

CROFTON
CRANE RENTAL & RIGGING

American 399

AMERICAN 399 BC CRAWLER CRANE LIFTING CAPACITIES

For Hook - Clamshell & Dragline

Boom Length	Radius Feet	Radius Degree	Capacity Hook Work	Capacity Clam or Drag Work	Boom Length	Radius Feet	Radius Degree	Capacity Hook Work	Capacity Clam or Drag Work
30'	10	76	47,050	34,700	70'	55	42	3,800	2,600
	12	72	34,450	27,600		60	35	3,300	2,200
	15	66	24,550	19,700		65	27	2,900	
	20	54	16,350	13,000		70	16	2,600	
	25	42	12,150	9,500					
	30	24	9,550	7,500					
40'	10	79	46,900	34,500	80'	15	81	24,000	18,200
	12	76	34,300	27,400		20	78	15,800	12,000
	15	72	24,400	19,500		25	74	11,800	8,500
	20	64	16,200	12,800		30	70	9,000	6,500
	25	56	12,000	9,300		35	66	7,300	5,200
	30	46	9,400	7,300		40	62	6,000	4,300
	35	36	7,700	6,000		45	58	5,100	3,500
	40	20	6,400	5,100		50	54	4,300	2,900
50'	10	82	46,800	34,300		55	49	3,700	2,400
	12	79	34,200	27,200		60	44	3,200	2,000
	15	76	24,300	19,300	65	38	2,800		
	20	70	16,100	12,600	70	32	2,500		
	25	63	11,900	9,100	75	25	2,200		
	30	56	9,300	7,100	80	14	1,900		
	35	50	7,600	5,600	90'	17	80	19,800	
	40	42	6,300	4,900		20	79	15,700	
	45	32	5,400	4,100		25	76	11,500	
	50	18	4,600	3,500		30	72	8,900	
60'	12	81	34,100	27,000		35	69	7,200	
	15	78	24,200	19,100		40	66	5,900	
	20	73	16,000	12,400		45	62	5,000	
	25	68	11,800	8,900		50	58	4,200	
	30	63	9,200	6,900		55	54	3,600	
	35	57	7,500	5,600		60	50	3,100	
	40	52	6,200	4,700	65	46	2,700		
	45	46	5,300	3,900	70	42	2,400		
	50	38	4,500	3,300	75	36	2,100		
	55	29	3,900	2,800	80	30	1,800		
70'	15	80	24,100	18,900	100'	20	80	15,600	
	20	76	15,900	12,200		25	77	11,400	
	25	72	11,700	8,700		30	74	8,800	
	30	67	9,100	6,700		35	71	7,100	
	35	62	7,400	5,400		40	68	5,800	
	40	58	6,100	4,500		45	65	4,900	
	45	52	5,200	3,700		50	62	4,100	
	50	48	4,400	3,100		55	58	3,500	
				60		55	3,000		
				65		52	2,600		
				70	48	2,300			
				75	44	2,000			
				80	39	1,700			

NOTE: Capacities given are based on 75% of tipping load. Blocks, slings, buckets and other load carrying devices are considered part of the load. Booms over 60 ft. long require high gantry.

JIB CAPACITIES	15 ft. Jib	20 ft. Jib	30 ft. Jib
Maximum Capacity	6000 lbs.	12000 lbs.	10000 lbs.
Reduction in Main Boom Capacity	800 lbs.	960 lbs.	1280 lbs.
Permissible Offset of Jib from Boom Centerline	7 ft.	8 ft.	8 ft.

Jib capacities at various radii are the same as main boom capacities, reduced by 800, 960 or 1280 lbs. depending on jib length, but not exceeding the maximum capacity of the jib.

