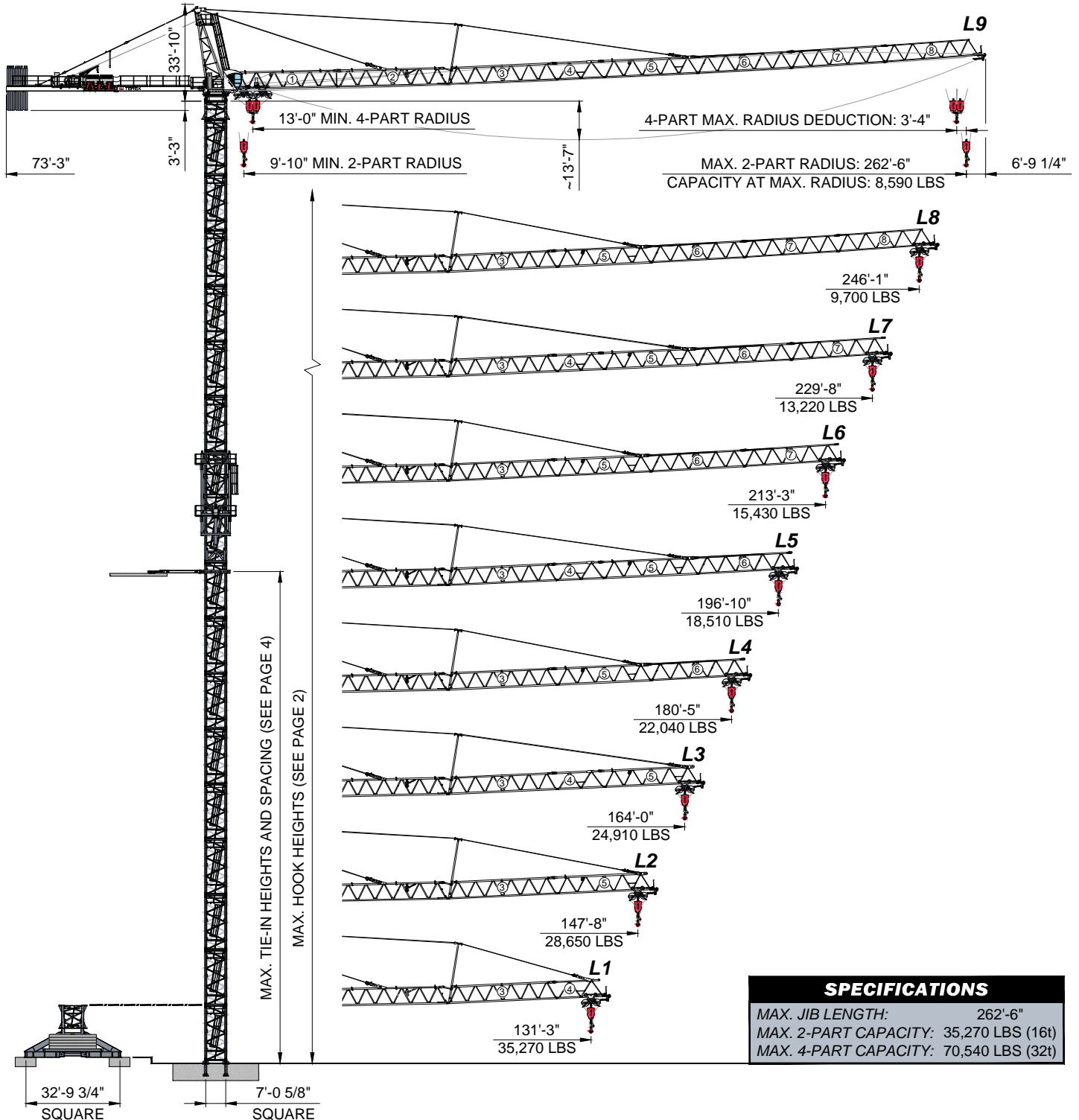




# HAMMERHEAD TOWER CRANE



**HD 23 (10m)**  
**BASE**

**TS 213**  
**ANCHORS**

