



LOAD CHARTS for Use in CCO Written Examinations

AMERICAN

LATTICE BOOM CRAWLER CRANE (LBC)

These charts have been adapted from the original manufacturer's charts for use in NCCCO Written Examinations.

These charts are not to be used for any other purpose.

© Copyright 2011 National Commission for the Certification of Crane Operators (NCCCO). All rights reserved. This document may not be reproduced in whole or in part without express written permission of the manufacturer and the consent of NCCCO.

HOLD HARMLESS/RELEASE AGREEMENT

The user of this publication for and in consideration of the assistance, cooperation, and information provided by the National Commission for the Certification of Crane Operators (NCCCO) in this publication, *Mobile Crane Load Chart Manual*, the receipt of which is acknowledged, does hereby and for all future time release and hold harmless from any liability, and forever discharge for itself, its administrators and assigns the said NCCCO from all and any manner of action or demands whatsoever in law, in admiralty, or in equity, which against NCCCO anyone ever had, now have, or which shall later be claimed. This Agreement relates specifically to any cause of action arising out of the publication, information provided, subsequent conduct, and any use of the information provided in this publication and related uses or demonstrations of skills, methods, and techniques cited in the publication. This mutually beneficial release and hold-harmless agreement may not be changed orally and exists in perpetuity. This publication is issued solely as a public service to improve the lifting industry and promote public safety.

NO WARRANTY

Information and materials provided in this *Mobile Crane Load Chart Manual* are provided "as is" without warranty of any kind, either express or implied, including without limitation warranties of merchantability, fitness for a particular purpose, and non-infringement. NCCCO specifically does not make any warranties or representations as to the accuracy or completeness of any such information and materials. Under no circumstances shall NCCCO be liable for any loss, damage, liability, or expense incurred or suffered which is claimed to have resulted from use of this publication, including without limitation, any fault, error, omission, interruption, or delay with respect thereto. Use of this publication is at user's sole risk. Under no circumstances, including, but not limited to, negligence, shall NCCCO be liable for any direct, indirect, incidental, special, or consequential damages, even if NCCCO has been advised of the possibility of such damages.

Copyright © 2011 by National Commission for the Certification of Crane Operators. All rights reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without prior written permission from the publisher. For information, contact the publisher, the National Commission for the Certification of Crane Operators, at info@nccco.org.

IMPORTANT LOAD LIFTING RESTRICTIONS AND REGULATIONS

Crawler Cranes



This Load Rating Chart has been modified for NCCCO TESTING PURPOSES ONLY. This chart cannot be used for lifting operations and has been approved by the American Crane Corporation for the sole purpose of providing study and testing material for the Lattice Boom Crawler Crane written examination that is administered by the National Commission for the Certification of Crane Operators.

Ratings have been established by American Crane on the basis of sound engineering methods and testing procedures. The machine complies with applicable U.S. Industry standards for stability and material strength factors. These standards require operation within rated capacities and in accordance with good operating practice.

DO NOT EXCEED THE RATING OF THE MACHINE. Lifting loads greater than those shown on the rating chart or operation at positions not shown **CAN CAUSE STRUCTURAL FAILURE, TIPPING OR COLLAPSE OF THE BOOM OR CRANE.**

1. All ratings apply only to machines as originally manufactured and equipped but include machines on which repairs or replacements have been made in accordance with original specifications. American Crane shall have no responsibility for machines or components on which replacements have been made with parts or spares not manufactured by American Crane, or on which any unauthorized changes have been made, or which are operated after damage which has not been repaired. The safe handling of loads with a crane depends on ground conditions, boom length and radius. These factors as well as many others must be taken into consideration by the operator.

2. The crane should be removed and the foundation leveled before making a lift. If the operating surface is not sufficiently firm and stable, crane mats should be used to reduce soil loadings. If operation is necessary under adverse conditions, contact American Crane for further information before attempting operation.

3. Under certain conditions cranes can be overturned without a load. This can be prevented by observing the rating chart and avoiding boom positions which show no load ratings.

4. The rating charts apply up to maximum wind speeds as indicated in the table below. This table lists the maximum wind velocity for which ratings apply. These wind speeds refer to steady winds or gusts where the maximum wind speeds reached are the magnitudes stated. Velocities must be measured at a point equivalent to the highest boom or jib elevation and should be taken at some location in close proximity to the crane. **No account is taken of the wind force on the load.** This effect, which is substantial for loads with large surface areas, must be considered by the user and ratings reduced accordingly. For more information contact American Crane.

