

## MLC650

### Preliminary Product Guide

ASME B30.5  
Metric



### Features

- 650 t capacity
- 700 t capacity with VPC-MAX™
- 4119 t-m maximum load moment
- 9049 t-m maximum load moment with VPC-MAX™
- 104 m B10:680 boom
- 146 m B60:680 boom with VPC-MAX™
- 42 m No. 148 fixed jib on B10:680 boom
- 101 m LJ:681-682 luffing jib on B10:680 boom

# MANITOWOC MLC650

The MLC650 combines revolutionary VPC technology with the dynamic Crane Control System (CCS) to deliver class-leading load charts. Ultimate jobsite productivity and versatility ensure outstanding ROI.

## Features

### > Crane Control System

The Crane Control System offers a user-friendly interface, two full graphic displays mounted horizontally for better visibility, a jog dial for easier data input and ergonomic joysticks.

### > Variable Position Counterweight (VPC)

The Manitowoc MLC650 features a counterweight system that automatically positions the crane's counterweight as required to match lifting demands. Crane lifting capability is optimized by automatic positioning of the counterweight, eliminating the need for carbody counterweight. Additionally, counterweight boxes are designed to be common across multiple crane platforms and will be utilized on Manitowoc Model MLC300 as well as future new models.



### > VPC-MAX

Capacity and boom and jib combination lengths can be increased through addition of the exclusive VPC-MAX attachment. The VPC-MAX attachment utilizes all of the standard VPC components, and only requires the addition of a 36 m fixed mast and the VPC-MAX beam. With the VPC-MAX attachment, the load moment of the MLC650 more than doubles its load. The position of the VPC-MAX counterweight is automatically positioned based on lifted load, boom length, or boom and jib length and load radius.

### > FACT™ Connectors

Manitowoc's Fast Aligning Connection Technology (FACT™) automatically aligns crane components for fast, easy assembly.



### > CraneSTAR®

**CraneSTAR is an exclusive and innovative crane asset management system**

that helps improve your profitability and reduce costs by remotely monitoring critical crane data.

Visit [www.cranestar.com](http://www.cranestar.com) for more information.

# MLC650 benefits

## Transportation

The MLC650 is designed to be transported globally with optimized component weights and dimensions. The MLC650 features a removable live mast shipping module and boom inserts designed to allow luffing jib inserts to ship within the boom inserts for cost-effective transport.



## Productivity

Revolutionary Variable Position Counterweight (VPC) helps deliver class-leading lift capacities with less counterweight. The system works by automatically moving the counterweight into a maximized position for the given configuration and load case. No commands are necessary, so the operator is free to focus on the load and jobsite.

## Ease of use

The Crane Control System (CCS) features a user-friendly interface with all necessary crane control information within easy view on two display screens. A fully enclosed and insulated galvanized steel cab features power tilt and full-view glass for unmatched visibility.



**Manitowoc Crane Care when you need it.**  
The assurance of the world's most advanced crane service and support to get you back to work fast.

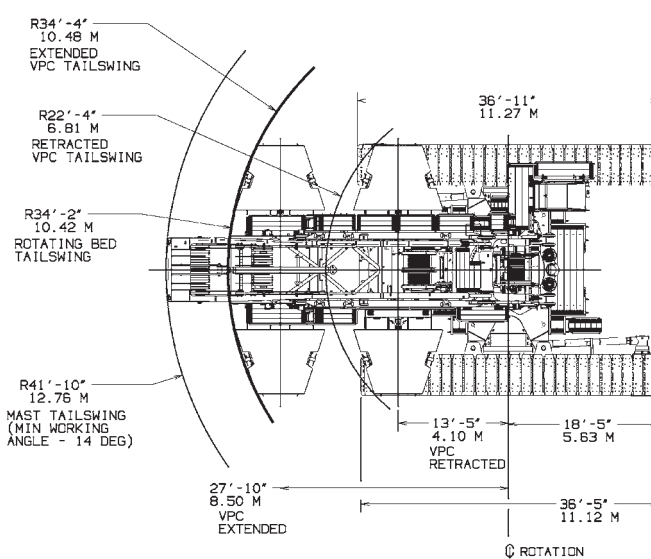
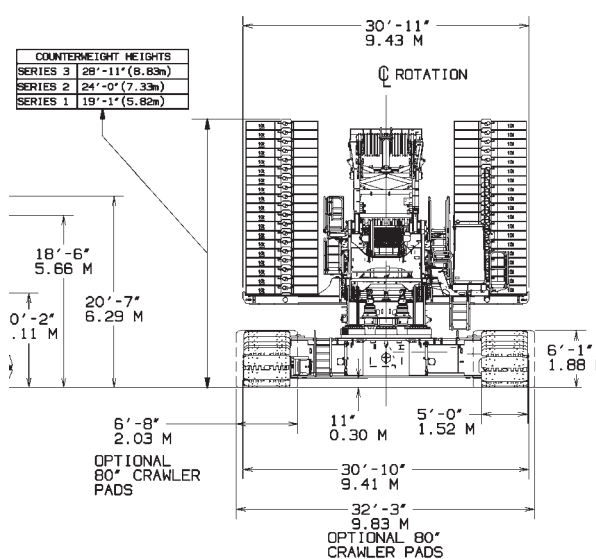
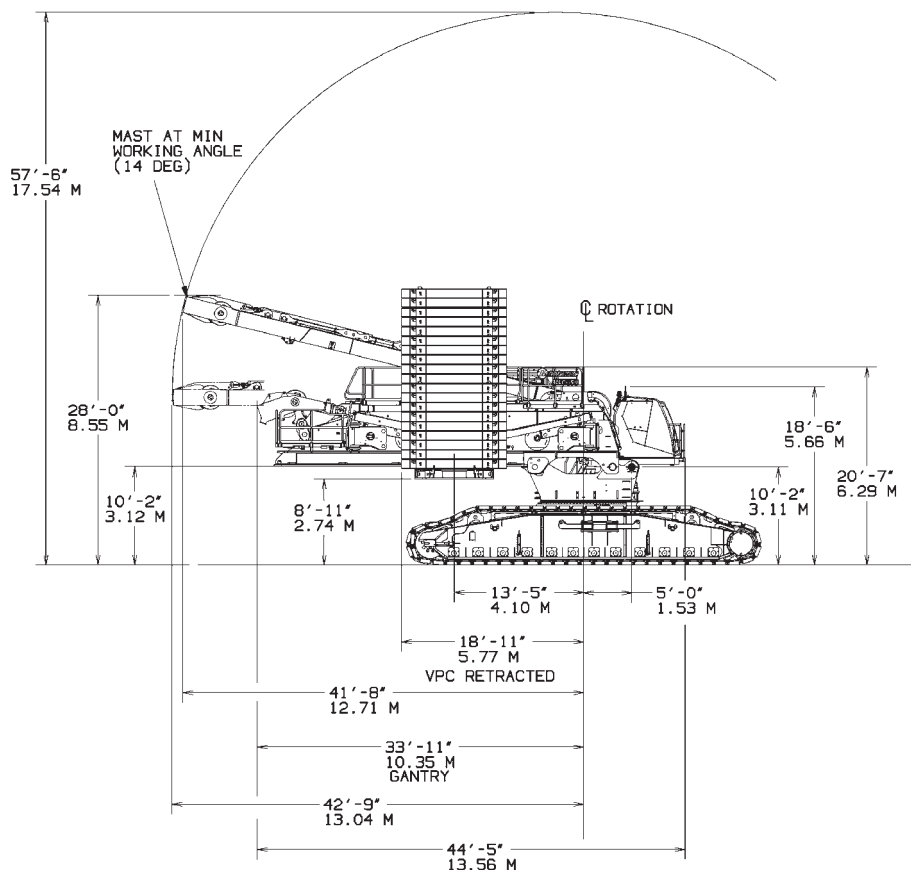


**Manitowoc Finance helps you get right to work generating profits for your business.**  
Financial tools that help you capitalize on opportunity with solutions that fit your needs.

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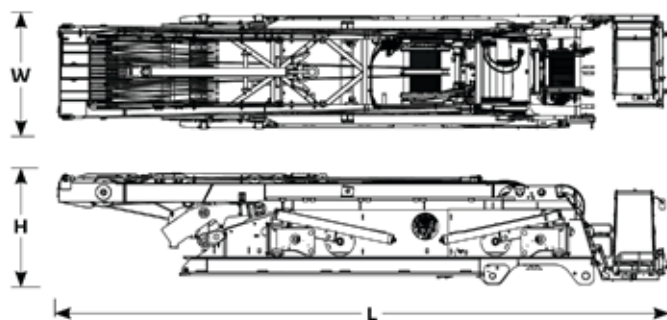
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# Outline dimensions





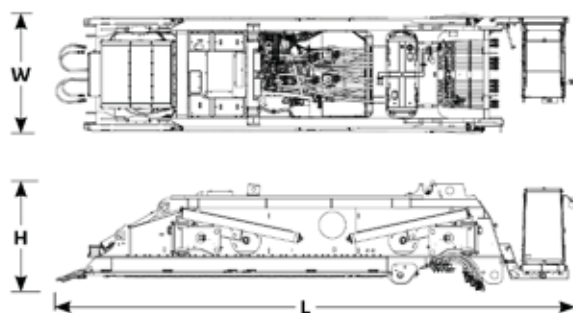
# Outline dimensions



## Rotating bed assembly

Length	16,1 m
Width	3,0 m
Height	3,0 m
Weight	71 600 kg

*Note: includes live mast, boom hoist, gantry, rotating bed jacks, whip hoist.*

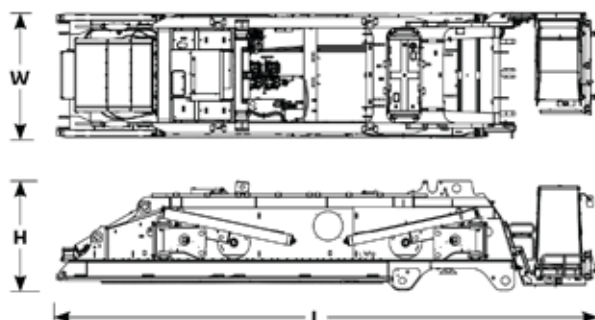


## Rotating bed assembly

Length	12,9 m
Width	3,0 m
Height	2,6 m
Weight	44 600 kg

*Note: includes rotating bed jacks, whip hoist.*

*Note: excludes live mast, boom hoist, gantry.*

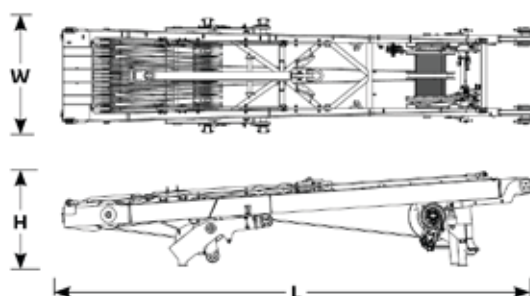


## Rotating bed assembly

Length	12,9 m
Width	3,0 m
Height	2,6 m
Weight	38 900 kg

*Note: includes rotating bed jacks.*

*Note: excludes whip hoist, live mast, boom hoist, gantry.*



## Live mast package

Length	12,4 m
Width	3,0 m
Height	2,5 m
Weight	26 900 kg

*Note: includes live mast, boom hoist, gantry.*

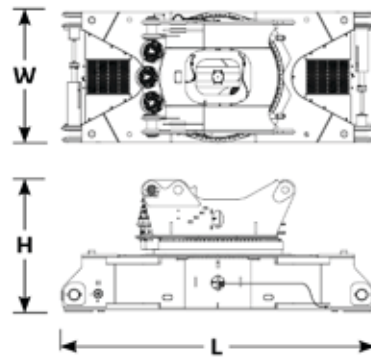


## Whip hoist package

Length	1,6 m
Width	1,6 m
Height	1,4 m
Weight	5800 kg

*Note: includes wire rope.*

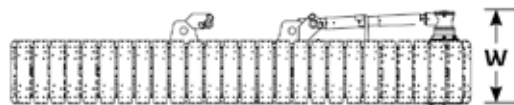
# Outline dimensions



## Carbody assembly without jacks

Length	7,2 m
Width	3,0 m
Height	3,0 m
Weight	41 500 kg

*Note: includes carbody, adapter frame, three swing drives, slewing ring.*



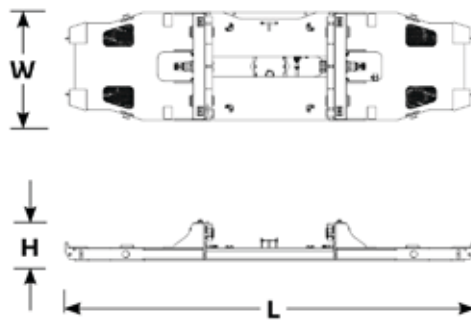
## Crawler assembly 1,5 m pads

Length	11,1 m
Width	2,3 m
Height	1,9 m
Weight	38 900 kg



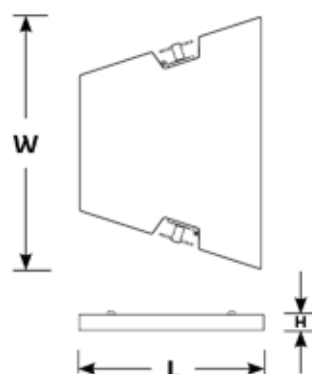
## Crawler assembly 2,0 m pads

Weight	46 800 kg
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## Counterweight tray assembly

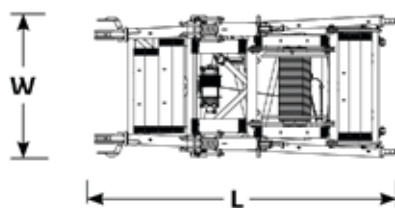
Length	9,4 m
Width	2,5 m
Height	0,9 m
Weight	20 000 kg



## Counterweight box

Length	2,4 m
Width	3,3 m
Height	0,4 m
Weight	10 000 kg

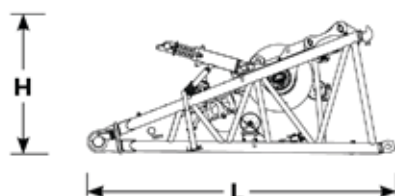
# Outline dimensions



## 6 m No. 680 boom butt

Length	6,5 m
Width	3,0 m
Height	2,8 m
Weight	19 200 kg

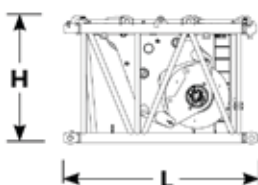
*Note: includes main load hoist #1, wire rope, rigging winch.*



## 6 m No. 680 boom butt with luffing hoist

Weight	26 200 kg
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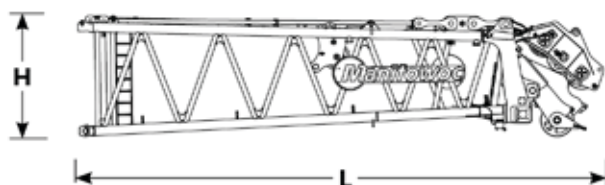
*Note: includes main load hoist #1, wire rope, rigging winch, luffing hoist.*



## 4 m No. 680 boom insert

Length	4,3 m
Width	3,0 m
Height	2,8 m
Weight	17 700 kg

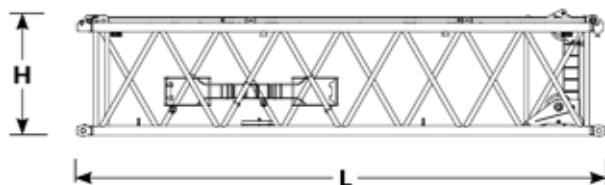
*Note: includes main load hoist #2, wire rope and backstay straps.*



