200
45	83.4	319.6	153,400
50	82.4	318.9	151,700
55	81.5	318.1	150,100
60	80.6	317.3	148,500
65	79.7	316.4	146,800
70	78.7	315.3	145,200
75	77.8	314.2	143,300
80	76.9	313.1	139,800
85	75.9	311.8	136,600
90	75.0	310.4	133,200
95	74.0	309.0	124,400
100	73.1	307.5	115,200
105	72.1	305.8	106,900
110	71.2	304.1	99,400
115	70.2	302.3	92,600
120	69.2	300.4	86,400
125	68.3	298.4	80,700
130	67.3	296.3	75,400
135	66.3	294.0	70,500
140	65.3	291.7	66,000
145	64.3	289.3	61,800
150	63.2	286.8	57,900
155	62.2	284.1	54,300
160	61.2	281.3	50,900
165	60.1	278.5	47,600
170	59.1	275.5	44,600
175	58.0	272.3	41,800
180	56.9	269.0	39,100
185	55.8	265.6	36,500
190	54.7	262.1	34,100
195	53.5	258.4	31,800
200	52.4	254.5	29,600
205	51.2	250.5	27,600
210	50.0	246.3	25,600
215	48.8	241.9	23,700
220	47.6	237.3	21,900
225	46.3	232.6	20,100
230	45.1	227.6	18,500
235	43.7	222.3	16,900
240	42.4	216.9	15,300
245	41.0	211.1	13,800
250	39.6	205.1	12,400
255	38.1	198.8	11,000



474,400 lb



ft	°	ft	lb
38	84.9	340.2	131,800
40	84.6	340.0	131,200
45	83.7	339.4	129,700
50	82.9	338.8	128,100
55	82.0	338.1	126,600
60	81.1	337.3	125,100
65	80.3	336.4	120,600
70	79.4	335.4	115,900
75	78.5	334.4	111,500
80	77.7	333.3	107,400
85	76.8	332.1	103,600
90	75.9	330.8	99,900
95	75.0	329.5	96,600
100	74.1	328.0	93,300
105	73.2	326.5	90,300
110	72.3	324.9	87,400
115	71.4	323.2	84,800
120	70.5	321.4	82,100
125	69.6	319.6	79,700
130	68.7	317.6	74,800
135	67.8	315.5	69,900
140	66.8	313.4	65,400
145	65.9	311.1	61,200
150	64.9	308.8	57,300
155	64.0	306.3	53,700
160	63.0	303.8	50,200
165	62.0	301.1	47,000
170	61.1	298.3	44,000
175	60.1	295.4	41,200
180	59.1	292.4	38,500
185	58.1	289.3	35,900
190	57.0	286.0	33,500
195	56.0	282.6	31,200
200	55.0	279.1	29,000
205	53.9	275.5	27,000
210	52.8	271.7	25,000
215	51.7	267.7	23,100
220	50.6	263.6	21,300
225	49.5	259.3	19,600
230	48.4	254.9	17,900
235	47.2	250.3	16,300
240	46.0	245.4	14,800
245	44.8	240.4	13,300
250	43.5	235.1	11,900
255	42.3	229.6	10,600

Liftcrane Boom Capacities

Boom No. B10:500

386,200 lb VPC (Variable Position Counterweight)

360 Degree Rating

MLC300 SERIES 2



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

Upper boom point capacity for liftcrane service with single part whip line from Drum 6 is 30,000 lb or 60,000 lb with two part whip line. When Drum 2 or Drum 3 is used, capacity with single part whip line is 36,700 lb or 73,500 lb with two part whip line. In all cases, upper boom point capacities cannot exceed those listed for main boom capacity.

Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath boom point sheaves is considered part of the main load. Boom is not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved.

BOOM BACKWARD STABILITY: Capacities indicated by (b) require 5,000 lb minimum weight. **Caution: Do not operate in areas indicated by (b) without required minimum weights.** Boom will not lower and boom hoist wire may go slack causing wire rope damage or failure.

OPERATING CONDITIONS: Machine to operate on a firm, level, and uniformly supporting surface. Refer to Boom Rigging **No. 81023380**, Wire Rope Specification chart **No. 9341-A**, Counterweight Arrangement **No. 9345-A**, and Wind Conditions chart **No. 9344-A**. Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, travel, wind conditions, as well as adverse operating conditions and physical machine depreciation. Refer to Operator's Manual for operating guidelines.

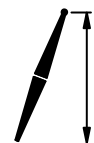
MACHINE TRAVEL: Machine to travel on a firm, level, and uniformly supporting surface. Boom must be within boom angle range shown in capacity chart. Refer to Maximum Allowable Travel Specification chart **No. 9342-A**.



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 31 ft 10 in. crawlers, 48 in. or 60 in. treads, 30 ft live mast, 24 part boom hoist reeving, boom support straps, and 386,200 lb VPC.

Luffing Jib Backstay Deduct	
Boom Length	Deduct
98.4 ft	2,900 lb
118.1 ft	3,500 lb
137.8 ft	4,100 lb
157.5 ft	4,600 lb
177.2 ft	5,200 lb
196.9 ft	5,800 lb
216.5 ft	6,400 lb
236.2 ft	6,900 lb
255.9 ft	7,500 lb
275.6 ft	8,100 lb
295.3 ft	8,700 lb
Deduct the appropriate value from capacities when luffing jib backstays are stored on boom.	

Refer to **Tables 1 and 2** (with luffing jib backstays stored) and **Tables 3 and 4** (without luffing jib backstays stored) for raising ability with the maximum weight of all load blocks, hooks, weight balls, slings, and hoist lines beneath lower and/or upper point sheaves. For block weights shown with #, load blocks, hooks, weight balls, and slings must remain on ground until combined weights are within rated capacity of chart. For boom lengths shown with (a), upper boom point must be removed. Raising is not permitted in shaded areas of table.

Caution: Combined weight beneath upper and/or lower boom point sheaves must not exceed block weight shown.

Raising With Block and With Luffing Jib Backstays

Table 1

Over End or Side of Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	22,900 lb
236.2 ft	15,800 lb
255.9 ft	8,300 lb
275.5 ft	#
295.3 ft	#
315.0 ft	Raising Not Permitted
334.6 ft	

Table 2

Over End of Blocked Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	22,900 lb
236.2 ft	15,800 lb
255.9 ft	15,800 lb
275.5 ft	#
295.3 ft	#
315.0 ft	Raising Not Permitted
334.6 ft	

Raising With Block and Without Luffing Jib Backstays

Table 3

Over End or Side of Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	22,900 lb
236.2 ft	22,900 lb
255.9 ft	15,800 lb
275.5 ft	8,300 lb
295.3 ft	#
315.0 ft	Raising Not Permitted
334.6 ft	

Table 4

Over End of Blocked Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	22,900 lb
236.2 ft	22,900 lb
255.9 ft	15,800 lb
275.5 ft	8,300 lb
295.3 ft	#
315.0 ft	#
(a) 334.6 ft	#

Explanation of Symbols



Boom No. B10:500



VPC (Variable Position Counterweight)



360 Degree Rating



Boom Length



Operating Radius
(see page 1)



Boom Angle
(see page 1)



Boom Point Elevation
(see page 1)



Lifting Capacities
(see page 1)



386,200 lb



98.4 ft			
ft	°	ft	lb
18	84.5	104.8	661,400 b
19	83.9	104.6	661,400 b
20	83.3	104.5	661,400 b
21	82.7	104.3	661,400 b
22	82.1	104.2	640,600 b
24	80.9	103.8	599,000
26	79.8	103.4	562,300
28	78.6	102.9	529,700
30	77.4	102.4	491,700
32	76.2	101.9	443,000
34	74.9	101.3	402,900
36	73.7	100.6	369,400
38	72.5	99.9	340,900
40	71.3	99.2	316,400
45	68.1	97.1	267,900
50	64.9	94.8	232,000
55	61.6	92.0	204,400
60	58.1	88.8	182,500
65	54.5	85.2	164,600
70	50.8	81.1	149,800
75	46.8	76.4	137,300
80	42.5	71.0	126,700
85	37.7	64.6	117,500
90	32.4	56.9	109,400
95	26.0	47.1	102,300
100	17.4	33.1	96,000

118.1 ft			
ft	°	ft	lb
19	84.9	124.5	649,700 b
20	84.4	124.4	646,400 b
21	83.9	124.2	643,200
22	83.5	124.1	623,900
24	82.5	123.8	584,900
26	81.5	123.4	550,200
28	80.5	123.0	519,300
30	79.5	122.6	491,600
32	78.5	122.2	447,600
34	77.5	121.7	407,200
36	76.5	121.2	373,400
38	75.5	120.6	344,600
40	74.5	120.0	319,900
45	71.9	118.3	271,000
50	69.3	116.4	234,900
55	66.7	114.2	207,000
60	64.0	111.7	184,900
65	61.2	108.9	166,900
70	58.3	105.8	151,900
75	55.4	102.3	139,400
80	52.3	98.5	128,600
85	49.1	94.1	119,300
90	45.7	89.2	111,200
95	42.1	83.7	104,100
100	38.2	77.4	97,800
105	33.9	70.1	92,100
110	29.0	61.3	87,000
115	23.1	50.3	82,400

137.8 ft			
ft	°	ft	lb
21	84.8	144.1	590,500
22	84.4	143.9	587,600
24	83.6	143.7	567,400
26	82.7	143.4	535,100
28	81.9	143.1	506,100
30	81.0	142.7	479,900
32	80.2	142.3	450,100
34	79.3	141.9	409,400
36	78.5	141.5	375,400
38	77.6	141.0	346,500
40	76.8	140.5	321,600
45	74.6	139.1	272,500
50	72.4	137.4	236,100
55	70.2	135.6	208,000
60	68.0	133.5	185,800
65	65.7	131.2	167,700
70	63.3	128.7	152,700
75	61.0	125.9	140,000
80	58.5	122.8	129,200
85	56.0	119.4	119,900
90	53.4	115.7	111,700
95	50.7	111.5	104,600
100	47.9	107.0	98,200
105	45.0	102.0	92,500
110	41.9	96.4	87,400
115	38.5	90.2	82,800
120	34.9	83.1	78,600
125	31.0	75.0	74,800
130	26.4	65.2	71,300
135	20.9	53.0	68,000

B10



386,200 lb



360°

157.5 ft			
ft	°	ft	lb
24	84.4	163.5	536,900
26	83.6	163.3	519,100
28	82.9	163.0	492,100
30	82.2	162.7	467,600
32	81.4	162.3	445,300
34	80.7	162.0	412,500
36	79.9	161.6	378,200
38	79.2	161.2	349,100
40	78.5	160.7	324,000
45	76.6	159.5	274,500
50	74.7	158.1	237,800
55	72.8	156.5	209,500
60	70.9	154.8	187,000
65	68.9	152.8	168,800
70	66.9	150.6	153,700
75	64.9	148.3	140,900
80	62.9	145.7	130,000
85	60.8	142.8	120,600
90	58.6	139.8	112,400
95	56.4	136.4	105,200
100	54.2	132.8	98,700
105	51.9	128.9	93,000
110	49.5	124.6	87,900
115	47.0	119.9	83,200
120	44.4	114.8	79,000
125	41.7	109.2	75,100
130	38.8	103.0	71,600
135	35.7	96.1	68,400
140	32.3	88.3	64,800
145	28.6	79.3	61,100
150	24.3	68.7	57,600
155	19.1	55.2	54,400

177.2 ft			
ft	°	ft	lb
24	85.0	183.3	491,000
26	84.3	183.1	486,800
28	83.7	182.8	477,200
30	83.0	182.6	454,600
32	82.4	182.3	433,900
34	81.7	182.0	414,800
36	81.1	181.6	381,400
38	80.4	181.2	352,100
40	79.8	180.9	326,900
45	78.1	179.8	277,100
50	76.4	178.5	240,200
55	74.8	177.1	211,800
60	73.1	175.6	189,200
65	71.4	173.9	170,900
70	69.6	172.0	155,600
75	67.9	169.9	142,800
80	66.1	167.7	131,900
85	64.3	165.3	122,400
90	62.5	162.6	114,200
95	60.6	159.8	106,900
100	58.7	156.7	100,400
105	56.8	153.4	94,700
110	54.8	149.9	89,500
115	52.8	146.1	84,800
120	50.7	142.0	80,600
125	48.5	137.5	76,700
130	46.3	132.7	72,900
135	44.0	127.6	68,700
140	41.5	121.9	64,700
145	39.0	115.8	61,100
150	36.2	109.0	57,700
155	33.3	101.5	54,500
160	30.1	93.0	51,500
165	26.6	83.3	48,700
170	22.5	71.8	46,100
175	17.5	57.1	43,600

196.9 ft			
ft	°	ft	lb
26	84.9	202.9	424,000
28	84.3	202.7	420,800
30	83.7	202.4	410,900
32	83.2	202.2	399,600
34	82.6	201.9	388,600
36	82.0	201.6	378,100
38	81.4	201.2	355,300
40	80.8	200.9	329,900
45	79.3	199.9	279,600
50	77.8	198.8	242,400
55	76.3	197.6	213,800
60	74.8	196.2	191,000
65	73.3	194.7	172,500
70	71.8	193.0	157,200
75	70.2	191.2	144,300
80	68.6	189.2	133,200
85	67.1	187.0	123,700
90	65.5	184.7	115,400
95	63.8	182.3	108,000
100	62.2	179.6	101,500
105	60.5	176.7	95,700
110	58.8	173.7	90,500
115	57.1	170.4	85,800
120	55.3	167.0	81,100
125	53.5	163.2	76,100
130	51.6	159.3	71,500
135	49.7	155.0	67,200
140	47.7	150.5	63,300
145	45.7	145.6	59,700
150	43.6	140.3	56,300
155	41.4	134.7	53,100
160	39.1	128.5	50,200
165	36.7	121.9	47,400
170	34.1	114.6	44,800
175	31.3	106.5	42,400
180	28.3	97.4	40,000
185	24.9	86.9	37,800
190	21.0	74.5	35,800
195	16.2	58.7	33,700



386,200 lb



216.5 ft			
ft	°	ft	lb
28	84.8	222.5	373,400
30	84.3	222.3	366,500
32	83.8	222.0	357,400
34	83.2	221.8	348,600
36	82.7	221.5	339,900
38	82.2	221.2	331,500
40	81.6	220.9	323,300
45	80.3	220.0	281,300
50	78.9	219.0	243,900
55	77.6	217.9	215,100
60	76.2	216.6	192,200
65	74.9	215.2	173,600
70	73.5	213.7	158,200
75	72.1	212.1	145,200
80	70.7	210.3	134,100
85	69.3	208.4	124,600
90	67.8	206.3	116,200
95	66.4	204.1	108,800
100	64.9	201.8	102,300
105	63.4	199.2	96,400
110	61.9	196.6	91,200
115	60.4	193.7	86,200
120	58.9	190.7	80,700
125	57.3	187.4	75,700
130	55.7	184.0	71,000
135	54.0	180.4	66,800
140	52.4	176.5	62,900
145	50.7	172.4	59,200
150	48.9	168.0	55,900
155	47.1	163.4	52,700
160	45.2	158.4	49,800
165	43.3	153.1	47,000
170	41.3	147.4	44,400
175	39.2	141.3	42,000
180	37.0	134.7	39,700
185	34.7	127.6	37,600
190	32.3	119.7	35,500
195	29.6	111.1	33,600
200	26.7	101.4	31,700
205	23.5	90.2	29,900
210	19.7	77.0	28,200
215	15.1	60.1	26,600

236.2 ft			
ft	°	ft	lb
30	84.8	242.1	308,900
32	84.3	241.8	307,700
34	83.8	241.6	306,500
36	83.3	241.3	302,800
38	82.8	241.1	295,800
40	82.3	240.8	289,000
45	81.1	240.0	272,500
50	79.9	239.1	246,000
55	78.6	238.0	217,000
60	77.4	236.9	193,900
65	76.1	235.6	175,200
70	74.9	234.3	159,700
75	73.6	232.8	146,600
80	72.4	231.2	135,400
85	71.1	229.4	125,700
90	69.8	227.6	117,300
95	68.5	225.6	109,800
100	67.2	223.5	103,300
105	65.8	221.2	97,400
110	64.5	218.8	90,600
115	63.1	216.2	84,600
120	61.7	213.5	79,000
125	60.3	210.6	74,000
130	58.9	207.6	69,300
135	57.5	204.4	65,100
140	56.0	201.0	61,100
145	54.5	197.4	57,500
150	53.0	193.7	54,100
155	51.4	189.7	51,000
160	49.9	185.4	48,100
165	48.2	181.0	45,300
170	46.6	176.2	42,700
175	44.8	171.2	40,300
180	43.1	165.9	38,000
185	41.2	160.2	35,900
190	39.3	154.1	33,800
195	37.3	147.5	31,900
200	35.2	140.5	30,100
205	33.0	132.9	28,300
210	30.7	124.6	26,600
215	28.1	115.4	25,100
220	25.3	105.1	23,500
225	22.2	93.2	22,100
230	18.6	79.2	20,700

