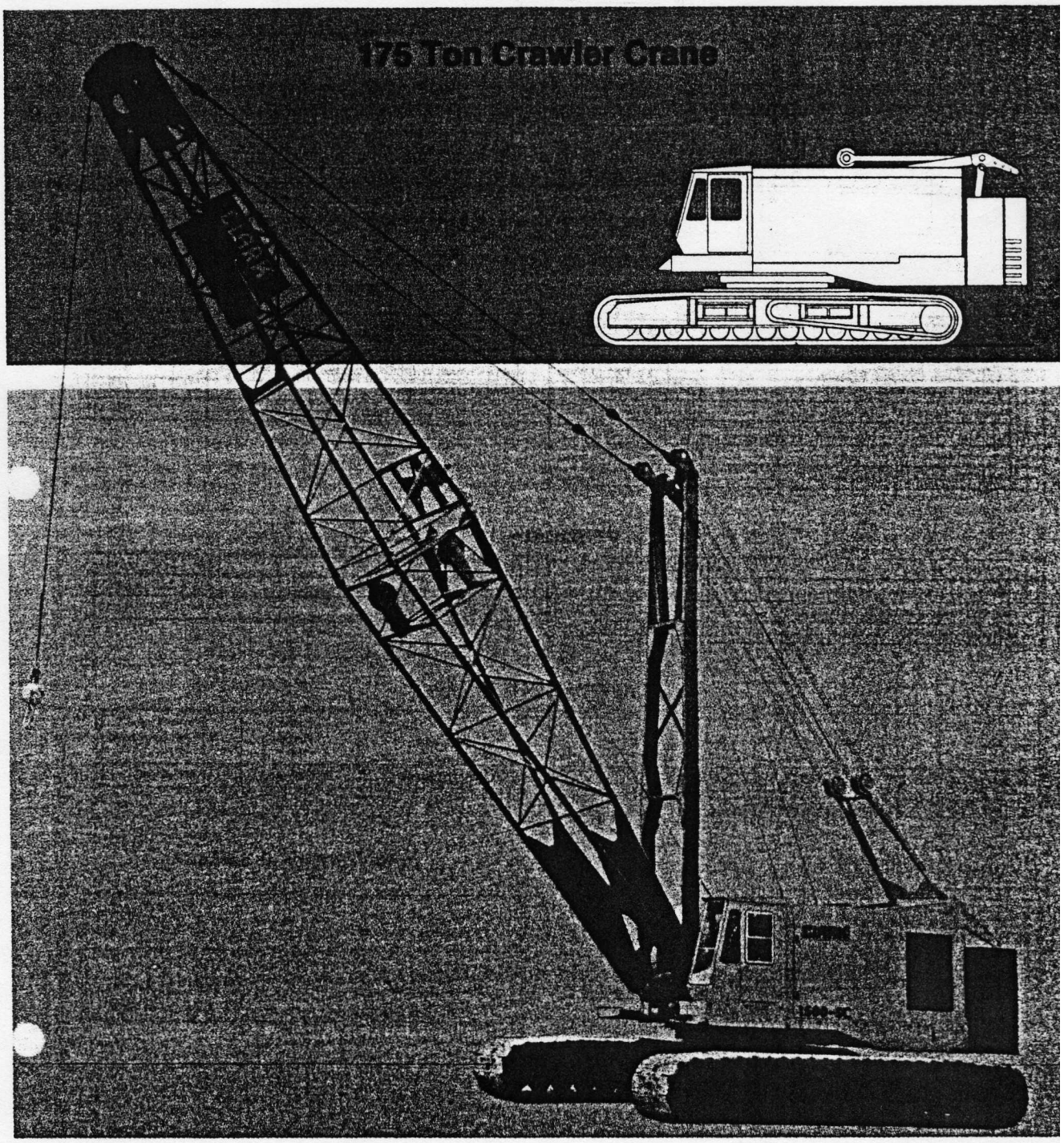
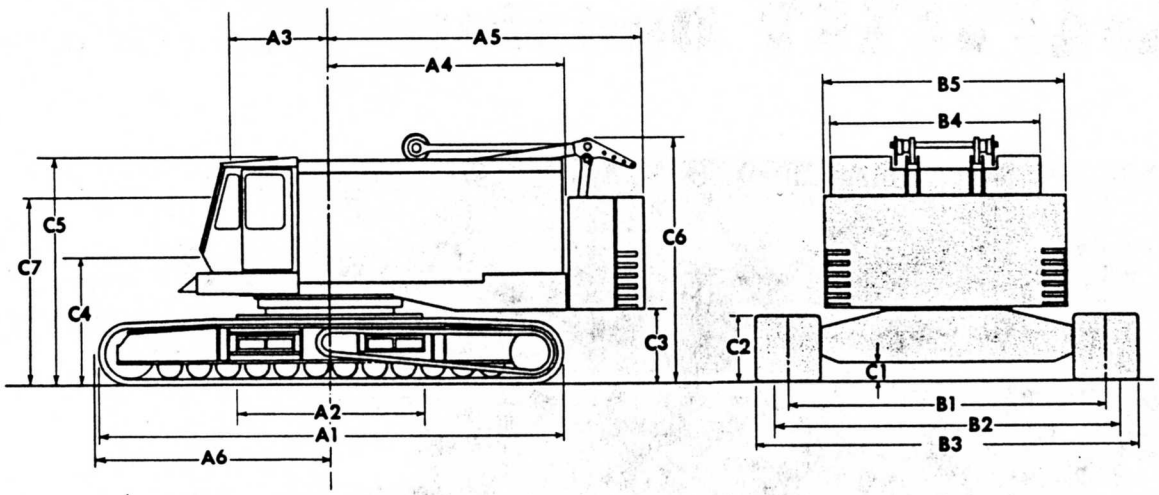
CLARK Crane Division 1500-SC Specifications



CLEARANCE AND DIMENSIONS



FRONT TO BACK

A1.	Crawler Length	24'- 9½" (7.55m)
A2.	Truck Base Length	10'- 2¼" (3.10m)
A3.	C Boom Foot to C Rotation	5'- 3½" (1.61m)
A4.	Rear End Swing—Rotating Unit	14'- 8½" (4.48m)
A5.	Rear End Swing—57,500# (26082kg) Cwt.	16'- 8¾" (5.09m)
	Rear End Swing—100,000# (45360kg) Cwt.	17'- 6½" (5.34m)
	Rear End Swing—Gantry Lowered	18'- 0¼" (5.49m)
A6.	Over Corners—42" (1.06m) Treads	16'- 1" (4.90m)

SIDE TO SIDE

B1.	C to C Tread Rollers	17'- 0" (5.18m)
B2.	Overall Length of Axles	18'- 5½"(5.62m)
B3.	Overall Width Crawlers with 42" (1.06m) Treads	20'- 6" (6.24m)
B4.	Overall Width Cab	11'- 2½"(3.40m)
B5.	Overall Width, Rotating Unit and Counterweight	13'- 0" (3.96m)

VERTICAL

C1.	Ground Clearance	10-15/16" (.27m)
C2.	Ground to Top Crawler (Maximum)	3'- 6-7/8" (1.08m)
C3.	Ground to Bottom of Counterweight	3'- 11" (1.19m)
C4.	Ground to C of Boom Foot Pin	6'-10-7/8" (2.10m)

