



Grove Manitowoc National Crane Potain

Manitowoc

Manitowoc MLC650

Product Guide

ASME B30.5
Imperial

Preliminary

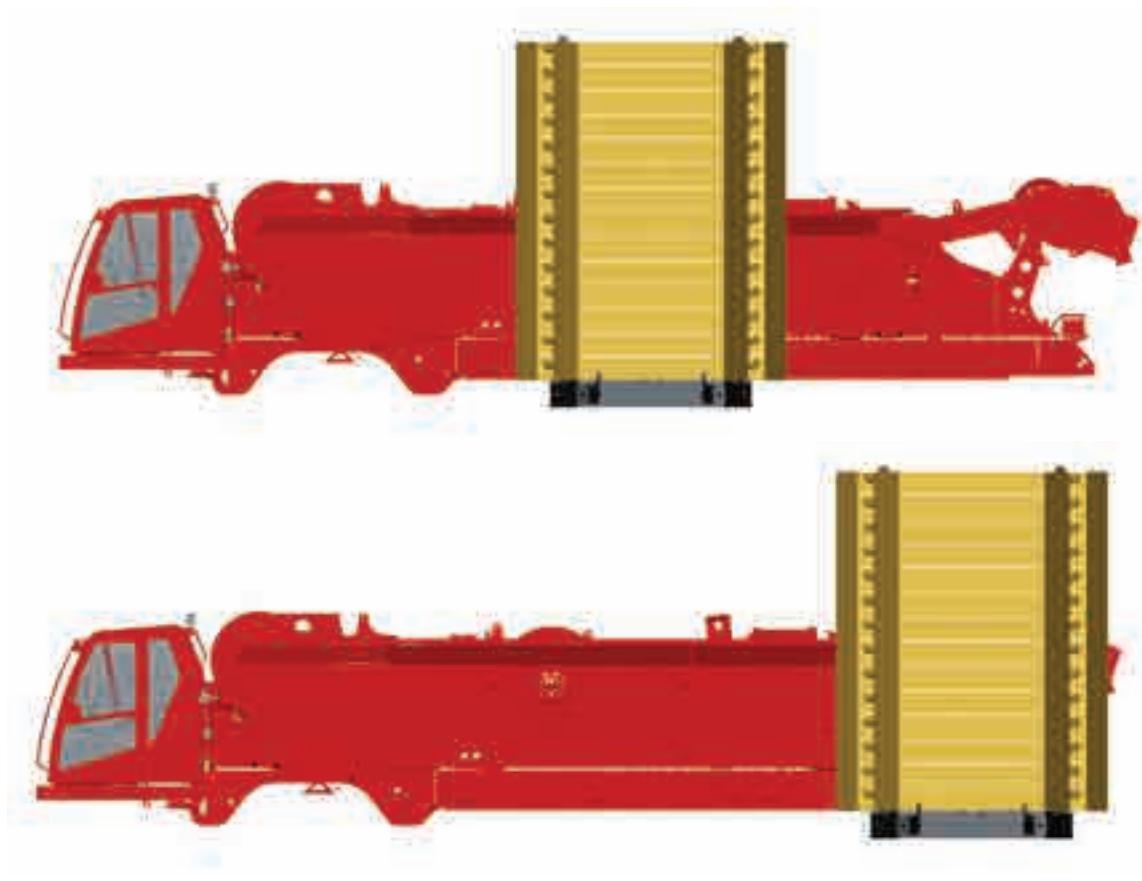


Features

- 716 USt capacity
- 28,114 ft-kips maximum load moment
- 65,473 ft-kips maximum load moment with VPC-MAX
- 341 ft No. 680 boom
- 98 ft No. 148 fixed jib on No. 680 boom
- 331 ft No. 681-682 luffing jib on No. 680 boom

Variable Position Counterweight

- The Variable Position Counterweight (VPC) is proprietary technology available exclusively on Manitowoc crawler cranes. By allowing the crane's counterweight to be positioned automatically, the VPC provides an unmatched level of versatility and lifting capability.



Jobsite benefits

Reduced ground bearing pressure

Moving counterweight allows counterweight to be positioned to better distribute ground bearing pressure during setup and lifting operations.

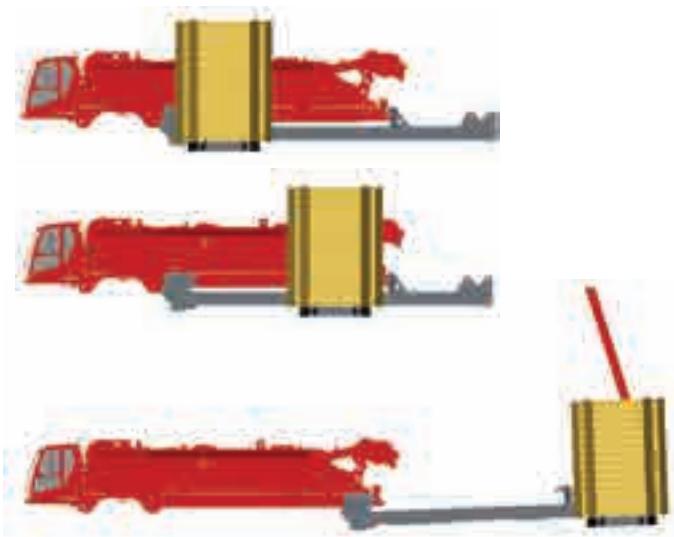
Less counterweight without sacrificing capacity

The VPC technology allows the upperworks counterweight to move based on stability requirements, eliminating the need for carbody counterweights. The weight typically added to the carbody can now be added to the upperworks to increase capacity while retaining performance and on-site mobility.



VPC-MAX (option)

Unlike VPC counterweight movement which is dictated by changes in boom angle, VPC-MAX counterweight movement is dictated by load and radius (forward moment) changes. As forward moment is increased or decreased VPC-MAX counterweight position is changed to offset changes in moment.



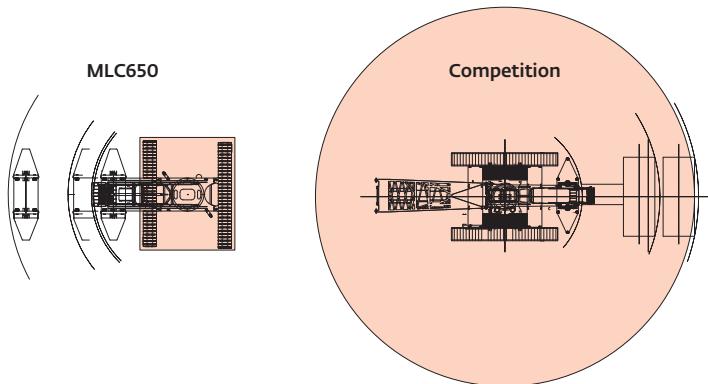
In VPC-MAX configuration, the counterweight tray moves to the end of the VPC-MAX beam prior to beam extension, thus minimizing tailswing and increasing job site mobility.

Counterweight is automatically positioned to optimize rearward moment as forward moment is increased or decreased.

Minimal ground preparation

In VPC-MAX configuration the counterweight assembly never touches the ground, allowing for minimal ground preparation. The MLC650 ground preparation area is approximately one-tenth of that required by the leading competition, saving time and cost during job site preparation.

Ground prep area comparison



Water applications

Counterweight never touches ground allowing use in barge applications where wheeled or hanging attachments that contact the operating surface are typically not allowed. Moving counterweight also better maintains center of gravity for reduced ground bearing pressures.

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 which 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, utilizing all of the standard VPC components, increases the max load moment of the MLC650 when a 118' 1" fixed mast, VPC-MAX counterweight beam and additional 220,460 lb of counterweight is added to the base MLC650. The position of the VPC-MAX counterweight is automatically positioned based on lifted load, boom length or boom and jib length and load radius.

Transport

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.

FACT™ Connectors

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

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Specifications

Upperworks

Engine

Cummins Model QSX15 Tier 4 Final diesel, 600 BHP at 1800 RPM.

Or

Cummins QSX15 Tier 3 diesel, rated 600 HP at 1800 RPM

Includes pump drive disconnect for easier starting, engine block heater (240V), high silencing muffler or emissions compliant Tier 4 Final after treatment, hydraulic oil cooler, radiator and variable speed hydraulic controlled fan. Variable speed fan provides increased fuel efficiency, decreased engine loading and reduces noise emission.

Multiple hydraulic pump drive transmission provides power for all machine functions. Two 12 volt, 1375 CCA at 0° F, 24 volt system and 110 amp alternator. 295 gallon 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.

250 gallon 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 49" wide and 26" diameter main hoist drum, mounted in the boom butt and 32" wide and 25.25" 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 32mm 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

► Optional: auxiliary main hoist with 49" wide and 26" diameter mounted in the 13' 1" insert. Aux main hoist drum is grooved for 32mm rope.



Moving mast system

Independent moving mast hoist with two grooved drums, each 18.5" wide and 31" diameter drum grooved for 32 mm diameter wire rope.

Drum is powered by variable-displacement hydraulic motors coupled to integral brake and planetary reduction gearboxes. Ratcheting pawl and rotation indicator are standard.

Raise 341' full main boom from 0° - 85° in 7 minutes 40 seconds.



Swing system

High strength steel adapter module is mounted on 118" diameter triple row roller turntable bearing. Bearing adapter-mounted independent swing is powered by two fixed-displacement hydraulic motors coupled to internal brakes and planetary reductions.

Swing system maximum speed: 1.3 rpm liftcrane, 0.9 rpm VPC-MAX.

Specifications



Boom support system

Moving mast is 36' 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 carboddy counterweight is required.

The crane is equipped with 661,386 lbs upperworks only counterweight made up of a single piece counterweight tray and twenty-eight 22,046 lbs 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 galvannealed 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



Carboddy and adapter assembly

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

Crawlers

Crawler assemblies are 36'5" long with 60" wide cast steel crawler pads and automatically lubricated intermediate rollers. Left and right side crawlers are interchangeable to provide assembly/disassembly flexibility on job sites. Carboddy 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 0.78 mph.

► Optional: 80" wide cast steel crawler pads

Attachments



No. 680 boom

The liftcrane is equipped with 105' 680 basic boom consisting of 19' 8" butt, 13' 1" insert, 39' 5" insert with luffing hoist sheaves, and 32' 10" top with sixteen 30" 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: 19' 8" and 39' 5" No. 680 boom inserts with steel boom suspension straps and FACT connection system.

► Optional: detachable upper boom point with one 30" diameter tapered roller bearing steel sheave grooved for 32 mm rope with rope guard for liftcrane.

► Optional: Heavy-duty 146.4 USt detachable extended upper boom point with three 30" diameter tapered roller bearing steel sheave grooved for 32mm rope with rope guard for liftcrane.

Specifications



No. 681-682 luffing jib

85' basic No. 681-682 luffing jib including 19' 8" butt, one 39' 5" insert, 19' 8" transition insert and 6' 7" top, main and jib struts, jib and backstay steel suspension straps, 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: 9' 10", 19' 8" and 39' 5" No. 681 and 682 luffing jib inserts with steel boom suspension straps.

Utilize luffing jib inserts in combination with the No. 681-682 basic luffing jib for total luffing jib lengths up to 331'.



No. 148 fixed jib

39'4" No. 148 fixed jib including pin 19'8" butt, 19'8" top, jib strut and mounting hardware.

- Optional: 19'8" No. 148 inserts with pin connectors and pendants for a maximum jib length of 98' 5".



VPC-MAX

The VPC-MAX attachment components include:

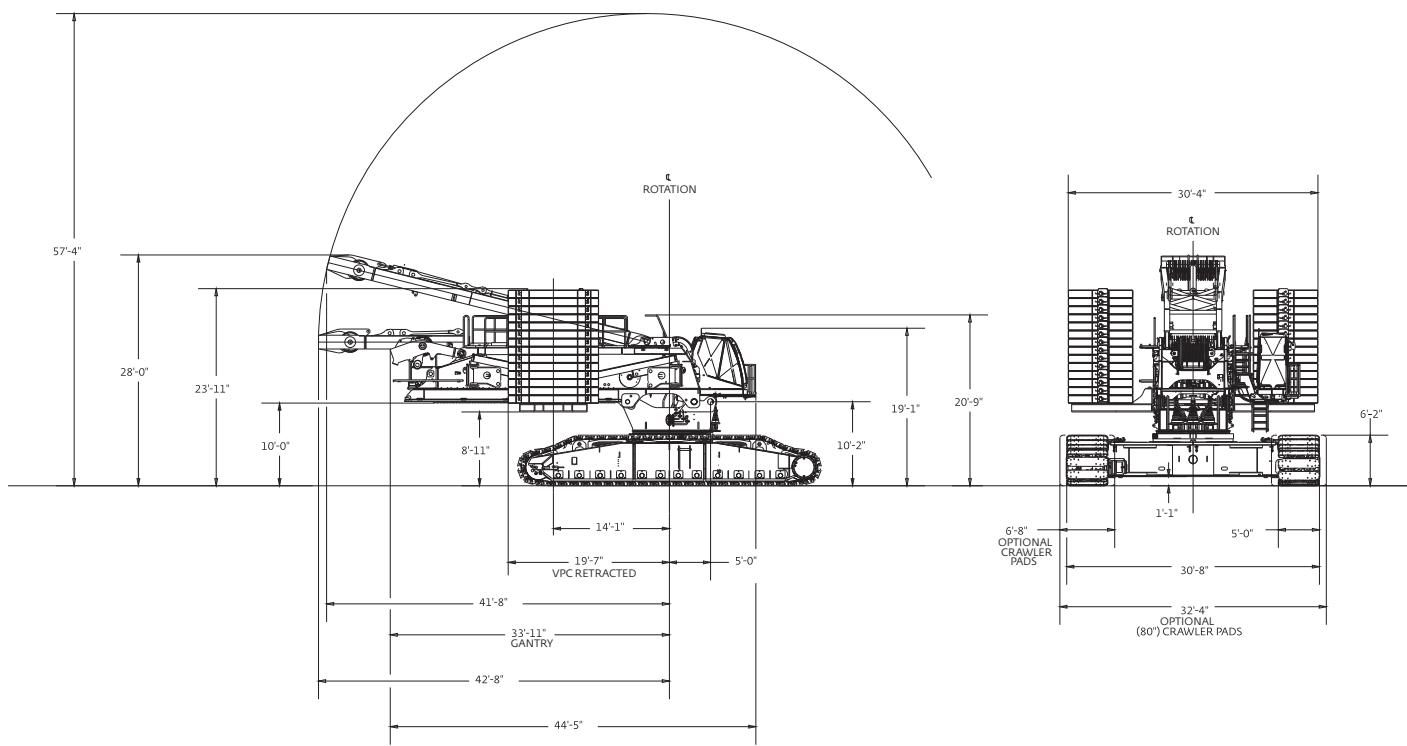
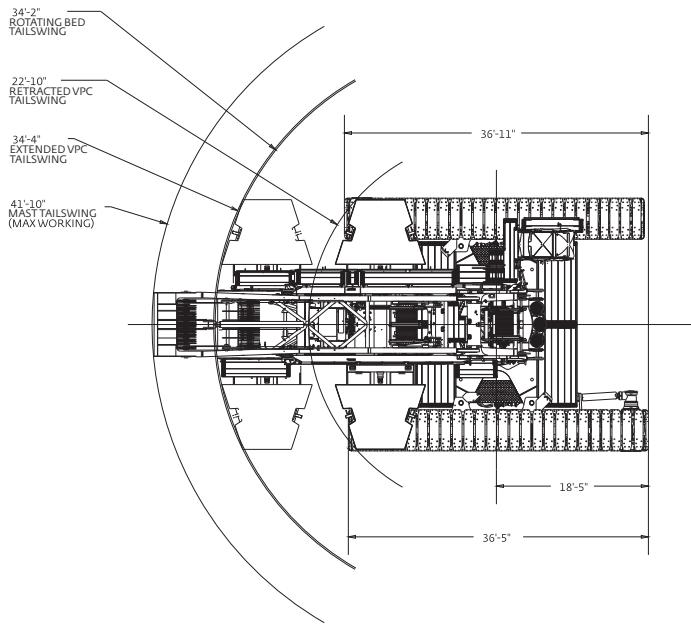
- 118' 1" of No. 684 mast consisting of a 19' 8" butt, (2) 39' 4" inserts, and a 19' 8" top.
- One additional swing drive (for a total of three) mounted on the rotating module. Each swing drive is powered by a fixed-displacement hydraulic motor coupled to a planetary reduction gearbox and internal brake.
- Counterweight includes an additional ten 22,046 lb boxes.

