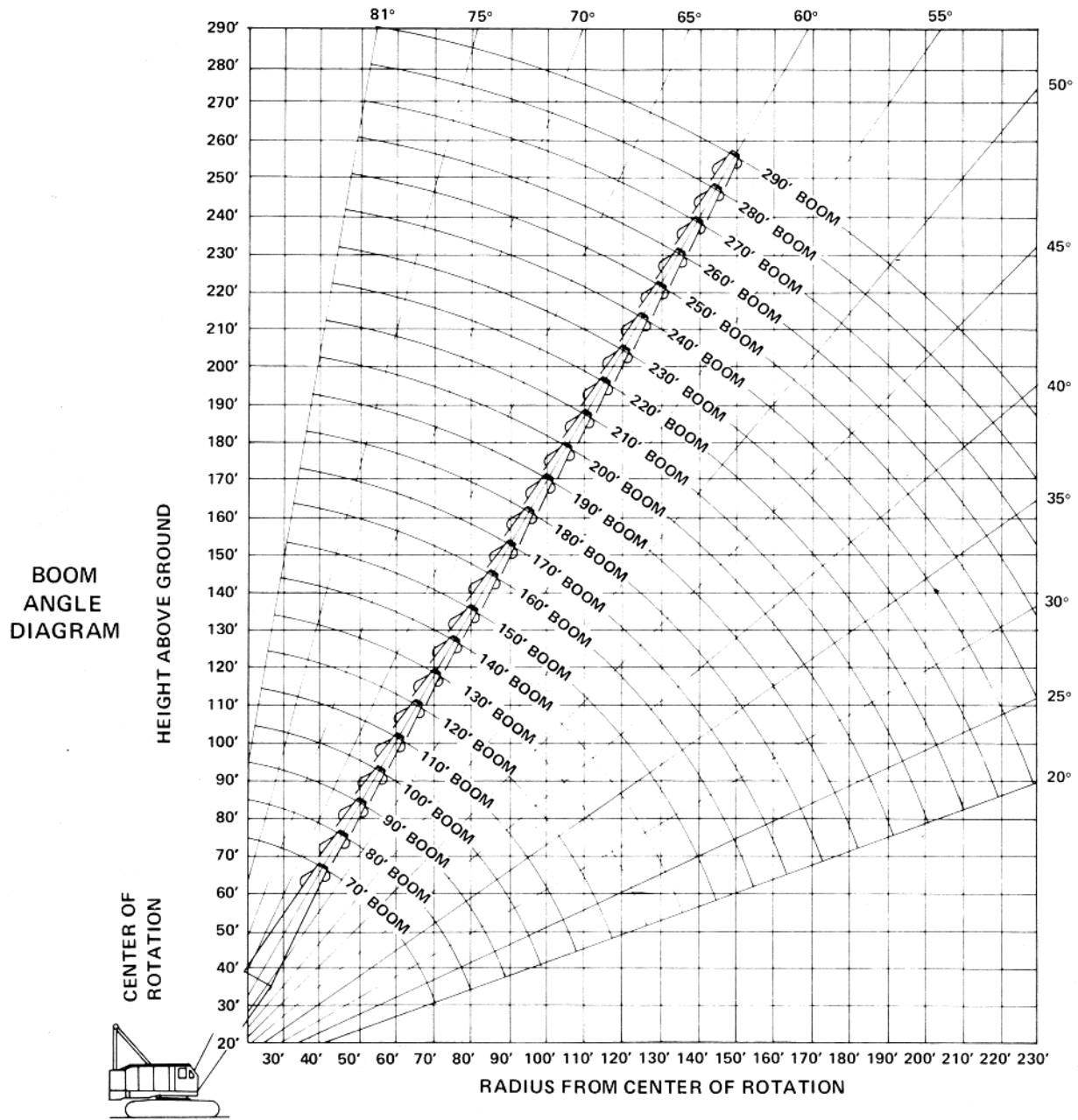




LIFTING CHARTS - Crawler Cranes

AMERICAN MODEL 9310 - 225 TON CAPACITY

WORKING RANGES



LIFT RATINGS

With 92H Tubular Boom and "S-S" Counterweight (135,000 Lbs.)

