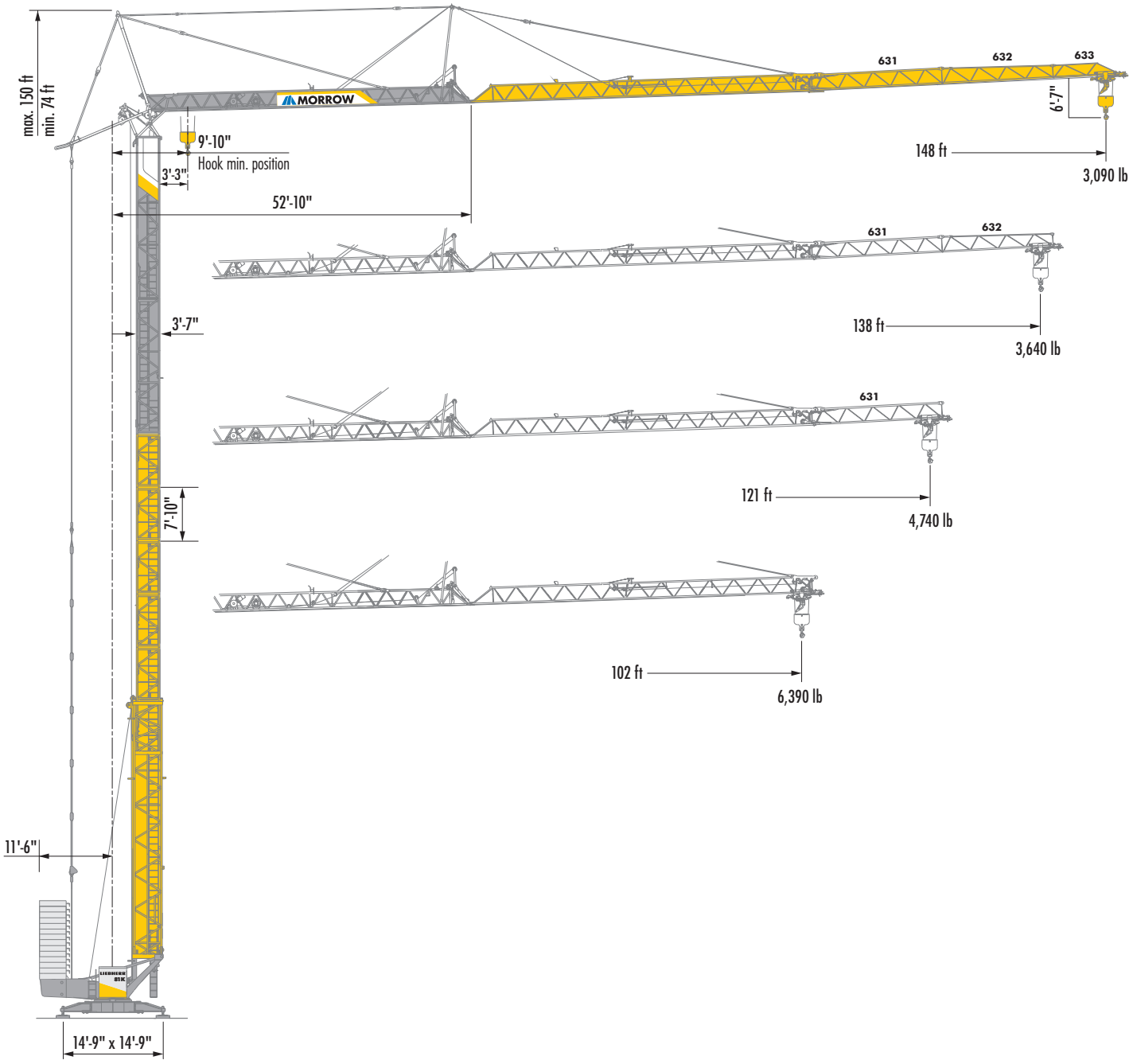
81 K

6t

LIEBHERR Fast-Erecting Tower Crane

Configurations

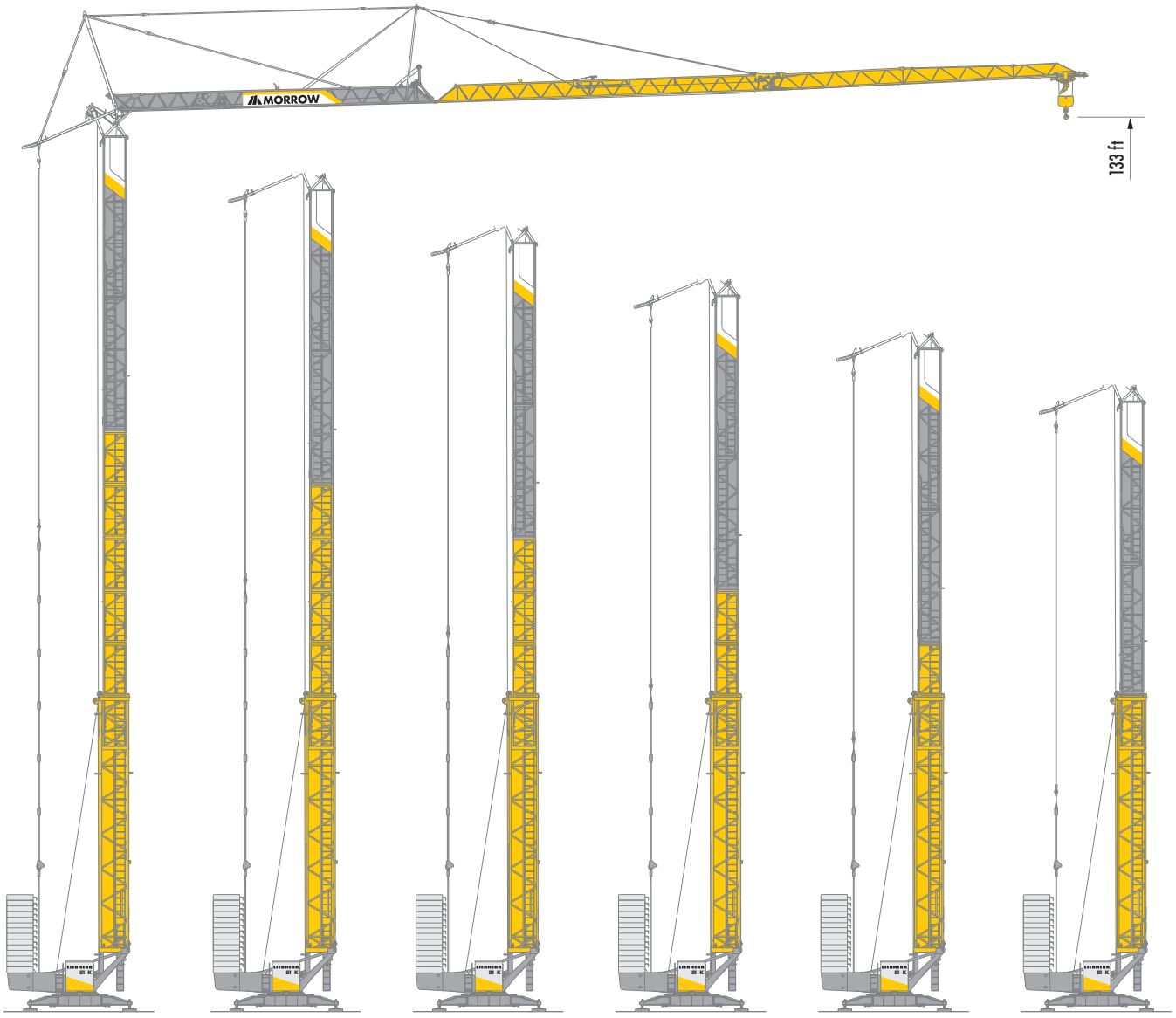


IMPORTANT: Consult 81 K Instruction Manual before erecting, operating, servicing and dismantling crane.

REYNOLDS TOWER & HOIST

Rental, RPO, Sales, A&D Iron Worker Crew, Certified Operators:
Amy Marten, 920-860-1488
Service, Parts, Annual Inspections:
Kevin Perkins, 608-516-2550

Tower Configurations



Configuration 11
With six tower sections
133 ft hook
height.

Configuration 10
With five tower sections
125 ft hook
height.

Configuration 9
With four tower sections
117 ft hook
height.

Configuration 8
With three tower sections
109 ft hook
height.

Configuration 7
With two tower sections
101 ft hook
height.