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.

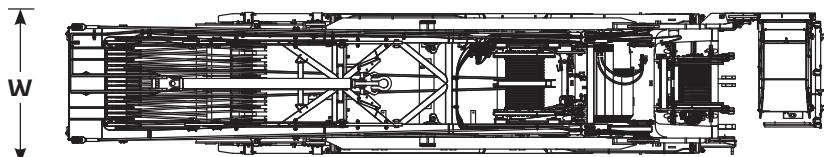
Optional equipment

- 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.
- 20 USt swivel hook and weight ball.

Outline dimensions



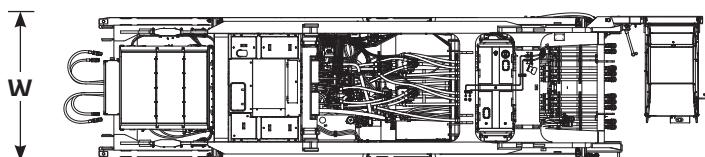
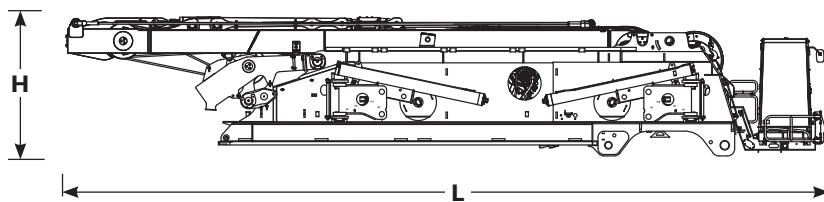
Outline dimensions



Rotating bed assembly

Length	52' 9"
Width	9' 10"
Height	9' 8"
Weight	157,850 lb

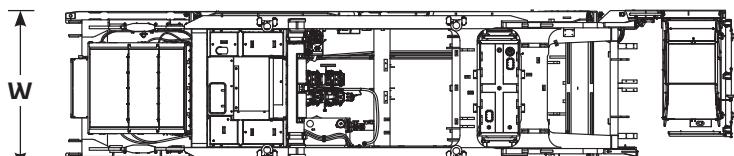
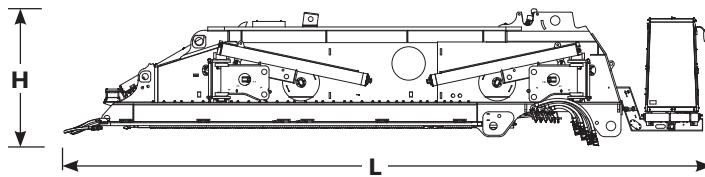
Note: includes live mast, boom hoist, gantry, rotating bed jacks, whip hoist.



Rotating bed assembly

Length	42' 3"
Width	9' 10"
Height	8' 7"
Weight	98,450 lb

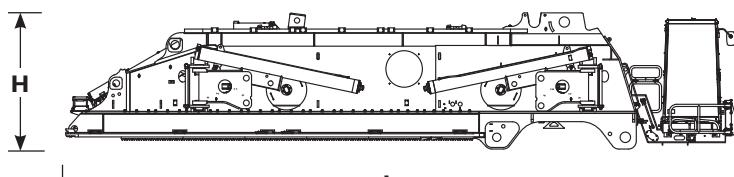
*Note: includes rotating bed jacks, whip hoist.
Note: excludes live mast, boom hoist, gantry.*



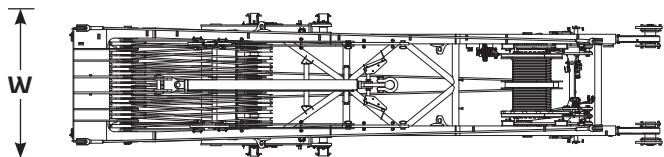
Rotating bed assembly

Length	42' 3"
Width	9' 10"
Height	8' 7"
Weight	85,950 lb

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



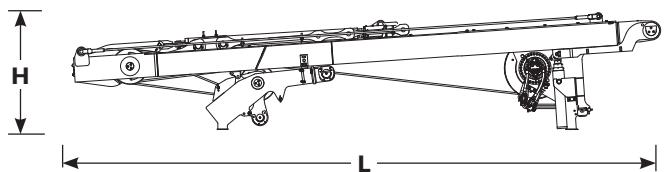
Outline dimensions



Live mast package

Length	40' 7"
Width	9' 10"
Height	8' 1"
Weight	59,400 lb

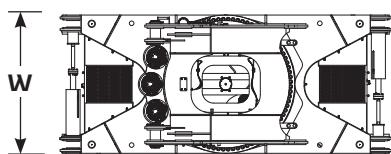
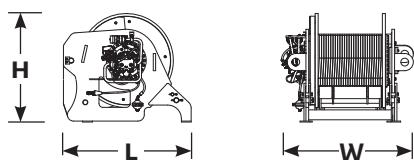
Note: includes live mast, boom hoist, gantry.



Whip hoist package

Length	5' 4"
Width	5' 4"
Height	4' 7"
Weight	12,500 lb

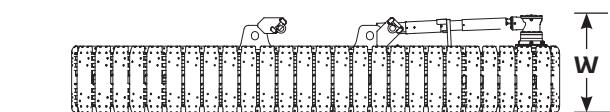
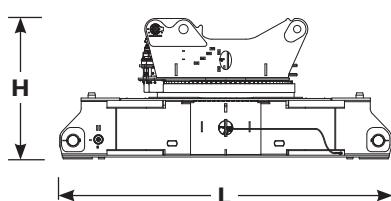
Note: includes wire rope.



Carbody assembly without jacks

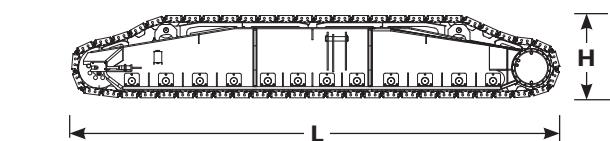
Length	23' 7"
Width	9' 10"
Height	10' 0"
Weight	92,300 lb

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



Crawler assembly 60" pads

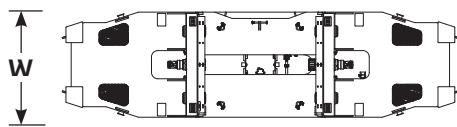
Length	36' 6"
Width	7' 5"
Height	6' 2"
Weight	86,000 lb



Crawler assembly 80" pads

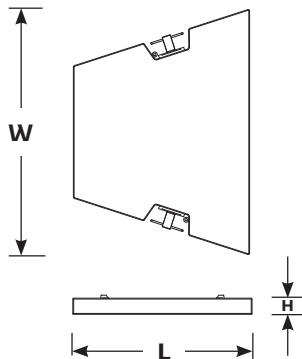
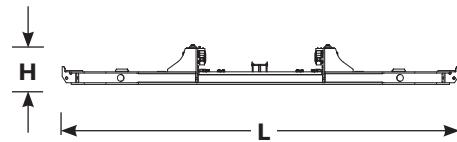
Weight	104,760 lb
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Outline dimensions



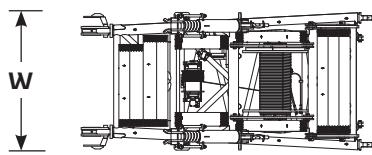
Counterweight tray assembly

Length	30' 11"
Width	8' 2"
Height	3' 1"
Weight	44,000 lb



Counterweight box

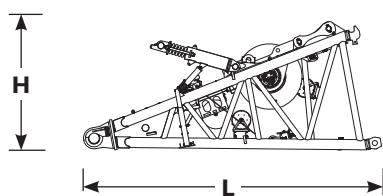
Length	7' 10"
Width	10' 11"
Height	1' 2"
Weight	22,046 lb



19' 8" No. 680 boom butt

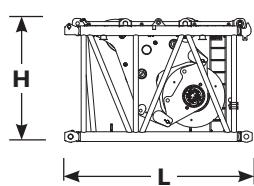
Length	21' 4"
Width	9' 10"
Height	9' 2"
Weight	43,150 lb

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



19' 8" No. 680 boom butt with luffing hoist

Weight	53,750 lb
<i>Note: includes main load hoist #1, wire rope, rigging winch, luffing hoist.</i>	

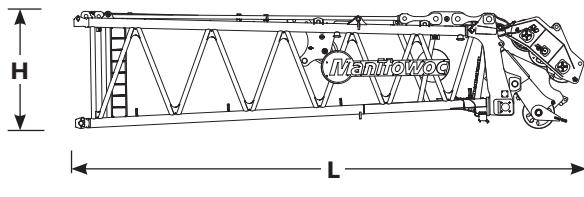


13' 1" No. 680 boom insert

Length	14' 0"
Width	9' 10"
Height	9' 2"
Weight	39,460 lb

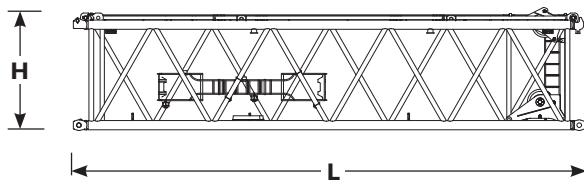
Note: main load hoist #2, wire rope.

Outline dimensions


32' 10" No. 680 boom top

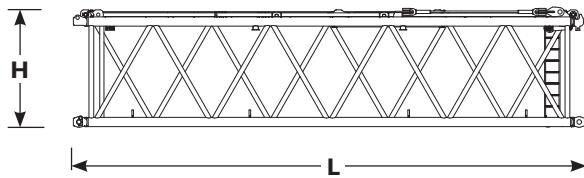
Length	40' 0"
Width	9' 10"
Height	9' 2"
Weight	41,550 lb

Note: lower boom point, wire rope guides.


39' 4" No. 680 boom insert with sheaves

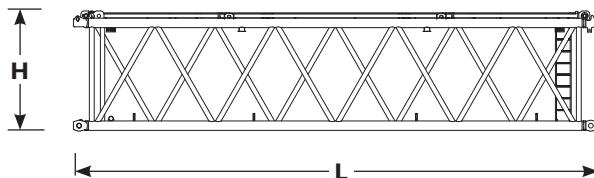
Length	40' 3"
Width	9' 10"
Height	9' 2"
Weight	27,150 lb

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


39' 4" No. 680 boom insert, heavy with equalizer

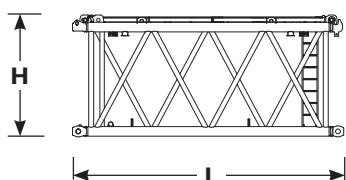
Length	40' 3"
Width	9' 10"
Height	9' 2"
Weight	23,140 lb

Note: boom straps, backstay straps.


39' 4" No. 680 boom insert, heavy

Length	40' 3"
Width	9' 10"
Height	9' 2"
Weight	21,460 lb

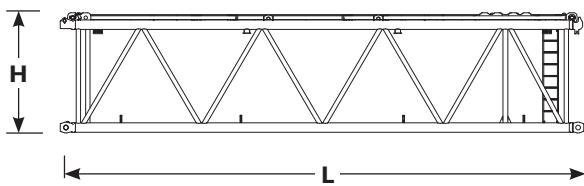
Note: boom straps, backstay straps.


19' 8" No. 680 boom insert, heavy

Length	20' 7"
Width	9' 10"
Height	9' 2"
Weight	12,520 lb

Note: boom straps, backstay straps.

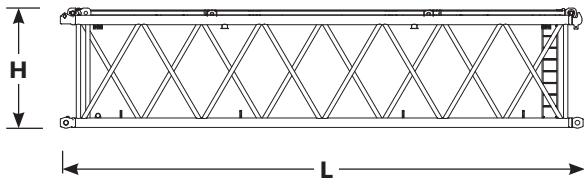
Outline dimensions



39' 4" No. 680 boom insert, medium with suspension

Length	40' 3"
Width	9' 10"
Height	9' 2"
Weight	22,740 lb

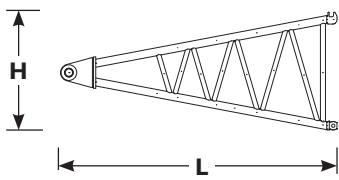
Note: boom straps, backstay straps.



39' 4" No. 680 boom insert, medium

Length	40' 3"
Width	9' 10"
Height	9' 2"
Weight	17,560 lb

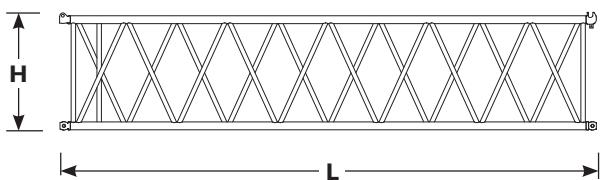
Note: boom straps, backstay straps.



19' 8" No. 681 luffing jib butt

Length	21' 0"
Width	9' 10"
Height	8' 11"
Weight	16,262 lb

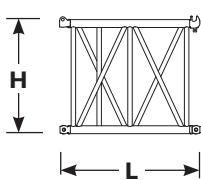
Note: includes jib stops.



39' 4" No. 681 luffing jib insert

Length	40' 3"
Width	9' 10"
Height	9' 3"
Weight	13,485 lb

Note: includes jib straps.

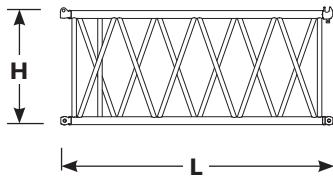


9' 10" No. 681 luffing jib insert

Length	10' 5"
Width	9' 10"
Height	9' 3"
Weight	4,955 lb

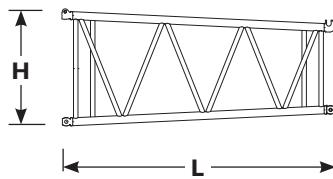
Note: includes jib straps.

Outline dimensions


19' 8" No. 681 luffing jib insert

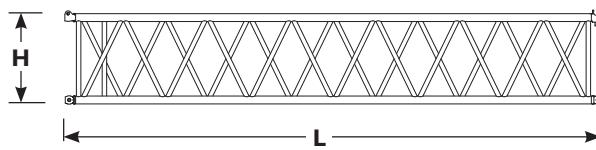
Length	20' 3"
Width	9' 10"
Height	9' 3"
Weight	8,080 lb

Note: includes jib straps.


