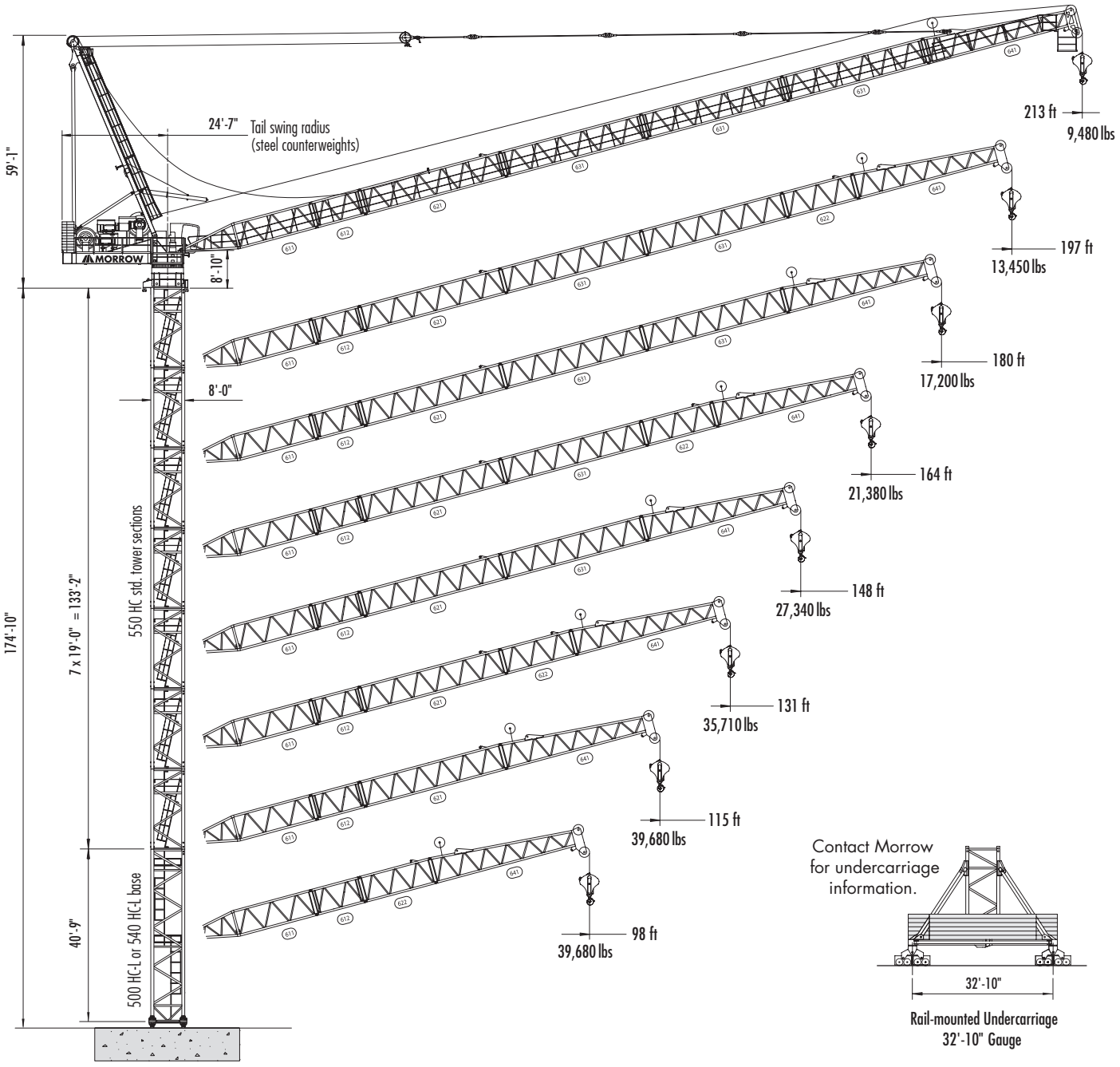
542 HC-L 18/36 Litronic®

LIEBHERR Luffing Boom Tower Crane

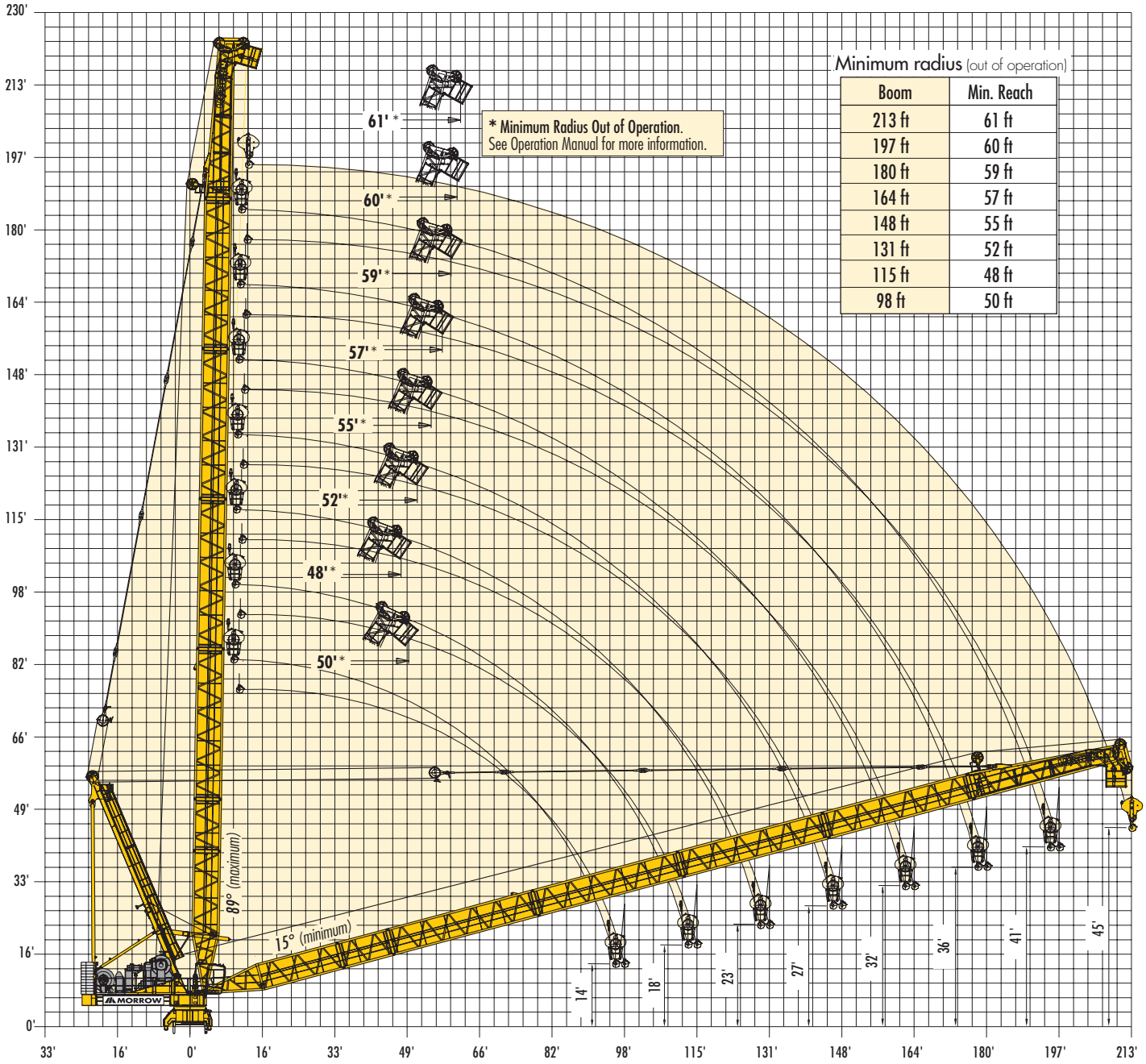


Configuration III

Contact Morrow for undercarriage information.

Rail-mounted Undercarriage
32'-10" Gauge

Radius and hoisting heights



Minimum radius (out of operation)

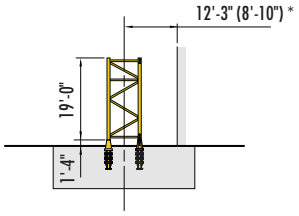
Boom	Min. Reach
213 ft	61 ft
197 ft	60 ft
180 ft	59 ft
164 ft	57 ft
148 ft	55 ft
131 ft	52 ft
115 ft	48 ft
98 ft	50 ft

*** NOTE:** Out of operation boom position from 15° to 70°. Out of operation boom position dependent on boom length and number of tower sections installed. See Operations Manual for information or contact MORROW.

Tower heights

Configuration I

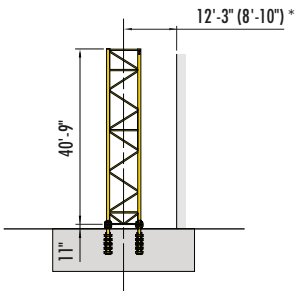
Tower Base Components: **Std. 550 HC or 500 HC-L Tower Section**



No. of Tower Sections	Boom Length			
	98 ft	115 ft → 131 ft	148 ft → 180 ft	197 ft → 213 ft
0	1.3 ft	1.3 ft	1.3 ft	1.3 ft
1	20.3 ft	20.3 ft	20.3 ft	20.3 ft
2	39.4 ft	39.4 ft	39.4 ft	39.4 ft
3	58.4 ft	58.4 ft	58.4 ft	58.4 ft
4	77.4 ft	77.4 ft	77.4 ft	77.4 ft
5	96.5 ft	96.5 ft	96.5 ft	96.5 ft
6	115.5 ft	115.5 ft	115.5 ft	115.5 ft
7	134.5 ft	134.5 ft	134.5 ft	134.5 ft[1]
