

Load Rating Chart

Model 45110SHL



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NOTE: Additional copies of this Load Rating Chart can be purchased from your Manitex Distributor. When ordering, use the part number shown in the bottom left corner of this page.

LMI OPERATING CODES

CODE	CRANE CONFIGURATION	OUTRIGGER CONFIGURATION	AREA OF OPERATION
#1	MAIN BOOM	FULLY EXTENDED	OVER REAR
#3	MAIN BOOM	FULLY EXTENDED	FULL 360°
#4	MAIN BOOM	MID POSITION	FULL 360°
#5	MAIN BOOM	RETRACTED	FULL 360°
#7	RETRACTED JIB 0° OFFSET	FULLY EXTENDED	OVER REAR
#8	RETRACTED JIB 0° OFFSET	FULLY EXTENDED	FULL 360°
#9	RETRACTED JIB 15° OFFSET	FULLY EXTENDED	OVER REAR
#10	RETRACTED JIB 15° OFFSET	FULLY EXTENDED	FULL 360°
#11	RETRACTED JIB 30° OFFSET	FULLY EXTENDED	OVER REAR
#12	RETRACTED JIB 30° OFFSET	FULLY EXTENDED	FULL 360°
#13	EXTENDED JIB 0° OFFSET	FULLY EXTENDED	OVER REAR
#14	EXTENDED JIB 0° OFFSET	FULLY EXTENDED	FULL 360°
#15	EXTENDED JIB 15° OFFSET	FULLY EXTENDED	OVER REAR
#16	EXTENDED JIB 15° OFFSET	FULLY EXTENDED	FULL 360°
#17	EXTENDED JIB 30° OFFSET	FULLY EXTENDED	OVER REAR
#18	EXTENDED JIB 30° OFFSET	FULLY EXTENDED	FULL 360°
#19	RETRACTED JIB 0° OFFSET	MID POSITION	FULL 360°
#20	RETRACTED JIB 15° OFFSET	MID POSITION	FULL 360°
#21	RETRACTED JIB 30° OFFSET	MID POSITION	FULL 360°
#22	EXTENDED JIB 0° OFFSET	MID POSITION	FULL 360°
#23	EXTENDED JIB 15° OFFSET	MID POSITION	FULL 360°
#24	EXTENDED JIB 30° OFFSET	MID POSITION	FULL 360°
#25	PERSONNEL LIFTING MAIN BOOM	FULLY EXTENDED	FULL 360°
#26	PERSONNEL LIFTING RETR JIB 0° OFFSET	FULLY EXTENDED	FULL 360°
#27	PERSONNEL LIFTING RETR JIB 15° OFFSET	FULLY EXTENDED	FULL 360°
#28	PERSONNEL LIFTING RETR JIB 30° OFFSET	FULLY EXTENDED	FULL 360°
#29	PERSONNEL LIFTING EXTENDED JIB 0° OFFSET	FULLY EXTENDED	FULL 360°
#30	PERSONNEL LIFTING EXTENDED JIB 15° OFFSET	FULLY EXTENDED	FULL 360°
#31	PERSONNEL LIFTING EXTENDED JIB 30° OFFSET	FULLY EXTENDED	FULL 360°

WARNING

1. THE OPERATOR MUST READ AND UNDERSTAND THE OWNER'S MANUAL BEFORE OPERATING THIS CRANE.
2. POSITIONING OR OPERATION OF CRANE BEYOND AREAS SHOWN ON THIS CHART IS NOT INTENDED OR APPROVED EXCEPT WHERE SPECIFIED IN OWNER'S MANUAL.
3. LOADED BOOM ANGLES AT SPECIFIED BOOM LENGTHS GIVE ONLY AN APPROXIMATION OF THE OPERATING RADIUS. THE BOOM ANGLE BEFORE LOADING SHOULD BE GREATER TO ACCOUNT FOR DEFLECTIONS. DO NOT EXCEED THE OPERATING RADIUS FOR RATED LOADS.
4. THE OPERATING RADIUS SHOWN IN THE JIB RATING CHART IS FOR FULLY EXTENDED BOOM ONLY. WHEN BOOM IS NOT FULLY EXTENDED, USE ONLY LOADED BOOM ANGLE TO DETERMINE LOAD RATING OF JIB.
5. FOR BOOM ANGLES NOT SHOWN ON JIB LOAD RATING CHART, USE RATING OF NEXT LOWER BOOM ANGLE.