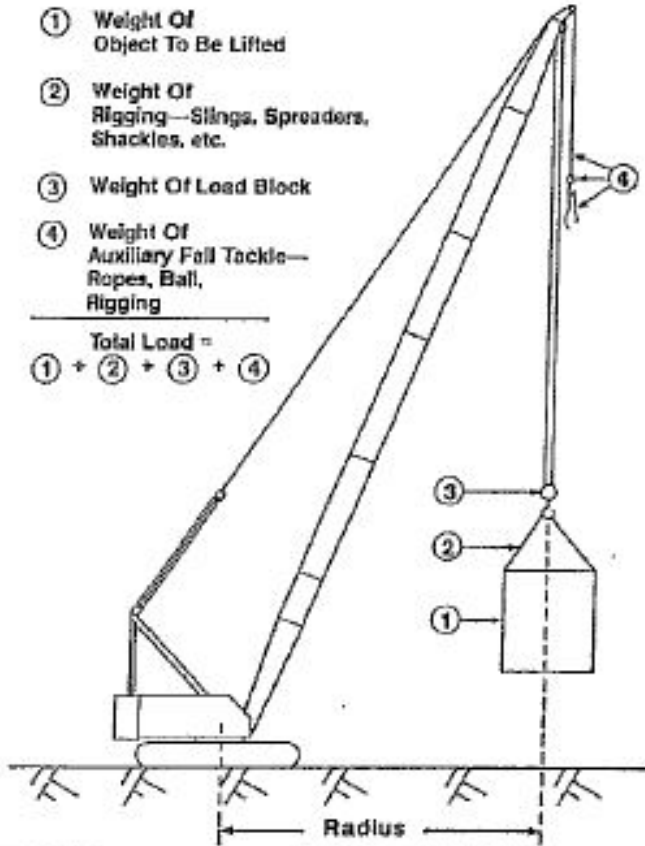
In duty cycle work (dragline, clamshell, grapple, magnet, etc.) the combined weight of bucket and load must not exceed either 7,700 lbs. or 80% of lifting capacity (outriggers set) at the boom tip radius. This capacity should be reduced by an additional 10% when working under unfavorable conditions, in sticky material, or when the machine does not stand on firm level ground.

CALCULATING TOTAL LOAD WEIGHT

Crane's Lifted Load on Main Fall Includes:

- ① Weight Of Object To Be Lifted
- ② Weight Of Rigging—Slings, Spreaders, Shackles, etc.
- ③ Weight Of Load Block
- ④ Weight Of Auxiliary Fall Tackle—Ropes, Ball, Rigging

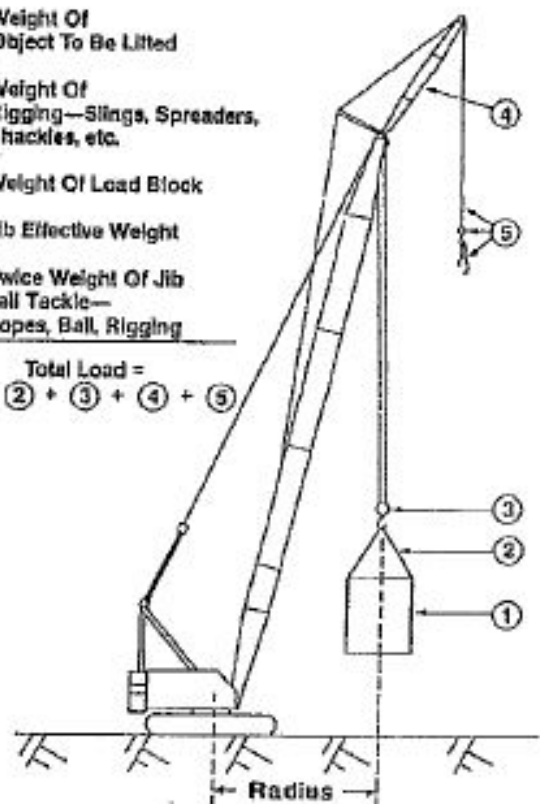
Total Load =
① + ② + ③ + ④



Crane's Lifted Load on Main Fall Must Also Include Jib and Jib Tackle:

- ① Weight Of Object To Be Lifted
- ② Weight Of Rigging—Slings, Spreaders, Shackles, etc.
- ③ Weight Of Load Block
- ④ Jib Effective Weight
- ⑤ Twice Weight Of Jib Fall Tackle—Ropes, Ball, Rigging