8	153.5 ft	153.5 ft	153.5 ft[1]	—
9	172.6 ft	172.6 ft[1]	—	—
10	191.6 ft[1]	—	—	—

Configuration II

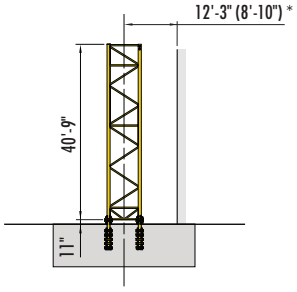
Tower Base Components: **630 EC-H Base Section**



No. of Tower Sections	Boom Length				
	98 ft	115 ft → 131 ft	148 ft → 180 ft	197 ft	213 ft
0	41.3 ft	41.3 ft	41.3 ft	41.3 ft	41.3 ft
1	60.4 ft	60.4 ft	60.4 ft	60.4 ft	60.4 ft
2	79.4 ft	79.4 ft	79.4 ft	79.4 ft	79.4 ft
3	98.4 ft	98.4 ft	98.4 ft	98.4 ft	98.4 ft
4	117.5 ft	117.5 ft	117.5 ft	117.5 ft	117.5 ft
5	136.5 ft	136.5 ft	136.5 ft	136.5 ft	136.5 ft[1]
6	155.5 ft	155.5 ft	155.5 ft	155.5 ft[1]	—
7	174.5 ft	174.5 ft	174.5 ft[1]	—	—
8	193.6 ft	193.6 ft[1]	—	—	—
9	212.6 ft[1]	—	—	—	—

Configuration III

Tower Base Components: **500 HC-L or 540 HC-L Base Section**



No. of Tower Sections	Boom Length		
	98 ft	115 ft → 180 ft	197 ft → 213 ft
0	41.7 ft	41.7 ft	41.7 ft
1	60.7 ft	60.7 ft	60.7 ft
2	79.7 ft	79.7 ft	79.7 ft
3	98.8 ft	98.8 ft	98.8 ft
4	117.8 ft	117.8 ft	117.8 ft
5	136.8 ft	136.8 ft	136.8 ft
6	155.8 ft	155.8 ft	155.8 ft
7	174.9 ft	174.9 ft	174.9 ft[1]
8	193.9 ft	193.9 ft[1]	—
9	212.9 ft[1]	—	—

NOTE: Alternate tower combinations possible. Contact Morrow for information.