WARNING (CONTINUED)


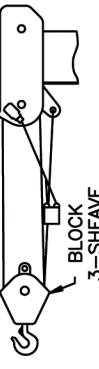

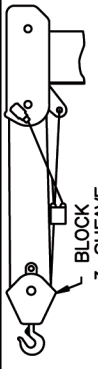

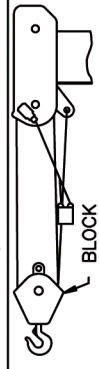
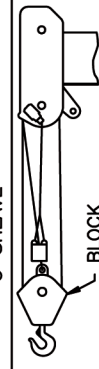
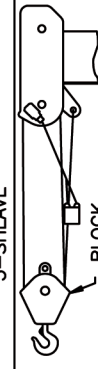


6. FOR BOOM LENGTHS NOT SHOWN, USE RATING OF NEXT SHORTER OR LONGER BOOM LENGTH, WHICHEVER IS LESS. FOR RADII NOT SHOWN, USE RATING OF NEXT LONGER RADIUS.
7. CRANE LOAD RATINGS ON OUTRIGGERS ARE BASED ON FREELY SUSPENDED LOADS WITH THE MACHINE LEVELED AND STANDING ON A FIRM UNIFORM SUPPORTING SURFACE. NO ATTEMPT SHALL BE MADE TO MOVE A LOAD HORIZONTALLY ON THE GROUND IN ANY DIRECTION.
8. PRACTICAL WORKING LOADS DEPEND ON SUPPORTING SURFACE, WIND, AND OTHER FACTORS AFFECTING STABILITY SUCH AS HAZARDOUS SURROUNDINGS, EXPERIENCE OF PERSONNEL, AND PROPER HANDLING, ALL OF WHICH MUST BE TAKEN INTO ACCOUNT BY THE OPERATOR.
9. THE MAXIMUM LOAD WHICH MAY BE TELESCOPED IS LIMITED BY HYDRAULIC PRESSURE, BOOM ANGLE, AND BOOM LUBRICATION. IT IS SAFE TO ATTEMPT TO TELESCOPE ANY LOAD WITHIN THE LIMITS OF THE LOAD RATING CHART.

INFORMATION

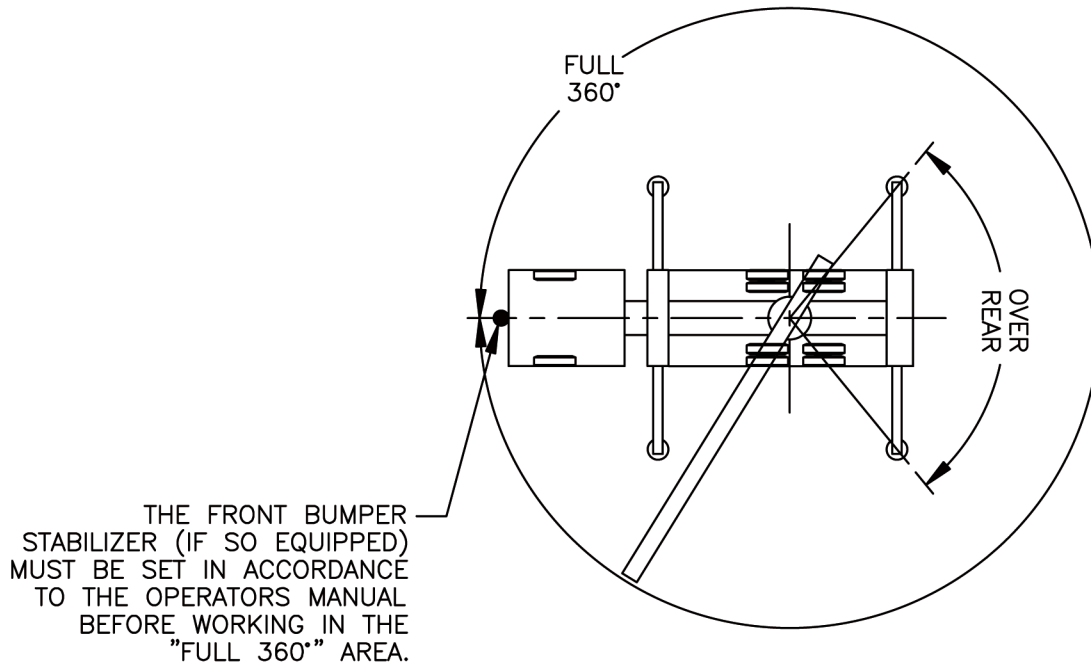
1. DEDUCTIONS MUST BE MADE FROM RATED LOADS FOR JIB, OPTIONAL ATTACHMENTS, HOOKS, AND LOADBLOCKS (SEE DEDUCTION CHART). WEIGHTS OF SLINGS AND ALL OTHER LOAD HANDLING DEVICES SHALL BE CONSIDERED A PART OF THE LOAD.
2. LOAD RATINGS ABOVE THE HEAVY LINE ARE STRUCTURALLY LIMITED CAPACITIES. LOAD RATINGS BELOW THE HEAVY LINE ARE STABILITY LIMITED CAPACITIES AND DO NOT EXCEED 85% OF TIPPING.