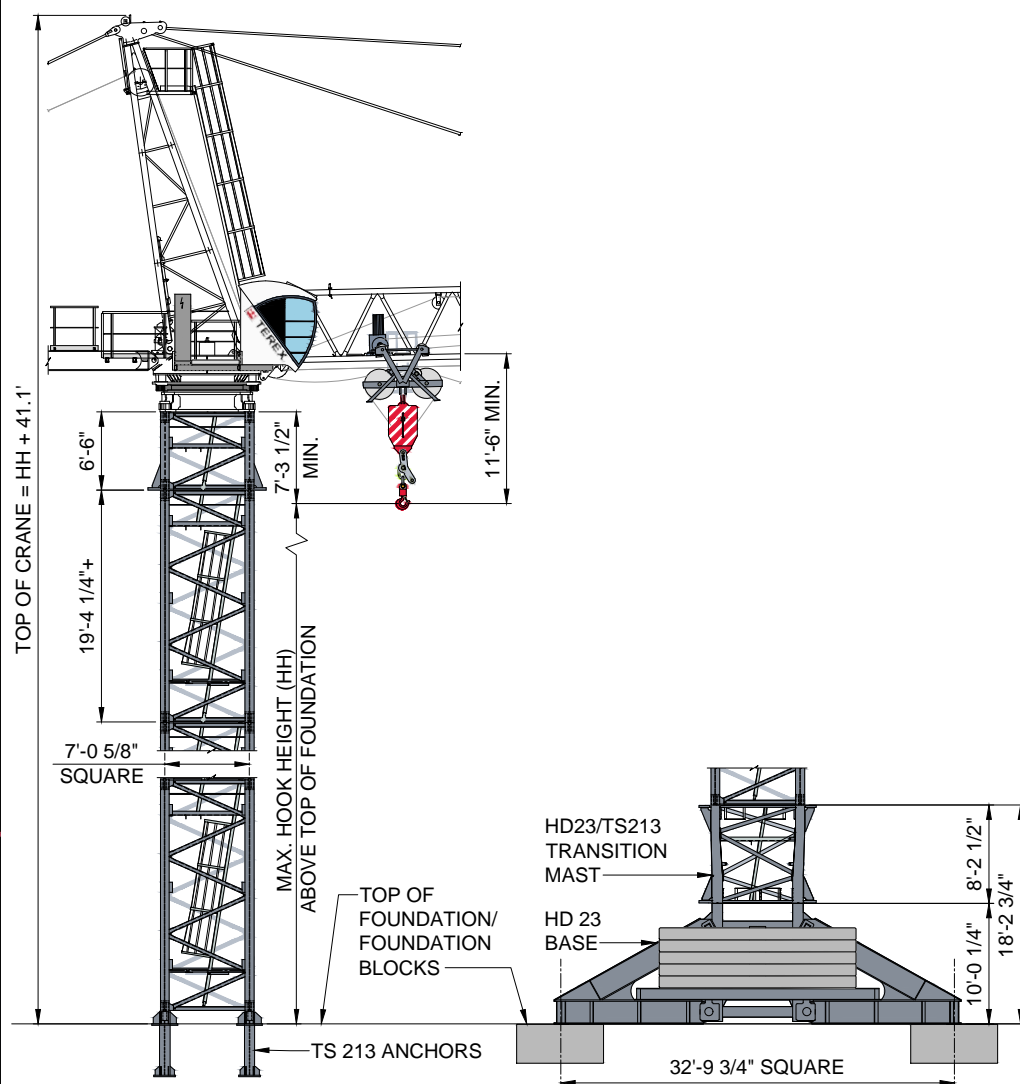
SPECIFICATIONS	
MAX. JIB LENGTH:	262'-6"
MAX. 2-PART CAPACITY:	35,270 LBS (16t)
MAX. 4-PART CAPACITY:	70,540 LBS (32t)