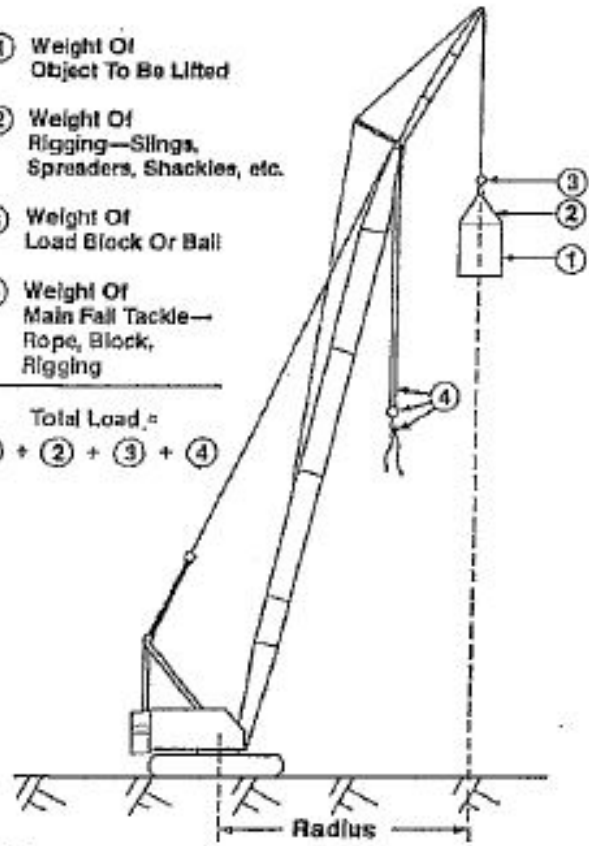
Total Load =
① + ② + ③ + ④ + ⑤



Crane's Lifted Load on Jib Fall Includes:

- ① Weight Of Object To Be Lifted
- ② Weight Of Rigging—Slings, Spreaders, Shackles, etc.
- ③ Weight Of Load Block Or Ball
- ④ Weight Of Main Fall Tackle—Rope, Block, Rigging

Total Load =
① + ② + ③ + ④



NOTE: The weight of the minimum parts of line required to lift the rated load has already been considered in this chart. It need not be added to the load. This applies only to the load fall being used. If additional parts of line are reeved beyond the minimum required to handle a rated load, or if a second fall is in place but not used, the weight of these ropes should be added to the weight lifted. Refer to the Crane Rating Chart and the Rope Weight Table on the back of this page for rope weight reference data.

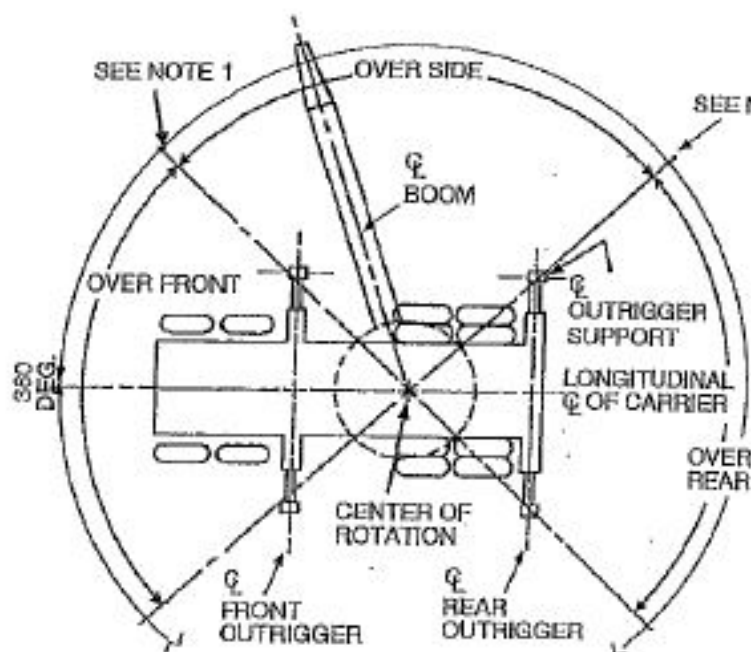
ROPE WEIGHT PER GIVEN LENGTH

Use the data in the table below when the total weight of the load being lifted is calculated according to one of the Total Load Formulas in Appendix "A", on the front side of this page.