Boom Length (Feet)	Radius In Feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended	Ft. From Boom Point	Min. Load Line
70 feet	17	81.4	-	450,000	76	12
	20	78.9	-	336,000	75	9
	25	74.7	195,030	230,290	74	6
	30	70.4	149,870	174,180	73	5
	35	65.9	121,150	139,460	71	4
	40	61.3	101,290	115,870	68	3
	50	51.3	75,360	85,630	61	3
	60	39.5	59,400	67,270	51	2
70	23.2	48,420	54,790	34	2	
80 feet	18	81.8	-	410,180	86	11
	20	80.3	-	335,940	86	9
	25	76.6	194,860	230,190	85	6
	30	72.9	149,670	174,030	83	5
	35	69.1	120,950	139,300	81	4
	40	65.2	101,090	115,710	79	3
	50	56.9	75,160	85,440	74	3
	60	47.7	59,210	67,090	66	2
70	36.8	48,250	54,630	55	2	
80	21.6	40,280	45,630	36	2	
90 feet	20	81.4	-	335,790	96	9
	25	78.2	194,600	229,980	95	6
	30	74.9	149,400	173,790	94	5
	35	71.5	120,670	139,050	92	4
	40	68.1	100,820	115,460	90	3
	50	61.0	74,870	85,180	85	3
	60	53.3	58,940	66,840	79	2
	70	44.8	47,970	54,360	70	2
80	34.6	40,020	45,370	58	2	
90	20.3	34,050	38,650	38	1	
100 feet	21	81.7	254,420	307,580	106	8
	25	79.4	194,320	229,760	105	6
	30	76.4	149,100	173,530	104	5
	35	73.4	120,370	138,780	103	4
	40	70.4	100,530	115,200	101	3
	50	64.2	74,560	84,890	97	3
	60	57.5	58,660	66,580	91	2
	70	50.4	47,690	54,090	84	2
	80	42.3	39,740	45,100	74	2
	90	32.7	33,830	38,440	61	1
100	19.2	29,050	33,090	40	1	
110 feet	22	81.9	236,080	283,580	116	7
	25	80.3	194,010	229,500	115	6
	30	77.7	148,770	173,240	114	5
	35	75.0	120,040	138,480	113	4
	40	72.3	100,210	114,900	112	3
	50	66.7	74,220	84,570	108	3
	60	60.8	58,340	66,270	103	2
	70	54.6	47,370	53,780	96	2
	80	47.8	39,420	44,790	88	2
	90	40.2	33,550	38,170	78	1
	100	31.1	28,780	32,830	64	1
110	18.2	24,930	28,530	41	1	

Boom Length (Feet)	Radius In Feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended	Ft. From Boom Point	Min. Load Line
120 feet	24	81.6	205,860	244,730	125	7
	25	81.2	193,730	229,260	125	6
	30	78.7	148,470	172,980	124	5
	35	76.3	119,740	138,200	123	4
	40	73.8	99,930	114,640	122	3
	50	68.7	73,920	84,280	119	3
	60	63.5	58,060	66,000	114	2
	70	58.0	47,080	53,500	108	2
	80	52.1	39,130	40,520	101	2
	90	45.7	33,290	37,920	93	1
	100	38.4	28,540	32,600	81	1
	110	29.7	24,700	28,310	66	1
120	17.4	21,530	24,780	43	1	
130 feet	25	81.8	193,380	228,960	135	6
	30	79.6	148,110	172,650	135	5
	35	77.3	119,390	137,880	134	4
	40	75.1	99,580	114,310	132	3
	50	70.4	73,560	83,930	129	3
	60	65.7	57,710	65,660	125	2
	70	60.7	46,720	53,160	120	2
	80	55.5	38,770	44,160	114	2
	90	49.9	32,960	37,600	106	2
	100	43.8	28,210	32,280	97	1
	110	36.8	24,380	28,000	85	1
	120	28.5	21,230	24,480	69	1
130	16.7	18,570	21,530	44	1	
140 feet	27	81.6	172,290	202,580	145	5
	30	80.4	147,730	172,310	145	5
	35	78.3	119,000	137,520	144	4
	40	76.2	99,200	113,950	143	3
	50	71.9	73,150	83,550	140	3
	60	67.5	57,320	65,290	136	2
	70	63.0	46,340	52,790	131	2
	80	58.3	38,380	43,780	126	2
	90	53.3	32,600	37,250	119	1
	100	47.9	27,860	31,930	111	1
	110	42.1	24,020	27,650	101	1
	120	35.4	20,870	24,130	88	1
	130	27.4	18,230	21,190	71	1
	140	16.1	15,970	18,690	46	1
150 feet	28	81.8	162,950	191,130	155	5
	30	81.0	147,350	171,970	155	5
	35	79.1	118,630	137,180	154	4
	40	77.1	98,830	113,610	153	3
	50	73.1	72,770	83,180	150	3
	60	69.1	56,940	64,930	147	2
	70	64.9	45,950	52,410	143	2
	80	60.6	38,000	43,410	137	2
	90	56.1	32,240	36,900	131	1
	100	51.3	27,500	31,580	124	1
	110	46.2	23,670	27,300	115	1