19' 8" No. 681-682 transition insert

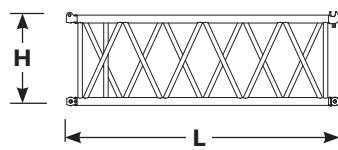
Length	20' 3"
Width	9' 10"
Height	9' 3"
Weight	7,900 lb

Note: includes jib straps.


39' 4" No. 682 luffing jib insert

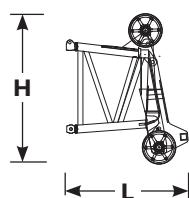
Length	40' 0"
Width	8' 2"
Height (max)	7' 6"
Weight	13,155 lb

Note: includes jib straps.


19' 8" No. 682 luffing jib insert

Length	20' 3"
Width	8' 2"
Height	7' 6"
Weight	7,520 lb

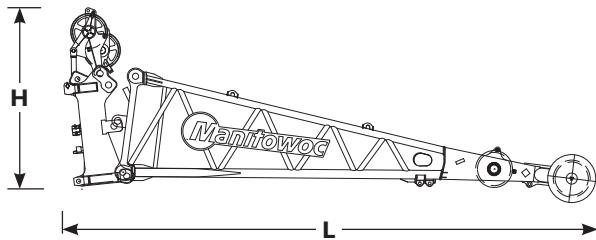
Note: includes jib straps.


6' 6" No. 681-682 luffing jib top

Length	10' 11"
Width	8' 2"
Height (max)	9' 3"
Weight	12,620 lb

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

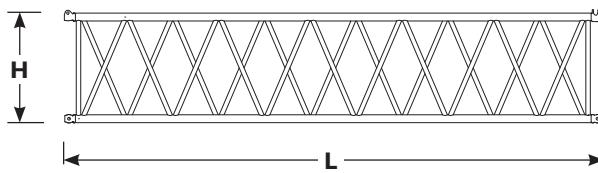
Outline dimensions



Wind cap + extended upper boom point

Length	37' 9"
Width	8' 10"
Height (max)	9' 3"
Weight	20,538 lb

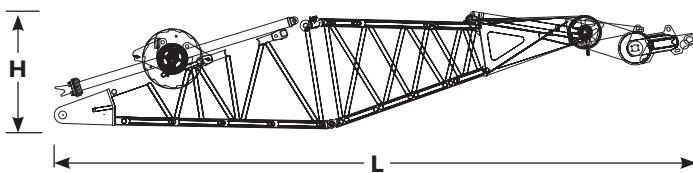
Note: includes 2 sheave lower boom point in wind cap.



39' 4" No. 684 mast insert

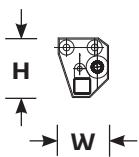
Length	40' 5"
Width	8' 2"
Height (max)	9' 3"
Weight	15,230 lb

Note: includes backbitch and counterweight straps.



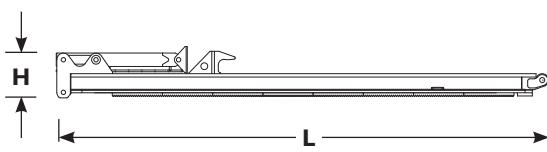
No. 684 mast top + butt transport package

Length	47' 10"
Width	8' 7"
Height	9' 3"
Weight	56,703 lb



VPC-MAX actuator assembly

Length	16' 5"
Width	3' 10"
Height	3' 10"
Weight	10,000 lb



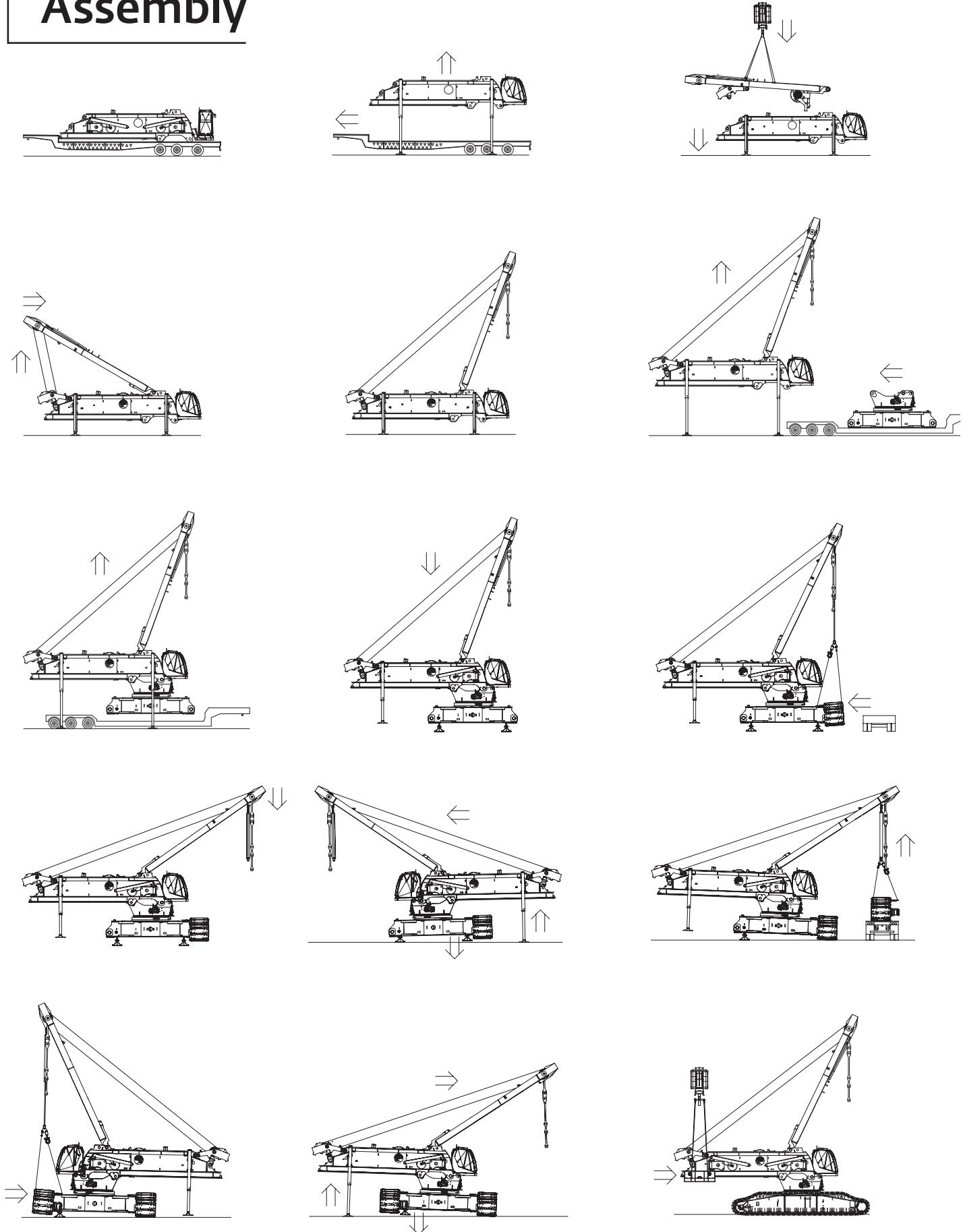
VPC-MAX beam assembly

Length	36' 8"
Width	9' 10"
Height	3' 10"
Weight	47,000 lb

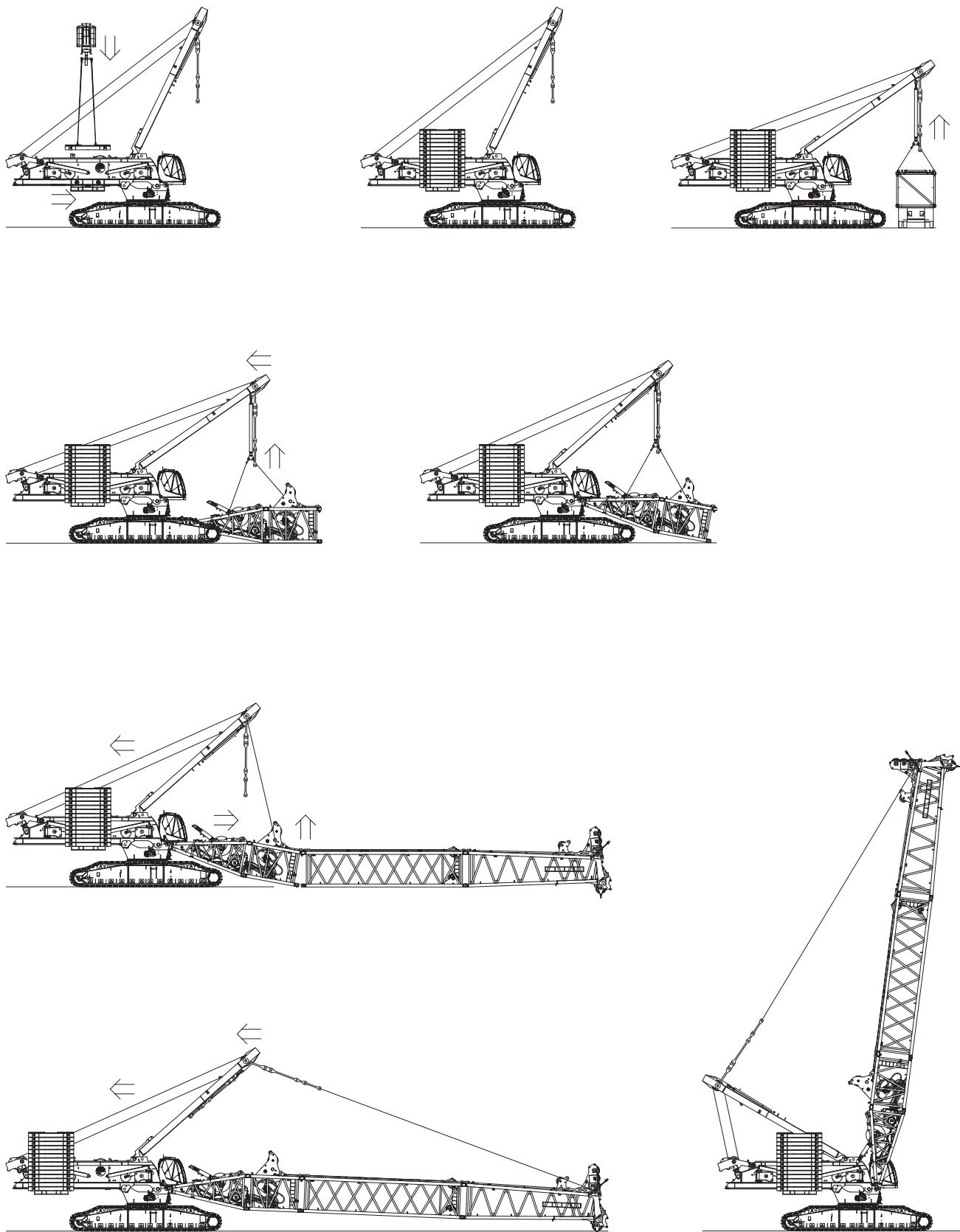
Transport data

Load summary		282 ft boom Quantity on trailer load # (Does not include blocking, strapping, etc.)																													
Item	Qty	Weight lb	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	85,950	1																												
Whip hoist	1	12,500																	1												
Live mast package	1	59,400		1																											
Carbody + adapter	1	92,300			1																										
Crawler assembly (60" pads)	2	86,000				1	1																								
Counterweight tray	1	44,000								1																					
Counterweight box	28	22,046																					2	2	2	2	2	2	2	2	2
Boom butt with drum 1	1	43,150									1																				
13' 1" No. 680 boom insert with drum 2	1	39,460										1																			
39' 4" No. 680 heavy boom insert	1	27,150											1																		
39' 4" No. 680 heavy boom insert	1	21,460												1																	
39' 4" No. 680 heavy boom insert with equalizer rails	1	23,140													1																
19' 8" heavy boom insert	1	12,520														1															
39' 4" medium insert with suspension	1	22,740															1														
39' 4" medium insert	1	17,560																1													
32' 10" boom top	1	41,550																	1												
350 t block (32 mm)	1	17,400																	1												
22,2 mt weight ball	1	2,800																1													
Approximate total shipping weight lb			85,950	59,400	92,300	86,000	86,000	44,000	43,150	39,460	39,650	24,260	23,140	29,920	22,740	17,560	41,550	44,092	44,092	44,092	44,092	44,092	44,092	44,092	44,092	44,092	44,092	44,092	44,092	44,092	44,092

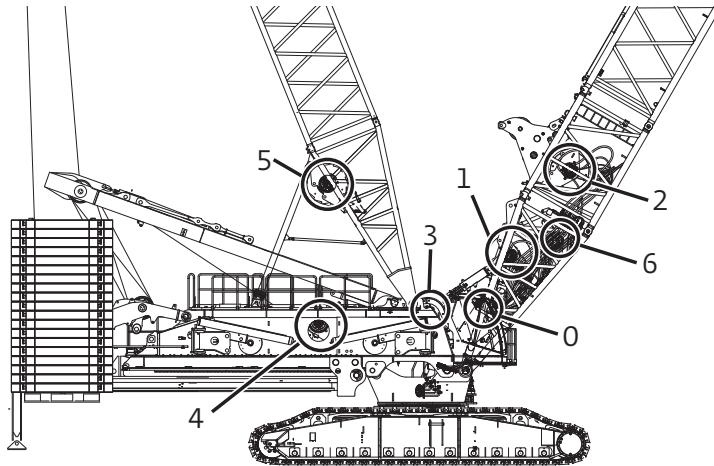
Assembly



Assembly



Performance data

**Drum identification**

Drum number	Function
1	Main hoist - standard
2	Auxiliary main hoist - optional
3	Whip hoist - standard
4	Boom hoist (VPC) - standard Mast hoist (VPC-MAX) - standard
5	Boom hoist (VPC-MAX) - optional
6	Luffing hoist - optional
0	Rigging winch - optional

Working weight

	lb
105' No. 680 main boom, upper boom point, 600 ton hook block	
661,390 lb counterweight	1,243,700

Performance data

No. 680 boom

**Hoist reeving for main load block
single lead line - 32 mm wire rope**

No. Parts of Line	Maximum Load lb
2	97,600
4	195,200
6	292,800
8	390,400
10	488,000
12	585,600
14	683,200
16	773,610
18	861,860
20	948,350
22	1,033,110
24	1,116,200
26	1,197,620
28	1,277,430
30	1,355,650
32	1,432,310

No. 680 boom

**Hoist reeving for main load block
two lead lines - 32 mm wire rope**

No. Parts of Line	Maximum Load lb
8	390,400
12	585,600
16	780,800
20	976,000
24	1,171,200
28	1,366,400
32	1,543,230

No. 680-681 boom with 25 ft extended upper boom point

**Hoist reeving for main load block
single lead line - 32 mm wire rope**

No. Parts of Line	Maximum Load lb
2	97,600
4	195,200
6	292,800

Maximum spooling capacities

Drum 1 (hoist line) 32 mm wire rope*	3,609 ft 10 layers
Drum 2 (hoist line) 32 mm wire rope*	3,609 ft 10 layers
Drum 3 (whip line) 28 mm wire rope*	1,900 ft 8 layers

*21 ft 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 ft per minute

Single line pull lb	Single line pull/single line speed ft/min Layer									
	1	2	3	4	5	6	7	8	9	10
0	307	335	364	392	421	449	477	506	534	563
10,000	293	319	344	369	394	419	443	467	491	515
20,000	279	302	324	346	368	389	409	429	439	445
30,000	265	285	294	300	305	311	316	321	327	332
40,000	227	233	238	244	249	254	260	265	274	288
48,800	197	202	208	213	218	230	244	254	253	252

