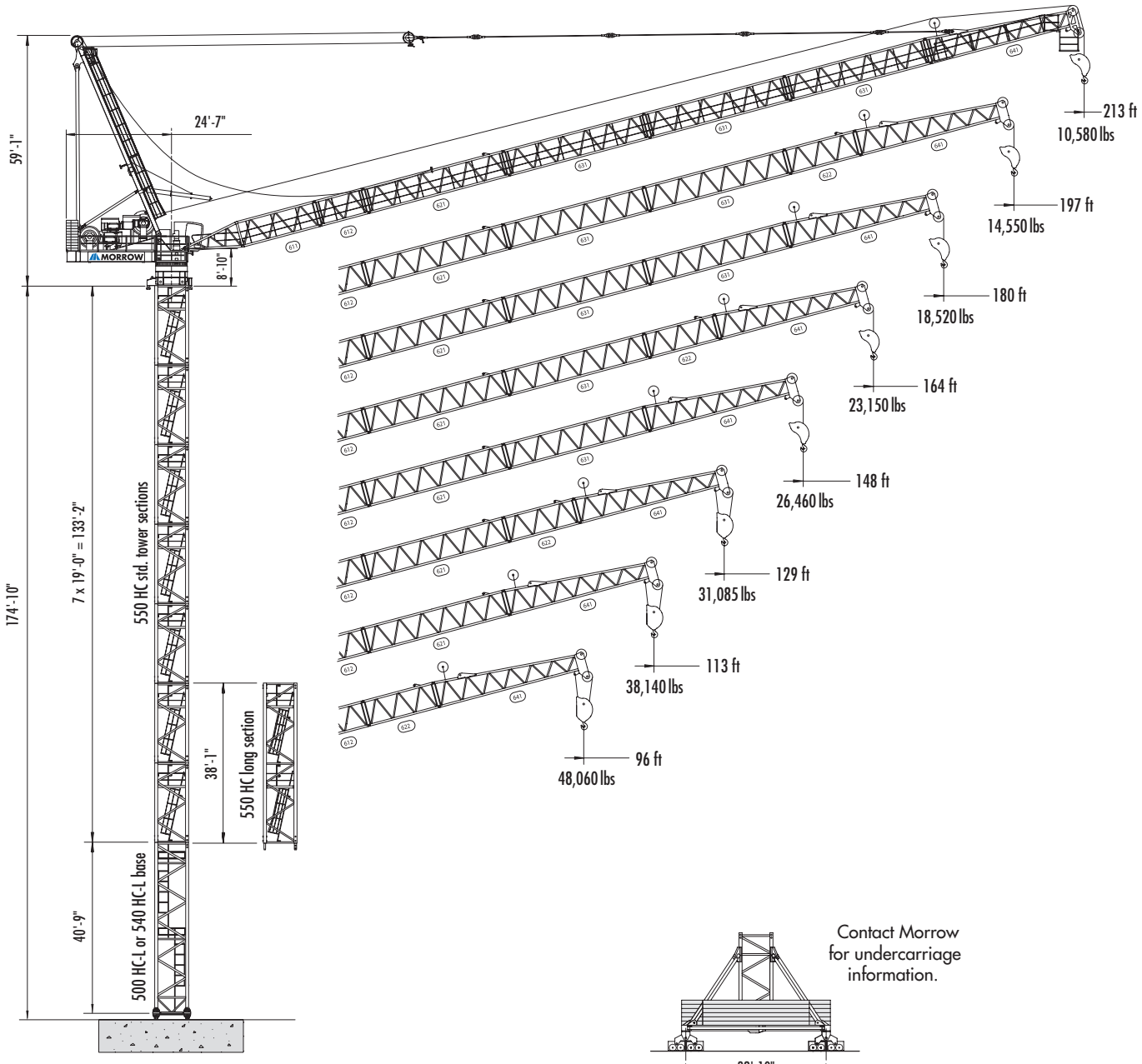
540 HC-L

12t

LIEBHERR Luffing Boom Tower Crane



Configuration III
with 550 HC Tower on