ASTHA STERLING CRANE

With 92H Boom

Boom Length (Feet)	Radius In Feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended	Ft. From Boom Point	Min. Load Line
150 feet (cont.)	120	40.6	20,510	23,780	104	1
	130	34.2	17,880	20,850	91	1
	140	26.5	15,640	18,360	74	1
	150	15.5	13,690	16,210	47	1
160 feet	29	81.9	154,410	180,730	165	5
	30	81.6	146,970	171,620	165	5
	35	79.8	118,240	136,820	164	4
	40	77.9	98,460	113,260	163	3
	50	74.2	72,380	82,800	161	3
	60	70.5	56,560	64,560	158	2
	70	66.6	45,570	52,030	154	2
	80	62.6	37,610	43,030	149	2
	90	58.5	31,870	36,530	143	1
	100	54.1	27,130	31,210	136	1
	110	49.6	23,300	26,940	129	1
	120	44.6	20,150	23,430	119	1
	130	39.2	17,520	20,490	108	1
	140	33.0	15,270	18,000	94	1
150	25.6	13,340	15,860	76	1	
160	15.0	11,660	14,000	48	1	
170 feet	31	81.7	139,800	162,980	175	5
	35	80.4	117,890	136,490	174	4
	40	78.6	98,110	112,930	173	3
	50	75.2	72,010	82,440	171	3
	60	71.7	56,220	64,230	168	2
	70	68.0	45,210	51,690	164	2
	80	64.4	37,240	42,670	160	2
	90	60.5	31,540	36,210	155	1
	100	56.6	26,790	30,880	149	1
	110	52.4	22,970	26,610	141	1
	120	48.0	19,820	23,100	133	1
	130	43.2	17,180	20,160	123	1
	140	38.0	14,940	17,670	111	1
	150	32.0	13,010	15,530	97	1
160	24.8	11,340	13,680	78	1	
170	14.5	9,860	12,040	49	1	
180 feet	32	81.9	133,560	155,450	185	4
	35	80.9	117,500	136,120	184	4
	40	79.3	97,740	112,570	184	3
	50	76.0	71,610	82,060	181	3
	60	72.7	55,830	63,850	179	2
	70	69.3	44,810	51,300	175	2
	80	65.9	36,840	42,270	171	2
	90	62.3	31,160	35,840	166	1
	100	58.6	26,410	30,510	160	1
	110	54.8	22,590	26,230	154	1
	120	50.8	19,440	22,720	146	1
	130	46.5	16,800	19,790	137	1
	140	41.9	14,560	17,290	127	1
	150	36.9	12,630	15,160	115	1
160	31.1	10,960	13,300	100	1	
170	24.1	9,480	11,670	80	1	
180	14.1	8,190	10,240	51	1	
190 feet	33	82.0	127,390	148,110	195	4
	35	81.4	117,110	135,760	195	4
	40	79.9	97,330	112,200	194	3
	50	76.8	71,190	81,660	192	3
	60	73.6	55,420	63,460	189	2
	70	70.5	44,400	50,900	186	2
	80	67.2	36,420	41,870	182	2
	90	63.9	30,760	35,440	177	1
	100	60.5	26,020	30,120	172	1
	110	56.9	22,190	25,840	166	1
	120	53.2	19,040	22,330	159	1