## 10 m No. 680 boom top

Length	12,2 m
Width	3,0 m
Height	2,8 m
Weight	18 800 kg

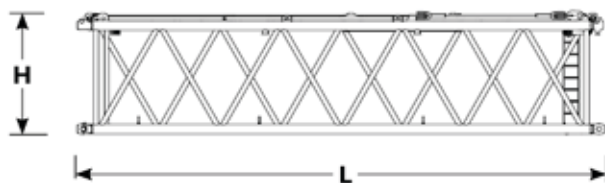
*Note: includes lower boom points, wire rope guides.*



## 12m No. 680 boom insert, extra heavy with sheaves

Length	12,2 m
Width	3,0 m
Height	2,8 m
Weight	12 600 kg

*Note: includes boom straps, backstay straps, luffing jib wire rope guide.*



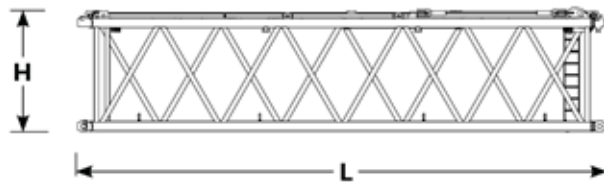
## 12 m No. 680 boom insert, heavy with equalizer

Length	12,2 m
Width	3,0 m
Height	2,8 m
Weight	10 496 kg

*Note: includes boom straps, backstay straps.*



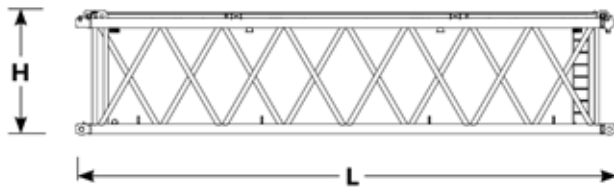
# Outline dimensions



## 12m No. 680 boom insert, extra heavy

Length	12,2 m
Width	3,0 m
Height	2,8 m
Weight	11 600 kg

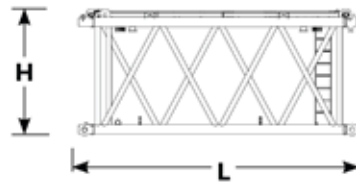
*Note: includes boom straps, backstay straps.*



## 12 m No. 680 boom insert, heavy

Length	12,2 m
Width	3,0 m
Height	2,8 m
Weight	9700 kg

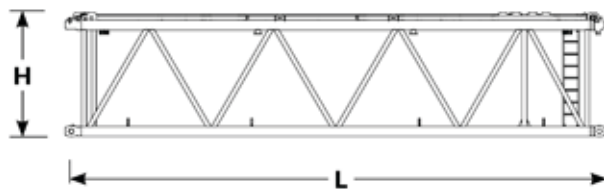
*Note: includes boom straps, backstay straps.*



## 6 m No. 680 boom insert, heavy

Length	6,3 m
Width	3,0 m
Height	2,8 m
Weight	5700 kg

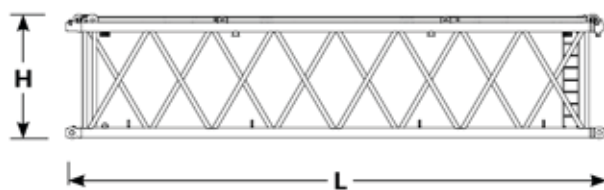
*Note: includes boom straps, backstay straps.*



## 12 m No. 680 boom insert, medium with suspension

Length	12,2 m
Width	3,0 m
Height	2,8 m
Weight	8000 kg

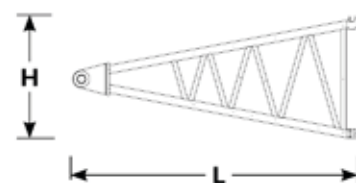
*Note: includes boom straps, backstay straps.*



## 12 m No. 680 boom insert, medium

Length	12,2 m
Width	3,0 m
Height	2,8 m
Weight	7900 kg

*Note: includes boom straps, backstay straps.*

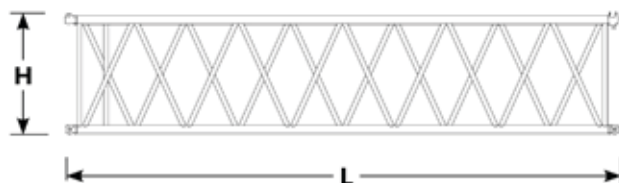


## 6 m No. 681 luffing jib butt

Length	6,4 m
Width	3,0 m
Height	2,7 m
Weight	5700 kg

*Note: includes jib stops.*

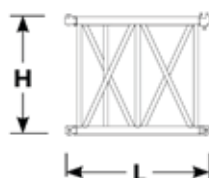
# Outline dimensions



## 12 m No. 681 luffing jib insert

Length	12,3 m
Width	3,0 m
Height	2,8 m
Weight	5700 kg

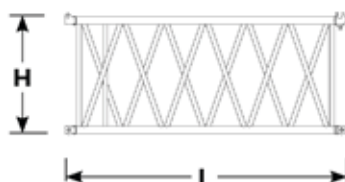
*Note: includes jib straps.*



## 3 m No. 681 luffing jib insert

Length	3,2 m
Width	3,0 m
Height	2,8 m
Weight	2100 kg

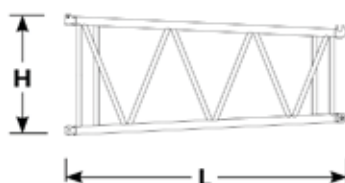
*Note: includes jib straps.*



## 6 m No. 681 luffing jib insert

Length	6,3 m
Width	3,0 m
Height	2,8 m
Weight	3400 kg

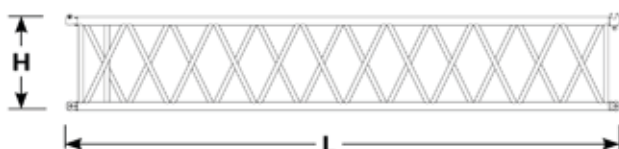
*Note: includes jib straps.*



## 6 m No. 681-682 transition insert

Length	6,3 m
Width	3,0 m
Height	2,8 m
Weight	4300 kg

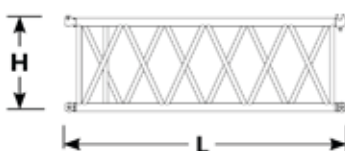
*Note: includes jib straps.*



## 12 m No. 682 luffing jib insert

Length	12,2 m
Width	2,5 m
Height (max)	2,3 m
Weight	5100 kg

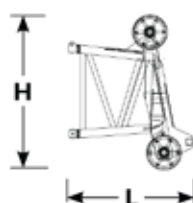
*Note: includes jib straps.*



## 6 m No. 682 luffing jib insert

Length	6,2 m
Width	2,5 m
Height	2,5 m
Weight	2900 kg

*Note: includes jib straps.*

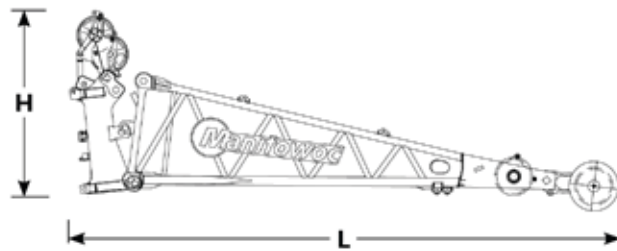


## 2 m No. 681-682 luffing jib top

Length	3,3 m
Width	2,5 m
Height (max)	2,8 m
Weight	7600 kg

*Note: includes (8) sheave pack, wire rope guide.*

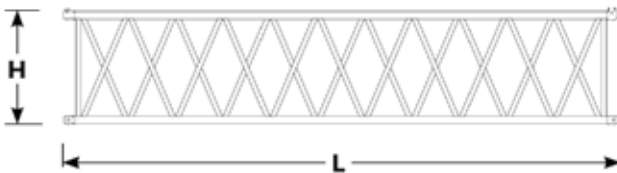
# Outline dimensions



## 1 m No. 682 cap + extended upper boom point

Length	11,5 m
Width	2,7 m
Height (max)	2,8 m
Weight	9500 kg

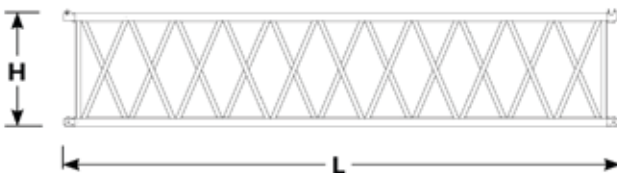
*Note: includes 2 sheave lower boom point in wind cap.*



## 12 m No. 684 mast lower mast insert

Length	12,2 m
Width	2,5 m
Height (max)	2,8 m
Weight	5900 kg

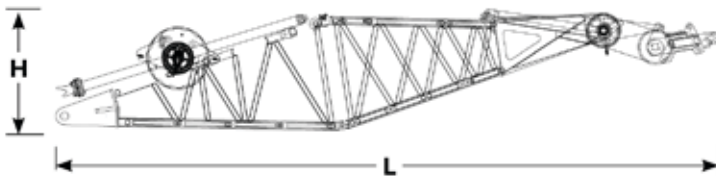
*Note: includes backhitch and counterweight straps.*



## 12 m No. 684 mast upper mast insert

Length	12,2 m
Width	2,5 m
Height (max)	2,8 m
Weight	6200 kg

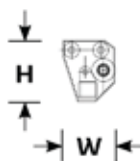
*Note: includes backhitch and counterweight straps.*



## No. 684 mast top + butt transport package

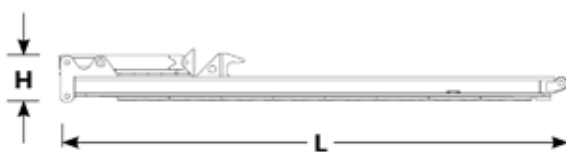
Length	14,6 m
Width	2,6 m
Height	2,8 m
Weight	24 900 kg