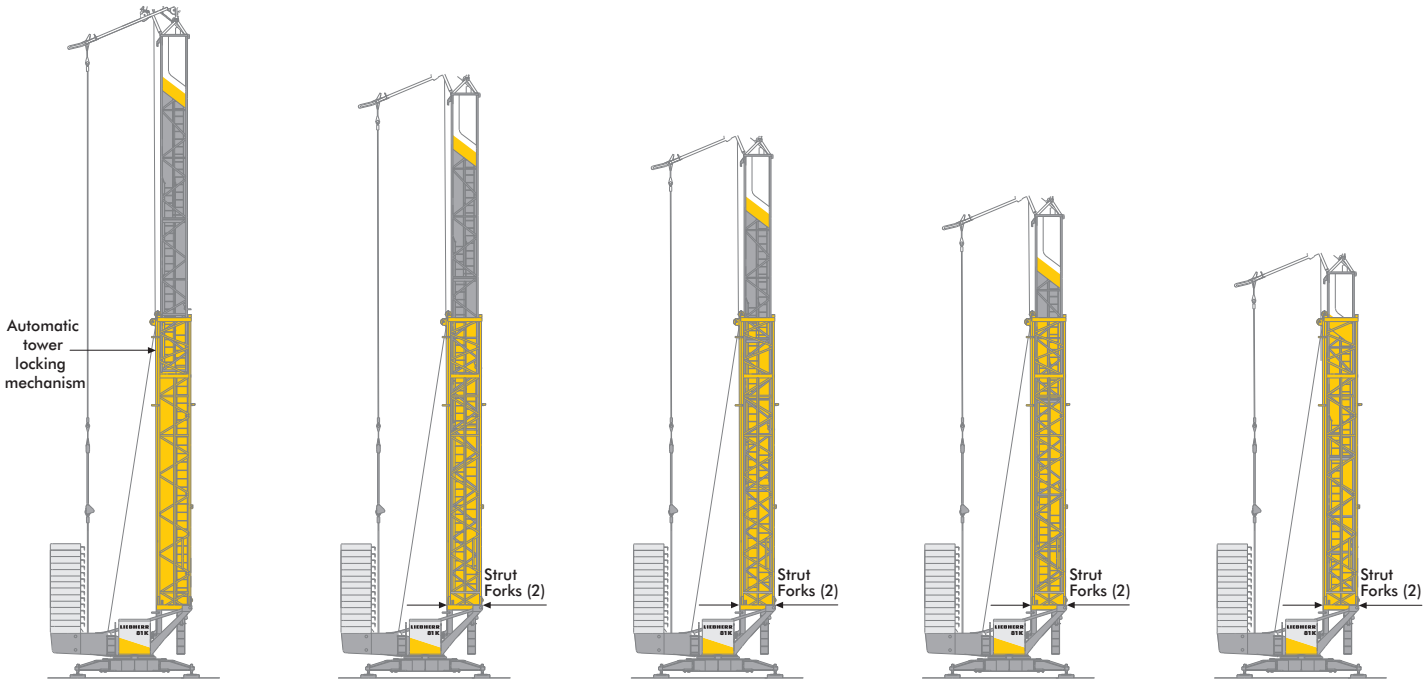
Configuration 6
With one tower section
93 ft hook
height.

NOTE: Guying shown is for illustrative purposes only and may not indicate actual connections required. See 81 K Instruction Manual for more information.

Tower Configurations

The highly adaptable **81 K fast-erecting crane,** with 11 hook heights for added flexibility and functionality. The graphic on this and the adjoining page illustrates the 11 tower configurations, starting with tower fully retracted and supported by the strut forks **(Configuration 1)**, three intermediate positions supported by the strut forks **(Configurations 2-4)** and with tower completely extended, supported by the automatic tower locking mechanism **(Configuration 5)**.

With tower completely extended, the crane user can add up to 6 tower sections (some restrictions exist). Eleven tower configurations provide a hook height range of **57 ft** to **133 ft**.



Configuration 5
With tower fully extended **85 ft** hook height.

Configuration 4
With tower at intermediate position **81 ft** hook height. Requires three additional tower sections.

Configuration 3
With tower at intermediate position **73 ft** hook height. Requires two additional tower sections.

Configuration 2
With tower at intermediate position **65 ft** hook height. Requires one additional tower section.

Configuration 1
With tower fully retracted **57 ft** hook height.

NOTE: Guying shown is for illustrative purposes only and may not indicate actual connections required. See 81 K Instruction Manual for more information.

