



900 SERIES

**CRAWLER CRANE**  
**AMERICAN 999C**  
**GENERAL SPECIFICATIONS**  
**110 MT CAPACITY**



**MUNNA CONSTRUCTION COMPANY PVT. LTD.**

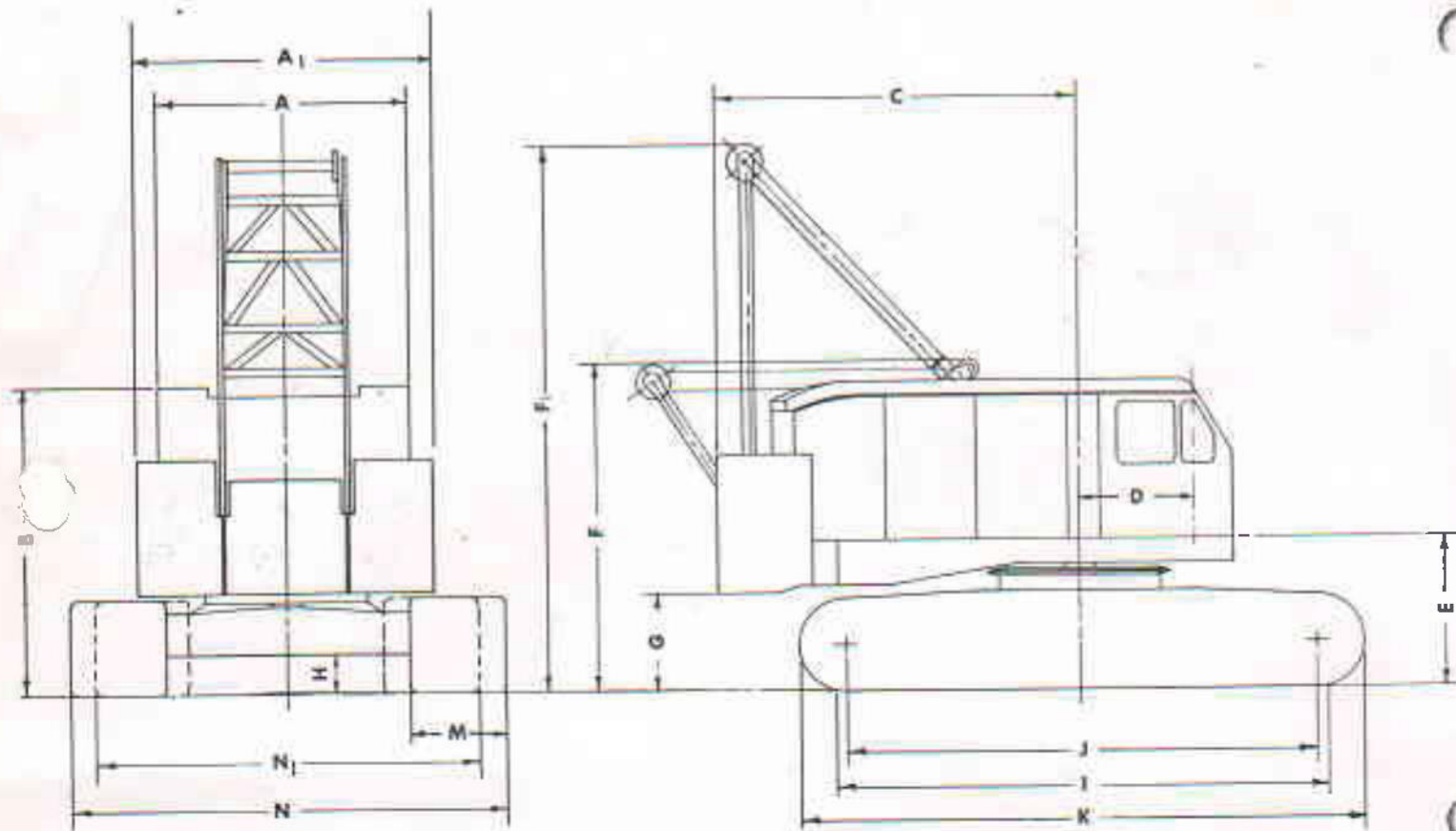
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# AMERICAN 999C LIFTING CRANE