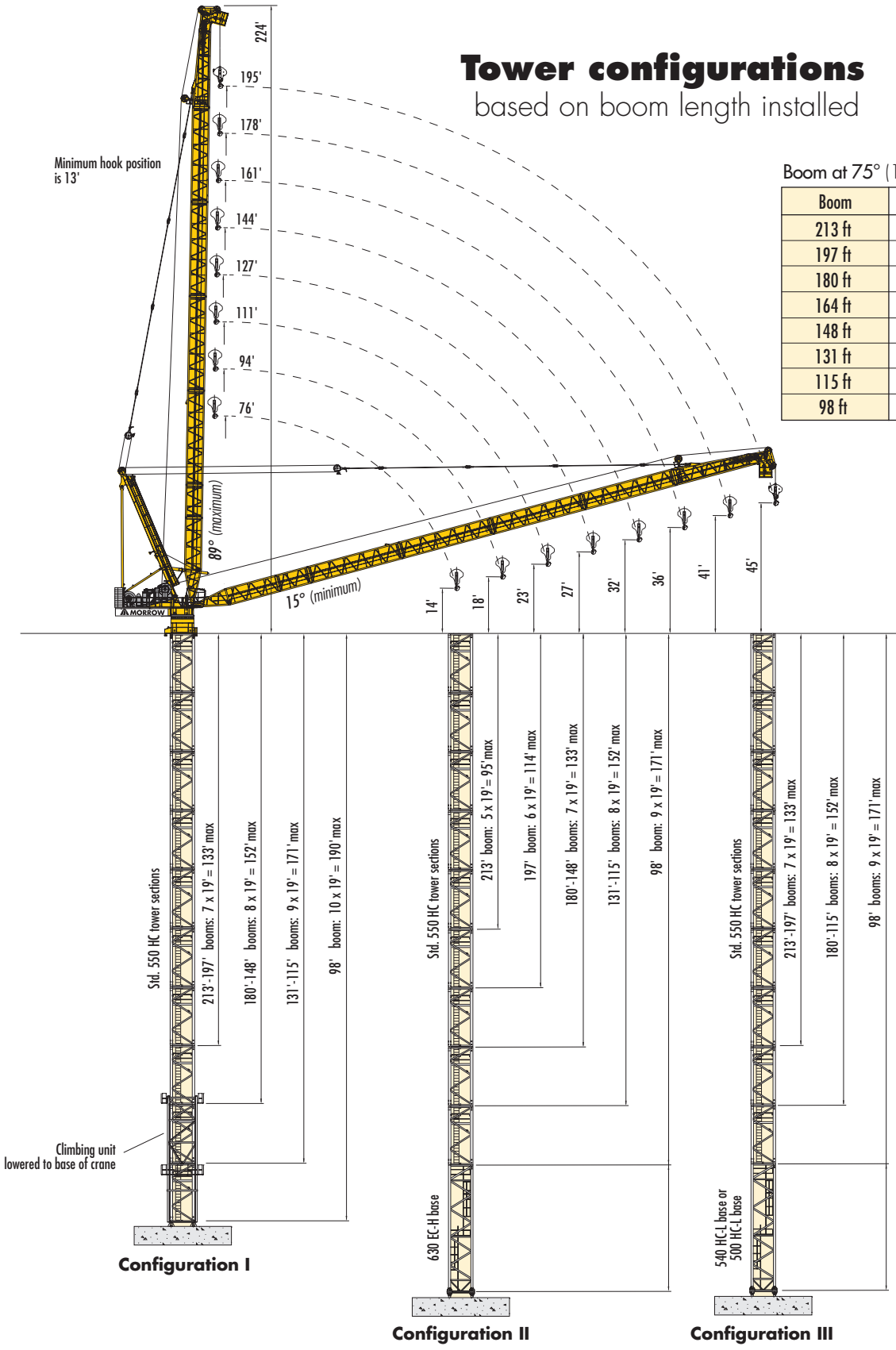
* See "Clearance Requirements" illustration below.

[1] Lower top climbing unit to base of crane prior to operating.

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

Tower configurations

based on boom length installed

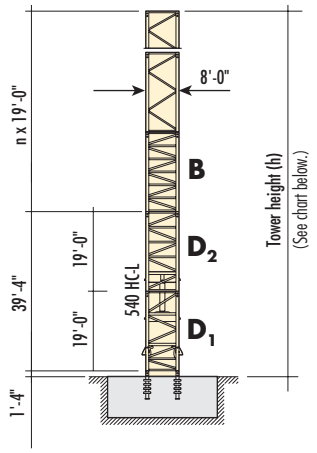


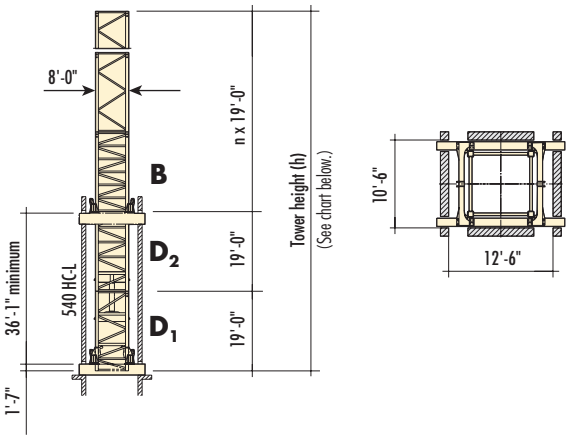
Boom at 75° (1-part operation)

Boom	Hook Reach	Hook Height
213 ft	52 ft	192 ft
197 ft	48 ft	176 ft
180 ft	44 ft	159 ft
164 ft	39 ft	142 ft
148 ft	35 ft	126 ft
131 ft	30 ft	110 ft
115 ft	26 ft	93 ft
98 ft	21 ft	76 ft

Climbing inside structure

550 HC tower on 540 HC-L climbing elements



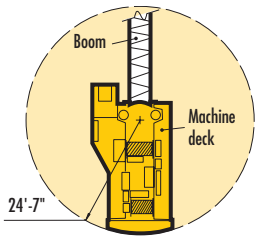


Key: **B** = Reinforced tower section - **D_1** = Bottom half of D section with hydraulics - **D_2** = Top half of D section

No. of Tower Sections (n)	Boom Length				Boom Length				
	98 ft	115 ft → 131 ft	148 ft → 180 ft	197 ft → 213 ft	98 ft	115 ft → 131 ft	148 ft → 180 ft	197 ft → 213 ft	
0	39.4 ft	39.4 ft	39.4 ft	39.4 ft	38.1 ft	38.1 ft	38.1 ft	38.1 ft	
1	58.4 ft	58.4 ft	58.4 ft	58.4 ft	57.1 ft	57.1 ft	57.1 ft	57.1 ft	
2	77.4 ft	77.4 ft	77.4 ft	77.4 ft	76.1 ft	76.1 ft	76.1 ft	76.1 ft	
3	96.5 ft	96.5 ft	96.5 ft	96.5 ft	95.1 ft	95.1 ft	95.1 ft	95.1 ft	
4	115.5 ft	115.5 ft	115.5 ft	115.5 ft	114.2 ft	114.2 ft	114.2 ft	114.2 ft	h
5	135.5 ft	135.5 ft	135.5 ft	135.5 ft	133.2 ft	133.2 ft	133.2 ft	133.2 ft	
6	153.5 ft	153.5 ft	153.5 ft	—	152.2 ft	152.2 ft	152.2 ft	—	
7	172.6 ft	172.6 ft	—	—	171.3 ft	171.3 ft	—	—	
8	191.6 ft	—	—	—	190.3 ft	—	—	—	