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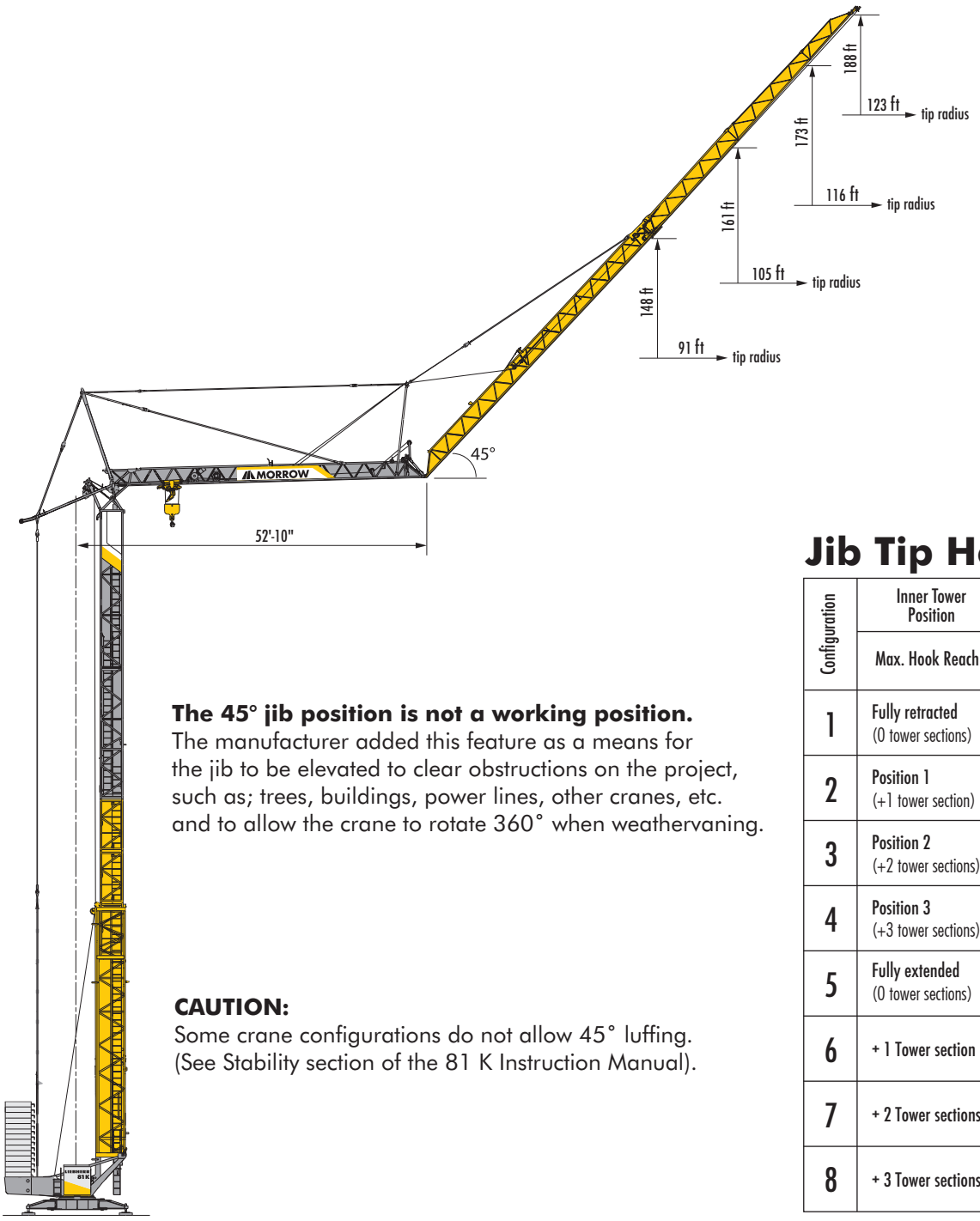
Radius and Capacities

														Crane configured with maximum of 6 tower sections.			
Hook Radius	Maximum Capacity - Radius	ft	42	49	59	69	79	89	95	102	108	115	121	128	135	138	144	148
148 ft	13,230 lb - 29 ft	lb	10,100	8,990	7,720	6,720	5,930	5,290	4,940	4,610	4,320	4,080	3,840	3,620	3,440	3,330	3,170	3,090
138 ft	13,230 lb - 33 ft	lb	10,870	9,700	8,330	7,250	6,420	5,730	5,360	5,000	4,700	4,430	4,170	3,950	3,730	3,640		
121 ft	13,230 lb - 38 ft	lb	12,210	10,890	9,370	8,180	7,250	6,480	6,060	5,670	5,340	5,030	4,740					
102 ft	13,230 lb - 44 ft	lb	13,230	12,190	10,490	9,190	8,140	7,300	6,810	6,390								

														Crane configured with maximum of 5 tower sections.			
Hook Radius	Maximum Capacity - Radius	ft	42	49	59	69	79	89	95	102	108	115	121	128	135	138	144	148
148 ft	13,230 lb - 43 ft	lb	13,230	11,510	9,330	7,800	6,680	5,820	5,340	4,920	4,560	4,230	3,970	3,700	3,480	3,370	3,170	3,090
138 ft	13,230 lb - 46 ft	lb	13,230	12,280	9,960	8,360	7,140	6,220	5,710	5,290	4,890	4,560	4,250	3,990	3,750	3,640		
121 ft	13,230 lb - 49 ft	lb	13,230	13,230	10,870	9,150	7,850	6,860	6,330	5,840	5,420	5,070	4,740					
102 ft	13,230 lb - 53 ft	lb	13,230	13,230	11,840	9,960	8,580	7,500	6,900	6,390								