WIND SPEED LIMITATIONS

Boom Size	Boom or Boom Plus Jib	Operation	No operation. Lower boom to 50-60 degrees. Position rear of crane into wind	Lower or secure boom
37"	0-140'	0-30 mph	30-50 mph	Over 50 mph
37"	Over 140'	0-20 mph	20-30 mph	Over 30 mph
46" - 47"	0-170'	0-30 mph	30-50 mph	Over 50 mph
46" - 47"	Over 170'	0-20 mph	20-30 mph	Over 30 mph
58" - 59"	0-220'	0-30 mph	30-50 mph	Over 50 mph
58" - 59"	Over 220'	0-20 mph	30-50 mph	Over 50 mph
77"	0-290'	0-30 mph	30-50 mph	Over 50 mph
77"	Over 290'	0-20 mph	20-30 mph	Over 30 mph
92" - 94" - 118"	0-360'	0-30 mph	30-50 mph	Over 50 mph
92" - 94" - 118"	Over 360'	0-20 mph	20-30 mph	Over 30 mph
130"	0-400'	0-30 mph	30-50 mph	Over 50 mph
130"	Over 400'	0-20 mph	20-30 mph	Over 30 mph

5. NEVER SIDELOAD THE BOOM. Such sideloading can cause structural failure or collapse. Always keep the boom point directly over the load to avoid sideloading. Operating the crane while out of level or in high winds as well as dragging a load sideways by swinging or pulling on a load while it is partially or fully attached to a structure are all causes of sideloading and must be avoided.

6. The A-Frame must be in the fully raised position for lifting all rated loads. (Sky Horse operation is an exception.) Do not operate with the A-Frame in any intermediate (partially raised) position.

7. Never lift or release a load when the boom is solid against the boom stops.

8. Do not leave the operator's seat with the bucket or load suspended. Cooling of the brakes and brake drum may release the brake bands allowing the load to fall. Avoid traveling with a suspended load. When such travel is necessary,

keep the load from swinging. Keep feet on the brake pedals while propelling the machine. Jarring of the load may cause the brakes to slip. When the machine is equipped with spring-set, air-released auxiliary brake chambers, the control valve should be placed in the "Brake Set" position so the brakes are engaged by the springs when holding the load or traveling. Reduced ratings must be used when traveling on grades to compensate for changes in stability, load radius, and sideloading of the boom. When traveling uphill, lower the boom to prevent it from falling backward.

9. Detailed instructions for operating and maintenance are given elsewhere in this manual. Read and study the operating instructions carefully.

10. Cranes can self-erect all boom or boom-jib combinations shown on the rating chart unless specifically stated otherwise. During erection the A-Frame must be fully raised and all load-carrying devices must be on the ground.

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

On a crawler crane the boom must be erected directly over the idler end of the crawler sideframes with the idler tumblers securely blocked to achieve maximum capability. When erecting over the side of a crawler the sideframes must be fully extended.

11. BE SAFE. For any clarification or answers to additional questions contact American Crane before attempting operation.

BOOM LENGTH	RADIUS (FEET)	BOOM ANGLE (DEGREES)	SIDE FRAMES EXTENDED (POUNDS)	FROM BOOM POINT TO GROUND (FEET)
40' (12.2M) BOOM	11	80.5	160,000*	45
	12	79.0	160,000*	45
	15	74.6	141,480	44
	20	67.0	87,810	42
	25	58.8	63,360	40
	30	49.9	49,350	36
	35	39.5	40,320	31
	40	25.8	33,970	23
50' (15.2M) BOOM	13	80.1	160,000*	55
	15	77.8	141,440	54
	20	71.8	87,750	53
	25	65.6	63,280	51
	30	59.1	49,250	48
	35	52.0	40,220	45
	40	44.2	33,860	40
60' (18.3M) BOOM	50	22.9	25,540	25
	14	80.8	145,370*	65
	15	79.8	141,380	64
	20	74.9	87,660	63
	25	69.9	63,170	62
	30	64.7	49,120	60
	35	59.2	40,100	57
	40	53.4	33,730	54
	50	40.2	25,400	44
60	20.8	20,230	27	
70' (21.3M) BOOM	16	80.5	125,040*	74
	20	77.1	87,590	74
	25	72.9	63,090	72
	30	68.5	49,040	71
	35	64.0	40,020	68
	40	59.3	33,640	66
	50	49.2	25,310	58
	60	37.0	20,150	48
80' (24.4M) BOOM	70	19.2	16,580	28
	17	80.9	109,250*	84
	20	78.8	87,470	84
	25	75.1	62,960	83
	30	71.3	48,880	81
	35	67.5	39,870	79
	40	63.5	33,480	77
	50	55.1	25,140	71
	60	45.8	20,000	63
	70	34.5	16,430	51
80	17.9	13,830	30	

BOOM LENGTH	RADIUS (FEET)	BOOM ANGLE (DEGREES)	SIDE FRAMES EXTENDED (POUNDS)	FROM BOOM POINT TO GROUND (FEET)
90' (27.4M) BOOM	19	80.7	94,540	94
	20	80.0	87,330	94
	25	76.8	62,810	93
	30	73.5	48,720	92
	35	70.1	39,720	90
	40	66.7	33,320	88
	50	59.5	24,970	83
	60	51.7	19,840	76
	70	43.0	16,260	67
	80	32.5	13,660	54
100' (30.5M) BOOM	90	16.9	11,690	32
	21	80.4	80,910	104
	25	78.1	62,690	103
	30	75.2	48,580	102
	35	72.2	39,590	101
	40	69.1	33,190	99
	50	62.8	24,840	94
	60	56.1	19,720	88
	70	48.9	16,130	81
	80	40.7	13,540	71
110' (33.5M) BOOM	90	30.7	11,560	56
	100	16.0	10,010	33
	22	80.8	72,040*	114
	25	79.2	62,530	113
	30	76.5	48,420	112
	35	73.8	39,430	111
	40	71.1	33,020	109
	50	65.5	24,650	105
	60	59.6	19,560	100
	70	53.3	15,970	94
120' (36.6M) BOOM	80	46.4	13,360	85
	90	38.7	11,380	74
	100	29.2	9,840	59
	110	15.2	8,590	34
	24	80.6	60,160*	124
	25	80.1	60,160*	124
	30	77.7	48,260	123
	35	75.2	39,260	121
	40	72.7	32,850	120
	50	67.6	24,470	116
	60	62.3	19,390	112
	70	56.8	15,800	106
80	50.8	13,190	98	
90	44.3	11,210	89	
100	37.0	9,660	78	
110	28.0	8,410	62	
120	14.5	7,390	36	