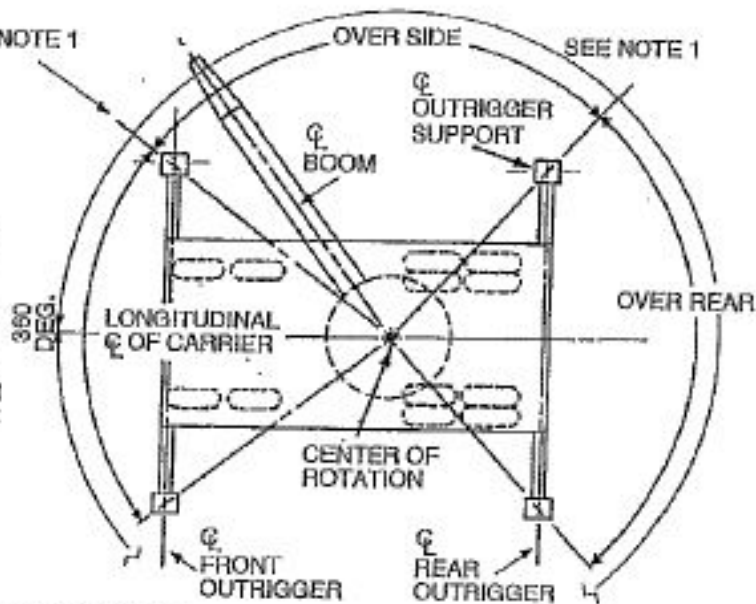
For IPS, EIPS, or EEIPS Wire Ropes. For other ropes, consult specific chart or the rope manufacturer's own reference data or user's manual.

ROPE DIAMETER		WEIGHT OF ONE FOOT (OR ONE METER) OF ROPE	
IN MILLIMETERS	IN INCHES	LBS./FT.	Kg/M
12.7	1/2	.46	.68
15.9	5/8	.72	1.07
19.1	3/4	1.04	1.55
22.2	7/8	1.42	2.11
25.4	1	1.85	2.75
28.6	1-1/8	2.34	3.48
31.8	1-1/4	2.89	4.30
34.9	1-3/8	3.50	5.21
38.1	1-1/2	4.16	6.19
41.3	1-5/8	4.88	7.26
44.5	1-3/4	5.67	8.44
47.6	1-7/8	6.50	9.67
50.8	2	7.39	11.00
54.0	2-1/8	8.35	12.42
57.2	2-1/4	9.36	13.93
63.5	2-1/2	11.60	17.26
69.9	2-3/4	14.00	20.83