## GENERAL DIMENSIONS

A - Width of Cab	11' 0"
A <sub>1</sub> - Width over Counterweight	13' 2"
B - Height Over Cab	13' 7-1/8"
C - Tailswing	15' 8"
D - Center of Pivot to Center of Boom Foot	5' 0-3/4"
E - Ground to Center Boom Foot	6' 9-1/8"
F - Height Over A-Frame, Lowered	14' 5-1/8"
F <sub>1</sub> - Height Over A-Frame, Raised	24' 5-3/8"
G - Ground to Bottom of Counterweight	4' 4-3/8"
H - Minimum Ground Clearance Under Crawler Base	1' 9"
I - Crawler Bearing Length	21' 0"
J - Center to Center Crawler Tumblers	19' 8"
K - Overall Length of Crawlers	23' 9"
M - Width of Tread Shoes (Standard)	44"
Width of Tread Shoes (Optional)	38"
Width of Tread Shoes (Optional)	50"
N - Overall Width Over Crawlers—Extended (with 38" shoes)	16' 10"
Overall Width Over Crawlers—Extended (with 44" shoes)	17' 4"
Overall Width Over Crawlers—Extended (with 50" shoes)	17' 10"
N <sub>1</sub> - Overall Width Over Crawlers—Retracted (with 38" shoes)	14' 4"
Overall Width Over Crawlers—Retracted (with 44" shoes)	14' 10"



# CRANE SPECIFICATIONS (continued)

**TRAVEL-LOCK:** Ratchet arrangement, air controlled from operator's position; permits travel in one direction while preventing movement in opposite direction; lock may also be set to prevent travel in either direction.

**CRAWLER SIDE FRAMES:** Cast steel tumbler yokes and axle sleeves electrically welded to rolled steel shapes form rigid crawler side frames; axle sleeves accurately bored for mounting to crawler axle.

**CRAWLER ROLLERS:** Large hardened cast steel crawler rollers mounted on heavy bronze bushings; spaced close together to prevent any possibility of tread shoes buckling up between rollers; axles drilled for pressure grease lubrication.

**CRAWLER SHOES:** Heavy, double wall, box section alloy steel castings for maximum strength and long wear; self-cleaning design prevents shoe breakage; 45 shoes on each side frame; 44" width standard; 38" or 50" width optional (extended position only with 50" shoes); through hardened pins, loaded in multiple shear.

**CRAWLER DRIVE:** Heavy cast steel drive tumblers, splined to drive sprocket axles; self-cleaning design; self-cleaning idler tumblers bronze bushed with pressure grease lubrication; stationary shafts mounted in side frames; alloy steel drive sprocket axles, splined to drive tumblers and sprockets; axles mounted in pressure grease lubricated bronze bushings; crawler chain is heavy alloy roller chain; cast steel self-cleaning sprockets, mounted outside crawler side frame for easy maintenance; unnecessary to brake chain when removing side frames.

**CRAWLER DRIVE ADJUSTMENT:** Drive chain and crawler shoe adjustment by means of hydraulic jack; rigid holding and positioning by shims; motion and wear between sprocket and crawler side frame eliminated; positive alignment of sprockets; hydraulic jack carried in tool box.

**CRAWLER WIDTH ADJUSTMENT:** Removable cast steel jaw clutch torque tubes are furnished between the carbody and side frames; in retracted position the side frame jaw clutch directly engages the jaw clutch at side of carbody; machine can be operated in narrow position under restricted conditions with 38" or 44" shoes or in extended position with full crane ratings.

## ATTACHMENTS

**LIFT CRANE ATTACHMENT:** Drum lagging is included for lift crane service; 110 ton crane block with four 24" anti-friction bearing sheaves; roller bearing swivel hook; 8-part lead line for 70 ft. boom length.

**DRAGLINE ATTACHMENT:** Machines used for dragline service in combination with lift crane service will include full revolving fairlead, dirtguard under inhaul drum, drag lagging, 1 1/2" hoist line and 1 3/4" dragline.

**CLAMSHELL ATTACHMENT:** For clamshell or grapple service in combination with lift crane service machine will include Rud-O-Matic tagline winder mounted in boom. Clam lagging, 1 1/2" holding line and 1 1/2" closing line.

