



LIFTING CHARTS - Crawler Cranes

KOBELCO MODEL CK1600-II - 160 TON CAPACITY

Main boom rated loads in pounds

Counterweight: 116,840 lbs (53,000 kg)

Carbody weight: 22,050 lbs (10,000 kg)

Supplemental Data

- Rated loads included in the charts are the maximum allowable freely suspended loads at a given boom length, boom angle and load radius, and have been determined for the machine standing level on firm supporting surface under ideal operating conditions. The user must limit or de-rate rated loads to allow for adverse conditions (such as soft or uneven ground, out-of-level conditions, wind, side loads, pendulum action, jerking or sudden stopping of loads, inexperience of personnel, multiple machine lifts, and traveling with a load).
- Rated loads do not exceed 75% of minimum tipping loads. Rated loads based on factors other than machine stability such as structural competence are shown by asterisk * in the charts.
- The machine must be reeved and set-up as stated in the operation manual and all the instruction manuals if these manuals are missing, obtain replacements.
- The crane must be leveled to within 1% on a firm supporting surface.
- Boom backstops are required for all boom length.
- Gantry must be fully raised position for all operations.
- Counterweight: 116,840 lbs (53,000 kg)
Refer to Fig.1.
- Carbody weight: 22,050 lbs (10,000 kg)
Carbody weights are fully installed.
- Do not attempt to lift where no radius on load is listed as crane may tip or collapse.
- Attempting to lift more than rated loads may cause machine to tip or collapse. Do not tip machine to determine rated loads.
- Weight of hooks, hook blocks, slings and other lifting devices are a part of the total load. Their total weight must be subtracted from the rated load to obtain the weight that can be lifted.
- When lifting over boom point with jib or auxiliary sheave, rated loads for the boom must be deducted as shown below.

Jib length (ft)	Aux	40	60	80	100
Deductions (lbs)	1,250	7,055	8,010	8,965	9,920

- The total load that can be lifted by jib is limited by rated jib loads.
- Boom lengths for jib mounting are 90 ft (27.4 m) to 200 ft (61.0 m)

- The total load that can be lifted by the auxiliary sheave is: the rated load for the boom (without auxiliary sheave installed) minus 1,250 lbs; however, the auxiliary sheave rated load should not exceed 59,000 lbs.
- Boom lengths that can attach auxiliary sheave are from 50 ft (15.2 m) to 240 ft (73.2 m).
- The boom should be erected over the front of the crawlers, not laterally.
When lifting from or lowering to the ground the boom at length of 240 ft (73.2 m) or over, the blocks must be placed at the end of crawlers.
- Least stable position is over the side.
- Maximum hoist load for number of reeving parts of line for hoist rope.

Main Boom Hoist Loads

No. of Parts of Line	1	2	3	4
Maximum Loads (lbs)	29,500	59,000	88,500	118,000

No. of Parts of Line	5	6	7	8
Maximum Loads (lbs)	147,500	177,000	206,500	236,000

No. of Parts of Line	9	10	11
Maximum Loads (lbs)	265,500	295,000	320,000

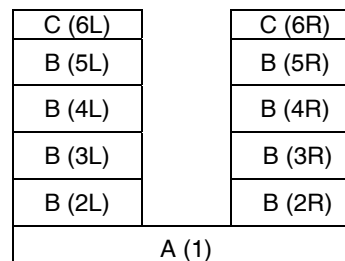
Jib Hoist Loads

No. of Parts of Line	1	2
Maximum Loads (lbs)	29,500	59,000

Auxiliary Sheave Hoist Loads

No. of Parts of Line	1	2
Maximum Loads (lbs)	29,500	59,000

- Rated loads listed apply only to the machine as originally manufactured and designed by KOBELCO CRANES CO., LTD. Modifications to this machine or use of equipment other than that specified can reduce operating capacity.
- Designed and rated to comply with ANSI Code B30.5.



Total weight of counterweight is 116,840 lbs (53,000 kg).