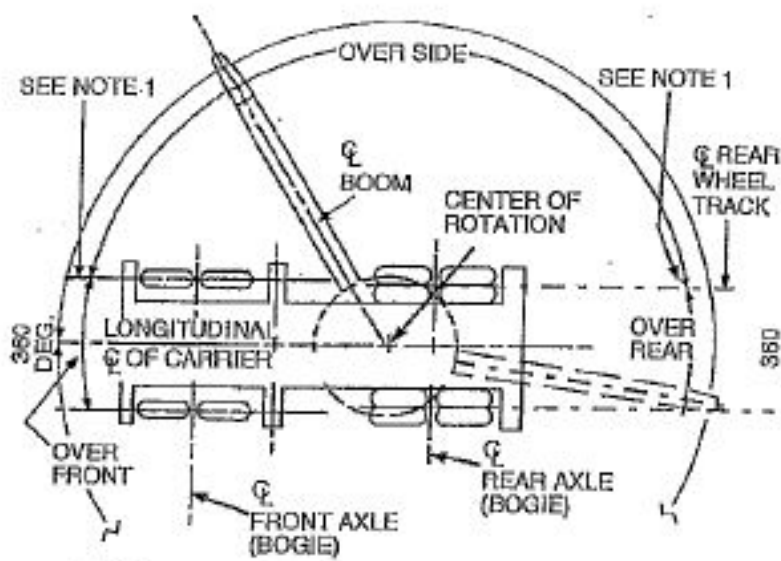
**ALL SERIES
IMPORTANT LOAD LIFTING
RESTRICTIONS & REGULATIONS**



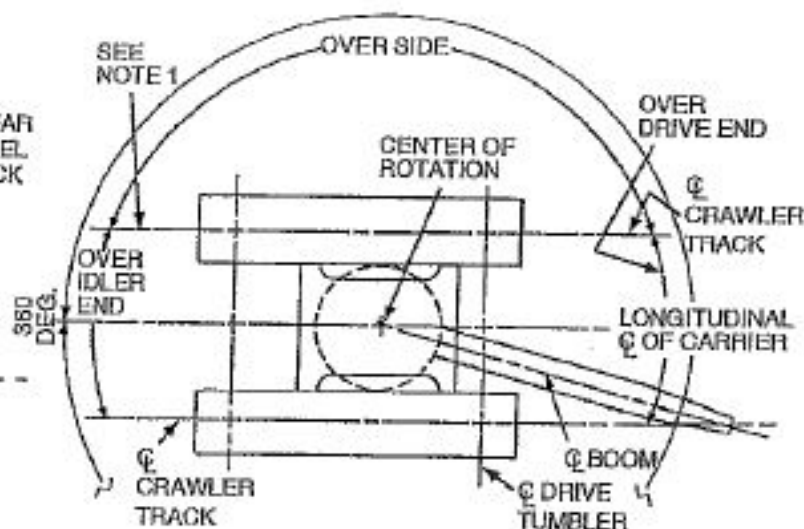
FRONT OUTRIGGER BEHIND FRONT WHEELS



FRONT OUTRIGGER AHEAD OF FRONT WHEELS



CARRIER ON TIRES



CRAWLER TYPE LOWER

WORKING AREA DEFINITIONS

NOTE 1

These lines determine the limiting position of any load for operation within working areas indicated.

ALL SERIES
WEIGHTS OF MATERIALS

MATERIAL	KG/CU. METER	KG/CU. FOOT	1 CU. YARD
Ashes - Piled Dry	580.70	35	945
Brick Bats	881.10	55	1485
Cement - Portland	1505.88	94	2598
Charcoal	400.50	25	695
Cinders	881.10	55	1485
Clinker - Portland Cement	1361.70	85	2295
Clay - Dry, in Lumps	1009.26	63	1701
Clay - Compact, Natural Bed	1746.18	109	2943
Coal - Anthracite	897.12	56	1512
Coal - Bituminous R of M Piled	881.10	55	1485
Coal - Bituminous Slack, Piled	801.00	50	1350
Coke - Blast Furnace Size	432.54	27	729
Coke - Foundry Size	448.56	28	756
Concrete - Ready to Pour	2370.96	148	3996
Dolomite - Crushed Fine	1521.90	95	2565
Dolomite - Broken Lump	1521.90	95	2565
Earth - Loamy, Dry Loose	1201.50	75	2025
Earth - Dry, Packed	1521.90	95	2565
Earth - Wet (Mud)	1762.20	110	2970
Flue Dust - Blast Furnace	1842.30	115	3105
Flue Dust - Blast Furnace, Wet	2403.00	150	4050
Gypsum - Crushed to 3"	1521.90	95	2565
Gypsum - Calcined	961.20	60	1620
Gravel - Dry, Loose	1762.20	110	2970
Gravel - Dry, Packed	1810.26	113	3051
Gravel - Wet, Packed	1922.40	120	3240
Iron Ore - 60% Iron	4806.00	300	8100
Iron Ore - 50% Iron	4005.00	250	6750
Iron Ore - 40 % Iron	3204.00	200	5400
Iron Punchings - Scrap	4325.40	270	7290
Iron Turnings - Scrap	2803.60	175	4725
Limestone - Run of Crushed	1521.90	95	2565
Limestone - Fines Out	1602.00	100	2700
Limestone - 1 1/2 or 2 Graded	1361.70	85	2295
Limestone - Above 2 Graded	1281.60	80	2160
Phosphate, Acid (Fertilizer)	1361.70	85	2295
Phosphate, Rock	1281.60	80	2160
Pyrites	2167.70	135	3645
Salt	929.16	58	1566
Sand - Dry, Loose	1521.90	95	2565
Sand - Wet, Packed	1922.40	120	3240
Scale - Rolling Mill, Wet	2114.64	132	3564
Shale - Broken	1361.70	85	2295
Slag - Blast Furnace, Broken	2210.76	138	3726
Slag - Open Hearth, Crushed	1682.10	105	2835
Slag - Granulated, Dry	806.76	38	1026
Slag - Granulated, Wet	929.16	58	1566
Snow	628.66	33	891
Sulphur - Broken	528.66	60	1620
Timber - Green Cedar	592.74	37	999
Douglas Fir	606.76	38	1026
Hemlock	656.82	41	1107
Southern Pine	881.10	55	1485
Spruce	576.72	36	972
Redwood	801.00	50	1350
Zinc Ore - Broken	2403.00	150	4050