Jib Tip Heights



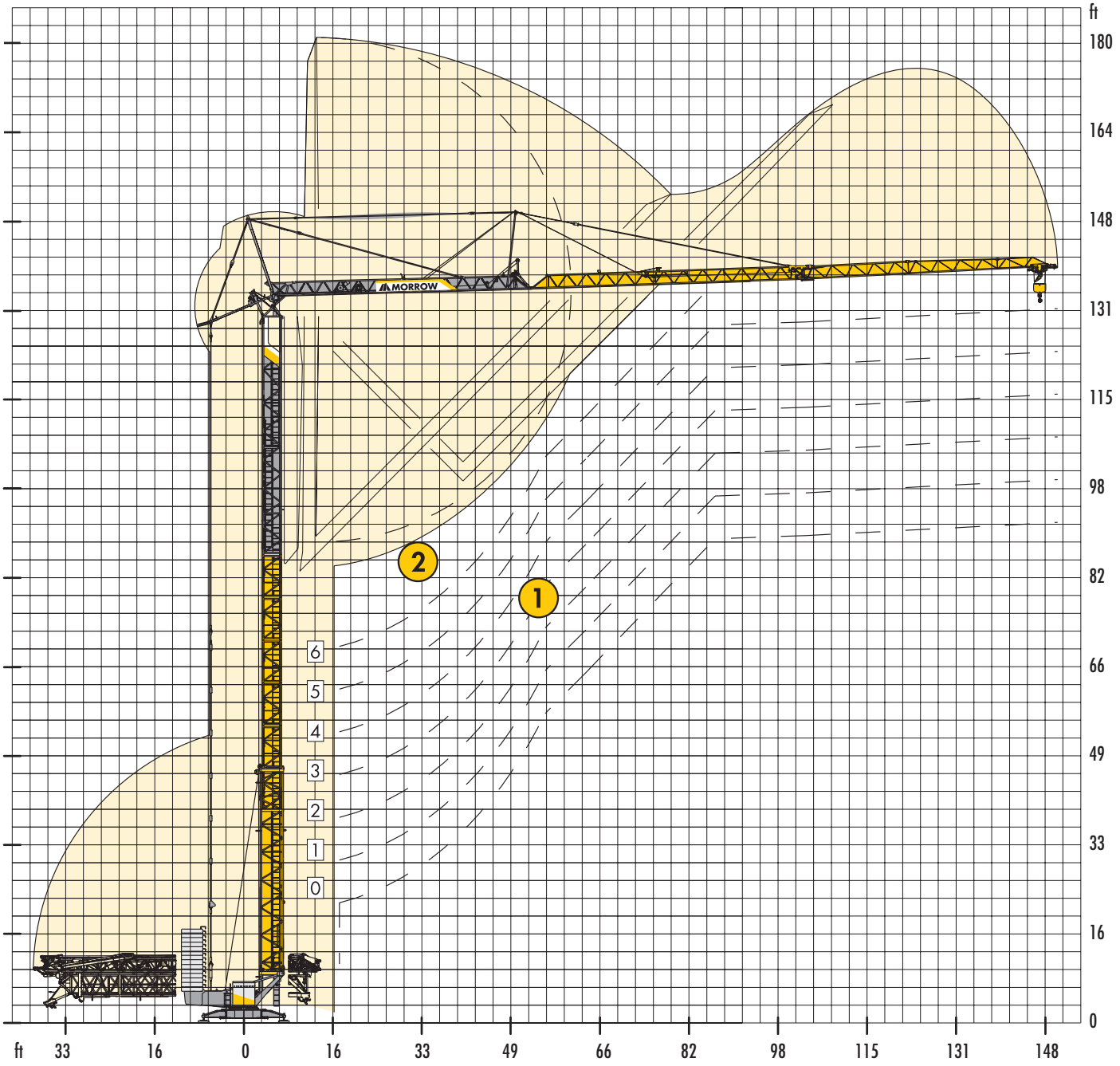
The 45° jib position is not a working position.
The manufacturer added this feature as a means for the jib to be elevated to clear obstructions on the project, such as; trees, buildings, power lines, other cranes, etc. and to allow the crane to rotate 360° when weathervaning.

CAUTION:
Some crane configurations do not allow 45° luffing. (See Stability section of the 81 K Instruction Manual).