# HOOK HEIGHTS & MAST COMPOSITIONS

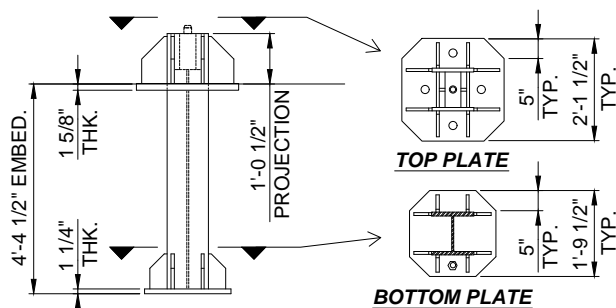
TS 213 Anchors	Quantities of:		HD 23 Base
	TS 213 Masts (Ht. = 19'-4 1/4"*)	TSK 213 Masts (Ht. = 6'-6")	
HH			HH
619.7' ±	32	1	-
600.3' ±	31	1	617.5' ±
581.0' ±	30	1	598.2' ±
561.6' ±	29	1	578.8' ±
542.3' ±	28	1	559.4' ±
522.9'	27	1	540.1' ±
503.5'	26	1	520.7'
484.2'	25	1	501.4'
464.8'	24	1	482.0'
445.5'	23	1	462.7'
426.1'	22	1	443.3'
406.8'	21	1	423.9'
387.4'	20	1	404.6'
368.0'	19	1	385.2'
348.7'	18	1	365.9'
329.3'	17	1	346.5'
310.0'	16	1	327.2'
290.6'	15	1	307.8'
271.3'	14	1	288.4'
251.9'	13	1	269.1'
232.5'	12	1	249.7'
213.2'	11	1	230.4'
206.7'	11	0	223.9'
193.8'	10	1	211.0'
187.3'	10	0	204.5'
174.5'	9	1	191.7'
168.0'	9	0	185.2'
155.1'	8	1	172.3'
148.6'	8	0	165.8'
135.8'	7	1	152.9'
129.3'	7	0	146.4'
116.4'	6	1	133.6'
109.9'	6	0	127.1'
97.1'	5	1	114.2'
90.6'	5	0	107.7'
77.7'	4	1	94.9'
71.2'	4	0	88.4'
58.3'	3	1	75.5'
51.8'	3	0	69.0'
39.0'	2	1	56.2'
32.5'	2	0	49.7'

**Key:**  
 ### # ± - indicates special hoist cable length is required; contact ALL for pricing.  
 - indicates the maximum 2-part hook height with typical hoist cable length.  
 - indicates the maximum 4-part hook height with typical hoist cable length.  
 - indicates the maximum freestanding hook height in standard wind areas (see notes below).

- Notes:**
- Maximum freestanding hook heights shown meet the requirements of ASME B30.3, EN14439, FEM1.001 & FEM1.004 and were calculated with an out-of-service wind-from-any-side speed of 62.5mph per FEM1.005 and a wind-from-rear speed of 90mph per ASCE 7 with ASCE 7 Exposure Category C, Risk Category II and a 0.9 velocity reduction factor per ASCE 37-02 for project durations less than 5 year.
  - Maximum hook heights may not apply to all project sites due to variations in wind speeds, exposure categories, risk categories or topography factors. Contact ALL for maximum hook heights for project sites where the conditions stated above are not applicable.
  - Maximum freestanding hook heights shown are based on the use of standard (39mm) tower bolts. In some instances it is possible to increase the maximum freestanding hook heights by utilizing larger tower bolts; contact ALL for additional information.
  - Due to availability and ease of erection a maximum of one TSK 213 mast section has been used in the tabulated hook heights. Additional mast combinations are possible utilizing two or more TSK 213 mast sections. Confirm availability and pricing with ALL.
  - Maximum hook heights with respect to typical hoist cable length correspond to four operating rope layers in accordance with the Terex SK 575 Operating Manual specifications. 619.7' is the maximum 2-part hook height based on maximum drum capacity. Contact ALL for availability and pricing when hook heights in excess of the typical hoist cable length are required.