Boom Length (Feet)	Radius In Feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended	Ft. From Boom Point	Min. Load Line
190 feet (cont.)	130	49.3	16,400	19,390	151	1
	140	45.2	14,160	16,900	142	1
	150	40.7	12,230	14,760	131	1
	160	35.8	10,550	12,900	118	1
	170	30.2	9,090	11,280	102	1
	180	23.4	7,790	9,850	82	1
200 feet	190	13.7	6,640	8,580	52	1
	35	81.8	116,710	135,390	205	4
	40	80.4	96,950	111,830	204	3
	50	77.4	70,790	81,270	202	3
	60	74.5	55,020	63,070	199	2
	70	71.5	43,990	50,500	196	2
	80	68.4	36,010	41,460	193	2
	90	65.3	30,380	35,070	188	1
	100	62.1	25,620	29,740	183	1
	110	58.8	21,790	25,450	178	1
	120	55.4	18,650	21,940	171	1
	130	51.8	16,000	19,000	164	1
	140	48.0	13,760	16,510	155	1
	150	44.0	11,840	14,380	146	1
160	39.7	10,160	12,510	134	1	
170	34.9	8,690	10,890	121	1	
180	29.4	7,400	9,450	105	1	
190	22.8	6,240	8,180	84	1	
200	13.4	5,210	7,040	53	1	
210 feet	36	81.9	111,700	129,510	215	4
	40	80.8	96,560	111,470	214	3
	50	78.1	70,380	80,880	212	3
	60	75.2	54,620	62,680	210	2
	70	72.4	43,590	50,100	207	2
	80	69.5	35,600	41,060	203	2
	90	66.6	29,980	34,680	199	1
	100	63.5	25,230	29,340	195	1
	110	60.4	21,400	25,070	189	1
	120	57.2	18,250	21,550	183	1
	130	53.9	15,610	18,610	176	1
	140	50.4	13,360	16,110	169	1
	150	46.8	11,440	13,970	160	1
	160	42.9	9,770	12,120	150	1
170	38.7	8,300	10,500	138	1	
180	34.0	7,000	9,060	124	1	
190	28.7	5,850	7,790	108	1	
200	22.2	4,820	6,650	86	1	
210	13.0	3,890	5,630	54	1	
220 feet	38	81.8	103,500	119,750	225	3
	40	81.3	96,190	111,120	224	3
	50	78.6	69,980	80,490	222	3
	60	75.9	54,250	62,310	220	2
	70	73.2	43,200	49,730	217	2
	80	70.5	35,210	40,680	214	2
	90	67.7	29,620	34,330	210	1
	100	64.8	24,860	28,990	206	1
	110	61.9	21,030	24,700	201	1
	120	58.9	17,870	21,180	195	1
	130	55.8	15,240	18,240	189	1
	140	52.6	12,990	15,750	181	1
	150	49.2	11,070	13,610	173	1
	160	45.6	9,390	11,750	164	1
170	41.8	7,930	10,130	153	1	
180	37.7	6,630	8,700	141	1	
190	33.2	5,470	7,420	127	1	
200	28.0	4,440	6,280	110	1	
210	21.7	3,510	5,250	88	1	
220	12.7	-	4,340	55	1	

ASTHA STERLING CRANE

With 92H Boom

Boom Length (Feet)	Radius In Feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended	Ft. From Boom Point	Min. Load Line
230 feet	39	81.9	99,340	114,110	234	3
	40	81.6	95,810	110,750	234	3
	50	79.1	70,090	80,620	233	2
	60	76.6	53,840	61,920	230	2
	70	74.0	42,800	49,340	228	2
	80	71.4	34,790	40,270	225	2
	90	68.7	29,220	33,930	221	1
	100	66.0	24,460	28,590	217	1
	110	63.2	20,630	24,300	212	1
	120	60.4	17,470	20,780	207	1
	130	57.5	14,840	17,840	201	1
	140	54.5	12,590	15,350	194	1
	150	51.3	10,660	13,210	186	1
	160	48.0	8,990	11,350	178	1
170	44.6	7,520	9,720	168	1	
180	40.9	6,220	8,290	157	1	
190	36.9	5,070	7,020	145	1	
200	32.4	4,030	5,870	130	1	
210	27.4	-	4,850	113	1	
220	21.2	-	3,930	90	1	
240 feet	40	82.0	95,410	110,380	244	3
	50	79.6	69,700	80,250	243	2
	60	77.1	53,440	61,530	241	2
	70	74.7	42,380	48,930	238	2
	80	72.2	34,370	39,850	235	2
	90	69.6	28,820	33,540	232	1
	100	67.1	24,060	28,190	228	1
	110	64.4	20,220	23,900	223	1
	120	61.7	17,060	20,380	218	1
	130	59.0	14,420	17,430	212	1
	140	56.1	12,180	14,940	206	1
	150	53.2	10,250	12,800	199	1
	160	50.2	8,570	10,940	191	1
	170	46.9	7,100	9,310	182	1
180	43.6	5,810	7,880	172	1	
190	40.0	4,650	6,600	161	1	
200	36.0	3,620	5,460	148	1	
210	31.7	-	4,430	133	1	
220	26.8	-	3,510	115	1	
250 feet	42	81.8	88,540	102,390	254	3
	50	80.0	69,310	79,870	253	2
	60	77.6	53,040	61,140	251	2
	70	75.3	41,970	48,520	249	2
	80	72.9	34,500	39,990	246	1
	90	70.5	28,420	33,140	242	1
	100	68.0	23,650	27,790	230	1
	110	65.5	19,810	23,500	234	1
	120	63.0	16,650	19,970	229	1
	130	60.4	14,010	17,030	224	1
	140	57.7	11,770	14,540	218	1
	150	54.9	9,840	12,390	211	1
	160	52.0	8,160	10,530	204	1
	170	49.1	6,690	8,910	196	1
180	45.9	5,390	7,470	186	1	
190	42.6	4,240	6,200	176	1	
200	39.1	-	5,050	164	1	
210	35.3	-	4,020	151	1	
260 feet	43	81.9	85,180	98,530	264	3
	50	80.4	68,920	79,490	263	2
	60	78.1	52,630	60,750	261	2
	70	75.9	41,550	48,120	259	2
	80	73.6	34,100	39,610	256	1
	90	71.3	28,020	32,760	253	1
	100	68.9	23,240	27,390	249	1
	110	66.5	19,400	23,090	245	1