**MAGNET ATTACHMENT:** For intermittent magnet service 35 kw, 230 volt, D.C., constant voltage generator is direct driven from main engine; voltage regulator holds voltage constant even though engine speed drops as much as 30% with sudden engagement of travel, swing or hoist clutches; magnet controller provides over-excitation of the magnet; magnet is energized with full 230 volts to the magnet terminals; after approximately 10 seconds magnet becomes fully over-excited and the voltage drops to 170 volts, which is ample to hold the magnet load; with over-excitation increased capacity is obtained with normal magnet operating temperature; push button controls are located on the hoist and swing

Rud-O-Matic combination tagline winder and magnet cable reel with cable; magnet lagging; single sheave block and two-part hoist line.

**NOTE:** For duty cycle service counterweight must be reduced to 53,000 lbs. by removal of E, and E, corner overlays.

## GENERAL

**CONTROLS:** Graduated air controls, pioneered by AMERICAN, put "feel" at every operator's fingertips, insure higher production, more accurate control.

**MATERIALS:** Gears and pinions are heat-treated alloy or high carbon steel; cut teeth on all gears except rotating ring gear which has accurately moulded teeth.

Involute splines are used throughout machine for maximum tooth strength through minimum diameter where needed; self centering; equalized bearing and stresses among all teeth; smooth tooth surface; easy interchangeability of parts.

Anti-friction bearings are used on all main or high speed shafts and wherever practical to provide friction-free, smooth operation with minimum maintenance.

**LUBRICATION:** All anti-friction bearings and bronze bushings requiring short period lubrication are provided with pressure grease fittings; swing deck gears are provided with oil bath lubrication; drum gear train and the swing bullgear are arranged for grease lubrication.

**TRAVEL SPEED:** . . . . . 0.8 MPH

**SWING SPEED:** . . . . . 2.28 RPM

### SINGLE LINE SPEED:

Crane Hoist . . . . . 165 FPM

Dragline . . . . . 145 FPM

Magnet . . . . . 200 FPM

Third Drum . . . . . 192 FPM

or . . . . . 142 FPM

### LINE PULL:

Crane Hoist . . . . . 40,000 lbs. SLP

Dragline . . . . . 45,000 lbs. SLP

Magnet . . . . . 33,000 lbs. SLP

Third Drum . . . . . 15,000 lbs. SLP

or . . . . . 21,000 lbs. SLP

**WEIGHTS:** 999C Lifting Crane with "A-C-D-E" counterweight and basic 60 ft. 58" H.D. boom:

<b>38" Shoes</b>	<b>44" Shoes</b>	<b>50" Shoes</b>
260,460#	263,160#	267,660#

Counterweight . . . . .	75,000 lbs.
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Crane block . . . . .	2,440 lbs.
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Boom outer . . . . .	5,220 lbs.
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2-sheave extension . . . . .	1,245 lbs.
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Boom inner . . . . .	4,390 lbs.
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Crawler side frames w/44" shoes (2) . . . . .	62,500 lbs.
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Crawler axles (4) . . . . .	10,400 lbs.
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Torque tubes (2) . . . . .	920 lbs.
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Crawler carbody . . . . .	23,000 lbs.
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Retractable A-frame . . . . .	3,800 lbs.
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Telescopic boom stops . . . . .	300 lbs.
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Outer bail with basic pendants . . . . .	1,800 lbs.
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**GROUND PRESSURES:** Lifting crane with 60 ft. basic boom and "A-C-D-E" counterweight:

<b>38" Shoes</b>	<b>44" Shoes</b>	<b>50" Shoes</b>
13.6 PSI	11.7 PSI	10.3 PSI

The standard 999C Crawler Crane easily loads itself on and off cars without outside assistance.