C5.	Ground to Top of Cab	12'- 1-5/8" (3.69m)
C6.	Overall Height Backhitch Gantry	13'- 5-1/8" (4.09m)
C7.	Eye Level Standard Cab	10'-11-3/8" (3.33m)

POWER PLANT DATA

Make	Model	Fuel	Cyl.	Bore and Stroke	Gross Rated H.P.	Torque Conv. H.P. @ Governed R.P.M.
Cumm.w/T.C.	NT-855-P-335	Diesel	6	5½" x 6" (140mm 152mm)	335 @ 2300	208 @ 600

Fuel Tank Capacity—256 Gallons (969 Liters)

WORKING WEIGHTS

(APPROXIMATE IN POUNDS)

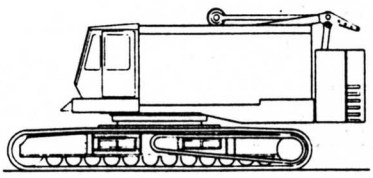
Weight based upon a machine equipped with a Cummins power plant and torque converter, 25' (7.6m) truck with 42" (1.06m) treads, 100,000 lbs. (45360Kg) of counterweight, and a 60' (18.3m) basic boom, and all other standard equipment.

Crane	292,000 Lbs. (132451Kg)

PERFORMANCE DATA

Swing Speed	3.2 R.P.M.
Gradability	30%
Travel Speed:	
Standard Propel	1.1 M.P.H. (1.7KmPH)
Independent Propel	1.3 M.P.H. (2.0KmPH)

1500-SC
MACHINE WEIGHTS



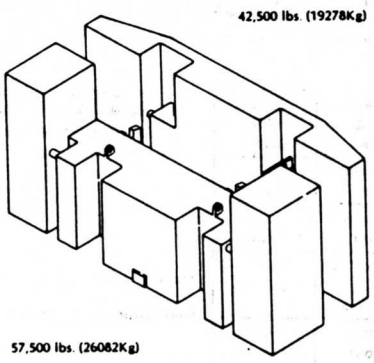
B-1 BASIC MACHINE
Equipment includes: Fabricated truck and rotating base; environmental cab; heater (hot water) and defroster fan; fire extinguisher; steps for access to cab roof; L.H. and R.H. running boards; air signal horn; standard crawlers [25'0" (7.62m) overall length]; 42" (106.7cm) wide heat treated treads; anti-friction bearing swing circle and ring gear; engine (See Item No. 60-105-A); two drum chain driven planetary boom hoist; sprague clutch arrangement; spring set, air released positive swing lock; power controlled load lowering (R.H. drum); full air controls; basic gantry; hydraulic counterweight removal equipment; (no laggings or counterweight)

Weight: 168,200 lbs. (76295Kg)

COUNTERWEIGHT REMOVAL EQUIPMENT
660 lbs. (299Kg)

COUNTERWEIGHTS

42,500 lbs. (19278Kg)



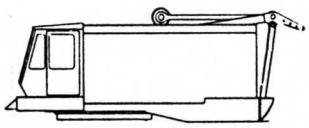
57,500 lbs. (26082Kg)

OPTIONAL INDEPENDENT PROPEL (Ref. BO-125)
4,770 lbs. (2164Kg)

THIRD DRUM (Less Wire Rope)
3770 lbs. (1293Kg)
Ref: BO-175

WIRE ROPE (For Third Drum)
310 lbs. (140Kg)

ROTATOR (Incl. Gantry and Counterweight Removal Equipment)

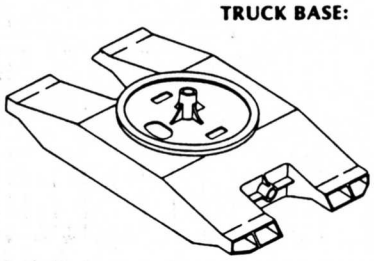


69,900 lbs. (31,707Kg)

TRUCK:

With 42" Treads: 98,300 lbs. (44589Kg)

TRUCK BASE:

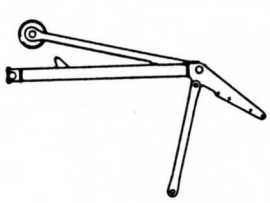


39,260 lbs. (17807Kg)

TREADS:

56-42" Treads
Weight Per Belt:
14,170 lbs. (6428Kg)

GANTRY



4,240 lbs. (1923Kg)

SIDE FRAME:

Less Treads: 15,350 lbs (6963Kg) Each

A-2 CRANE ATTACHMENT
Equipment includes: 60' (18.3m) pin connected tubular boom (75" x 85") (1.90m x 2.16m) with hammerhead point with six (6) lower main sheaves with guards and two (2) top guide sheaves plus two (2) guide sheaves at base of point section; mast assembly with fourteen (14) part boom hoist reeving and pendants for basic boom, telescopic boomstops with air shutoff; boom angle indicator; 22" (55.9cm) L.H. and R.H. smooth laggings [1" (25.4mm)]; lagging rope guards; foot accelerator, swing snubber and swing brakes; ropes; 100,000# (45360Kg) two piece counterweight.

Weight: 123,820 lbs. (56164Kg)

BOOM EQUIPMENT (Ref: A-2)

Boom Point (Incl. Sheaves)	5,840 lbs. (2649Kg)
Boom Base	4,980 lbs. (2259Kg)
Mast	4,610 lbs. (2091Kg)
Pendants For Basic Boom	430 lbs. (195Kg)
Boom Stops	1,380 lbs. (626Kg)
Wire Ropes	4,130 lbs. (1873Kg)
R.H. Hoist Drum	1,250 Lbs. (567Kg)
L.H. Hoist Drum	1,200 lbs. (544Kg)

ADDITIONAL
Boom Extensions (Incl. Pendants)

10' (3.05M)	1,460 lbs. (662Kg)
20' (6.10M)	2,320 lbs. (1050Kg)
40' (12.2M)	4,010 lbs. (1819Kg)

MIDPOINT SUSPENSION

200' (61.0M) thru 220' (67.1M) Booms	930 lbs. (422Kg)
230' (70.1M) thru 250' (76.2M) Booms	1,060 lbs. (481Kg)

OPTIONAL JIB EQUIPMENT (Ref: AO-125)

Jib Point (Incl. Sheave)	610 lbs. (277Kg)
Jib Base	400 lbs. (181Kg)
Strut	600 lbs. (272Kg)
Basic Pendants	370 lbs. (168Kg)
Jib Extension (Incl. Pendants)	
20' (6.10M)	785 lbs. (356Kg)

158.7 METRIC TON TUBULAR BOOM
CLASS 5.2-407 Per U.S. Dept. of Commerce Standard CS90-59

CHART NO. 6035168—CRAWLER CRANE CAPACITY CHART
Capacities Per SAE Code J765a Date: May, 1977