255.9 ft			
ft	°	ft	lb
32	84.7	261.6	256,400
34	84.3	261.4	255,300
36	83.8	261.2	254,300
38	83.4	260.9	253,300
40	82.9	260.7	252,300
45	81.8	259.9	249,900
50	80.7	259.1	247,400
55	79.5	258.1	218,400
60	78.4	257.1	195,200
65	77.2	255.9	176,400
70	76.1	254.7	160,800
75	74.9	253.3	147,600
80	73.8	251.8	136,300
85	72.6	250.3	126,600
90	71.4	248.5	118,100
95	70.2	246.7	110,700
100	69.0	244.8	104,000
105	67.8	242.7	96,700
110	66.6	240.5	90,000
115	65.3	238.2	83,900
120	64.1	235.8	78,300
125	62.8	233.2	73,200
130	61.6	230.5	68,600
135	60.3	227.6	64,400
140	59.0	224.6	60,400
145	57.6	221.4	56,800
150	56.3	218.0	53,400
155	54.9	214.5	50,300
160	53.5	210.8	47,300
165	52.1	206.9	44,600
170	50.7	202.8	42,000
175	49.2	198.5	39,600
180	47.7	193.9	37,300
185	46.1	189.1	35,100
190	44.5	184.0	33,100
195	42.9	178.6	31,200
200	41.2	172.9	29,300
205	39.4	166.8	27,600
210	37.6	160.4	26,000
215	35.7	153.4	24,400
220	33.6	146.0	22,900
225	31.5	137.9	21,400
230	29.3	129.1	20,100
235	26.8	119.4	18,700
240	24.1	108.5	17,500
245	21.1	96.0	16,200
250	17.6	81.1	15,000

B10



386,200 lb



360°

275.6 ft			
ft	°	ft	lb
34	84.7	281.2	216,000
36	84.3	281.0	215,100
38	83.9	280.8	214,200
40	83.4	280.5	213,300
45	82.4	279.8	211,000
50	81.3	279.1	208,800
55	80.3	278.2	206,700
60	79.2	277.2	196,900
65	78.2	276.1	177,900
70	77.1	275.0	162,100
75	76.0	273.7	148,800
80	74.9	272.4	137,500
85	73.9	270.9	127,700
90	72.8	269.3	119,200
95	71.7	267.7	111,000
100	70.6	265.9	102,600
105	69.5	264.0	95,000
110	68.3	262.0	88,300
115	67.2	259.9	82,100
120	66.1	257.6	76,600
125	64.9	255.3	71,500
130	63.8	252.8	66,900
135	62.6	250.2	62,600
140	61.4	247.4	58,700
145	60.2	244.6	55,000
150	59.0	241.5	51,600
155	57.8	238.4	48,500
160	56.5	235.0	45,500
165	55.3	231.6	42,800
170	54.0	227.9	40,200
175	52.7	224.1	37,800
180	51.3	220.1	35,500
185	50.0	215.9	33,400
190	48.6	211.4	31,300
195	47.2	206.8	29,400
200	45.7	201.9	27,600
205	44.2	196.8	25,800
210	42.7	191.4	24,200
215	41.1	185.6	22,600
220	39.5	179.6	21,100
225	37.8	173.2	19,700
230	36.0	166.3	18,300
235	34.2	159.0	17,000
240	32.2	151.2	15,800
245	30.2	142.7	14,600
250	28.0	133.4	13,400
255	25.6	123.2	12,300
260	23.0	111.7	11,200

295.3 ft			
ft	°	ft	lb
36	84.7	300.8	181,900
38	84.3	300.6	181,100
40	83.9	300.4	180,300
45	82.9	299.7	178,500
50	81.9	299.0	172,400
55	80.9	298.2	165,100
60	80.0	297.3	158,300
65	79.0	296.3	152,100
70	78.0	295.2	146,300
75	77.0	294.0	140,900
80	76.0	292.8	135,700
85	75.0	291.4	128,300
90	74.0	289.9	119,700
95	72.9	288.4	110,700
100	71.9	286.7	102,200
105	70.9	285.0	94,700
110	69.9	283.1	87,900
115	68.8	281.2	81,800
120	67.8	279.1	76,300
125	66.7	277.0	71,200
130	65.6	274.7	66,500
135	64.6	272.3	62,300
140	63.5	269.8	58,300
145	62.4	267.1	54,700
150	61.3	264.4	51,300
155	60.2	261.5	48,200
160	59.0	258.5	45,200
165	57.9	255.3	42,500
170	56.7	252.0	39,900
175	55.5	248.6	37,500
180	54.3	245.0	35,200
185	53.1	241.2	33,100
190	51.9	237.3	31,000
195	50.6	233.2	29,100
200	49.4	228.9	27,300
205	48.1	224.4	25,600
210	46.7	219.7	23,900
215	45.4	214.8	22,400
220	44.0	209.6	20,900
225	42.5	204.1	19,400
230	41.1	198.4	18,100
235	39.5	192.3	16,800
240	38.0	186.0	15,500
245	36.3	179.2	14,300
250	34.6	172.0	13,200
255	32.8	164.3	12,100
260	31.0	156.1	11,000
265	29.0	147.1	10,000

315.0 ft			
ft	°	ft	lb
36	85.0	320.6	156,700
38	84.6	320.4	155,900
40	84.3	320.2	155,200
45	83.4	319.6	153,400
50	82.4	318.9	151,700
55	81.5	318.1	150,100
60	80.6	317.3	148,500
65	79.7	316.4	146,800
70	78.7	315.3	145,200
75	77.8	314.2	143,300
80	76.9	313.1	139,200
85	75.9	311.8	129,300
90	75.0	310.4	118,500
95	74.0	309.0	109,000
100	73.1	307.5	100,600
105	72.1	305.8	93,000
110	71.2	304.1	86,200
115	70.2	302.3	80,100
120	69.2	300.4	74,500
125	68.3	298.4	69,400
130	67.3	296.3	64,800
135	66.3	294.0	60,500
140	65.3	291.7	56,600
145	64.3	289.3	52,900
150	63.2	286.8	49,500
155	62.2	284.1	46,400
160	61.2	281.3	43,400
165	60.1	278.5	40,700
170	59.1	275.5	38,100
175	58.0	272.3	35,700
180	56.9	269.0	33,400
185	55.8	265.6	31,200
190	54.7	262.1	29,200
195	53.5	258.4	27,300
200	52.4	254.5	25,500
205	51.2	250.5	23,700
210	50.0	246.3	22,100
215	48.8	241.9	20,500
220	47.6	237.3	19,000
225	46.3	232.6	17,600
230	45.1	227.6	16,300
235	43.7	222.3	15,000
240	42.4	216.9	13,700
245	41.0	211.1	12,500
250	39.6	205.1	11,400
255	38.1	198.8	10,300



386,200 lb



ft	°	ft	lb
38	84.9	340.2	131,800
40	84.6	340.0	131,200
45	83.7	339.4	129,700
50	82.9	338.8	128,100
55	82.0	338.1	126,600
60	81.1	337.3	125,100
65	80.3	336.4	120,600
70	79.4	335.4	115,900
75	78.5	334.4	111,500
80	77.7	333.3	107,400
85	76.8	332.1	103,600
90	75.9	330.8	99,900
95	75.0	329.5	96,600
100	74.1	328.0	93,300
105	73.2	326.5	90,300
110	72.3	324.9	85,800
115	71.4	323.2	79,600
120	70.5	321.4	74,100
125	69.6	319.6	69,000
130	68.7	317.6	64,300
135	67.8	315.5	60,000
140	66.8	313.4	56,100
145	65.9	311.1	52,400
150	64.9	308.8	49,100
155	64.0	306.3	45,900
160	63.0	303.8	43,000
165	62.0	301.1	40,200
170	61.1	298.3	37,600
175	60.1	295.4	35,200
180	59.1	292.4	32,900
185	58.1	289.3	30,800
190	57.0	286.0	28,700
195	56.0	282.6	26,800
200	55.0	279.1	25,000
205	53.9	275.5	23,300
210	52.8	271.7	21,600
215	51.7	267.7	20,100
220	50.6	263.6	18,600
225	49.5	259.3	17,200
230	48.4	254.9	15,800
235	47.2	250.3	14,500
240	46.0	245.4	13,300
245	44.8	240.4	12,100
250	43.5	235.1	10,900

Liftcrane Boom Capacities

Boom No. B10:500

386,200 lb VPC (Variable Position Counterweight)

Rating Over End of Blocked Crawlers

No Travel - Limited Swing

MLC300 SERIES 2



LIFTING CAPACITIES: Lifting capacities for various boom lengths and operating radii are for freely suspended loads and may be based on percent of static tipping over end of machine with crawlers blocked or strength of structural components.

Upper boom point capacity for liftcrane service with single part whip line from Drum 6 is 30,000 lb or 60,000 lb with two part whip line. When Drum 2 or Drum 3 is used, capacity with single part whip line is 36,700 lb or 73,500 lb with two part whip line. In all cases, upper boom point capacities cannot exceed those listed for main boom capacity.

Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath boom point sheaves is considered part of the main load. Boom is not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved.

BOOM BACKWARD STABILITY: Capacities indicated by (b) require 5,000 lb minimum weight. **Caution: Do not operate in areas indicated by (b) without required minimum weights.** Boom will not lower and boom hoist wire may go slack causing wire rope damage or failure.

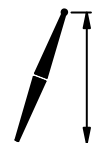
OPERATING CONDITIONS: Machine to operate on a firm, level, and uniformly supporting surface. Drive and idler tumblers must be properly blocked so that centerline of tumblers becomes tipping fulcrum. Swing is limited to that sector shown on Operating Range Diagram **No. 9348-A**. Refer to Boom Rigging **No. 81023380**, Wire Rope Specification chart **No. 9341-A**, Counterweight Arrangement **No. 9345-A**, and Wind Conditions chart **No. 9344-A**. Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, wind conditions, as well as adverse operating conditions and physical machine depreciation. Refer to Operator's Manual for operating guidelines.



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 31 ft 10 in. crawlers, 48 in. or 60 in. treads, 30 ft live mast, 24 part boom hoist reeving, boom support straps, and 386,200 lb VPC.

Luffing Jib Backstay Deduct	
Boom Length	Deduct
98.4 ft	2,900 lb
118.1 ft	3,500 lb
137.8 ft	4,100 lb
157.5 ft	4,600 lb
177.2 ft	5,200 lb
196.9 ft	5,800 lb
216.5 ft	6,400 lb
236.2 ft	6,900 lb
255.9 ft	7,500 lb
275.6 ft	8,100 lb
295.3 ft	8,700 lb
Deduct the appropriate value from capacities when luffing jib backstays are stored on boom.	

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

Caution: Combined weight beneath upper and/or lower boom point sheaves must not exceed block weight shown.

Raising With Block and With Luffing Jib Backstays

Table 1

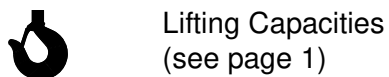
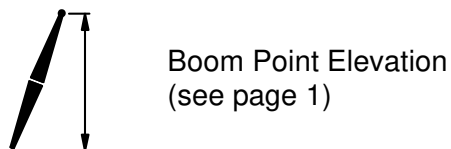
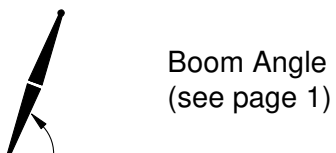
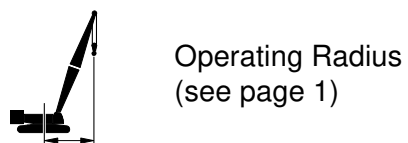
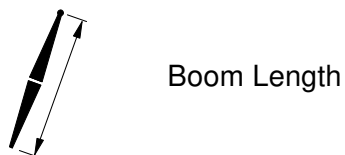
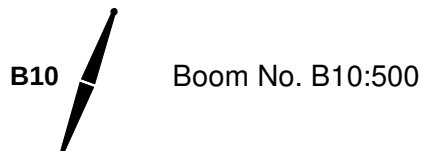
Over End of Blocked Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	22,900 lb
236.2 ft	15,800 lb
255.9 ft	15,800 lb
275.5 ft	#
295.3 ft	#
315.0 ft	Raising Not Permitted
334.6 ft	

Raising With Block and Without Luffing Jib Backstays

Table 2

Over End of Blocked Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	22,900 lb
236.2 ft	22,900 lb
255.9 ft	15,800 lb
275.5 ft	8,300 lb
295.3 ft	#
315.0 ft	#
(a) 334.6 ft	#

Explanation of Symbols





98.4 ft			
ft	°	ft	lb
18	84.5	104.8	661,400 b
19	83.9	104.6	661,400 b
20	83.3	104.5	661,400 b
21	82.7	104.3	661,400 b
22	82.1	104.2	640,600 b
24	80.9	103.8	599,000
26	79.8	103.4	562,300
28	78.6	102.9	529,700
30	77.4	102.4	500,600
32	76.2	101.9	474,400
34	74.9	101.3	450,700
36	73.7	100.6	429,300
38	72.5	99.9	409,700
40	71.3	99.2	389,700
45	68.1	97.1	329,200
50	64.9	94.8	282,300
55	61.6	92.0	246,800
60	58.1	88.8	219,100
65	54.5	85.2	196,800
70	50.8	81.1	178,500
75	46.8	76.4	163,100
80	42.5	71.0	150,100
85	37.7	64.6	138,900
90	32.4	56.9	129,200
95	26.0	47.1	120,700
100	17.4	33.1	110,600

118.1 ft			
ft	°	ft	lb
19	84.9	124.5	649,700 b
20	84.4	124.4	646,400 b
21	83.9	124.2	643,200
22	83.5	124.1	623,900
24	82.5	123.8	584,900
26	81.5	123.4	550,200
28	80.5	123.0	519,300
30	79.5	122.6	491,600
32	78.5	122.2	466,500
34	77.5	121.7	443,800
36	76.5	121.2	423,100
38	75.5	120.6	404,200
40	74.5	120.0	386,900
45	71.9	118.3	332,900
50	69.3	116.4	285,600
55	66.7	114.2	249,800
60	64.0	111.7	221,800
65	61.2	108.9	199,300
70	58.3	105.8	180,900
75	55.4	102.3	165,400
80	52.3	98.5	152,300
85	49.1	94.1	141,000
90	45.7	89.2	131,200
95	42.1	83.7	122,600
100	38.2	77.4	115,000
105	33.9	70.1	108,300
110	29.0	61.3	102,200
115	23.1	50.3	96,800

137.8 ft			
ft	°	ft	lb
21	84.8	144.1	590,500
22	84.4	143.9	587,600
24	83.6	143.7	567,400
26	82.7	143.4	535,100
28	81.9	143.1	506,100
30	81.0	142.7	479,900
32	80.2	142.3	456,100
34	79.3	141.9	434,600
36	78.5	141.5	414,800
38	77.6	141.0	396,700
40	76.8	140.5	380,100
45	74.6	139.1	334,700
50	72.4	137.4	287,100
55	70.2	135.6	251,200
60	68.0	133.5	223,000
65	65.7	131.2	200,400
70	63.3	128.7	181,800
75	61.0	125.9	166,200
80	58.5	122.8	153,000
85	56.0	119.4	141,700
90	53.4	115.7	131,800
95	50.7	111.5	123,200
100	47.9	107.0	115,600
105	45.0	102.0	108,800
110	41.9	96.4	102,700
115	38.5	90.2	97,200
120	34.9	83.1	92,200
125	31.0	75.0	87,700
130	26.4	65.2	83,600
135	20.9	53.0	79,800