**NOTE:** In accordance with varying material situations and the Company's policy of constant product improvement these specifications subject to change without notice and

# AMERICAN 999C LIFTING CRANE RATINGS

## Tubular Chord Boom with Hammerhead

WITH 75000 lbs Counter weight

Boom length	Radius in feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended
70'	15	83	216,700	220,000
	17	82	176,700	210,000
	20	80	138,400	169,000
	25	75	100,800	120,200
	30	71	78,800	92,500
	35	67	64,350	75,200
	40	62	54,150	62,750
	50	52	40,600	46,900
	60	40	*32,100	*37,000
	70	24	*26,150	*30,200
80'	17	83	176,800	209,840
	20	81	138,300	168,840
	25	78	100,700	120,040
	30	74	78,700	92,340
	35	70	64,250	75,040
	40	66	54,050	62,590
	50	61	40,500	46,740
	60	49	32,000	36,840
	70	38	*26,050	*30,040
80	23	*21,750	*25,410	
90'	18	83	160,600	194,600
	20	82	138,150	168,680
	25	79	100,550	119,880
	30	76	78,550	92,180
	35	73	64,100	74,880
	40	69	53,900	62,430
	50	62	40,350	46,580
	60	54	31,850	36,680
	70	46	25,900	29,880
	80	36	*21,600	*25,250
90	21	*18,300	*21,250	
100'	19	83	149,500	180,500
	20	81	138,000	168,520
	25	80	100,400	119,720
	30	77	78,400	92,020
	35	74	63,950	74,720
	40	71	53,750	62,270
	50	64	40,200	46,420
	60	58	31,700	36,520
	70	51	25,750	29,720
	80	42	21,450	25,090
	90	33	*18,150	*21,090
	100	19	*15,550	*18,020

Boom length	Radius in feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended
110'	20	83	137,700	168,300
	25	80	100,200	119,560
	30	78	78,200	91,860
	35	75	63,750	74,560
	40	72	53,550	62,110
	50	67	40,000	46,260
	60	61	31,500	36,360
	70	55	25,550	29,560
	80	48	21,250	24,930
	90	40	17,950	20,930
	100	31	*15,300	*17,860
110	18	*13,250	*15,460	
120'	22	83	119,200	145,000
	25	81	100,000	119,400
	30	79	78,000	91,700
	35	77	63,550	74,400
	40	74	53,350	61,950
	50	69	39,800	46,100
	60	64	31,300	36,200
	70	58	25,350	29,400
	80	52	21,050	24,770
	90	46	17,750	20,770
	100	39	15,100	17,770
	110	30	*13,050	*15,300
120	18	*11,300	*13,250	
130'	23	83	112,000	135,000
	25	81	99,750	119,240
	30	80	77,750	91,540
	35	78	63,300	74,240
	40	76	53,100	61,790
	50	71	39,550	45,940
	60	66	31,050	36,040
	70	61	25,100	29,240
	80	56	20,800	24,610
	90	50	17,500	20,610
	100	44	14,850	17,540
	110	37	12,800	15,140
	120	29	*11,050	*13,090
	130	17	*9,600	*11,410

# AMERICAN 999C LIFTING CRANE RATINGS

## Tubular Chord Boom with Hammerhead (continued)

WITH 75000 lbs Counter weight

Boom length	Radius in feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended
140'	24	83	104,800	126,000
	25	82	99,500	119,080
	30	81	77,500	91,380
	35	79	63,050	74,080
	40	77	52,850	61,630
	50	72	39,300	45,780
	60	68	30,800	35,880
	70	63	24,850	29,080
	80	59	20,550	24,450
	90	54	17,250	20,450
	100	48	14,600	17,380
	110	42	12,550	14,980
	120	36	10,800	12,930
	130	28	*9,350	*11,250
140	16	*8,100	*9,750	
*150'	25	83	99,200	118,000
	30	81	77,250	91,220
	35	79	62,800	73,920
	40	77	52,600	61,470
	50	74	39,050	45,620
	60	70	30,550	35,720
	70	65	24,600	28,920
	80	61	20,300	24,290
	90	56	17,000	20,290
	100	52	14,350	17,220
	110	47	12,300	14,820
	120	41	10,550	12,770
	130	35	9,100	11,090
	140	27	7,850	9,590
150	16	---	8,320	
*160'	27	83	88,500	105,000
	30	81	77,000	91,060
	35	80	62,500	73,760
	40	78	52,350	61,310
	50	75	38,800	44,460
	60	71	30,050	35,560
	70	67	24,100	28,760