1.07M TR
MAXIMUM COUNTERWEIGHT—45.3

Boom, or Boom Plus Jib				Capacity
L	R	A	H	Side/End
18.3M	5.2	79.7	20.0	*158,700
	6	77.1	19.8	121,300
	8	70.5	19.2	74,800
	10	63.7	18.3	53,700
	12	56.3	17.1	41,600
	14	48.3	15.5	33,700
	16	39.1	13.3	28,100
	18	27.3	10.2	24,100
	18.3	25.2	9.6	23,500
21.3M	5.3	80.9	23.1	*155,900
	7	76.2	22.7	91,900
	9	70.6	22.1	62,600
	11	64.7	21.2	46,900
	13	58.6	20.1	37,200
	15	52.0	18.7	30,700
	18	40.6	15.7	24,000
	21	25.5	11.0	19,500
	21.3	23.2	10.2	19,100
24.4M	5.7	81.0	26.1	132,500
	7	77.9	25.8	91,800
	9	73.1	25.3	62,600
	11	68.1	24.6	46,900
	13	62.9	23.6	37,200
	15	57.4	22.4	30,600
	18	48.5	20.1	23,900
	21	38.0	16.8	19,400
	24	24.1	11.7	16,200
	24.4	21.7	10.8	15,800
27.4M	6.2	81.0	29.1	114,100
	8	77.2	28.7	74,700
	10	72.8	28.2	53,600
	12	68.4	27.4	41,500
	14	63.8	26.5	33,600
	17	56.5	24.8	25,800
	20	48.5	22.4	20,700
	23	39.4	19.2	17,100
	26	27.9	14.6	14,500
	27.4	20.4	11.3	13,400
30.5M	6.7	80.9	32.1	100,200
	8	78.5	31.9	74,700
	10	74.6	31.4	53,600
	12	70.6	30.7	41,500
	14	66.6	29.9	33,500
	17	60.2	28.4	25,700
	20	53.5	26.4	20,600
	23	46.0	23.8	17,000
	26	37.4	20.3	14,300
	29	26.6	15.4	12,200
	30.5	19.3	11.8	11,400
33.5M	7.2	81.0	35.1	89,700
	9	77.8	34.8	62,600
	11	74.2	34.2	46,800
	13	70.6	33.6	37,000
	15	67.0	32.8	30,400
	18	61.2	31.3	23,700
	21	55.2	29.4	19,200
	24	48.6	27.0	15,900
	27	41.3	24.0	13,500
	30	32.7	19.9	11,600
	33	21.1	13.8	10,000
	33.5	18.4	12.3	9,800
36.6M	7.7	81.0	38.1	80,600
	9	78.8	37.9	62,700
	11	75.6	37.4	46,700
	13	72.3	36.8	36,900
	15	69.0	36.1	30,300
	18	63.8	34.8	23,600
	21	58.4	33.1	19,000
	24	52.7	31.0	15,800
	27	46.5	28.3	13,300
	30	39.5	25.1	11,400
	33	31.3	20.8	9,900
	36	20.4	14.5	8,600
	36.6	17.5	12.8	8,400

Boom, or Boom Plus Jib				Capacity
L	R	A	H	Side/End
39.6M	8.1	80.9	41.1	73,100
	10	78.2	40.8	53,500
	12	75.2	40.3	41,300
	14	72.2	39.7	33,300
	17	67.6	38.6	25,500
	20	62.8	37.2	20,300
	23	57.7	35.4	16,700
	26	52.4	33.3	14,100
	29	46.7	30.7	12,000
	32	40.3	27.5	10,300
	35	33.0	23.4	9,000
	38	23.7	17.7	7,900
	39.6	16.8	13.3	7,400
42.7M	8.6	81.0	44.2	67,200
	10	79.0	43.9	53,500
	12	76.3	43.4	41,200
	14	73.5	42.9	33,200
	17	69.2	41.9	25,400
	20	64.9	40.6	20,200
	23	60.3	39.0	16,600
	26	55.5	37.1	13,900
	29	50.5	34.8	11,800
	32	45.0	32.0	10,200
	35	38.9	28.6	8,900
	38	31.9	24.3	7,700
	41	23.0	18.5	6,800
	42.7	16.2	13.7	6,300
45.7M	9.1	80.9	47.2	61,700
	11	78.5	46.8	46,500
	13	75.9	46.3	36,700
	15	73.3	45.8	30,000
	18	69.4	44.7	23,300
	21	65.3	43.5	18,800
	24	61.0	41.9	15,500
	27	56.6	40.1	13,000
	30	52.0	37.9	11,100
	33	47.0	35.3	9,600
	36	41.6	32.2	8,300
	39	35.5	28.4	7,300
	42	28.3	23.5	6,300
	45	18.7	16.5	5,600
	45.7	15.6	14.1	5,400
48.8M	9.6	80.9	50.2	57,200
	11	79.2	49.9	46,400
	13	76.8	49.5	36,600
	15	74.4	49.0	29,900
	18	70.7	48.0	23,200
	21	66.9	46.8	18,600
	24	63.0	45.4	15,400
	27	59.0	43.7	12,900
	30	54.7	41.7	11,000
	33	50.3	39.4	9,400
	36	45.5	36.6	8,100
	39	40.3	33.4	7,100
	42	34.4	29.4	6,200
	45	27.5	24.3	5,400
	48	18.3	17.1	4,800
	48.8	15.1	14.5	4,600
51.8M	10	81.0	53.2	53,100
	12	78.7	52.8	40,900
	14	76.5	52.4	32,900
	17	73.0	51.5	25,000
	20	69.5	50.5	19,900
	23	65.9	49.3	16,300
	26	62.2	47.8	13,600
	29	58.4	46.0	11,500
	32	54.4	44.0	9,900
	35	50.2	41.7	8,500
	38	45.7	38.9	7,400
	41	40.8	35.7	6,500
	44	35.4	31.9	5,600
	47	29.2	27.1	4,900
	50	21.3	20.6	4,300
	51.8	14.6	14.9	4,000

Boom, or Boom Plus Jib				Capacity
L	R	A	H	Side/End
54.9M	10.5	80.9	56.2	49,400
	12	79.4	55.9	40,900
	14	77.2	55.5	32,800
	17	74.0	54.7	24,900
	20	70.7	53.7	19,800
	23	67.3	52.6	16,100
	26	63.9	51.2	13,400
	29	60.3	49.6	11,300
	32	56.7	47.7	9,700
	35	52.8	45.6	8,300
	38	48.7	43.1	7,200
	41	44.4	40.2	6,300
	44	39.7	36.9	5,500
	47	34.5	32.9	4,800
	50	28.4	27.9	4,200
	53	20.8	21.3	3,600
	54.9	14.2	15.3	3,300
57.9M	11	81.0	59.2	46,400
	12	79.9	59.0	40,700
	14	77.9	58.6	32,700
	17	74.9	57.9	24,800
	20	71.8	57.0	19,600
	23	68.6	55.9	16,000
	26	65.4	54.6	13,300
	29	62.0	53.1	11,200
	32	58.6	51.4	9,600
	35	55.1	49.4	8,200
	38	51.3	47.1	7,100
	41	47.4	44.5	6,100
	44	43.2	41.5	5,300
	47	38.7	38.0	4,600
	50	33.6	33.9	4,000
	53	27.7	28.8	3,500
	56	20.4	22.0	3,000
	57.9	13.8	15.6	2,700
61.0M Midpoint Location 33.5M Midpoint Sag 0.15M	11.5	81.0	62.2	43,400
	13	79.5	61.9	36,200
	15	77.6	61.5	29,500
	18	74.7	60.8	22,600
	21	71.7	59.9	18,100
	24	68.7	58.8	14,800
	27	65.6	57.5	12,300
	30	62.5	56.0	10,300
	33	59.3	54.3	8,800
	36	55.9	52.4	7,500
	39	52.4	50.2	6,400
	42	48.8	47.7	5,500
	45	44.9	44.9	4,800
	48	40.7	41.6	4,100
	51	36.1	37.8	3,500
	54	31.0	33.2	3,000
	57	24.9	27.5	2,500
	60	17.0	19.6	2,100
	61	13.5	16.0	2,000
64.0M Midpoint Location 33.5M Midpoint Sag 0.23M	11.9	81.0	65.2	40,600
	13	80.0	65.0	36,200
	15	78.2	64.6	29,300
	18	75.4	63.9	22,500
	21	72.6	63.1	17,900
	24	69.8	62.0	14,600
	27	66.9	60.8	12,100
	30	63.9	59.4	10,200
	33	60.9	57.8	8,600
	36	57.7	56.0	7,300
	39	54.5	54.0	6,300
	42	51.1	51.7	5,400
	45	47.6	49.1	4,600
	48	43.8	46.2	3,900
	51	39.7	42.8	3,300
	54	35.3	38.8	2,800
	57	30.3	34.1	2,400
	60	24.4	28.3	1,900
	63	16.7	20.2	1,600
	64	13.1	16.3	1,500