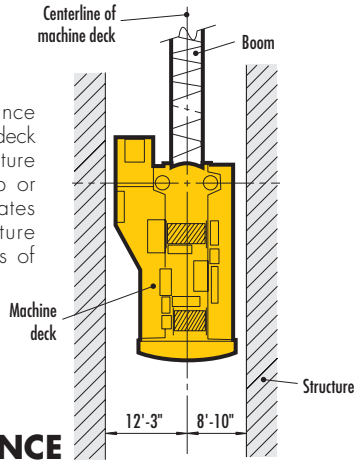
NOTE: The inside climbing views shown above are examples of a typical installation. Please note, however, that factors determining installation may vary due to job site specific conditions. Contact MORROW for information.

PLAN VIEW – showing tail swing radius for crane configuration using steel counterweights. Please consult Morrow for additional information.



TAIL SWING RADIUS
(Steel counterweights)

***NOTE** Allow for clearance between crane machine deck and any adjacent structure when climbing crane up or down. This view illustrates minimum crane-to-structure clearances for both sides of machine deck.



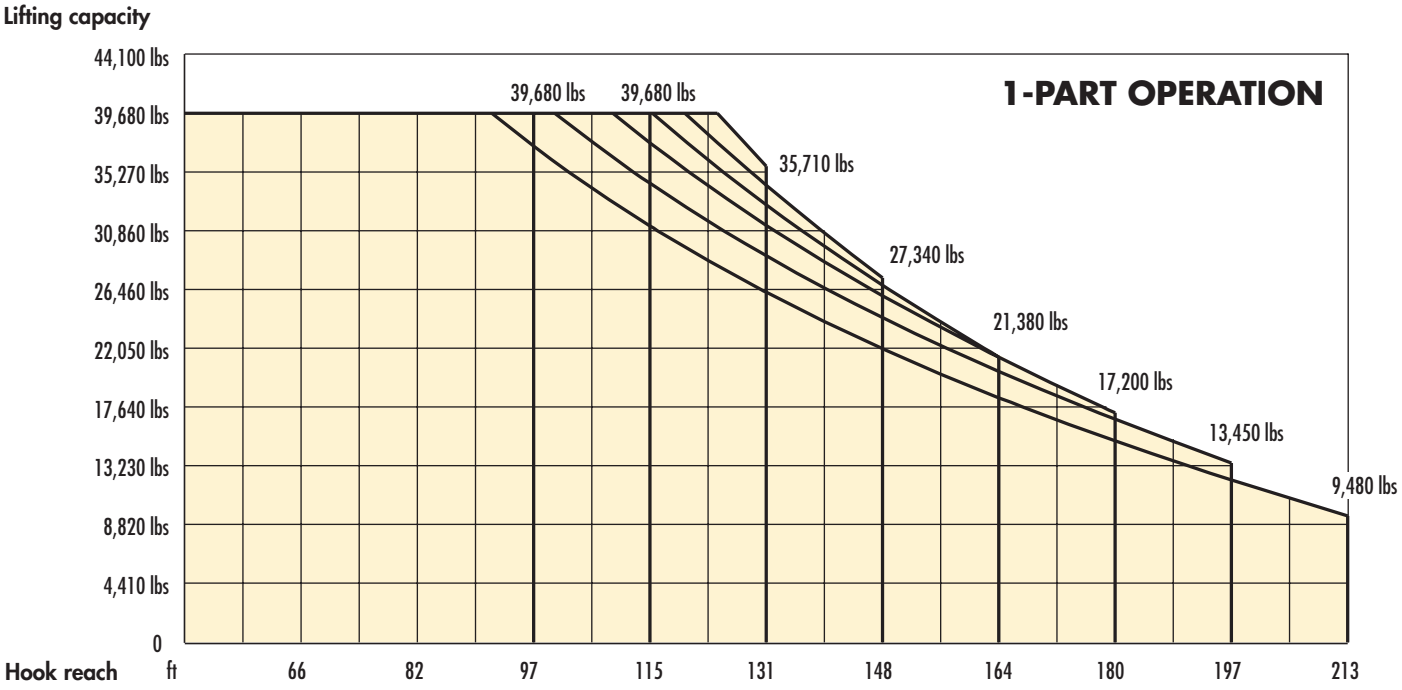
CLEARANCE REQUIREMENTS
Plan view

Radius and capacities

Boom Length	Maximum Capacity – Radius	ft	13	66	98	107	115	123	131	139	148	156	164	172	180	189	197	205	213
213 ft	39,680 lbs – 93 ft	lbs	39,680	39,680	33,710	34,060	31,200	28,620	26,240	24,050	22,000	20,110	18,340	16,670	15,080	13,580	12,170	10,800	9,480
197 ft	39,680 lbs – 101 ft	lbs	39,680	39,680	39,680	37,520	34,410	31,570	28,970	26,570	24,340	22,240	20,300	18,450	16,710	15,060	13,450		
180 ft	39,680 lbs – 110 ft	lbs	39,680	39,680	39,680	39,680	37,460	34,240	31,260	28,530	25,990	23,610	21,360	19,250	17,200				
164 ft	39,680 lbs – 115 ft	lbs	39,680	39,680	39,680	39,680	39,680	36 180	32 800	29 670	26 760	24 030	21,380						
148 ft	39,680 lbs – 120 ft	lbs	39,680	39,680	39,680	39,680	39,680	38,070	34,280	30,730	27,340								
131 ft	39,680 lbs – 124 ft	lbs	39,680	39,680	39,680	39,680	39,680	39,680	35,710										
115 ft	39,680 lbs – 115 ft	lbs	39,680	39,680	39,680	39,680	39,680												
98 ft	39,680 lbs – 98 ft	lbs	39,680	39,680	39,680														