DEFINITIONS

1. OPERATING RADIUS IS THE HORIZONTAL DISTANCE FROM THE AXIS OF ROTATION TO THE CENTER OF THE VERTICAL HOIST LINE OR TACKLE WITH LOAD APPLIED.
2. LOADED BOOM ANGLE IS THE INCLUDED ANGLE BETWEEN THE HORIZONTAL AND LONGITUDINAL AXES OF THE BOOM BASE AFTER LIFTING RATED LOAD AT RATED RADIUS.

ALLOWABLE LINE PULL										WARNING
1 PART LINE	2 PART LINE	3 PART LINE	4 PART LINE	5 PART LINE	6 PART LINE	7 PART LINE	8 PART LINE	9 PART LINE	10 PART LINE	
										ANTI-TWO-BLOCK SYSTEM MUST BE IN GOOD OPERATING CONDITION BEFORE OPERATING CRANE. REFER TO THE OWNER'S MANUAL. KEEP AT LEAST 3 WRAPS OF LOAD LINE ON THE DRUM AT ALL TIMES.
10000 LBS	20000 LBS	30000 LBS	40000 LBS	50000 LBS	60000 LBS	70000 LBS	80000 LBS	90000 LBS	90000 LBS	5/8" 6 X 19 CLASS (3.5:1 SF) 35,000 LBS MIN BREAKING STRENGTH 5/8" ROT RESISTANT (5:1 SF) 50,000 LBS MIN BREAKING STRENGTH