*Note: includes boom hoist drum and equalizer.*



## VPC-MAX™ actuator assembly

Length	5,0 m
Width	1,2 m
Height	1,2 m
Weight	6300 kg



## VPC-MAX™ beam assembly

Length	11,2 m
Width	3,0 m
Height	1,2 m
Weight	21 300 kg

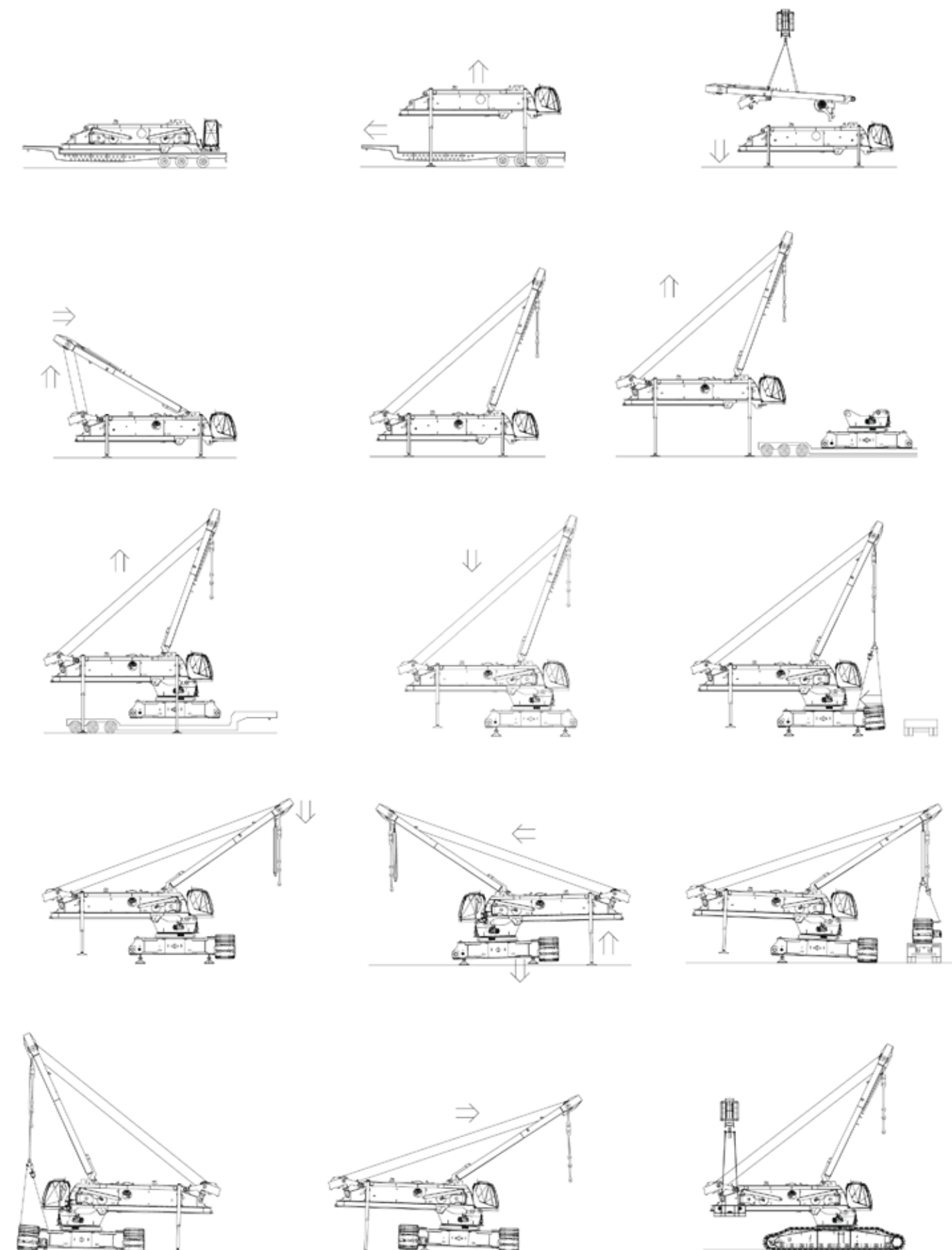
## VPC-MAX™ aux member assembly

Length	3,0 m
Width	2,4 m
Height	0,5 m
Weight	4300 kg

# Transport data

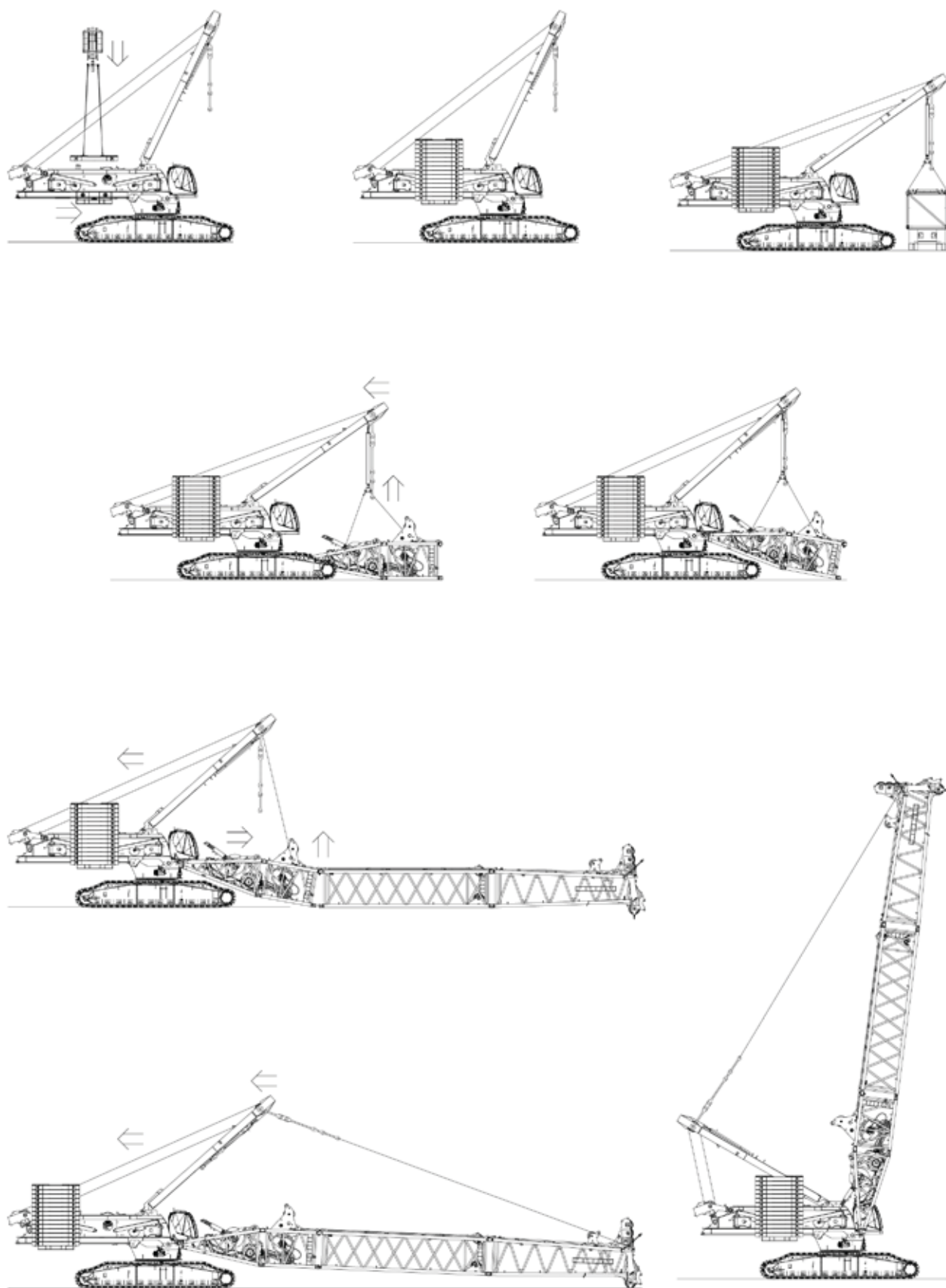
Load summary																															
	86 m boom with series 2 counterweight Quantity on trailer load # (Does not include blocking, strapping, etc.)																														
Item	Qty	Weight kg	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Upperworks module	1	38 900	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Whip hoist	1	5800	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Live mast package	1	26 900	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Carbody + adapter	1	41 500	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Crawler assembly (1,5 m pads)	2	38 900	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Counterweight tray	1	20 000	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Counterweight box	38	10 000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Boom butt with drum 1	1	19 200	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4 m No. 680 boom insert with drum 2	1	17 700	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12 m No. 680 extra heavy boom insert with sheaves	1	12 600	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12 m No. 680 extra heavy boom insert	1	11 600	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12 m No. 680 heavy boom insert	1	9700	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12 m No. 680 heavy boom insert with equalizer rails	1	10 600	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6 m No. 680 heavy boom insert	1	5700	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12 m No. 680 medium insert with suspension	1	8900	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10 m No. 680 boom top	1	18 800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
317 mt block	1	7900	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
22,2 mt weight ball	1	1300	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate total shipping weight kgs			38 900	26 900	41 500	38 900	38 900	20 000	19 200	17 700	18 400	11 600	11 000	10 600	13 600	85900	18 800	20 000	20 000	20 000	20 000	20 000	20 000	20 000	20 000	20 000	20 000	20 000	20 000	20 000	20 000

# Assembly

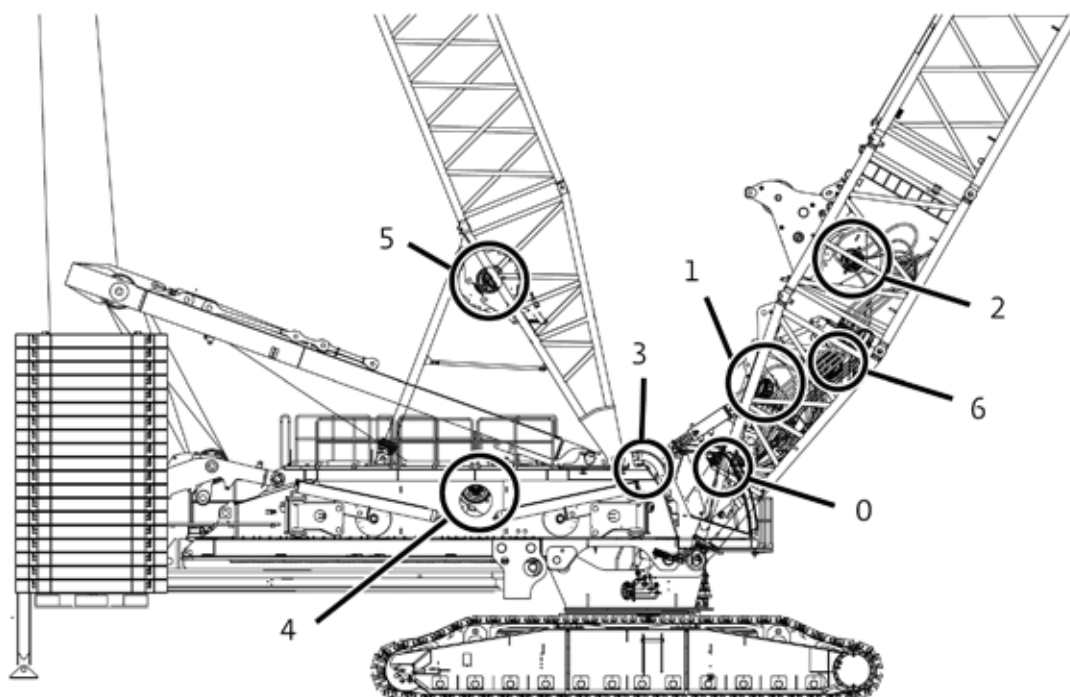




# Assembly



## Performance data



### Drum identification

Drum number	Function
1	Main hoist – standard
2	Auxiliary main hoist – standard
3	Whip hoist – standard
4	Boom hoist (VPC™) – standard mast hoist (VPC-MAX™) – standard
5	Boom hoist (VPC-MAX™) – standard with VPC-MAX
6	Luffing hoist – standard with luffing jib
0	Rigging winch – standard

### Working weight

32 m No. 680 main boom	647 326 kg
upper boom point	
625 t hook block	
400 t counterweight	

# Performance data

## B10: 680/B60: 680 boom Hoist reeving for main load block single lead line – 32 mm wire rope

No. Parts of Line	Maximum Load kg
2	44 260
4	88 520
6	132 780
8	177 040
10	221 300
12	265 560
14	309 820
16	350 900
18	390 930
20	430 160
22	468 610
24	506 290
26	543 230
28	579 430
30	614 910

## B10: 680/B60: 680 boom Hoist reeving for main load block two lead lines – 32 mm wire rope

No. Parts of Line	Maximum Load kg
8	177 040
12	265 560
16	354 080
20	442 600
24	531 120
28	619 640
32	700 000

## B10: 680/B60: 680 boom Hoist reeving for whip load block single lead line – 28 mm wire rope

No. Parts of Line	Maximum Load kg
1	13 600
2	27 200

## B40: 680-681-682 B80: 680-681-682 with 7,6 m extended upper boom point Hoist reeving for main load block single lead line – 32 mm wire rope

No. Parts of Line	Maximum Load kg
2	44 260
4	88 520
6	132 780

## Maximum spooling capacities

Drum 1 (hoist line) 32 mm wire rope*	1100 m 10 layers
Drum 2 (hoist line) 32 mm wire rope*	1100 m 10 layers
Drum 3 (whip line) 28 mm wire rope*	579 m 8 layers

\*7 m is deducted from maximum spooling capacities for 3 dead wraps per drum

## Performance for main hoist (drum #1) and auxiliary main hoist (drum #2) 32 mm wire rope Single line speed in m per minute

Single line pull kg	Single line pull/single line speed m/min Layer									
	1	2	3	4	5	6	7	8	9	10
0	94	102	111	120	128	137	145	154	163	171
4536	89	97	105	113	120	128	135	142	150	157
9072	85	92	99	105	112	118	125	131	134	136
13 067	81	87	90	91	93	95	96	98	100	101
18 144	69	71	73	74	76	78	79	81	84	88
22 135	60	62	63	65	67	70	74	77	77	77

## Performance for whip (drum #3) 28 mm wire rope Single line speed in m per minute

Single line pull kg	Single line pull/single line speed m/min Layer							
	1	2	3	4	5	6	7	8
0	90	98	106	113	121	128	136	143
2268	86	93	100	107	114	120	127	133
4536	82	89	95	101	106	112	118	123
6804	78	84	89	90	92	93	94	96
9072	69	70	72	73	74	76	77	79
11 340	58	60	61	63	64	66	70	73
13 607	52	53	54	58	62	65	69	72

## Boom combinations

**B10: 680 main boom combinations**

Boom length m	Main boom inserts m				
	4,0 XH No. 680	6,0 H No. 680	12,0 XH No. 680	12,0 H No. 680	12,0 M No. 680
32	1	0	1	0	0
38	1	1	1	0	0
44	1	0	1	1	0
50	1	1	1	1	0
56	1	0	2	1	0
62	1	1	2	1	0
68	1	0	2	1	1
74	1	1	2	1	1
80	1	0	2	2	1
86	1	1	2	2	1
92	1	0	2	3	1
98	1	1	2	3	1
104	1	0	2	4	1

*XH: Extra heavy insert*

*H: Heavy insert*

*M: Medium insert*



# Boom combinations

## B40: 680-681-682 boom with 7,6 m extended upper boom point

Boom length m	Main boom inserts m								
	4,0 XH No. 680	12,0 XH No. 680	12,0 H No. 680	12,0 M No. 680	3,0* No. 681	6,0* No. 681	6,0** No. 681/682	12,0* No. 681	12,0** No. 681/682
44	1	1	0	0	1	0	1	0	1
50	1	1	0	0	1	1	1	0	1
56	1	1	0	0	1	0	1	1	1
62	1	1	1	0	1	1	1	0	1
68	1	2	1	0	1	0	1	0	1
74	1	2	1	0	1	1	1	0	1
80	1	2	1	1	1	0	1	0	1
86	1	2	1	1	1	1	1	0	1
92	1	2	2	1	1	0	1	0	1
98	1	2	2	1	1	1	1	0	1
104	1	2	2	1	1	0	1	1	1
110	1	2	2	1	1	1	1	1	1

XH: Extra heavy insert

H: Heavy insert

M: Medium insert

\* luffing jib insert

\*\* luffing jib transition insert

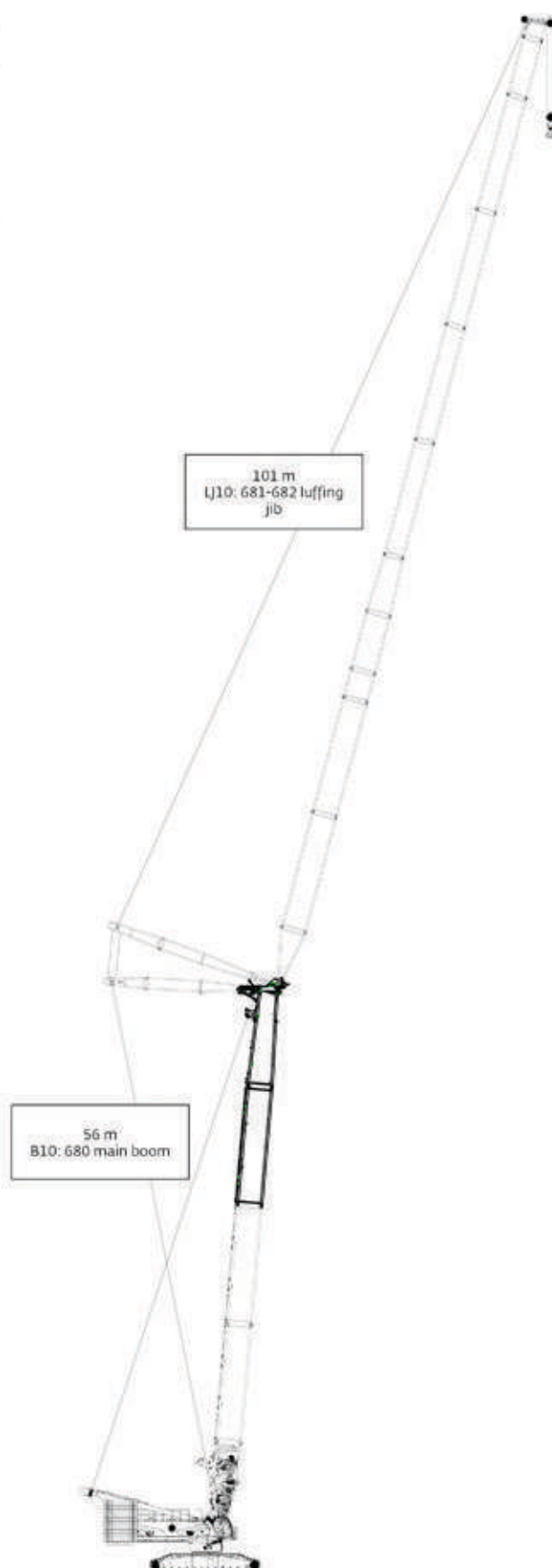
For specific configurations refer to [www.cranelibrary.com](http://www.cranelibrary.com).





## Boom combinations

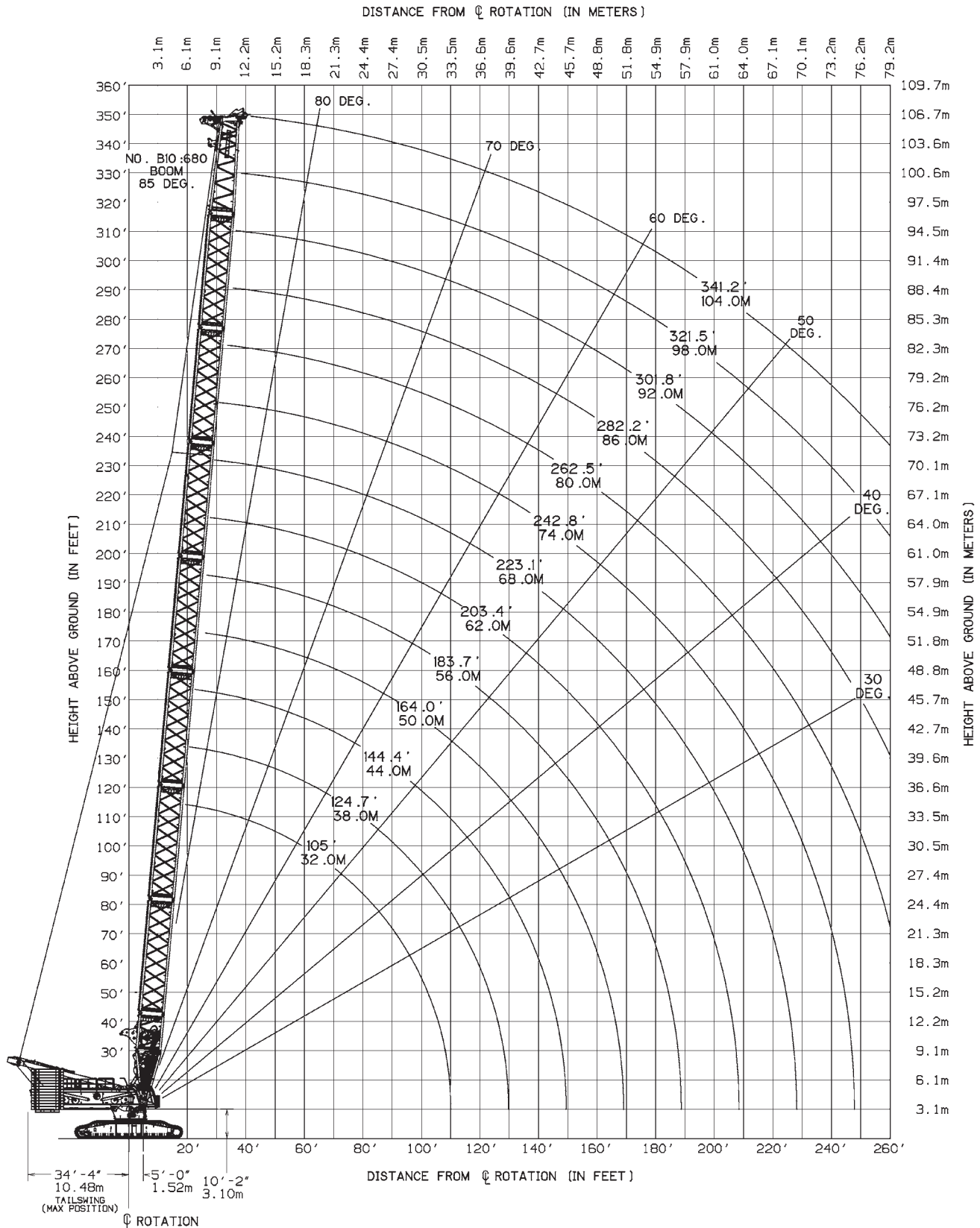
LJ: 681-682 luffing jib combinations					
Luffing jib length m	Luffing jib inserts m				
	3,0 No. 681	6,0 No. 681	6,0 No. 682	12,0 No. 681	12,0 No. 682
26	0	0	0	1	0
29	1	0	0	1	0
35	1	1	0	1	0
41	1	0	0	2	0
47	1	1	0	2	0
53	1	1	1	2	0
59	1	1	0	2	1
65	1	1	1	2	1
71	1	1	0	2	2
77	1	1	1	2	2
83	1	1	0	2	3
89	1	1	1	2	3
95	1	1	0	2	4
101	1	1	1	2	4



THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.  
The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane

# Main boom range diagram

## B10: 680 boom



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# Main boom load chart

## B10: 680 boom with series 3

400 t counterweight

360° Rating

Radius m	kg x 1000												
	Boom length m												
	32	38	44	50	56	62	68	74	80	86	92	98	104
5,8	650,0	—	—	—	—	—	—	—	—	—	—	—	—
6	608,9	—	—	—	—	—	—	—	—	—	—	—	—
7	528,1	519,9	—	—	—	—	—	—	—	—	—	—	—
8	473,0	466,2	458,0	449,5	441,1	—	—	—	—	—	—	—	—
9	428,0	422,8	416,2	409,5	402,8	394,8	—	—	—	—	—	—	—
10	390,8	386,6	381,3	375,9	370,5	363,9	355,1	347,0	—	—	—	—	—
11	359,4	356,0	351,6	347,2	342,8	337,4	330,0	323,3	318,2	274,0	235,0	—	—
12	332,5	329,7	326,0	322,4	318,8	314,4	308,1	302,4	298,0	272,6	233,7	201,2	—
14	289,0	287,1	284,4	281,9	279,3	276,2	271,5	267,4	264,2	261,3	231,2	199,0	172,6
16	255,4	254,0	251,9	250,1	248,2	246,0	242,3	239,3	236,9	233,8	226,6	196,9	170,7
18	228,6	227,7	225,9	224,6	223,2	221,5	218,5	216,3	214,4	212,0	210,2	194,8	168,9
20	201,9	204,2	204,4	203,6	202,6	201,3	198,8	197,1	195,7	193,8	191,7	190,9	167,1
22	178,4	180,3	181,6	183,6	184,5	184,3	182,2	180,9	179,7	178,2	176,5	175,7	165,3
24	159,7	161,5	162,5	164,0	165,7	167,5	167,0	167,0	166,0	164,8	163,5	162,9	160,8
26	144,5	146,2	147,0	148,4	149,9	151,2	151,3	152,6	153,6	153,2	152,1	150,4	148,1
28	131,8	133,4	134,1	135,4	136,8	138,0	138,0	139,2	140,1	141,4	141,5	135,9	133,9
30	121,1	122,6	123,3	124,5	125,7	126,9	126,8	127,9	128,7	129,7	129,2	123,4	121,5
34	—	105,3	105,8	106,9	108,0	109,0	108,9	109,9	110,6	108,8	107,1	102,6	101,0
38	—	92,0	92,5	93,5	94,5	95,4	95,2	95,6	94,1	91,5	89,8	86,2	84,7
42	—	—	81,7	82,9	83,8	84,1	84,0	81,3	80,0	77,4	75,9	72,4	71,1
46	—	—	—	71,6	72,5	71,8	71,9	69,5	68,3	65,8	64,3	61,1	59,8
50	—	—	—	—	61,1	61,1	61,6	59,4	58,4	56,0	54,6	51,5	50,2
54	—	—	—	—	50,2	51,6	52,6	50,7	49,8	47,6	46,3	43,3	42,1
58	—	—	—	—	—	42,7	44,6	43,0	42,4	40,3	39,1	36,2	35,0
62	—	—	—	—	—	—	37,1	36,0	35,7	33,8	32,7	30,0	28,8
66	—	—	—	—	—	—	29,7	29,6	29,6	28,0	27,0	24,5	23,4
70	—	—	—	—	—	—	—	23,3	24,1	22,7	21,9	19,5	18,5
74	—	—	—	—	—	—	—	—	18,7	17,8	17,2	15,0	14,0
78	—	—	—	—	—	—	—	—	—	13,1	12,9	10,8	10,0
82	—	—	—	—	—	—	—	—	—	8,5	8,8	—	—

## B10: 680 boom with series 2

300 t counterweight

360° Rating

Radius m	kg x 1000												
	Boom length m												
	32	38	44	50	56	62	68	74	80	86	92	98	104
5,8	650,0	—	—	—	—	—	—	—	—	—	—	—	—
6	591,8	—	—	—	—	—	—	—	—	—	—	—	—
7	505,6	497,9	—	—	—	—	—	—	—	—	—	—	—
8	452,8	446,4	438,7	430,8	423,0	—	—	—	—	—	—	—	—
10	374,0	370,1	365,1	360,1	355,0	348,9	340,6	333,1	—	—	—	—	—
12	318,1	315,6	312,1	308,7	305,3	301,2	295,3	290,1	285,9	272,6	233,7	201,2	—
14	275,2	273,9	271,8	269,8	267,4	264,6	260,1	256,4	253,3	249,8	231,2	199,0	172,6
16	228,0	231,4	233,6	235,9	235,6	235,1	232,1	229,3	227,0	224,1	223,2	196,9	170,7
18	194,0	196,4	197,8	200,0	202,6	205,0	204,9	205,7	205,4	203,2	200,8	194,8	168,9
20	168,7	170,9	172,1	174,0	175,9	177,8	178,1	179,8	181,2	183,0	183,4	182,6	167,1
22	149,1	151,0	152,1	153,8	155,5	157,1	157,3	158,9	160,0	161,5	162,7	165,7	163,3
24	133,4	135,2	136,1	137,6	139,2	140,7	140,8	142,2	143,3	144,6	145,6	147,9	149,4
26	120,5	122,2	123,1	124,5	125,9	127,3	127,3	128,6	129,6	130,8	131,7	133,7	133,0
28	109,8	111,4	112,2	113,5	114,8	116,1	116,1	117,2	118,1	119,2	119,8	119,1	118,2
30	100,8	102,3	103,0	104,2	105,4	106,6	106,6	107,6	108,5	108,8	108,2	106,6	105,7
34	—	87,7	88,3	89,4	90,4	91,5	91,4	91,4	90,6	89,1	88,3	86,8	85,8
38	—	76,6	77,1	78,0	78,9	77,8	77,7	76,2	75,5	73,9	73,1	71,6	70,6
42	—	—	68,2	68,2	67,0	65,8	65,7	64,3	63,6	62,0	61,1	59,6	58,6
46	—	—	—	58,3	57,3	56,2	56,1	54,7	53,9	52,3	51,4	49,8	48,9
50	—	—	—	—	49,3	48,2	48,1	46,7	45,9	44,3	43,4	41,8	40,8
54	—	—	—	—	42,4	41,4	41,3	39,9	39,2	37,6	36,7	35,0	34,1
58	—	—	—	—	—	35,5	35,5	34,1	33,4	31,8	30,9	29,3	28,3
62	—	—	—	—	—	—	30,5	29,1	28,4	26,8	26,0	24,3	23,3
66	—	—	—	—	—	—	26,0	24,7	24,1	22,5	21,6	19,9	19,0
70	—	—	—	—	—	—	—	20,8	20,2	18,6	17,8	16,1	15,1
74	—	—	—	—	—	—	—	—	16,7	15,2	14,4	12,7	11,7
78	—	—	—	—	—	—	—	—	—	12,1	11,3	9,6	8,7
82	—	—	—	—	—	—	—	—	—	—	8,5	—	—

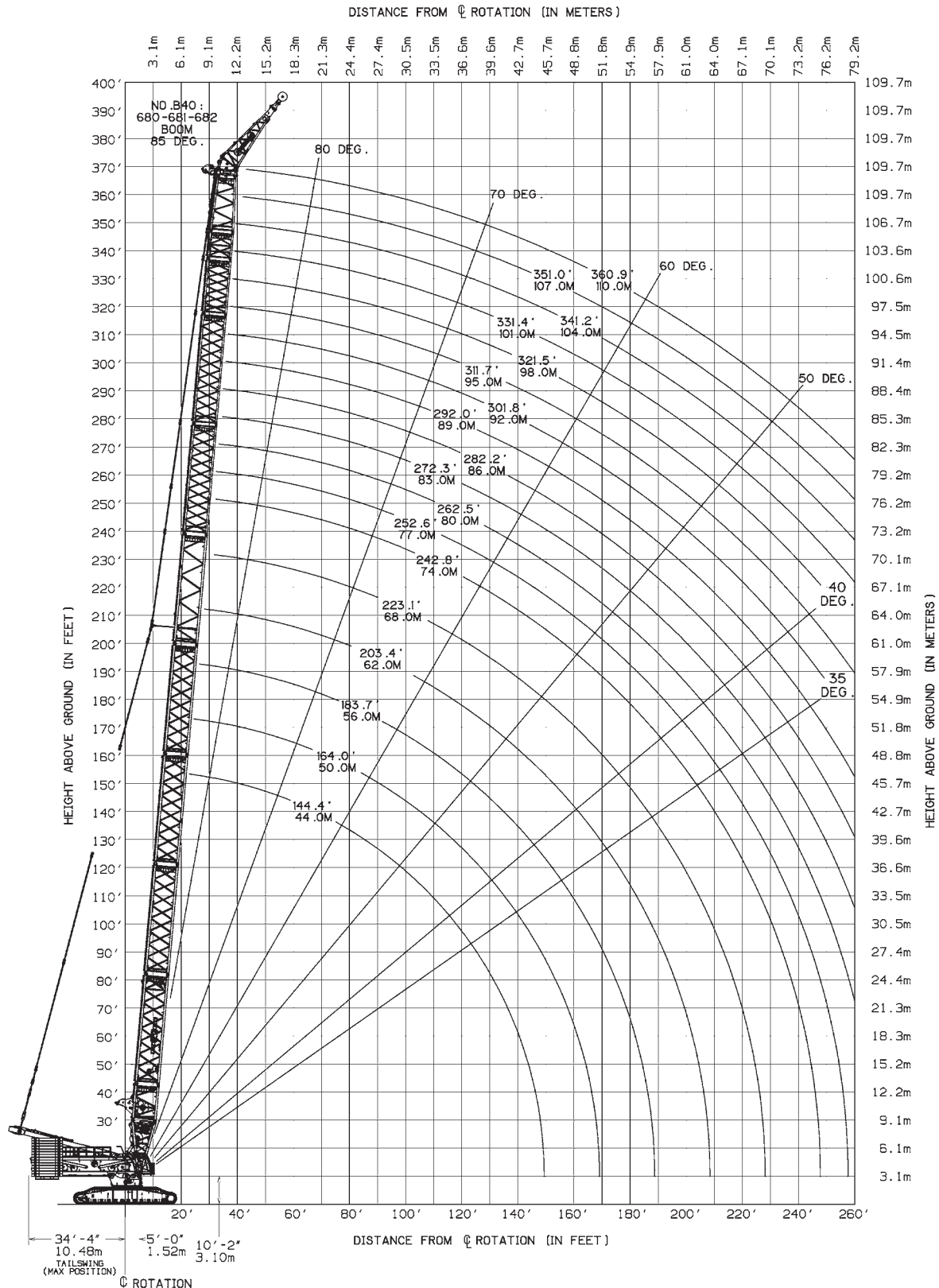
For complete chart, refer to [www.cranelibrary.com](http://www.cranelibrary.com).

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# Extended upper boom point range diagram

**B40: 680-681-682 with 7,6 m extended upper boom point**



# Extended upper boom point load charts

**B40: 680-681-682 boom with 7,6 m extended upper boom point series 2**

300 t counterweight

360° Rating

kg x 1000 28° Offset

Radius m	Boom length m											
	44	50	56	62	68	74	80	86	92	98	104	110
9,8	132,8	—	—	—	—	—	—	—	—	—	—	—
10	132,8	—	—	—	—	—	—	—	—	—	—	—
12	132,8	132,8	132,8	132,8	132,8	—	—	—	—	—	—	—
14	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	—	—	—	—
16	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	130,9	116,8
18	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	126,2	114,1
20	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	121,8	109,7
22	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	131,5	117,7	105,7
24	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	127,7	113,9	102,0
26	124,9	125,8	127,1	128,1	129,8	130,7	131,3	132,2	132,3	124,1	110,4	98,6
28	114,0	114,9	116,0	116,9	118,4	119,2	119,8	121,2	122,9	120,6	107,1	95,4
30	105,0	105,8	106,8	107,6	109,0	109,8	110,2	111,5	112,9	114,1	104,0	92,3
34	90,5	91,2	92,1	92,8	94,0	94,6	95,0	96,2	97,3	97,1	97,3	86,9
38	79,4	80,1	80,8	81,4	82,5	83,1	83,3	83,8	82,3	81,5	81,3	80,4
42	70,6	71,2	71,9	72,5	73,4	73,5	72,3	71,6	70,1	69,3	69,1	68,2
46	63,5	64,1	64,7	65,2	64,3	63,6	62,5	61,8	60,3	59,4	59,2	58,3
50	—	58,2	58,5	58,1	56,2	55,5	54,3	53,7	52,1	51,2	51,0	50,1
54	—	—	51,7	51,3	49,4	48,7	47,5	46,8	45,2	44,4	44,1	43,2
58	—	—	—	45,4	43,5	42,9	41,7	41,0	39,4	38,5	38,3	37,3
62	—	—	—	40,3	38,4	37,8	36,6	35,9	34,3	33,4	33,2	32,2
66	—	—	—	—	34,0	33,4	32,2	31,5	29,9	29,0	28,8	27,8
70	—	—	—	—	—	29,4	28,3	27,6	26,0	25,1	24,9	23,9
74	—	—	—	—	—	25,9	24,8	24,1	22,5	21,7	21,4	20,5
78	—	—	—	—	—	—	21,6	21,0	19,4	18,6	18,3	17,4
82	—	—	—	—	—	—	—	18,2	16,6	15,8	15,5	14,6
86	—	—	—	—	—	—	—	—	14,0	13,2	13,0	12,1
90	—	—	—	—	—	—	—	—	—	10,9	10,7	9,8

**B40: 680-681-682 boom with 7,6 m extended upper boom point series 2**

300 t counterweight

360° Rating

kg x 1000 35° Offset

Radius m	Boom length m											
	44	50	56	62	68	74	80	86	92	98	104	110
10,4	132,8	—	—	—	—	—	—	—	—	—	—	—
12	132,8	132,8	132,8	132,8	—	—	—	—	—	—	—	—
14	132,8	132,8	132,8	132,8	132,8	132,8	132,8	—	—	—	—	—
16	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	124,3	—
18	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	131,7	120,0	109,2
20	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	128,2	116,1	105,2
22	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	124,7	112,4	101,6
24	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	132,8	121,3	109,0	98,2
26	124,9	125,9	127,2	128,1	129,9	130,8	131,5	132,3	132,3	118,2	105,8	95,0
28	114,1	115,0	116,1	117,0	118,5	119,3	119,9	121,3	122,9	115,2	102,8	92,0
30	105,0	105,9	106,9	107,7	109,1	109,8	110,3	111,6	113,0	112,3	100,0	89,2
34	90,5	91,3	92,1	92,8	94,0	94,7	95,1	96,2	97,4	97,8	94,7	84,2
38	79,4	80,1	80,8	81,5	82,5	83,1	83,4	84,3	82,9	82,1	81,9	79,7
42	70,6	71,3	71,9	72,5	73,4	73,7	72,8	72,1	70,7	69,9	69,6	68,8
46	—	64,2	64,7	65,2	64,6	64,0	62,9	62,2	60,7	59,9	59,7	58,8
50	—	58,3	58,7	58,3	56,5	55,8	54,7	54,0	52,5	51,7	51,4	50,5
54	—	—	51,9	51,4	49,6	48,9	47,8	47,1	45,6	44,7	44,5	43,6
58	—	—	—	45,5	43,7	43,1	41,9	41,2	39,7	38,8	38,6	37,7
62	—	—	—	—	38,6	38,0	36,8	36,1	34,6	33,7	33,5	32,6
66	—	—	—	—	—	33,5	32,3	31,7	30,1	29,3	29,0	28,1
70	—	—	—	—	—	29,5	28,4	27,7	26,2	25,3	25,1	24,2
74	—	—	—	—	—	—	24,9	24,2	22,7	21,8	21,6	20,7
78	—	—	—	—	—	—	—	21,1	19,5	18,7	18,5	17,6
82	—	—	—	—	—	—	—	—	16,7	15,9	15,7	14,8
86	—	—	—	—	—	—	—	—	—	13,3	13,1	12,2
90	—	—	—	—	—	—	—	—	—	—	10,8	9,9
94	—	—	—	—	—	—	—	—	—	—	8,7	7,8

For complete chart, refer to [www.cranelibrary.com](http://www.cranelibrary.com).

