

# TOWER CRANE CAPACITIES

4600

SERIES - 4

194' NO. 27B TOWER  
BOOM NO. 22B WITH LIGHT TAPERED TOP  
123,000 LB. COUNTERWEIGHT

CRAWLER

**LIFTING CAPACITIES:** Capacities for 194' tower with various boom lengths and operating radii are for freely suspended loads and do not exceed 75% of a static tipping load. CAPACITIES SHOWN BY SHADED AREAS ARE BASED ON STRUCTURAL COMPETENCE.

Capacities are shown in pounds. Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath boom point sheaves, is considered part of the main boom load. Boom is not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved.

**CAPACITY INDICATED BY "B" REPRESENTS A BOOM POSITION WHICH REQUIRES LOAD HANDLING DEVICES OF AT LEAST 2,500 POUNDS TO PREVENT BOOM FROM COMING BACK AGAINST BOOM STOP AS LOAD IS RELEASED.**

**OPERATING CONDITIONS:** Machine to operate on a firm surface with roller path level within a tolerance of 1/2" in 10 feet and properly supported, and be rigged in accordance with and under conditions referred to in rigging drawing No. 65156 or No. 66235 and load line specification chart No. 6517-A and chart No. 7264-A for recommended procedure for operating under various wind conditions.

Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, travel, wind conditions, as well as adverse operating conditions and physical machine depreciation.

**OPERATING RADIUS:** Operating radius is the horizontal distance from the axis of rotation to the center of vertical hoist line or load block. Add 1.2' to boom point radius for radius of sheave when using single part of hoist line.

Boom angle is the angle between horizontal and centerline of boom butt and inserts and is an indication of operating radius. In all cases, operating radius shall govern capacity.

**BOOM POINT ELEVATION:** Boom point elevation, in feet, is the vertical distance from ground level to centerline of boom point shaft.

**MACHINE EQUIPMENT:** Machine equipped with 30'5" crawlers, 60" treads, 33' retractable gantry, 12 part boom hoist reeving, four 1-1/2" tower pendants, four 1-3/8" boom pendants, and 123,000 lb. counterweight (120,000 lb. with counterweight assembly No. 49667).

HOIST REEVEING FOR MAIN LOAD BLOCK				
No. Parts of Line	1	2	3	4
Maximum Load - lbs.	40,000	80,000	120,000	160,000

LOAD AND WHIP LINE SPECIFICATIONS	
LOAD LINE: 1-1/4" — 6x31 Warrington-Seale, Extra Improved Plow Steel, Regular Lay, IWRC. Minimum Breaking Strength 79.9 Ton. Approx. Weight Per Ft. in lbs. 2.89.	
WHIP LINE: 1-1/4" — 6x31 Warrington-Seale, Extra Improved Plow Steel, Regular Lay, IWRC. Minimum Breaking Strength 79.9 Ton. Maximum Load — 40,000 lbs. Per Line. Approx. Weight Per Ft. in lbs. 2.89.	

MAXIMUM TOWER AND BOOM LENGTHS LIFTED UNASSISTED			
OVER FRONT OF BLOCKED CRAWLERS		OVER SIDE OF CRAWLERS	
Tower	Boom	Tower	Boom
194'	180'	174'	160'
Load block, hook & weight ball on ground until tower is in vertical position and boom is in operating range.			

Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity:	Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity:	Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity:	Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity:
100	35	73.4	299.2	126,300B	130	45	72.8	327.6	104,300	150	55	73.1	346.9	92,900	170	55	73.4	366.3	83,300
	40	70.4	297.6	123,700B		50	70.5	325.9	96,500		60	71.1	345.3	88,700		60	71.7	364.7	79,900
	45	67.4	295.7	114,300B		55	68.1	324.0	96,200		65	69.1	343.5	83,600		65	69.9	363.0	76,800
	50	64.2	293.4	108,200B		60	65.7	321.9	90,300		70	67.0	341.5	80,200		70	68.1	361.1	73,600
	55	61.0	290.8	103,100		65	63.3	319.5	86,700		75	65.0	339.3	78,600		75	66.2	359.0	71,000
110	60	57.7	287.9	98,600	140	70	60.8	316.8	83,400	160	80	62.8	336.8	75,900	180	80	64.4	356.7	68,500
	65	54.2	284.5	94,700		75	58.2	313.9	80,600		85	60.7	334.1	73,300		85	62.5	354.2	65,000
	70	50.6	280.6	91,300		80	55.6	310.6	77,900		90	58.4	331.2	69,100		90	60.6	351.5	61,700
	75	46.8	276.2	88,400		85	52.9	307.0	73,200		95	56.2	328.0	65,300		95	58.6	348.5	58,600
	80	42.7	271.2	83,800		90	50.0	303.0	68,900		100	53.8	324.5	61,800		100	56.6	345.4	55,600
120	85	38.3	265.3	78,600	150	95	47.1	298.6	65,000	170	105	51.4	320.7	58,500	190	105	54.6	341.9	52,900
	90	33.4	258.4	74,100		100	44.0	293.7	61,400		110	49.0	316.5	55,400		110	52.5	338.2	50,300
	95	27.7	249.9	70,200		105	40.7	288.2	58,100		115	46.4	312.0	52,600		115	50.3	334.3	47,900
	100	20.8	238.9	66,500		110	37.2	282.0	55,200		120	43.7	307.0	50,000		120	48.1	329.9	45,700
						115	33.4	275.0	52,600		125	40.8	301.5	47,600		125	45.8	325.3	43,600
130	40	72.3	308.2	114,400B	160	120	29.2	266.8	50,300	180	125	37.8	295.4	45,500	200	130	43.4	320.2	41,700
	45	69.5	306.4	112,800B		125	24.3	256.8	47,900		130	34.6	288.5	43,500		135	40.9	314.7	39,900
	50	66.7	304.4	106,000		130	18.2	244.0	45,400		135	31.1	280.8	41,800		140	38.3	308.6	38,300
	55	63.8	302.1	100,900							140	27.1	271.8	39,800		145	35.4	302.0	36,300
	60	60.9	299.5	96,500							145	22.6	261.0	37,900		150	32.4	294.5	34,500
140	65	57.9	296.5	92,800	170	45	74.0	338.0	101,000	190	55	72.4	355.9	85,700	210	155	29.1	286.1	32,800
	70	54.7	293.2	89,400		50	71.9	336.5	95,900		60	70.5	354.2	82,200		160	25.5	276.4	31,200
	75	51.5	289.5	86,400		55	69.7	334.7	89,600		65	68.6	352.3	78,000		165	21.2	264.9	29,800
	80	48.1	285.2	82,800		60	67.5	332.8	86,800		70	66.6	350.2	75,800		170	15.9	249.9	27,300
	85	44.5	280.4	77,700		65	65.3	330.6	84,100		75	64.7	348.0	73,600					
150	90	40.6	275.0	73,100	180	70	63.0	328.2	81,000	200	80	62.7	345.5	70,400	220	80	62.7	345.5	70,400
	95	36.4	268.7	69,000		75	60.7	325.5	78,200		85	60.6	342.8	66,700		85	60.6	342.8	66,700
	100	31.8	261.3	65,400		80	58.3	322.5	75,600		90	58.5	339.9	63,200		90	58.5	339.9	63,200
	105	26.4	252.4	61,800		85	55.9	319.3	71,200		95	56.4	336.7	59,900		95	56.4	336.7	59,900
	110	19.8	240.6	58,300		90	53.4	315.8	67,100		100	54.2	333.2	56,800		100	54.2	333.2	56,800
160	40	73.8	318.6	114,400B	190	95	50.8	311.9	63,300	210	105	52.0	329.5	53,900	230	105	52.0	329.5	53,900
	45	71.3	317.0	104,700		100	48.1	307.6	59,900		110	49.7	325.4	51,200		110	49.7	325.4	51,200
	50	68.7	315.2	103,900		105	45.3	302.9	56,700		115	47.3	321.0	48,800		115	47.3	321.0	48,800
	55	66.2	313.1	97,600		110	42.3	297.7	53,800		120	44.8	316.2	46,500		120	44.8	316.2	46,500
	60	63.5	310.8	93,400		115	39.2	291.9	51,200		125	42.2	310.9	44,300		125	42.2	310.9	44,300
170	65	60.8	308.2	89,600	200	120	35.8	285.3	48,800	220	130	39.5	305.1	42,400	240	130	39.5	305.1	42,400
	70	58.1	305.2	86,300		125	32.2	277.9	46,600		135	36.6	298.7	40,600		135	36.6	298.7	40,600
	75	55.2	301.9	83,400		130	28.1	269.3	44,800		140	33.4	291.6	39,000		140	33.4	291.6	39,000
	80	52.2	298.2	80,300		135	23.4	259.0	42,700		145	30.0	283.5	37,100		145	30.0	283.5	37,100
	85	49.1	294.1	75,400		140	17.5	245.6	40,200		150	26.2	274.2	35,300		150	26.2	274.2	35,300
180	90	45.9	289.6	70,900	210	90	45.9	289.6	70,900	230	155	21.9	263.0	33,600	250	155	21.9	263.0	33,600
	95	42.5	284.4	66,800		95	42.5	284.4	66,800		160	16.4	248.5	31,200		160	16.4	248.5	31,200
	100	38.8	278.6	63,100		100	38.8	278.6	63,100										
	105	34.8	271.9	59,900		105	34.8	271.9	59,900										
	110	30.4	264.1	57,000		110	30.4	264.1	57,000										
190	115	25.3	254.6	54,300	220	115	25.3	254.6	54,300	240					260				
	120	18.9	242.3	51,400		120	18.9	242.3	51,400										

Capacities continued  
on reverse side.

# SEE CONDITIONS ON REVERSE SIDE

Boom Lgth.: Feet	Oper. Rad.: Feet	Boom Ang.: Deg.	Boom Point: Elev.	Capacity:
1 8 0	60	72.7	375.3	77,600
	65	71.0	373.6	74,700
	70	69.3	371.8	72,000
	75	67.6	369.8	69,300
	80	65.9	367.7	67,100
	85	64.1	365.4	62,900
	90	62.4	362.8	59,800
	95	60.5	360.1	56,900
	100	58.7	357.2	54,200
	105	56.8	354.0	51,600
	110	54.9	350.7	49,200
	115	52.9	347.0	46,900
	120	50.9	343.1	44,800
	125	48.8	338.9	42,800
	130	46.7	334.3	40,900
	135	44.4	329.4	39,200
	140	42.1	324.1	37,600
	145	39.7	318.4	35,800
	150	37.1	312.1	34,000
	155	34.4	305.1	32,300
	160	31.5	297.4	30,700
	165	28.3	288.7	29,200
	170	24.7	278.7	27,800
	175	20.6	266.7	26,500
	180	15.4	251.3	24,100

REFERENCE ONLY!

Combined From Charts:  
 No. 6901-E 5-22-85  
 No. 6517-A 12-22-80