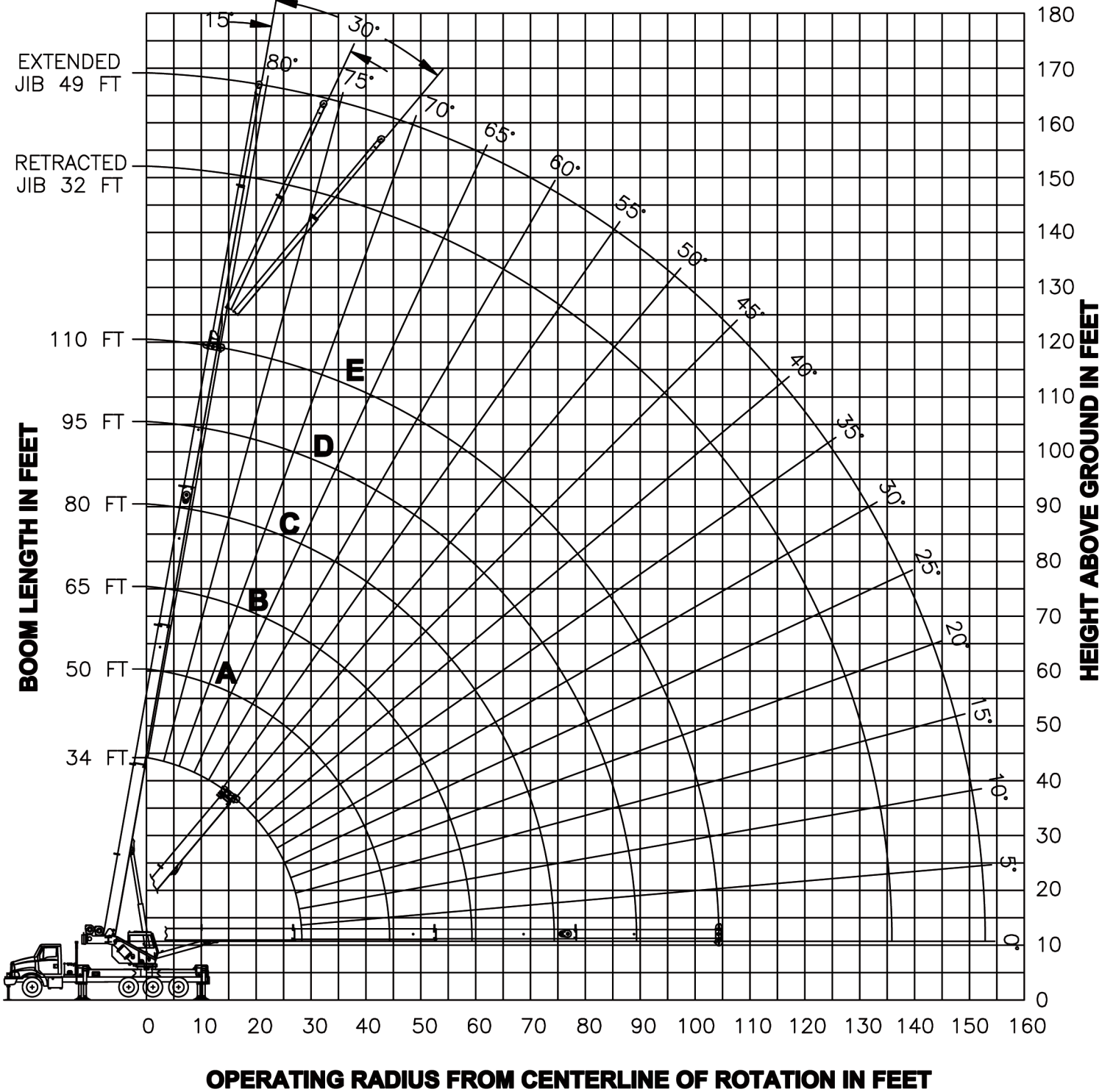
AREA OF OPERATIONS



DEDUCTIONS FROM RATED LOADS FOR LOAD HANDLING DEVICES SUPPLIED BY MANITEX

AUXILIARY BLOCK	-----	50 LBS
ROOSTER SHEAVE	-----	70 LBS
LIFTING FROM MAIN BOOM WITH JIB STOWED OR ERECTED	-----	SEE LOAD CHART
OVERHAUL BALL	-----	SEE MANUFACTURER NAMEPLATE
LOAD BLOCK	-----	SEE MANUFACTURER NAMEPLATE