Fig.1 Counterweight Arrangement

Operation of this equipment in excess of rated loads or disregard of instruction voids the warranty

STERLING CRANE

Main Boom Rated Loads

with 11 counterweights (116,840 lbs) and 2 carbody weights (22,050 lbs)

50' Boom			60' Boom			70' Boom			80' Boom		
Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)
15.0	79.9	320,000 *	17.0	79.6	280,000 *	19.0	79.5	251,100 *	22.0	78.6	211,800 *
16.0	78.7	300,100 *	18.0	78.7	266,000 *	20.0	78.6	238,500 *	24.0	77.1	190,200 *
17.0	77.5	282,500 *	19.0	77.7	251,900 *	22.0	76.9	217,100 *	26.0	75.7	172,600 *
18.0	76.3	266,800 *	20.0	76.7	239,300 *	24.0	75.3	194,600 *	28.0	74.2	157,800 *
19.0	75.1	252,700 *	22.0	74.7	218,000 *	26.0	73.5	176,300 *	30.0	72.7	145,500 *
20.0	73.9	240,100 *	24.0	72.7	197,500 *	28.0	71.8	160,900 *	32.0	71.1	134,400
22.0	71.5	218,300 *	26.0	70.7	178,300 *	30.0	70.1	147,900 *	34.0	69.6	123,000
24.0	69.1	197,700 *	28.0	68.6	162,200 *	32.0	68.3	134,700	36.0	68.1	113,300
26.0	66.5	177,400 *	30.0	66.5	148,300	34.0	66.5	123,400	38.0	66.5	105,100
28.0	64.0	160,400 *	32.0	64.4	134,900	36.0	64.7	113,700	40.0	64.9	97,800
30.0	61.4	145,900 *	34.0	62.2	123,600	38.0	62.8	105,500	45.0	60.8	83,300
32.0	58.7	133,300 *	36.0	60.0	113,900	40.0	61.0	98,300	50.0	56.6	72,300
34.0	55.9	122,100 *	38.0	57.7	105,800	45.0	56.1	83,700	55.0	52.1	63,900
36.0	53.0	112,200 *	40.0	55.4	98,500	50.0	50.9	72,700	60.0	47.4	56,800
38.0	50.0	103,300 *	45.0	49.3	83,900	55.0	45.3	64,300	65.0	42.2	51,300
40.0	46.8	95,200 *	50.0	42.4	72,000 *	60.0	39.0	57,300 *	70.0	36.3	46,700 *
45.0	38.0	76,900 *	55.0	34.4	60,100 *	65.0	31.7	48,700 *	75.0	29.5	40,300 *
90' Boom			100' Boom			110' Boom			120' Boom		
Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)
22.0	79.9	207,600 *	24.0	79.8	183,400 *	26.0	79.6	164,200 *	28.0	79.5	147,000 *
24.0	78.6	186,500 *	26.0	78.6	166,400 *	28.0	78.6	150,100 *	30.0	78.6	135,500 *
26.0	77.3	169,000 *	28.0	77.4	152,300 *	30.0	77.5	138,200 *	32.0	77.6	125,600 *
28.0	76.0	154,700 *	30.0	76.2	140,400 *	32.0	76.4	128,300 *	34.0	76.6	117,000 *
30.0	74.6	142,600 *	32.0	75.0	130,200 *	34.0	75.4	119,400 *	36.0	75.6	109,500 *
32.0	73.3	132,200 *	34.0	73.8	121,400 *	36.0	74.3	111,900 *	38.0	74.6	102,900 *
34.0	72.0	122,700	36.0	72.6	112,800	38.0	73.2	104,400	40.0	73.6	96,700
36.0	70.6	113,000	38.0	71.4	104,700	40.0	72.1	97,200	45.0	71.1	82,200
38.0	69.3	104,700	40.0	70.2	97,400	45.0	69.3	82,600	50.0	68.6	71,200
40.0	67.9	97,400	45.0	67.1	82,800	50.0	66.5	71,600	55.0	65.9	62,600
45.0	64.4	82,800	50.0	63.9	71,800	55.0	63.6	63,000	60.0	63.3	55,500
50.0	60.8	72,000	55.0	60.7	63,200	60.0	60.6	56,200	65.0	60.6	50,000
55.0	57.0	63,400	60.0	57.3	56,400	65.0	57.5	50,400	70.0	57.8	45,100
60.0	53.1	56,400	65.0	53.8	50,700	70.0	54.4	45,600	75.0	54.9	41,200
65.0	48.9	50,900	70.0	50.1	46,000	75.0	51.1	41,600	80.0	51.9	37,600
70.0	44.4	46,200	75.0	46.2	41,800	80.0	47.6	38,300	85.0	48.7	34,800
75.0	39.6	42,300	80.0	42.0	38,500	85.0	43.9	35,200	90.0	45.4	32,100
80.0	34.1	38,800 *	85.0	37.4	35,700	90.0	39.9	32,800	95.0	41.9	29,900
			90.0	32.3	32,800 *	95.0	35.6	30,400	100.0	38.1	27,900
						100.0	30.7	27,900 *	105.0	34.0	26,000