BOOM LENGTH	RADIUS (FEET)	BOOM ANGLE (DEGREES)	SIDE FRAMES EXTENDED (POUNDS)	FROM BOOM POINT TO GROUND (FEET)
130' (39.6M) BOOM	25	80.9	50,970*	134
	30	78.6	48,100	133
	35	76.4	39,120	132
	40	74.1	32,700	130
	50	69.4	24,320	127
	60	64.7	19,240	123
	70	59.6	15,650	118
	80	54.4	13,040	111
	90	48.7	11,060	103
	100	42.5	9,510	93
	110	35.4	8,250	81
	120	26.8	7,230	64
	130	13.9	6,380	37
140' (42.7M) BOOM	27	80.7	42,380*	144
	30	79.5	42,370*	143
	35	77.4	38,950	142
	40	75.3	32,530	141
	50	71.0	24,140	138
	60	66.6	19,070	134
	70	62.0	15,480	129
	80	57.3	12,860	123
	90	52.2	10,880	116
	100	46.8	9,330	108
	110	40.9	8,070	97
	120	34.1	7,040	84
	130	25.8	6,180	66
140	13.4	5,470	38	
150' (45.7M) BOOM	28	80.9	36,630*	154
	30	80.2	36,540*	153
	35	78.2	36,070*	152
	40	76.3	32,360	151
	50	72.3	23,960	148
	60	68.2	18,900	145
	70	64.0	15,310	140
	80	59.7	12,690	135
	90	55.1	10,710	128
	100	50.3	9,150	121
	110	45.1	7,890	112
	120	39.4	6,860	101
	130	32.9	6,000	87
140	24.9	5,270	69	
150	12.9	4,650	39	

BOOM LENGTH	RADIUS (FEET)	BOOM ANGLE (DEGREES)	SIDE FRAMES EXTENDED (POUNDS)	FROM BOOM POINT TO GROUND (FEET)
160' (48.8M) BOOM	30	80.8	31,770*	163
	35	79.0	31,370*	162
	40	77.1	30,790*	161
	50	73.4	23,800	159
	60	69.7	18,750	155
	70	65.8	15,150	151
	80	61.8	12,530	146
	90	57.6	10,550	141
	100	53.2	8,990	134
	110	48.6	7,730	125
	120	43.6	6,690	116
	130	38.1	5,830	104
	140	31.8	5,100	90
	150	24.1	4,480	71
160	12.5	3,950	40	
170' (51.8M) BOOM	31	81.0	27,710*	173
	35	79.6	27,340*	173
	40	77.9	26,810*	172
	50	74.4	23,610	169
	60	70.9	18,580	166
	70	67.3	14,980	162
	80	63.6	12,360	158
	90	59.7	10,360	152
	100	55.7	8,800	146
	110	51.5	7,540	139
	120	47.1	6,510	130
	130	42.2	5,650	120
	140	36.9	4,920	108
	150	30.8	4,290	93
160	23.4	3,750	73	
170	12.1	3,290	41	
180' (54.9M) BOOM	33	80.9	24,240*	183
	35	80.2	24,110*	183
	40	78.6	23,210*	182
	50	75.3	20,080*	180
	60	72.0	18,410	177
	70	68.6	14,800	173
	80	65.1	12,180	169
	90	61.6	10,190	164
	100	57.9	8,630	158
	110	54.0	7,360	151
	120	50.0	6,330	143
	130	45.7	5,460	134
	140	41.0	4,720	123
	150	35.8	4,100	111
160	29.9	3,550	95	
170	22.7	3,080	75	
180	11.8	2,690	42	

BOOM LENGTH	RADIUS (FEET)	BOOM ANGLE (DEGREES)	SIDE FRAMES EXTENDED (POUNDS)	FROM BOOM POINT TO GROUND (FEET)
190' (57.9M) BOOM	35	80.7	19,320*	193
	40	79.2	18,660*	192
	50	76.1	17,360*	190
	60	73.0	16,110*	187
	70	69.8	14,640	184
	80	66.5	12,010	180
	90	63.2	10,020	175
	100	59.8	8,460	170
	110	56.2	7,200	163
	120	52.5	6,160	156
	130	48.5	5,290	148
	140	44.4	4,550	138
	150	39.8	3,930	127
	160	34.8	3,390	114
	170	29.1	2,910	98
180	22.1	2,500	77	
190	11.5	2,150	43	
200' (61.0M) BOOM	36	80.9	16,750*	203
	40	79.7	16,230*	202
	50	76.8	15,000*	200
	60	73.8	13,800*	198
	70	70.8	12,770*	194
	80	67.8	11,840	191
	90	64.6	9,840	186
	100	61.4	8,270	181
	110	58.1	7,010	175
	120	54.6	5,970	169
	130	51.0	5,100	161
	140	47.2	4,370	152
	150	43.2	3,740	142
	160	38.8	3,190	131
	170	33.9	2,710	117
180	28.4	2,300	100	
190	21.5	1,940	79	
200	11.2	1,560*	44	



This rating chart is invalid if the crane has been modified or altered by use of other than GENUINE AMERICAN PARTS as such modifications or alterations may affect its capacity or safe operation.