Boom length	Radius in feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended	
*160'	80	63	19,800	24,130	
	90	59	16,500	20,130	
	100	55	13,850	17,060	
	110	50	11,800	14,660	
	120	45	10,050	12,610	
	130	40	8,600	10,930	
	140	34	7,350	9,430	
	150	26	--	8,160	
	*170'	28	83	83,400	100,000
		30	82	76,750	90,900
35		81	62,300	73,600	
40		79	52,100	61,150	
50		76	38,550	45,300	
60		72	30,050	35,400	
70		69	24,100	28,600	
80		65	19,800	23,600	
90		61	16,800	19,970	
100		57	13,850	16,900	
110		53	11,800	14,500	
120		48	10,050	12,450	
130		44	8,600	10,770	
140		39	7,350	9,270	
150	33	---	8,000		
*180'	30	83	70,000	90,500	
	35	81	62,050	73,440	
	40	80	51,850	60,990	
	50	77	38,300	45,140	
	60	73	29,800	35,240	
	70	70	23,850	28,440	
	80	66	19,550	23,810	
	90	63	16,250	19,810	
	100	59	13,250	16,740	
	110	55	11,550	14,340	
	120	51	9,800	12,340	
	130	47	8,350	10,610	
140	42	7,100	9,110		
150	38	---	7,840		

# AMERICAN 999C LIFTING CRANE RATINGS

## Tubular Chord Boom with Hammerhead (continued)

WITH 75000 lbs Counter weight

Boom length	Radius in feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended
190'	35	80.9	61580	73060
	40	79.4	51320	60670
	50	76.3	37780	44560
	60	73.2	29240	34530
	70	70.0	23350	27690
	80	66.8	19050	22720
	90	63.4	15770	18940
	100	60.0	13180	15980
	110	56.5	11080	13580
	120	52.8	9350	11610
	130	48.9	7890	9950
	140	44.7	6650	8540
	150	40.3	5570	7330
	160	35.4	4630	6260
	170	29.8	3800	5330
180	23.0	3060	4490	
190	13.3	2390	3740	
180' BOOM & 40' JIB	42	80.9	22430*	33910*
	50	78.8	22430*	31780*
	60	76.2	22320*	29100
	70	73.5	20140	25430
	80	70.8	16550	20890
	90	68.0	13840	17510
	100	65.2	11710	14880
	110	62.3	9990	12790
	120	59.3	8590	11090
	130	56.2	7410	9670
	140	53.0	6410	8470
	150	49.6	5560	7450
	160	46.1	4820	6580
	170	42.3	4170	5800
	180	38.3	3600	5130
190' BOOM & 40' JIB	42	80.8	22280*	23980*
	50	79.3	21610*	23240
	60	76.8	20450	22010
	70	74.2	19360	20270
	80	71.6	16310	17290
	90	69.0	13590	15140
	100	66.3	11460	12580
	110	63.6	9750	10940
	120	60.7	8340	9600
	130	57.8	7150	8480
	140	54.8	6160	7560
	150	51.7	5300	6770
	160	48.5	4560	5900
	170	45.0	3910	4520
	180	41.1	3350	4350
190	37.4	2850	3520	

Load ratings do not exceed 75 % of tipping with crane standing level on firm, uniform supporting surface. Safe loads depend on ground conditions, Boom Length, radius of operation and proper handling, all of which must be taken into consideration by user.

“Radius in Feet” is the horizontal distance at crane base level from center pin to a vertical line through the center of gravity of the suspender load, Blocks, slings, buckets and other load carrying devices are considered part of the load. For Duty cycle ratings (dragline, clamshell, grapple, magnet, etc) see page 14.

Ratings indicated in italics represents boom positions which, without load, provide less than standard backward stability. Machine should be firm level ground when working in these boom positions.

“Requires retractable A-frame is fully raised position, Crane, with side frames extended and A-C-D-E counterweight will self erect 190 Feet main boom with hammerhead less jib or:

180 ft Boom plus 20 Ft. No. 9 Jib.

180 ft Boom plus 30 Ft. No. 9 Jib.

180 ft Boom plus 40 Ft. No. 9 Jib.

180 ft Boom plus 50 Ft. No. 9 Jib.

190 ft Boom plus 20 Ft. No. 15 Jib.

190 ft Boom plus 30 Ft. No. 15 Jib.

190 ft Boom plus 40 Ft. No. 15 Jib.

190 ft Boom plus 50 Ft. No. 9HL Jib.