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157.5 ft			
ft	°	ft	lb
24	84.4	163.5	536,900
26	83.6	163.3	519,100
28	82.9	163.0	492,100
30	82.2	162.7	467,600
32	81.4	162.3	445,300
34	80.7	162.0	424,900
36	79.9	161.6	406,100
38	79.2	161.2	388,900
40	78.5	160.7	373,000
45	76.6	159.5	337,200
50	74.7	158.1	289,200
55	72.8	156.5	253,000
60	70.9	154.8	224,600
65	68.9	152.8	201,700
70	66.9	150.6	183,000
75	64.9	148.3	167,300
80	62.9	145.7	154,000
85	60.8	142.8	142,600
90	58.6	139.8	132,700
95	56.4	136.4	124,000
100	54.2	132.8	116,300
105	51.9	128.9	109,400
110	49.5	124.6	103,300
115	47.0	119.9	97,700
120	44.4	114.8	92,700
125	41.7	109.2	88,200
130	38.8	103.0	84,000
135	35.7	96.1	80,200
140	32.3	88.3	76,000
145	28.6	79.3	71,800
150	24.3	68.7	67,900
155	19.1	55.2	64,300

177.2 ft			
ft	°	ft	lb
24	85.0	183.3	491,000
26	84.3	183.1	486,800
28	83.7	182.8	477,200
30	83.0	182.6	454,600
32	82.4	182.3	433,900
34	81.7	182.0	414,800
36	81.1	181.6	397,300
38	80.4	181.2	381,100
40	79.8	180.9	366,000
45	78.1	179.8	333,000
50	76.4	178.5	292,000
55	74.8	177.1	255,500
60	73.1	175.6	227,000
65	71.4	173.9	204,000
70	69.6	172.0	185,200
75	67.9	169.9	169,400
80	66.1	167.7	156,000
85	64.3	165.3	144,500
90	62.5	162.6	134,600
95	60.6	159.8	125,800
100	58.7	156.7	118,100
105	56.8	153.4	111,200
110	54.8	149.9	105,000
115	52.8	146.1	99,500
120	50.7	142.0	94,400
125	48.5	137.5	89,800
130	46.3	132.7	85,400
135	44.0	127.6	80,500
140	41.5	121.9	76,000
145	39.0	115.8	71,900
150	36.2	109.0	68,000
155	33.3	101.5	64,400
160	30.1	93.0	61,100
165	26.6	83.3	57,900
170	22.5	71.8	54,900
175	17.5	57.1	52,100

196.9 ft			
ft	°	ft	lb
26	84.9	202.9	424,000
28	84.3	202.7	420,800
30	83.7	202.4	410,900
32	83.2	202.2	399,600
34	82.6	201.9	388,600
36	82.0	201.6	378,100
38	81.4	201.2	367,800
40	80.8	200.9	357,500
45	79.3	199.9	326,300
50	77.8	198.8	294,700
55	76.3	197.6	257,900
60	74.8	196.2	229,100
65	73.3	194.7	206,000
70	71.8	193.0	187,000
75	70.2	191.2	171,100
80	68.6	189.2	157,600
85	67.1	187.0	146,000
90	65.5	184.7	135,900
95	63.8	182.3	127,100
100	62.2	179.6	119,300
105	60.5	176.7	112,400
110	58.8	173.7	106,200
115	57.1	170.4	100,600
120	55.3	167.0	95,100
125	53.5	163.2	89,300
130	51.6	159.3	84,000
135	49.7	155.0	79,200
140	47.7	150.5	74,700
145	45.7	145.6	70,500
150	43.6	140.3	66,700
155	41.4	134.7	63,100
160	39.1	128.5	59,800
165	36.7	121.9	56,600
170	34.1	114.6	53,700
175	31.3	106.5	50,900
180	28.3	97.4	48,300
185	24.9	86.9	45,900
190	21.0	74.5	43,300
195	16.2	58.7	40,300



216.5 ft			
ft	°	ft	lb
28	84.8	222.5	373,400
30	84.3	222.3	366,500
32	83.8	222.0	357,400
34	83.2	221.8	348,600
36	82.7	221.5	339,900
38	82.2	221.2	331,500
40	81.6	220.9	323,300
45	80.3	220.0	303,600
50	78.9	219.0	285,400
55	77.6	217.9	259,500
60	76.2	216.6	230,600
65	74.9	215.2	207,300
70	73.5	213.7	188,200
75	72.1	212.1	172,200
80	70.7	210.3	158,600
85	69.3	208.4	147,000
90	67.8	206.3	136,900
95	66.4	204.1	128,000
100	64.9	201.8	120,200
105	63.4	199.2	113,200
110	61.9	196.6	106,900
115	60.4	193.7	101,100
120	58.9	190.7	94,700
125	57.3	187.4	88,900
130	55.7	184.0	83,600
135	54.0	180.4	78,800
140	52.4	176.5	74,300
145	50.7	172.4	70,200
150	48.9	168.0	66,300
155	47.1	163.4	62,700
160	45.2	158.4	59,400
165	43.3	153.1	56,300
170	41.3	147.4	53,400
175	39.2	141.3	50,600
180	37.0	134.7	48,000
185	34.7	127.6	45,600
190	32.3	119.7	43,300
195	29.6	111.1	41,000
200	26.7	101.4	38,500
205	23.5	90.2	36,100
210	19.7	77.0	33,600
215	15.1	60.1	31,200

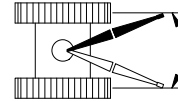
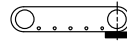
236.2 ft			
ft	°	ft	lb
30	84.8	242.1	308,900
32	84.3	241.8	307,700
34	83.8	241.6	306,500
36	83.3	241.3	302,800
38	82.8	241.1	295,800
40	82.3	240.8	289,000
45	81.1	240.0	272,500
50	79.9	239.1	257,000
55	78.6	238.0	242,300
60	77.4	236.9	228,300
65	76.1	235.6	209,100
70	74.9	234.3	189,900
75	73.6	232.8	173,700
80	72.4	231.2	160,100
85	71.1	229.4	148,300
90	69.8	227.6	138,100
95	68.5	225.6	129,200
100	67.2	223.5	121,300
105	65.8	221.2	114,300
110	64.5	218.8	106,500
115	63.1	216.2	99,400
120	61.7	213.5	93,100
125	60.3	210.6	87,300
130	58.9	207.6	82,000
135	57.5	204.4	77,100
140	56.0	201.0	72,600
145	54.5	197.4	68,500
150	53.0	193.7	64,600
155	51.4	189.7	61,100
160	49.9	185.4	57,700
165	48.2	181.0	54,600
170	46.6	176.2	51,700
175	44.8	171.2	49,000
180	43.1	165.9	46,400
185	41.2	160.2	43,800
190	39.3	154.1	41,200
195	37.3	147.5	38,800
200	35.2	140.5	36,500
205	33.0	132.9	34,200
210	30.7	124.6	32,100
215	28.1	115.4	30,000
220	25.3	105.1	27,900
225	22.2	93.2	25,900
230	18.6	79.2	23,800

255.9 ft			
ft	°	ft	lb
32	84.7	261.6	256,400
34	84.3	261.4	255,300
36	83.8	261.2	254,300
38	83.4	260.9	253,300
40	82.9	260.7	252,300
45	81.8	259.9	249,900
50	80.7	259.1	247,400
55	79.5	258.1	243,900
60	78.4	257.1	233,900
65	77.2	255.9	210,500
70	76.1	254.7	191,100
75	74.9	253.3	174,900
80	73.8	251.8	161,200
85	72.6	250.3	149,400
90	71.4	248.5	139,100
95	70.2	246.7	130,100
100	69.0	244.8	122,100
105	67.8	242.7	113,700
110	66.6	240.5	105,800
115	65.3	238.2	98,800
120	64.1	235.8	92,400
125	62.8	233.2	86,600
130	61.6	230.5	81,300
135	60.3	227.6	76,400
140	59.0	224.6	71,900
145	57.6	221.4	67,800
150	56.3	218.0	63,900
155	54.9	214.5	60,400
160	53.5	210.8	57,000
165	52.1	206.9	53,900
170	50.7	202.8	50,900
175	49.2	198.5	48,000
180	47.7	193.9	45,200
185	46.1	189.1	42,600
190	44.5	184.0	40,100
195	42.9	178.6	37,800
200	41.2	172.9	35,500
205	39.4	166.8	33,300
210	37.6	160.4	31,300
215	35.7	153.4	29,300
220	33.6	146.0	27,300
225	31.5	137.9	25,500
230	29.3	129.1	23,700
235	26.8	119.4	21,900
240	24.1	108.5	20,200
245	21.1	96.0	18,500
250	17.6	81.1	16,700

B10



386,200 lb



275.6 ft			
ft	°	ft	lb
34	84.7	281.2	216,000
36	84.3	281.0	215,100
38	83.9	280.8	214,200
40	83.4	280.5	213,300
45	82.4	279.8	211,000
50	81.3	279.1	208,800
55	80.3	278.2	206,700
60	79.2	277.2	201,900
65	78.2	276.1	193,300
70	77.1	275.0	185,000
75	76.0	273.7	176,400
80	74.9	272.4	162,500
85	73.9	270.9	149,500
90	72.8	269.3	137,900
95	71.7	267.7	127,700
100	70.6	265.9	118,500
105	69.5	264.0	110,200
110	68.3	262.0	102,700
115	67.2	259.9	95,900
120	66.1	257.6	89,700
125	64.9	255.3	84,000
130	63.8	252.8	78,700
135	62.6	250.2	73,800
140	61.4	247.4	69,300
145	60.2	244.6	65,100
150	59.0	241.5	61,200
155	57.8	238.4	57,500
160	56.5	235.0	54,100
165	55.3	231.6	50,800
170	54.0	227.9	47,800
175	52.7	224.1	44,900
180	51.3	220.1	42,200
185	50.0	215.9	39,600
190	48.6	211.4	37,200
195	47.2	206.8	34,900
200	45.7	201.9	32,600
205	44.2	196.8	30,500
210	42.7	191.4	28,500
215	41.1	185.6	26,600
220	39.5	179.6	24,700
225	37.8	173.2	22,900
230	36.0	166.3	21,200
235	34.2	159.0	19,500
240	32.2	151.2	17,900
245	30.2	142.7	16,400
250	28.0	133.4	14,800
255	25.6	123.2	13,300
260	23.0	111.7	11,400

295.3 ft			
ft	°	ft	lb
36	84.7	300.8	181,900
38	84.3	300.6	181,100
40	83.9	300.4	180,300
45	82.9	299.7	178,500
50	81.9	299.0	172,400
55	80.9	298.2	165,100
60	80.0	297.3	158,300
65	79.0	296.3	152,100
70	78.0	295.2	146,300
75	77.0	294.0	140,900
80	76.0	292.8	135,700
85	75.0	291.4	131,000
90	74.0	289.9	126,500
95	72.9	288.4	122,400
100	71.9	286.7	118,400
105	70.9	285.0	110,500
110	69.9	283.1	103,000
115	68.8	281.2	96,100
120	67.8	279.1	89,800
125	66.7	277.0	84,100
130	65.6	274.7	78,800
135	64.6	272.3	73,900
140	63.5	269.8	69,400
145	62.4	267.1	65,100
150	61.3	264.4	61,200
155	60.2	261.5	57,500
160	59.0	258.5	54,100
165	57.9	255.3	50,800
170	56.7	252.0	47,800
175	55.5	248.6	44,900
180	54.3	245.0	42,200
185	53.1	241.2	39,600
190	51.9	237.3	37,200
195	50.6	233.2	34,900
200	49.4	228.9	32,700
205	48.1	224.4	30,600
210	46.7	219.7	28,500
215	45.4	214.8	26,600
220	44.0	209.6	24,800
225	42.5	204.1	23,000
230	41.1	198.4	21,300
235	39.5	192.3	19,700
240	38.0	186.0	18,100
245	36.3	179.2	16,600
250	34.6	172.0	15,100
255	32.8	164.3	13,700
260	31.0	156.1	12,300
265	29.0	147.1	10,900

315.0 ft			
ft	°	ft	lb
36	85.0	320.6	156,700
38	84.6	320.4	155,900
40	84.3	320.2	155,200
45	83.4	319.6	153,400
50	82.4	318.9	151,700
55	81.5	318.1	150,100
60	80.6	317.3	148,500
65	79.7	316.4	146,800
70	78.7	315.3	145,200
75	77.8	314.2	143,300
80	76.9	313.1	139,800
85	75.9	311.8	136,600
90	75.0	310.4	133,200
95	74.0	309.0	124,400
100	73.1	307.5	115,200
105	72.1	305.8	106,900
110	71.2	304.1	99,400
115	70.2	302.3	92,600
120	69.2	300.4	86,400
125	68.3	298.4	80,700
130	67.3	296.3	75,400
135	66.3	294.0	70,500
140	65.3	291.7	66,000
145	64.3	289.3	61,800
150	63.2	286.8	57,900
155	62.2	284.1	54,300
160	61.2	281.3	50,900
165	60.1	278.5	47,600
170	59.1	275.5	44,600
175	58.0	272.3	41,800
180	56.9	269.0	39,100
185	55.8	265.6	36,500
190	54.7	262.1	34,100
195	53.5	258.4	31,800
200	52.4	254.5	29,600
205	51.2	250.5	27,600
210	50.0	246.3	25,600
215	48.8	241.9	23,700
220	47.6	237.3	21,900
225	46.3	232.6	20,100
230	45.1	227.6	18,500
235	43.7	222.3	16,900
240	42.4	216.9	15,300
245	41.0	211.1	13,800
250	39.6	205.1	12,400
255	38.1	198.8	11,000

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ft	°	ft	lb
38	84.9	340.2	131,800
40	84.6	340.0	131,200
45	83.7	339.4	129,700
50	82.9	338.8	128,100
55	82.0	338.1	126,600
60	81.1	337.3	125,100
65	80.3	336.4	120,600
70	79.4	335.4	115,900
75	78.5	334.4	111,500
80	77.7	333.3	107,400
85	76.8	332.1	103,600
90	75.9	330.8	99,900
95	75.0	329.5	96,600
100	74.1	328.0	93,300
105	73.2	326.5	90,300
110	72.3	324.9	87,400
115	71.4	323.2	84,800
120	70.5	321.4	82,100
125	69.6	319.6	79,700
130	68.7	317.6	74,800
135	67.8	315.5	69,900
140	66.8	313.4	65,400
145	65.9	311.1	61,200
150	64.9	308.8	57,300
155	64.0	306.3	53,700
160	63.0	303.8	50,200
165	62.0	301.1	47,000
170	61.1	298.3	44,000
175	60.1	295.4	41,200
180	59.1	292.4	38,500
185	58.1	289.3	35,900
190	57.0	286.0	33,500
195	56.0	282.6	31,200
200	55.0	279.1	29,000
205	53.9	275.5	27,000
210	52.8	271.7	25,000
215	51.7	267.7	23,100
220	50.6	263.6	21,300
225	49.5	259.3	19,600
230	48.4	254.9	17,900
235	47.2	250.3	16,300
240	46.0	245.4	14,800
245	44.8	240.4	13,300
250	43.5	235.1	11,900
255	42.3	229.6	10,600

Liftcrane Boom Capacities

Boom No. B10:500

298,100 lb VPC (Variable Position Counterweight)

360 Degree Rating

MLC300 SERIES 1



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

Upper boom point capacity for liftcrane service with single part whip line from Drum 6 is 30,000 lb or 60,000 lb with two part whip line. When Drum 2 or Drum 3 is used, capacity with single part whip line is 36,700 lb or 73,500 lb with two part whip line. In all cases, upper boom point capacities cannot exceed those listed for main boom capacity.

Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath boom point sheaves is considered part of the main load. Boom is not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved.

BOOM BACKWARD STABILITY: Capacities indicated by (b) require 5,000 lb minimum weight. **Caution: Do not operate in areas indicated by (b) without required minimum weights.** Boom will not lower and boom hoist wire may go slack causing wire rope damage or failure.

OPERATING CONDITIONS: Machine to operate on a firm, level, and uniformly supporting surface. Refer to Boom Rigging **No. 81023380**, Wire Rope Specification chart **No. 9341-A**, Counterweight Arrangement **No. 9345-A**, and Wind Conditions chart **No. 9344-A**. Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, travel, wind conditions, as well as adverse operating conditions and physical machine depreciation. Refer to Operator's Manual for operating guidelines.

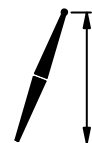
MACHINE TRAVEL: Machine to travel on a firm, level, and uniformly supporting surface. Boom must be within boom angle range shown in capacity chart. Refer to Maximum Allowable Travel Specification chart **No. 9342-A**.



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 31 ft 10 in. crawlers, 48 in. or 60 in. treads, 30 ft live mast, 24 part boom hoist reeving, boom support straps, and 298,100 lb VPC.

Luffing Jib Backstay Deduct	
Boom Length	Deduct
98.4 ft	2,900 lb
118.1 ft	3,500 lb
137.8 ft	4,100 lb
157.5 ft	4,600 lb
177.2 ft	5,200 lb
196.9 ft	5,800 lb
216.5 ft	6,400 lb
236.2 ft	6,900 lb
255.9 ft	7,500 lb
275.6 ft	8,100 lb
Deduct the appropriate value from capacities when luffing jib backstays are stored on boom.	