Boom or Boom Plus Jib				Ca
L	R	A	H	Sid
67.1M Midpoint Location 33.5M Midpoint Sag 0.30M	12.4	81.0	68.2	
	14	79.6	68.0	
	17	77.0	67.3	
	20	74.3	66.5	
	23	71.6	65.6	
	26	68.9	64.5	
	29	66.1	63.3	
	32	63.3	61.8	
	35	60.4	60.2	
	38	57.4	58.4	
	41	54.3	56.3	
	44	51.0	54.0	
	47	47.6	51.4	
	50	44.0	48.5	
	53	40.2	45.1	
	56	36.0	41.3	
	59	31.4	36.7	
	62	26.0	31.2	
	65	19.3	23.9	
	67.1	12.8	16.7	
70.1M Midpoint Location 39.6M Midpoint Sag 0.38M	12.9	81.0	71.2	
	14	80.0	71.1	
	17	77.5	70.5	
	20	75.0	69.7	
	23	72.5	68.8	
	26	69.9	67.8	
	29	67.2	66.6	
	32	64.5	65.2	
	35	61.8	63.7	
	38	58.9	62.0	
	41	56.0	60.0	
	44	53.0	57.9	
	47	49.9	55.5	
	50	46.6	52.8	
	53	43.1	49.7	
	56	39.3	46.3	
	59	35.3	42.3	
	62	30.7	37.7	
	64	27.3	34.0	
73.2M Midpoint Location 39.6M Midpoint Sag 0.46M	13.4	80.9	74.3	
	15	79.7	74.0	
	18	77.3	73.3	
	21	74.8	72.6	
	24	72.4	71.7	
	27	69.9	70.7	
	30	67.4	69.5	
	33	64.8	68.1	
	36	62.2	66.6	
	39	59.5	64.9	
	42	56.7	63.0	
	45	53.8	61.0	
	48	50.8	58.6	
	51	47.7	56.0	
	54	44.5	53.1	
	57	41.0	49.8	
	60	37.2	46.1	
	63	33.2	41.8	
	64	31.7	40.2	
76.2M Midpoint Location 39.6M Midpoint Sag 0.46M	13.8	81.0	77.3	
	15	80.1	77.1	
	18	77.8	76.5	
	21	75.5	75.7	
	24	73.1	74.9	
	27	70.7	73.9	
	30	68.3	72.8	
	33	65.9	71.5	
	36	63.4	70.1	
	39	60.8	68.5	
	42	58.2	66.7	
	45	55.5	64.7	
	48	52.7	62.5	
	51	49.8	60.1	
	54	46.8	57.4	
	57	43.6	54.4	
	60	40.2	51.0	
	61	39.0	49.9	

L = Boom length or boom plus jib combination length
R = Load radius from ℄ of rotation
H = Height of boom only point shaft above ground
A = Angle of boom only ℄ to horizontal
} Not applicable for boom plus jibs

(A) = Reference number and not a boom angle
[A] = Not a boom angle reference number only
} See example for use with jibs

BOOM PLUS JIB

Combined Length	R	(A)	Capacity Side/Rear	Combined Length	R	(A)	Capacity Side/Rear	Combined Length	R	(A)	Capacity Side/Rear
	15	81 0	*22,500		16 6	81 0	*22,500		17 7	81 0	*15,500
	18	78 8	*21,900		18	80 0	*22,500		18	80 8	*15,500
	21	76 6	18,000		21	77 8	17,900		21	78 8	*14,500
	24	74 3	14,600		24	75 7	14,500		24	76 7	14,400
	27	72 1	12,000		27	73 7	13,900		27	74 6	13,800
	30	69 8	10,000		30	71 3	9,900		30	72 5	9,800
	33	67 4	8,400		33	69 1	8,300		33	70 3	8,200
79 2M	36	65 1	7,100	82 3M	36	66 8	7,000	85 3M	36	68 1	6,900
(Boom	39	62 6	6,000	(Boom	39	64 5	5,900	(Boom	39	65 9	5,800
+ Jib)	42	60 2	5,000	+ Jib)	42	62 1	4,900	+ Jib)	42	63 7	4,800
▲	45	57 6	4,200	▲	45	59 7	4,100	▲	45	61 4	4,000
	48	55 0	3,500		48	57 2	3,400		48	59.0	3,300
	51	52 3	2,900		51	54 6	2,800		51	56 6	2,700
	54	49 5	2,400		54	52 0	2,300		54	54 1	2,200
	57	46 5	1,900		57	49 2	1,800		57	51 5	1,700
	60	43 4	1,400		60	46 4	1,300		60	48 8	1,200
	61	42 4	1,300		61	45 4	1,200		61	47 9	1,100

Read maximum jib rating chart for possible downrating below the values shown

▲ The midpoint sag of a boom plus jib combination is the same as the midpoint sag of the boom only

JIB DATA

Length	Offset Position	Distance	Angle	Weight
6.1M	Minimum	0.99M	9.3°	930kg
	Intermediate	1.96M	18.8°	950kg
	Maximum	2.97M	29.2°	970kg
12.2M	Minimum	2.08M	9.8°	1,250kg
	Intermediate	4.04M	19.4°	1,260kg
	Maximum	6.05M	29.7°	1,280kg
18.3M	Minimum	2.77M	8.7°	1,560kg
	Intermediate	5.74M	18.3°	1,570kg
	Maximum	8.76M	28.6°	1,590kg

For desired jib offset, refer to operator's manual for proper rigging instructions.

ROPE REEVING FOR HOOK BLOCKS

Load In Kilograms	No. Part Line
To 11,340	1
Over 11,340	2
Over 22,680	3
Over 34,020	4
Over 45,360	5
Over 56,700	6
Over 68,040	7
Over 79,380	8
Over 90,720	9
Over 102,060	10
Over 113,400	11
Over 124,740	12

Requires 25 4mm Dia. Wire Rope Having a Minimum Breaking Strength of 46,902 Kg.