500 HC-L or 540 HC-L Base

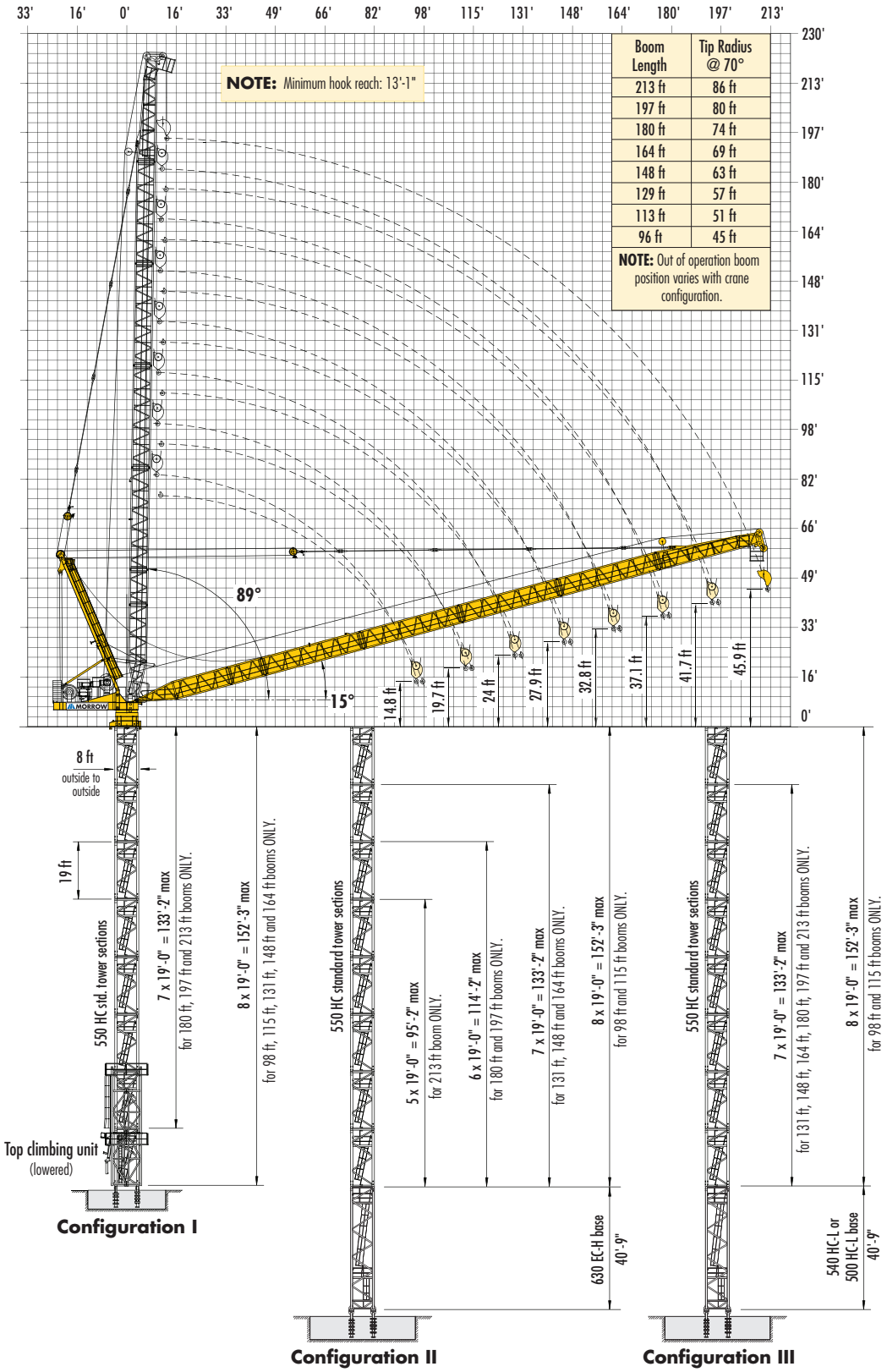
Stationary

Contact Morrow for undercarriage information.