FRACTION/DECIMAL CONVERSION															
4THS	8THS	16THS	32NDS	64THS	TO 4 PLACES	TO 3 PLACES	TO 2 PLACES	4THS	8THS	16THS	32NDS	64THS	TO 4 PLACES	TO 3 PLACES	TO 2 PLACES
				1/64	0.0156	0.016	0.02					33/64	0.5156	0.516	0.52
			1/32		0.0312	0.031	0.03				17/32		0.5312	0.531	0.53
				3/64	0.0469	0.047	0.05					35/64	0.5469	0.547	0.55
		1/16			0.0625	0.063	0.06			9/16			0.5625	0.563	0.56
				5/64	0.0781	0.078	0.08					37/64	0.5781	0.578	0.58
			3/32		0.0938	0.094	0.09				19/32		0.5938	0.594	0.59
				7/64	0.1094	0.109	0.11					39/64	0.6094	0.609	0.61
	1/8				0.1250	0.125	0.13			5/8			0.6250	0.625	0.63
				9/64	0.1406	0.141	0.14					41/64	0.6406	0.641	0.64
			5/32		0.1562	0.156	0.16				21/32		0.6562	0.656	0.66
				11/64	0.1719	0.172	0.17					43/64	0.6719	0.672	0.67
		3/16			0.1875	0.188	0.19			11/16			0.6875	0.688	0.69
				13/64	0.2031	0.203	0.20					45/64	0.7031	0.703	0.70
			7/32		0.2188	0.219	0.22				23/32		0.7188	0.719	0.72
				15/64	0.2344	0.234	0.23					47/64	0.7344	0.734	0.73
	1/4				0.2500	0.250	0.25		3/4				0.7500	0.750	0.75
				17/64	0.2656	0.266	0.27					49/64	0.7656	0.766	0.77
			9/32		0.2812	0.281	0.28				25/32		0.7812	0.781	0.78
				19/64	0.2969	0.297	0.30					51/64	0.7969	0.797	0.80
		5/16			0.3125	0.313	0.31			13/16			0.8125	0.813	0.81
				21/64	0.3281	0.328	0.33					53/64	0.8281	0.828	0.83
			11/32		0.3438	0.344	0.34				27/32		0.8438	0.844	0.84
				23/64	0.3594	0.359	0.36					55/64	0.8594	0.859	0.86
		3/8			0.3750	0.375	0.38			7/8			0.8750	0.875	0.88
				25/64	0.3906	0.391	0.39					57/64	0.8906	0.891	0.89
			13/32		0.4062	0.406	0.41				29/32		0.9062	0.906	0.91
				27/64	0.4219	0.422	0.42					59/64	0.9219	0.922	0.92
		7/16			0.4375	0.438	0.44			15/16			0.9375	0.938	0.94
				29/64	0.4531	0.453	0.45					61/64	0.9531	0.953	0.95
			15/32		0.4688	0.469	0.47				31/32		0.9688	0.969	0.97
				31/64	0.4844	0.484	0.48					63/64	0.9844	0.984	0.98
	1/2				0.5000	0.500	0.50		1				1.0000	1.000	1.00