STERLING CRANE

Main Boom Rated Loads

with 11 counterweights (116,840 lbs) and 2 carbody weights (22,050 lbs)

130' Boom			140' Boom			150' Boom			160' Boom		
Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)
30.0	79.5	134,000 *	32.0	79.4	122,100 *	34.0	79.3	112,600 *	34.0	80.0	110,800 *
32.0	78.6	124,100 *	34.0	78.5	113,500 *	36.0	78.5	105,100 *	36.0	79.3	103,600 *
34.0	77.7	115,500 *	36.0	77.7	106,200 *	38.0	77.8	98,700 *	38.0	78.5	97,000 *
36.0	76.7	108,200 *	38.0	76.9	99,800 *	40.0	77.0	93,000 *	40.0	77.8	91,200 *
38.0	75.8	101,600 *	40.0	76.0	94,100 *	45.0	75.0	81,100 *	45.0	76.0	79,500 *
40.0	74.9	95,600 *	45.0	73.9	81,700	50.0	73.0	70,500	50.0	74.1	70,100
45.0	72.6	82,000	50.0	71.7	70,700	55.0	71.0	61,900	55.0	72.2	61,500
50.0	70.3	70,900	55.0	69.6	62,100	60.0	69.0	54,800	60.0	70.3	54,600
55.0	67.9	62,300	60.0	67.4	55,100	65.0	66.9	49,100	65.0	68.4	48,900
60.0	65.5	55,500	65.0	65.1	49,300	70.0	64.8	44,500	70.0	66.5	44,000
65.0	63.0	49,800	70.0	62.8	44,700	75.0	62.6	40,300	75.0	64.5	40,100
70.0	60.5	44,900	75.0	60.5	40,700	80.0	60.4	37,000	80.0	62.5	36,500
75.0	57.9	41,000	80.0	58.1	37,200	85.0	58.2	33,900	85.0	60.4	33,500
80.0	55.3	37,400	85.0	55.6	34,100	90.0	55.9	31,300	90.0	58.3	30,800
85.0	52.5	34,600	90.0	53.1	31,700	95.0	53.6	29,100	95.0	56.2	28,600
90.0	49.7	31,900	95.0	50.5	29,300	100.0	51.1	26,800	100.0	54.0	26,600
95.0	46.7	29,700	100.0	47.7	27,300	105.0	48.6	25,100	105.0	51.7	24,600
100.0	43.5	27,500	105.0	44.9	25,300	110.0	46.0	23,300	110.0	49.4	23,100
105.0	40.2	25,700	110.0	41.8	23,800	115.0	43.2	22,000	115.0	47.0	21,600
110.0	36.6	24,200	115.0	38.6	22,200	120.0	40.3	20,700	120.0	44.4	20,200
115.0	32.6	22,700 *	120.0	35.2	20,900	125.0	37.2	19,400	125.0	41.8	18,900
			125.0	31.4	19,600 *	130.0	33.9	18,200 *	130.0	39.0	17,800
						135.0	30.2	16,500 *	135.0	36.0	16,700
									140.0	32.8	15,600 *
170' Boom			180' Boom			190' Boom			200' Boom		
Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)