Ratings in this chart are in POUNDS and do not exceed the percentage of tipping specified for this crane by ASME B30.5. All ratings require that the crane be standing level on a firm uniformly supporting surface.

Do not lift loads in excess of those shown on this chart. Lifting loads in excess of those shown or operation not in accordance with good operating practice, including limitations shown on page 1 of 20 or Operator's Manual, can cause tipping, structural damage or catastrophic failure.

Asterisk (*) areas on this chart indicate ratings which are limited by strength of material or factors other than stability (tipping).

"RADIUS IN FEET" is the horizontal distance at ground level from the crane centerline of rotation to a vertical line through the center of gravity of the suspended load.

When using the main boom fall with jib in place, the main fall ratings must be reduced by the jib effective weight shown on the jib rating chart plus twice the weight of all suspended blocks, slings, rope, etc., at the jib fall.

When using the main boom fall with boom tip extension in place, the main fall ratings must be reduced by the weight of the boom tip extension plus twice the weight of all suspended blocks, slings, rope, etc., at the boom tip extension fall.

Blocks, slings, buckets and other load carrying devices are considered part of the load. The weight of standard hoisting ropes for the rating at a given radius has been calculated as part of the boom point load and need not be considered in determining net allowable loads.

Note: Rated lifting capacities are based on correct reeving. Deductions must be made for excessive reeving. Any reeving over minimum required is considered excessive and must be accounted for when making lifts.

Note: For line in use, when wire rope deductions are required, the wire rope length shall be measured from the boom tip to the ground.

Ratings shown on this chart make no allowance for such factors as out of plumb loads, wind, poor soil conditions, and dynamic effects due to excessive operating speeds. The user (operator) must exercise judgment to make allowance for these conditions. See page 1 of 20 of Operator's Manual for detailed information.

No account is taken of the wind force on the load. This effect, which can be substantial for loads with large surface areas, must be considered by the user. In any wind it is strongly recommended that taglines be used to control the load.

BOOM HOIST LINE is 14 parts of 5/8 inch diameter EIPS wire rope with a minimum breaking strength of 41,200 pounds.

PENDANT SUSPENSION LINE is 2 parts of 1-1/4 inch diameter MONOLAY wire rope with a minimum breaking strength of 172,800 pounds.

MAIN LOAD LINE is 7/8 inch diameter EIPS wire rope with a minimum breaking strength of 79,600 pounds.

ERECTION

Erection is with the A-Frame fully raised. Erection "OVER THE END" is with the boom over the idler end. Erection "OVER THE SIDE" is with the boom 90 degrees to the side-frames and with the side-frames extended. Blocks, slings and other load carrying devices must be on the ground during erection.

MAXIMUM BOOM & JIB SELF-ERECTION DATA		
	OVER THE END & OVER THE SIDE	
	BOOM LENGTH (FEET)	JIB LENGTH (FEET)
#7HL JIB	200	0
	170	60
#9HL JIB	200	0
	170	60

LOAD HOISTING INFORMATION – 7/8 inch diameter EIPS wire rope			
MAXIMUM LIFTING CAPACITY – LBS.	MINIMUM PARTS OF LINE	MAXIMUM HOISTING DISTANCE - FEET	
		MAIN – (RIGHT)	AUX. – (LEFT)
160,000	8	73	73
159,180	7	84	84
136,440	6	98	98
113,700	5	117	117
90,960	4	147	147
68,220	3	196	196
45,480	2	294	294
22,740	1	588	588

47HI BOOM COMPOSITION CHART					
BOOM LENGTH (FEET)	BOOM SECTIONS				
	20' 47HI INNER	10' 47H CENTER	20' 47H CENTER	30' 47H CENTER	20' 47H OR 47HI OUTER
40	1	0	0	0	1
50	1	1	0	0	1
60	1	0	1	0	1
70	1	0	0	1	1
80	1	1	0	1	1
90	1	0	1	1	1
100	1	0	0	2	1
110	1	1	0	2	1
120	1	0	1	2	1
130	1	0	0	3	1
140	1	1	0	3	1
150	1	0	1	3	1
160	1	0	0	4	1
170	1	1	0	4	1
180	1	0	1	4	1
190	1	0	0	5	1
200	1	1	0	5	1