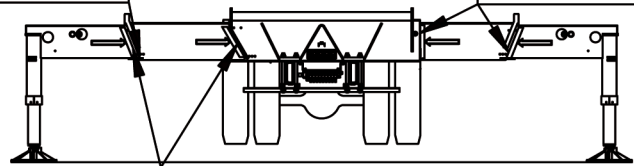
- RANGE DIAGRAM -



**USE THIS CHART ONLY
WHEN ALL OUTRIGGER
BEAMS ARE FULLY
EXTENDED**

PINS MUST BE
DISENGAGED FOR
THIS OUTRIGGER
CONFIGURATION

OUTRIGGER
BEAMS MUST
BE EXTENDED
TO MARK

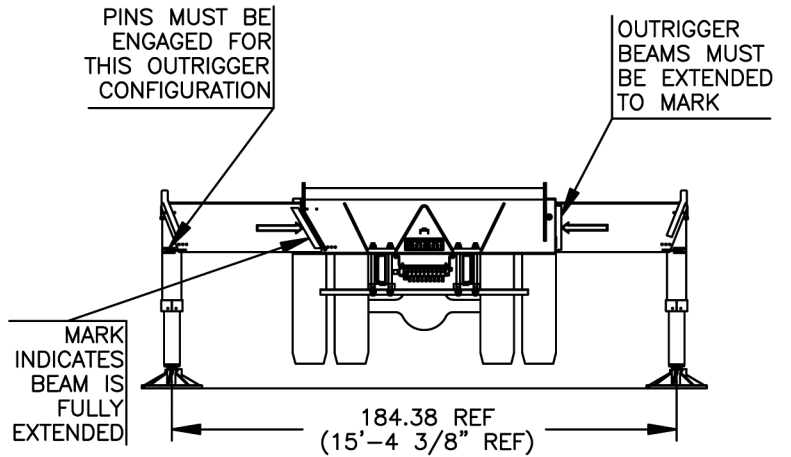


MAIN BOOM LIFTING CAPACITIES

LOAD RADIUS (FT)	BOOM LENGTH 34 FT			BOOM LENGTH 50 FT (A)			BOOM LENGTH 65 FT (B)			DEDUCTIONS FOR JIB FROM MAIN BOOM CAPACITIES
	LOADED BOOM ANGLE (DEG)	CODE 1	CODE 3	LOADED BOOM ANGLE (DEG)	CODE 1	CODE 3	LOADED BOOM ANGLE (DEG)	CODE 1	CODE 3	
		OVER REAR (LBS)	FULL 360° (LBS)		OVER REAR (LBS)	FULL 360° (LBS)		OVER REAR (LBS)	FULL 360° (LBS)	
6	71	90000	90000							
8	67.5	88500	88500							
10	63.5	78200	78200	73	51000	51000				
12	60	70200	70200	70.5	51000	51000	76	40000	40000	
15	53.5	60600	60600	67	51000	51000	73	40000	40000	
20	42	48400	48400	60.5	46600	46600	68.5	38810	38810	
25	26.5	37400	37400	53.5	38300	38300	63.5	33150	33150	
30				45.5	30700	30700	58.5	29000	29000	
35				36.5	25340	24440	53	25470	24960	
40				25	21290	19170	47	21710	19680	
45							40.5	18590	15980	
50							32.5	16090	13240	
55							22.5	14040	11110	
		1150 LBS		780 LBS			600 LBS			STOWED JIB
		2940 LBS		2650 LBS			2510 LBS			ERECTED JIB (RETRACTED)
		3320 LBS		2910 LBS			2710 LBS			ERECTED JIB (EXTENDED)

LOAD RADIUS (FT)	BOOM LENGTH 80 FT (C)			BOOM LENGTH 95 FT (D)			BOOM LENGTH 110 FT (E)			DEDUCTIONS FOR JIB FROM MAIN BOOM CAPACITIES
	LOADED BOOM ANGLE (DEG)	CODE 1	CODE 3	LOADED BOOM ANGLE (DEG)	CODE 1	CODE 3	LOADED BOOM ANGLE (DEG)	CODE 1	CODE 3	
		OVER REAR (LBS)	FULL 360° (LBS)		OVER REAR (LBS)	FULL 360° (LBS)		OVER REAR (LBS)	FULL 360° (LBS)	
15	77	28230	28230							
20	73.5	28230	28230	76.5	20000	20000				
25	69.5	24350	24350	73.5	20000	20000	76.5	15500	15500	
30	65.5	21280	21280	70.5	18680	18680	74	15500	15500	
35	61.5	19000	19000	67.5	16580	16580	71.5	14660	14660	
40	57.5	16870	16870	64	14820	14820	69	13270	13270	
45	53	15120	15120	60.5	13330	13330	66	11960	11960	
50	48	13600	13510	57	12050	12050	63	10850	10850	
55	43	12310	11400	53	10920	10920	60	9950	9950	
60	37	11200	9720	49	10000	9880	56.5	9210	9210	
65	30	10240	8340	44.5	9300	8520	53.5	8410	8410	
70	21	9640	7200	40	8520	7380	50	7700	7490	
75				34.5	7800	6420	46	7060	6530	
80				28	7180	5590	42	6480	5710	
85				20	6620	4880	37.5	5960	5000	
90							33	5490	4380	
95							27	5070	3830	
100							19	4680	3340	
		490 LBS		420 LBS			360 LBS			STOWED JIB
		2420 LBS		2360 LBS			2320 LBS			ERECTED JIB (RETRACTED)
		2580 LBS		2500 LBS			2430 LBS			ERECTED JIB (EXTENDED)