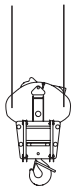
1-PART OPERATION



MORROW

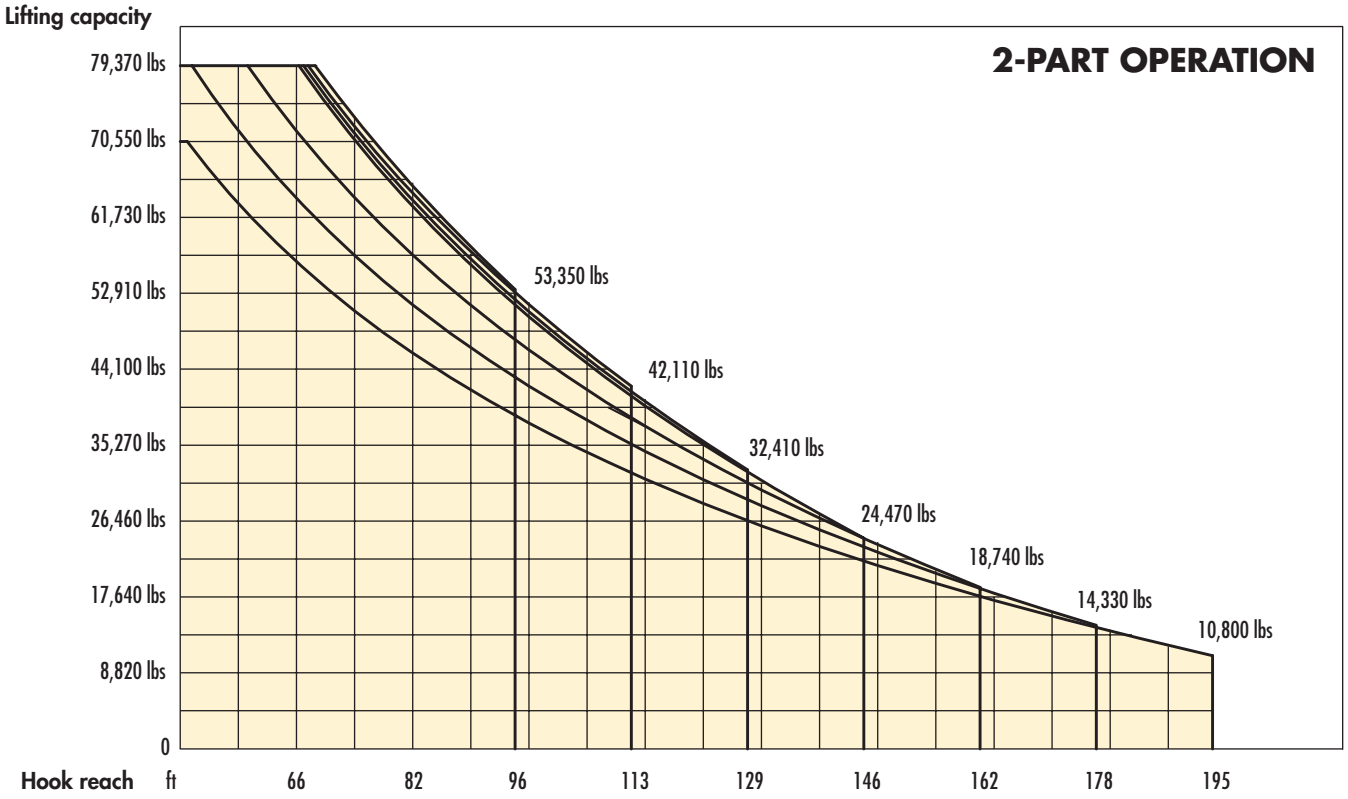
Radius and capacities

Boom Length	Hook Reach	Maximum Capacity – Radius	ft	13	66	82	90	98	107	115	123	131	139	148	156	164	172	180	197
197 ft	195 ft	70,550 lbs – 50 ft	lbs	70,550	56,570	45,970	41,670	37,850	34,440	31,330	28,500	25,900	23,520	21,300	19,200	17,260	15,430	13,690	10,800
180 ft	178 ft	79,370 lbs – 51 ft	lbs	79,370	63,930	51,590	46,580	42,130	38,140	34,550	31,240	28,220	25,420	22,820	20,390	18,100	15,950	14,330	
164 ft	162 ft	79,370 lbs – 59 ft	lbs	79,370	71,760	57,340	51,520	46,340	41,690	37,480	33,620	30,070	26,790	23,720	20,840	18,740			
148 ft	146 ft	79,370 lbs – 66 ft	lbs	79,370	79,370	63,010	56,200	50,180	44,750	39,840	35,340	31,170	27,280	24,470					
131 ft	129 ft	79,370 lbs – 67 ft	lbs	79,370	79,370	63,690	56,860	50,790	45,330	40,320	35,700	32,410							
115 ft	113 ft	79,370 lbs – 67 ft	lbs	79,370	79,370	64,530	57,720	51,460	46,050	42,110									
98 ft	96 ft	79,370 lbs – 68 ft	lbs	79,370	79,370	65,390	58,400	53,350											



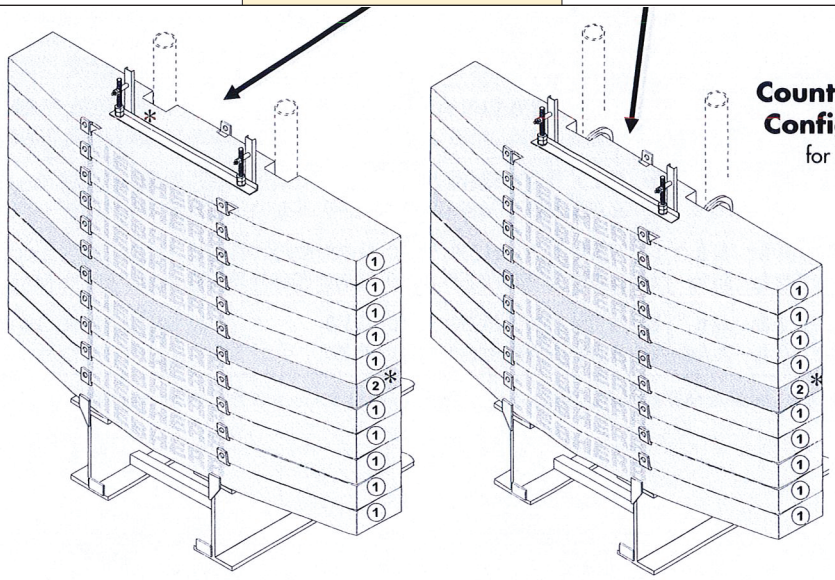
2-PART OPERATION

NOTE: When using two-part operation, the 213 ft boom is NOT available. Contact MORROW for information.