MAXIMUM JIB RATING CHART

[A]	6.1M Jib Jib Offset			12.2M Jib Jib Offset			18.3M Jib Jib Offset		
	Minimum	Intermediate	Maximum	Minimum	Intermediate	Maximum	Minimum	Intermediate	Maximum
80	*22,600kg	*22,500kg	*22,400kg	*22,600kg	*17,400kg	*11,800kg	*15,500kg	*11,600kg	* 7,400kg
75	*22,600kg	*21,900kg	*21,100kg	*21,900kg	*15,200kg	*10,900kg	*14,500kg	*10,100kg	* 6,900kg
70	*22,600kg	*21,300kg	*20,000kg	*20,800kg	*13,700kg	*10,100kg	*12,900kg	* 9,000kg	* 6,500kg
65	*22,600kg	*20,600kg	*18,600kg	*19,700kg	*12,500kg	* 9,400kg	*11,300kg	* 8,200kg	* 6,100kg
60	*22,600kg	*20,200kg	*17,800kg	*17,200kg	*11,700kg	* 8,900kg	* 9,900kg	* 7,500kg	* 5,700kg
55	*22,600kg	*19,900kg	*17,100kg	*15,500kg	*10,900kg	* 8,600kg	* 8,800kg	* 6,900kg	* 5,400kg
50	*22,000kg	*19,300kg	*16,600kg	*14,100kg	*10,200kg	* 8,200kg	* 8,100kg	* 6,500kg	* 5,100kg
45	*20,800kg	*18,500kg	*16,100kg	*13,200kg	* 9,600kg	* 7,900kg			
40	*19,600kg	*17,700kg	*15,900kg	*12,300kg	* 9,100kg	* 5,600kg			
35	*18,700kg	*16,700kg	*15,600kg						
30	*17,800kg	*16,300kg	*15,400kg						

A When the machine is equipped with a boom plus jib combination, the maximum permissible load radius over the jib point is the length of the boom in this combination or 61 0M, whichever is less.

B The lifting capacity of a boom plus jib combination 76 2M or less is the capacity of the boom equal to this combined length (length of boom plus length of jib), but shall not be greater than the appropriate capacity shown on the Maximum Jib Rating Chart.

C The lifting capacity of a boom plus jib combination 79 2M or more is the capacity shown on the chart, but shall not be greater than the appropriate capacity shown on the Maximum Jib Rating Chart.

D Capacities shown on the Maximum Jib Rating Chart are based upon the structural strength of the jib assembly and shall not be exceeded.

IMPORTANT—DO NOT USE BOOM ANGLE A, (A), or [A] TO ARRIVE AT RADIUS OF LOAD ON JIBS. MEASURE ACTUAL RADIUS ONLY.

JIB CAPACITY DETERMINATION

Example for 45 7M boom, 12 2M jib, intermediate (19 4°) offset, 21 9M jib loading radius

a The boom length chart to use is 57 9M (45 7M plus 12 2M).

b Using 57 9M chart for 21 9M radius use next larger radius or 23M which shows 16,000kg. Read value of A as 68 6. Consult jib rating chart for [A] equal to 68.6 or next smaller value. In this case use 65 and find for 12 2M jib at intermediate offset rating = 12,500kg.

c Jib rating is therefore to be 12,500kg @ 21 9M.

d For boom and jib combination over 76 2M use (A) in place of A.

This Chart Is Based Upon:

1 Loads marked by *are the maximum allowable loads permitted by the structural strength of the parts and are not based upon the stability of the machine.

2 All other loads are based upon stability and do not exceed 75% of tipping in the least stable direction.

3 Load ratings shown on this chart make no allowance for such factors as the affect of side loads, wind, ground conditions, and operating speeds. The operator therefore shall reduce load ratings in order to take these conditions into account.

4 All hook blocks, lifting tackle, and auxiliary load handling devices shall be considered a part of the load to be lifted.

5 Exceeding the capacities shown on this chart or altering the counterweight nullifies all warranties.

6 Capacities above dashed lines require a length of wire rope greater than furnished as standard with the machine.

7 Booms 42 7M long and less may be handled horizontally, without live load, with the mast pinned to the boom base, to provide a low travel height. With longer booms, normal pendant suspension must be used.

8 Gantry must always be in lowest position, with upper 76 2mm diameter gantry pins in place, when handling a boom or boom and load. Refer to operator's manual for counterweight handling attachment operating instructions.

9 Over the side of the machine is the least stable direction.

10 Load ratings are for the machine standing on a firm, solid, level supporting surface.

11 If a load radius is between two charted radii, the capacity shown for the larger radius shall apply.

MAIN BOOM CAPACITY REDUCTION DUE TO A JIB MOUNTED ON THE BOOM

Jib Length	Jib Offset Minimum	Intermediate	Maximum
6.1M	1,300kg	1,300kg	1,400kg
12.2M	2,000kg	2,200kg	2,400kg
18.3M	3,100kg	3,500kg	4,400kg

When lifting a load on the boom point with a jib mounted on the boom, the boom lifting capacity shall be reduced by the amount shown in the above table.

MAXIMUM BOOM OR BOOM PLUS JIB THAT CAN BE HANDLED HORIZONTALLY

Over Side	Over End With Wedges
70.1M	76.2M
67.1M + 6.1M	73.2M + 6.1M
64.0M + 12.2M	70.1M + 12.2M
61.0M + 18.3M	67.1M + 18.3M

CAUTION READ ALL NOTES BEFORE OPERATING MACHINE.

SPECIAL NOTES TO OPERATOR:

I. Before operating this machine the operator shall make himself thoroughly familiar with the contents of the operator's manual furnished with this machine.

II. This machine is stable to the degree that structural failure may be possible if loads are taken to tipping. An accurate load measuring device should be used and/or known loads only should be handled at no greater radius than the chart indicates for the boom length being used.

175 TON TUBULAR BOOM
CLASS 17-898 Per U.S. Dept. of Commerce Standard CS90-58

CHART NO. 6035051—CRAWLER CRANE CAPACITY CHART
Capacities Per SAE Code J765a—Date: May, 1977

42" TREADS
MAXIMUM COUNTERWEIGHT—100,000 LBS.