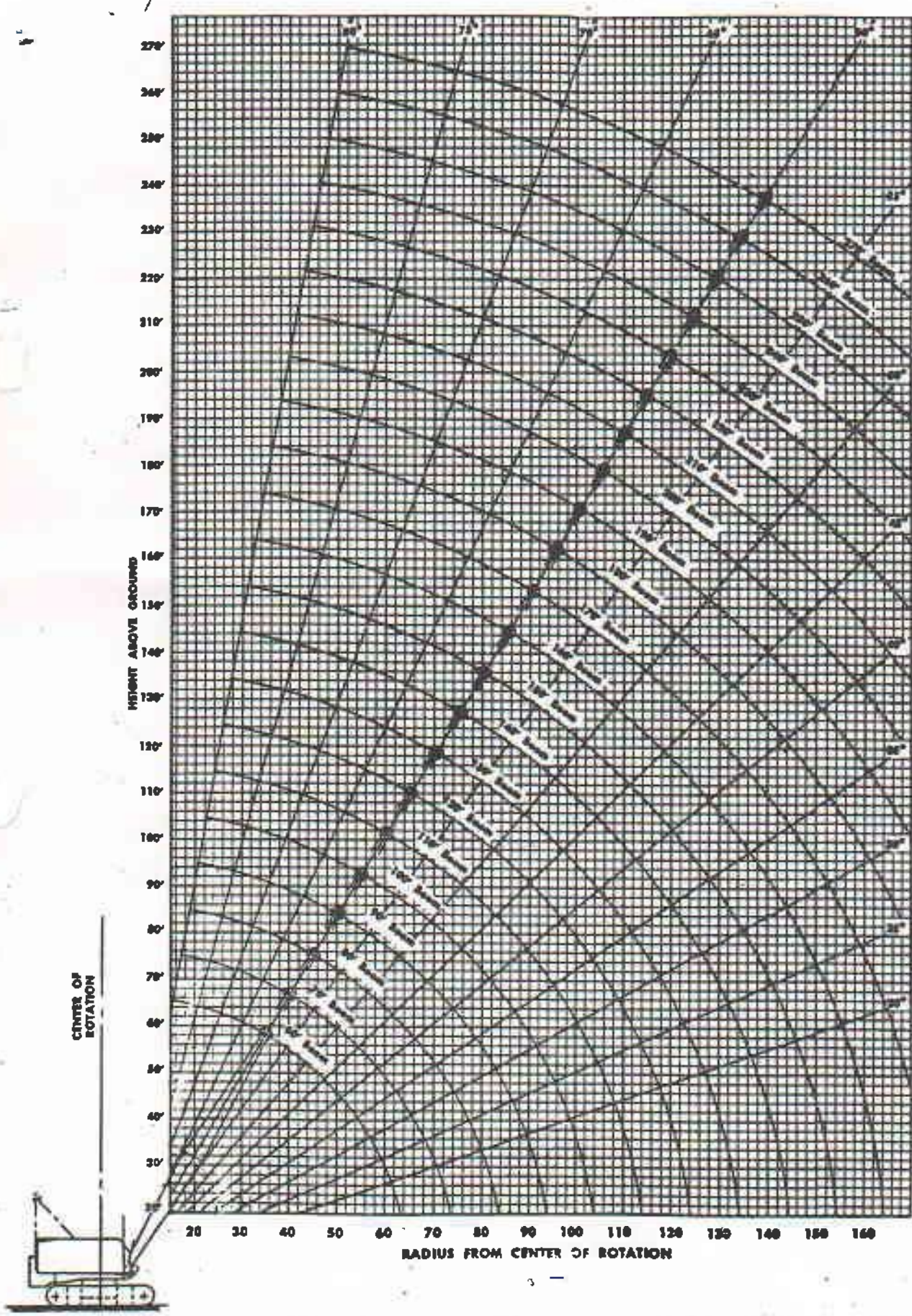
190 ft Boom plus 60 Ft. No. 9HL Jib.

190 ft Boom plus 70 Ft. No. 9HL Jib.

190 ft Boom plus 80 Ft. No. 9HL Jib.



# AMERICAN 999C CRAWLER CRANE



CENTER OF ROTATION

RADIUS FROM CENTER OF ROTATION

1500