BOOM AND JIB LENGTH	JIB RADIUS (FEET)	5.0 DEG OFFSET		15.0 DEG OFFSET		25.0 DEG OFFSET	
		BOOM ANGLE	RATINGS (POUNDS)	BOOM ANGLE	RATINGS (POUNDS)	BOOM ANGLE	RATINGS (POUNDS)
40' (12.2M) JIB & 100' (30.5M) BOOM	30	80.7	22,550*				
	35	78.6	22,550*				
	40	76.5	22,190*	79.2	20,980*		
	50	72.2	21,500*	74.9	20,440*	77.5	19,540*
	60	67.9	19,650	70.5	19,650	73.0	19,100*
	70	63.4	16,060	66.0	16,070	68.4	16,070
	80	58.7	13,460	61.2	13,460	63.6	13,470
	90	53.7	11,490	56.2	11,490	58.4	11,500
	100	48.4	9,950	50.8	9,950	52.9	9,950
40' (12.2M) JIB & 110' (33.5M) BOOM	31	80.9	22,530*				
	35	79.3	22,530*				
	40	77.4	22,390*	79.9	21,090*		
	50	73.5	21,670*	76.0	20,540*	78.3	19,630*
	60	69.4	19,440	71.9	19,440	74.2	19,190
	70	65.3	15,860	67.7	15,860	70.0	15,860
	80	61.0	13,270	63.4	13,270	65.6	13,270
	90	56.5	11,290	58.9	11,290	61.0	11,290
	100	51.7	9,740	54.1	9,740	56.1	9,740
	110	46.6	8,490	48.9	8,490	50.8	8,490
40' (12.2M) JIB & 120' (36.6M) BOOM	33	80.7	22,520*				
	35	80.0	22,520*				
	40	78.2	22,500*	80.6	21,150*		
	50	74.5	21,850*	76.9	20,630*	79.1	19,480*
	60	70.8	19,240	73.1	19,240	75.3	19,240
	70	66.9	15,660	69.2	15,660	71.4	15,670
	80	62.9	13,060	65.2	13,060	67.3	13,060
	90	58.8	11,080	61.1	11,080	63.1	11,080
	100	54.5	9,530	56.7	9,530	58.7	9,530
	110	49.9	8,280	52.1	8,280	53.9	8,280
	120	45.0	7,250	47.1	7,260	48.8	7,260
40' (12.2M) JIB & 130' (39.6M) BOOM	34	80.9	22,500*				
	35	80.6	22,500*				
	40	78.9	22,500*				
	50	75.4	22,020*	77.7	20,170	79.8	16,440*
	60	71.9	19,060	74.1	19,060	76.2	16,240*
	70	68.3	15,480	70.5	15,480	72.5	15,480
	80	64.7	12,870	66.8	12,880	68.8	12,880
	90	60.9	10,900	63.0	10,900	64.9	10,910
	100	56.9	9,350	59.0	9,350	60.8	9,360
	110	52.7	8,100	54.8	8,100	56.6	8,110
	120	48.3	7,070	50.4	7,080	52.0	7,080
	130	43.6	6,220	45.5	6,220	47.1	6,220

BOOM AND JIB LENGTH	JIB RADIUS (FEET)	5.0 DEG OFFSET		15.0 DEG OFFSET		25.0 DEG OFFSET	
		BOOM ANGLE	RATINGS (POUNDS)	BOOM ANGLE	RATINGS (POUNDS)	BOOM ANGLE	RATINGS (POUNDS)
40' (12.2M) JIB & 140' (42.7M) BOOM	36	80.8	20,590*				
	40	79.5	20,210*				
	50	76.3	19,260*	78.4	17,060*	80.4	13,890*
	60	73.0	18,250*	75.1	16,430*	77.0	13,600*
	70	69.6	15,280	71.7	15,280	73.6	13,240*
	80	66.2	12,680	68.2	12,680	70.1	12,680
	90	62.6	10,700	64.7	10,700	66.5	10,700
	100	59.0	9,140	61.0	9,150	62.7	9,150
	110	55.1	7,890	57.1	7,900	58.8	7,900
	120	51.1	6,860	53.1	6,870	54.7	6,870
	130	46.9	6,010	48.8	6,010	50.3	6,010
140	42.3	5,280	44.1	5,280	45.5	5,290	
40' (12.2M) JIB & 150' (45.7M) BOOM	37	81.0	17,400*				
	40	80.1	17,190*				
	50	77.0	16,300*	79.0	14,440*	80.9	11,750*
	60	73.9	15,370*	75.9	13,860*	77.7	11,470*
	70	70.7	14,480*	72.7	13,220*	74.5	11,070*
	80	67.5	12,480	69.4	12,480	71.2	10,580*
	90	64.2	10,500	66.1	10,500	67.8	10,060*
	100	60.8	8,950	62.7	8,950	64.4	8,950
	110	57.2	7,700	59.1	7,700	60.7	7,700
	120	53.5	6,670	55.4	6,670	57.0	6,670
	130	49.7	5,810	51.5	5,810	53.0	5,810
140	45.5	5,080	47.3	5,080	48.7	5,090	
150	41.1	4,460	42.8	4,460	44.1	4,460	
40' (12.2M) JIB & 160' (48.8M) BOOM	39	80.9	14,750*				
	40	80.6	14,670*				
	50	77.7	13,800*	79.6	12,290*		
	60	74.7	12,930*	76.6	11,740*	78.4	9,670*
	70	71.7	12,130*	73.6	11,100*	75.3	9,260*
	80	68.7	11,330*	70.5	10,480*	72.2	8,800*
	90	65.6	10,310	67.4	9,820*	69.1	8,290*
	100	62.4	8,760	64.2	8,760	65.8	7,810*
	110	59.1	7,510	60.9	7,510	62.4	7,320*
	120	55.6	6,480	57.4	6,480	58.9	6,480
	130	52.1	5,620	53.8	5,620	55.3	5,620
140	48.3	4,890	50.0	4,890	51.4	4,900	
150	44.3	4,270	46.0	4,270	47.3	4,270	
160	40.0	3,720	41.6	3,720	42.8	3,730	