Refer to **Tables 1 and 2** (with luffing jib backstays stored) and **Tables 3 and 4** (without luffing jib backstays stored) for raising ability with the maximum weight of all load blocks, hooks, weight balls, slings, and hoist lines beneath lower and/or upper point sheaves. For block weights shown with #, load blocks, hooks, weight balls, 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 upper and/or lower boom point sheaves must not exceed block weight shown.

Raising With Block and With Luffing Jib Backstays

Table 1

Over End or Side of Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	15,800 lb
216.5 ft	8,300 lb
236.2 ft	#
255.9 ft	#
275.6 ft	Raising Not Permitted
295.3 ft	

Table 2

Over End of Blocked Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	15,800 lb
236.2 ft	8,300 lb
255.9 ft	#
275.6 ft	#
295.3 ft	Raising Not Permitted

Raising With Block and Without Luffing Jib Backstays

Table 3

Over End or Side of Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	15,800 lb
236.2 ft	8,300 lb
255.9 ft	#
275.5 ft	Raising Not Permitted
295.3 ft	

Table 4

Over End of Blocked Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	22,900 lb
236.2 ft	15,800 lb
255.9 ft	8,300 lb
275.6 ft	#
295.3 ft	#

Explanation of Symbols



Boom No. B10:500



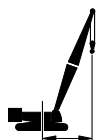
VPC (Variable Position Counterweight)



360 Degree Rating



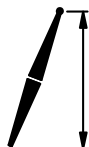
Boom Length



Operating Radius
(see page 1)



Boom Angle
(see page 1)



Boom Point Elevation
(see page 1)



Lifting Capacities
(see page 1)



298,100 lb



98.4 ft			
ft	°	ft	lb
18	84.5	104.8	661,400 b
19	83.9	104.6	661,400 b
20	83.3	104.5	661,400 b
21	82.7	104.3	648,700 b
22	82.1	104.2	626,300 b
24	80.9	103.8	585,600
26	79.8	103.4	540,600
28	78.6	102.9	474,200
30	77.4	102.4	422,100
32	76.2	101.9	380,100
34	74.9	101.3	345,600
36	73.7	100.6	316,700
38	72.5	99.9	292,200
40	71.3	99.2	271,100
45	68.1	97.1	229,400
50	64.9	94.8	198,500
55	61.6	92.0	174,800
60	58.1	88.8	155,900
65	54.5	85.2	140,500
70	50.8	81.1	127,800
75	46.8	76.4	117,000
80	42.5	71.0	107,900
85	37.7	64.6	99,900
90	32.4	56.9	93,000
95	26.0	47.1	86,900
100	17.4	33.1	81,500

118.1 ft			
ft	°	ft	lb
19	84.9	124.5	649,700 b
20	84.4	124.4	646,400 b
21	83.9	124.2	631,200
22	83.5	124.1	610,200
24	82.5	123.8	571,900
26	81.5	123.4	538,000
28	80.5	123.0	479,700
30	79.5	122.6	427,100
32	78.5	122.2	384,700
34	77.5	121.7	349,900
36	76.5	121.2	320,700
38	75.5	120.6	296,000
40	74.5	120.0	274,700
45	71.9	118.3	232,600
50	69.3	116.4	201,400
55	66.7	114.2	177,300
60	64.0	111.7	158,300
65	61.2	108.9	142,800
70	58.3	105.8	129,900
75	55.4	102.3	119,100
80	52.3	98.5	109,800
85	49.1	94.1	101,800
90	45.7	89.2	94,800
95	42.1	83.7	88,700
100	38.2	77.4	83,200
105	33.9	70.1	78,300
110	29.0	61.3	73,000
115	23.1	50.3	67,800

137.8 ft			
ft	°	ft	lb
21	84.8	144.1	590,500
22	84.4	143.9	587,600
24	83.6	143.7	555,000
26	82.7	143.4	523,300
28	81.9	143.1	482,900
30	81.0	142.7	429,900
32	80.2	142.3	387,200
34	79.3	141.9	352,200
36	78.5	141.5	322,800
38	77.6	141.0	297,800
40	76.8	140.5	276,400
45	74.6	139.1	234,000
50	72.4	137.4	202,600
55	70.2	135.6	178,400
60	68.0	133.5	159,200
65	65.7	131.2	143,600
70	63.3	128.7	130,600
75	61.0	125.9	119,700
80	58.5	122.8	110,400
85	56.0	119.4	102,300
90	53.4	115.7	95,300
95	50.7	111.5	89,100
100	47.9	107.0	83,600
105	45.0	102.0	78,300
110	41.9	96.4	72,800
115	38.5	90.2	67,700
120	34.9	83.1	63,200
125	31.0	75.0	59,000
130	26.4	65.2	55,100
135	20.9	53.0	51,500

B10



298,100 lb



360°

157.5 ft			
ft	°	ft	lb
24	84.4	163.5	536,900
26	83.6	163.3	507,900
28	82.9	163.0	481,400
30	82.2	162.7	433,800
32	81.4	162.3	390,700
34	80.7	162.0	355,300
36	79.9	161.6	325,600
38	79.2	161.2	300,400
40	78.5	160.7	278,800
45	76.6	159.5	236,000
50	74.7	158.1	204,300
55	72.8	156.5	179,800
60	70.9	154.8	160,500
65	68.9	152.8	144,700
70	66.9	150.6	131,600
75	64.9	148.3	120,600
80	62.9	145.7	111,200
85	60.8	142.8	103,100
90	58.6	139.8	96,000
95	56.4	136.4	89,700
100	54.2	132.8	83,500
105	51.9	128.9	77,400
110	49.5	124.6	71,900
115	47.0	119.9	66,900
120	44.4	114.8	62,300
125	41.7	109.2	58,100
130	38.8	103.0	54,300
135	35.7	96.1	50,800
140	32.3	88.3	47,500
145	28.6	79.3	44,500
150	24.3	68.7	41,600
155	19.1	55.2	38,900

177.2 ft			
ft	°	ft	lb
24	85.0	183.3	491,000
26	84.3	183.1	486,800
28	83.7	182.8	467,000
30	83.0	182.6	437,600
32	82.4	182.3	394,300
34	81.7	182.0	358,700
36	81.1	181.6	328,800
38	80.4	181.2	303,500
40	79.8	180.9	281,700
45	78.1	179.8	238,600
50	76.4	178.5	206,700
55	74.8	177.1	182,100
60	73.1	175.6	162,600
65	71.4	173.9	146,700
70	69.6	172.0	133,600
75	67.9	169.9	122,500
80	66.1	167.7	113,000
85	64.3	165.3	104,900
90	62.5	162.6	97,700
95	60.6	159.8	90,200
100	58.7	156.7	83,400
105	56.8	153.4	77,200
110	54.8	149.9	71,700
115	52.8	146.1	66,700
120	50.7	142.0	62,200
125	48.5	137.5	58,000
130	46.3	132.7	54,200
135	44.0	127.6	50,700
140	41.5	121.9	47,500
145	39.0	115.8	44,500
150	36.2	109.0	41,700
155	33.3	101.5	39,100
160	30.1	93.0	36,600
165	26.6	83.3	34,300
170	22.5	71.8	32,100
175	17.5	57.1	30,000

196.9 ft			
ft	°	ft	lb
26	84.9	202.9	424,000
28	84.3	202.7	420,800
30	83.7	202.4	410,900
32	83.2	202.2	398,300
34	82.6	201.9	362,400
36	82.0	201.6	332,200
38	81.4	201.2	306,700
40	80.8	200.9	284,700
45	79.3	199.9	241,200
50	77.8	198.8	208,900
55	76.3	197.6	184,100
60	74.8	196.2	164,400
65	73.3	194.7	148,400
70	71.8	193.0	135,100
75	70.2	191.2	124,000
80	68.6	189.2	114,400
85	67.1	187.0	105,400
90	65.5	184.7	96,600
95	63.8	182.3	88,800
100	62.2	179.6	82,000
105	60.5	176.7	75,800
110	58.8	173.7	70,300
115	57.1	170.4	65,300
120	55.3	167.0	60,700
125	53.5	163.2	56,600
130	51.6	159.3	52,800
135	49.7	155.0	49,300
140	47.7	150.5	46,100
145	45.7	145.6	43,100
150	43.6	140.3	40,300
155	41.4	134.7	37,700
160	39.1	128.5	35,300
165	36.7	121.9	33,000
170	34.1	114.6	30,800
175	31.3	106.5	28,800
180	28.3	97.4	26,900
185	24.9	86.9	25,100
190	21.0	74.5	23,400
195	16.2	58.7	21,700



298,100 lb



216.5 ft			
ft	°	ft	lb
28	84.8	222.5	373,400
30	84.3	222.3	366,500
32	83.8	222.0	357,400
34	83.2	221.8	348,600
36	82.7	221.5	334,400
38	82.2	221.2	308,700
40	81.6	220.9	286,600
45	80.3	220.0	242,800
50	78.9	219.0	210,400
55	77.6	217.9	185,500
60	76.2	216.6	165,700
65	74.9	215.2	149,500
70	73.5	213.7	136,200
75	72.1	212.1	124,900
80	70.7	210.3	115,100
85	69.3	208.4	105,000
90	67.8	206.3	96,200
95	66.4	204.1	88,400
100	64.9	201.8	81,500
105	63.4	199.2	75,400
110	61.9	196.6	69,900
115	60.4	193.7	64,900
120	58.9	190.7	60,300
125	57.3	187.4	56,200
130	55.7	184.0	52,400
135	54.0	180.4	48,900
140	52.4	176.5	45,600
145	50.7	172.4	42,700
150	48.9	168.0	39,900
155	47.1	163.4	37,300
160	45.2	158.4	34,900
165	43.3	153.1	32,600
170	41.3	147.4	30,500
175	39.2	141.3	28,500
180	37.0	134.7	26,600
185	34.7	127.6	24,800
190	32.3	119.7	23,100
195	29.6	111.1	21,500
200	26.7	101.4	20,000
205	23.5	90.2	18,500
210	19.7	77.0	17,100
215	15.1	60.1	15,700

236.2 ft			
ft	°	ft	lb
30	84.8	242.1	308,900
32	84.3	241.8	307,700
34	83.8	241.6	306,500
36	83.3	241.3	302,800
38	82.8	241.1	295,800
40	82.3	240.8	289,000
45	81.1	240.0	245,300
50	79.9	239.1	212,500
55	78.6	238.0	187,400
60	77.4	236.9	167,400
65	76.1	235.6	151,100
70	74.9	234.3	137,600
75	73.6	232.8	125,200
80	72.4	231.2	113,500
85	71.1	229.4	103,400
90	69.8	227.6	94,600
95	68.5	225.6	86,800
100	67.2	223.5	79,900
105	65.8	221.2	73,700
110	64.5	218.8	68,200
115	63.1	216.2	63,200
120	61.7	213.5	58,600
125	60.3	210.6	54,500
130	58.9	207.6	50,700
135	57.5	204.4	47,200
140	56.0	201.0	43,900
145	54.5	197.4	40,900
150	53.0	193.7	38,100
155	51.4	189.7	35,600
160	49.9	185.4	33,100
165	48.2	181.0	30,900
170	46.6	176.2	28,800
175	44.8	171.2	26,800
180	43.1	165.9	24,900
185	41.2	160.2	23,100
190	39.3	154.1	21,400
195	37.3	147.5	19,800
200	35.2	140.5	18,300
205	33.0	132.9	16,900
210	30.7	124.6	15,500
215	28.1	115.4	14,200
220	25.3	105.1	12,900
225	22.2	93.2	11,700
230	18.6	79.2	10,500

255.9 ft			
ft	°	ft	lb
32	84.7	261.6	256,400
34	84.3	261.4	255,300
36	83.8	261.2	254,300
38	83.4	260.9	253,300
40	82.9	260.7	252,300
45	81.8	259.9	247,100
50	80.7	259.1	214,200
55	79.5	258.1	188,800
60	78.4	257.1	168,700
65	77.2	255.9	152,300
70	76.1	254.7	138,400
75	74.9	253.3	124,700
80	73.8	251.8	112,900
85	72.6	250.3	102,800
90	71.4	248.5	93,900
95	70.2	246.7	86,100
100	69.0	244.8	79,200
105	67.8	242.7	73,000
110	66.6	240.5	67,500
115	65.3	238.2	62,500
120	64.1	235.8	57,900
125	62.8	233.2	53,700
130	61.6	230.5	49,900
135	60.3	227.6	46,400
140	59.0	224.6	43,200
145	57.6	221.4	40,200
150	56.3	218.0	37,400
155	54.9	214.5	34,800
160	53.5	210.8	32,400
165	52.1	206.9	30,100
170	50.7	202.8	28,000
175	49.2	198.5	26,000
180	47.7	193.9	24,100
185	46.1	189.1	22,400
190	44.5	184.0	20,700
195	42.9	178.6	19,100
200	41.2	172.9	17,600
205	39.4	166.8	16,200
210	37.6	160.4	14,800
215	35.7	153.4	13,500
220	33.6	146.0	12,300
225	31.5	137.9	11,100

B10



298,100 lb



360°

275.6 ft			
ft	°	ft	lb
34	84.7	281.2	216,000
36	84.3	281.0	215,100
38	83.9	280.8	214,200
40	83.4	280.5	213,300
45	82.4	279.8	211,000
50	81.3	279.1	208,800
55	80.3	278.2	190,600
60	79.2	277.2	170,300
65	78.2	276.1	153,300
70	77.1	275.0	136,900
75	76.0	273.7	123,100
80	74.9	272.4	111,400
85	73.9	270.9	101,200
90	72.8	269.3	92,300
95	71.7	267.7	84,500
100	70.6	265.9	77,600
105	69.5	264.0	71,400
110	68.3	262.0	65,800
115	67.2	259.9	60,800
120	66.1	257.6	56,200
125	64.9	255.3	52,000
130	63.8	252.8	48,200
135	62.6	250.2	44,700
140	61.4	247.4	41,400
145	60.2	244.6	38,400
150	59.0	241.5	35,700
155	57.8	238.4	33,100
160	56.5	235.0	30,600
165	55.3	231.6	28,400
170	54.0	227.9	26,200
175	52.7	224.1	24,300
180	51.3	220.1	22,400
185	50.0	215.9	20,600
190	48.6	211.4	18,900
195	47.2	206.8	17,300
200	45.7	201.9	15,800
205	44.2	196.8	14,400
210	42.7	191.4	13,000
215	41.1	185.6	11,700
220	39.5	179.6	10,500

295.3 ft			
ft	°	ft	lb
36	84.7	300.8	181,900
38	84.3	300.6	181,100
40	83.9	300.4	180,300
45	82.9	299.7	178,500
50	81.9	299.0	172,400
55	80.9	298.2	165,100
60	80.0	297.3	158,300
65	79.0	296.3	152,100
70	78.0	295.2	136,600
75	77.0	294.0	122,800
80	76.0	292.8	111,000
85	75.0	291.4	100,900
90	74.0	289.9	92,000
95	72.9	288.4	84,200
100	71.9	286.7	77,200
105	70.9	285.0	71,000
110	69.9	283.1	65,500
115	68.8	281.2	60,400
120	67.8	279.1	55,900
125	66.7	277.0	51,700
130	65.6	274.7	47,900
135	64.6	272.3	44,400
140	63.5	269.8	41,100
145	62.4	267.1	38,100
150	61.3	264.4	35,300
155	60.2	261.5	32,700
160	59.0	258.5	30,300
165	57.9	255.3	28,100
170	56.7	252.0	25,900
175	55.5	248.6	23,900
180	54.3	245.0	22,100
185	53.1	241.2	20,300
190	51.9	237.3	18,600
195	50.6	233.2	17,000
200	49.4	228.9	15,500
205	48.1	224.4	14,100
210	46.7	219.7	12,800
215	45.4	214.8	11,500
220	44.0	209.6	10,200

Liftcrane Boom Capacities

Boom No. B10:500

298,100 lb VPC (Variable Position Counterweight)

Rating Over End of Blocked Crawlers

No Travel - Limited Swing

MLC300 SERIES 1



LIFTING CAPACITIES: Lifting capacities for various boom lengths and operating radii are for freely suspended loads and may be based on percent of static tipping over end of machine with crawlers blocked or strength of structural components.