Boom or Boom Plus Jib L	R	A	H	Capacity Side/End
60'	17'	79.7	65.8	*350,000
	20'	76.8	65.1	259,900
	25'	71.8	63.6'	178,500
	30'	66.7	61.6'	135,100
	35'	61.3	59.1'	108,100
	40'	55.7	55.9'	89,800
	45'	49.6	51.9'	76,500
	50'	42.8	46.9'	66,300
	60'	25.3	31.6'	52,000
70'	17.3'	81.0	75.9'	*343,700
	20'	78.7	75.4'	259,000
	25'	74.5	74.1'	178,500
	30'	70.2	72.4'	135,100
	35'	65.7	70.3'	108,100
	40'	61.1	67.7'	89,800
	45'	56.3	64.6'	76,400
	50'	51.2	60.8'	66,300
	60'	39.5	50.6'	51,900
	70'	23.3	33.6'	42,200
80'	18.8'	81.0	85.8'	292,200
	20'	80.2	85.6'	259,000
	25'	76.5	84.5'	178,400
	30'	72.8	83.0'	135,100
	35'	69.0	81.2'	108,100
	40'	65.1	79.0'	89,700
	45'	61.0	76.4'	76,300
	50'	56.8	73.3'	66,100
	60'	47.6	65.3'	51,700
	70'	36.8	54.0'	42,000
	80'	21.7	35.5'	35,000
90'	20.4'	81.0	95.6'	251,700
	25'	78.0	94.7'	178,400
	30'	74.7	93.5'	135,000
	35'	71.4	91.9'	108,100
	40'	68.0	90.0'	89,600
	45'	64.5	87.7'	76,200
	50'	60.9	85.0'	66,100
	60'	53.2	78.4'	51,700
	70'	44.7	69.5'	41,900
	80'	34.6	57.1'	34,900
	90'	20.4	37.3'	29,700
100'	22.0'	81.0	105.5'	221,000
	25'	79.2	105.0'	178,400
	30'	76.3	103.8'	135,000
	35'	73.3	102.4'	108,000
	40'	70.3	100.7'	89,500
	45'	67.2	98.7'	76,000
	50'	64.0	96.4'	65,800
	60'	57.4	90.6'	51,400
	70'	50.3	83.2'	41,600
	80'	42.3	73.4'	34,600
	90'	32.7	60.1'	29,300
	100'	19.3	39.0'	25,200
110'	23.5'	81.0	115.4'	197,800
	25'	80.2	115.1'	178,300
	30'	77.6	114.1'	135,000
	35'	74.9	112.8'	107,900
	40'	72.2	111.3'	89,300
	45'	69.4	109.5'	75,900
	50'	66.6	107.4'	65,700
	60'	60.7	102.3'	51,200
	70'	54.5	95.9'	41,500
	80'	47.8	87.7'	34,400
	90'	40.2	77.1'	29,100
	100'	31.1	62.9'	25,000
	110'	18.4	40.6'	21,700
120'	25.1	81.0	125.3'	177,700
	30'	78.6	124.3'	135,000
	35'	76.2	123.2'	107,700
	40'	73.7	121.8'	89,100
	45'	71.2	120.2'	75,600
	50'	68.6	118.3'	65,400
	60'	63.4	113.7'	50,900
	70'	57.9	108.0'	41,100
	80'	52.0	100.8'	34,100
	90'	45.6	91.9'	28,800
	100'	38.4	80.6'	24,700
	110'	29.7	65.5'	21,300
	120'	17.6	42.2'	18,600

Boom or Boom Plus Jib L	R	A	H	Capacity Side/End
130'	26.7'	81.0	135.1'	161,300
	30'	79.5	134.5'	134,900
	35'	77.3	133.5'	107,700
	40'	75.0	132.2'	89,100
	45'	72.7	130.7'	75,600
	50'	70.3	129.0'	65,400
	60'	65.6	124.8'	50,900
	70'	60.6	119.7'	41,100
	80'	55.4	113.3'	34,100
	90'	49.8	105.5'	28,800
	100'	43.7	96.0'	24,600
	110'	36.8	84.0'	21,300
	120'	28.5	68.1'	18,600
	130'	16.9	43.6'	16,400
140'	28.2'	81.0	145.0'	148,200
	30'	80.3	144.7'	134,900
	35'	78.2	143.7'	107,600
	40'	76.1	142.5'	88,900
	45'	74.0	141.2'	75,400
	50'	71.8	139.6'	65,200
	60'	67.4	135.8'	50,600
	70'	62.9	131.1'	40,900
	80'	58.2	125.3'	33,800
	90'	53.2	118.4'	28,500
	100'	47.9	110.0'	24,300
	110'	42.0	99.8'	21,000
	120'	35.4	87.2'	18,300
	130'	27.5	70.5'	16,000
	140'	16.2	45.1'	14,000
150'	29.8'	81.0	154.9'	136,100
	30'	80.9	154.9'	134,700
	35'	79.0	153.9'	107,400
	40'	77.0	152.8'	88,700
	45'	75.1	151.6'	75,200
	50'	73.1	150.1'	64,900
	60'	69.0	146.6'	50,400
	70'	64.8	142.2'	40,600
	80'	60.5	137.0'	33,500
	90'	56.2	130.7'	28,200
	100'	51.3	123.2'	24,000
	110'	46.1	114.3'	20,700
	120'	40.5	103.6'	18,000
	130'	34.2	90.3'	15,700
	140'	26.5	72.9'	13,700
	150'	15.7	46.4'	12,100
160'	31.4'	81.0	164.8'	126,200
	35'	79.7	164.1'	107,200
	40'	77.8	163.1'	88,500
	45'	76.0	161.9'	74,900
	50'	74.2	160.5'	64,600
	60'	70.4	157.3'	50,100
	70'	66.5	153.2'	40,200
	80'	62.5	148.4'	33,200
	90'	58.4	142.7'	27,800
	100'	54.1	135.9'	23,700
	110'	49.5	127.9'	20,300
	120'	44.6	118.5'	17,600
	130'	39.2	107.2'	15,300
	140'	33.0	93.3'	13,300
	150'	25.6	75.2'	11,700
	160'	15.2	47.7'	10,200
170'	32.9'	81.0	174.6'	117,100
	35'	80.3	174.3'	107,000
	40'	78.6	173.3'	88,300
	45'	76.8	172.2'	74,800
	50'	75.1	170.9'	64,500
	60'	71.6	167.9'	50,000
	70'	68.0	164.1'	40,100
	80'	64.3	159.6'	33,100
	90'	60.5	154.3'	27,700
	100'	56.5	148.1'	23,600
	110'	52.3	140.8'	20,200
	120'	47.9	132.4'	17,500
	130'	43.2	122.4'	15,200
	140'	37.9	110.6'	13,300
	150'	32.0	96.1'	11,600
	160'	24.9	77.4'	10,100
	170'	14.7	49.0'	8,900