BOOM AND JIB LENGTH	JIB RADIUS (FEET)	5.0 DEG OFFSET		15.0 DEG OFFSET		25.0 DEG OFFSET	
		BOOM ANGLE	RATINGS (POUNDS)	BOOM ANGLE	RATINGS (POUNDS)	BOOM ANGLE	RATINGS (POUNDS)
50' (15.2M) JIB & 130' (39.6M) BOOM	37	80.8	21,570*				
	40	79.8	21,570*				
	50	76.5	21,210*	79.2	18,370*		
	60	73.2	19,110	75.9	17,960*	78.3	14,430*
	70	69.9	15,520	72.5	15,520	74.9	14,230*
	80	66.4	12,920	69.0	12,920	71.4	12,920
	90	62.9	10,940	65.5	10,940	67.8	10,940
	100	59.2	9,380	61.8	9,390	64.0	9,390
	110	55.4	8,130	57.9	8,140	60.1	8,140
	120	51.4	7,100	53.8	7,110	55.9	7,110
	130	47.1	6,250	49.5	6,250	51.5	6,250
50' (15.2M) JIB & 140' (42.7M) BOOM	38	80.9	19,020*				
	40	80.3	19,010*				
	50	77.3	18,100*	79.8	15,590*		
	60	74.2	17,210*	76.6	15,150*	79.0	12,140*
	70	71.0	15,330	73.5	14,540*	75.8	11,930*
	80	67.8	12,720	70.2	12,720	72.5	11,570*
	90	64.4	10,740	66.9	10,740	69.1	10,740
	100	61.0	9,190	63.4	9,190	56.6	9,190
	110	57.5	7,940	59.9	7,940	62.0	7,940
	120	53.8	6,910	56.1	6,910	58.2	6,910
	130	49.9	6,050	52.2	6,050	54.2	6,050
	140	45.8	5,310	48.0	5,310	49.9	5,320
50' (15.2M) JIB & 150' (45.7M) BOOM	40	80.8	16,220*				
	50	77.9	15,410*	80.3	13,300*		
	60	75.0	14,500*	77.3	12,800*	79.6	10,310*
	70	72.0	13,690*	74.3	12,280*	76.5	10,040*
	80	68.9	12,520	71.3	11,690*	73.4	9,660*
	90	65.8	10,530	68.1	10,540	70.2	9,270*
	100	62.6	8,980	64.9	8,980	67.0	8,810*
	110	59.3	7,730	61.6	7,730	63.6	7,730
	120	55.9	6,700	58.1	6,700	60.1	6,700
	130	52.3	5,840	54.5	5,840	56.4	5,850
	140	48.5	5,110	50.7	5,110	52.5	5,120
	150	44.5	4,490	46.7	4,490	48.4	4,490
50' (15.2M) JIB & 160' (48.8M) BOOM	41	81.0	13,810*				
	50	78.5	13,090*	80.8	11,330*		
	60	75.7	12,280*	78.0	10,860*	80.1	8,710*
	70	72.9	11,490*	75.1	10,330*	77.2	8,420*
	80	70.0	10,770*	72.2	9,800*	74.3	8,050*
	90	67.0	10,080*	69.2	9,220*	71.3	7,660*
	100	64.0	8,790	66.2	8,680*	68.2	7,240*
	110	60.9	7,540	63.1	7,540	65.0	6,830*