Upper boom point capacity for liftcrane service with single part whip line from Drum 6 is 30,000 lb or 60,000 lb with two part whip line. When Drum 2 or Drum 3 is used, capacity with single part whip line is 36,700 lb or 73,500 lb with two part whip line. In all cases, upper boom point capacities cannot exceed those listed for main boom capacity.

Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath boom point sheaves is considered part of the main load. Boom is not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved.

BOOM BACKWARD STABILITY: Capacities indicated by (b) require 5,000 lb minimum weight. **Caution: Do not operate in areas indicated by (b) without required minimum weights.** Boom will not lower and boom hoist wire may go slack causing wire rope damage or failure.

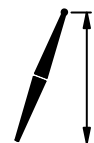
OPERATING CONDITIONS: Machine to operate on a firm, level, and uniformly supporting surface. Drive and idler tumblers must be properly blocked so that centerline of tumblers becomes tipping fulcrum. Swing is limited to that sector shown on Operating Range Diagram **No. 9348-A**. Refer to Boom Rigging **No. 81023380**, Wire Rope Specification chart **No. 9341-A**, Counterweight Arrangement **No. 9345-A**, and Wind Conditions chart **No. 9344-A**. Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, wind conditions, as well as adverse operating conditions and physical machine depreciation. Refer to Operator's Manual for operating guidelines.



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 31 ft 10 in. crawlers, 48 in. or 60 in. treads, 30 ft live mast, 24 part boom hoist reeving, boom support straps, and 298,100 lb VPC.

Luffing Jib Backstay Deduct	
Boom Length	Deduct
98.4 ft	2,900 lb
118.1 ft	3,500 lb
137.8 ft	4,100 lb
157.5 ft	4,600 lb
177.2 ft	5,200 lb
196.9 ft	5,800 lb
216.5 ft	6,400 lb
236.2 ft	6,900 lb
255.9 ft	7,500 lb
275.6 ft	8,100 lb
Deduct the appropriate value from capacities when luffing jib backstays are stored on boom.	

Refer to **Table 1** (with luffing jib backstays stored) and **Table 2** (without luffing jib backstays stored) for raising ability with the maximum weight of all load blocks, hooks, weight balls, slings, and hoist lines beneath lower and/or upper point sheaves. For block weights shown with #, load blocks, hooks, weight balls, 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 upper and/or lower boom point sheaves must not exceed block weight shown.

Raising With Block and With Luffing Jib Backstays

Table 1

Over End of Blocked Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	15,800 lb
236.2 ft	8,300 lb
255.9 ft	#
275.6 ft	#
295.3 ft	Raising Not Permitted

Raising With Block and Without Luffing Jib Backstays

Table 2

Over End of Blocked Crawlers	
Boom Length	Block Weight
98.4 ft	22,900 lb
118.1 ft	22,900 lb
137.8 ft	22,900 lb
157.5 ft	22,900 lb
177.2 ft	22,900 lb
196.9 ft	22,900 lb
216.5 ft	22,900 lb
236.2 ft	15,800 lb
255.9 ft	8,300 lb
275.6 ft	#
295.3 ft	#

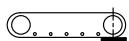
Explanation of Symbols



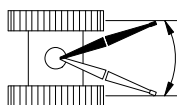
Boom No. B10:500



VPC (Variable Position Counterweight)



Blocked Crawler



Limited Swing



Boom Length



Operating Radius
(see page 1)



Boom Angle
(see page 1)



Boom Point Elevation
(see page 1)

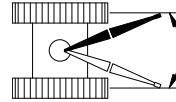
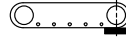


Lifting Capacities
(see page 1)

B10



298,100 lb



98.4 ft			
ft	°	ft	lb
18	84.5	104.8	661,400 b
19	83.9	104.6	661,400 b
20	83.3	104.5	661,400 b
21	82.7	104.3	648,700 b
22	82.1	104.2	626,300 b
24	80.9	103.8	585,600
26	79.8	103.4	549,700
28	78.6	102.9	517,800
30	77.4	102.4	489,300
32	76.2	101.9	463,600
34	74.9	101.3	440,500
36	73.7	100.6	401,000
38	72.5	99.9	366,900
40	71.3	99.2	338,100
45	68.1	97.1	282,200
50	64.9	94.8	241,900
55	61.6	92.0	211,400
60	58.1	88.8	187,500
65	54.5	85.2	168,300
70	50.8	81.1	152,500
75	46.8	76.4	139,300
80	42.5	71.0	128,100
85	37.7	64.6	118,400
90	32.4	56.9	110,100
95	26.0	47.1	102,700
100	17.4	33.1	96,200

118.1 ft			
ft	°	ft	lb
19	84.9	124.5	649,700 b
20	84.4	124.4	646,400 b
21	83.9	124.2	631,200
22	83.5	124.1	610,200
24	82.5	123.8	571,900
26	81.5	123.4	538,000
28	80.5	123.0	507,700
30	79.5	122.6	480,500
32	78.5	122.2	456,000
34	77.5	121.7	433,800
36	76.5	121.2	405,900
38	75.5	120.6	371,500
40	74.5	120.0	342,300
45	71.9	118.3	285,900
50	69.3	116.4	245,200
55	66.7	114.2	214,300
60	64.0	111.7	190,200
65	61.2	108.9	170,800
70	58.3	105.8	154,900
75	55.4	102.3	141,500
80	52.3	98.5	130,200
85	49.1	94.1	120,500
90	45.7	89.2	112,100
95	42.1	83.7	104,700
100	38.2	77.4	98,100
105	33.9	70.1	92,300
110	29.0	61.3	86,100
115	23.1	50.3	80,200

137.8 ft			
ft	°	ft	lb
21	84.8	144.1	590,500
22	84.4	143.9	587,600
24	83.6	143.7	555,000
26	82.7	143.4	523,300
28	81.9	143.1	494,900
30	81.0	142.7	469,200
32	80.2	142.3	446,000
34	79.3	141.9	424,800
36	78.5	141.5	405,500
38	77.6	141.0	374,000
40	76.8	140.5	344,600
45	74.6	139.1	287,800
50	72.4	137.4	246,700
55	70.2	135.6	215,700
60	68.0	133.5	191,400
65	65.7	131.2	171,800
70	63.3	128.7	155,800
75	61.0	125.9	142,400
80	58.5	122.8	131,000
85	56.0	119.4	121,200
90	53.4	115.7	112,700
95	50.7	111.5	105,200
100	47.9	107.0	98,600
105	45.0	102.0	92,400
110	41.9	96.4	86,000
115	38.5	90.2	80,200
120	34.9	83.1	74,900
125	31.0	75.0	70,100
130	26.4	65.2	65,600
135	20.9	53.0	61,500

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ASME B30.5



157.5 ft			
ft	°	ft	lb
24	84.4	163.5	536,900
26	83.6	163.3	507,900
28	82.9	163.0	481,400
30	82.2	162.7	457,300
32	81.4	162.3	435,400
34	80.7	162.0	415,400
36	79.9	161.6	397,100
38	79.2	161.2	377,200
40	78.5	160.7	347,600
45	76.6	159.5	290,200
50	74.7	158.1	248,800
55	72.8	156.5	217,500
60	70.9	154.8	192,900
65	68.9	152.8	173,200
70	66.9	150.6	157,000
75	64.9	148.3	143,500
80	62.9	145.7	132,000
85	60.8	142.8	122,100
90	58.6	139.8	113,500
95	56.4	136.4	106,000
100	54.2	132.8	98,700
105	51.9	128.9	91,500
110	49.5	124.6	85,100
115	47.0	119.9	79,300
120	44.4	114.8	74,100
125	41.7	109.2	69,300
130	38.8	103.0	64,900
135	35.7	96.1	60,900
140	32.3	88.3	57,200
145	28.6	79.3	53,700
150	24.3	68.7	50,400
155	19.1	55.2	47,400

177.2 ft			
ft	°	ft	lb
24	85.0	183.3	491,000
26	84.3	183.1	486,800
28	83.7	182.8	467,000
30	83.0	182.6	444,800
32	82.4	182.3	424,500
34	81.7	182.0	405,800
36	81.1	181.6	388,600
38	80.4	181.2	372,700
40	79.8	180.9	351,000
45	78.1	179.8	293,300
50	76.4	178.5	251,600
55	74.8	177.1	220,100
60	73.1	175.6	195,400
65	71.4	173.9	175,500
70	69.6	172.0	159,200
75	67.9	169.9	145,600
80	66.1	167.7	134,000
85	64.3	165.3	124,000
90	62.5	162.6	115,400
95	60.6	159.8	106,600
100	58.7	156.7	98,600
105	56.8	153.4	91,500
110	54.8	149.9	85,000
115	52.8	146.1	79,300
120	50.7	142.0	74,000
125	48.5	137.5	69,300
130	46.3	132.7	64,900
135	44.0	127.6	60,900
140	41.5	121.9	57,200
145	39.0	115.8	53,700
150	36.2	109.0	50,500
155	33.3	101.5	47,600
160	30.1	93.0	44,800
165	26.6	83.3	42,200
170	22.5	71.8	39,700
175	17.5	57.1	37,300

196.9 ft			
ft	°	ft	lb
26	84.9	202.9	424,000
28	84.3	202.7	420,800
30	83.7	202.4	410,900
32	83.2	202.2	399,600
34	82.6	201.9	388,600
36	82.0	201.6	378,100
38	81.4	201.2	363,500
40	80.8	200.9	349,700
45	79.3	199.9	296,400
50	77.8	198.8	254,300
55	76.3	197.6	222,400
60	74.8	196.2	197,500
65	73.3	194.7	177,500
70	71.8	193.0	161,000
75	70.2	191.2	147,200
80	68.6	189.2	135,600
85	67.1	187.0	124,700
90	65.5	184.7	114,400
95	63.8	182.3	105,300
100	62.2	179.6	97,300
105	60.5	176.7	90,100
110	58.8	173.7	83,700
115	57.1	170.4	77,900
120	55.3	167.0	72,700
125	53.5	163.2	67,900
130	51.6	159.3	63,500
135	49.7	155.0	59,500
140	47.7	150.5	55,800
145	45.7	145.6	52,400
150	43.6	140.3	49,200
155	41.4	134.7	46,200
160	39.1	128.5	43,500
165	36.7	121.9	40,900
170	34.1	114.6	38,500
175	31.3	106.5	36,200
180	28.3	97.4	34,000
185	24.9	86.9	32,000
190	21.0	74.5	30,000
195	16.2	58.7	28,100



216.5 ft			
ft	°	ft	lb
28	84.8	222.5	373,400
30	84.3	222.3	366,500
32	83.8	222.0	357,400
34	83.2	221.8	348,600
36	82.7	221.5	339,900
38	82.2	221.2	331,500
40	81.6	220.9	323,300
45	80.3	220.0	298,400
50	78.9	219.0	256,000
55	77.6	217.9	224,000
60	76.2	216.6	198,900
65	74.9	215.2	178,800
70	73.5	213.7	162,200
75	72.1	212.1	148,300
80	70.7	210.3	136,400
85	69.3	208.4	124,400
90	67.8	206.3	114,100
95	66.4	204.1	105,000
100	64.9	201.8	96,900
105	63.4	199.2	89,700
110	61.9	196.6	83,300
115	60.4	193.7	77,500
120	58.9	190.7	72,300
125	57.3	187.4	67,500
130	55.7	184.0	63,100
135	54.0	180.4	59,100
140	52.4	176.5	55,400
145	50.7	172.4	52,000
150	48.9	168.0	48,800
155	47.1	163.4	45,900
160	45.2	158.4	43,100
165	43.3	153.1	40,500
170	41.3	147.4	38,100
175	39.2	141.3	35,900
180	37.0	134.7	33,700
185	34.7	127.6	31,700
190	32.3	119.7	29,800
195	29.6	111.1	28,000
200	26.7	101.4	26,200
205	23.5	90.2	24,600
210	19.7	77.0	23,000
215	15.1	60.1	21,500

236.2 ft			
ft	°	ft	lb
30	84.8	242.1	308,900
32	84.3	241.8	307,700
34	83.8	241.6	306,500
36	83.3	241.3	302,800
38	82.8	241.1	295,800
40	82.3	240.8	289,000
45	81.1	240.0	272,500
50	79.9	239.1	257,000
55	78.6	238.0	226,300
60	77.4	236.9	200,900
65	76.1	235.6	180,600
70	74.9	234.3	163,900
75	73.6	232.8	148,800
80	72.4	231.2	134,900
85	71.1	229.4	122,900
90	69.8	227.6	112,500
95	68.5	225.6	103,400
100	67.2	223.5	95,300
105	65.8	221.2	88,100
110	64.5	218.8	81,700
115	63.1	216.2	75,900
120	61.7	213.5	70,600
125	60.3	210.6	65,800
130	58.9	207.6	61,500
135	57.5	204.4	57,400
140	56.0	201.0	53,700
145	54.5	197.4	50,300
150	53.0	193.7	47,100
155	51.4	189.7	44,200
160	49.9	185.4	41,400
165	48.2	181.0	38,900
170	46.6	176.2	36,400
175	44.8	171.2	34,200
180	43.1	165.9	32,000
185	41.2	160.2	30,000
190	39.3	154.1	28,100
195	37.3	147.5	26,300
200	35.2	140.5	24,600
205	33.0	132.9	23,000
210	30.7	124.6	21,400
215	28.1	115.4	20,000
220	25.3	105.1	18,500
225	22.2	93.2	17,200
230	18.6	79.2	15,900

255.9 ft			
ft	°	ft	lb
32	84.7	261.6	256,400
34	84.3	261.4	255,300
36	83.8	261.2	254,300
38	83.4	260.9	253,300
40	82.9	260.7	252,300
45	81.8	259.9	249,900
50	80.7	259.1	247,400
55	79.5	258.1	228,000
60	78.4	257.1	202,500
65	77.2	255.9	182,000
70	76.1	254.7	164,800
75	74.9	253.3	148,400
80	73.8	251.8	134,400
85	72.6	250.3	122,400
90	71.4	248.5	112,000
95	70.2	246.7	102,800
100	69.0	244.8	94,700
105	67.8	242.7	87,500
110	66.6	240.5	81,100
115	65.3	238.2	75,200
120	64.1	235.8	70,000
125	62.8	233.2	65,200
130	61.6	230.5	60,800
135	60.3	227.6	56,800
140	59.0	224.6	53,100
145	57.6	221.4	49,600
150	56.3	218.0	46,400
155	54.9	214.5	43,500
160	53.5	210.8	40,700
165	52.1	206.9	38,200
170	50.7	202.8	35,700
175	49.2	198.5	33,500
180	47.7	193.9	31,300
185	46.1	189.1	29,300
190	44.5	184.0	27,400
195	42.9	178.6	25,600
200	41.2	172.9	23,900
205	39.4	166.8	22,300
210	37.6	160.4	20,800
215	35.7	153.4	19,300
220	33.6	146.0	17,900
225	31.5	137.9	16,600
230	29.3	129.1	15,300
235	26.8	119.4	14,100
240	24.1	108.5	12,900
245	21.1	96.0	11,700
250	17.6	81.1	10,600

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275.6 ft			
ft	°	ft	lb
34	84.7	281.2	216,000
36	84.3	281.0	215,100
38	83.9	280.8	214,200
40	83.4	280.5	213,300
45	82.4	279.8	211,000
50	81.3	279.1	208,800
55	80.3	278.2	206,700
60	79.2	277.2	201,900
65	78.2	276.1	183,200
70	77.1	275.0	163,500
75	76.0	273.7	146,900
80	74.9	272.4	132,900
85	73.9	270.9	120,900
90	72.8	269.3	110,400
95	71.7	267.7	101,200
100	70.6	265.9	93,100
105	69.5	264.0	85,900
110	68.3	262.0	79,400
115	67.2	259.9	73,600
120	66.1	257.6	68,300
125	64.9	255.3	63,500
130	63.8	252.8	59,100
135	62.6	250.2	55,100
140	61.4	247.4	51,300
145	60.2	244.6	47,900
150	59.0	241.5	44,700
155	57.8	238.4	41,800
160	56.5	235.0	39,000
165	55.3	231.6	36,400
170	54.0	227.9	34,000
175	52.7	224.1	31,700
180	51.3	220.1	29,600
185	50.0	215.9	27,600
190	48.6	211.4	25,700
195	47.2	206.8	23,900
200	45.7	201.9	22,200
205	44.2	196.8	20,600
210	42.7	191.4	19,000
215	41.1	185.6	17,600
220	39.5	179.6	16,200
225	37.8	173.2	14,900
230	36.0	166.3	13,600
235	34.2	159.0	12,400
240	32.2	151.2	11,200
245	30.2	142.7	10,100