Jib Tip Heights

Configuration	Inner Tower Position	Jib Luffed at 45°			
	Max. Hook Reach	102 ft	121 ft	138 ft	148 ft
1	Fully retracted (0 tower sections)	96 ft	110 ft	121 ft	128 ft
2	Position 1 (+1 tower section)	104 ft	117 ft	129 ft	136 ft
3	Position 2 (+2 tower sections)	112 ft	125 ft	137 ft	144 ft
4	Position 3 (+3 tower sections)	120 ft	133 ft	144 ft	152 ft
5	Fully extended (0 tower sections)	124 ft	138 ft	149 ft	156 ft
6	+ 1 Tower section	132 ft	146 ft	157 ft	164 ft
7	+ 2 Tower sections	140 ft	154 ft	165 ft	172 ft
8	+ 3 Tower sections	148 ft	161 ft	173 ft	180 ft

Erecting Clearances

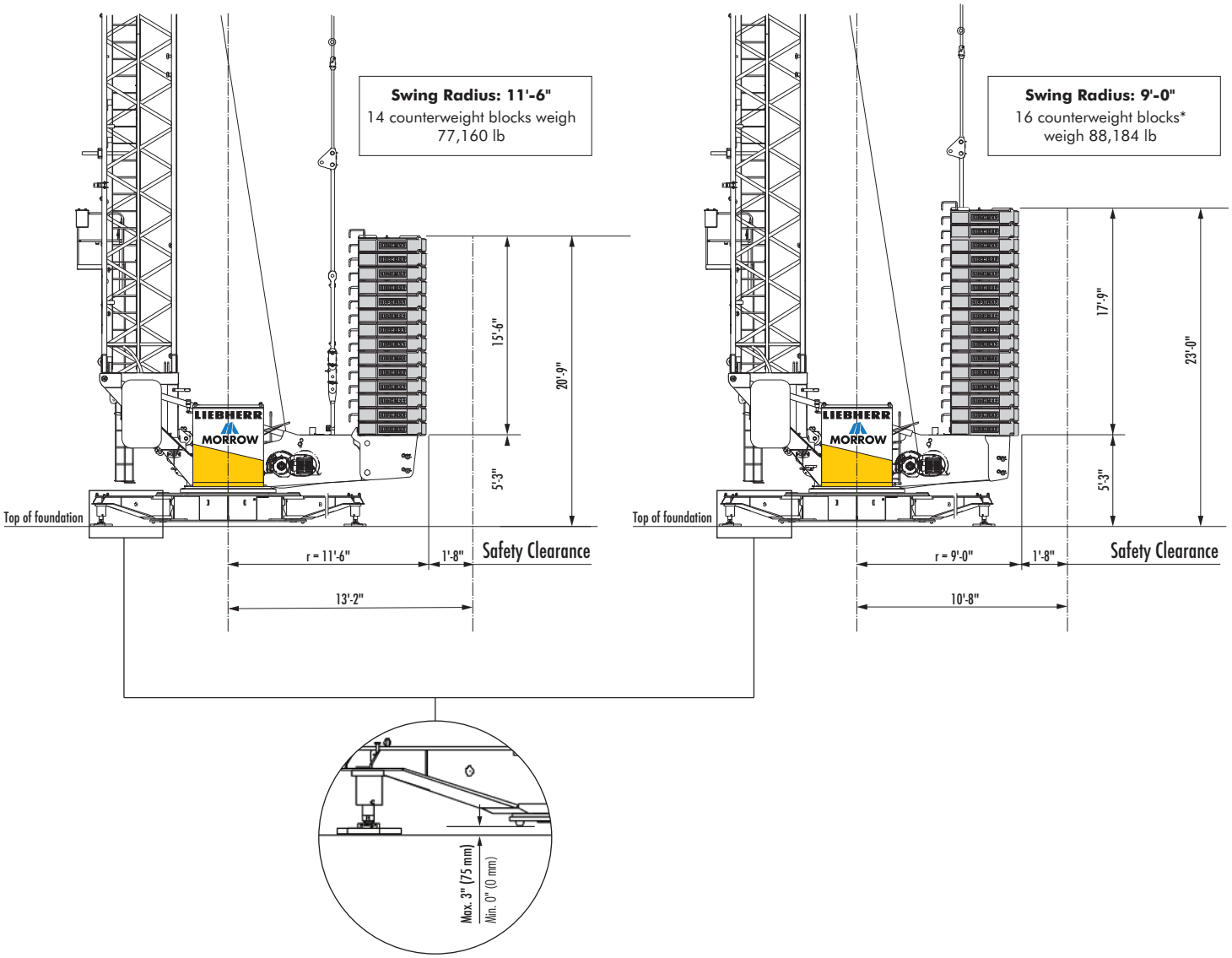


① Standard erecting curves from 0 to 6 tower sections.