Counterweights *(Steel)*

Boom Length	213' – 115'	98'
No. of counterweights required	10 x ① + 1 x ②	9 x ① + 1 x ②
Total weight	119,075 lbs	108,250 lbs



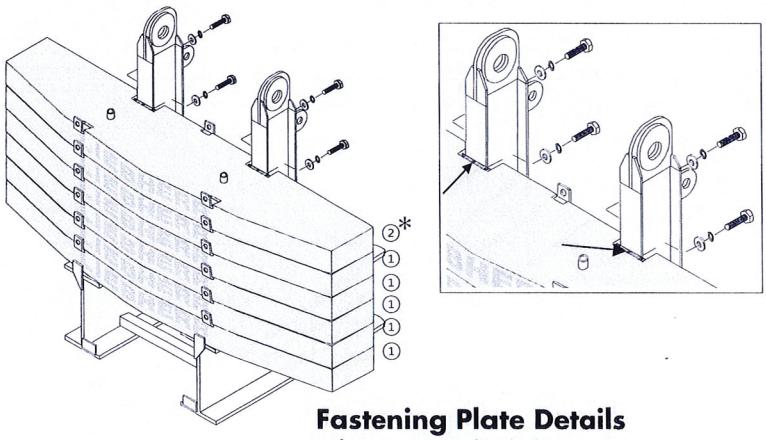
Counterweight Configuration
for Booms of
213' – 115'

Counterweight Configuration
for Boom of
98'

NOTE! *Weights of steel counterweight blocks: Block type ① and Block type ② weigh 10,800 lbs (4 900 kg) each.*

***Block type 2** is installed after placing the first five type 1 blocks. **Block type 2** has two fastening plates (see detail) that bolt the six initial counterweight blocks to the gear platform prior to attaching the boom. Once the boom is installed, the rest of the counterweight blocks are to be added.*

*Counterweight figures displayed in the chart above are for crane with hoist unit **WiW 320 VZ 401**. If another hoist unit is installed, refer to the 542 HC-L 18/36 Operation Manual or contact MORROW for information.*

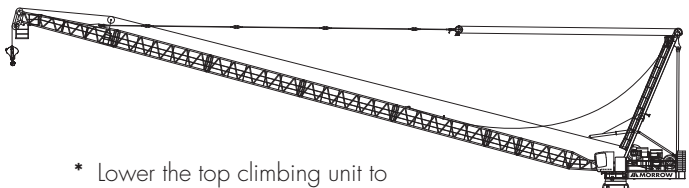


Fastening Plate Details
for counterweight Block type 2
(see Note this page.)

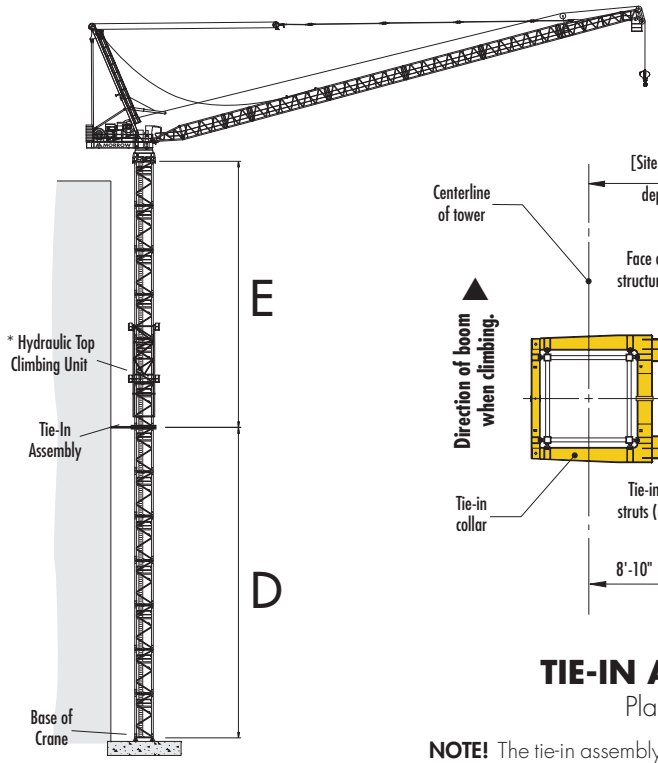
* **IMPORTANT!** *Six (6) counterweights must be installed and secured before the boom is to be attached.*

Tie-in configurations

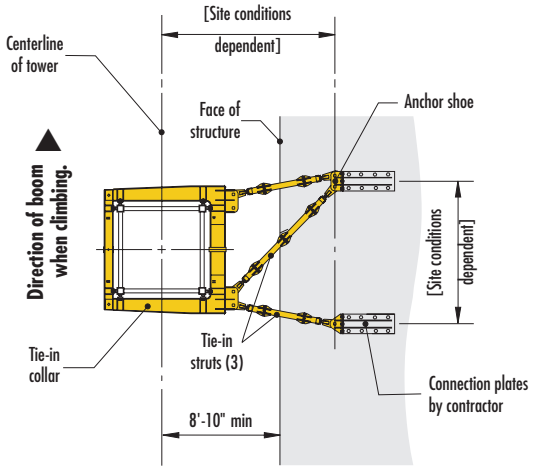
IMPORTANT: Please consult crane operation manual before erecting, operating, climbing, servicing and dismantling.



* Lower the top climbing unit to the uppermost tie-in prior to operating crane at maximum tower configuration.

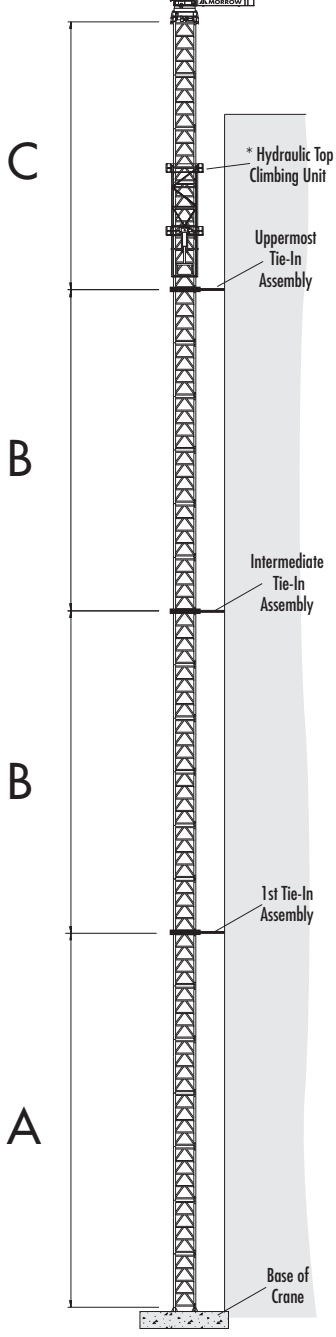


with 550 HC Tower Sections
Tied to structure with 1 tie-in



TIE-IN ASSEMBLY
Plan View

NOTE! The tie-in assembly shown is an example of a typical installation. Please note, however, that factors determining the installation of tie-in assemblies may vary due to project specific conditions. Please contact MORROW for information regarding dimensions, reaction forces and tie-in locations.