Boom or Boom Plus Jib L	R	A	H	Capacity Side/End
180'	34.5'	81.0	184.5'	109,000
	35'	80.8	184.4'	106,900
	40'	79.2	183.5'	88,100
	45'	77.6	182.5'	74,600
	50'	76.0	181.3'	64,300
	60'	72.6	178.4'	49,700
	70'	69.3	174.9'	39,800
	80'	65.8	170.7'	32,700
	90'	62.3	165.7'	27,400
	100'	58.6	160.0'	23,200
	110'	54.8	153.3'	19,900
	120'	50.7	145.6'	17,100
	130'	46.5	136.7'	14,800
	140'	41.9	126.3'	12,900
	150'	36.8	114.0'	11,200
	160'	31.1	98.9'	9,800
	170'	24.1	79.5'	8,500
	180'	14.3	50.2'	7,400
190'	36.0	81.0	194.4'	102,300
	40'	79.7	193.7'	87,900
	45'	78.2	192.7'	74,300
	50'	76.7	191.5'	64,000
	60'	73.5	188.8'	49,400
	70'	70.4	185.5'	39,500
	80'	67.1	181.6'	32,500
	90'	63.8	176.9'	27,100
	100'	60.4	171.6'	22,900
	110'	56.8	165.4'	19,600
	120'	53.1	158.3'	16,800
	130'	49.2	150.2	14,500
	140'	45.1	140.9'	12,600
	150'	40.7	130.0'	10,900
	160'	35.8	117.2'	9,400
	170'	30.2	101.6'	8,200
	180'	23.4	81.5'	7,100
	190'	13.8	51.4'	6,100
200' Midpoint Location 110' Midpoint Sag 6"	37.6'	81.0	204.3'	95,800
	40'	80.3	203.8'	87,600
	45'	78.8	202.9'	73,900
	50'	77.3	201.8'	63,600
	60'	74.4	199.2'	48,900
	70'	71.4	196.1'	39,000
	80'	68.3	192.4'	31,900
	90'	65.2	188.0'	26,500
	100'	62.0	183.0'	22,300
	110'	58.7	177.3'	18,900
	120'	55.3	170.7'	16,200
	130'	51.7	163.2'	13,800
	140'	47.9	154.7'	11,900
	150'	43.9	144.9'	10,200
	160'	39.6	133.6'	8,700
	170'	34.8	120.3'	7,500
	180'	29.4	104.2'	6,300
	190'	22.8	83.6'	5,300
	200'	13.5	52.6'	4,400
210' Midpoint Location 110' Midpoint Sag 9"	39.1'	81.0	214.2'	89,600
	40'	80.7	214.0'	87,200
	45'	79.3	213.1'	73,500
	50'	77.9	212.1'	63,200
	60'	75.1	209.6'	48,500
	70'	72.3	206.6'	38,600
	80'	69.4	203.1'	31,500
	90'	66.5	199.0'	26,100
	100'	63.4	194.3'	21,900
	110'	60.3	188.9'	18,600
	120'	57.1	182.8'	15,800
	130'	53.8	175.8'	13,500
	140'	50.3	168.0'	11,600
	150'	46.7	159.0'	9,900
	160'	42.8	148.9'	8,400
	170'	38.6	137.1'	7,100
	180'	33.9	123.4'	6,000
	190'	28.7	106.8'	5,000
	200'	22.2	85.5'	4,100
	210'	13.1	53.7'	3,300

Boom or Boom Plus Jib L	R	A	H	Capacity Side/End
220' Midpoint Location 110' Midpoint Sag 12"	40.7'	81.0	224.0'	84,900
	45'	79.8	223.3'	73,500
	50'	78.5	222.3'	63,100
	60'	75.8	220.0'	48,500
	70'	73.1	217.1'	38,500
	80'	70.4	213.8'	31,400
	90'	67.6	209.9'	26,000
	100'	64.7	205.4'	21,800
	110'	61.8	200.4'	18,500
	120'	58.8	194.6'	15,700
	130'	55.7	188.1'	13,400
	140'	52.5	180.8'	11,400
	150'	49.1	172.6'	9,700
	160'	45.5	163.3'	8,300
	170'	41.8	152.7'	7,000
	180'	37.7	140.6'	5,900
	190'	33.1	126.4'	4,900
	200'	28.0	109.3'	4,000
	210'	21.7	87.5'	3,200
	220'	12.8	54.8	2,400
230' Midpoint Location 130' Midpoint Sag 15"	42.3'	81.0	233.9'	79,500
	45'	80.3	233.4'	72,800
	50'	79.0	232.5'	62,400
	60'	76.5	230.3'	47,700
	70'	73.9	227.6'	37,900
	80'	71.3	224.4'	30,700
	90'	68.6	220.7'	25,400
	100'	65.9	216.5'	21,200
	110'	63.1	211.6'	17,800
	120'	60.3	206.2'	15,100
	130'	57.4	200.1'	12,700
	140'	54.4	193.3'	10,800
	150'	51.2	185.6'	9,100
	160'	47.9	177.1'	7,700
	170'	44.5	167.4'	6,400
	180'	40.8	156.5'	5,200
	190'	36.8	143.9'	4,200
	200'	32.4	129.3'	3,300
	210'	27.3	111.7'	2,400
240' Midpoint Location 130' Midpoint Sag 18"	43.9	81.0	243.8'	75,700
	45'	80.7	243.6'	72,800
	50'	79.5	242.7'	62,400
	60'	77.0	240.5'	47,700
	70'	74.6	238.0'	37,800
	80'	72.1	234.9'	30,700
	90'	69.5	231.4'	25,300
	100'	67.0	227.4'	21,100
	110'	64.3	222.8'	17,700
	120'	61.7	217.7'	15,000
	130'	58.9	211.9'	12,600
	140'	56.1	205.5'	10,700
	150'	53.1	198.3'	9,000
	160'	50.1	190.3'	7,500
	170'	46.9	181.4'	6,200
	180'	43.5	171.4'	5,100
	190'	39.9	160.1'	4,100
	200'	36.0	147.2'	3,200
	210'	31.7	132.1'	2,200
250' Midpoint Location 130' Midpoint Sag 18"	45.4'	81.0	253.7'	*70,300
	50'	79.9	252.8'	62,200
	60'	77.6	250.8'	47,500
	70'	75.2	248.3'	37,500
	80'	72.8	245.4'	30,400
	90'	70.4	242.1'	25,000
	100'	67.9	238.2'	20,800
	110'	65.4	233.9'	17,400
	120'	62.9	229.0'	14,600
	130'	60.3	223.5'	12,300
	140'	57.6	217.5'	10,300
	150'	54.8	210.7'	8,700
	160'	52.0	203.2'	7,200
	170'	49.0	194.9'	5,900
	180'	45.9	185.7'	4,800
	190'	42.6	175.3'	3,800
	200'	39.0	163.7'	2,800

L = Boom length or boom plus jib combination length
R = Load radius from ℄ of rotation
H = Height of boom only point shaft above ground
A = Angle of boom only ℄ to horizontal
(A) = Reference number and not a boom angle
[A] = Not a boom angle reference number only

} Not applicable for boom plus jibs

} See example for use with jibs

BOOM PLUS JIB

Combined Length	R	(A)	Capacity Side/Rear	Combined Length	R	(A)	Capacity Side/Rear	Combined Length	R	(A)	Capacity Side/Rear
	49.3'	81.0	*49,700		54.3'	81.0	*49,700		58.1'	81.0	*34,200
	50'	80.8	*49,700		60'	79.8	*48,300		60'	80.6	*34,200
	60'	78.6	*48,300		70'	77.6	38,700		70'	78.5	*32,100
	70'	76.3	38,800		80'	75.4	31,300		80'	76.4	31,200
	80'	74.1	31,400		90'	73.2	25,700		90'	74.3	25,600
	90'	71.8	25,800		100'	71.0	21,400		100'	72.1	21,300
	100'	69.4	21,500	270'	110'	68.7	17,900	280'	110'	69.9	17,800
260'	110'	67.0	18,000	(Boom	120'	66.4	15,000	(Boom	120'	67.7	14,900
(Boom	120'	64.6	15,100	+ Jib)	130'	64.0	12,600	+ Jib)	130'	65.5	12,500
+ Jib	130'	62.1	12,700	▲	140'	61.6	10,600	▲	140'	63.2	10,600
▲	140'	59.6	10,700		150'	59.1	8,800		150'	60.8	8,700
	150'	57.0	8,900		160'	56.6	7,300		160'	58.4	7,200
	160'	54.3	7,400		170'	53.9	6,000		170'	55.9	5,900
	170'	51.5	6,100		180'	51.2	4,800		180'	53.3	4,700
	180'	48.6	4,900		190'	48.4	3,800		190'	50.7	3,700
	190'	45.6	3,900		200'	45.4	2,800		200'	47.9	2,700
	200'	42.4	2,900								