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

Single line pull lb	Single line pull/single line speed ft/min Layer							
	1	2	3	4	5	6	7	8
0	297	322	347	371	396	421	446	471
5,000	284	306	329	351	373	394	416	437
10,000	270	291	311	330	349	368	386	404
15,000	257	275	291	296	301	305	310	315
20,000	225	230	235	240	244	249	254	258
25,000	192	196	201	206	211	216	228	240
30,000	169	174	179	190	202	214	225	237

Boom combinations

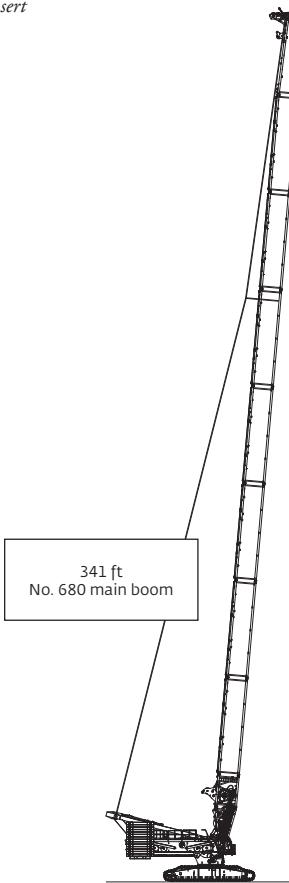
No. 680 main boom combinations

Boom length ft	Main boom inserts ft				
	13.1 XH	19.7 H	39.4 XH	39.4 H	39.4 M
105	1	0	1	0	0
124.7	1	1	1	0	0
144.4	1	0	1	1	0
164	1	1	1	1	0
183.7	1	0	1	2	0
203.4	1	1	1	2	0
223.1	1	0	1	2	1
242.8	1	1	1	2	1
262.5	1	0	1	2	2
282.2	1	1	1	2	2
301.8	1	0	1	2	3
321.5	1	1	1	2	3
341.2	1	0	1	2	4

XH: Extra heavy insert

H: Heavy insert

M: Medium insert



Boom combinations

No. 680-681 WA boom with 24.9 ft extended upper boom point

Boom length ft	Main boom inserts ft							
	13.1 XH	39.4 XH	39.4 H	39.4 M	9.8*	19.7*	19.7**	39.4*
292.0	1	1	2	2	0	0	1	1
301.8	1	1	2	2	1	0	1	1
311.7	1	1	2	2	0	1	1	1
321.5	1	1	2	2	1	1	1	1
331.4	1	1	2	3	0	0	1	1
341.2	1	1	2	3	1	0	1	1
351.0	1	1	2	3	0	1	1	1

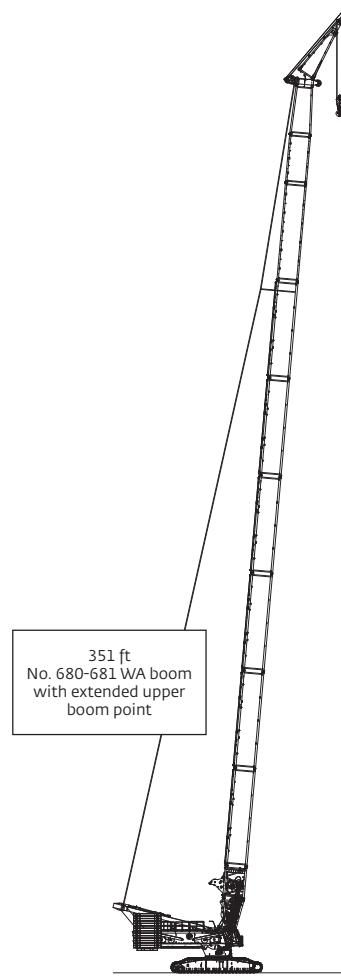
XH: Extra heavy insert

H: Heavy insert

M: Medium insert

* luffing jib insert

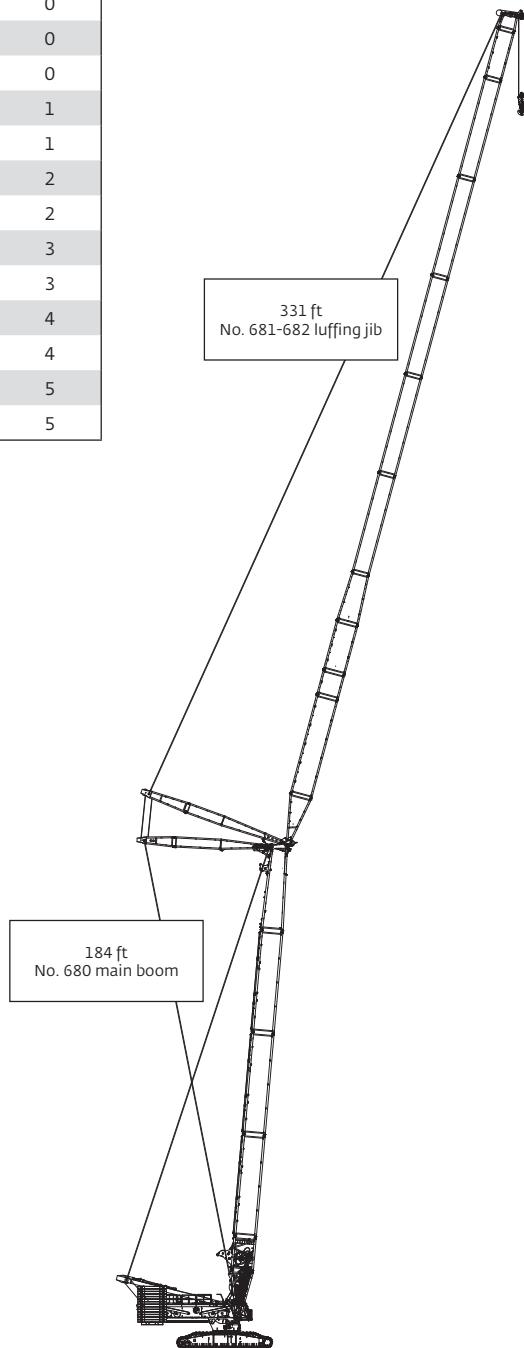
** luffing jib transition insert



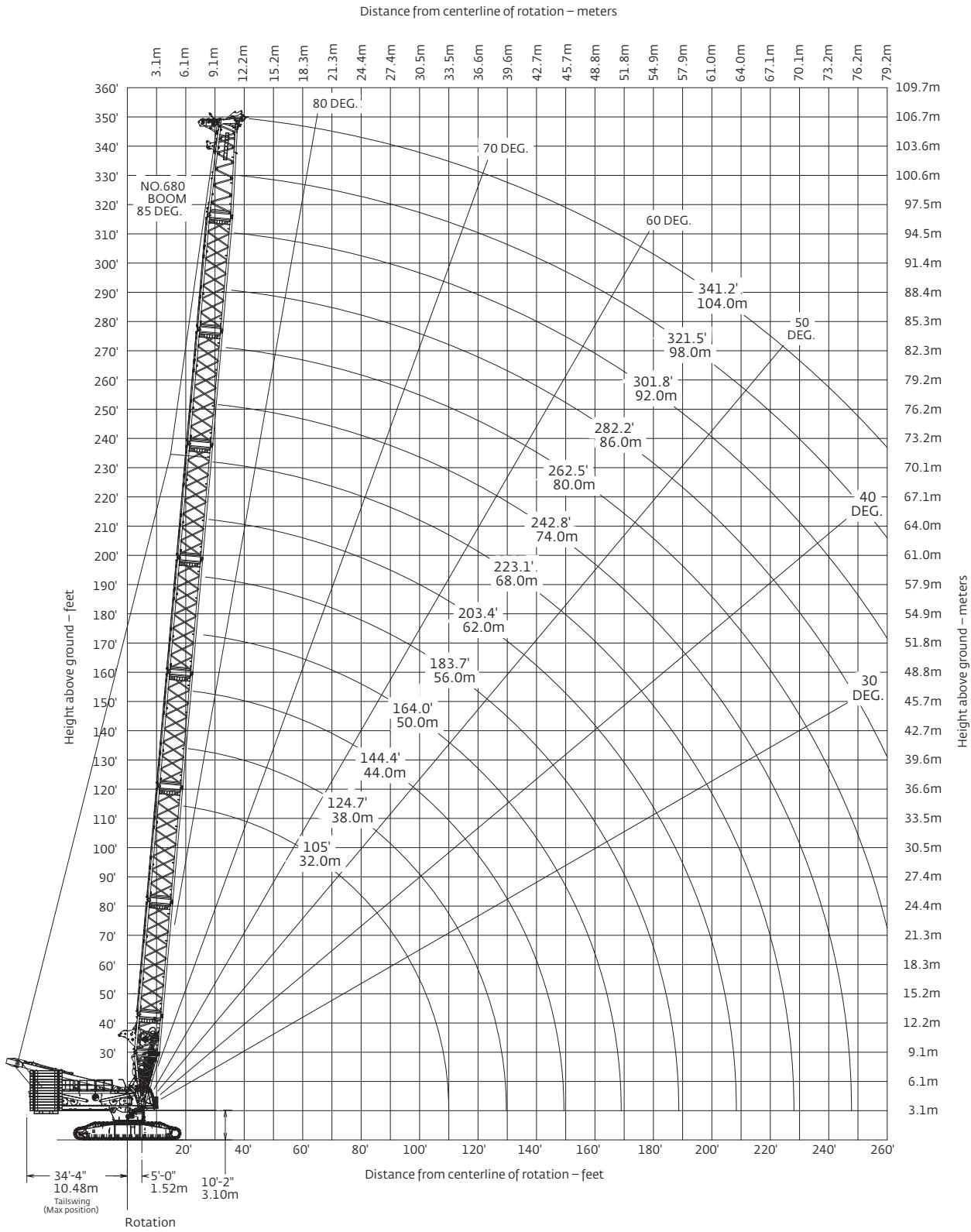
Boom combinations

No. 681-682 luffing jib combinations					
Luffing jib length ft	9.8	19.7	19.7*	39.4	39.4*
85.3	0	0	0	1	0
95.1	1	0	0	1	0
114.8	1	1	0	1	0
134.5	1	1	1	1	0
154.2	1	1	0	1	1
173.9	1	1	1	1	1
193.6	1	1	0	1	2
213.3	1	1	1	1	2
232.9	1	1	0	1	3
252.6	1	1	1	1	3
272.3	1	1	0	1	4
292.0	1	1	1	1	4
311.7	1	1	0	1	5
331.4	1	1	1	1	5