Rail-mounted Undercarriage
32'-10" Gauge

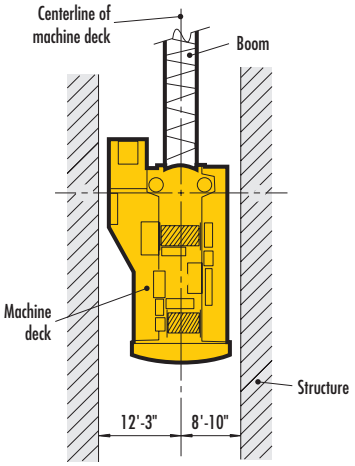
Travelling

LIEBHERR 540 HC-L 12



Boom Length	Tip Radius @ 70°
213 ft	86 ft
197 ft	80 ft
180 ft	74 ft
164 ft	69 ft
148 ft	63 ft
129 ft	57 ft
113 ft	51 ft
96 ft	45 ft

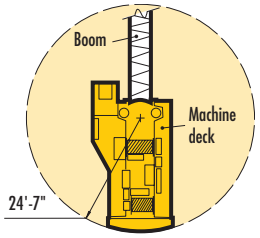
NOTE: Out of operation boom position varies with crane configuration.



CLEARANCE REQUIREMENTS

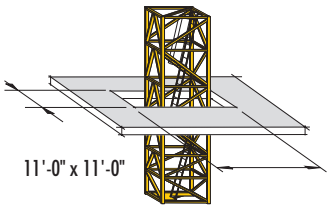
Plan View

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



TAIL SWING RADIUS

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

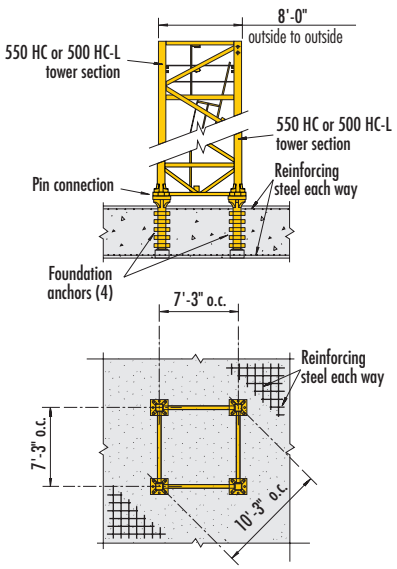


SLAB OPENING

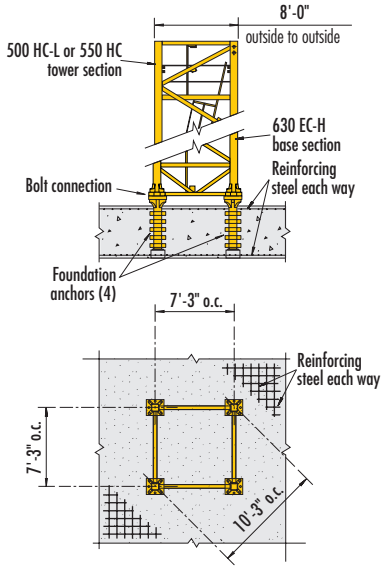
Recommended

NOTE: Recommended slab opening for erection and dismantlement. For other factors including tower deflection, contact Morrow engineering.

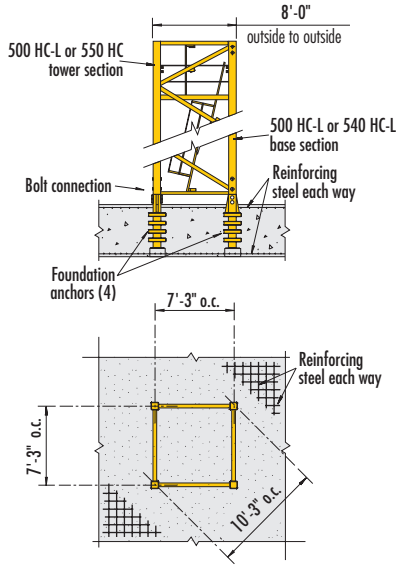
Foundation Details on concrete footing



with 550 HC or 500 HC-L Tower Section

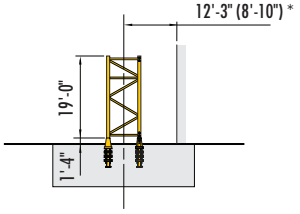
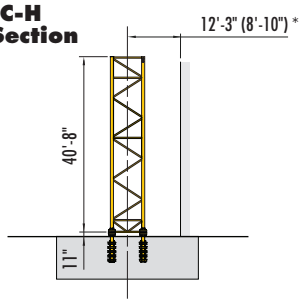
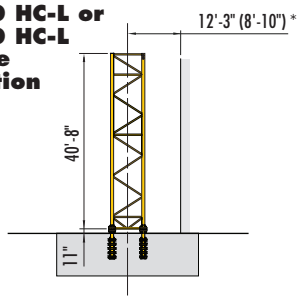