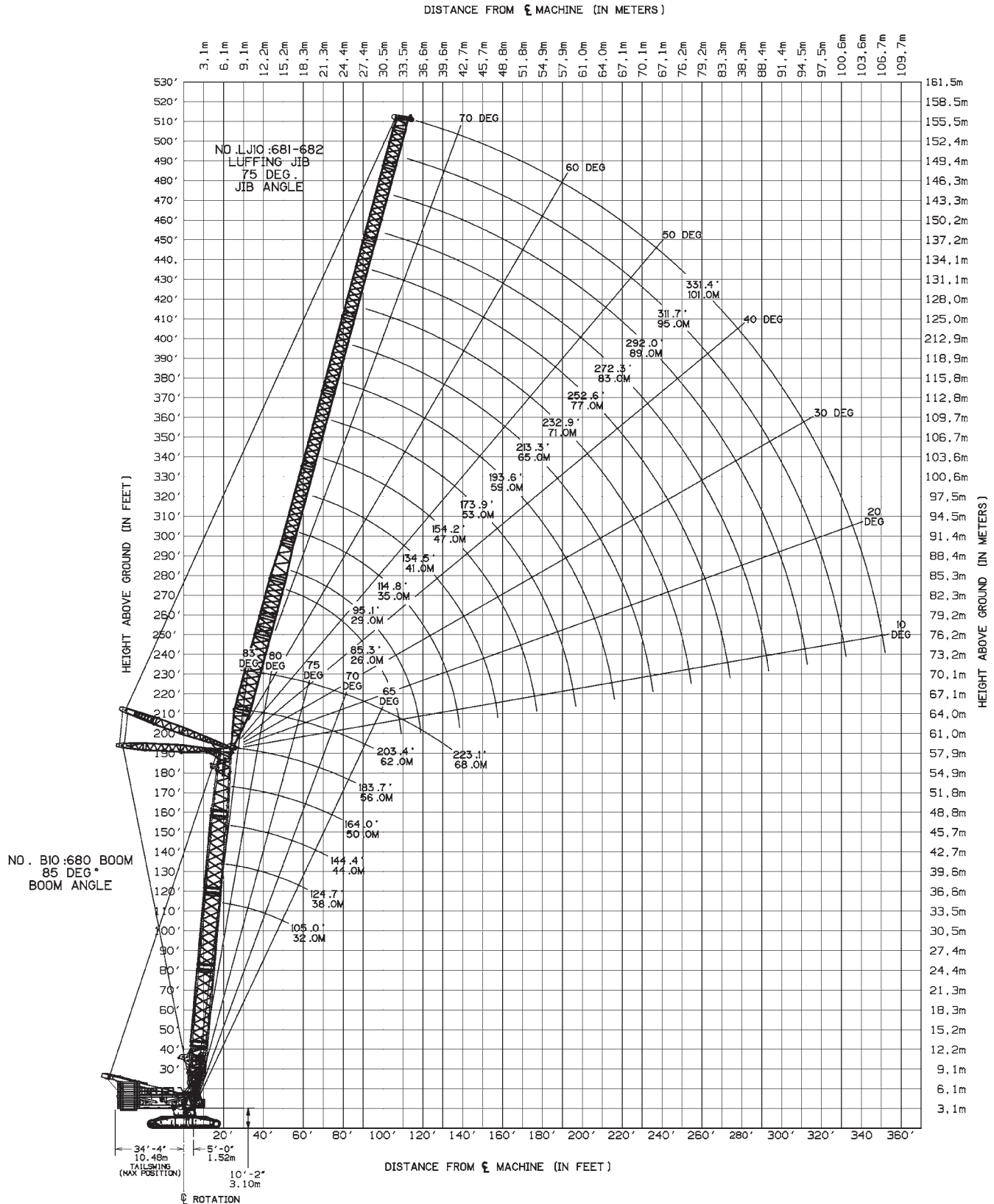
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# Luffing jib range diagram

LJ10: 681-682 luffing jib on B10:680 boom



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# Luffing jib load charts

## LJ10: 681-682 luffing jib on B10:680 boom series 3

400 t counterweight

360° Rating

kg x 1000

85° boom angle

38 m boom length					
Radius m	luffing jib length m				
	26	41	59	83	101
15,2	275,0	—	—	—	—
16	239,6	—	—	—	—
18	216,5	—	—	—	—
20	197,8	191,8	—	—	—
22	181,9	177,0	—	—	—
24	168,4	164,3	157,3	—	—
26	155,1	153,2	147,2	—	—
28	142,0	143,2	138,3	—	—
30	130,9	132,4	130,4	91,5	—
34	—	114,4	115,3	90,2	55,6
38	—	100,7	101,4	88,8	54,4
42	—	90,0	90,5	86,7	53,3
46	—	—	81,6	77,3	52,1
50	—	—	72,9	68,6	51,0
54	—	—	65,4	61,2	49,9
58	—	—	58,9	54,9	48,8
62	—	—	53,2	49,4	45,5
66	—	—	—	44,5	40,7
70	—	—	—	40,2	36,4
74	—	—	—	36,4	32,6
78	—	—	—	32,9	29,2
82	—	—	—	29,7	26,1
86	—	—	—	26,8	23,3
90	—	—	—	—	20,8
94	—	—	—	—	18,4
98	—	—	—	—	16,2
102	—	—	—	—	14,0
106	—	—	—	—	10,3

50 m boom length					
Radius m	luffing jib length m				
	26	41	59	83	101
15,2	242,3	—	—	—	—
16	233,4	—	—	—	—
18	211,8	—	—	—	—
20	194,0	186,6	—	—	—
22	178,9	172,8	—	—	—
24	165,9	160,8	—	—	—
26	154,7	150,4	144,0	—	—
28	144,4	141,1	135,5	—	—
30	132,8	132,9	128,0	—	—
34	—	116,1	115,2	79,5	—
38	—	102,2	101,8	78,5	49,8
42	—	91,2	89,5	77,4	48,9
46	—	82,4	79,3	74,4	48,0
50	—	—	70,7	66,0	47,1
54	—	—	63,5	58,9	46,2
58	—	—	57,1	52,8	45,2
62	—	—	51,6	47,5	43,5
66	—	—	—	42,8	38,7
70	—	—	—	38,6	34,6
74	—	—	—	34,8	30,9
78	—	—	—	31,4	27,6
82	—	—	—	28,4	24,6
86	—	—	—	25,5	21,9
90	—	—	—	—	19,5
94	—	—	—	—	17,2
98	—	—	—	—	15,0
102	—	—	—	—	13,0
106	—	—	—	—	10,9

62 m boom length				
Radius m	luffing jib length m			
	26	41	59	83
16,8	217,9	—	—	—
18	206,3	—	—	—
20	189,5	—	—	—
22	175,3	168,7	—	—
24	163,0	157,3	—	—
26	152,3	147,5	127,5	—
28	142,9	138,7	126,7	—
30	134,4	130,9	124,9	—
34	—	117,4	112,7	71,3
38	—	102,8	98,0	70,4
42	—	90,6	86,2	69,4
46	—	80,4	76,4	68,2
50	—	—	68,1	63,1
54	—	—	61,1	56,2
58	—	—	55,0	50,3
62	—	—	49,6	45,2
66	—	—	—	40,6
70	—	—	—	36,6
74	—	—	—	33,0
78	—	—	—	29,7
82	—	—	—	26,8
86	—	—	—	24,0
86	—	—	—	25,5

68 m boom length			
Radius m	luffing jib length m		
	26	41	59
16,8	213,8	—	—
18	202,7	—	—
20	186,6	—	—
22	172,8	161,1	—
24	160,9	155,4	—
26	150,6	145,6	108,6
28	141,4	137,1	107,8
30	133,3	129,5	106,8
34	—	115,6	104,0
38	—	100,8	95,6
42	—	88,9	84,1
46	—	79,0	74,6
50	—	—	66,6
54	—	—	59,7
58	—	—	53,7
62	—	—	48,5
66	—	—	43,8

For complete chart, refer to [www.cranelibrary.com](http://www.cranelibrary.com).

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# Luffing jib load charts

## LJ10: 681-682 luffing jib on B10: 680 boom series 2

300 t counterweight

360° Rating

kg x 1000

85° boom angle

38 m boom length					
Radius (m)	luffing jib length (m)				
	26	41	59	83	101
15.24	239,0	—	—	—	—
16	229,9	—	—	—	—
18	207,7	—	—	—	—
20	182,8	183,8	—	—	—
22	162,2	164,4	—	—	—
24	145,7	147,6	149,0	—	—
26	132,3	134,0	135,4	—	—
28	121,1	122,6	123,9	—	—
30	111,6	113,1	114,1	91,5	—
34	—	97,7	98,6	90,2	55,6
38	—	86,0	86,7	86,2	54,4
42	—	76,8	77,3	74,7	53,3
46	—	—	68,2	65,4	52,1
50	—	—	60,4	57,8	51,0
54	—	—	53,9	51,3	48,8
58	—	—	48,3	45,8	43,2
62	—	—	43,4	41,0	38,4
66	—	—	—	36,9	34,3
70	—	—	—	33,2	30,6
74	—	—	—	30,0	27,4
78	—	—	—	27,0	24,5
82	—	—	—	24,3	21,9
86	—	—	—	21,9	19,5
90	—	—	—	—	17,4
94	—	—	—	—	15,4
98	—	—	—	—	13,6
102	—	—	—	—	11,9
106	—	—	—	—	9,3

50 m boom length					
Radius (m)	luffing jib length (m)				
	26	41	59	83	101
15.24	232,6	—	—	—	—
16	224,0	—	—	—	—
18	203,2	—	—	—	—
20	185,8	179,3	—	—	—
22	165,0	165,4	—	—	—
24	148,2	150,3	—	—	—
26	134,6	136,2	137,7	—	—
28	123,2	124,7	125,9	—	—
30	113,6	114,9	116,0	—	—
34	—	99,4	100,2	79,5	—
38	—	87,5	88,0	78,5	49,8
42	—	78,1	76,6	74,0	48,9
46	—	69,4	67,4	64,5	48,0
50	—	—	59,8	56,9	47,1
54	—	—	53,3	50,6	46,2
58	—	—	47,8	45,1	42,4
62	—	—	42,9	40,4	37,7
66	—	—	—	36,3	33,6
70	—	—	—	32,7	30,0
74	—	—	—	29,4	26,8
78	—	—	—	26,5	24,0
82	—	—	—	23,9	21,4
86	—	—	—	21,5	19,0
90	—	—	—	—	16,9
94	—	—	—	—	15,0
98	—	—	—	—	13,2
102	—	—	—	—	11,5
106	—	—	—	—	9,8

62 m boom length				
Radius (m)	luffing jib length (m)			
	26	41	59	83
16.76	209,3	—	—	—
18	198,1	—	—	—
20	181,9	—	—	—
22	167,4	162,1	—	—
24	151,1	151,1	—	—
26	137,0	138,7	127,5	—
28	125,4	126,9	125,9	—
30	115,6	117,0	118,5	—
34	—	101,2	101,0	71,3
38	—	89,1	86,8	70,4
42	—	78,1	75,6	69,4
46	—	68,7	66,4	63,4
50	—	—	58,9	55,9
54	—	—	52,5	49,6
58	—	—	47,0	44,3
62	—	—	42,2	39,6
66	—	—	—	35,6
70	—	—	—	32,0
74	—	—	—	28,8
78	—	—	—	25,9
82	—	—	—	23,3
86	—	—	—	20,9

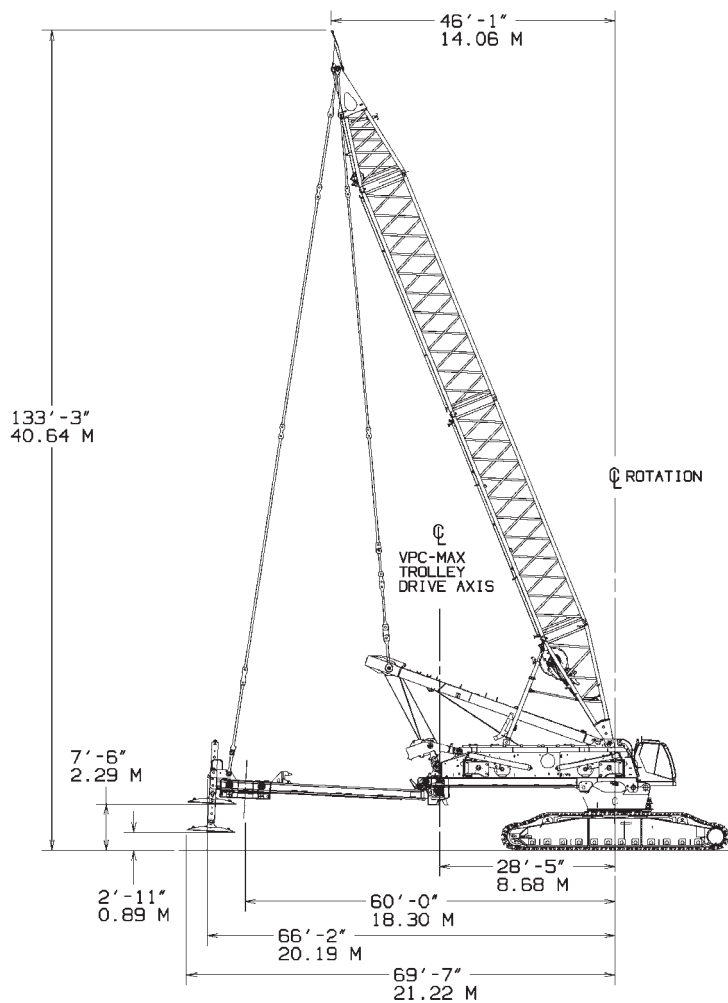
68 m boom length			
Radius (m)	luffing jib length (m)		
	26	41	59
16.76	205,4	—	—
18	194,7	—	—
20	179,2	—	—
22	166,0	158,8	—
24	152,0	149,2	—
26	137,6	139,3	108,6
28	126,0	127,4	107,8
30	116,1	117,5	106,8
34	—	101,6	100,7
38	—	88,9	86,2
42	—	77,6	75,0
46	—	68,3	65,9
50	—	—	58,4
54	—	—	52,1
58	—	—	46,7
62	—	—	41,9
66	—	—	37,6

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.