**TOWER CRANE DIMENSIONS**



**TS 213 ANCHOR DIMENSIONS**

# CAPACITIES

Radius	262'-6" (L9) Jib		246'-1" (L8) Jib		229'-8" (L7) Jib		213'-3" (L6) Jib		196'-10" (L5) Jib		180'-5" (L4) Jib		164'-1" (L3) Jib		147'-8" (L2) Jib		131'-3" (L1) Jib	
	2-Part (lbs)	4-Part (lbs)*	2-Part (lbs)	4-Part (lbs)*	2-Part (lbs)	4-Part (lbs)*	2-Part (lbs)	4-Part (lbs)*	2-Part (lbs)	4-Part (lbs)*	2-Part (lbs)	4-Part (lbs)*	2-Part (lbs)	4-Part (lbs)*	2-Part (lbs)	4-Part (lbs)*	2-Part (lbs)	4-Part (lbs)*
39'-4"	35,270	70,540	35,270	70,540	35,270	70,540	35,270	70,540	35,270	70,540	35,270	70,540	35,270	70,540	35,270	70,540	35,270	70,540
49'-2"	35,270	63,710	35,270	65,910	35,270	70,540	35,270	70,540	35,270	70,540	35,270	70,540	35,270	70,540	35,270	70,540	35,270	70,540
59'-1"	35,270	50,920	35,270	52,910	35,270	61,940	35,270	66,570	35,270	70,540	35,270	70,540	35,270	70,540	35,270	70,540	35,270	70,540
68'-11"	35,270	42,100	35,270	43,650	35,270	51,360	35,270	55,330	35,270	59,960	35,270	63,490	35,270	64,590	35,270	66,570	35,270	68,120
75'-6"	35,270	37,470	35,270	39,020	35,270	45,850	35,270	49,600	35,270	53,570	35,270	56,870	35,270	57,980	35,270	59,740	35,270	61,060
82'-0"	35,270	33,730	35,270	35,050	35,270	41,440	35,270	44,750	35,270	48,500	35,270	51,360	35,270	52,460	35,270	54,010	35,270	55,330
91'-10"	32,840	29,100	33,500	30,200	35,270	35,930	35,270	39,020	35,270	42,320	35,270	44,970	35,270	45,850	35,270	47,170	35,270	48,280
98'-5"	30,200	26,450	30,860	27,770	35,270	33,060	35,270	35,710	35,270	38,800	35,270	41,220	35,270	42,100	35,270	43,430	35,270	44,530
111'-7"	26,230	22,480	26,670	23,360	31,960	27,990	33,500	30,420	35,270	33,280	35,270	35,490	35,270	36,150	35,270	37,250	35,270	38,130
114'-10"	25,350	21,600	25,790	22,480	30,860	27,110	32,400	29,320	35,050	31,960	35,270	34,170	35,270	34,830	35,270	35,930	35,270	36,810
121'-5"	23,580	19,840	24,030	20,940	28,880	25,130	30,420	27,330	32,840	29,980	35,050	31,740	35,270	32,400	35,270	33,500	35,270	34,390
127'-11"	22,260	18,510	22,700	19,400	27,330	23,360	28,650	25,570	30,860	27,990	33,060	29,760	33,280	30,420	33,730	31,520	35,270	32,180
131'-3"	21,600	17,850	22,040	18,730	26,450	22,700	27,770	24,690	29,980	26,890	31,960	28,880	32,400	29,540	32,840	30,420	35,270	-
141'-1"	19,620	16,090	20,060	16,750	24,250	20,500	25,570	22,260	27,550	24,470	29,540	26,230	29,760	26,890	30,200	27,770		
144'-4"	19,180	15,430	19,620	16,310	23,580	19,840	24,910	21,600	26,890	23,800	28,650	25,350	28,880	26,010	29,320	26,890		
147'-8"	18,510	14,990	18,950	15,650	22,920	19,180	24,250	20,940	26,230	23,140	27,990	24,690	28,210	25,130	28,650	-		
154'-2"	17,630	13,880	18,070	14,550	21,820	18,070	22,920	19,840	24,910	21,820	26,670	23,360	26,890	23,800				
160'-9"	16,750	13,000	17,190	13,660	20,720	16,970	21,820	18,510	23,580	20,500	25,350	22,040	25,570	22,480				
164'-0"	16,310	12,560	16,750	13,220	20,280	16,530	21,380	18,070	23,140	19,840	24,690	21,380	24,910	-				
173'-11"	15,210	11,460	15,430	12,120	18,950	14,990	19,840	16,530	21,600	18,290	23,140	19,620						
177'-2"	14,770	11,020	15,210	11,680	18,510	14,550	19,400	16,090	21,160	17,850	22,480	19,180						
180'-5"	14,550	10,800	14,770	11,240	18,070	14,100	18,950	15,650	20,500	17,410	22,040	-						
187'-0"	13,880	10,140	14,100	10,580	17,190	13,440	18,290	14,770	19,840	16,530								
193'-7"	13,220	9,470	13,440	10,140	16,530	12,780	17,410	14,100	18,950	15,650								
196'-10"	12,780	9,250	13,220	9,700	16,090	12,340	17,190	13,660	18,510	-								
203'-5"	12,340	8,590	12,560	9,250	15,430	11,680	16,310	13,000										
210'-0"	11,900	8,150	12,120	8,590	14,770	11,020	15,650	12,340										
213'-3"	11,460	7,930	11,900	8,370	14,550	10,800	15,430	-										
223'-1"	10,800	7,270	11,240	7,710	13,660	9,920												
226'-5"	10,580	7,050	11,020	7,490	13,440	9,700												
229'-8"	10,360	6,830	10,800	7,270	13,220	-												
236'-3"	10,140	6,390	10,360	6,830														
242'-9"	9,700	5,950	9,920	6,390														
246'-1"	9,470	5,730	9,700	-														
252'-7"	9,030	5,510																
259'-2"	8,810	5,070																
262'-6"	8,590	-																