295.3 ft			
ft	°	ft	lb
36	84.7	300.8	181,900
38	84.3	300.6	181,100
40	83.9	300.4	180,300
45	82.9	299.7	178,500
50	81.9	299.0	172,400
55	80.9	298.2	165,100
60	80.0	297.3	158,300
65	79.0	296.3	152,100
70	78.0	295.2	146,300
75	77.0	294.0	140,900
80	76.0	292.8	132,700
85	75.0	291.4	120,600
90	74.0	289.9	110,100
95	72.9	288.4	101,000
100	71.9	286.7	92,800
105	70.9	285.0	85,600
110	69.9	283.1	79,100
115	68.8	281.2	73,300
120	67.8	279.1	68,000
125	66.7	277.0	63,200
130	65.6	274.7	58,800
135	64.6	272.3	54,800
140	63.5	269.8	51,100
145	62.4	267.1	47,600
150	61.3	264.4	44,400
155	60.2	261.5	41,500
160	59.0	258.5	38,700
165	57.9	255.3	36,100
170	56.7	252.0	33,700
175	55.5	248.6	31,500
180	54.3	245.0	29,300
185	53.1	241.2	27,300
190	51.9	237.3	25,400
195	50.6	233.2	23,600
200	49.4	228.9	21,900
205	48.1	224.4	20,300
210	46.7	219.7	18,800
215	45.4	214.8	17,300
220	44.0	209.6	16,000
225	42.5	204.1	14,600
230	41.1	198.4	13,400
235	39.5	192.3	12,200
240	38.0	186.0	11,000

Drum and Lagging Chart

MLC300

Application	Drum Number and Location	Drum Part Number	Type of Drum	Drum Diameter	Drum Width	Wire Rope Size
LIFTCRANE						
Hoist	Drum 1 (Boom Butt)	81025062	Grooved	680 mm (26-3/4 in.)	1 263 mm (49-11/16 in.)	28 mm
Auxiliary	Drum 2 (Rotating Bed Front)	81024020 (without freefall)	Grooved	680 mm (26-3/4 in.)	808 mm (31-13/16 in.)	28 mm
Auxiliary	Drum 3 (Rotating Bed Rear)	81024020 (without freefall)	Grooved	680 mm (26-3/4 in.)	808 mm (31-13/16 in.)	28 mm
Luffing or Auxiliary	Drum 6 (Boom Butt)	81027705	Grooved	680 mm (26-3/4 in.)	646 mm (25-7/16 in.)	28 mm

Liftcrane Mast Handling Capacities

MLC300

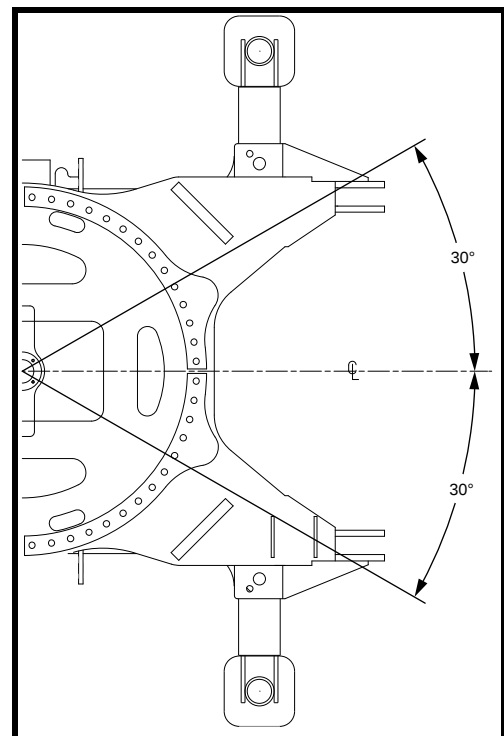
Operating limits for crane assembly
With or without VPC Trolley in shipping position
Weight of shackles and slings is part of load
Mast angles in table measured from transport position

30.0 ft Mast				
Operating Radius	Mast Angle	Crane on Jacks	Crane on Jacks with one crawler on ground	Crane on Crawlers
Feet	Degrees	Pounds	Pounds	Pounds
10	102.8	65,000	65,000	65,000
11	104.9	65,000	65,000	65,000
12	107.0	65,000	65,000	65,000
13	109.1	65,000	65,000	65,000
14	111.3	65,000	65,000	65,000
15	113.4	65,000	65,000	65,000
16	115.7	65,000	65,000	65,000
17	117.9	65,000	65,000	65,000
18	120.3	65,000	65,000	65,000
19	122.6	65,000	65,000	65,000
20	125.1	62,400	65,000	65,000
21	127.6		65,000	65,000
22	130.3		65,000	65,000
23	133.0		65,000	65,000
24	135.9		65,000	65,000
25	138.9		65,000	65,000
26	142.2		62,000	65,000



VPC Trolley
6,800 lb

Swing Diagram



Operating Restrictions on Jacks

10 ft to 20 ft operating radius —

Operating range for handling loads with mast - 30 degree swing either side of center permitted. Refer to swing diagram.

20 ft to 26 ft operating radius —

Handling of assembly cylinder and lifting slings only— drum operation permitted—30 degree swing either side of center permitted. Refer to swing diagram.

Greater than 26 ft operating radius —

Boom hoist drum operation not permitted (mast hoist interference).

Operating Restriction with One Crawler and Two Jacks (crawler on ground) or on Crawlers

10 ft to 26 ft operating radius —

Operating range for handling loads with mast - 360 degree swing permitted.

Greater than 26 ft operating radius —

Boom hoist drum operation not permitted (mast hoist interference).

Manitowoc Cranes

Manitowoc, Wisconsin 54220 U.S.A.

9340-A, 2015-11-11

1/1

Wire Rope Specifications

MLC300

Liftcrane - Boom No. B10:500

Wire Rope Lengths - Tandem Hoist Drums										
Boom Length		Whip Line Drum 6				Hoist Line Drum 2		Hoist Line Drum 3		Total Parts of Line
		1 Part		2 Parts						
Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	
30,0	98.4	75*	250*	110	350	290	950	290	950	16
36,0	118.1	90	290	125	410	345	1,130	345	1,130	16
42,0	137.8	100	330	145	470	400	1,310	400	1,310	16
48,0	157.5	110	360	165	530	455	1,480	455	1,480	16
54,0	177.2	125	400	180	590	455	1,480	455	1,480	14
60,0	196.9	135	440	200	650	440	1,440	440	1,440	12
66,0	216.5	150	480	215	710	415	1,360	415	1,360	10
72,0	236.2	160	520	235	770	450	1,480	450	1,480	10
78,0	255.9	170	560	255	830	410	1,340	410	1,340	8
84,0	275.6	185	600	270	890	355	1,160	355	1,160	6
90,0	295.3	195	640	290	940	375	1,230	375	1,230	6
96,0	315.0	210	680	305	1,000	400	1,310	400	1,310	6
102,0	334.6	220	720	325	1,060	320	1,050	320	1,050	4

Note: Above hoist line lengths are based on tandem drums both reeved to main load block. Each drum is dead ended in main load block reeving. Total parts of line requires using both drums 2 and 3. Hoist and whip line lengths will allow hook to touch ground. When block travel below ground is required, add additional rope equal to parts of line times added travel distance. Hoisting distance or line pull may be limited when block travel below ground is required.

* Maximum spooling on Drum 6 may be exceeded if rope length is greater than 438 m (1,437 ft).

Hoist Reeving for Main Load Block - Two Lead Lines (Drums 2 & 3)					
No. Parts of Line	2	4	6	8	10
Maximum Load - kg	33 340	66 680	100 020	133 360	166 700
Maximum Load - lb	73,520	147,040	220,560	294,080	367,600
Maximum Load per Part of Line - kg	16 670	16 670	16 670	16 670	16 670
Maximum Load per Part of Line - lb	36,760	36,760	36,760	36,760	36,760
No. Parts of Line	12	14	16		
Maximum Load - kg	200 040	233 380	266 720		
Maximum Load - lb	441,120	514,640	588,160		
Maximum Load per Part of Line - kg	16 670	16 670	16 670		
Maximum Load per Part of Line - lb	36,760	36,760	36,760		

Wire Rope Specifications

MLC300

Liftcrane - Boom No. B10:500

Wire Rope Lengths - Single Hoist Drum											
Boom Length		Whip Line Drum 2 or 3 or 6				Hoist Line Drum 1		Total Parts of Line	Hoist Line Drum 2		Total Parts of Line
		1 Part		2 Parts					Meters	Feet	
Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet				
30,0	98.4	80*	260*	110	360	595	1,940	18	445	1,460	13
36,0	118.1	90	300	130	420	710	2,320	18	460	1,509	11
42,0	137.8	105	340	150	480	780	2,560	17	445	1,460	9
48,0	157.5	115	370	165	540	790	2,580	15	455	1,490	8
54,0	177.2	125	410	185	600	835	2,730	14	455	1,490	7
60,0	196.9	140	450	200	660	800	2,630	12	445	1,450	6
66,0	216.5	150	490	220	720	815	2,670	11	420	1,370	5
72,0	236.2	165	530	240	780	740	2,420	9	450	1,480	5
78,0	255.9	175	570	255	840	640	2,100	7	410	1,340	4
84,0	275.6	185	610	275	900	605	1,980	6	440	1,440	4
90,0	295.3	200	650	290	950	555	1,010	5	375	1,230	3
96,0	315.0	210	690	310	1,010	590	1,930	5	400	1,310	3
102,0	334.6	225	730	330	1,070	525	1,720	4	425	1,390	3

Note: Above hoist line lengths are based on single part lead line. Hoist and whip line lengths will allow hook to touch ground. When block travel below ground is required, add additional rope equal to parts of line times added travel distance. Hoisting distance or line pull may be limited when block travel below ground is required.

* Maximum spooling on Drum 6 may be exceeded if rope length is greater than 438 m (1,437 ft).

Refer to Block Overhaul Weights chart **No. 9413-A** for minimum weight required for block lowering.

Wire Rope Specifications

MLC300

Liftcrane - Boom No. B10:500

Hoist Reeving for Main Load Block - Single Lead Lines (Drum 1 or 2)						
No. Parts of Line	1	2	3	4	5	6
Maximum Load - kg	16 670	33 340	50 010	66 680	83 350	100 020
Maximum Load - lb	36,760	73,520	110,280	147,040	183,800	220,560
Maximum Load per Part of Line - kg	16 670	16 670	16 670	16 670	16 670	16 670
Maximum Load per Part of Line - lb	36,760	36,760	36,760	36,760	36,760	36,760
No. Parts of Line	7	8	9	10	11	12
Maximum Load - kg	116 690	133 360	150 030	166 700	183 370	200 040
Maximum Load - lb	257,320	294,080	330,840	367,600	404,360	441,120
Maximum Load per Part of Line - kg	16 670	16 670	16 670	16 670	16 670	16 670
Maximum Load per Part of Line - lb	36,760	36,760	36,760	36,760	36,760	36,760
No. Parts of Line	13	14	15	16	17	18
Maximum Load - kg	216 710	233 380	250 050	266 720	283 390	300 000
Maximum Load - lb	477,880	514,640	551,400	588,160	624,920	661,400
Maximum Load per Part of Line - kg	16 670	16 670	16 670	16 670	16 670	16 666
Maximum Load per Part of Line - lb	36,760	36,760	36,760	36,760	36,760	36,744

Wire Rope Specifications

MLC300

Liftcrane - Boom No. B10:500

Hoist Reeving for Whip Load Block - Single Lead Line (Drum 6)		
No. Parts of Line	1	2
Maximum Load - kg	13 600	27 200
Maximum Load - lb	30,000	60,000
Maximum Load per Part of Line - kg	13 600	13 600
Maximum Load per Part of Line - lb	30,000	30,000

Hoist Reeving for Whip Load Block - Single Lead Line (Drum 2 or 3)		
No. Parts of Line	1	2
Maximum Load - kg	16 600	33 300
Maximum Load - lb	36,700	73,520
Maximum Load per Part of Line - kg	16 670	16 670
Maximum Load per Part of Line - lb	36,760	36,760

Wire Rope Specifications

MLC300

Liftcrane - Boom No. B10:500

Wire Rope Specifications
<u>Rotation Resistant Wire Rope</u>
Hoist Line:
28 mm (Drum 1):
Wire Rope with Spelter Button and Pad Eye
Right Hand Lang Lay
Minimum Breaking Strength = 83 370 kg (183,800 lb)
Approx. Weight = 4,2 kg/m (2.8 lb/ft)
Whip/Auxiliary Line:
28 mm (Drums 2, 3 & 6):
Wire Rope with Spelter Button and Pad Eye
Right Hand Lang Lay
Minimum Breaking Strength = 83 370 kg (183,800 lb)
Approx. Weight = 4,2 kg/m (2.8 lb/ft)

Maximum Spooling Capacities	
Drum 1: (Hoist Line)	28 mm Wire Rope - 8 Layers - 939 m (3,082 ft)
Drum 2: (Auxiliary Line)	28 mm Wire Rope - 6 Layers - 418 m (1,372 ft) - non-freefall drum
Drum 3: (Auxiliary Line)	28 mm Wire Rope - 6 Layers - 418 m (1,372 ft) - non-freefall drum
Drum 6: (Auxiliary Line)	28 mm wire Rope - 7 Layers - 400 m (1,312 ft)
7 m (22 ft) is deducted from maximum spooling capacity for 3 dead wraps per drum.	

Refer to Drum and Lagging chart **No. 9339-A** and Load Block Reeving in Operator's Manual.

Maximum Allowable Travel Specifications

MLC300

Boom No. B10:500

Jobsite Travel

MLC300 SERIES 1 must be equipped with 135 200 kg (298,100 lb) VPC (Variable Position Counterweight); MLC300 SERIES 2 must be equipped with 175 200 kg (386,200 lb) VPC; MLC300 Series 3 must be equipped with 215 200 kg (474,400 lb) VPC. Refer to Wind Conditions chart for maximum wind speed for various boom lengths and capacity charts for maximum boom lengths lifted unassisted.

1. Machine Travel With Load

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

2. Machine Travel Without Load

- A. Load blocks and/or hook and weight balls may be suspended beneath lower and upper boom point, or tied off to machine. Total combined suspended weight beneath lower and upper boom points must not exceed 10 000 kg (22,000 lb).
- B. Machine to travel on a firm and uniformly supporting surface. Travel allowed with 360 degree swing up to 1 percent (0.5 degrees) grade; crane upperworks must be in-line with crawlers when grade exceeds 1 percent. Grade in direction of travel shall not exceed 30 percent (16.7 degrees); side-to-side grade must not exceed 2 percent (1.1 degrees) measured at boom hinge pins.
- C. Refer to tables 1 thru 3 for boom angle and boom length for various grades. Adjust boom within boom angle range shown in table with machine in a level position before traveling onto grade. Do not change boom angle after crane has been traveled onto grade. Boom angle is angle between horizontal and centerline of boom butt and inserts. Refer to table below for grade vs. angle when traveling.
- D. Do not exceed 2 percent (1.1 degrees) side-to-side grade at boom hinge pins when cutting (turning on grade).
- E. **Warning:** Refer to Operator's Manual for setting of VPC shutdown switch while traveling on grade.
- F. **Warning:** Travel prohibited for boom angle range not shown in tables 1 thru 3. *Crane could tip.*

Percent Grade Vs. Angle In Degrees	
Percent Grade	Angle
5	2.9
10	5.7
20	11.3
30	16.7

Maximum Allowable Travel Specifications

MLC300

Boom No. B10:500

Table 1a: Boom B10:500, SERIES 1

MACHINE TRAVEL WITHOUT LOAD					
Boom Length		Boom Angle Range in Degrees			
		Percent Grade			
Meters	Feet	1 - 5%	6 - 10%	11 - 20%	21 - 30%
BOOM FACING DOWNHILL					
30,0	98.4	30 - 75	30 - 75	30 - 75	30 - 75
36,0	118.1	30 - 75	30 - 75	30 - 75	30 - 75
42,0	137.8	30 - 75	30 - 75	31 - 75	31 - 75
48,0	157.5	30 - 75	30 - 75	30 - 75	50 - 75
54,0	177.2	30 - 75	30 - 75	39 - 75	65 - 75
60,0	196.9	37 - 75	42 - 75	52 - 75	74 - 75
66,0	216.5	46 - 75	49 - 75	61 - 75	—
72,0	236.2	52 - 75	56 - 75	68 - 75	—
78,0	255.9	57 - 75	61 - 75	72 - 75	—
84,0	275.6	61 - 75	65 - 75	—	—
90,0	295.3	64 - 75	67 - 75	—	—