* Shallow depth inserts



Main boom range diagram

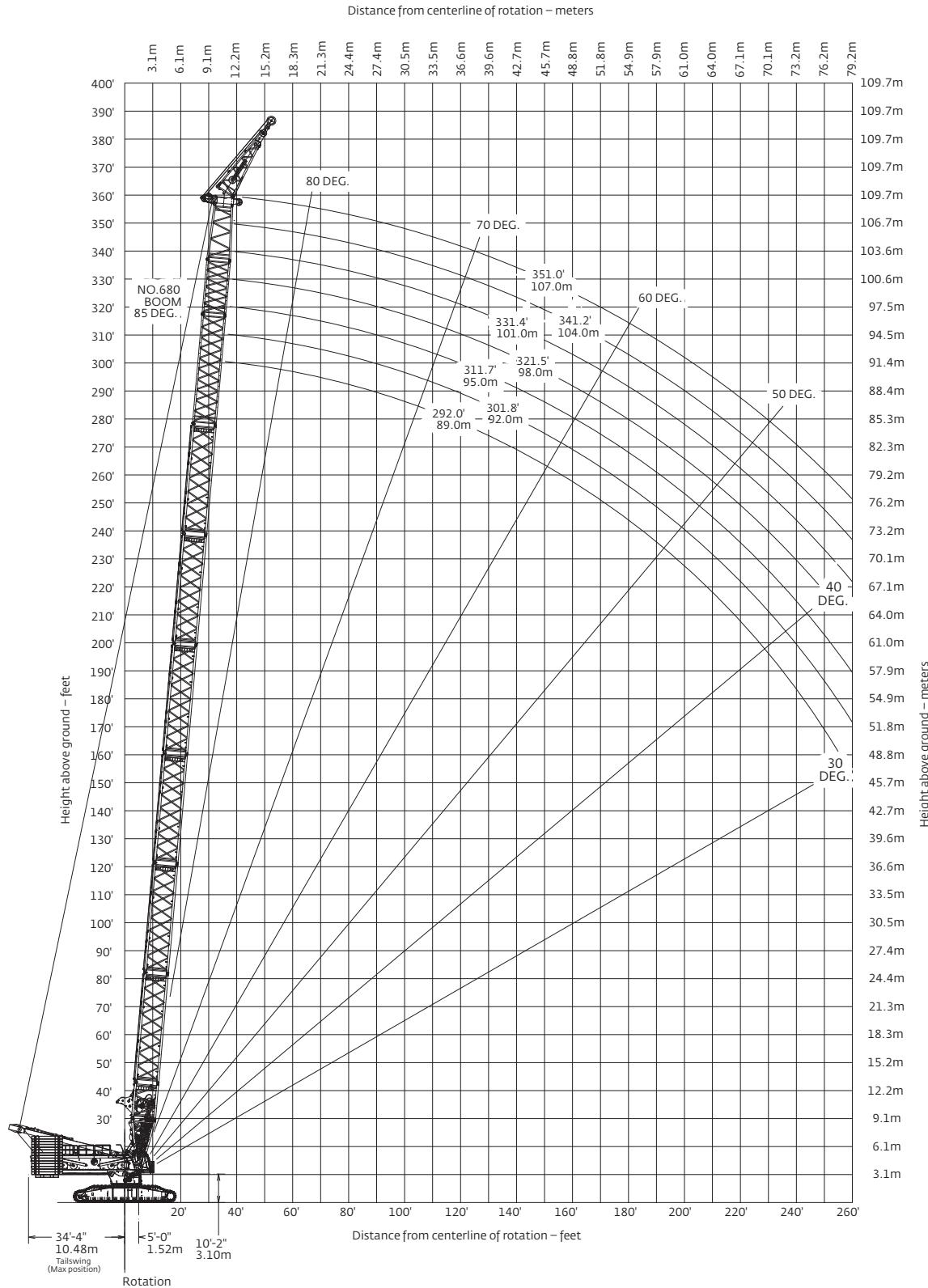


Main boom load charts

No. 680 boom													
661,386 lb counterweight													
360° Rating													
lb x 1000													
Radius ft													
105 125 144 164 184 203 223 243 262 282 302 322 341													
19	1433.0												
20	1241.0												
22	1150.4	1130.5	1107.8										
24	1071.9	1055.2	1036.0	1015.1									
26	1003.3	989.1	972.8	954.9	934.3								
28	942.8	930.6	916.6	901.2	883.4	863.4							
30	889.1	878.5	866.4	853.0	837.6	820.1	799.4						
32	841.0	831.9	821.3	809.6	796.0	780.8	762.5	744.0					
34	797.8	789.8	780.5	770.3	758.3	744.9	728.7	712.3	691.9	591.2			
36	758.8	751.7	743.5	734.5	723.9	712.0	697.6	682.9	667.7	586.6	483.9		
38	723.3	717.1	709.8	701.8	692.4	681.7	668.9	655.8	642.1	581.9	479.8	426.4	
40	690.9	685.4	678.9	671.8	663.4	653.9	642.3	630.5	618.1	577.2	475.8	423.9	357.7
45	613.7	617.0	612.1	606.7	600.2	592.9	583.9	574.8	565.0	555.8	465.7	416.3	350.6
50	528.0	534.2	539.1	544.8	547.7	542.0	534.9	527.6	519.8	512.4	455.9	408.5	344.1
55	462.9	468.4	472.9	477.9	481.8	486.6	489.4	487.3	480.9	474.9	446.3	401.0	337.8
60	411.8	416.8	420.9	425.4	428.9	433.2	435.7	439.8	441.6	442.3	436.0	393.6	331.6
65	370.6	375.3	378.9	383.1	386.3	390.2	392.4	396.1	397.8	401.5	403.1	386.5	325.6
70	336.7	341.0	344.4	348.2	351.2	354.7	356.8	360.2	361.7	365.1	366.5	370.2	319.4
75	308.3	312.4	315.6	319.1	321.8	325.1	327.0	330.1	331.5	334.6	335.9	339.3	313.7
80	284.2	288.0	291.0	294.3	296.8	299.9	301.6	304.5	305.8	308.7	309.9	313.0	308.0
85	263.5	267.1	269.9	273.0	275.3	278.2	279.8	282.5	283.7	286.4	287.5	290.5	291.4
90	245.4	248.9	251.5	254.4	256.7	259.3	260.9	263.4	264.5	267.0	268.1	270.8	271.7
95	229.6	232.9	235.4	238.2	240.3	242.8	244.3	246.6	247.7	250.0	251.0	252.1	251.0
100	215.6	218.7	221.2	223.8	225.8	228.2	229.6	231.8	232.8	235.0	235.9	233.0	231.9
105	203.1	206.1	208.5	211.0	212.9	215.1	216.5	218.5	219.5	219.7	219.3	215.9	214.8
110	194.9	197.1	199.5	201.3	203.4	204.7	206.7	207.6	204.5	204.1	200.5	199.4	
115	184.7	186.9	189.1	190.9	192.9	194.2	193.7	193.9	190.7	190.3	186.7	185.6	
120	175.4	177.6	179.7	181.4	183.4	184.6	181.3	181.4	178.2	177.8	174.2	173.1	
125	167.0	169.1	171.2	172.8	173.5	173.3	170.0	170.1	166.8	166.4	162.8	161.7	
130	161.4	163.4	165.0	163.2	163.0	159.6	159.7	156.4	156.0	152.3	151.3		
135	154.3	156.2	156.5	153.7	153.5	150.1	150.2	146.9	146.4	142.8	141.7		
140	147.7	148.8	147.8	144.9	144.7	141.3	141.4	138.1	137.6	133.9	132.9		
145	141.6	140.6	139.6	136.8	136.6	133.2	133.3	130.0	129.5	125.8	124.7		
150	133.0	132.1	129.2	129.0	125.6	125.7	122.4	121.9	118.2	117.1			
155		125.8	125.0	122.2	122.0	118.6	118.7	115.4	114.9	111.2	110.1		
160			119.1	118.4	115.7	115.5	112.1	112.2	108.9	108.4	104.6	103.6	
165				112.2	109.5	109.4	106.0	106.1	102.7	102.2	98.5	97.5	
170				106.4	103.8	103.6	100.3	100.4	97.0	96.5	92.8	91.7	
175				100.9	98.3	98.3	94.9	95.0	91.6	91.1	87.4	86.3	
180				95.6	93.2	93.2	89.8	89.9	86.6	86.1	82.3	81.3	
185					88.4	88.4	85.1	85.2	81.8	81.3	77.6	76.5	
190					83.8	83.8	80.5	80.7	77.3	76.8	73.1	72.0	
195					79.4	79.5	76.3	76.4	73.1	72.6	68.8	67.8	
200					75.1	75.4	72.2	72.4	69.0	68.5	64.8	63.7	
205						71.5	68.3	68.5	65.2	64.7	60.9	59.9	
210						67.8	64.7	64.9	61.5	61.1	57.3	56.3	
215						64.2	61.2	61.4	58.1	57.6	53.8	52.8	
220						60.7	57.8	58.1	54.8	54.3	50.5	49.5	
225							54.6	54.9	51.6	51.2	47.4	46.4	
230							51.5	51.9	48.6	48.2	44.4	43.4	
235							48.5	49.0	45.7	45.3	41.5	40.6	
240							45.6	46.2	42.9	42.5	38.8	37.8	
245								43.5	40.3	39.9	36.1	35.2	
250								40.9	37.7	37.4	33.6	32.7	
255								38.3	35.3	34.9	31.2	30.3	
260									32.9	32.6	28.9	27.9	
265									30.6	30.3	26.6	25.7	
270									28.4	28.1	24.5	23.6	
275									26.2	24.2	22.4	21.5	
280										20.4	20.3	19.5	
285										16.6	18.4	17.6	
290										16.5	15.7		

For complete chart, refer to www.cranelibrary.com.

Extended UBP range diagram

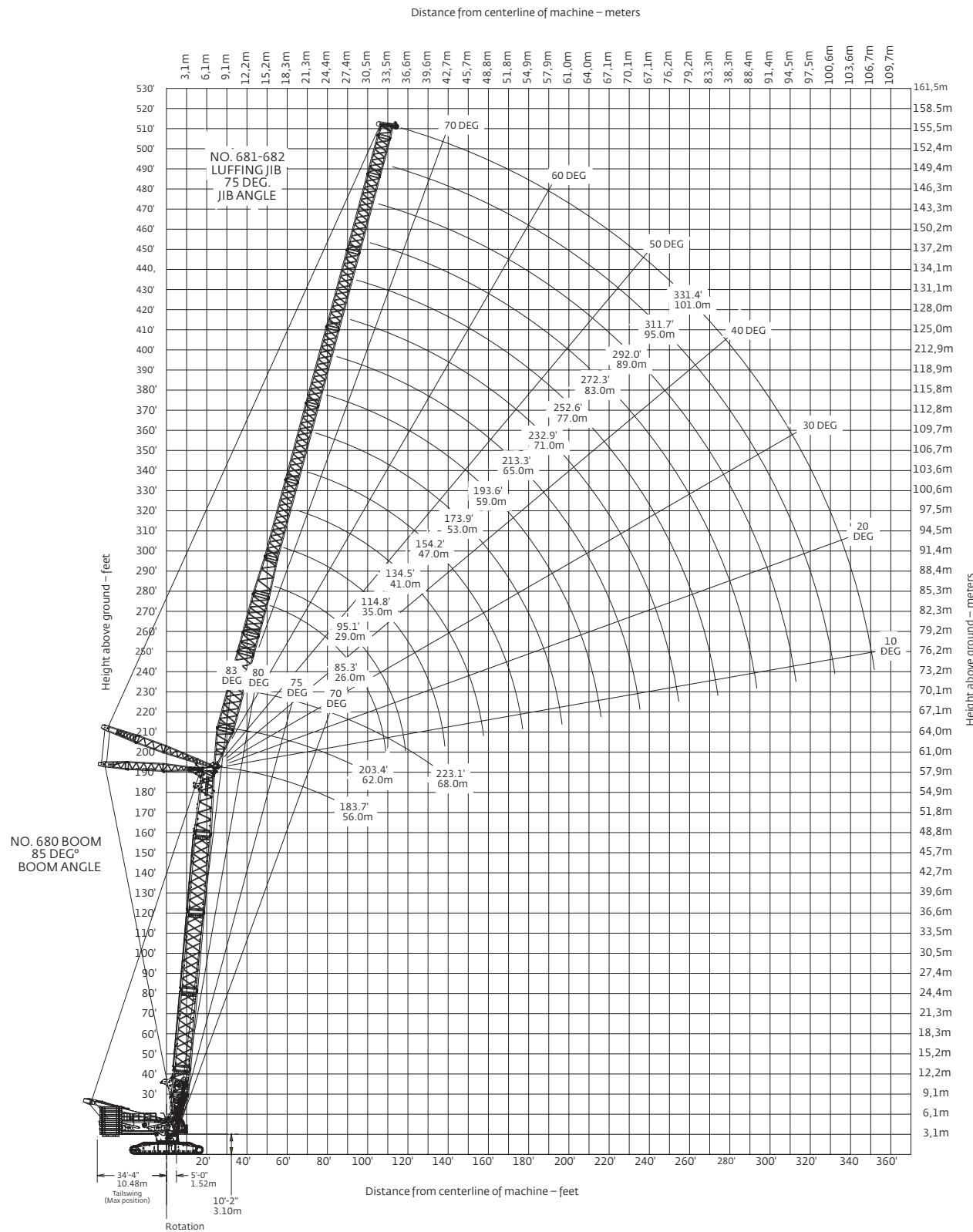


Extended UBP load charts

No. 680-681 WA boom with 24.9 ft extended UBP							
661,386 lb counterweight							
360° Rating		lb x 1000					
28° Offset		Boom length ft					
Radius ft		292	302	312	322	331	341
45		292.8					
50		292.8	292.8	292.8	292.8	292.8	273.0
55		292.8	292.8	292.8	292.8	287.8	268.7
60		292.8	292.8	292.8	292.8	283.3	264.4
65		292.8	292.8	292.8	292.8	278.8	260.1
70		292.8	292.8	292.8	289.7	292.8	274.5
75		292.8	292.8	292.8	283.3	287.3	267.5
80		292.8	292.8	292.8	277.1	280.9	261.0
85		292.1	292.8	292.0	271.3	274.8	254.8
90		272.6	274.1	274.8	265.7	268.9	249.0
95		255.5	256.9	257.6	258.6	259.1	243.4
100		240.3	241.7	242.3	243.3	243.7	238.0
105		226.8	228.1	228.7	229.6	230.1	228.4
110		214.8	215.9	216.1	214.4	214.4	212.7
115		203.9	202.5	202.0	200.3	200.3	198.5
120		191.8	189.7	189.2	187.5	187.4	185.7
125		180.2	178.1	177.5	175.8	175.8	174.0
130		169.6	167.4	166.9	165.2	165.1	163.4
135		159.8	157.7	157.1	155.4	155.3	153.5
140		150.8	148.7	148.1	146.4	146.3	144.5
145		142.5	140.4	139.8	138.0	138.0	136.2
150		134.9	132.6	132.1	130.3	130.2	128.4
155		127.7	125.5	124.9	123.1	123.0	121.2
160		121.0	118.8	118.2	116.4	116.3	114.5
165		114.8	112.5	111.9	110.2	110.1	108.2
170		108.9	106.7	106.1	104.3	104.2	102.4
175		103.5	101.2	100.6	98.8	98.7	96.8
180		98.3	96.0	95.4	93.6	93.5	91.7
185		93.4	91.1	90.5	88.7	88.6	86.8
190		88.8	86.5	85.9	84.1	84.0	82.2
195		84.5	82.2	81.6	79.8	79.7	77.8
200		80.4	78.1	77.5	75.6	75.5	73.7
205		76.5	74.1	73.5	71.7	71.6	69.8
210		72.8	70.4	69.8	68.0	67.9	66.0
215		69.2	66.9	66.3	64.5	64.4	62.5
220		65.9	63.5	62.9	61.1	61.0	59.1
225		62.7	60.3	59.7	57.9	57.8	55.9
230		59.6	57.2	56.6	54.8	54.7	52.8
235		56.7	54.3	53.7	51.9	51.8	49.9
240		53.8	51.5	50.9	49.1	49.0	47.1
245		51.1	48.8	48.2	46.4	46.3	44.4
250		48.6	46.2	45.6	43.8	43.7	41.8
255		46.1	43.7	43.1	41.3	41.2	39.3
260		43.7	41.3	40.7	38.9	38.8	37.0
265		41.4	39.0	38.4	36.6	36.6	34.7
270		39.1	36.8	36.2	34.4	34.3	32.5
275		37.0	34.6	34.1	32.3	32.2	30.3
280		34.9	32.6	32.0	30.2	30.2	28.3
285		32.9	30.6	30.0	28.3	28.2	26.3
290		30.1	28.6	28.1	26.3	26.3	24.4
295		25.0	26.7	26.2	24.5	24.4	22.6
300		20.0	24.9	24.4	22.7	22.6	20.8
305		15.0	23.1	22.7	20.9	20.9	18.4
310			21.4	20.9	19.2	19.2	17.4
315			18.4	19.3	17.6	17.6	15.7
320			15.0	16.9	15.9	16.0	15.1

No. 680-681 WA boom with 24.9 ft extended UBP							
661,386 lb counterweight							
360° Rating		lb x 1000					
35° Offset		Boom length ft					
Radius ft		292	302	312	322	331	341
50		292.8	292.8	292.8	292.8	281.3	
55		292.8	292.8	292.8	287.6	290.2	273.3
60		292.8	292.8	292.8	281.3	283.7	266.5
65		292.8	292.8	292.8	281.3	283.7	251.3
70		292.8	292.8	292.8	275.3	277.5	260.1
75		292.8	292.8	292.8	269.6	271.6	254.1
80		292.8	292.8	292.8	264.1	265.9	248.3
85		292.3	292.8	292.8	259.0	260.6	242.7
90		272.8	274.3	254.0	255.4	237.5	221.8
95		255.6	257.0	249.3	250.5	232.4	216.7
100		240.5	241.8	243.4	243.9	227.6	211.9
105		227.0	228.2	229.8	230.2	223.0	207.3
110		214.9	216.1	216.0	216.0	214.4	202.9
115		204.0	203.9	201.8	201.8	200.1	198.6
120		193.0	191.1	188.9	188.9	187.2	186.6
125		181.4	179.3	177.2	177.1	175.4	174.9
130		170.7	168.6	166.4	166.4	164.7	164.1
135		160.9	158.8	156.6	156.5	154.8	154.2
140		151.9	149.7	147.5	147.4	145.7	145.1
145		143.5	141.4	139.1	139.0	137.3	136.7
150		135.8	133.6	131.3	131.3	129.5	128.9
155		128.5	126.4	124.1	124.0	122.2	121.6
160		121.8	119.6	117.3	117.3	115.5	114.9
165		115.6	113.3	111.0	111.0	109.2	108.5
170		109.7	107.4	105.1	105.0	103.2	102.6
175		104.1	101.9	99.6	99.5	97.7	97.1
180		99.0	96.7	94.4	94.3	92.5	91.8
185		94.1	91.8	89.4	89.4	87.5	86.9
190		89.4	87.2	84.8	84.7	82.9	82.3
195		85.1	82.8	80.4	80.3	78.5	77.9
200		80.9	78.6	76.3	76.2	74.3	73.7
205		77.0	74.7	72.3	72.2	70.4	69.7
210		73.2	70.9	68.6	68.5	66.6	66.0
215		69.7	67.4	65.0	64.9	63.1	62.4
220		66.3	64.0	61.6	61.5	59.7	59.0
225		63.0	60.7	58.4	58.3	56.4	55.8
230		59.9	57.6	55.3	55.2	53.3	52.7
235		57.0	54.7	52.3	52.2	50.4	49.7
240		54.1	51.8	49.5	49.4	47.5	46.9
245		51.4	49.1	46.8	46.7	44.8	44.2
250		48.8	46.5	44.1	44.1	42.2	41.6
255		46.3	44.0	41.6	41.6	39.7	39.1
260		43.9	41.6	39.2	39.2	37.3	36.7
265		41.5	39.2	36.9	36.9	35.0	34.4
270		39.3	37.0	34.7	34.6	32.8	32.2
275		37.1	34.8	32.5	32.5	30.6	30.0
280		35.0	32.7	30.5	30.4	28.6	27.9
285		33.0	30.7	28.4	28.4	26.6	26.0
290		30.6	28.7	26.5	26.5	24.6	24.0
295		25.3	26.8	24.6	24.6	22.8	22.2
300		20.1	24.9	22.8	22.8	21.0	20.4
305			23.1	21.0	21.0	19.2	18.6
310			21.3	19.3	19.3	17.5	16.9
315			18.3	17.6	17.7	15.9	15.3
320			16.0	16.0	16.0		