with 630 EC-H Base Section



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

Tower Heights

	Configuration I		Configuration II				Configuration III	
Tower Base Components	**Std. 550 HC or 500 HC-L Tower Section** 		**630 EC-H Base Section** 				**500 HC-L or 540 HC-L Base Section** 	
No. of Tower Sections	Boom Length		Boom Length				Boom Length	
	98 ft → 164 ft	180 ft → 213 ft	98 ft → 115 ft	131 ft → 164 ft	180 ft → 197 ft	213 ft	98 ft → 115 ft	131 ft → 213 ft
0	1.3 ft	1.3 ft	41.6 ft	41.6 ft	41.6 ft	41.6 ft	41.6 ft	41.6 ft
1	20.3 ft	20.3 ft	60.7 ft	60.7 ft	60.7 ft	60.7 ft	60.7 ft	60.7 ft
2	39.4 ft	39.4 ft	79.7 ft	79.7 ft	79.7 ft	79.7 ft	79.7 ft	79.7 ft
3	58.4 ft	58.4 ft	98.8 ft	98.8 ft	98.8 ft	98.8 ft	98.8 ft	98.8 ft
4	77.4 ft	77.4 ft	117.8 ft	117.8 ft	117.8 ft	117.8 ft	117.8 ft	117.8 ft
5	96.5 ft	96.5 ft	136.8 ft	136.8 ft	136.8 ft	136.8 ft [1,2]	136.8 ft	136.8 ft
6	115.5 ft	115.5 ft	155.8 ft	155.8 ft	155.8 ft [1,2]		155.8 ft	155.8 ft
7	134.5 ft	134.5 ft [1,2]	174.9 ft	174.9 ft [1,2]			174.9 ft	174.9 ft [1,2]
8	153.5 ft [1,2]		193.9 ft [1,2]				193.9 ft [1,2]	

* See "Clearance Requirements" illustration on previous page.

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

[2] Out of operation boom position from 15° to 70°. Out-of-operation boom position varies according to boom length and number of tower sections installed. Refer to Operations Manual for specific information.