② Elevated erecting curve (+14'-8") using the example of 6 tower sections.

IMPORTANT: Consult 81 K Instruction Manual before erecting, operating, servicing and dismantling crane.

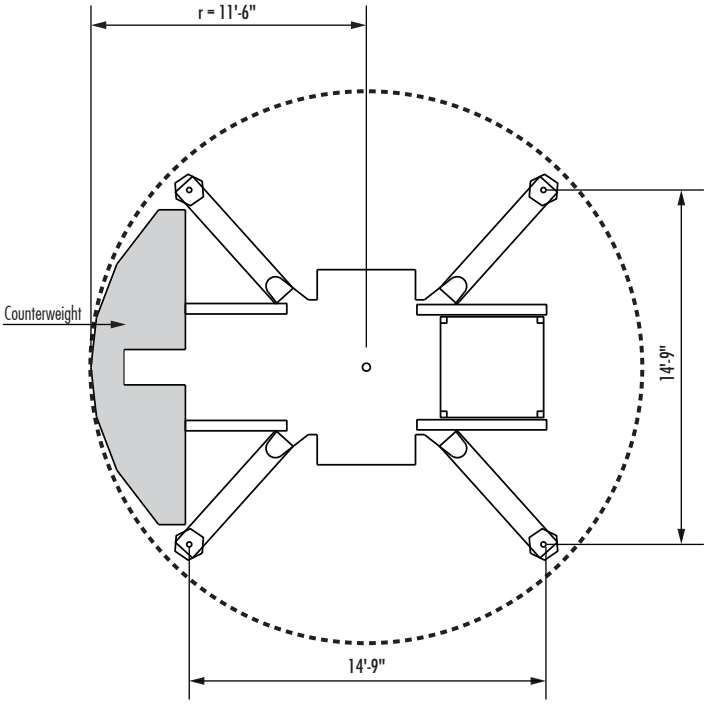
Counterweight and Clearances

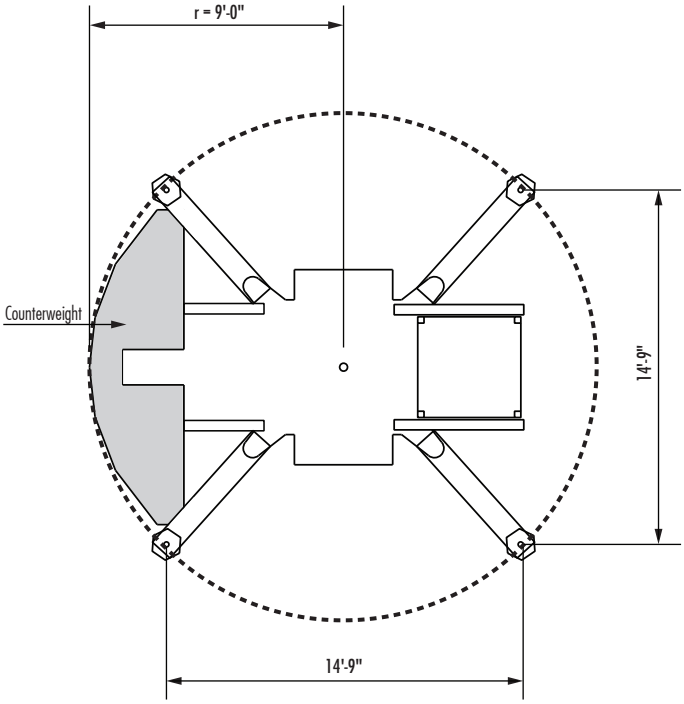


Counterweight Type	Counterweight Weight	Swing Radius	Quantity + Total Weight
Concrete Block	5,512 lb	11'-6"	14 blocks = 77,160 lb
		9'-0"	16 blocks = 88,184 lb*

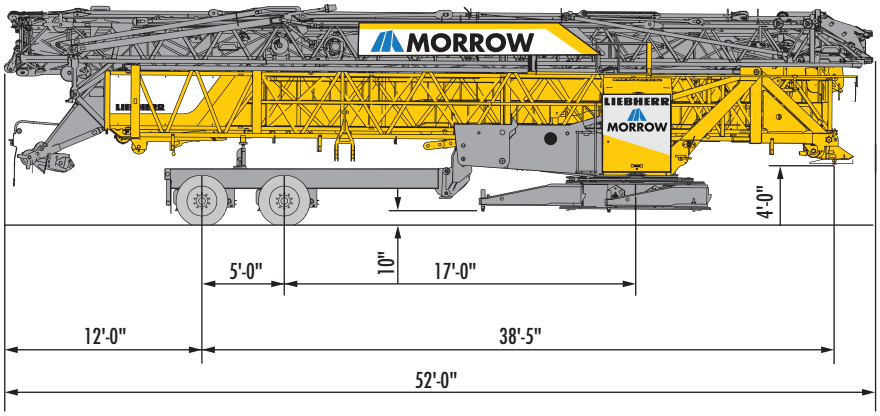
*Certain configurations require central ballast. Consult the 81 K Operations Manual for the specific requirements based on the applicable configuration.