36.0	79.9	102,000 *	38.0	79.8	88,400 *	40.0	79.8	88,100 *	45.0	78.8	75,100 *
38.0	79.2	95,600 *	40.0	79.2	88,400 *	45.0	78.2	76,400 *	50.0	77.3	66,100 *
40.0	78.5	89,900 *	45.0	77.6	77,600 *	50.0	76.7	67,200 *	55.0	75.9	58,800 *
45.0	76.8	78,200 *	50.0	75.9	68,500 *	55.0	75.1	59,900 *	60.0	74.4	52,900 *
50.0	75.1	69,200 *	55.0	74.3	61,000 *	60.0	73.5	53,700	65.0	72.9	47,600
55.0	73.3	61,200	60.0	72.6	54,000	65.0	72.0	48,000	70.0	71.4	42,900
60.0	71.5	54,200	65.0	70.9	48,200	70.0	70.4	43,200	75.0	69.9	38,800
65.0	69.7	48,500	70.0	69.2	43,600	75.0	68.7	39,200	80.0	68.3	35,200
70.0	67.9	43,800	75.0	67.5	39,400	80.0	67.1	35,700	85.0	66.8	32,400
75.0	66.1	39,600	80.0	65.8	36,100	85.0	65.5	32,600	90.0	65.2	29,700
80.0	64.2	36,300	85.0	64.0	33,000	90.0	63.8	29,900	95.0	63.6	27,300
85.0	62.3	33,200	90.0	62.2	30,400	95.0	62.1	27,700	100.0	62.0	25,300
90.0	60.4	30,600	95.0	60.4	27,900	100.0	60.4	25,500	105.0	60.3	23,300
95.0	58.4	28,200	100.0	58.5	26,000	105.0	58.6	23,800	110.0	58.7	21,800
100.0	56.4	26,200	105.0	56.6	24,000	110.0	56.8	22,000	115.0	57.0	20,200
105.0	54.4	24,400	110.0	54.7	22,400	115.0	55.0	20,500	120.0	55.2	18,700
110.0	52.2	22,700	115.0	52.7	20,900	120.0	53.1	19,100	125.0	53.5	17,600
115.0	50.1	21,100	120.0	50.6	19,600	125.0	51.2	18,000	130.0	51.6	16,500
120.0	47.8	19,800	125.0	48.5	18,200	130.0	49.2	16,700	135.0	49.8	15,400
125.0	45.5	18,700	130.0	46.4	17,100	135.0	47.2	15,800	140.0	47.9	14,300
130.0	43.0	17,400	135.0	44.1	16,000	140.0	45.0	14,700	145.0	45.9	13,400
135.0	40.5	16,500	140.0	41.7	15,200	145.0	42.9	13,800	150.0	43.8	12,700
140.0	37.8	15,400	145.0	39.3	14,300	150.0	40.6	13,000	155.0	41.7	11,900
145.0	34.9	14,500	150.0	36.6	13,400 *	155.0	38.2	12,300 *	160.0	39.5	11,200 *
150.0	31.8	13,200 *	155.0	33.8	12,300 *	160.0	35.6	11,200 *	165.0	37.1	10,300 *
			160.0	30.8	11,000 *	165.0	32.9	10,100 *	170.0	34.7	9,200 *
						170.0	30.0	9,000 *	175.0	32.0	8,300 *