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

Radius and Capacities

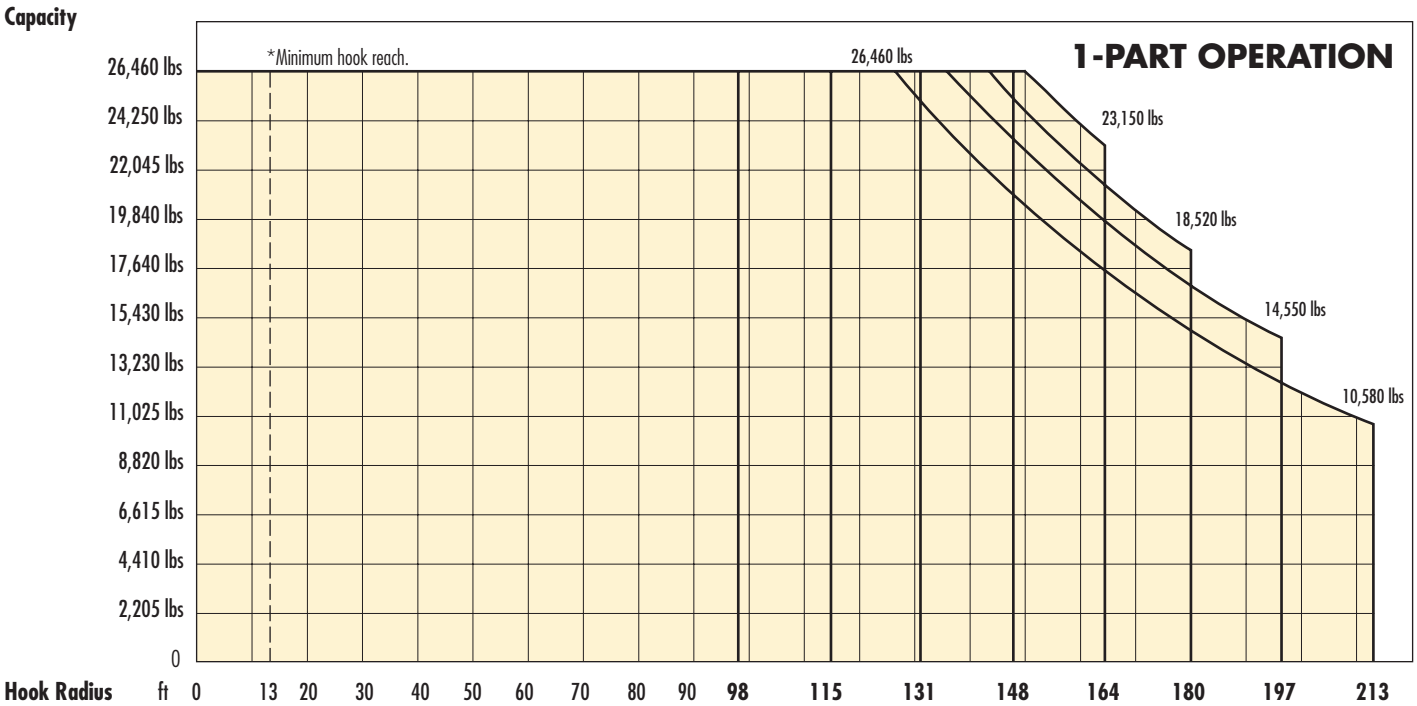
Boom Length	Maximum Capacity – Radius	ft	13*	66	98	107	115	123	131	139	148	156	164	172	180	189	197	205	213
213 ft	26,460 lbs – 127 ft	lbs	26,460	26,460	26,460	26,460	26,460	26,460	25,245	22,155	20,945	19,160	17,550	16,115	14,795	13,625	12,520	11,530	10,580
197 ft	26,460 lbs – 136 ft	lbs	26,460	26,460	26,460	26,460	26,460	26,460	26,460	24,440	23,345	21,495	19,820	18,320	16,955	15,720	14,550		
180 ft	26,460 lbs – 144 ft	lbs	26,460	26,460	26,460	26,460	26,460	26,460	26,460	26,460	25,395	23,415	21,625	20,020	18,520				
164 ft	26,460 lbs – 150 ft	lbs	26,460	26,460	26,460	26,460	26,460	26,460	26,460	26,460	26,460	25,065	23,150						
148 ft	26,460 lbs – 148 ft	lbs	26,460	26,460	26,460	26,460	26,460	26,460	26,460	26,460	26,460								
131 ft	26,460 lbs – 131 ft	lbs	26,460	26,460	26,460	26,460	26,460	26,460	26,460										
115 ft	26,460 lbs – 115 ft	lbs	26,460	26,460	26,460	26,460	26,460												
98 ft	26,460 lbs – 98 ft	lbs	26,460	26,460	26,460														

*Minimum hook reach.

1-PART OPERATION



NOTE: Lifting capacities vary depending on the amount of hoist rope installed. The figures in the chart above are for hook heights up to 328 feet. For capacity charts for hook heights exceeding 328 feet, refer to the Liebherr 540 HC-L 12 Operation Manual or contact Morrow Equipment.