# COUNTERWEIGHTS

Weights	262'-6" (L9) Jib	246'-1" (L8) Jib	229'-8" (L7) Jib	213'-3" (L6) Jib	196'-10" (L5) Jib	180'-5" (L4) Jib	164'-1" (L3) Jib	147'-8" (L2) Jib	131'-3" (L1) Jib
3,200 lbs	0	1	0	1	0	0	1	0	1
6,800 lbs	10	9	10	9	10	9	8	8	7
Total	68,000 lbs	64,400 lbs	68,000 lbs	64,400 lbs	68,000 lbs	61,200 lbs	57,600 lbs	54,400 lbs	50,800 lbs

# TECHNICAL DATA

Function	Motor	Speed				Motor Output	Power Requirements		
Hoist	SR WB 122-160/4F	2-Part	0 - 7,710 lbs	490 fpm	4-Part*	0 - 15,430 lbs	245 fpm	165 HP	300A, 480V AC, 60Hz, 3-phase + ground, 277V/phase, 120° shift/phase^; Minimum 400kVa Generator
			7,711 - 13,220 lbs	315 fpm		15,431 - 26,450 lbs	158 fpm		
			13,221 - 22,040 lbs	195 fpm		26,451 - 52,910 lbs	98 fpm		
			22,041 - 35,270 lbs	125 fpm		52,911 - 70,540 lbs	63 fpm		
Trolley	FU 9-320/4	0 - 315 fpm				12.2 HP			
Slew	K WB 120/4	0 - 0.9 rpm				L1 - L4: 2 x 11.5 HP			
						L5 - L9: 3 x 11.5 HP			

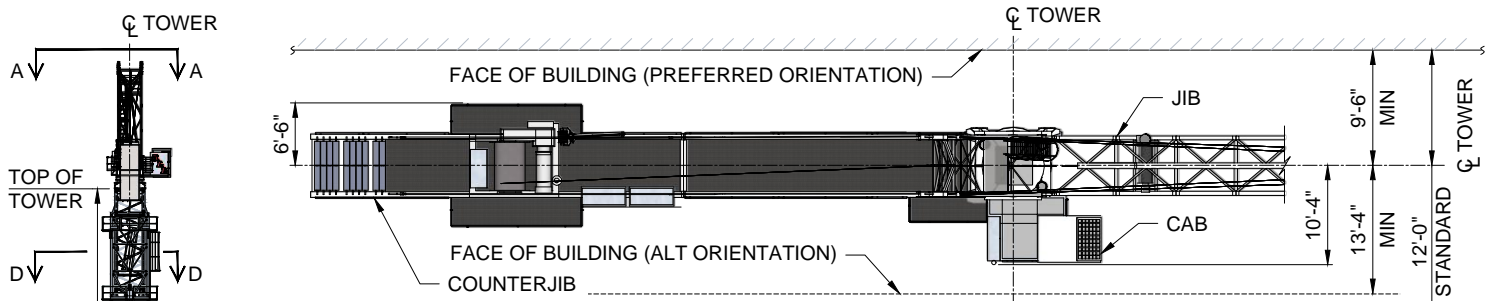
**Notes:**

\* - 4-Part capacities require two trolleys; contact ALL for pricing.