Luffing jib range diagram



Luffing jib load charts

No. 681-682 luffing jib on No. 680 boom

661,386 lb counterweight

360° Rating

lb x 1000

85° boom angle

115 ft luffing jib length		Boom length ft				
Radius ft		144	164	184	203	223
55	502.1					
60	466.5	463.7	455.2	448.0		
65	426.4	432.4	426.1	420.1	395.4	
70	388.3	393.8	394.6	395.3	383.3	
75	356.5	361.5	362.2	365.4	366.9	
80	329.4	334.0	334.7	337.6	339.1	
85	306.1	310.4	311.0	313.8	315.1	
90	285.8	289.9	290.4	293.0	294.2	
95	268.0	271.8	272.4	274.8	276.0	
100	252.3	255.9	256.4	258.7	259.8	
105	238.3	241.7	242.2	244.3	245.4	
110	225.8	229.0	229.4	231.5	232.5	
115	214.4	217.5	217.9	219.9	220.8	
120	204.2	207.1	207.5	209.4	210.3	
125	194.8	197.6	198.0	199.8	200.6	
130	186.3	188.9	189.3	191.0	191.9	
135	178.4	181.0	181.4	183.0	183.8	
140				175.5	174.8	

154 ft luffing jib length		Boom length ft				
Radius ft		144	164	184	203	223
70	392.2	397.7	392.8			
75	360.0	365.1	365.8	357.0	296.7	
80	332.7	337.3	338.0	340.9	295.1	
85	309.1	313.5	314.1	316.8	292.8	
90	288.7	292.7	293.3	295.8	290.1	
95	270.7	274.5	275.0	277.4	278.6	
100	254.8	258.4	258.9	261.2	262.3	
105	240.7	244.1	244.6	246.7	247.7	
110	228.0	231.2	231.7	233.7	234.7	
115	216.6	219.6	220.1	222.0	222.9	
120	206.2	209.1	209.5	211.4	212.0	
125	196.8	199.6	200.0	201.7	200.9	
130	188.2	190.8	191.2	192.0	190.7	
135	180.3	182.8	183.2	182.5	181.3	
140	173.0	175.4	175.0	173.8	172.6	
145	166.3	168.6	166.9	165.7	164.6	
150	160.0	161.1	159.3	158.2	157.2	
155	154.0	154.0	152.3	151.2	150.2	
160	147.4	147.4	145.7	144.7	143.7	
165	141.0	141.1	139.5	138.5	137.6	
170	135.0	135.1	133.6	132.7	131.8	
175	128.8	129.3	127.9	127.1	126.3	
180				121.4	120.9	

For complete chart, refer to www.cranelibrary.com.

Luffing jib load charts

No. 681-682 luffing jib on No. 680 boom

661,386 lb counterweight

360° Rating

lb x 1000

85° boom angle

Radius ft	194 ft luffing jib length			
	144	164	184	203
80	335.9	327.3	296.8	
85	312.1	316.4	296.5	268.1
90	291.5	295.5	296.0	265.8
95	273.3	277.1	277.6	264.9
100	257.3	260.8	261.3	263.6
105	243.0	246.4	246.8	248.9
110	230.2	233.4	233.8	235.0
115	218.6	221.7	222.1	221.4
120	208.2	211.1	210.7	209.2
125	198.7	201.4	199.4	198.0
130	190.0	191.4	189.1	187.7
135	182.0	181.9	179.7	178.4
140	173.2	173.1	171.0	169.7
145	165.1	164.9	162.9	161.7
150	157.5	157.4	155.4	154.3
155	150.5	150.4	148.5	147.3
160	143.9	143.8	142.0	140.9
165	137.8	137.7	135.9	134.9
170	132.0	131.9	130.2	129.2
175	126.6	126.5	124.9	123.9
180	121.5	121.4	119.8	118.9
185	116.7	116.6	115.1	114.1
190	112.1	112.0	110.6	109.7
195	107.8	107.7	106.3	105.4
200	103.6	103.6	102.2	101.4
205	99.6	99.6	98.3	97.5
210	95.8	95.8	94.5	93.8
215		91.9	90.8	90.1

For complete chart, refer to www.cranelibrary.com.

Luffing jib load charts

No. 681-682 luffing jib on No. 680 boom

661,386 lb counterweight

360° Rating

lb x 1000

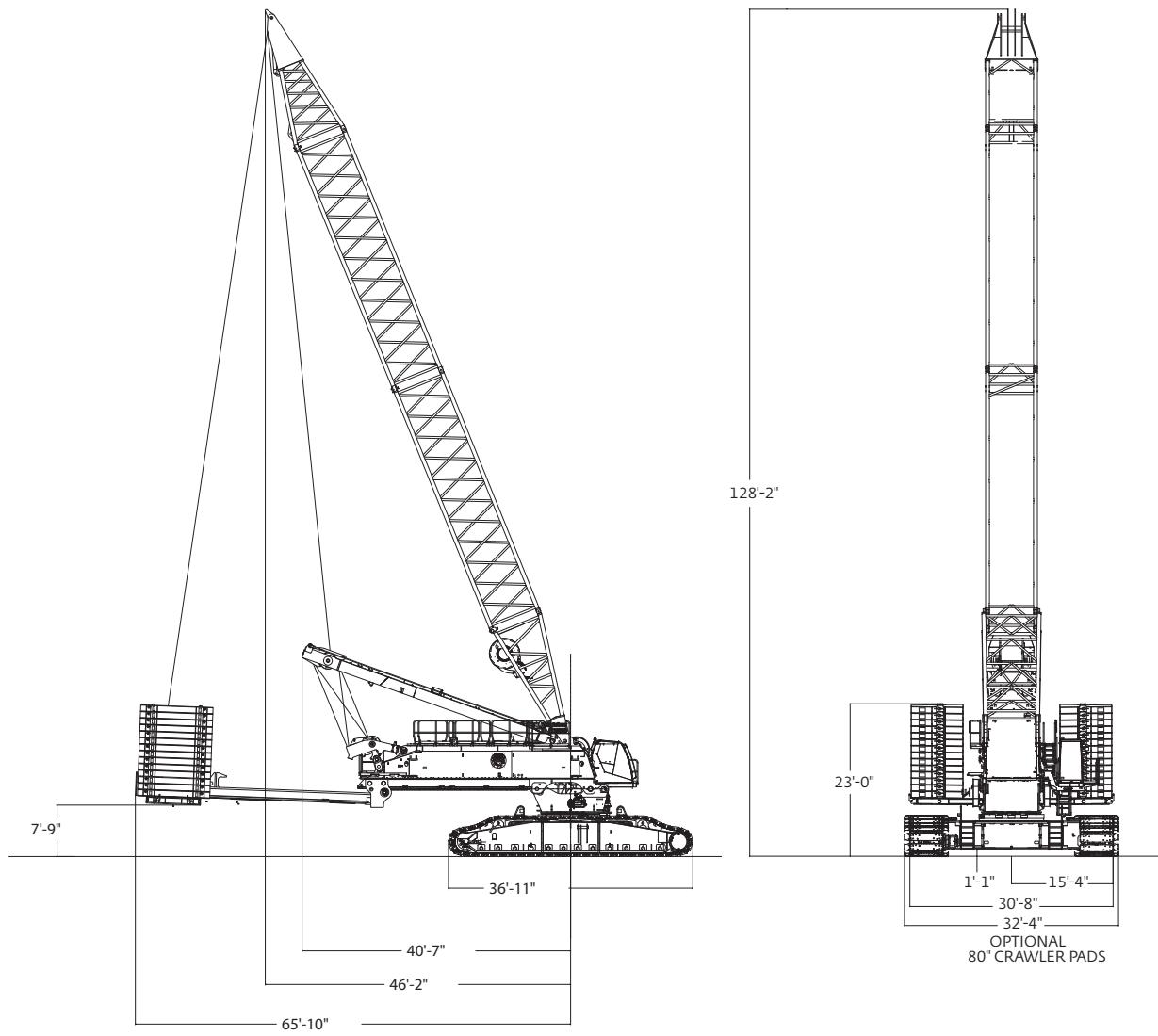
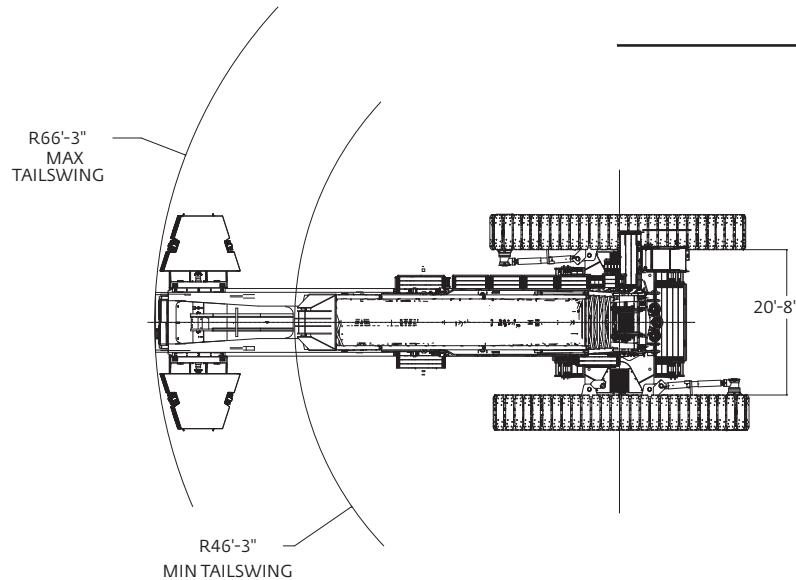
85° boom angle

Radius ft	253 ft luffing jib length			
	144	164	184	203
95	215.9	202.9	188.9	
100	215.4	201.8	187.9	173.2
105	214.8	201.4	187.5	172.8
110	214.2	200.9	187.1	171.9
115	213.5	200.3	186.5	171.4
120	205.5	199.7	186.0	170.8
125	194.1	193.8	185.4	170.2
130	183.7	183.4	181.0	169.6
135	174.2	173.9	171.5	168.9
140	165.4	165.1	162.9	161.5
145	157.2	157.0	154.8	153.5
150	149.7	149.4	147.4	146.1
155	142.7	142.4	140.5	139.2
160	136.2	135.9	134.0	132.8
165	130.1	129.8	128.0	126.8
170	124.3	124.1	122.3	121.2
175	119.0	118.8	117.0	115.9
180	113.9	113.7	112.0	111.0
185	109.2	109.0	107.3	106.3
190	104.7	104.5	102.9	101.9
195	100.4	100.2	98.7	97.7
200	96.4	96.2	94.7	93.8
205	92.6	92.4	90.9	90.0
210	88.9	88.8	87.3	86.4
215	85.5	85.3	83.9	83.0
220	82.2	82.0	80.7	79.8
225	79.0	78.9	77.5	76.7
230	76.0	75.9	74.6	73.8
235	73.1	73.0	71.7	70.9
240	70.3	70.2	69.0	68.2
245	67.7	67.6	66.4	65.6
250	65.1	65.0	63.8	63.1
255	62.6	62.5	61.4	60.7
260	60.2	60.1	59.0	58.3
265	57.9	57.8	56.7	56.1
270	55.5	55.5	54.5	53.8
275		53.0	52.2	51.6

For complete chart, refer to www.cranelibrary.com.

Outline dimensions

VPC-MAX



Transport data

VPC-MAX

Load summary		282 ft boom Quantity on trailer load # (Does not include blocking, strapping, etc.)																				
Item	Qty	Weight lb	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Upperworks module	1	85,950	1																			
Whip hoist	1	12,500										1										
Live mast package	1	59,400		1																		
Carbody + adapter	1	92,300			1																	
Crawler assembly (60" pads)	2	86,000				1	1															
Counterweight tray	1	44,000							1													
Counterweight box	28	22,046																	2	2	2	2
Boom butt with drum 1	1	43,150								1												
13' 1" No. 680 boom insert with drum 2	1	39,460									1											
39' 4" No. 680 heavy boom insert	1	27,150										1										
39' 4" No. 680 heavy boom insert	1	21,460											1									
39' 4" No. 680 heavy boom insert with equalizer rails	1	23,140												1								
19' 8" heavy boom insert	1	12,520												1								
39' 4" medium insert with suspension	1	22,740													1							
39' 4" medium insert	1	17,560														1						
32' 10" boom top	1	41,550																1				
350 t block (32 mm)	1	17,400													1							
22,2 mt weight ball	1	2,800											1									
VPC-MAX beam	1	47,000																				
VPC-MAX actuator	1	10,000														1						
Fixed mast 19' 7" butt + 19' 7" top	1	56,700																				
39' 4" mast insert	2	15,230																				
VPC-MAX counterweight box	10	22,046																				
Approximate total shipping weight lb				85,950	59,400	92,300	86,000	86,000	44,000	43,150	39,460	39,650	24,260	23,140	39,920	22,740	17,560	41,550	44,092	44,092	44,092	44,092

Transport data

VPC-MAX

(continued)

Load summary		282 ft boom Quantity on trailer load # (Does not include blocking, strapping, etc.)																	
Item	Qty	Weight lb	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Upperworks module	1	85,950																	
Whip hoist	1	12,500																	
Live mast package	1	59,400																	
Carbody + adapter	1	92,300																	
Crawler assembly (60" pads)	2	86,000																	
Counterweight tray	1	44,000																	
Counterweight box	28	22,046	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Boom butt with drum 1	1	43,150																	
13' 1" No. 680 boom insert with drum 2	1	39,460																	
39' 4" No. 680 heavy boom insert	1	27,150																	
39' 4" No. 680 heavy boom insert	1	21,460																	
39' 4" No. 680 heavy boom insert with equalizer rails	1	23,140																	
19' 8" heavy boom insert	1	12,520																	
39' 4" medium insert with suspension	1	22,740																	
39' 4" medium insert	1	17,560																	
32' 10" boom top	1	41,550																	
350 t block (32 mm)	1	17,400																	
22,2 mt weight ball	1	2,800																	
VPC-MAX beam	1	47,000										1							
VPC-MAX actuator	1	10,000																	
Fixed mast 19' 7" butt + 19' 7" top	1	56,700										1							
39' 4" mast insert	2	15,230											1	1					
VPC-MAX counterweight box	10	22,046										1	1	2	2	2	2	2	
Approximate total shipping weight lb			44,092	44,092	44,092	44,092	44,092	44,092	44,092	44,092	44,092	47,000	56,700	37,276	37,276	44,092	44,092	44,092	