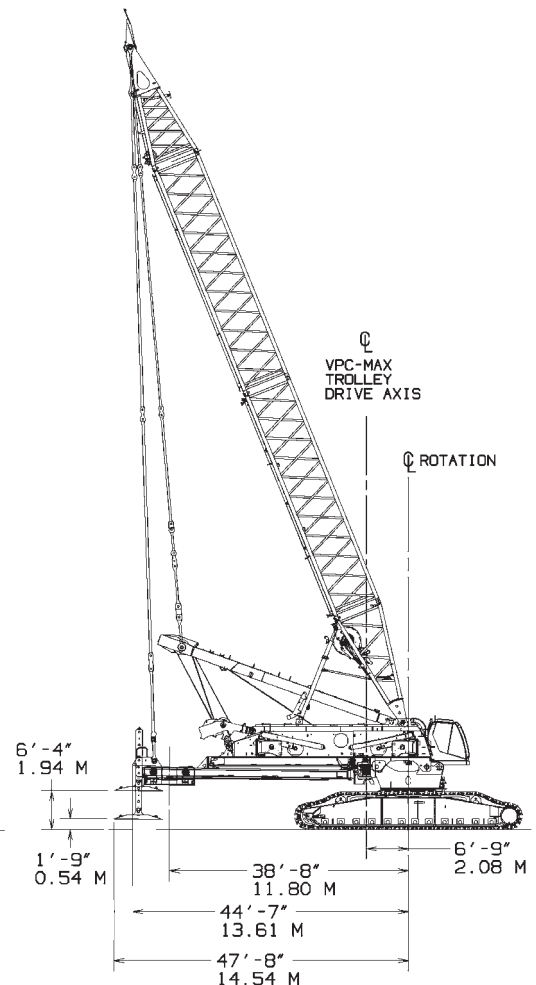
The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane

# Outline dimensions

VPC-MAX™



**VPC-MAX BEAM: MAX POSITION  
CWT TRAY: MAX POSITION**



**VPC-MAX BEAM: MIN POSITION  
CWT TRAY: MAX POSITION**

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[illegible]

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*The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane*



# Boom combinations

VPC-MAX™

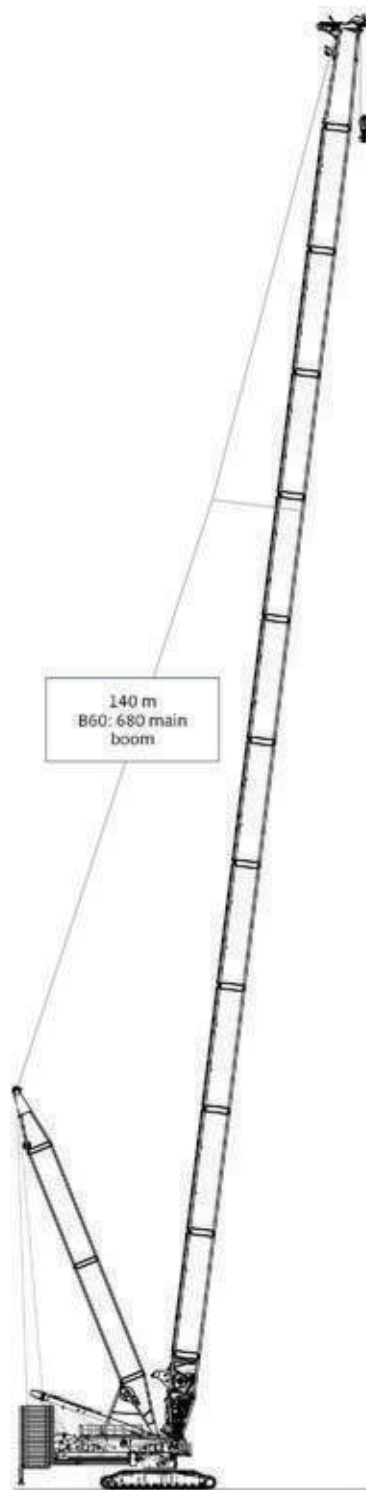
**B60: 680 VPC-MAX™ main boom combinations**

Boom length m	Main boom inserts m				
	4,0 XH No. 680	6,0 H No. 680	12,0 XH No. 680	12,0 H No. 680	12,0 M No. 680
44	1	0	1	1	0
50	1	1	1	1	0
56	1	0	2	1	0
62	1	1	2	1	0
68	1	0	2	1	1
74	1	1	2	1	1
80	1	0	2	2	1
86	1	1	2	2	1
92	1	0	2	3	1
98	1	1	2	3	1
104	1	0	2	4	1
110	1	1	2	4	1
116	1	0	2	4	2
122	1	1	2	4	2
128	1	0	2	4	3
134	1	1	2	4	3
140	1	0	2	4	4
146	1	1	2	4	4

*XH: Extra heavy insert*

*H: Heavy insert*

*M: Medium insert*



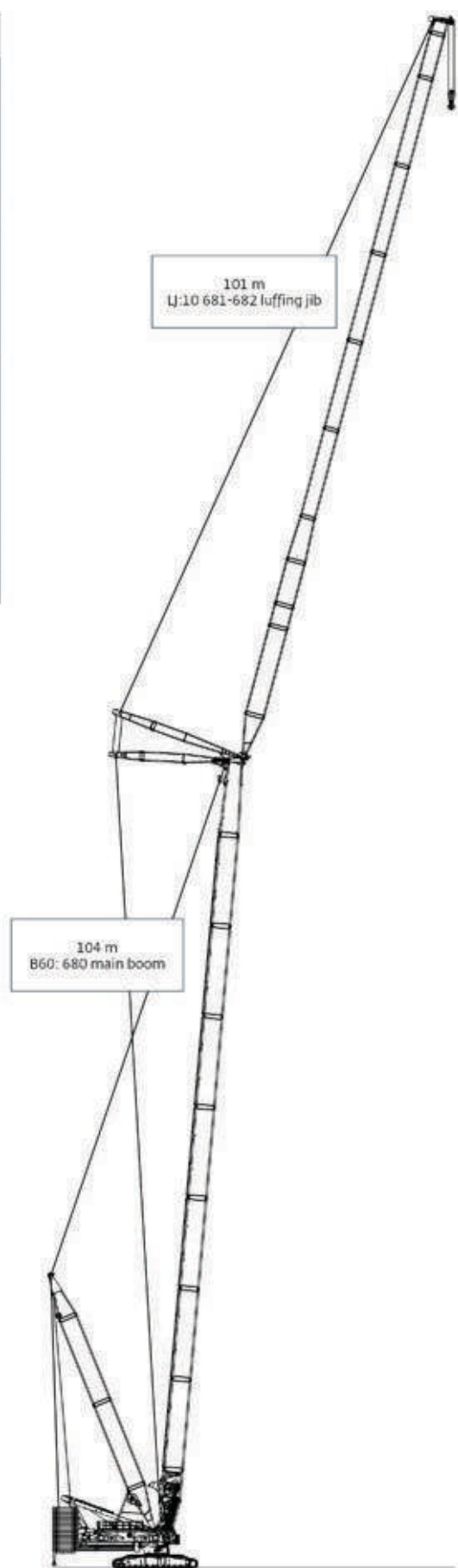
# Boom combinations

VPC-MAX™

## LJ10: 681-682 VPC-MAX™ luffing jib combinations

Luffing jib length m	Luffing jib inserts m				
	3,0 No. 681	6,0 No. 681	6,0* No. 682	12,0 No. 681	12,0* No. 682
26	0	0	0	1	0
29	1	0	0	1	0
35	1	1	0	1	0
41	1	0	0	2	0
47	1	1	0	2	0
53	1	1	1	2	0
59	1	1	0	2	1
65	1	1	1	2	1
71	1	1	0	2	2
77	1	1	1	2	2
83	1	1	0	2	3
89	1	1	1	2	3
95	1	1	0	2	4
101	1	1	1	2	4

\* Shallow inserts



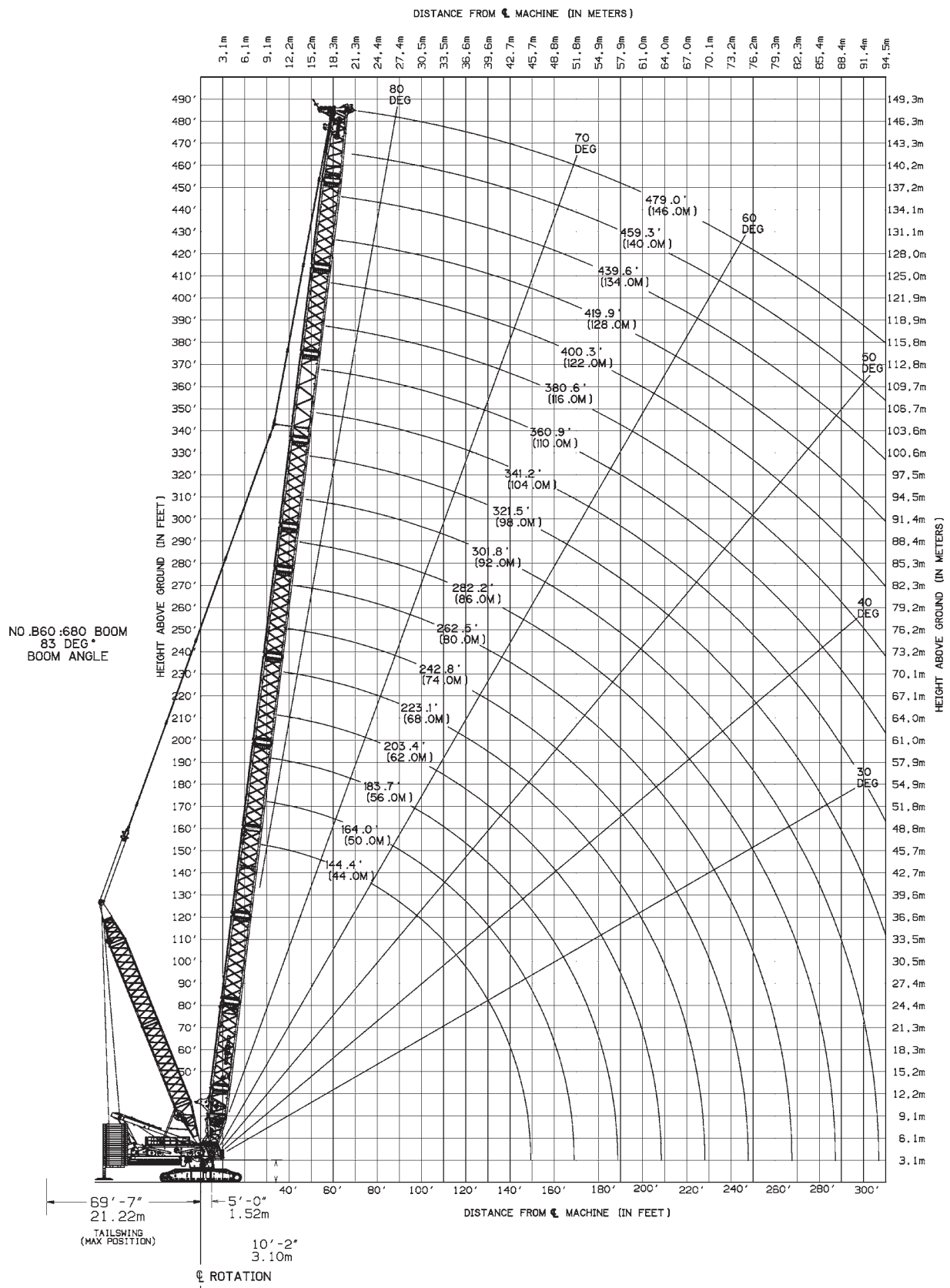
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# Main boom range diagram

VPC-MAX™

## B60:680 boom with VPC-MAX™



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# Main boom load charts

VPC-MAX™

B60:680 boom with VPC-MAX™										
400t Counterweight										
360° Rating	kg x 1000									
Radius (m)	Boom Length (m)									
	44 m	56 m	68 m	80 m	92 m	104 m	116 m	128 m	140 m	146 m
8,5	700,0	—	—	—	—	—	—	—	—	—
9,0	672,1	—	—	—	—	—	—	—	—	—
10,0	639,0	577,5	—	—	—	—	—	—	—	—
11,0	629,2	555,3	—	—	—	—	—	—	—	—
12,0	629,2	539,1	483,5	—	—	—	—	—	—	—
14,0	625,7	538,4	457,3	367,1	—	—	—	—	—	—
16,0	573,4	538,3	458,9	367,1	267,5	—	—	—	—	—
18,0	504,7	504,2	458,9	367,1	267,5	209,2	—	—	—	—
20,0	452,3	448,3	443,5	367,1	267,5	209,2	157,9	119,8	—	—
22,0	409,5	405,5	403,8	367,1	267,5	209,2	157,9	119,8	97,5	85,4
24,0	373,6	369,8	368,1	357,6	267,5	209,2	157,9	119,8	97,5	85,3
26,0	343,2	339,4	337,7	333,1	267,5	209,2	157,9	119,8	97,4	85,3
28,0	316,9	313,2	311,5	309,1	267,5	209,2	157,9	119,8	97,3	85,2
30,0	293,4	290,3	288,7	286,1	267,5	209,2	157,9	119,8	97,2	85,0
34,0	250,3	247,7	246,9	245,1	243,2	209,2	157,9	119,6	97,0	84,8
38,0	217,1	214,5	213,5	211,7	209,6	206,7	157,9	119,3	96,7	84,5
42,0	190,7	188,2	187,2	185,4	183,2	180,8	157,8	119,1	96,4	84,2
46,0	—	166,9	165,9	164,0	161,8	159,4	157,0	118,7	96,0	83,9
50,0	—	149,2	148,2	146,3	144,1	141,7	140,3	118,3	95,6	83,6
54,0	—	134,3	133,4	131,5	129,3	126,8	125,2	117,9	95,3	83,0
58,0	—	—	120,7	118,9	116,6	114,1	112,6	110,8	94,5	81,9
62,0	—	—	109,8	107,9	105,7	103,2	101,6	99,8	93,3	80,9
66,0	—	—	100,1	98,4	96,1	93,7	92,1	90,2	88,9	79,9
70,0	—	—	—	90,0	87,7	85,3	83,7	81,8	79,9	78,0
74,0	—	—	—	82,5	80,3	77,8	76,2	74,4	72,4	70,7
78,0	—	—	—	—	73,6	71,2	69,6	67,7	65,8	64,0
82,0	—	—	—	—	67,6	65,2	63,6	61,8	59,8	58,1
86,0	—	—	—	—	62,1	59,8	58,2	56,4	54,4	52,7
90,0	—	—	—	—	—	54,8	53,3	51,5	49,5	47,8
94,0	—	—	—	—	—	50,3	48,8	47,0	45,1	43,3
98,0	—	—	—	—	—	46,1	44,7	42,9	41,0	39,2
102,0	—	—	—	—	—	—	40,9	39,1	37,2	35,4
106,0	—	—	—	—	—	—	37,4	35,6	33,7	32,0
110,0	—	—	—	—	—	—	34,2	32,4	30,5	28,7
114,0	—	—	—	—	—	—	—	29,4	27,5	25,7
118,0	—	—	—	—	—	—	—	26,6	24,7	23,0
122,0	—	—	—	—	—	—	—	23,9	22,1	20,3
126,0	—	—	—	—	—	—	—	—	19,6	17,9
130,0	—	—	—	—	—	—	—	—	17,3	15,3
134,0	—	—	—	—	—	—	—	—	15,1	12,7
138,0	—	—	—	—	—	—	—	—	—	10,3