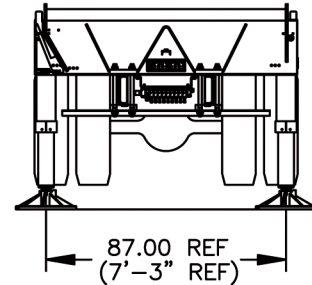
**USE THIS CHART ONLY
WHEN ALL OUTRIGGER
BEAMS ARE IN THE MID
POSITION**



MAIN BOOM LIFTING CAPACITIES

LMI CODE 4												
LOAD RADIUS (FT)	BOOM LENGTH 34 FT		BOOM LENGTH 50 FT (A)		BOOM LENGTH 65 FT (B)		BOOM LENGTH 80 FT (C)		BOOM LENGTH 95 FT (D)		BOOM LENGTH 110 FT (E)	
	LOADED BOOM ANGLE (DEG)	FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	FULL 360° (LBS)
6	71	90000										
8	67.5	88500										
10	63.5	78200	73	51000								
12	60	70200	70.5	51000	76	40000						
15	53.5	58200	67	51000	73	40000	77	28230				
20	42	32130	60.5	33310	68.5	33850	73.5	28230	76.5	20000		
25	26.5	21040	53.5	22130	63.5	22610	69.5	22890	73.5	20000	76.5	15500
30			45.5	15950	58.5	16400	65.5	16660	70.5	16830	74	15500
35			36.5	12020	53	12450	61.5	12700	67.5	12860	71.5	12890
40			25	9280	47	9720	57.5	9970	64	10120	69	10230
45					40.5	7720	53	7660	60.5	8110	66	8220
50					32.5	6180	48	6430	57	6580	63	6680
55					22.5	4960	43	5210	53	5360	60	5460
60							37	4230	49	4380	56.5	4480
65							30	3410	44.5	3570	53.5	3670
70							21	2720	40	2880	50	2980
75									34.5	2300	46	2400
80									28	1790	42	1900
85									20	1340	37.5	1460
90											33	1070
95												
	1150 LBS	780 LBS	600 LBS	490 LBS	420 LBS	360 LBS	DEDUCTIONS FOR JIB FROM MAIN BOOM CAPACITIES					
	2940 LBS	2650 LBS	2510 LBS	2420 LBS	2360 LBS	2320 LBS	STOWED JIB					
	3320 LBS	2910 LBS	2710 LBS	2580 LBS	2500 LBS	2430 LBS	ERECTED JIB (RETRACTED)					
							ERECTED JIB (EXTENDED)					

**USE THIS CHART WHEN ALL
OUTRIGGER BEAMS ARE NOT IN
EITHER THE MID OR FULLY
EXTENDED POSITION**



MAIN BOOM LIFTING CAPACITIES

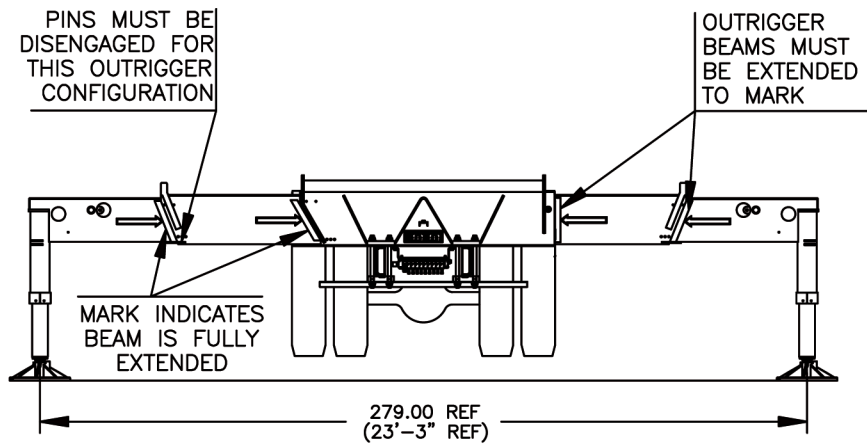
LMI CODE 5													
LOAD RADIUS (FT)	BOOM LENGTH 34 FT		BOOM LENGTH 50 FT (A)		BOOM LENGTH 65 FT (B)		BOOM LENGTH 80 FT (C)		BOOM LENGTH 95 FT (D)		BOOM LENGTH 110 FT (E)		
	LOADED BOOM ANGLE (DEG)	FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	FULL 360° (LBS)	
6	71	90000											
8	67.5	58650											
10	63.5	38420	73	39680									
12	60	27840	70.5	28930	76	29460							
15	53.5	18930	67	19900	73	20360	77	20640					
20	42	11310	60.5	12190	68.5	12590	73.5	12840	76.5	13000			
25	26.5	7200	53.5	8080	63.5	8460	69.5	8680	73.5	8830	76.5	8940	
30			45.5	5510	58.5	5880	65.5	6100	70.5	6240	74	6340	
35			36.5	3750	53	4130	61.5	4340	67.5	4470	71.5	4570	
40			25	2460	47	2850	57.5	3060	64	3190	69	3280	
45					40.5	1870	53	2080	60.5	2210	66	2300	
50					32.5	1100	48	1320	57	1450	63	1540	
55											60	920	
60													
	1150 LBS		780 LBS		600 LBS		490 LBS		420 LBS		360 LBS		STOWED JIB