BOOM AND JIB LENGTH	JIB RADIUS (FEET)	5.0 DEG OFFSET		15.0 DEG OFFSET		25.0 DEG OFFSET	
		BOOM ANGLE	RATINGS (POUNDS)	BOOM ANGLE	RATINGS (POUNDS)	BOOM ANGLE	RATINGS (POUNDS)
50' (15.2M) JIB & 160' (48.8M) BOOM	120	57.7	6,510	59.9	6,510	61.8	6,410*
	130	54.4	5,650	56.5	5,650	58.4	5,660
	140	50.9	4,920	53.0	4,920	54.8	4,930
	150	74.3	4,300	49.3	4,300	51.0	4,300
	160	43.4	3,760	45.4	3,760	47.0	3,770
50' (15.2M) JIB & 170' (51.8M) BOOM	43	80.9	11,660*				
	50	79.0	11,130*				
	60	76.4	10,340*	78.5	9,190*	80.6	7,380*
	70	73.7	9,620	75.8	8,650*	77.8	7,040*
	80	70.9	8,940*	73.1	8,150*	75.0	6,670*
	90	68.1	8,300*	70.3	7,600*	72.2	6,290*
	100	65.3	7,710*	67.4	7,120*	69.3	5,870*
	110	62.4	7,120*	64.4	6,600*	66.3	5,480*
	120	59.4	6,310	61.4	6,150*	63.2	5,090*
	130	56.3	5,450	58.3	5,460	60.1	4,690*
	140	53.0	4,720	55.1	4,730	56.8	4,310*
	150	49.7	4,100	51.6	4,100	53.3	3,920*
	160	46.1	3,550	48.1	3,550	49.6	3,540*
170	42.3	3,070	44.2	3,080	45.7	3,080	
60' (18.3M) JIB & 150' (45.7M) BOOM	42	80.9	15,150*				
	50	78.7	14,500*				
	60	75.9	13,720*	78.7	11,780*		
	70	73.1	12,920*	75.8	11,350*	78.3	8,990*
	80	70.2	12,170*	72.9	10,860*	75.4	8,750*
	90	67.3	10,580	69.9	10,340*	72.4	8,460*
	100	64.3	9,010	66.9	9,020	69.3	8,120*
	110	61.2	7,760	63.8	7,760	66.1	7,740*
	120	58.0	6,730	60.6	6,730	62.9	6,740
	130	54.6	5,870	57.2	5,870	59.4	5,880
	140	51.2	5,140	53.7	5,150	55.9	5,150
150	47.5	4,520	50.0	4,520	52.1	4,520	
60' (18.3M) JIB & 160' (48.8M) BOOM	44	80.8	12,820*				
	50	79.3	12,400*				
	60	76.6	11,610*	79.2	10,040*		
	70	73.9	10,890*	76.5	9,560*	78.9	7,600*
	80	71.1	10,220*	73.7	9,090*	76.1	7,340*
	90	68.4	9,570*	70.9	8,630*	73.3	7,020*
	100	65.5	8,830	68.0	8,130*	70.4	6,680*
	110	62.6	7,580	65.1	7,580	67.4	6,310*
120	59.6	6,540	62.1	6,550	64.3	5,960*	

BOOM AND JIB LENGTH	JIB RADIUS (FEET)	5.0 DEG OFFSET		15.0 DEG OFFSET		25.0 DEG OFFSET	
		BOOM ANGLE	RATINGS (POUNDS)	BOOM ANGLE	RATINGS (POUNDS)	BOOM ANGLE	RATINGS (POUNDS)
60' (18.3M) JIB & 160' (48.8M) BOOM	130	56.5	5,680	58.9	5,690	61.1	5,600*
	140	53.3	4,950	55.7	4,960	57.8	4,960
	150	49.9	4,330	52.3	4,330	54.3	4,330
	160	46.3	3,790	48.7	3,790	50.6	3,800
60' (18.3M) JIB & 170' (51.8M) BOOM	45	81.0	10,920*				
	50	79.7	10,520*				
	60	77.2	9,830*	79.7	8,510*		
	70	74.6	9,130*	77.1	8,060*	79.4	6,380*
	80	72.0	8,500*	74.5	7,580*	76.8	6,110*
	90	69.4	7,880*	71.8	7,140*	74.1	5,780*
	100	66.6	7,300*	69.1	6,660*	71.3	5,440*
	110	63.9	6,780*	66.3	6,210*	68.5	5,090*
	120	61.1	6,270*	63.4	5,780*	65.6	4,740*
	130	58.1	5,490	60.5	5,370*	62.6	4,390*
	140	55.1	4,750	57.5	4,750	59.5	4,060*
	150	52.0	4,130	54.3	4,130	56.3	3,710*
	160	48.7	3,580	51.0	3,580	52.9	3,380*
170	45.2	3,100	47.5	3,110	49.3	3,040*	



This rating chart is invalid if the crane has been modified or altered by use of other than GENUINE AMERICAN PARTS as such modifications or alterations may affect its capacity or safe operation.

Ratings in this chart are in POUNDS and do not exceed the percentage of tipping specified for this crane by ASME B30.5. All ratings require that the crane be standing level on a firm uniformly supporting surface.

Do not lift loads in excess of those shown on this chart. Lifting loads in excess of those shown or operation not in accordance with good operating practice, including limitations shown on page 1 of 20 of Operator's Manual, can cause tipping, structural damage or catastrophic failure.

Asterisk (*) areas on this chart indicate ratings which are limited by strength of material or factors other than stability (tipping).

"RADIUS IN FEET" is the horizontal distance at ground level from the crane centerline of rotation to a vertical line through the center of gravity of the suspended load.

When using the main boom fall with jib in place, the main fall ratings must be reduced by the jib effective weight shown on the jib rating chart plus twice the weight of all suspended blocks, slings, rope, etc., at the jib fall.

Blocks, slings, buckets and other load carrying devices are considered part of the load. The weight of standard hoisting ropes for the rating at a given radius has been calculated as part of the boom point load and need not be considered in determining net allowable loads.

Note: Rated lifting capacities are based on correct reeving. Deductions must be made for excessive reeving. Any reeving over minimum required is considered excessive and must be accounted for when making lifts.

Note: For line in use, when wire rope deductions are required, the wire rope length shall be measured from the boom tip to the ground.

Ratings shown on this chart make no allowance for such factors as out of plumb loads, wind, poor soil conditions, and dynamic effects due to excessive operating speeds. The user (operator) must exercise judgment to make allowance for these conditions. See page 1 of 20 of Operator's Manual for detailed information.