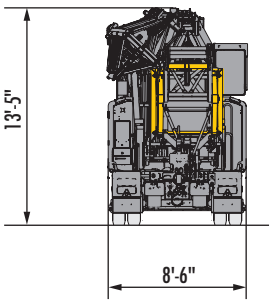
Swing Radius





Transporter





King pin towing assembly - double axle
52,840 lb

Hoist Speed and Capacity

Hoist Drive WiW 210 MZ 404	2-Part Line		
	Speed	Capacity	Hook Speed
20 hp (15 kW) AC hoist unit Variable frequency drive (VFD) Single-speed gearbox	1	13,230 lb 880 lb	@ 39 ft/min @ 230 ft/min

Drive Information

Drive Unit (VFD)	Horsepower	Kilowatts	Speed
Trolley	4	3	0 - 197 ft/min
Swing	6.7	5	0.8 rpm
Luffing	4	3	0° - 45° in 110 secs.

Power Requirements

Power supply: 3-phase 480 V, 60 Hz; 3-wire plus ground; no Neutral;
480 V phase-phase, 277 V each phase to ground with 120° phase shift between phases;
Service size: 60 Amperes

NOTES:
1. For electric power provided by an electric utility, do not use open Delta transformers.
2. For electric power provided by a generator, the minimum generator size required is 50kW. Verify the generator provided is suitable for use with variable frequency drives (VFDs). A properly sized generator is critical to the safe operation of the crane.

Specifications subject to change without prior notice. For additional information, contact MORROW.

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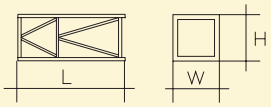
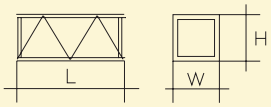
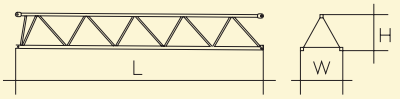
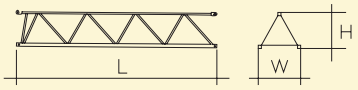
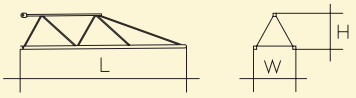
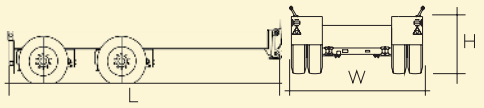
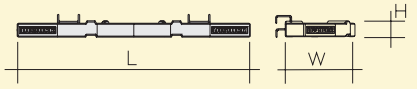
Components

Description	Dimensions L x W x H	Wt.
Tower Section with support 	8'-2" x 3'-7" x 3'-7"	1,320 lb
Tower Section without support 	8'-2" x 3'-7" x 3'-7"	1,100 lb
Jib Extension 631 102 ft to 121 ft radius 	20'-4" x 2'-10" x 2'-9"	700 lb
Jib Extension 632 121 ft to 138 ft radius 	17'-1" x 2'-10" x 2'-6"	350 lb
Jib Extension 633 138 ft to 148 ft radius 	10'-2" x 2'-10" x 2'-0"	175 lb
Road Axle Tandem Axle 	17'-4" x 8'-6" x 3'-3"	6,100 lb
Counterweight each 	13'-2" x 4'-6" x 1'-7"	5,510 lb

NOTE: Weights and dimensions are approximate. Scale components before lifting. Consult 81 K Instruction Manual before erecting, operating, servicing and dismantling crane.

Specifications are subject to change without prior notice. Drawings shown in this datasheet are for illustrative purposes only. Refer to the 81 K Instruction Manual. For additional information, contact MORROW. All rights reserved.

REYNOLDS TOWER & HOIST

LOCAL SUPPORT BY REYNOLDS CRANE:

Locations: Milwaukee, WI • DeForest, WI • Coming Soon: Minneapolis, MN
Stocked Parts and Service Bays: DeForest, WI
Rental, RPO, Sales, A&D Iron Worker Crew, Certified Operators: Amy Marten, 920-860-1488
Service, Parts, Annual Inspections: Kevin Perkins, 608-516-2550