with 550 HC Tower Sections
Tied to structure with 2 or more tie-ins

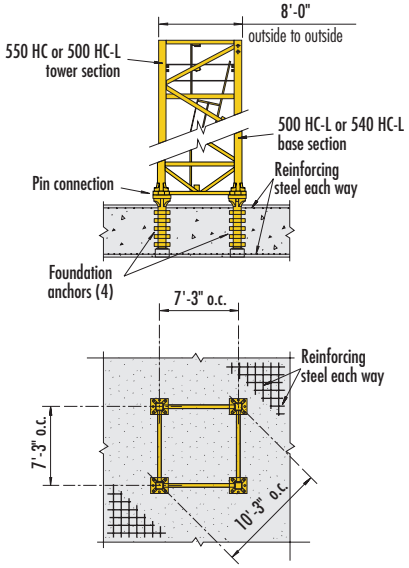
Tower sections required with 1 tie-in

Boom Length	213'—180'	164'—131'	115'—98'
Above uppermost tie-in (E)	6 max – 3 min	7 max – 3 min	8 max – 3 min
Base to 1st tie-in assembly (D)	7 max – 4 min	8 max – 4 min	9 max – 4 min

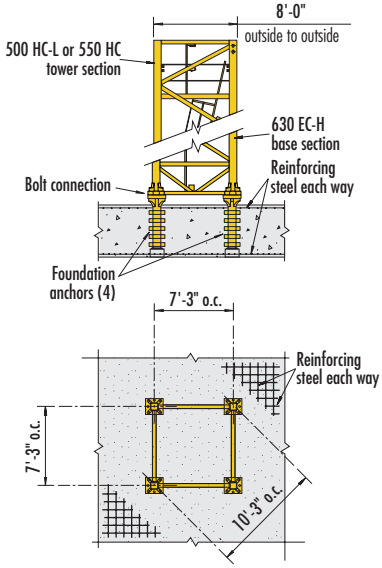
Tower sections required with 2 or more tie-ins

Boom Length	213'—180'	164'—131'	115'—98'
Above uppermost tie-in (C)	5 max – 3 min	6 max – 3 min	7 max – 3 min
Between tie-in assemblies (B)	6 max – 4 min	7 max – 4 min	8 max – 4 min
Base to 1st tie-in assembly (A)	7 max – 4 min	8 max – 4 min	9 max – 4 min

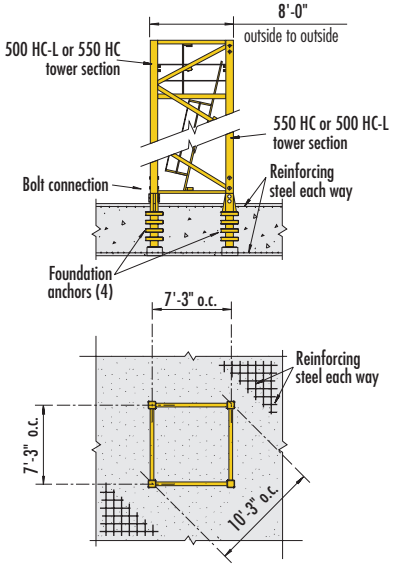
Foundation details on concrete footing



with 500 HC-L or 540 HC-L Base Section

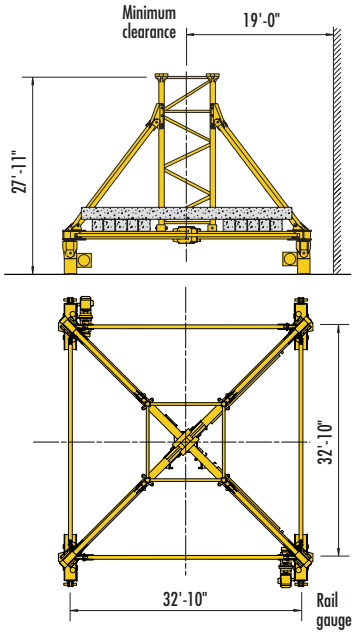


with 630 EC-H Base Section

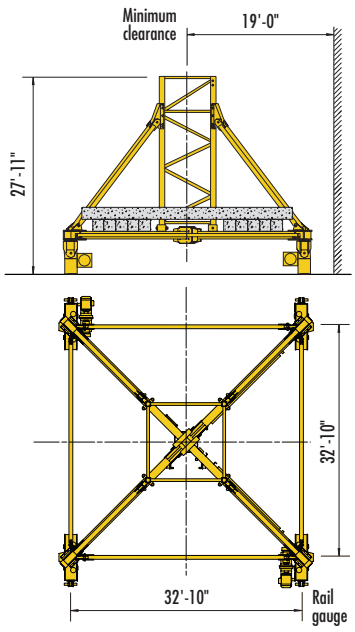


with 550 HC or 500 HC-L Tower Section

Undercarriage details on rail-travelling undercarriage



630 EC-H



550 HC

NOTE: For information regarding rail-travelling, static undercarriages and central ballast configurations, see 542 HC-L Litronic Operation Manual.

Hoist speed and capacity

Hoist Unit WiW 320 VZ 401	1-Part Line		
215 hp (160 kW) AC hoist unit Variable frequency drive 3-speed gearbox Electromagnetic gear shifting	**Speed**	**Capacity**	**Line Speed**
	1	up to 39,680 lbs up to 23,150 lbs	@ 144 fpm @ 217 fpm
	2	up to 23,150 lbs up to 12,790 lbs	@ 236 fpm @ 354 fpm
	3	up to 11,680 lbs up to 4,850 lbs	@ 420 fpm @ 633 fpm
	2-Part Line		
	1	up to 79,370 lbs up to 46,300 lbs	@ 72 fpm @ 108 fpm
	2	up to 48,500 lbs up to 26,460 lbs	@ 118 fpm @ 177 fpm
1P - 4L361 2P - 4L181	3	up to 24,250 lbs up to 12,570 lbs	@ 210 fpm @ 318 fpm

NOTE: Capacities and line speeds indicated will vary depending on the amount of hoist rope installed. This crane model may be equipped with a hoist unit other than that specified in the data above. To verify, check the serial number of the crane and refer to the Liebherr 542 HC-L Operation Manual for additional information.