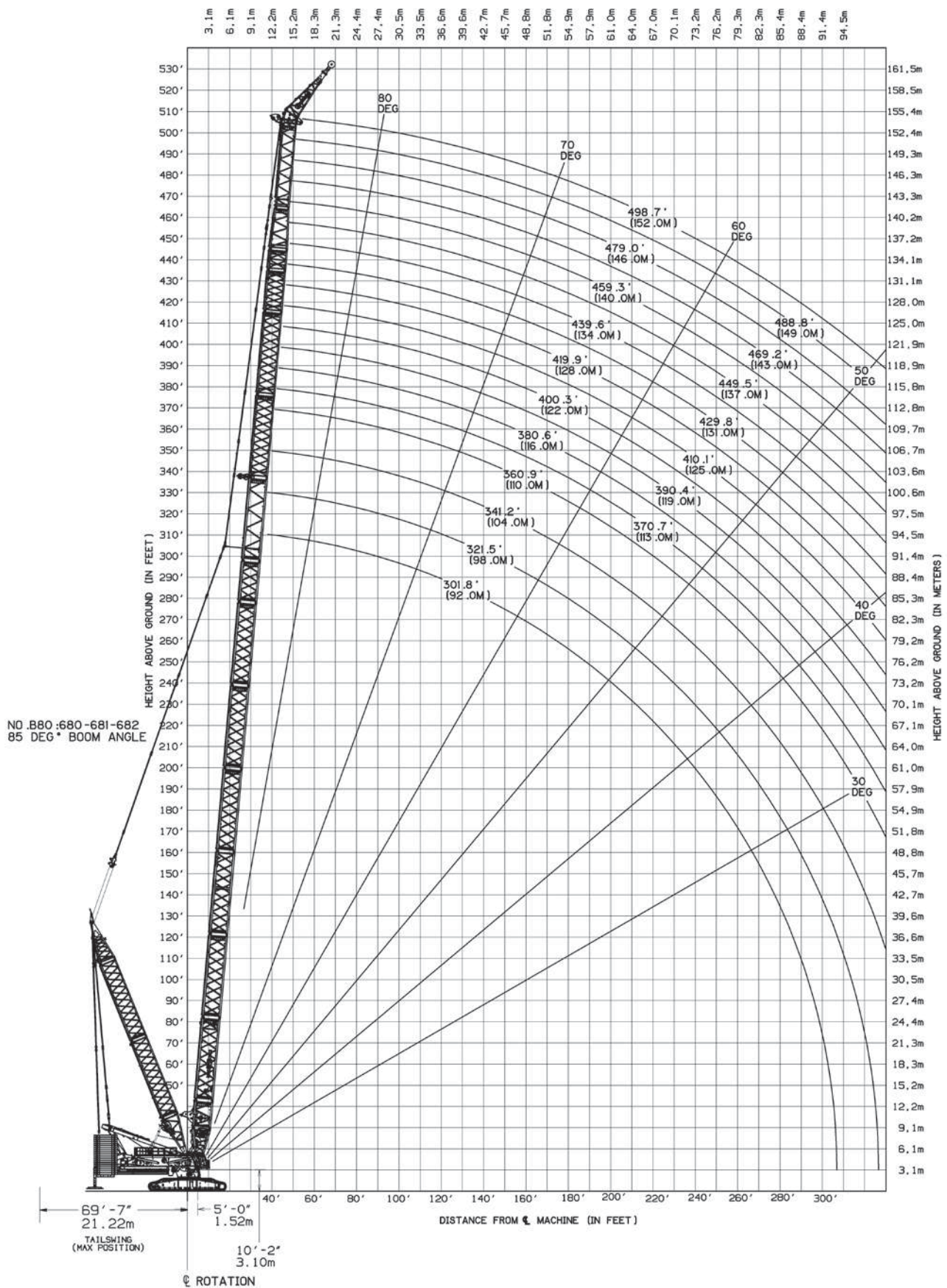
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# Main boom range diagram

VPC-MAX™

B80: 680-681-682 boom with 7,6 m extended upper boom point



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# Main boom extended boom point load charts

VPC-MAX™

B80: 680-681-682 Boom with extended upper boom point											
400 t Counterweight											
360° Rating	kg x 1000 28° Offset										
Radius (m)	Boom Length (m)										
	92	98	104	110	116	122	128	134	140	146	152
15,2	149,0	151,5	152,4								
16	149,0	151,5	152,4								
18	148,7	151,5	152,4	154,9	140,8	124,5					
20	148,2	151,5	152,4	154,9	140,8	124,5	113,8	101,1	89,5	78,8	69,9
22	147,5	151,5	152,4	154,9	140,8	124,4	113,7	101,0	89,4	78,7	69,8
24	146,6	151,5	152,4	154,9	140,8	124,4	113,6	100,9	89,3	78,6	69,6
26	145,6	151,5	152,4	154,9	140,8	124,4	113,5	100,9	89,2	78,5	69,5
28	144,5	151,4	152,1	154,9	140,8	124,3	113,5	100,8	89,1	78,3	69,3
30	143,3	150,9	151,2	154,9	140,8	124,2	113,4	100,7	89,0	78,2	69,1
34	141,0	149,6	149,4	153,4	140,8	124,1	113,2	100,4	88,7	77,9	68,8
38	138,8	148,1	147,2	151,3	136,2	120,3	113,0	100,2	88,4	77,6	68,5
42	136,7	144,4	145,2	146,8	129,9	114,3	112,8	99,9	88,2	77,3	68,2
46	133,5	137,3	141,0	141,8	124,0	108,6	112,5	99,7	87,9	77,0	67,8
50	127,3	131,2	134,8	137,1	118,5	103,4	111,3	97,2	85,3	75,7	66,9
54	121,9	125,7	129,1	127,2	113,5	98,6	107,0	93,1	81,4	72,2	64,0
58	117,1	118,5	118,3	115,1	108,9	94,2	103,0	89,3	77,9	68,9	61,0
62	108,7	108,0	107,8	104,6	103,8	90,2	99,3	85,8	74,6	65,8	58,1
66	99,6	98,9	98,7	95,4	94,6	86,7	92,1	82,5	71,5	63,0	55,4
70	91,5	90,8	90,7	87,4	86,6	83,4	84,0	79,5	68,6	60,3	52,9
74	84,4	83,7	83,6	80,2	79,4	79,4	76,8	76,4	66,0	57,8	50,6
78	78,0	77,3	77,2	73,8	73,1	72,9	70,5	70,2	63,6	55,6	48,4
82	72,3	71,6	71,5	68,1	67,3	67,1	64,7	64,5	61,3	53,5	46,5
86	67,1	66,4	66,3	62,9	62,2	62,0	59,5	59,3	58,5	51,6	44,6
90	—	61,7	61,6	58,2	57,4	57,3	54,8	54,6	53,7	49,8	42,9
94	—	57,3	57,2	53,9	53,1	53,0	50,5	50,3	49,4	48,2	41,4
98	—	—	53,3	49,9	49,2	49,0	46,6	46,4	45,5	45,2	40,0
102	—	—	—	46,3	45,6	45,4	43,0	42,8	41,9	41,6	38,7
106	—	—	—	42,9	42,2	42,0	39,6	39,4	38,5	38,3	37,3
110	—	—	—	—	39,1	38,9	36,5	36,3	35,4	35,2	34,2
114	—	—	—	—	—	36,0	33,6	33,4	32,5	32,3	31,4
118	—	—	—	—	—	—	30,9	30,7	29,9	29,6	28,7
122	—	—	—	—	—	—	—	28,2	27,3	27,1	26,2
126	—	—	—	—	—	—	—	25,8	25,0	24,8	23,9
130	—	—	—	—	—	—	—	—	22,8	22,6	21,7
134	—	—	—	—	—	—	—	—	—	20,5	19,6
138	—	—	—	—	—	—	—	—	—	—	17,6
142	—	—	—	—	—	—	—	—	—	—	15,8

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# Main boom extended boom point load charts

VPC-MAX™

B80: 680-681-682 Boom with extended upper boom point											
400 t Counterweight											
360° Rating	kg x 1000 35° Offset										
Radius (m)	Boom Length (m)										
	92	98	104	110	116	122	128	134	140	146	152
15,2	119,7	121,9	—	—	—	—	—	—	—	—	—
16	119,7	121,9	—	—	—	—	—	—	—	—	—
18	119,7	121,9	124,6	129,4	130,1	—	—	—	—	—	—
20	119,7	121,9	124,6	129,4	130,1	123,4	113,0	100,6	89,2	78,4	69,6
22	119,7	121,9	124,6	129,4	130,1	123,4	113,0	100,6	89,1	78,3	69,5
24	119,7	121,9	124,6	129,4	130,1	123,4	112,9	100,5	89,0	78,2	69,4
26	119,7	121,9	124,6	129,4	130,1	123,4	112,9	100,4	88,9	78,1	69,2
28	119,7	121,9	124,6	129,4	130,1	123,3	112,8	100,3	88,8	77,9	69,1
30	119,7	121,9	124,6	129,4	130,1	123,3	112,8	100,2	88,7	77,8	68,9
34	119,2	121,9	124,6	129,4	130,1	122,0	112,6	100,1	88,5	77,6	68,6
38	118,5	121,9	124,6	129,4	130,1	116,0	112,5	99,9	88,2	77,3	68,3
42	117,3	119,9	122,4	124,6	124,9	110,5	112,3	99,6	88,0	77,0	68,0
46	112,6	115,2	117,7	120,0	119,6	105,3	111,9	98,5	87,0	76,7	67,7
50	108,4	111,0	113,5	115,8	114,5	100,4	107,6	94,5	83,1	74,0	66,0
54	104,7	107,2	109,7	112,0	109,9	95,9	103,7	90,6	79,5	70,7	62,8
58	101,4	103,8	106,2	108,5	105,7	91,8	100,0	87,1	76,2	67,6	59,9
62	98,4	100,8	103,1	104,6	102,0	88,1	96,6	83,7	73,0	64,6	57,1
66	95,7	97,9	99,1	95,7	94,9	84,8	92,6	80,7	70,1	61,9	54,5
70	91,8	91,0	90,9	87,6	86,9	81,8	84,3	77,8	67,3	59,3	52,1
74	84,6	83,9	83,7	80,5	79,7	78,9	77,1	75,2	64,8	56,9	49,9
78	78,2	77,5	77,4	74,0	73,3	73,1	70,7	70,5	62,5	54,8	47,8
82	72,4	71,7	71,6	68,3	67,5	67,3	65,0	64,7	60,4	52,7	45,9
86	—	66,5	66,4	63,1	62,3	62,1	59,7	59,5	58,3	50,9	44,1
90	—	—	61,7	58,3	57,6	57,4	55,0	54,8	53,9	49,2	42,4
94	—	—	57,3	54,0	53,3	53,1	50,7	50,5	49,6	47,7	41,0
98	—	—	—	50,0	49,3	49,1	46,7	46,5	45,7	45,5	39,6
102	—	—	—	—	45,6	45,5	43,1	42,9	42,0	41,8	38,3
106	—	—	—	—	—	42,1	39,7	39,5	38,7	38,4	37,2
110	—	—	—	—	—	—	36,6	36,4	35,5	35,3	34,4
114	—	—	—	—	—	—	33,7	33,5	32,6	32,4	31,5
118	—	—	—	—	—	—	—	30,8	29,9	29,7	28,8
122	—	—	—	—	—	—	—	—	27,4	27,2	26,3
126	—	—	—	—	—	—	—	—	—	24,9	23,9
130	—	—	—	—	—	—	—	—	—	—	21,7
134	—	—	—	—	—	—	—	—	—	—	19,6

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# Main boom extended boom point load charts

VPC-MAX™

B80: 680-681-682 Boom with extended upper boom point											
400 t Counterweight											
360° Rating	kg x 1000 41° Offset										
Radius (m)	Boom Length (m)										
	92	98	104	110	116	122	128	134	140	146	152
15,2	103,6	—	—	—	—	—	—	—	—	—	—
16	103,6	—	—	—	—	—	—	—	—	—	—
18	103,6	106,5	108,2	110,6	—	—	—	—	—	—	—
20	103,6	106,5	108,2	110,6	110,6	110,6	110,6	100,4	89,1	—	—
22	103,6	106,5	108,2	110,6	110,6	110,6	110,6	100,4	89,0	78,1	69,4
24	103,6	106,5	108,2	110,6	110,6	110,6	110,6	100,3	88,9	78,0	69,3
26	103,6	106,5	108,2	110,6	110,6	110,6	110,6	100,3	88,8	77,9	69,1
28	103,6	106,5	108,2	110,6	110,6	110,6	110,6	100,2	88,8	77,8	69,0
30	103,6	106,5	108,2	110,6	110,6	110,6	110,6	100,2	88,7	77,7	68,9
34	103,6	106,5	108,2	110,6	110,6	110,6	110,6	100,0	88,5	77,5	68,6
38	103,6	106,5	108,2	110,6	110,6	110,6	110,6	99,9	88,3	77,2	68,3
42	103,6	106,5	108,2	110,6	110,6	107,5	110,6	99,5	88,1	77,0	68,0
46	102,9	104,7	106,5	108,2	109,9	102,6	108,6	95,8	84,9	76,0	67,7
50	99,8	101,6	103,4	105,1	106,7	98,0	104,7	92,1	81,3	72,6	64,8
54	97,0	98,9	100,6	102,3	103,9	93,8	101,1	88,5	77,9	69,4	61,8
58	94,6	96,4	98,1	99,8	101,4	90,0	97,7	85,1	74,6	66,4	59,0
62	92,4	94,2	95,8	97,5	99,0	86,5	94,5	82,0	71,6	63,5	56,3
66	90,6	92,2	93,8	95,1	95,4	83,3	91,5	79,1	68,8	60,9	53,8
70	88,9	90,4	91,0	87,8	87,1	80,5	84,6	76,4	66,2	58,4	51,4
74	84,7	84,0	83,9	80,6	79,9	77,9	77,4	73,9	63,8	56,2	49,2
78	78,2	77,6	77,5	74,2	73,5	73,3	70,9	70,8	61,6	54,1	47,2
82	—	71,8	71,7	68,4	67,7	67,5	65,2	65,0	59,6	52,1	45,4
86	—	—	66,5	63,2	62,5	62,3	59,9	59,7	57,8	50,3	43,6
90	—	—	—	58,4	57,7	57,5	55,2	55,0	54,1	48,7	42,0
94	—	—	—	—	53,4	53,2	50,8	50,6	49,8	47,2	40,6
98	—	—	—	—	—	49,2	46,8	46,7	45,8	45,7	39,3
102	—	—	—	—	—	—	43,2	43,0	42,1	41,9	38,0
106	—	—	—	—	—	—	—	39,6	38,8	38,6	36,9
110	—	—	—	—	—	—	—	—	35,6	35,4	34,5
114	—	—	—	—	—	—	—	—	32,7	32,5	31,6
118	—	—	—	—	—	—	—	—	—	29,8	28,9
122	—	—	—	—	—	—	—	—	—	—	26,4