STERLING CRANE

Main Boom Rated Loads											
with 11 counterweights (116,840 lbs) and 2 carbody weights (22,050 lbs)											
210 ' Boom			220 ' Boom			230 ' Boom			240 ' Boom		
Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)
45.0	79.4	73,800 *	45.0	79.8	58,800 *	50.0	79.0	58,800 *	50.0	79.5	54,400 *
50.0	78.0	65,000 *	50.0	78.5	58,800 *	55.0	77.7	55,700 *	55.0	78.3	51,300 *
55.0	76.6	57,700 *	55.0	77.2	57,700 *	60.0	76.5	50,700 *	60.0	77.0	48,200 *
60.0	75.1	51,800 *	60.0	75.8	51,800 *	65.0	75.2	45,800 *	65.0	75.8	44,700 *
65.0	73.7	46,900 *	65.0	74.5	46,700 *	70.0	73.9	41,400 *	70.0	74.6	40,500 *
70.0	72.3	42,500	70.0	73.1	42,300 *	75.0	72.6	37,900 *	75.0	73.3	37,000 *
75.0	70.9	38,300	75.0	71.8	38,300	80.0	71.3	34,600	80.0	72.1	33,700 *
80.0	69.4	34,800	80.0	70.4	34,800	85.0	69.9	31,500	85.0	70.8	31,000 *
85.0	67.9	31,900	85.0	69.0	31,700	90.0	68.6	28,800	90.0	69.5	28,400
90.0	66.5	29,300	90.0	67.6	29,100	95.0	67.3	26,400	95.0	68.3	26,000
95.0	64.9	26,800	95.0	66.2	26,800	100.0	65.9	24,400	100.0	67.0	24,000
100.0	63.4	24,900	100.0	64.7	24,600	105.0	64.5	22,400	105.0	65.7	22,000
105.0	61.9	22,900	105.0	63.3	22,900	110.0	63.1	20,900	110.0	64.3	20,500
110.0	60.3	21,300	110.0	61.8	21,100	115.0	61.7	19,400	115.0	63.0	18,900
115.0	58.7	19,800	115.0	60.3	19,600	120.0	60.3	17,800	120.0	61.7	17,600
120.0	57.1	18,500	120.0	58.8	18,200	125.0	58.8	16,700	125.0	60.3	16,300
125.0	55.5	17,100	125.0	57.2	16,900	130.0	57.4	15,400	130.0	58.9	15,200
130.0	53.8	16,000	130.0	55.7	15,800	135.0	55.9	14,500	135.0	57.5	14,100
135.0	52.1	14,900	135.0	54.1	14,700	140.0	54.3	13,400	140.0	56.0	13,000
140.0	50.3	13,800	140.0	52.4	13,800	145.0	52.8	12,500	145.0	54.6	12,100
145.0	48.5	13,000	145.0	50.8	13,000	150.0	51.2	11,600	150.0	53.1	11,000
150.0	46.6	12,300	150.0	49.1	12,100	155.0	49.6	10,800	155.0	51.6	10,300
155.0	44.7	11,400	155.0	47.3	11,200	160.0	47.9	9,900	160.0	50.0	9,400
160.0	42.7	10,500	160.0	45.5	10,300	165.0	46.2	9,200	165.0	48.5	8,800
165.0	40.6	9,900	165.0	43.6	9,700	170.0	44.4	8,500	170.0	46.8	7,900
170.0	38.5	9,200 *	170.0	41.7	9,000 *	175.0	42.6	7,900 *	175.0	45.2	7,200
175.0	36.2	8,100 *	175.0	39.7	8,100 *	180.0	40.7	7,000 *	180.0	43.4	6,800 *
180.0	33.8	7,200 *	180.0	37.6	7,200 *	185.0	38.7	6,300 *	185.0	41.7	6,100 *
185.0	31.2	6,300 *	185.0	35.3	6,600 *	190.0	36.7	5,700 *	190.0	39.8	5,200 *
			190.0	33.0	5,700 *	195.0	34.5	4,800 *	195.0	37.9	4,600 *
			195.0	30.5	4,800 *	200.0	32.2	4,100 *			
250 ' Boom			250 ' Boom								
Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)	Load Radius (ft)	Boom Angle (deg.)	360° Rated Load (lbs)						
50.0	79.9	50,200 *	145.0	56.2	11,600						
55.0	78.7	47,300 *	150.0	54.8	10,800						
60.0	77.6	44,500 *	155.0	53.4	9,900						
65.0	76.4	42,100 *	160.0	51.9	9,000						
70.0	75.2	39,600 *	165.0	50.5	8,300						
75.0	74.0	36,100 *	170.0	49.0	7,400						
80.0	72.8	33,000 *	175.0	47.4	6,800						
85.0	71.6	30,200 *	180.0	45.8	6,300 *						
90.0	70.4	27,900 *	185.0	44.2	5,700 *						
95.0	69.2	25,700 *	190.0	42.5	5,000 *						
100.0	67.9	23,500	195.0	40.8	4,400 *						
105.0	66.7	21,800									
110.0	65.4	20,000									
115.0	64.2	18,500									
120.0	62.9	17,100									
125.0	61.6	15,800									
130.0	60.3	14,700									
135.0	58.9	13,600									
140.0	57.6	12,500									