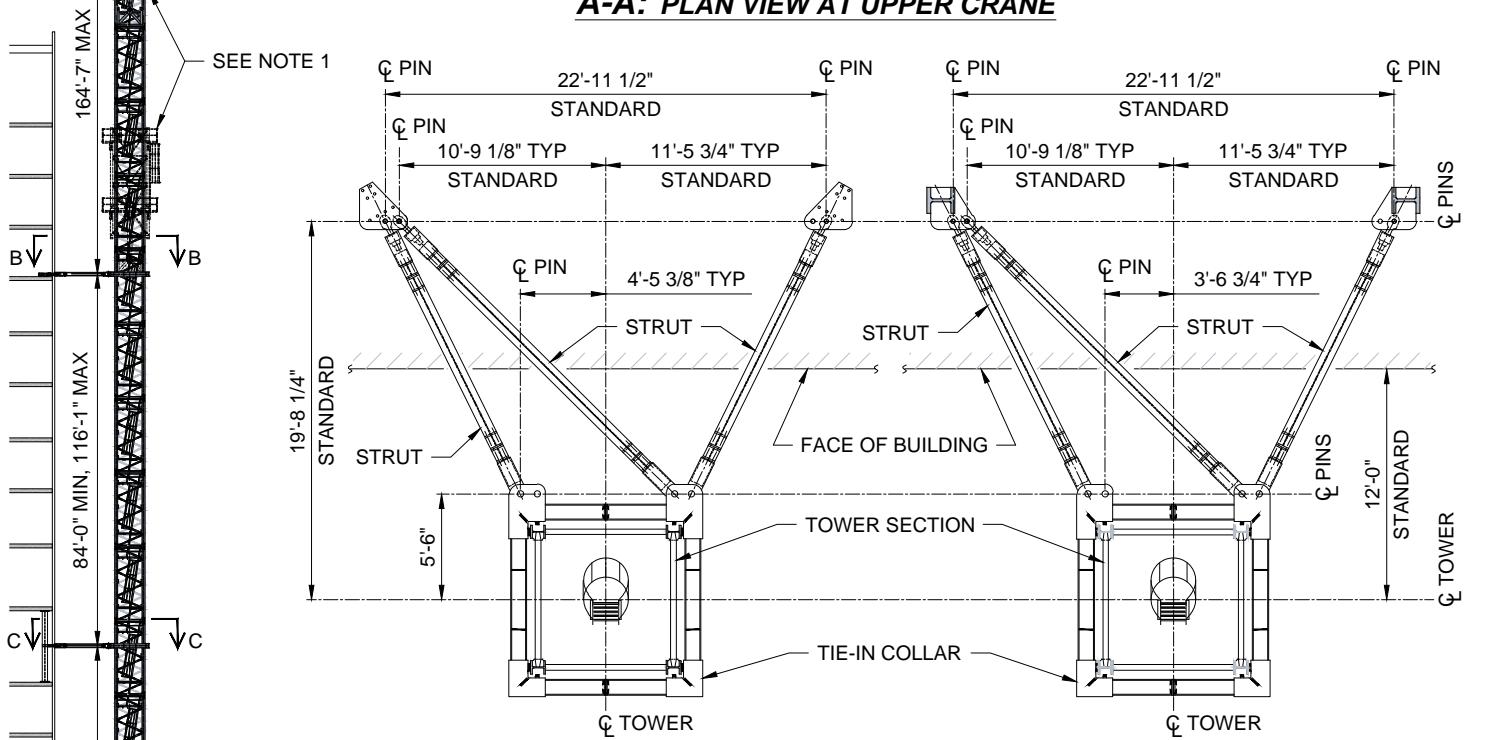
^ - Use of open delta transformers is prohibited.