Boom combinations

VPC-MAX

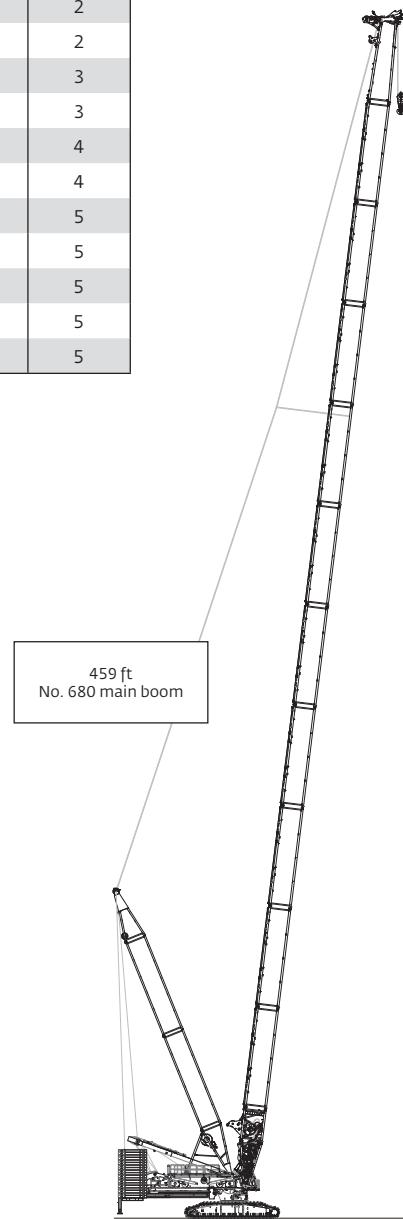
No. 680 VPC-MAX main boom combinations

Boom length ft	Main boom inserts ft				
	13.1 XH	19.7 H	39.4 XH	39.4 H	39.4 M
144.4	1	0	1	1	0
164.0	1	1	1	1	0
183.7	1	0	1	2	0
203.4	1	1	1	2	0
223.1	1	0	1	2	1
242.8	1	1	1	2	1
262.5	1	0	1	2	2
282.2	1	1	1	2	2
301.8	1	0	1	2	3
321.5	1	1	1	2	3
341.2	1	0	1	2	4
360.9	1	1	1	2	4
380.6	1	0	1	2	5
400.3	1	1	1	2	5
419.9	1	0	1	3	5
439.6	1	1	1	3	5
459.3	1	0	1	3	5

XH: Extra heavy insert

H: Heavy insert

M: Medium insert



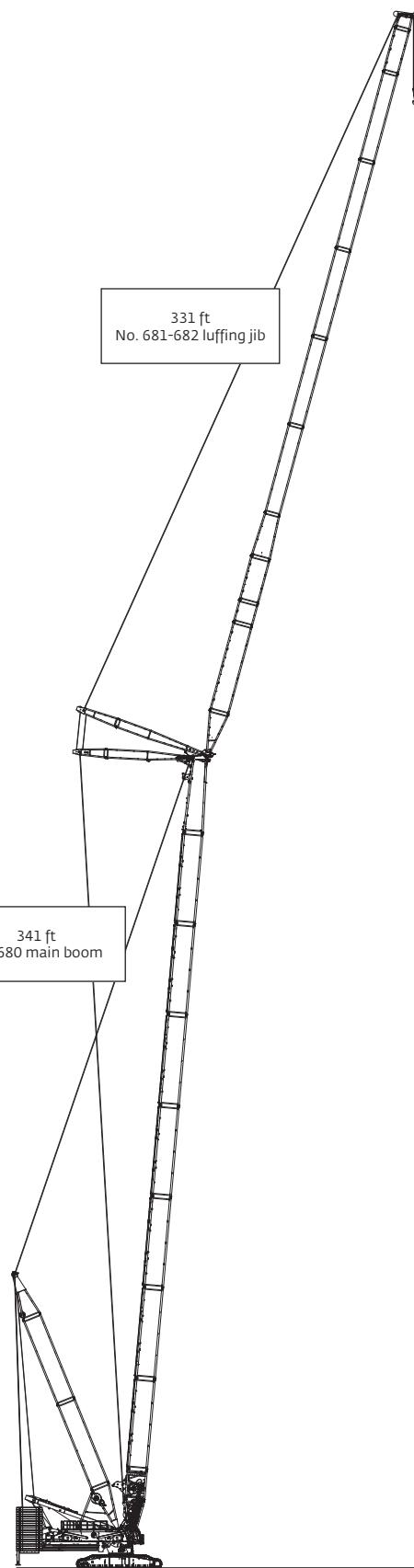
Boom combinations

VPC-MAX

No. 681-682 VPC-MAX luffing jib combinations

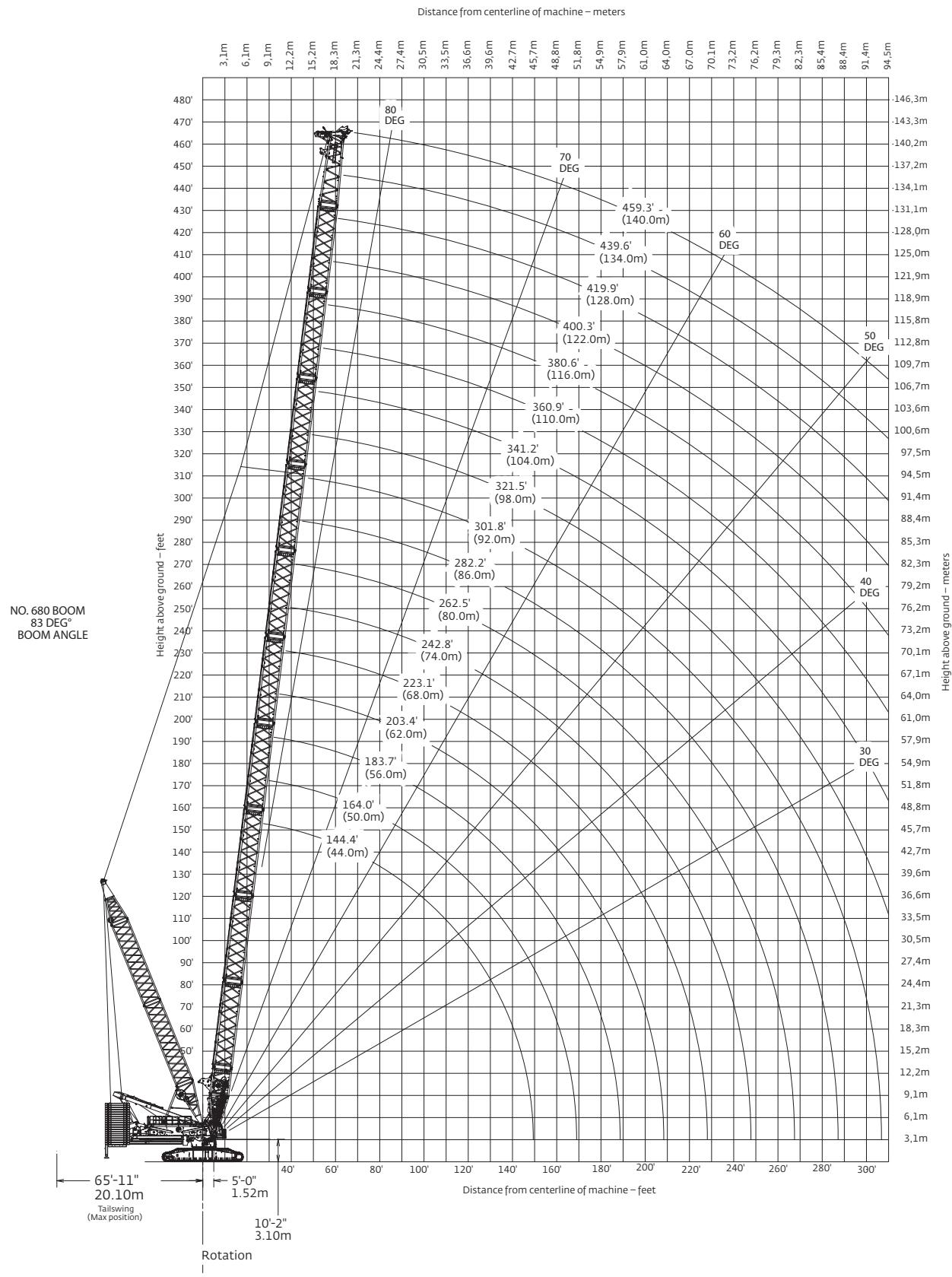
Luffing jib length ft	9.8	19.7	19.7*	39.4	39.4*
85.3	0	0	0	1	0
95.1	1	0	0	1	0
114.8	1	1	0	1	0
134.5	1	1	1	1	0
154.2	1	1	0	1	1
173.9	1	1	1	1	1
193.6	1	1	0	1	2
213.3	1	1	1	1	2
232.9	1	1	0	1	3
252.6	1	1	1	1	3
272.3	1	1	0	1	4
292.0	1	1	1	1	4
311.7	1	1	0	1	5
331.4	1	1	1	1	5