Table 1b: Boom B10:500, SERIES 1

MACHINE TRAVEL WITHOUT LOAD					
Boom Length		Boom Angle Range in Degrees			
		Percent Grade			
Meters	Feet	1 - 5%	6 - 10%	11 - 20%	21 - 30%
BOOM FACING UPHILL					
30,0	98.4	30 - 72	30 - 69	30 - 63	30 - 54
36,0	118.1	30 - 72	30 - 69	30 - 63	30 - 42
42,0	137.8	30 - 72	30 - 69	30 - 63	30 - 31
48,0	157.5	30 - 72	30 - 69	30 - 63	—
54,0	177.2	30 - 72	30 - 69	30 - 63	—
60,0	196.9	32 - 72	32 - 69	32 - 55	32 - 39
66,0	216.5	42 - 72	42 - 69	42 - 52	42 - 45
72,0	236.2	49 - 72	49 - 69	49 - 57	—
78,0	255.9	53 - 72	53 - 69	53 - 60	—
84,0	275.6	57 - 72	57 - 69	57 - 62	—
90,0	295.3	61 - 72	61 - 69	61 - 63	—

Maximum Allowable Travel Specifications

MLC300

Boom No. B10:500

Table 2a: Boom B10:500, SERIES 2

MACHINE TRAVEL WITHOUT LOAD					
Boom Length		Boom Angle Range in Degrees			
		Percent Grade			
Meters	Feet	1 - 5%	6 - 10%	11 - 20%	21 - 30%
BOOM FACING DOWNHILL					
30,0	98.4	30 - 75	30 - 75	30 - 75	30 - 75
36,0	118.1	30 - 75	30 - 75	30 - 75	30 - 75
42,0	137.8	30 - 75	30 - 75	31 - 75	31 - 75
48,0	157.5	30 - 75	30 - 75	30 - 75	30 - 75
54,0	177.2	30 - 75	30 - 75	30 - 75	39 - 75
60,0	196.9	30 - 75	30 - 75	32 - 75	64 - 75
66,0	216.5	30 - 75	33 - 75	48 - 75	73 - 75
72,0	236.2	40 - 75	44 - 75	56 - 75	—
78,0	255.9	47 - 75	51 - 75	63 - 75	—
84,0	275.6	53 - 75	57 - 75	70 - 75	—
90,0	295.3	56 - 75	61 - 75	74 - 75	—
96,0	315.0	61 - 75	64 - 75	—	—
102,0	334.6	63 - 75	66 - 75	—	—

Table 2b: Boom B10:500, SERIES 2

MACHINE TRAVEL WITHOUT LOAD					
Boom Length		Boom Angle Range in Degrees			
		Percent Grade			
Meters	Feet	1 - 5%	6 - 10%	11 - 20%	21 - 30%
BOOM FACING UPHILL					
30,0	98.4	30 - 72	30 - 69	30 - 58	30 - 37
36,0	118.1	30 - 72	30 - 69	30 - 63	30 - 38
42,0	137.8	30 - 72	30 - 69	30 - 63	30 - 31
48,0	157.5	30 - 72	30 - 69	30 - 63	—
54,0	177.2	30 - 72	30 - 69	30 - 63	—
60,0	196.9	30 - 72	30 - 69	30 - 62	—
66,0	216.5	30 - 72	30 - 69	30 - 48	—
72,0	236.2	36 - 72	36 - 69	36 - 46	36 - 37
78,0	255.9	43 - 72	43 - 69	43 - 50	—
84,0	275.6	49 - 72	49 - 69	49 - 55	—
90,0	295.3	52 - 72	52 - 69	52 - 56	—
96,0	315.0	56 - 72	56 - 69	56 - 60	—
102,0	334.6	60 - 72	60 - 69	60 - 61	—

Maximum Allowable Travel Specifications

MLC300

Boom No. B10:500

Table 3a: Boom B10:500, SERIES 3

MACHINE TRAVEL WITHOUT LOAD			
Boom Length		Boom Angle Range in Degrees	
		Percent Grade	
Meters	Feet	1 - 5%	6 - 10%
BOOM FACING DOWNHILL			
30,0	98.4	30 - 75	30 - 75
36,0	118.1	30 - 75	30 - 75
42,0	137.8	30 - 75	30 - 75
48,0	157.5	30 - 75	30 - 75
54,0	177.2	30 - 75	30 - 75
60,0	196.9	30 - 75	30 - 75
66,0	216.5	30 - 75	30 - 75
72,0	236.2	31 - 75	36 - 75
78,0	255.9	42 - 75	43 - 75
84,0	275.6	48 - 75	50 - 75
90,0	295.3	54 - 75	56 - 75
96,0	315.0	57 - 75	61 - 75
102,0	334.6	61 - 75	63 - 75

Table 3b: Boom B10:500, SERIES 3

MACHINE TRAVEL WITHOUT LOAD			
Boom Length		Boom Angle Range in Degrees	
		Percent Grade	
Meters	Feet	1 - 5%	6 - 10%
BOOM FACING UPHILL			
30,0	98.4	30 - 72	30 - 64
36,0	118.1	30 - 72	30 - 69
42,0	137.8	30 - 72	30 - 69
48,0	157.5	30 - 72	30 - 69
54,0	177.2	30 - 72	30 - 69
60,0	196.9	30 - 72	30 - 69
66,0	216.5	30 - 72	30 - 69
72,0	236.2	30 - 72	30 - 69
78,0	255.9	38 - 72	38 - 69
84,0	275.6	45 - 72	45 - 69
90,0	295.3	50 - 72	50 - 69
96,0	315.0	54 - 72	54 - 69
102,0	334.6	58 - 72	58 - 69

Wind Conditions

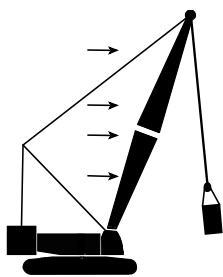
MLC300

Boom No. B10:500

General Information

- A. Judgment and experience of qualified operators, job planners, and supervisors must be used to compensate for affect of wind on lifted load and boom by reducing ratings, reducing operating speeds, or a combination of both. Failing to observe this precaution can cause crane to tip or boom to collapse. Death or serious injury to personnel can result.
- B. Wind speed (to include wind gusts) must be monitored by job planners and supervisors. *Be aware that wind speed at boom point can be greater than wind speed at ground level. Also be aware that the larger the sail area of the load, the greater the wind's affect on the load.*
- C. Wind adversely affects lifting capacity and stability as shown below. The result could be loss of control over the load and crane, even if the load is within the crane's capacity.
- D. As a general rule, ratings and operating speeds must be reduced when: ***Wind causes load to swing forward past allowable operating radius or sideways past either boom hinge pin.***

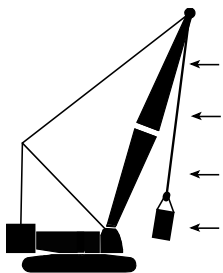
How Wind Affects a Crane



Forward stability is affected by wind on the rear of the boom. Wind applies a force to the boom and load that adds to the crane's overturning moment. This action has the same effect as adding load to the hook.

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

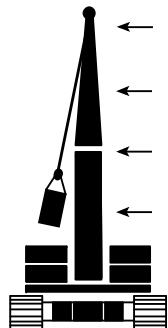
To avoid this hazard, reduce operating speeds and load (see appropriate table for maximum wind speed).



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

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

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



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

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

To avoid this hazard, reduce operating speeds and load (see appropriate table for maximum wind speed).

Wind Conditions

MLC300

Boom No. B10:500

Operation Permitted

Operation is permitted in steady winds or gusts up to the maximum wind speed given in Table 1, provided the lifted load does not exceed capacity chart percentage.

Wind speed to be measured at boom point elevation.

Refer to boom capacity chart for specific backward stability conditions.

Operation Not Permitted

Operation is not permitted when wind speed exceeds values listed in Table 1 for a given capacity chart percentage. Observe the following options:

Booms 30,0 m - 90,0 m (98.4 ft - 295.3 ft)

- **Up to 22 m/s (50 mph) -**
Park crane (upper in-line with crawlers) with load blocks and weight balls on ground or secured and position boom at 70°.
- **22 m/s (50 mph) and Above -**
Lower boom onto blocking at ground level.

Booms 96,0 m - 102,0 m (315.0 ft - 334.6 ft)

- **Up to 18 m/s (40 mph) -**
Park crane (upper in-line with crawlers) with load blocks and weight balls on ground or secured and position boom at 70°.
- **18 m/s (40 mph) and Above -**
Lower boom onto blocking at ground level.

Table 1: Allowable Wind Speeds and Gusts for Various Capacity Chart Percentages

Boom Length m (ft)	30,0 (98.4)	36,0 (118.1)	42,0 (137.8)	48,0 (157.5)	54,0 (177.2)	60,0 (196.9)	66,0 (216.5)	72,0 (236.2)	78,0 (255.9)	84,0 (275.6)	90,0 (295.3)	96,0 (315.0)	102,0 (334.6)
Percent of Capacity Chart	Maximum Wind Speed m/s (mph)												
100	16 (35)	14 (30)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)
90	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	14 (30)	14 (30)	14 (30)	14 (30)	14 (30)	11 (25)	11 (25)	11 (25)
80	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	14 (30)	14 (30)	14 (30)
70	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)	16 (35)

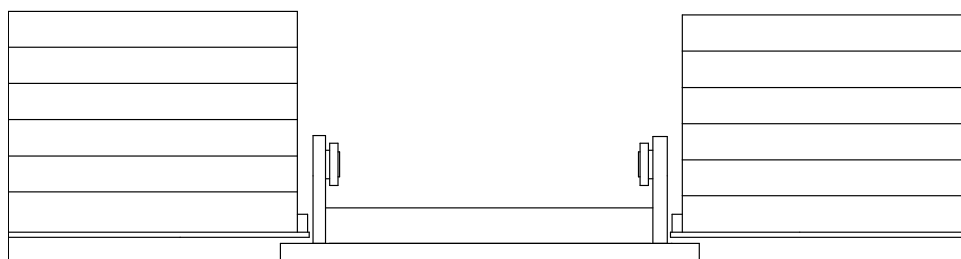
Operation Not Permitted above 16 m/s (35 mph)

Counterweight Arrangements

VPC (Variable Position Counterweight)

MLC300

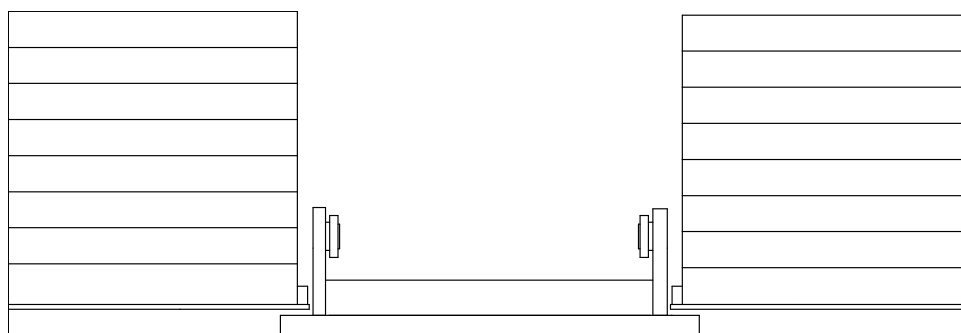
SERIES 1



Counterweight Tray Assembly

135 200 kg (298,100 lb) VPC
(12 Boxes)

SERIES 2



Counterweight Tray Assembly

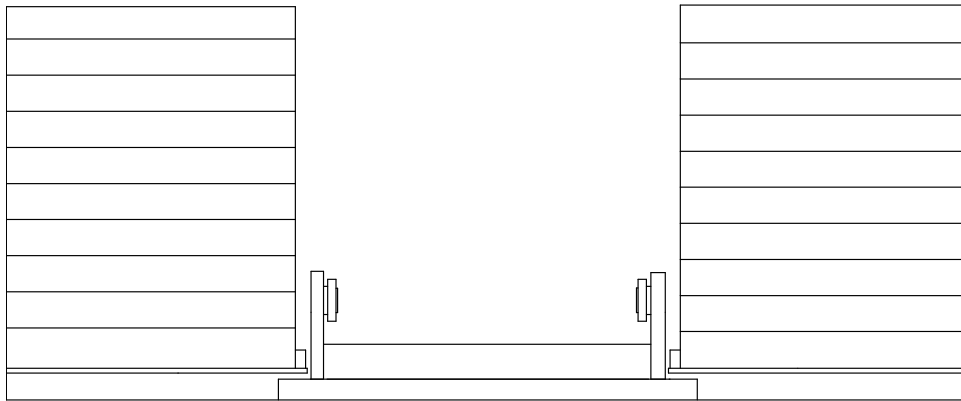
175 200 kg (386,200 lb) VPC
(16 Boxes)

Counterweight Arrangements

VPC (Variable Position Counterweight)

MLC300

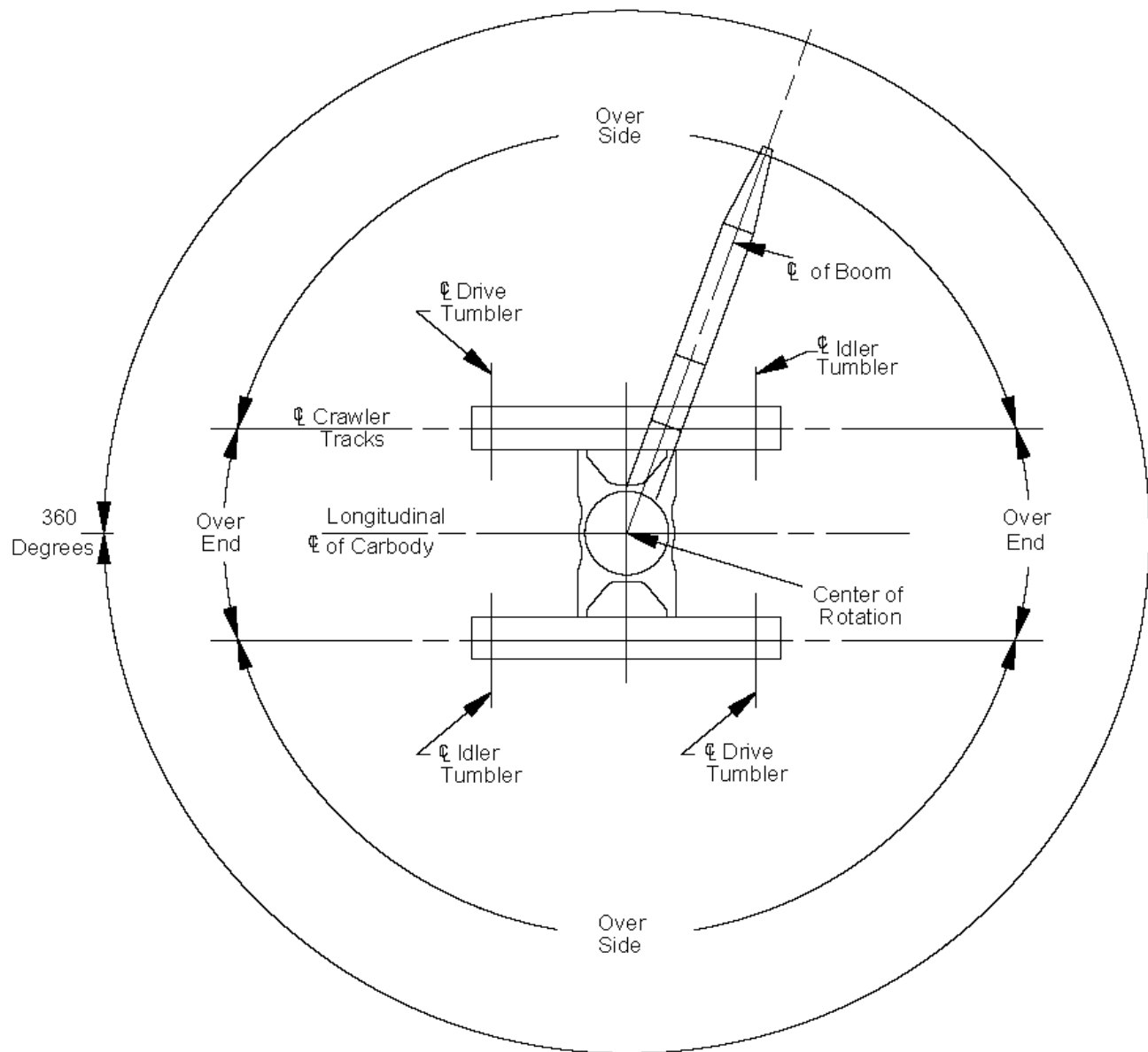
SERIES 3



Counterweight Tray Assembly

215 200 kg (474,400 lb) VPC
(20 Boxes)

Operating Range Diagram

MLC300

These lines determine limiting position of any load for operation within working areas indicated.