DEDUCTIONS FOR JIB FROM MAIN BOOM CAPACITIES

WARNINGS

1. THE JIB MUST BE IN THE STOWED POSITION, IF SO EQUIPPED, WHEN USING THIS OUTRIGGER CONFIGURATION.

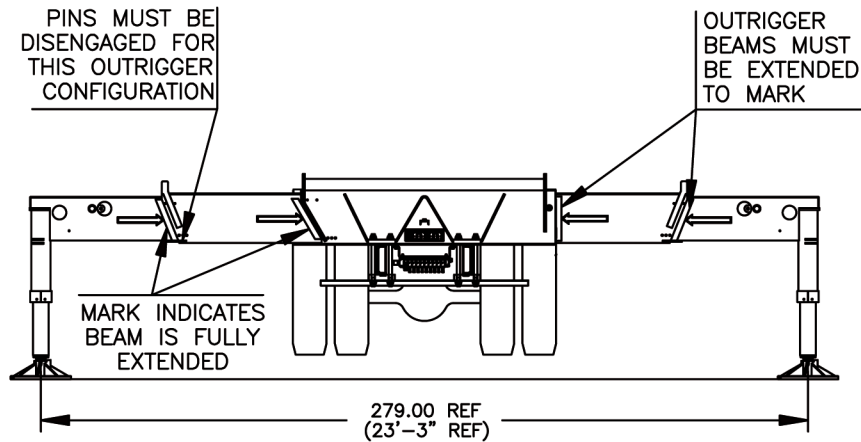
**USE THIS CHART ONLY
WHEN ALL OUTRIGGER
BEAMS ARE FULLY
EXTENDED**



32 FT RETRACTED JIB LIFTING CAPACITIES

LOAD RADIUS (FT)	LOADED BOOM ANGLE (DEG)	0' OFFSET		15' OFFSET			30' OFFSET		
		CODE 7 OVER REAR (LBS)	CODE 8 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 9 OVER REAR (LBS)	CODE 10 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 11 OVER REAR (LBS)	CODE 12 FULL 360° (LBS)
40	76.5	7300	7300						
40	74.5	7300	7300						
45	72.5	7300	7300	76	6500	6500			
50	70.5	7300	7300	73.5	6500	6500	76	5800	5800
55	68.5	6980	6980	71.5	6500	6500	74	5800	5800
60	66.5	6600	6600	69.5	6120	6120	72	5750	5750
65	64	6230	6230	67	5780	5780	69.5	5450	5450
70	62	5870	5870	65	5450	5450	67	5160	5160
75	59.5	5530	5530	62.5	5160	5160	64.5	4900	4900
80	57	5110	5110	60	4880	4880	62	4670	4670
85	54.5	4690	4690	57.5	4630	4630	59.5	4450	4450
90	52	4280	4280	54.5	4400	4400	56.5	4250	4250
95	49	3920	3760	51.5	4070	4030	53.5	4070	4070
100	46	3570	3270	48.5	3700	3510	50.5	3820	3680
105	43	3250	2830	45.5	3370	3040	47	3480	3180
110	39.5	2950	2440	42	3050	2620	43.5	3140	2730
115	35.5	2670	2080	38	2770	2230	39	2830	2320
120	31.5	2420	1760	34	2500	1880	34.5	2540	1940
125	26.5	2180	1460	29	2240	1560	29	2260	1580
130	20.5	1960	1190	22	2000	1250	20	1970	1230
135	10	1760	930						
140									