No account is taken of the wind force on the load. This effect, which can be substantial for loads with large surface areas, must be considered by the user. In any wind it is strongly recommended that taglines be used to control the load.

BOOM HOIST LINE is 14 parts of 5/8 inch diameter EIPS wire rope with a minimum breaking strength of 41,200 pounds.

PENDANT SUSPENSION LINE is 2 parts of 1-1/4 inch diameter MONOLAY wire rope with a minimum breaking strength of 172,800 pounds.

WHIP LINE is 7/8 inch diameter EIPS wire rope with a minimum breaking strength of 79,600 pounds.

ERECTION

Erection is with the A-Frame fully raised. Erection "OVER THE END" is with the boom over the idler end. Erection "OVER THE SIDE" is with the boom 90 degrees to the sideframes and with the side frames extended. Blocks, slings and other load carrying devices must be on the ground during erection.

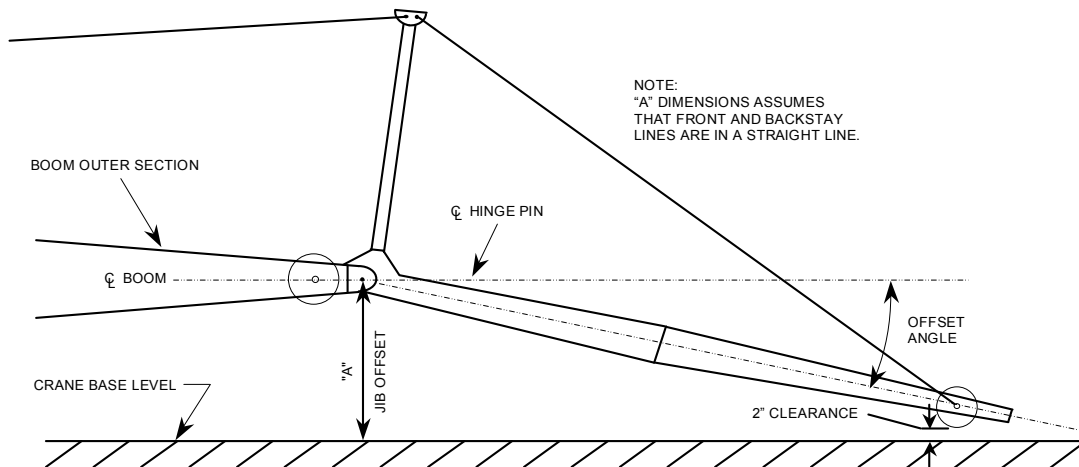
MAXIMUM BOOM & JIB SELF-ERECTION DATA		
	OVER THE END & OVER THE SIDE	
	BOOM LENGTH (FEET)	JIB LENGTH (FEET)
#9HL JIB	200	0
	170	60

JIB LOAD HOISTING INFORMATION – 7/8 inch diameter EIPS wire rope			
MAXIMUM LIFTING CAPACITY – LBS.	MAXIMUM PARTS OF LINE	MAXIMUM HOISTING DISTANCE - FEET	
		MAIN – (RIGHT)	AUX. – (LEFT)
22,550	1	588	588

47HI BOOM COMPOSITION CHART					
BOOM LENGTH (FEET)	BOOM SECTIONS				
	20' 47HI INNER	10' 47H CENTER	20' 47H CENTER	30' 47H CENTER	20' 47H OR 47HI OUTER
40	1	0	0	0	1
50	1	1	0	0	1
60	1	0	1	0	1
70	1	0	0	1	1
80	1	1	0	1	1
90	1	0	1	1	1
100	1	0	0	2	1
110	1	1	0	2	1
120	1	0	1	2	1
130	1	0	0	3	1
140	1	1	0	3	1
150	1	0	1	3	1
160	1	0	0	4	1
170	1	1	0	4	1

#9HL JIB COMPOSITION CHART								
JIB LENGTH (FEET)	20' INNER	10' CENTER	20' CENTER	20' OUTER	EFF. JIB WEIGHT (POUNDS)	JIB OFFSET "A" IN FEET		
						5°	15°	25°
40	1	0	0	1	1,850	4.75'	9.75'	14.66'
50	1	1	0	1	2,350	5.50'	11.66'	17.83'
60	1	0	1	1	2,750	6.08'	13.50'	20.75'

Note: The #9HL jib mounted on a 47HI outer requires the use of a 47HI/#9HL jib adaptor.



IMPORTANT CONTACT INFORMATION



NATIONAL COMMISSION FOR THE CERTIFICATION OF CRANE OPERATORS

2750 Prosperity Avenue, Suite 505
Fairfax, VA 22031-4312

Phone: 703-560-2391

Fax: 703-560-2392

E-Mail: info@nccco.org



INTERNATIONAL ASSESSMENT INSTITUTE

Attention: NCCCO Testing
600 Cleveland Street, Suite 900
Clearwater, Florida 33755

Phone: 727-449-8525

Fax: 727-461-2746



**NATIONAL COMMISSION FOR THE
CERTIFICATION OF CRANE OPERATORS**

2750 Prosperity Avenue, Suite 505
Fairfax, VA 22031-4312

Phone: 703-560-2391

Fax: 703-560-2392

info@nccco.org

www.nccco.org