Boom Length (Feet)	Radius In Feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended	Ft. From Boom Point	Min. Load Line
260 feet (cont.)	120	64.1	16,250	19,580	241	1
	130	61.6	13,610	16,630	235	1
	140	59.1	11,360	14,130	230	1
	150	56.5	9,430	11,990	223	1
	160	53.8	7,750	10,120	216	1
	170	51.0	6,280	8,500	209	1
	180	48.0	4,980	7,060	200	1
	190	45.0	3,820	5,780	191	1
	200	41.8	-	4,640	180	1
	210	38.3	-	3,610	168	1
270 feet	45	81.8	79,300	91,750	274	3
	50	80.7	68,510	79,100	273	2
	60	78.6	52,210	60,340	271	2
	70	76.4	41,120	47,700	269	2
	80	74.2	33,690	39,200	267	1
	90	72.0	27,600	32,340	264	1
	100	69.7	22,830	26,990	260	1
	110	67.4	18,990	22,690	256	1
	120	65.1	15,830	19,160	252	1
	130	62.8	13,180	16,210	247	1
140	60.3	10,930	13,710	241	1	
150	57.9	9,000	11,570	235	1	
160	55.3	7,320	9,700	229	1	
170	52.7	5,850	8,070	221	1	
180	49.9	4,550	6,630	213	1	
190	47.1	3,400	5,350	205	1	
200	44.1	-	4,210	195	1	
280 feet	46	81.9	77,040	79,070	284	2
	50	81.1	68,150	78,070	283	2
	60	79.0	51,830	59,970	282	2
	70	76.9	40,740	47,320	279	2
	80	74.8	33,330	38,850	277	1
	90	72.6	27,240	31,990	274	1
	100	70.5	22,470	26,330	271	1
	110	68.3	18,610	22,310	267	1
	120	66.1	15,450	18,780	263	1
	130	63.8	12,800	15,830	258	1
140	61.5	10,560	13,340	253	1	
150	59.1	8,620	11,190	247	1	
160	56.7	6,940	9,320	241	1	
170	54.2	5,470	7,700	234	1	
180	51.6	4,180	6,260	226	1	
190	49.0	-	4,980	218	1	
200	46.2	-	3,830	209	1	
290 feet	47	82.0	74,270	78,270	294	2
	50	81.4	67,750	76,380	293	2
	60	79.4	51,430	59,580	292	2
	70	77.4	40,330	46,920	290	2
	80	75.3	32,930	38,460	287	1
	90	73.3	26,830	31,580	284	1
	100	71.2	22,050	26,220	281	1
	110	69.1	18,200	21,910	278	1
	120	66.9	15,040	18,380	274	1
	130	64.8	12,390	15,420	269	1
140	62.6	10,140	12,920	264	1	
150	60.3	8,200	10,770	259	1	
160	58.0	6,530	8,910	253	1	
170	55.6	5,050	7,280	246	1	
180	53.2	3,750	5,840	239	1	
190	50.7	-	4,560	231	1	
200	48.1	-	-	222	1	
210	45.3	-	-	213	1	
220	42.5	-	-	203	1	

CRANE RATING DATA

Load ratings are in pounds and do not exceed 75% of the load which would cause tipping with crane standing level on firm uniformly supporting surface. Safe loads depend on ground conditions, boom lengths, 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 of rotation to a vertical line through the center of gravity of the suspended load.