* Shallow inserts



Main boom range diagram

VPC-MAX



Main boom load charts

VPC-MAX

No. 680 boom VPC-MAX

881,848 lb counterweight

360° Rating

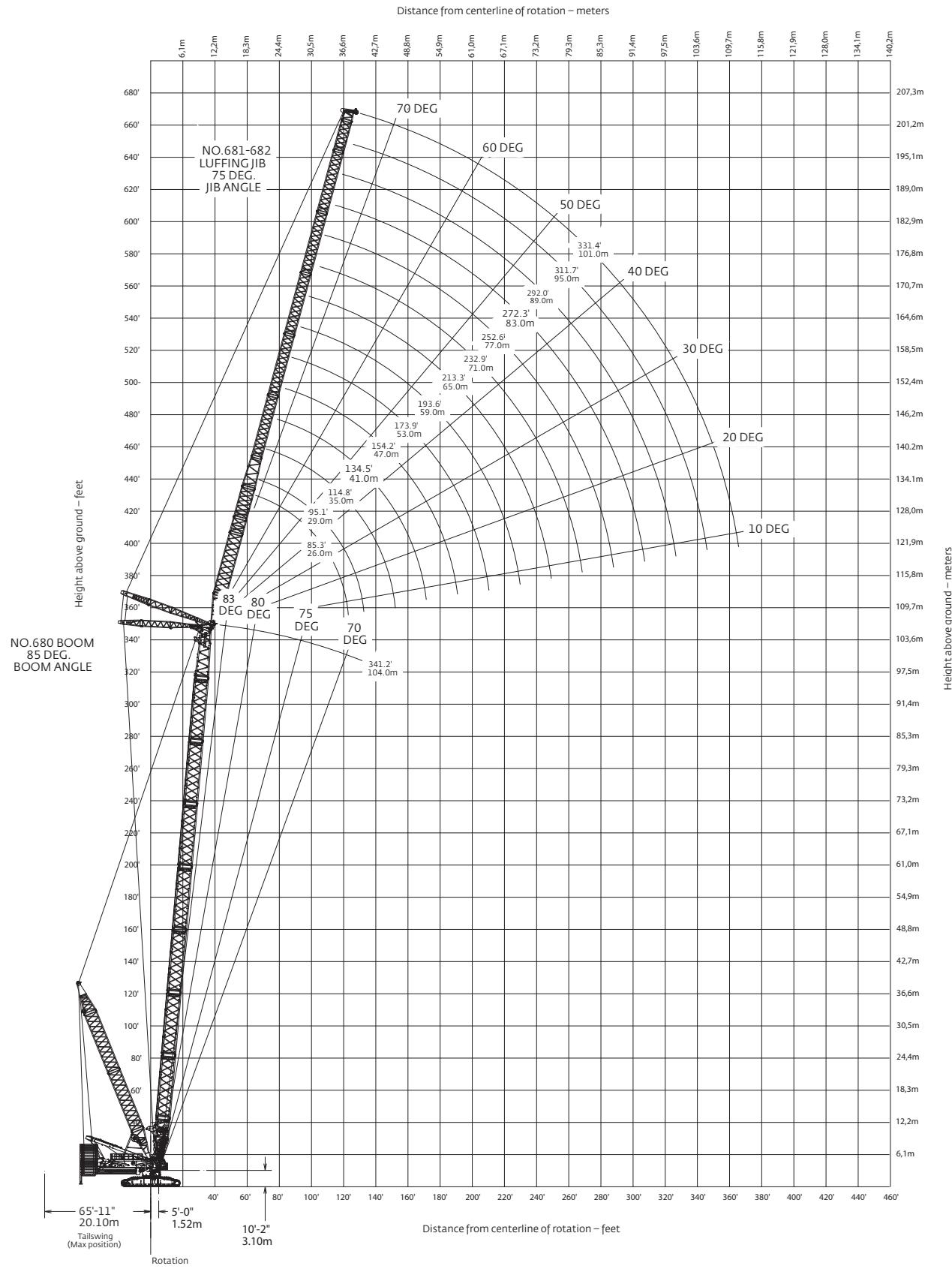
lb x 1000

Boom length ft

Radius ft	144	164	184	203	223	243	262	282	302	322	341	361	381	400	420	440
28	1543.2															
30	1466.3	1391.0														
32	1428.4	1356.6														
34	1392.3	1323.8	1257.6													
36	1392.3	1292.4	1229.2	1164.2												
38	1392.3	1286.7	1201.9	1139.6	1084.1	999.2										
40	1392.3	1286.7	1184.6	1116.0	1062.9	999.2										
42	1392.3	1286.7	1184.6	1116.0	1062.9	999.2										
44	1392.3	1286.7	1184.6	1116.0	1012.8	955.1	842.0	720.3								
45	1392.3	1286.7	1184.6	1116.0	1012.8	938.9	842.0	720.3	601.6	525.1	443.3	391.9	332.4	296.5		
46	1088.7	1085.3	1082.4	1078.8	1012.8	938.9	842.0	720.3	601.6	525.1	443.3	391.9	332.4	296.5	265.3	237.6
48	1002.9	999.6	996.8	993.1	990.7	938.9	842.0	720.3	601.6	525.1	443.3	391.9	331.0	296.5	260.9	235.2
50	1309.5	1286.7	1184.6	1116.0	1012.8	938.9	842.0	720.3	601.6	525.1	443.3	391.9	330.1	296.1	265.3	237.6
52	1189.5	1186.0	1183.1	1116.0	1012.8	938.9	842.0	720.3	601.6	525.1	443.3	391.9	328.9	295.0	264.9	237.5
54	808.2	805.0	802.3	798.6	798.8	795.0	787.7	720.3	601.6	525.1	441.4	391.5	327.6	293.8	263.9	237.4
56	758.2	755.0	752.4	748.7	748.8	745.0	744.0	720.3	601.6	525.1	439.5	390.1	326.4	292.6	262.9	237.2
58	713.6	710.4	707.8	704.1	704.3	700.4	700.1	691.5	599.7	523.9	437.5	388.6	325.1	291.8	261.8	236.2
60	673.6	670.4	667.8	664.1	664.3	660.4	660.2	656.2	590.8	521.6	435.5	387.1	323.8	290.7	260.9	235.2
62	637.4	634.4	631.8	628.0	628.3	624.4	624.1	620.1	576.9	519.1	433.4	385.6	322.5	289.4	260.0	234.2
64	602.3	600.3	598.5	595.3	595.6	591.7	591.4	587.4	563.1	511.8	431.3	384.0	321.1	288.2	258.9	233.4
66	567.9	565.9	564.1	561.5	562.4	559.6	559.9	556.9	549.5	498.7	421.2	382.4	319.7	287.0	257.8	232.4
68	536.9	534.9	533.1	530.5	531.3	528.5	528.7	525.8	525.4	486.0	410.7	380.8	318.4	285.7	256.8	231.4
70	508.8	506.8	505.0	502.4	503.2	500.3	500.5	497.5	497.2	473.3	400.2	379.1	317.0	284.5	255.6	230.4
72	483.1	481.2	479.4	476.7	477.5	474.6	474.8	471.8	471.4	461.0	389.9	377.4	315.6	283.2	254.5	229.3
74	459.6	457.8	456.0	453.3	454.1	451.1	451.3	448.3	447.9	444.8	379.8	375.7	314.1	281.9	253.4	228.3
76	438.1	436.2	434.5	431.8	432.5	429.6	429.8	426.7	426.3	423.2	369.7	374.0	312.7	280.6	252.3	227.2
78	418.1	416.4	414.7	411.9	412.7	409.7	409.9	406.8	406.4	403.3	359.9	372.3	311.3	279.3	251.2	226.2
80	399.6	398.0	396.4	393.6	394.4	391.4	391.5	388.4	388.0	384.9	350.2	370.5	309.8	278.0	250.0	225.1
82	381.0	379.4	376.6	377.4	374.3	374.5	374.5	371.4	371.0	367.8	340.7	363.4	308.4	276.7	248.9	224.1
84	365.1	363.6	360.8	361.5	358.5	358.7	358.7	355.5	355.1	351.9	331.3	347.4	306.9	275.4	247.7	223.0
86	350.3	348.8	346.0	346.8	343.7	343.9	343.9	340.8	340.3	337.1	322.1	332.6	305.4	274.0	246.6	222.0
88	335.0	332.3	330.0	330.0	330.1	330.1	330.1	327.0	326.5	323.3	313.0	318.8	303.4	272.7	245.4	220.9
90	322.1	319.3	320.1	317.0	317.2	314.0	313.6	310.4	301.9	301.5	298.2	295.3	293.6	292.5	270.0	243.1
92	309.9	307.2	308.0	304.9	305.1	301.9	301.5	301.5	298.2	293.7	233.9	232.7	229.2	226.5	204.6	
94	298.4	295.8	296.6	293.5	293.7	290.5	290.1	286.8	285.9	282.2	281.0	268.7	241.9	217.7		
96	285.0	285.8	282.8	282.9	279.7	279.3	276.0	275.2	271.4	270.3	266.8	240.7	216.6			
98	274.8	275.7	272.6	272.8	269.6	269.2	265.9	265.0	261.2	260.1	256.6	239.5	215.5			
100	265.1	266.1	263.0	263.2	260.0	259.6	256.3	255.4	251.6	250.5	247.0	238.4	213.5			
102	255.9	256.9	253.9	254.1	250.9	250.5	247.2	247.2	246.3	242.5	241.4	237.9	235.1	209.0		
104	248.3	245.3	245.5	245.5	242.3	241.9	238.6	237.7	233.9	232.7	229.2	226.5				
106	240.0	237.1	237.3	234.1	233.7	230.4	229.5	225.7	224.5	221.0	218.3	200.4				
108	232.2	229.2	229.5	226.3	225.9	222.6	222.6	221.7	217.9	216.7	213.2	210.5	196.4			
110	224.6	221.8	222.1	218.9	218.5	215.2	214.3	210.5	209.3	207.8	203.1	203.1	192.5			
112	214.7	215.0	211.8	211.4	208.1	208.1	207.3	203.4	202.3	198.7	196.0	188.7				
114	207.8	208.2	205.0	205.0	204.7	201.3	201.3	200.5	196.7	195.5	192.0	189.3	185.0			
116	201.3	201.7	198.6	198.2	194.9	194.1	190.2	189.1	185.5	182.8	179.2					
118	195.0	195.5	192.4	192.0	188.7	187.9	184.0	182.9	179.4	176.6	173.0					
120	189.6	186.4	184.6	186.1	182.8	182.0	178.1	177.0	173.5	170.7	167.1					
122	183.8	180.8	180.4	177.1	176.3	172.5	171.3	167.8	165.1	161.4						
124	178.3	175.3	175.0	171.7	170.9	167.0	165.9	162.4	159.7	156.0						
126	170.0	169.8	166.5	165.7	165.7	161.8	160.7	157.2	154.5	150.8						
128	165.0	164.7	164.7	161.5	159.3	156.8	155.7	152.2	149.5	145.8						
130	160.1	159.9	156.6	156.6	152.0	146.1	147.4	146.2	142.7	140.0	136.4					
132	155.3	155.2	152.0	146.1	147.4	146.1	147.4	146.2	142.7	140.0	136.4					
134	150.7	147.5	139.6	142.9	141.8	138.3	135.6	131.9	129.4	126.5	121.9	119.3	115.6			
136	146.3	143.1	133.3	138.6	137.5	134.0	131.3	128.7	125.5	122.6	119.3	115.6				
138	142.1	139.0	126.9	134.4	133.3	129.8	127.1	124.4	121.7	118.2	115.5	111.9				
140	138.0	134.9	120.5	120.5	120.5	120.5	120.5	120.5	120.5	120.5	120.5	119.3				
142	131.0	114.2	126.5	125.5	121.9	119.3	115.6	112.2	109.7	107.7	105.0	101.4				
144	124.7	108.0	122.8	121.7	118.2	115.5	111.9	112.2	107.9	104.4	101.8	98.1				
146	116.5	101.7	119.1	118.1	114.6	111.9	108.3	112.2	107.9	104.4	101.2	98.6	95.0			
148	107.7	95.3	115.6	114.6	111.1	108.4	104.8	112.2	107.9	104.4	101.2	98.6	95.5			
150	89.0	82.5	108.9	107.9	104.4	101.8	98.1	112.2	107.9	104.4	101.2	98.6	95.5			
152	75.9	68.9	105.7	104.7	101.2	98.2	95.2	98.6	95.2	92.5	89.6	86.0				
154	68.9	62.6	102.6	101.6	98.2	95.2	92.5	88.9	93.6	84.8	86.8	83.2				
156	66.4	56.6	152.0	146.1	147.4	146.2	142.7	144.6	141.8	138.3	135.6	131.9				
158	56.6	46.3	78.8	78.8	76.3	76.3	72.7	78.8	76.3	72.7	70.2					
160	55.6	43.2	66.4	66.4	64.5	64.5	61.0	66.4	64.5	61.0	59.5					
162	56.6	48.7	62.4	62.4	60.2	60.2	58.8	62.4	60.2	58.8	56.8					
164	56.2	48.7	69.1	69.1	65.5	65.5	63.3	69.1	65.5	63.3	61.0					
166	56.2	48.7	71.4	71.4	67.9	67.9	65.5	71.4	67.9	65.5	63.3					

Luffing jib range diagram

VPC-MAX



Luffing jib load charts

VPC-MAX

No. 681-682 luffing jib on No. 680 boom VPC-MAX

881,848 lb counterweight

360° Rating

lb x 1000

85° boom angle

115 ft luffing jib length		Boom length ft				
Radius ft		184	223	262	302	341
60	649.8					
65	633.4	450.2				
70	614.7	450.2	328.7	252.1		
75	595.8	445.4	327.5	243.3	189.9	
80	577.1	429.8	325.2	239.3	187.2	
85	558.8	402.9	322.1	237.6	178.0	
90	539.2	379.3	318.5	235.2	175.1	
95	510.2	358.7	311.4	232.5	173.4	
100	482.4	340.6	299.1	229.7	171.5	
105	456.1	324.6	287.1	227.0	169.4	
110	431.7	310.8	275.7	222.3	167.5	
115	409.4	298.8	264.8	214.6	165.7	
120	389.5	288.6	254.8	207.2	163.1	
125	362.5	280.3	245.8	200.6	161.4	
130	316.0	274.3	238.1	194.6	156.8	
135	267.8	271.2	232.0	189.6	152.9	
140		262.4	228.7	186.1	149.6	
145			228.7	184.8	147.6	
150					147.6	

194 ft luffing jib length		Boom length ft				
Radius ft		184	223	262	302	341
80	331.0					
85	331.0	254.0				
90	331.0	254.0		197.9	154.7	
95	331.0	254.0		197.9	150.6	118.4
100	331.0	254.0		197.6	150.1	117.5
105	330.7	254.0		196.9	149.4	116.3
110	327.5	252.7		196.1	148.7	112.1
115	317.7	245.7		195.0	147.7	111.3
120	307.5	238.4		191.6	146.6	110.4
125	297.0	230.9		186.1	145.4	109.4
130	286.7	223.6		180.5	144.1	108.3
135	276.2	216.1		175.0	140.5	107.2
140	265.8	208.7		169.4	136.4	106.1
145	255.5	201.3		163.9	132.3	104.7
150	245.5	194.1		158.6	128.3	101.8
155	235.9	187.2		153.3	124.5	98.9
160	226.5	180.5		148.2	120.7	96.0
165	217.5	174.0		143.4	117.0	93.3
170	209.2	167.9		138.7	113.5	90.6
175	201.2	162.1		134.2	110.1	88.1
180	193.8	156.6		130.1	106.9	85.6
185	186.8	151.6		126.2	103.9	83.3
190	180.5	146.9		122.5	101.1	81.2
195	174.8	142.6		119.3	98.6	79.2
200	169.8	139.0		116.4	96.3	77.5
205	165.8	136.0		113.9	94.3	75.9
210	161.4	133.7		112.0	92.7	74.6
215	139.4	132.8		110.9	91.6	73.6
220		132.8		110.9	91.2	73.0
225					91.2	73.0
230						73.0

For complete chart, refer to www.cranelibrary.com.

Luffing jib load charts

VPC-MAX

No. 681-682 luffing jib on No. 680 boom VPC-MAX

881,848 lb counterweight

360° Rating

lb x 1000

85° boom angle

253 ft luffing jib length		Boom length ft				
Radius ft		184	223	262	302	341
95	203.2					
100	203.2	165.8				
105	203.1	165.7	134.0	105.1		
110	202.9	165.7	134.0	104.8	80.1	
115	202.5	165.5	134.0	104.7	79.7	
120	202.1	165.2	133.8	104.5	79.2	
125	201.6	164.8	133.5	104.2	77.0	
130	201.1	164.4	133.1	103.8	76.6	
135	200.6	163.9	132.7	103.3	76.2	
140	200.0	163.3	132.1	102.7	75.6	
145	199.3	159.9	129.3	102.0	75.1	
150	197.2	156.2	126.3	100.2	74.4	
155	192.3	152.3	123.3	97.9	73.8	
160	187.3	148.5	120.2	95.4	73.1	
165	182.3	144.6	117.1	93.0	71.5	
170	177.3	140.7	114.1	90.6	69.7	
175	172.3	136.8	111.0	88.2	67.9	
180	167.3	133.0	108.0	85.9	66.1	
185	162.4	129.2	105.0	83.6	64.4	
190	157.6	125.4	102.0	81.3	62.7	
195	152.8	121.8	99.2	79.1	61.1	
200	148.2	118.3	96.4	76.9	59.4	
205	143.7	114.8	93.7	74.8	57.8	
210	139.4	111.5	91.1	72.8	56.3	
215	135.2	108.3	88.6	70.9	54.8	
220	131.2	105.3	86.2	69.0	53.4	
225	127.4	102.4	83.9	67.3	52.0	
230	123.8	99.7	81.8	65.6	50.8	
235	120.5	97.1	79.8	64.0	49.5	
240	117.3	94.7	77.9	62.6	48.4	
245	114.4	92.5	76.2	61.2	47.4	
250	111.8	90.6	74.6	60.0	46.4	
255	109.5	88.8	73.2	58.9	45.6	
260	107.5	87.4	72.1	58.0	44.8	
265	106.2	86.4	71.2	57.3	44.2	
270	96.4	85.8	70.7	56.8	43.8	
275	81.2	85.8	70.7	56.6	43.6	
260		79.7	70.7	56.6	43.6	
265				56.6	43.6	
270					43.6	

331 ft luffing jib length		Boom length ft				
Radius ft		184	223	262	302	341
115	108.9					
120	108.2	90.1				
125	107.8	89.9	75.9	60.9		
130	107.3	89.7	75.8	60.7	45.5	
135	106.7	89.5	75.7	60.7	45.4	
140	106.3	89.2	75.6	60.6	45.3	
145	105.9	88.9	75.4	60.5	45.1	
150	105.3	88.6	75.2	60.3	44.9	
155	104.8	88.3	75.0	60.0	44.7	
160	104.2	87.9	74.7	59.8	44.4	
165	103.6	87.6	74.4	59.6	44.0	
170	103.1	87.2	74.1	59.3	43.1	
175	102.5	86.9	73.8	58.4	42.3	
180	102.0	86.5	73.4	57.3	41.3	
185	101.5	86.1	72.9	56.2	40.4	
190	100.9	85.8	71.5	55.0	39.5	
195	100.4	85.4	70.2	53.9	38.6	
200	99.9	85.0	68.8	52.7	37.6	
205	99.4	84.0	67.4	51.6	36.7	
210	98.8	82.4	66.0	50.4	35.7	
215	98.4	80.8	64.6	49.3	34.8	
220	97.9	79.2	63.2	48.1	33.9	
225	97.4	77.5	61.9	47.0	32.9	
230	95.4	75.9	60.5	45.8	32.0	
235	93.5	74.3	59.1	44.7	31.1	
240	91.5	72.7	57.8	43.6	30.2	
245	89.7	71.2	56.4	42.5	29.4	
250	87.8	69.6	55.1	41.5	28.5	
255	86.0	68.1	53.9	40.4	27.7	
260	84.1	66.6	52.6	39.4	26.9	
265	82.3	65.1	51.4	38.5	26.2	
270	80.6	63.7	50.2	37.5	25.4	
275	78.9	62.3	49.1	36.6	24.7	
280	77.2	60.9	48.0	35.7	24.0	
285	75.6	59.7	46.9	34.9	23.3	
290	74.1	58.4	46.0	34.1	22.7	
295	72.6	57.2	45.0	33.3	22.1	
300	71.1	56.1	44.0	32.6	21.5	
305	69.8	55.0	43.2	31.9	21.0	
310	68.5	54.0	42.4	31.3	20.5	
315	67.4	53.2	41.7	30.7	20.1	
320	66.3	52.3	41.0	30.2	19.7	
325	65.3	51.6	40.5	29.8	19.3	
330	64.5	51.0	40.0	29.4	19.0	
335	61.3	50.5	39.6	29.1	18.8	
340	56.5	50.2	39.4	28.9	18.6	
345	50.9	50.1	39.3	28.8	18.5	
350	42.7	47.7	39.3	28.8	18.5	
355	31.0	41.1	39.3	28.8	18.5	
360			39.3	28.8	18.5	
365				28.8	18.5	

For complete chart, refer to www.cranelibrary.com.

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Manitowoc Cranes

Regional headquarters

Americas**Manitowoc, Wisconsin, USA**

Tel: +1 920 684 6621

Fax: +1 920 683 6277

Shady Grove, Pennsylvania, USA

Tel: +1 717 597 8121

Fax: +1 717 597 4062

Europe, Middle East, Africa**Ecully, France**

Tel: +33 (0)4 72 18 20 20

Fax: +33 (0)4 72 18 20 00

China**Shanghai, China**

Tel: +86 21 6457 0066

Fax: +86 21 6457 4955

Greater Asia-Pacific**Singapore**

Tel: +65 6264 1188

Fax: +65 6862 4040

Regional offices

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