Approved working areas for crawler machines are shown in above diagram.

Lifting is approved only in those areas for which ratings are shown on capacity charts.

Block Overhaul Weights



Warning: Using insufficient block weights for a combination may result in the hoist line overhauling the load block or inability to lower block.

Caution: Block weight and wire rope is considered part of lifted load. Using excessive block weight will reduce load below the hook.

Observe the following:

- Minimum weight required for block lowering is listed in Tables 1 and 2.
- Lengths shown are the total combined length. If a combined length is not shown, round up to the nearest total combined length.
- Refer to capacity chart for configurations that require additional weight suspended from boom or jib due to boom or jib overhaul.
Recommended block weight may not be sufficient for boom or jib stability.
- Not all reevings shown in Tables 1 and 2 may be utilized. Refer to Wire Rope Specifications for recommended maximum parts of load hoist line and drum spooling.
- Block overhaul weight may be affected by temperature, wear, rope manufacturer, rope cleanliness, and method of calculation.
Crane operator judgement must be used to compensate for additional factors.

Table 1

Tandem Drum Operation																	
Total Combined Weights	m (ft)	30,0 (98.4)	36,0 (118.1)	42,0 (137.8)	48,0 (157.5)	54,0 (177.2)	60,0 (196.9)	66,0 (216.5)	72,0 (236.2)	78,0 (255.9)	84,0 (275.6)	90,0 (295.3)	96,0 (315.0)	102,0 (334.6)	108,0 (354.6)	114,0 (374.0)	120,0 (393.7)
Total Parts of Line		Weight of Hook Block kg (lb)															
4		670 (1,470)	780 (1,720)	890 (1,960)	1 000 (2,210)	1 110 (2,450)	1 220 (2,690)	1 340 (2,940)	1 450 (3,180)	1 560 (3,430)	1 670 (3,670)	1 780 (3,910)	1 890 (4,160)	2 000 (4,400)	2 110 (4,650)	2 220 (4,890)	2 330 (5,130)
6		960 (2,100)	1 120 (2,470)	1 290 (2,840)	1 460 (3,210)	1 630 (3,580)	1 800 (3,950)	1 960 (4,320)	2 130 (4,690)	2 300 (5,060)	2 470 (5,430)	2 630 (5,800)	2 800 (6,170)	2 970 (6,540)	3 140 (6,910)	3 300 (7,280)	3 470 (7,650)
8		1 250 (2,740)	1 470 (3,240)	1 700 (3,740)	1 930 (4,240)	2 150 (4,740)	2 380 (5,230)	2 600 (5,730)	2 830 (6,230)	3 050 (6,730)	3 280 (7,230)	3 510 (7,720)	3 730 (8,220)	3 960 (8,720)	4 180 (9,220)	4 410 (9,720)	4 640 (10,210)
10		1 540 (3,400)	1 830 (4,030)	2 120 (4,660)	2 400 (5,290)	2 690 (5,910)	2 970 (6,540)	3 260 (7,170)	3 540 (7,800)	3 830 (8,430)	4 110 (9,060)	4 440 (9,690)	4 680 (10,320)	4 970 (10,950)	5 250 (11,570)	5 540 (12,200)	5 820 (12,830)
12		1 850 (4,070)	2 190 (4,830)	2 540 (5,590)	2 890 (6,350)	3 230 (7,120)	3 580 (7,880)	3 920 (8,640)	4 270 (9,400)	4 610 (10,170)	4 960 (10,930)	5 310 (11,690)	5 650 (12,450)	6 000 (13,220)	6 340 (13,980)	6 690 (14,740)	7 040 (15,500)
14		2 160 (4,750)	2 560 (5 650)	2 970 (6,550)	3 380 (7,450)	3 790 (8,340)	4 200 (9,240)	4 600 (10,140)	5 010 (11,040)	5 420 (11,940)	5 830 (12,840)	6 230 (13,740)	6 640 (14,640)	7 050 (15,530)	7 460 (16,430)	7 860 (17,330)	8 270 (18,230)
16		2 470 (5,440)	2 940 (6,480)	3 410 (7,520)	3 880 (8,560)	4 360 (9,600)	4 830 (10,630)	5 300 (11,670)	5 770 (12,710)	6 240 (13,750)	6 710 (14,790)	7 180 (15,820)	7 650 (16,860)	8 120 (17,900)	8 590 (18,940)	9 060 (19,970)	9 530 (21,010)

Block Overhaul Weights



Table 2

Single Drum Operation																											
Total Combined Length	m (ft)	30,0 (98.4)	36,0 (118.1)	42,0 (137.8)	48,0 (157.5)	54,0 (177.2)	60,0 (196.9)	66,0 (216.5)	72,0 (236.2)	78,0 (255.9)	84,0 (275.6)	90,0 (295.3)	96,0 (315.0)	102,0 (334.6)	108,0 (354.6)	114,0 (374.0)	120,0 (393.7)	126,0 (413.4)	132,0 (433.1)	138,0 (452.8)	144,0 (472.4)	150,0 (492.1)	156,0 (511.8)	162,0 (531.5)	168,0 (551.2)	174,0 (570.9)	180,0 (590.6)
Total Parts of Line		Weight of Hook and Block kg (lb)																									
1		260 (570)	290 (630)	320 (700)	350 (760)	380 (820)	400 (880)	430 (950)	460 (1,010)	490 (1,070)	520 (1,140)	550 (1,200)	570 (1,260)	600 (1,320)	630 (1,390)	660 (1,450)	690 (1,510)	720 (1,580)	750 (1,640)	770 (1,700)	800 (1,760)	830 (1,830)	860 (1,890)	890 (1,950)	920 (2,020)	950 (2,080)	970 (2,140)
2		410 (890)	460 (1,020)	520 (1,140)	580 (1,270)	640 (1,400)	690 (1,530)	750 (1,650)	810 (1,780)	870 (1,910)	920 (2,030)	980 (2,160)	1 040 (2,290)	1 100 (2,410)	1 160 (2,540)	1 210 (2,670)	1 270 (2,800)	1 330 (2,920)	1 390 (3,050)	1 440 (3,180)	1 500 (3,300)	1 560 (3,430)	1 620 (3,560)	1 670 (3,680)	1 730 (3,810)	1 790 (3,940)	1 850 (4,070)
3		550 (1,220)	640 (1,410)	730 (1,600)	820 (1,790)	900 (1,990)	990 (2,180)	1 080 (2,370)	1 170 (2,560)	1 250 (2,760)	1 340 (2,950)	1 430 (3,140)	1 520 (3,330)	1 600 (3,530)	1 690 (3,720)	1 780 (3,910)	1 860 (4,100)	1 950 (4,300)	2 040 (4,490)	2 130 (4,680)	2 210 (4,870)	2 300 (5,070)	2 390 (5,260)	2,480 (5,450)	2 560 (5,640)	2 650 (5,840)	2 740 (6,030)
4		710 (1,550)	820 (1,810)	940 (2,070)	1 060 (2,330)	1 180 (2,590)	1 290 (2,850)	1 410 (3,110)	1 530 (3,370)	1 650 (3,630)	1 760 (3,880)	1 880 (4,140)	2 000 (4,400)	2 120 (4,660)	2 240 (4,920)	2 350 (5,180)	2 470 (5,440)	2 590 (5,700)	2 710 (5,960)	2 820 (6,220)	2 940 (6,480)	3 060 (6,740)	3 180 (7,000)	3 290 (7,250)	3 410 (7,510)	3 530 (7,770)	3 650 (8,030)
5		860 (1,890)	1 010 (2,220)	1 160 (2,550)	1 310 (2,870)	1 450 (3,200)	1 600 (3,530)	1 750 (3,860)	1 900 (4,180)	2 050 (4,510)	2 220 (4,840)	2 350 (5,170)	2 490 (5,490)	2 640 (5,820)	2 790 (6,150)	2 940 (6,480)	3 090 (6,800)	3240 (7,130)	3 390 (7,460)	3 530 (7,790)	3 680 (8,110)	3 830 (8,440)	3 980 (8,770)	4 130 (9,090)	4 280 (9,420)	4 430 (9,750)	4 570 (10,080)
6		1 020 (2,240)	1 200 (2,640)	1 380 (3,030)	1 560 (3,430)	1 740 (3,830)	1 920 (4,220)	2 100 (4,620)	2 280 (5,020)	2 460 (5,420)	2,640 (5,810)	2 820 (6,210)	3 000 (6,610)	3 180 (7,000)	3 360 (7,400)	3 540 (7,800)	3 720 (8,190)	3 900 (8,590)	4 080 (8,990)	4 260 (9,380)	4 440 (9,780)	4 620 (10,180)	4 800 (10,580)	4 980 (10,970)	5 160 (11,370)	5 340 (11,770)	5 520 (12,160)
7		1 180 (2,590)	1 390 (3,060)	1 600 (3,530)	1 820 (4,000)	2 030 (4,470)	2 240 (4,930)	2 450 (5,400)	2 670 (5,870)	2 880 (6,340)	3 090 (6,810)	3 300 (7,270)	3 510 (7,740)	3 730 (8,210)	3 940 (8,680)	4 150 (9,150)	4 360 (9,610)	4 580 (10,080)	4,790 (10,550)	5 000 (11,020)	5 210 (11,480)	5 420 (11,950)	5 640 (12,420)	5 850 (12,890)	6 060 (13,360)	6 270 (13,820)	6 490 (14,920)
8		1 340 (2,960)	1 590 (3,500)	1 830 (4,040)	2 080 (4,580)	2 320 (5,120)	2 570 (5,660)	2 810 (6,200)	3 060 (6,740)	3 300 (7,280)	3 550 (7,820)	3 790 (8,360)	4 040 (8,900)	4 280 (9,440)	4 530 (9,980)	4 780 (10,520)	5 020 (11,060)	5 270 (11,600)	5 510 (12,140)	5 760 (12,680)	6 000 (13,220)	6 250 (13,760)	6 490 (14,300)	6 740 (14,840)	6 980 (15,380)	7 230 (15,920)	7 470 (16,460)
9		1 510 (3,330)	1 790 (3,940)	2 070 (4,550)	2 350 (5,170)	2 630 (5,780)	2 900 (6,400)	3 180 (7,010)	3 460 (7,630)	3 740 (8,240)	4 020 (8,850)	4 300 (9,470)	4 580 (10,080)	4 850 (10,700)	5 130 (11,310)	5 410 (11,930)	5 690 (12,540)	5 970 (13,150)	6 250 (13,770)	6 530 (14,380)	6 800 (15,000)	7 080 (15,610)	7 360 (16,220)	7 640 (16,840)	7 920 (17,450)	8 200 (18,070)	8 480 (18,680)
10		1 680 (3,700)	2 000 (4,390)	2 310 (5,080)	2 620 (5,770)	2 930 (6,460)	3 250 (7,150)	3 560 (7,840)	3 870 (8,530)	4 180 (9,220)	4 500 (9,910)	4 810 (10,600)	5120 (11,290)	5 440 (11,980)	5 750 (12,670)	6 060 (13,360)	6 370 (14,050)	6 690 (14,740)	7 000 (15,430)	7 310 (16,120)	7 630 (16,810)	7 940 (17,500)	8 250 (18,180)	8 560 (18,870)	8 880 (19,560)	9 190 (20,250)	9 500 (20,940)
11		1 860 (4,090)	2 200 (4,850)	2 550 (5,620)	2 900 (6,390)	3 250 (7,150)	3 600 (7,920)	3 940 (8,690)	4 290 (9,450)	4 640 (10,220)	4 990 (10,990)	5 330 (11,750)	5 680 (12,520)	6 030 (13,290)	6 380 (14,050)	6 720 (14,820)	7 070 (15,590)	7 420 (16,350)	7 770 (17,120)	8 120 (17,890)	8 460 (18,650)	8 810 (19,420)	9 160 (20,190)	9 510 (20,950)	9 850 (21,720)	10 200 (22,480)	10 550 (23,250)
12		2 030 (4,480)	2 420 (5,330)	2 800 (6,170)	3 180 (7,020)	3 570 (7,860)	3 950 (8,710)	4 330 (9,550)	4 720 (10,400)	5 100 (11,240)	5 480 (12,090)	5 870 (12,930)	6 250 (13,780)	6 630 (14,620)	7 020 (15,470)	7 400 (16,310)	7 780 (17,160)	8 170 (18,000)	8 550 (18,850)	8 930 (19,690)	9 320 (20,540)	9 700 (21,380)	10 080 (22,230)	10 470 (23,070)	10 850 (23,920)	11 230 (24,760)	11 620 (25,610)
13		2 220 (4,880)	2 640 (5,810)	3 060 (6,730)	3 480 (7,660)	3 900 (8,580)	4 310 (9,510)	4 730 (10,430)	5 150 (11,360)	5 570 (12,280)	5 990 (13,210)	6 410 (14,130)	6 830 (15,060)	7 250 (15,980)	7 670 (16,910)	8 090 (17,830)	8 510 (18,760)	8 930 (19,680)	9 350 (20,610)	9 770 (21,530)	10 190 (22,460)	10 610 (23,380)	11 030 (24,310)	11 450 (25,230)	11 870 (26,160)	12 290 (27,080)	12 710 (28,010)
14		2 400 (5,290)	2 860 (6,300)	3 320 (7,300)	3 770 (8,310)	4 230 (9,320)	4 690 (10,320)	5 140 (11,330)	5 600 (12,340)	6 060 (13,340)	6 510 (14,350)	6 970 (15,360)	7 430 (16,370)	7 880 (17,370)	8 340 (18,380)	8 800 (19,390)	9 250 (20,390)	9 710 (21,400)	10 170 (22,410)	10 620 (23,410)	11 080 (24,420)	11 540 (25,430)	11 990 (26,430)	12 450 (27,440)	12 910 (28,450)	13 360 (29,460)	13 820 (30,460)
15		2 590 (5,710)	3 090 (6,800)	3 580 (7,890)	4 070 (8,980)	4 570 (10,070)	5 060 (11,160)	5 560 (12,250)	6 050 (13,340)	6 550 (14,430)	7 040 (15,520)	7 540 (16,610)	8 030 (17,700)	8 530 (18,790)	9 020 (19,880)	9 520 (20,970)	10 010 (22,060)	10 500 (23,150)	11 000 (24,240)	11 490 (25,330)	11 990 (26,420)	12 480 (27,510)	12 980 (28,600)	13 470 (29,690)	13 970 (30,780)	14 460 (31,870)	14 960 (32,960)
16		2 780 (6,130)	3 320 (7,310)	3 850 (8,480)	4 380 (9,660)	4 920 (10,830)	5 450 (12,010)	5 980 (13,180)	6 520 (14,360)	7 050 (15,540)	7 580 (16,710)	8 120 (17,890)	8 650 (19,060)	9 180 (20,240)	9 720 (21,410)	10 250 (22,590)	10 780 (23,760)	11 310 (24,940)	11 850 (26,110)	12 380 (27,290)	12 910 (28,470)	13 450 (29,640)	13 980 (30,820)	14 510 (31,990)	15 050 (33,170)	15 580 (34,340)	16 110 (35,520)
17		2 980 (6,570)	3 550 (7,830)	4 130 (9,090)	4 700 (10,350)	5 270 (11,620)	5 840 (12,880)	6 420 (14,140)	6 990 (15,400)	7 560 (16,660)	8 130 (17,930)	8 710 (19,190)	9 280 (20,450)	9 850 (21,710)	10 420 (22,980)	11 000 (24,240)	11 570 (25,500)	12 140 (26,760)	12 710 (28,030)	13 290 (29,290)	13 860 (30,550)	14 430 (31,810)	15 010 (33,070)	15 580 (34,340)	16 150 (35,600)	16 720 (36,860)	17 300 (38,120)
18		3 180 (7,010)	3 790 (8,360)	4 410 (9,710)	5 020 (11,060)	5 630 (12,410)	6 250 (13,760)	6 860 (15,110)	7 470 (16,470)	8 080 (17,820)	8 700 (19,170)	9 310 (20,520)	9 920 (21,870)	10 540 (23,220)	11 150 (24,570)	11,760 (25,920)	12 370 (27,270)	12 990 (28,620)	13 600 (29,970)	14 210 (31,330)	14 820 (32,680)	15 440 (34,030)	16 050 (35,380)	16 660 (36,370)	17,280 (38,080)	17 890 (39,430)	18 500 (40,780)