# TOP CLIMBING INFORMATION

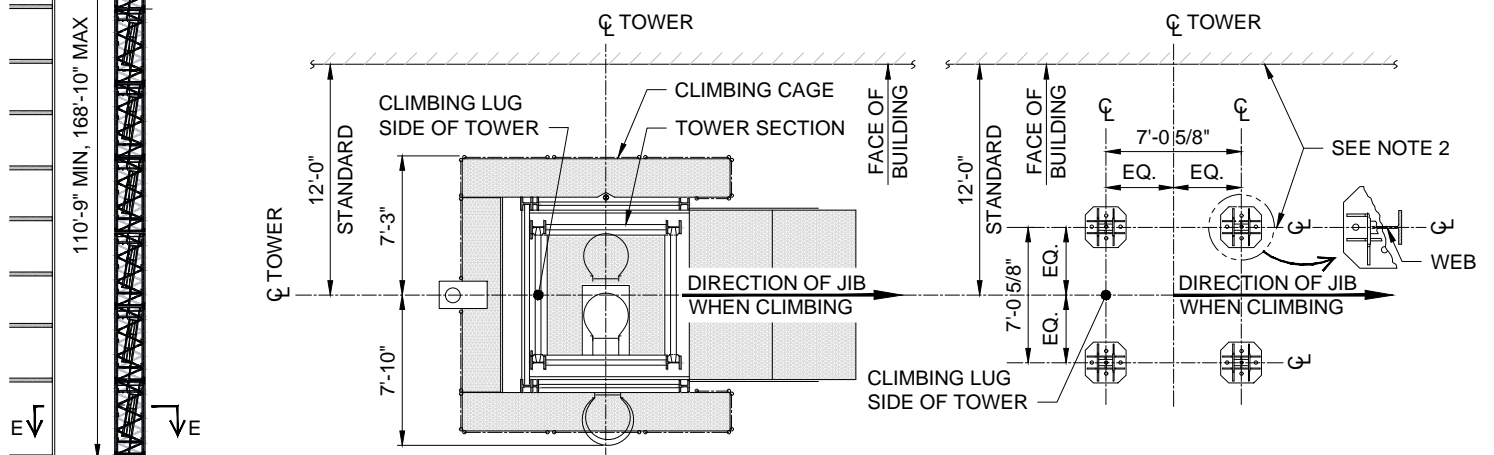


**A-A: PLAN VIEW AT UPPER CRANE**



**B-B: PLAN VIEW AT TIE-IN TO CONCRETE FLOOR**

**C-C: PLAN VIEW AT TIE-IN TO STEEL COLUMNS**



**D-D: PLAN VIEW AT TOP CLIMBING UNIT**

**E-E: PLAN VIEW AT TS 213 ANCHORS**

**ELEVATION VIEW**


**Notes:**

1. Climbing section must be lowered to tie-in or removed prior to placing the crane in service.
2. Web of anchor stools and towers must be parallel with the face of the building to permit top climbing.
3. Standard tie-in layouts shown; alternate tie-in lengths available. Contact ALL for pricing.


# COMPONENT WEIGHTS & MEASUREMENTS

Designation	Illustration	Shipping Dimensions			Weight (lbs)
		L (ft-in)	W (ft-in)	H (ft-in)	
TS 213 (S60) Anchors <sup>1</sup>		5'-5"	2'-2"	2'-2"	1,500
HD23 BASE	Tower Section	9'-11"	9'-11"	10'-3"	23,300
	Strut <sup>1</sup>	18'-9"	8'-7"	2'-4"	6,800
	Internal Beam <sup>1</sup>	13'-3"	0'-6"	1'-2"	600
	External Beam <sup>1</sup>	19'-3"	1'-0"	1'-2"	1,500
	ST "S" Ballast	16'-6"	6'-3"	1'-1"	12,000
HD23/TS213 Trans. Mast <sup>2</sup>		9'-10"	9'-10"	8'-3"	8,100
HD23/TS213 Adapter <sup>2</sup>		9'-10"	8'-2"	2'-2"	7,400
TS213 Mast		19'-6"	8'-0"	8'-0"	9,900
TSK213 Mast <sup>3</sup>		9'-10"	8'-0"	6'-8"	6,400
TSK213 Climbing Beam <sup>3</sup>		8'-8"	0'-8"	1'-0"	600
TS213/212 Top Climbing Section		29'-3"	11'-6"	11'-6"	25,050
Turntable (with 3 slewing motors)		11'-9"	7'-1"	7'-5"	26,600
Operators Cab, Catwalk and Platform		16'-5"	7'-3"	8'-3"	3,500
Tower Top		29'-6"	6'-10"	9'-8"	11,200
Inner Counterjib		31'-10"	6'-8"	2'-3"	6,900
Outer Counterjib <sup>4</sup>		38'-10"	7'-5"	5'-11"	25,300
Large Counterweight (BG 3.1 t)		15'-4"	5'-11"	0'-8"	6,800
Small Counterweight (BG 1.45 t)		10'-4"	5'-11"	0'-8"	3,200
Outer Trolley + Block + Hook		10'-10"	6'-7"	6'-2"	3,500
Inner Trolley + Block		8'-2"	6'-7"	4'-9"	3,100
Jib Section 1 (with Trolley Motor & Cable)		39'-0"	6'-6"	6'-11"	8,400
Jib Section 2		40'-6"	6'-6"	7'-3"	6,500
Jib Section 3 (with Queens Post)		38'-10"	6'-6"	7'-7"	5,500
Jib Section 4		18'-8"	6'-6"	6'-10"	2,300
Jib Section 5		35'-0"	6'-6"	6'-11"	4,400
Jib Section 6		35'-5"	6'-6"	6'-4"	4,100