Read maximum jib rating chart for possible downrating below the values shown
▲ The midpoint sag of a boom plus jib combination is the same as the midpoint sag of the boom only

JIB DATA

Length	Offset Position	Offset Distance	Offset Angle	Weight
20'-0"	Minimum	3'-3"	9.3°	2,060 Lbs.
	Intermediate	6'-5"	18.8°	2,090 Lbs.
	Maximum	9'-9"	29.2°	2,135 Lbs.
40'-0"	Minimum	6'-10"	9.8°	2,745 Lbs.
	Intermediate	13'-3"	19.4°	2,780 Lbs.
	Maximum	19'-10"	29.7°	2,820 Lbs.
60'-0"	Minimum	9'-1"	8.7°	3,430 Lbs.
	Intermediate	18'-10"	18.3°	3,465 Lbs.
	Maximum	28'-9"	28.6°	3,505 Lbs.

For desired jib offset, refer to operator's manual for proper rigging instructions.

MAXIMUM JIB RATING CHART

[A]	20' Jib Offset Minimum	20' Jib Offset Intermediate	20' Jib Offset Maximum	40' Jib Offset Minimum	40' Jib Offset Intermediate	40' Jib Offset Maximum	60' Jib Offset Minimum	60' Jib Offset Intermediate	60' Jib Offset Maximum
80	*50,000	*49,700	*49,400	*50,000	*38,400	*26,200	*34,200	*25,600	*16,500
75	*50,000	*48,300	*46,700	*48,300	*33,700	*24,200	*32,100	*22,300	*15,300
70	*50,000	*47,100	*44,200	*46,000	*30,200	*22,400	*28,600	*20,000	*14,400
65	*50,000	*45,600	*41,200	*43,500	*27,700	*20,800	*25,000	*18,100	*13,500
60	*50,000	*44,600	*39,300	*38,100	*25,800	*19,700	*22,000	*16,600	*12,700
55	*50,000	*43,900	*37,800	*34,200	*24,200	*19,000	*19,500	*15,300	*12,000
50	*48,700	*42,600	*36,600	*31,300	*22,600	*18,200	*17,900	*14,400	*11,400
45	*46,000	*40,800	*35,700	*29,200	*21,300	*17,600			
40	*43,400	*39,200	*35,100	*27,300	*20,100	*12,500			
35	*41,300	*37,000	*34,500						
30	*39,300	*36,000	*34,000						

ROPE REEVING FOR HOOK BLOCKS

Load In Pounds	No. Part Line
To 25,000	1
Over 25,000	2
Over 50,000	3
Over 75,000	4
Over 100,000	5
Over 125,000	6
Over 150,000	7
Over 175,000	8
Over 200,000	9
Over 225,000	10
Over 250,000	11
Over 275,000	12

Requires 1" Dia. Wire Rope Having a Minimum Breaking Strength of 103,400 lbs.

A When the machine is equipped with a boom plus jib combination, the maximum permissible load radius over the jib point is the length of the boom in this combination or 200', whichever is less.
B The lifting capacity of a boom plus jib combination 250' or less is the capacity of the boom equal to this combined length (length of boom plus length of jib), but shall not be greater than the appropriate capacity shown on the Maximum Jib Rating Chart.
C The lifting capacity of a boom plus jib combination 260' or more is the capacity shown on the chart, but shall not be greater than the appropriate capacity shown on the Maximum Jib Rating Chart.
D Capacities shown on the Maximum Jib Rating Chart are based upon the structural strength of the jib assembly and shall not be exceeded.

IMPORTANT—DO NOT USE BOOM ANGLE A, (A), or [A] TO ARRIVE AT RADIUS OF LOAD ON JIBS. MEASURE ACTUAL RADIUS ONLY.

JIB CAPACITY DETERMINATION

Example for 150' boom, 40' jib, intermediate (19.4°) offset, 72' jib loading radius

a The boom length chart to use is 190' (150' plus 40')
b Using 190' chart for 72' radius use next larger radius or 80' which shows 32,500 lbs. Read value of A as 67.1. Consult jib rating chart for [A] equal to 67.1 or next smaller value. In this case use 65 and find for 40' jib at intermediate offset rating = 27,700 lbs.
c Jib rating is therefore to be 27,700 lbs. @ 72'
d For boom and jib combination over 250' use (A) in place of A

This Chart is Based Upon:

1. Loads marked by * are the maximum allowable loads permitted by the structural strength of the parts and are not based upon the stability of the machine.
2. Other loads are based upon stability and do not exceed 75% of tipping in the least stable direction.
3. Load ratings shown on this chart make no allowance for such factors as the effect of side loads, wind, ground conditions, and operating speeds. The operator therefore shall reduce load ratings in order to take these conditions into account.
4. All hook blocks, lifting tackle, and auxiliary load handling devices shall be considered a part of the load to be lifted.
5. Exceeding the capacities shown on this chart or altering the counterweight nullifies all warranties.
6. Capacities above dashed lines require a length of wire rope greater than furnished as standard with the machine.
7. Booms 140' long and less may be handled horizontally, without live load, with the mast pinned to the boom base, to provide a low travel height. With longer booms, normal pendant suspension must be used.
8. Gantry must always be in lowest position, with upper 3" diameter gantry pins in place, when handling a boom or boom and load. Refer to operator's manual for counterweight handling attachment operating instructions.
9. Over the side of the machine is the least stable direction.
10. Load ratings are for the machine standing on a firm, solid, level supporting surface.
11. If a load radius is between two charted radii, the capacity shown for the larger radius shall apply.

MAIN BOOM CAPACITY REDUCTION DUE TO A JIB MOUNTED ON THE BOOM

Jib Length	Jib Offset Minimum	Jib Offset Intermediate	Jib Offset Maximum
20'-0"	2,800 Lbs.	2,900 Lbs.	3,100 Lbs.
40'-0"	4,400 Lbs.	4,800 Lbs.	5,200 Lbs.
60'-0"	6,700 Lbs.	7,700 Lbs.	9,600 Lbs.

When lifting a load on the boom point with a jib mounted on the boom, the boom lifting capacity shall be reduced by the amount shown in the above table.

MAXIMUM BOOM OR BOOM PLUS JIB THAT CAN BE HANDLED HORIZONTALLY

Over Side	Over End With Wedges
230'	250'
220' + 20'	240' + 20'
210' + 40'	230' + 40'
200' + 60'	220' + 60'

CAUTION READ ALL NOTES BEFORE OPERATING MACHINE.

SPECIAL NOTES TO OPERATOR:

I. Before operating this machine the operator shall make himself thoroughly familiar with the contents of the operator's manual furnished with this machine.
II. This machine is stable to the degree that structural failure may be possible if loads are taken to tipping. An accurate load measuring device should be used and/or known loads only should be handled at no greater radius than the chart indicates for the boom length being used.