Lifting is approved only in those areas for which ratings are shown in the rating chart. Blocks, slings, buckets, and other load carrying devices are considered part of the load. Retractable A-frame must be in fully raised position for all ratings. Ratings in bolded areas are limited by strength of material, or factors other than stability.

Main load line is 1-1/8 inch diameter with a minimum breaking strength of 143,000 pounds. Boom suspension line is 7/8 inch diameter with a minimum breaking strength of 79,600 pounds. Boom suspension pendants are 1-3/8 inch diameter with a minimum breaking strength of 211,000 pounds.

Boom and jib erection is over the long end of the machine with idler tumblers blocked and with "Lift Rating" counterweight.

Designed and rated to comply with **ANSI Code B30.5**.

LOAD HOISTING DATA

Maximum Lifting Capacity – Lbs.	Minimum Pts. Of Line	Maximum Hoisting Distance*	
		Main Drum - CLL	Auxiliary Drum
450,000	12	84'	53'
448,150	11	92'	58'
408,570	10	101'	64'
367,710	9	112'	71'
326,850	8	126'	80'
286,000	7	144'	92'
245,140	6	168'	107'
204,280	5	202'	129'
163,420	4	252'	161'
122,570	3	337'	215'
81,710	2	505'	323'
40,850	1	1011'	647'

* Based on 1-1/8" diameter rope.

92H BOOM COMPOSITION

Boom Length (Feet)	30 Ft. 92H Inner	20 Ft. 92H Center	10 Ft. 92H Center	50 Ft. 92H Center	40 Ft. 92H Outer
70	1	-	-	-	1
80	1	-	1	-	1
90	1	1	-	-	1
100	1	1	1	-	1
110	1	1	2	-	1
120	1	-	-	1	1
130	1	-	1	1	1
140	1	1	-	1	1
150	1	1	1	1	1
160	1	1	2	1	1
170	1	-	-	2	1
180	1	-	1	2	1
190	1	1	-	2	1
200	1	1	1	2	1
210	1	1	2	2	1
220	1	-	-	3	1
230	1	-	1	3	1
240	1	1	-	3	1
250	1	1	1	3	1
260	1	1	2	3	1
270	1	-	-	4	1
280	1	-	1	4	1
290	1	1	-	4	1

Offset Boom Tip 18"
From Center of Boom

BOOM AND JIB ERECTION

92H Boom Length	Maximum Jib Length			
	No. 9	No. 9HL	No. 15	No. 16HL
290'	0'	0'	0'	0'
280'	30'	50'	30'	40'
270'	50'	80'	50'	90'
260'	50'	80'	50'	100'

ASTHA STERLING CRANE

PERFORMANCE

TRAVEL SPEED:	0.8 MPH
SWING SPEED:	2.28 RPM
SINGLE LINE SPEED:	
Crane Hoist	165 FPM
Third Drum	192 FPM
or	142 FPM
LINE PULL:	
Crane Hoist	40,000 lbs. SLP
Third Drum	15,000 lbs. SLP
or	21,000 lbs. SLP

Performance figures are based on machine equipped with standard engine.