Motor information

Drive Unit	Horsepower	Kilowatts	Speed*
Luffing* (VFD)	147 hp	110 kW	1.61 min
Swing (VFD)	2 x 14.7 hp	2 x 11 kW	0.6 rpm
Travelling	Information available upon request		

***NOTE:** Luffing speed shown is for a typical working range of 15° to 75° with load. Luffing speeds are variable. Factors such as hook load, boom length will affect speed.

Power requirements

Required 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.
Minimum required service size: 350 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 400kW. 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 are subject to change without prior notice. Drawings shown in this datasheet are for illustrative purposes only. Refer to the 542 HC-L 18/36 Instruction Manual. For additional information, contact MORROW. All rights are reserved.

Component List

Description	Dimensions L x W x H	Weight
Slewing Ring Support	9′-0″ x 8′-2″ x 7′-5″	12,790 lbs
Connection Plates (2) *(each)*	10′-10″ x 2′-0″ x 3′-7″	3,415 lbs
Slewing Platform [1] *plus swing motors*	9′-10″ x 7′-5″ x 8′-4″	23,810 lbs
Machine Deck *with electrical panels*	22′-2″ x 7′-3″ x 8′-4″	20,060 lbs
Hoist gear VFD [2] *215 hp (160 kW)*	12′-10″ x 7′-6″ x 6′-7″	14,330 lbs
Luffing Gear VFD [2] *147 hp (110 kW)*	10′-2″ x 7′-7″ x 5′-3″	10,800 lbs
Operator's Cab *with access platform*	19′-8″ x 7′-3″ x 8′-5″	4,410 lbs
Platforms (3)	21′-4″ x 3′-11″ x 3′-3″	2,645 lbs
Gantry [3] *(complete)*	39′-4″ x 7′-6″ x 8′-5″	22,265 lbs
Auxiliary Crane *with Support*	14′-5″ x 2′-11″ x 2′-0″	1,545 lbs
Base Section 630 EC-H	40′-9″ x 8′-8″ x 8′-8″	31,010 lbs
Base Section 500 HC-L	40′-9″ x 8′-10″ x 8′-10″	37,855 lbs
Base Section 540 HC-L	40′-9″ x 8′-10″ x 8′-10″	31,880 lbs
Std Tower Section 550 HC	20′-7″ x 8′-0″ x 8′-0″	14,285 lbs
Long Section 550 HC	39′-8″ x 8′-0″ x 8′-0″	23,480 lbs
Tower Section 500 HC-L	20′-7″ x 8′-0″ x 8′-0″	17,900 lbs
Hook Block	8′-0″ x 4′-9″ x 2′-8″	3,750 lbs
Luffing Rope Sheave Block	4′-11″ x 3′-11″ x 3′-7″	1,325 lbs

Description	Dimensions L x W x H	Weight
Butt Section ① 611	32′-10″ x 6′-5″ x 6′-3″	6,615 lbs
Boom Section ② 612	12′-8″ x 6′-3″ x 6′-3″	2,315 lbs
Boom Section ③ 621	34′-9″ x 6′-3″ x 6′-11″	5,730 lbs
Boom Section ⑤ 631	34′-9″ x 6′-3″ x 6′-3″	5,070 lbs
Boom Section ④ 622	18′-0″ x 6′-3″ x 6′-11″	2,755 lbs
Tip Section ⑥ 641	37′-9″ x 6′-7″ x 8′-4″	9,700 lbs
Top Climbing Unit [4] Panels (2)	41′-4″ x 9′-8″ x 5′-9″	17,415 lbs
Top Climbing Unit [4] Hydraulics	8′-6″ x 4′-11″ x 2′-0″	6,835 lbs
Boom Assembly Part 1 [5] for 213 ft – 148 ft booms ①②③	78′-5″ x 6′-5″ x 6′-11″	18,740 lbs
Boom Assembly Part 2 [6] for 213 ft boom ⑤⑤⑤⑥	139′-7″ x 6′-7″ x 8′-4″	25,575 lbs
Boom Assembly Part 2 [6] for 197 ft boom ⑤⑤④⑥	122′-7″ x 6′-7″ x 8′-4″	22,710 lbs
Boom Assembly Part 2 [6] for 180 ft boom ⑤⑤⑥	105′-8″ x 6′-7″ x 8′-4″	19,840 lbs
Boom Assembly Part 2 [6] for 164 ft boom ⑤④⑥	88′-8″ x 6′-7″ x 8′-4″	16,975 lbs
Boom Assembly Part 2 [6] for 148 ft boom ⑤⑥	71′-8″ x 6′-7″ x 8′-4″	14,110 lbs
Boom Assembly Complete [7] 131 ft boom ①②③④⑥	132′-5″ x 6′-7″ x 8′-4″	29,540 lbs
Boom Assembly Complete [7] 115 ft boom ①②③⑥	115′-5″ x 6′-7″ x 8′-4″	26,675 lbs
Boom Assembly Complete [7] 98 ft boom ①②④⑥	98′-5″ x 6′-7″ x 8′-4″	22,930 lbs
Counterweight (11) Steel (each)	14′-9″ x 2′-11″ x 0′-8″	10,825 lbs

NOTE! Weights and dimensions are approximate. Scale components before lifting. Consult operation manual before erecting, operating, servicing and dismantling crane.

[1] Slewing platform can be split into two parts: Part A at 18,960 lbs and Part B at 4,850 lbs.
[2] Does not include wire rope.
[3] Gantry (boom retaining frame) can be split in three parts: Part A at 9,920 lbs, Part B at 5,510 lbs and Part C at 6,835 lbs.
[4] Top climbing unit complete includes front panel, rear panel, hydraulic system, ladders and platforms with a total weight of 24,250 lbs.
[5] Boom assembly Part 1 includes boom sections #1, #2 and #3 and erection wire rope.
[6] Boom assembly Part 2 includes boom sections and pendent bars.
[7] Complete boom assemblies can be split into two parts.