Radius and Capacities

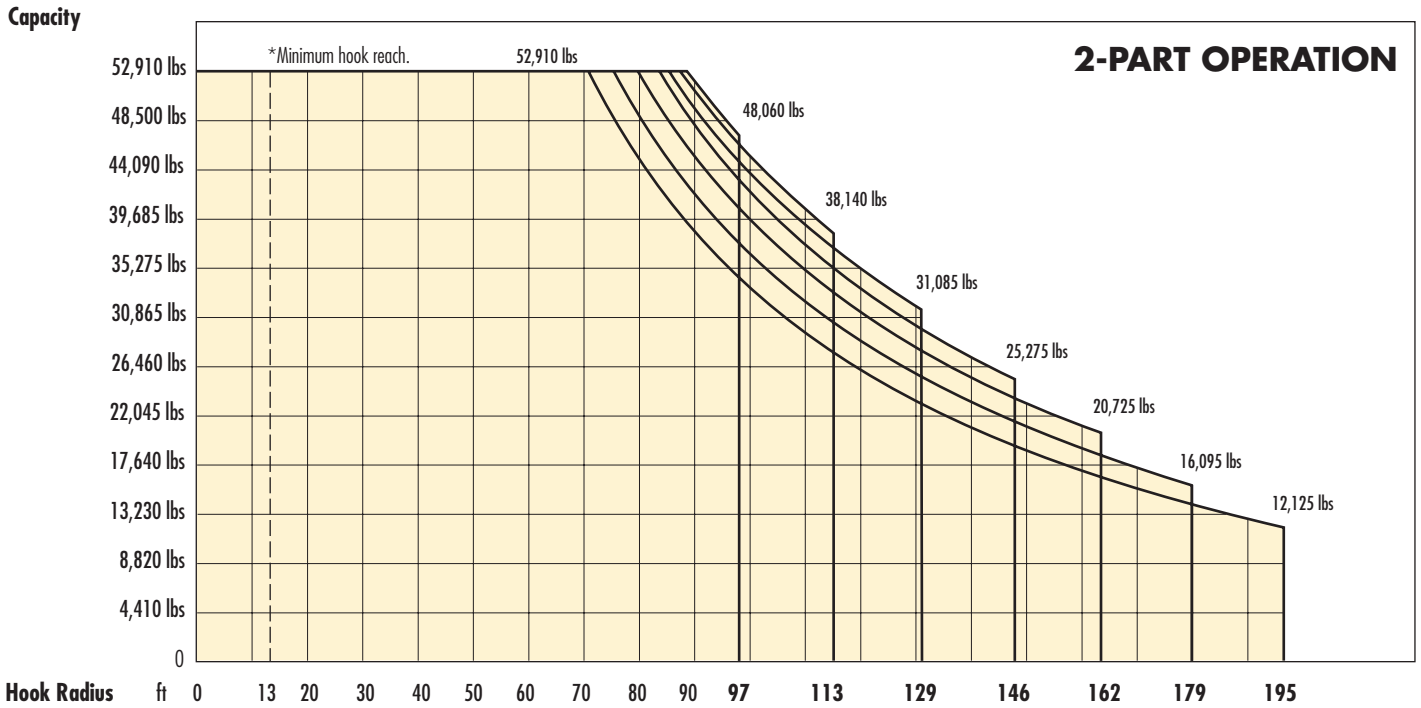
Boom Length	Hook Reach	Maximum Capacity – Radius	ft	13*	82	90	97	107	113	123	129	139	146	156	162	172	179	189	195
197 ft	195 ft	52,910 lbs – 71 ft	lbs	52,910	43,650	38,490	34,195	30,690	27,645	25,090	22,860	20,920	19,180	17,635	16,270	15,035	13,890	12,850	12,125
180 ft	179 ft	52,910 lbs – 75 ft	lbs	52,910	47,530	42,020	37,480	33,730	30,510	27,780	25,400	23,325	21,495	19,840	18,365	17,040	16,095		
164 ft	162 ft	52,910 lbs – 80 ft	lbs	52,910	51,060	45,280	40,500	36,550	33,200	30,335	27,820	25,640	23,680	21,935	20,725				
148 ft	146 ft	52,910 lbs – 84 ft	lbs	52,910	52,910	48,125	43,055	38,870	35,295	32,230	29,565	27,205	25,575						
131 ft	129 ft	52,910 lbs – 86 ft	lbs	52,910	52,910	49,580	44,400	40,100	36,420	33,270	31,085								
115 ft	113 ft	52,910 lbs – 88 ft	lbs	52,910	52,910	50,990	45,660	41,160	38,140										
98 ft	97 ft	52,910 lbs – 89 ft	lbs	52,910	52,910	51,985	48,060												



*Minimum hook reach.

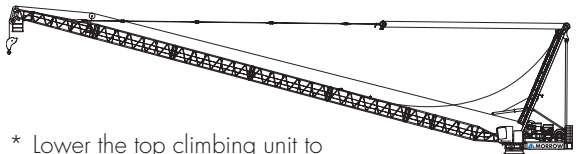
2-PART OPERATION

NOTE: Lifting capacities vary depending on the amount of hoist rope installed. The figures in the chart above are for hook heights up to 328 feet. For capacity charts for hook heights exceeding 328 feet, refer to the Liebherr 540 HC-L 12 Operation Manual or contact Morrow Equipment.