WEIGHTS

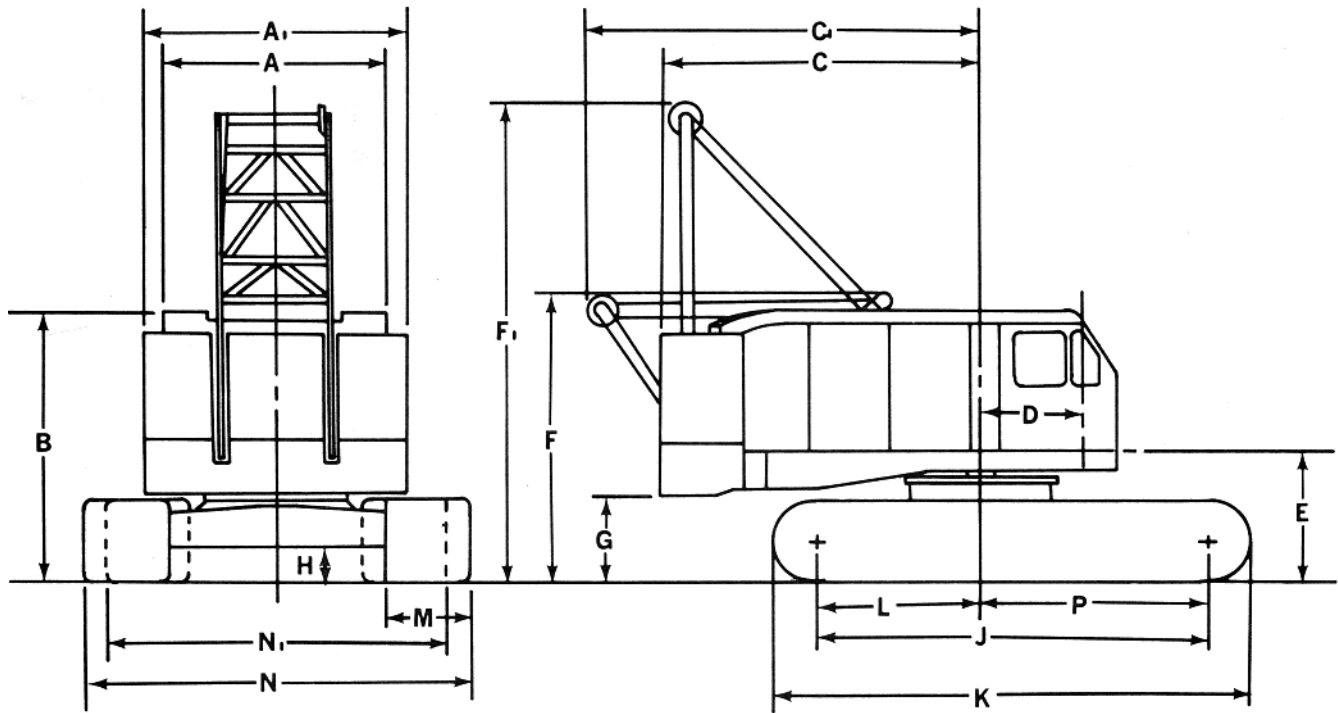
Lifting crane with basic 70 ft.	
crane boom	360,270 lbs.
Components removable for shipment:	
Counterweight	135,000 lbs.
Crane block	6,000 lbs.
Boom outer	10,070 lbs.
Boom Inner	6,200 lbs.
Telescopic boom stops	300 lbs.
Outer bail assembly	2,450 lbs.
A-frame	5,320 lbs.
Side frames, 50" shoes (2)	78,900 lbs.
Crawler axles (4)	13,100 lbs.
Torque tubes (2)	920 lbs.
Carbody	28,400 lbs.

*GROUND PRESSURE

With Basic 92H Boom
and 50" Shoes 12.0 PSI

*Based on- gross machine weight equally distributed over ground bearing area.

ASTHA STERLING CRANE



GENERAL DIMENSIONS

A.	Width of cab	11' 0"	H.	Minimum ground clearance under crawler base	1' 9"
A _i	Width over counterweight	13' 2"	J.	Center to center crawler tumblers	24' 2"
B.	Height over cab	13' 7-1/8"	K.	Overall length of crawlers	28' 2"
C.	Tailswing	17' 0"	L.	Center of rotation to center of drive tumbler	11' 0-1/4"
G.	Tailswing with A -frame, Lowered	24' 9"	P.	Center of rotation to center of idler tumbler	13' 1-3/4"
D.	Center of pivot to center of boom foot	5' 0-3/4"	M.	Width of tread shoes	50"
E.	Ground to center boom foot	6' 9-1/8"	N.	Overall width over crawlers Extended	21' 1"
F.	Height over A-frame, Lowered-Cttw. On	14' 8-5/8"	N _i	Overall width over crawlers Retracted	18' 7"
F.	Height over A-frame, Lowered-Cttw. Off	14' 9-7/8"			
F _i	Height over A-frame Raised	30' 3-5/8"			
G.	Ground to bottom of counterweight	4' 5-3/8"			