**Assembled Components Information<sup>5,6</sup>**




WT = 16,000 LBS  
**TS 213 + ANCHORS**



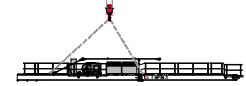
WT = 19,800 LBS  
**(2) TS 213**




WT = 29,700 LBS  
**TURNTABLE + CAB**




WT = 11,200 LBS  
**TOWER TOP**




WT = 33,100 LBS  
**COMPLETE COUNTERJIB**




WT = 18,600 LBS  
**INNER JIB**



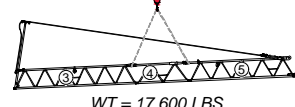
WT = 3,500 LBS  
**TROLLEY + BLOCK**



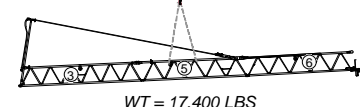
WT = 11,300 LBS  
**OUTER JIB (L1)**



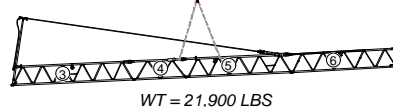
WT = 13,300 LBS  
**OUTER JIB (L2)**



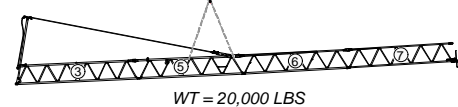
WT = 17,600 LBS  
**OUTER JIB (L3)**



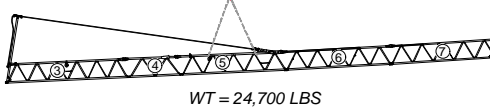
WT = 17,400 LBS  
**OUTER JIB (L4)**



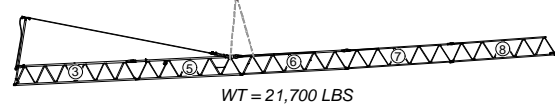
WT = 21,900 LBS  
**OUTER JIB (L5)**



WT = 20,000 LBS  
**OUTER JIB (L6)**




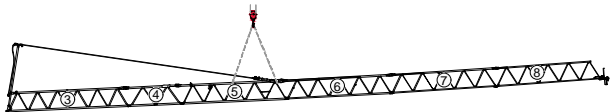


WT = 24,700 LBS  
**OUTER JIB (L7)**



WT = 21,700 LBS  
**OUTER JIB (L8)**

(continued on Page 6)

# COMPONENT WEIGHTS & MEASUREMENTS (continued)

Designation	Illustration	Shipping Dimensions			Weight (lbs)	Assembled Components Information <sup>5,6</sup>
		L (ft-in)	W (ft-in)	H (ft-in)		
Jib Section 7		33'-6"	6'-6"	6'-3"	2,600	 WT = 25,400 LBS OUTER JIB (L9)
Jib Section 8		33'-5"	6'-6"	6'-2"	1,600	
Jib Tip		4'-6"	6'-8"	5'-0"	1,400	

**Notes:**

- 1) Weight and Dimensions are per component; one complete set requires four (4) components.
- 2) Either the HD23/TS213 Transition Mast or the HD23/TS213 Adapter must be installed immediately above the HD23 Base.
- 3) TSK213 and two (2) TSK213 Climbing Beams are required to top climb this crane. Climbing beam information shown is per component.
- 4) Includes 108 HP Hoist Deck (9,300 lbs) and hoist cable (3,300 lbs).
- 5) Sizes and rigging shown are approximate and are for general illustration. Consult the crane specific Operator's Manual for Assembly/Dismante procedures, weights and rigging recommendations. Crane assembly and dismantle shall be carried out under the supervision of a qualified technician.
- 6) Weights shown are approximate and have been rounded. Weights do not include rigging weight or any weights associated with the assist crane's hook, block or hoist line. Where applicable, pendant lines and wire rope weights associated with the tower crane have been included. Rigging shall only be conducted by a qualified rigger; weights shown shall be verified prior to lifting.

## NOTES



Effective Date: December 2016

Product data sheets are subject to change without notice or obligation. Contact ALL Tower Crane for information.

The photographs and/or drawings in this document are for illustrative purposes only. Refer to the appropriate Operator's Manual for instructions on the proper use of this equipment. Failure to follow the appropriate Operator's Manual when using our equipment or to otherwise act irresponsibly may result in serious injury or death. Products listed may be trademarks, service marks or trade-names of Terex Corporation and/or its subsidiaries in the USA and other countries. All rights are reserved. Terex® is a registered trademark of Terex Corporation in the USA and many other countries.

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