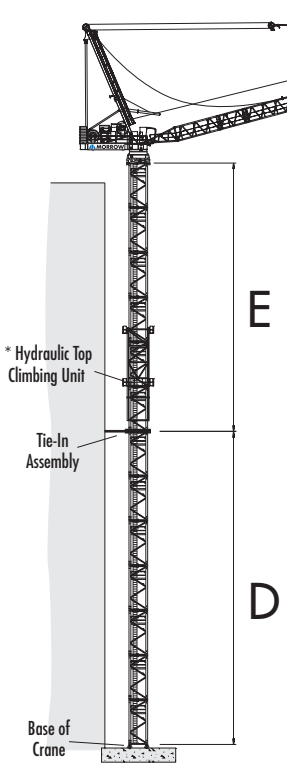


Tie-in Configurations

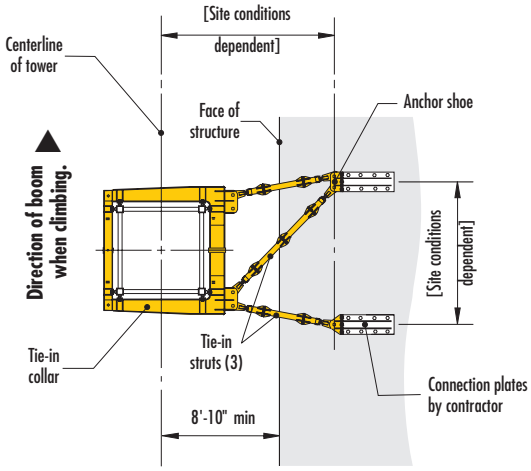
IMPORTANT: Please consult crane operation manual before erecting, operating, climbing, servicing and dismantling.



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

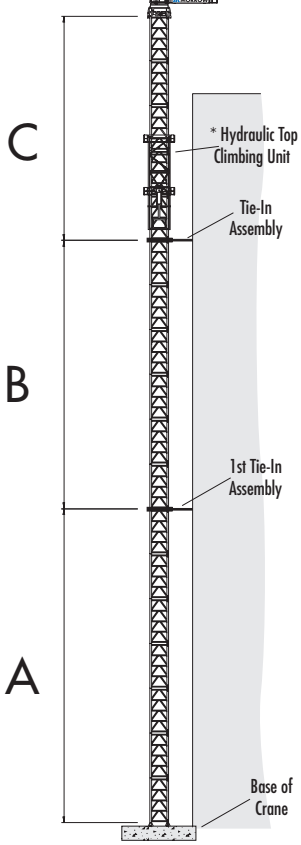


TOP CLIMBING
with 550 HC Tower Sections
Tied to structure with 1 tie-in



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.



TOP CLIMBING
with 550 HC Tower Sections
Tied to structure with 2 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

NOTE: Data above applies only to 540 HC-L 12 configurations with 550 HC tower. Contact Morrow for information regarding alternate tower configurations.

Hoist Speed and Capacity

Hoist Unit WiW 301 JX 414	1-Part Line		
147 hp (110 kW) AC hoist unit 4-speed gearbox Electromagnetic gear shifting Eddy current brake	**Gear**	**Capacity**	**Line Speed**
	1	up to 26,460 lbs	@ 128 fpm
	2	up to 15,210 lbs	@ 223 fpm
	3	up to 10,800 lbs	@ 305 fpm
	4	up to 1,650 lbs	@ 764 fpm
	2-Part Line		
	1	up to 52,910 lbs	@ 66 fpm
	2	up to 31,530 lbs	@ 115 fpm
	3	up to 22,710 lbs	@ 154 fpm
1P - 3L315 2P - 3L157	4	up to 6,170 lbs	@ 384 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 540 HC-L 12 Operation Manual for additional information.

Motor Information

Drive Unit	Horsepower	Kilowatts	Speed
Luffing (AC slipring motor with eddy current brake)	147 hp	110 kW	1.9 min
Swing (AC slipring motors with eddy current brake)	2 x 14.7 hp	2 x 11 kW	0.6 rpm
Travelling	Information available upon request		

Counterweights

Boom Length	213' – 164'	148' – 131'	115' – 98'
Number of steel blocks required	11	10	9
Total weight	119,075 lbs	108,250 lbs	97,425 lbs

NOTE: Weight of the steel counterweight blocks are 10,825 lbs each. It is recommended that the weight of each counterweight be verified before installation. Counterweight figures displayed in the chart above are for crane with hoist unit WiW 301 JX 414. If another hoist unit is installed, refer to the 540 HC-L 12 Operation Manual or contact Morrow Equipment for additional information.

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: 400 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 1200 kW. 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 Equipment.