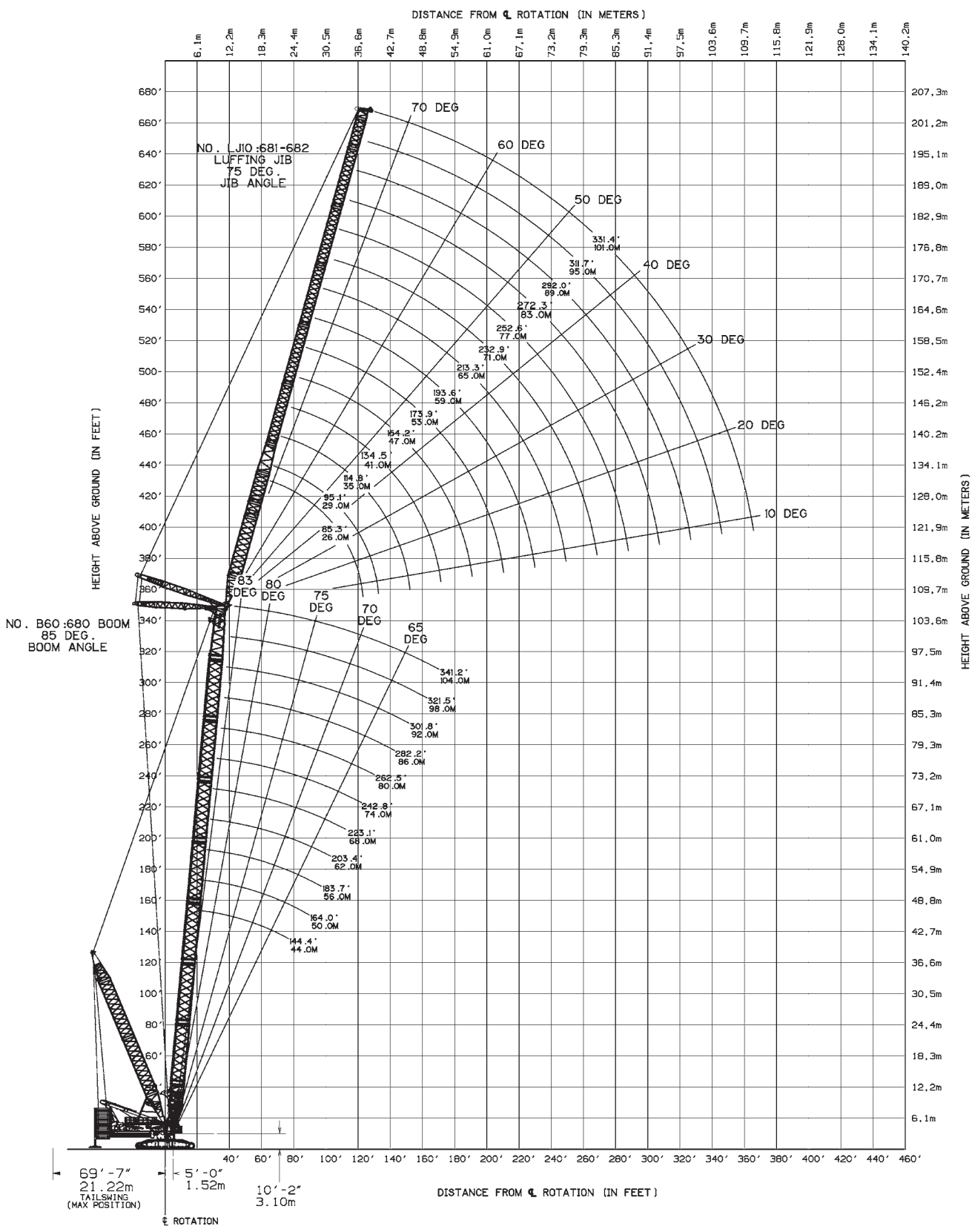
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# Luffing jib range diagram

VPC-MAX™

LJ10: 681-682 luffing jib on B60: 680 boom with VPC-MAX™



# Luffing jib load charts

VPC-MAX™

## LJ10: 681-682 luffing jib on B60: 680 boom VPC-MAX™

400 t counterweight

360° Rating

kg x 1000

85° boom angle

### 44 m boom length

Radius m	Luffing jib length m				
	26	41	59	83	101
15,2	332,5	—	—	—	—
16	332,5	—	—	—	—
18	332,5	—	—	—	—
20	328,2	263,5	—	—	—
22	319,4	257,2	—	—	—
24	298,8	250,8	—	—	—
26	268,2	244,4	172,0	—	—
28	231,4	238,0	171,3	—	—
30	183,3	226,9	168,9	—	—
34	—	190,9	162,0	87,8	—
38	—	163,4	147,8	86,7	53,6
42	—	139,4	132,2	85,4	52,6
46	—	99,7	117,6	84,1	51,5
50	—	—	104,5	82,7	50,5
54	—	—	93,4	77,6	49,5
58	—	—	84,4	72,0	48,4
62	—	—	70,9	66,5	47,5
66	—	—	—	61,2	46,5
70	—	—	—	56,4	45,6
74	—	—	—	52,1	43,6
78	—	—	—	48,3	41,0
82	—	—	—	45,3	38,4
86	—	—	—	36,3	36,0
90	—	—	—	—	33,8
94	—	—	—	—	30,7
98	—	—	—	—	27,2
102	—	—	—	—	23,8
106	—	—	—	—	14,7

### 62 m boom length

Radius m	Luffing jib length m				
	26	41	59	83	101
16,8	296,7	—	—	—	—
18	288,4	—	—	—	—
20	275,7	—	—	—	—
22	264,0	218,3	—	—	—
24	255,8	216,7	—	—	—
26	252,5	207,4	137,8	—	—
28	233,5	195,9	137,7	—	—
30	214,3	184,2	137,1	—	—
34	—	161,4	131,8	75,0	—
38	—	141,4	120,5	74,4	47,8
42	—	125,5	109,0	73,6	47,1
46	—	114,7	98,1	72,7	46,4
50	—	—	88,1	70,0	45,7
54	—	—	79,5	65,3	44,8
58	—	—	72,5	60,6	44,0
62	—	—	67,5	56,0	43,2
66	—	—	—	51,7	41,7
70	—	—	—	47,7	39,2
74	—	—	—	44,2	36,7
78	—	—	—	41,0	34,4
82	—	—	—	38,5	32,1
86	—	—	—	36,7	30,0
90	—	—	—	—	28,1
94	—	—	—	—	26,4
98	—	—	—	—	25,0
102	—	—	—	—	23,9
106	—	—	—	—	20,5

For complete chart, refer to [www.cranelibrary.com](http://www.cranelibrary.com).

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# Luffing jib load charts

VPC-MAX™

## LJ10: 681-682 luffing jib on B60: 680 boom VPC-MAX™

400 t counterweight

360° Rating

kg x 1000

85° boom angle

86 m boom length					
Radius m	Luffing jib length m				
	26	41	59	83	101
18,3	176,8	—	—	—	—
20	176,2	—	—	—	—
22	173,8	—	—	—	—
24	170,4	127,2	—	—	—
26	164,9	126,0	—	—	—
28	153,5	124,3	87,9	—	—
30	144,4	122,2	87,6	—	—
34	133,8	111,7	86,2	53,7	—
38	—	100,7	82,2	53,3	—
42	—	91,3	75,7	52,6	34,7
46	—	84,3	69,2	51,6	34,3
50	—	81,8	63,2	48,5	33,8
54	—	—	57,9	45,4	33,3
58	—	—	53,4	42,3	32,3
62	—	—	50,0	39,2	30,6
66	—	—	48,2	36,3	28,8
70	—	—	—	33,7	27,0
74	—	—	—	31,3	25,3
78	—	—	—	29,2	23,6
82	—	—	—	27,5	22,0
86	—	—	—	26,3	20,5
90	—	—	—	25,9	19,1
94	—	—	—	—	17,9
98	—	—	—	—	17,0
102	—	—	—	—	16,2
106	—	—	—	—	15,9

104 m boom length					
Radius m	Luffing jib length m				
	26	41	59	83	101
19,8	122,8	—	—	—	—
20	122,6	—	—	—	—
22	120,1	—	—	—	—
24	115,5	—	—	—	—
26	112,5	87,0	—	—	—
28	110,7	86,1	—	—	—
30	109,4	84,8	61,8	—	—
34	105,1	82,0	60,8	—	—
38	—	77,7	59,3	38,4	—
42	—	71,3	57,2	37,9	26,2
46	—	66,3	53,0	37,2	25,9
50	—	63,4	48,9	35,9	25,5
54	—	—	45,2	33,7	24,5
58	—	—	42,0	31,5	23,1
62	—	—	39,4	29,4	21,8
66	—	—	37,9	27,3	20,4
70	—	—	37,7	25,4	19,1
74	—	—	—	23,7	17,8
78	—	—	—	22,1	16,5
82	—	—	—	20,9	15,3
86	—	—	—	19,9	14,2
90	—	—	—	19,5	13,2
94	—	—	—	19,5	12,3
98	—	—	—	—	11,5
102	—	—	—	—	11,2
106	—	—	—	—	10,7

For complete chart, refer to [www.cranelibrary.com](http://www.cranelibrary.com).

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# Specifications

## Upperworks

### Engine

Cummins Model QSX15 Tier 4 Final diesel, 447 kW at 1800 rpm or Cummins QSX15 Tier 3 diesel, rated 447 kW at 1800 rpm. Includes pump drive disconnect for easier starting, engine block heater (240V), high silencing muffler or emissions compliant Tier 4 Final aftertreatment, hydraulic oil cooler, radiator and variable speed hydraulic controlled fan. Variable speed fan provides increased fuel efficiency, decreased engine loading and reduced noise emission.

Multiple hydraulic pump drive transmission provides power for all machine functions. Two 12 volt, 1375 CCA at -18° C, 24 volt system and 110 amp alternator. 1117 L fuel tank, with level indicator in operator's cab.

Optional: Cold-weather package with heater for fluids.



### Crane Control System

The Crane Control System offers a user-friendly interface, two full graphic displays mounted horizontally for better visibility, a jog dial for easier data input and ergonomic joysticks.



### Hydraulic system

High-pressure piston pumps, driven by a multi-pump transmission, provide independent closed-loop hydraulic power for the hoisting drums, boom hoist, swing, left crawler and right crawler.

946 L hydraulic reservoir is equipped with breather, clean-out access and internal diffuser.

Each function is equipped with relief valves to protect the hydraulic circuit from overload or shock.

System includes oil cooler and replaceable, full flow return filters.

All oil is filtered before entering the hydraulic reservoir.



### Drums

Basic machine is equipped with two 1248 mm wide and 660 mm diameter main hoist drum, mounted in the boom butt and 4 m insert and 822 mm wide and 641 mm diameter whip drum, mounted in the rotating bed. Each drum is driven by a variable-displacement hydraulic motor through a planetary reduction system. Main hoist drum is grooved for 32 mm rope and whip drum is grooved for 28 mm rope.

Powered hoisting/lowering operation is standard with automatic (spring applied, hydraulically released) multi-disc brakes and drum rotation indicators.



### VPC-MAX boom hoist

VPC-MAX is equipped with a 1000 mm wide and 570 mm diameter boom hoist drum mounted in the mast butt. The drum is driven by a variable displacement hydraulic motor, through a planetary gearbox with an internal brake. The drum utilizes a ratchet and pawl assembly and is grooved for 28 mm wire rope. Includes 28 mm wire rope for 16-part boom hoist reeving.



### Moving mast system

Independent moving mast hoist with two grooved drums, each 470 mm wide and 787 mm diameter drum grooved for 32 mm. Includes 32 mm wire rope for 30-part boom hoist reeving. Drum is powered by variable-displacement hydraulic motors coupled to internal brake and planetary reduction gearboxes. Ratcheting pawl and rotation indicator are standard. Raise 104 m full main boom from 0° - 85° in 7 minutes and 40 seconds.



### Boom support system

Moving mast is 11 m long and connects the boom hoist reeving to the steel boom suspension strap rigging. When used with the optional self-erect package, the mast is used for crane assembly and disassembly. It is capable of lifting and positioning the crawler assemblies, and assembling the boom and luffing jib. Spring-cushioned boom stop and automatic boom stop are standard.



### Variable Position Counterweight

The Variable Position Counterweight (VPC) system of rotating bed only counterweight maintains optimum crane stability by automatically positioning crane counterweight based on boom angle and length. No carbody counterweight is required.

The crane can be equipped with 400 t upperworks only counterweight made up of a single piece counterweight tray and 38 10 t counterweight boxes. Left and right side counterweights are interchangeable and common with MLC300 counterweight.



### Vision operator's cab

The Vision Cab™ is a fully enclosed and insulated galvanized steel fabricated module mounted to the left front corner of rotating bed. Operator's cab is equipped with power tilt, sliding door, large safety glass windows, front and roof windshield wipers, dome light, sun visor and shade, fire extinguisher, air conditioning, swing and travel alarms, and radio/CD player. Operator's station swings over front of rotating bed for transportation.

- Optional: Polyethylene protective window covers.

## Lowerworks



### Carbody and adapter assembly

Connects rotating bed and crawler frames. Each frame is mounted to the carbody with FACT™ connection system and hydraulic power-actuated pins. Crawler drive motors are mounted on carbody, permitting crawler removal without opening travel drive hydraulic circuit.



### Crawlers

Crawler assemblies are 11,1 m long with 1520 mm wide cast steel crawler pads and automatically lubricated intermediate rollers. Left and right side crawlers are interchangeable to provide assembly/disassembly flexibility on jobsites. Carbody mounted drive motors are connected to crawler final reduction via drive shafts. Crawlers provide ample tractive effort for travel and counter-rotating with full rated load.

Maximum ground speed of 1,3 kph.

- Optional: 2000 mm wide cast steel crawler pads.

## Attachments



### B10: 680 boom

The liftcrane is equipped with 32 m 680 basic boom consisting of 6 m butt, 4 m insert, 12 m insert with luffing hoist sheaves, and 10 m top with 16 762 mm diameter tapered roller bearing sheaves. Includes rope guides, boom hoist wire rope, boom angle indicator and hook and weight ball. The boom utilizes Manitowoc's exclusive FACT connection system boom connector. Spring-cushioned boom stop. Automatic boom stop.

- Optional: 6 m and 12 m No. 680 boom inserts with steel boom suspension straps and FACT connection system.



## Attachments *(cont'd)*

- Optional: detachable upper boom point with one 762 mm diameter tapered roller bearing steel sheave grooved for 32 mm rope with rope guard for liftcrane.



### No. 148 fixed jib

12 m No. 148 fixed jib including pin 6 m butt, 6 m top, jib strut and mounting hardware.

- Optional: 6 m and 12 m No. 148 inserts with pin connectors and pendants for a maximum jib length of 42 m.



### LJ:10 681-682 luffing jib

26 m basic LJ10: 681-682 luffing jib including 6 m butt, one 12 m insert, 6 m transition insert and 2 m top, main and jib struts, jib and backstay steel suspension straps, upper boom point guide wheel, luffing jib hoist with ratchet and pawl; quick disconnect for jib hoist piping and 28 mm luffing jib hoist line.

- Optional: 3 m, 6 m and 12 m No. 681 and 682 luffing jib inserts with steel boom suspension straps. Utilize luffing jib inserts in combination with the LJ10: 681-682 basic luffing jib for total luffing jib lengths up to 101 m.



### VPC-MAX

The VPC-MAX components include:

- 36 m of No. 684 mast consisting of a 6 m butt, (2) 12 m inserts and a 6 m top.
- One additional swing drive (for a total of three) mounted on the adapter frame. Each swing drive is powered by a fixed-displacement hydraulic motor coupled to a planetary reduction gearbox and internal brake.

The VPC-MAX system maintains optimum crane stability by automatically positioning crane counterweight behind the crane's centerline of rotation based on lifted load, boom length and load radius.

## Optional equipment

- Self-erect system includes, jacking cylinders with pads, self assembly cylinder and crawler handling chains.
- Hydraulic Test Kit: required to properly analyze the performance of the CCS.
- Service Interval Kits for the regularly scheduled maintenance of general crane operations.
- Special paint color(s) other than Manitowoc standard red and black.
- Custom vinyl decal(s) of customer name and/or logo from artwork supplied by customer.
- 22,2 t swivel hook and weight ball.
- Carbody jacking cylinders to allow 360° swing with crawler assembly during self erect.

# Symbols glossary



B10: 680 Boom



Drums



Hydraulic System



Cab



Engine



LJ:10 681-681 Luffing Jib



Counterweight



No. 148 Fixed Jib



Mast System



Crane Control System



Frame



Crawlers



Hoist



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The assurance of the world's most advanced crane service and support to get you back to work fast.



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Financial tools that help you capitalize on opportunity with solutions that fit your needs.

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