Component List

Description	Dimensions L x W x H	Weight	Description	Dimensions L x W x H	Weight
Slewing Ring Support	9′-4″ x 7′-5″ x 6′-7″	16,760 lbs	Butt Section ① 611	32′-10″ x 6′-5″ x 6′-3″	6,615 lbs
Connection Plates (2) (each)	10′-10″ x 2′-0″ x 3′-7″	3,415 lbs	Boom Section ② 612	12′-8″ x 6′-3″ x 6′-3″	2,315 lbs
Slewing Platform [1] plus swing motors	9′-10″ x 7′-5″ x 8′-4″	23,810 lbs	Boom Section ③ 621	34′-9″ x 6′-3″ x 6′-11″	5,730 lbs
Machine Deck with electrical panels	22′-2″ x 7′-3″ x 8′-4″	20,280 lbs	Boom Section ⑤ 631	34′-9″ x 6′-3″ x 6′-3″	5,070 lbs
Hoist gear [2] 147 hp (110 kW)	12′-10″ x 7′-6″ x 6′-7″	14,330 lbs	Boom Section ④ 622	18′-0″ x 6′-3″ x 6′-11″	2,755 lbs
Luffing Gear [2] 147 hp (110 kW)	10′-2″ x 7′-7″ x 5′-3″	10,800 lbs	Tip Section ⑥ 641	37′-9″ x 6′-7″ x 8′-4″	7,275 lbs
Operator's Cab with access platform	19′-8″ x 7′-3″ x 8′-5″	4,410 lbs	Top Climbing Unit [4] Panels (2)	41′-4″ x 9′-8″ x 5′-9″	17,415 lbs
Platforms (2) (each)	21′-4″ x 3′-11″ x 3′-3″	1,170 lbs	Top Climbing Unit [4] Hydraulics	—	6,835 lbs
Gantry [3] (complete)	39′-4″ x 7′-6″ x 8′-5″	22,270 lbs	Boom Assembly Part 1 [5] for 213 ft – 148 ft booms ①②③	78′-5″ x 6′-5″ x 6′-11″	18,740 lbs
Auxiliary Crane with Support	14′-5″ x 2′-11″ x 2′-0″	1,545 lbs	Boom Assembly Part 2 [6] for 213 ft boom ⑤⑤⑤⑥	139′-7″ x 6′-7″ x 8′-4″	25,575 lbs
Base Section 630 EC-H	40′-9″ x 8′-8″ x 8′-8″	31,010 lbs	Boom Assembly Part 2 [6] for 197 ft boom ⑤⑤④⑥	122′-7″ x 6′-7″ x 8′-4″	22,710 lbs
Base Section 500 HC-L	40′-9″ x 8′-10″ x 8′-10″	37,855 lbs	Boom Assembly Part 2 [6] for 180 ft boom ⑤⑤⑥	105′-8″ x 6′-7″ x 8′-4″	19,840 lbs
Base Section 540 HC-L	40′-9″ x 8′-10″ x 8′-10″	31,880 lbs	Boom Assembly Part 2 [6] for 164 ft boom ⑤④⑥	88′-8″ x 6′-7″ x 8′-4″	16,975 lbs
Std Tower Section 550 HC	20′-7″ x 8′-0″ x 8′-0″	14,285 lbs	Boom Assembly Part 2 [6] for 148 ft boom ⑤⑥	71′-8″ x 6′-7″ x 8′-4″	14,110 lbs
Long Section 550 HC	39′-8″ x 8′-0″ x 8′-0″	23,480 lbs	Boom Assembly Complete [7] 131 ft boom ①②③④⑥	132′-5″ x 6′-7″ x 8′-4″	29,540 lbs
Tower Section 500 HC-L	20′-7″ x 8′-0″ x 8′-0″	17,900 lbs	Boom Assembly Complete [7] 115 ft boom ①②③⑥	115′-5″ x 6′-7″ x 8′-4″	26,675 lbs
Hook Block	7′-10″ x 3′-11″ x 2′-9″	3,415 lbs	Boom Assembly Complete [7] 98 ft boom ①②④⑥	98′-5″ x 6′-7″ x 8′-4″	22,930 lbs
Luffing Rope Sheave Block	4′-11″ x 3′-11″ x 3′-7″	1,325 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. To calculate wire rope weight: 2.37 lb/ft. Luffing and hoist rope is 27mm dia.
[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.

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