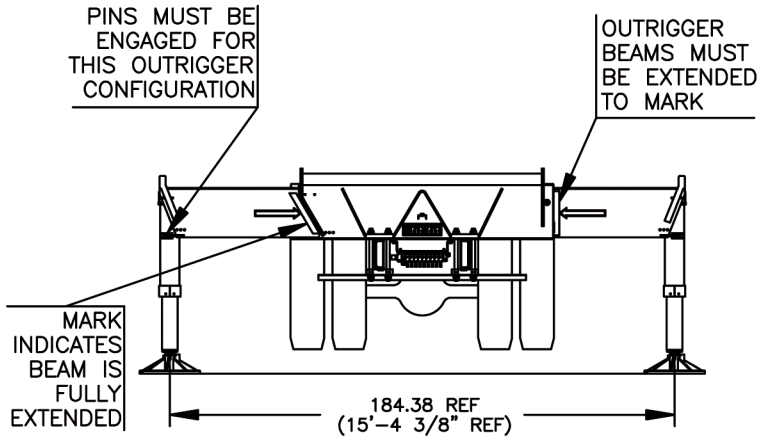
**USE THIS CHART ONLY
WHEN ALL OUTRIGGER
BEAMS ARE FULLY
EXTENDED**



49 FT EXTENDED JIB LIFTING CAPACITIES

LOAD RADIUS (FT)	LOADED BOOM ANGLE (DEG)	0° OFFSET		15° OFFSET			30° OFFSET		
		CODE 13 OVER REAR (LBS)	CODE 14 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 15 OVER REAR (LBS)	CODE 16 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 17 OVER REAR (LBS)	CODE 18 FULL 360° (LBS)
40	77	5400	5400						
45	75	5400	5400						
50	73.5	5400	5400	77	4700	4700			
55	71.5	5400	5400	75	4700	4700			
60	69.5	5400	5400	73.5	4480	4480	77	3520	3520
65	68	5230	5230	71.5	4280	4280	75	3520	3520
70	66	4930	4930	69.5	4100	4100	73.5	3410	3410
75	64	4660	4660	67.5	3940	3940	71	3310	3310
80	62	4410	4410	65.5	3790	3790	69	3210	3210
85	60	4170	4170	63.5	3650	3650	67	3130	3130
90	57.5	3950	3950	61.5	3520	3520	64.5	3050	3050
95	55.5	3750	3750	59	3400	3400	62	2980	2980
100	53	3560	3560	57	3290	3290	59.5	2910	2910
105	50.5	3380	3380	54.5	3190	3190	57	2860	2860
110	48	3220	3020	52	3050	3050	54.5	2810	2810
115	45.5	2980	2660	49	2920	2920	51.5	2760	2760
120	42.5	2730	2330	46	2800	2580	48.5	2730	2730
125	39.5	2500	2030	43	2640	2250	45	2650	2400
130	36	2290	1760	39.5	2410	1950	41	2480	2070
135	32	2090	1510	35.5	2190	1660	36.5	2240	1750
140	28	1890	1270	31	1970	1400	31	2000	1440
145	22.5	1720	1060	25	1770	1150			
150	15	1550	850	15.5	1570	890			
155									

**USE THIS CHART ONLY
WHEN ALL OUTRIGGER
BEAMS ARE IN THE MID
POSITION**



32 FT RETRACTED JIB LIFTING CAPACITIES

LOAD RADIUS (FT)	0° OFFSET		15° OFFSET		30° OFFSET	
	LOADED BOOM ANGLE (DEG)	CODE 19 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 20 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 21 FULL 360° (LBS)
35	76.5	7300				
40	74.5	7300				
45	72.5	7300	76	6500		
50	70.5	6600	73.5	6500	76	5800
55	68.5	5360	71.5	5950	74	5800
60	66.5	4360	69.5	4880	72	5320
65	64	3540	67	4000	69.5	4380
70	62	2840	65	3250	67	3600
75	59.5	2250	62.5	2620	64.5	2920
80	57	1740	60	2070	62	2340
85	54.5	1300	57.5	1600	59.5	1830
90	52	910	54.5	1180	56.5	1380
95			51.5	800	53.5	970

49 FT EXTENDED JIB LIFTING CAPACITIES

LOAD RADIUS (FT)	0° OFFSET		15° OFFSET		30° OFFSET	
	LOADED BOOM ANGLE (DEG)	CODE 22 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 23 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 24 FULL 360° (LBS)
40	77	5400				
45	75	5400				
50	73.5	5400	77	4700		
55	71.5	5400	75	4700		
60	69.5	5000	73.5	4480	77	3520
65	68	4160	71.5	4280	75	3520
70	66	3460	69.5	4070	73.5	3410
75	64	2860	67.5	3410	71	3310
80	62	2340	65.5	2850	69	3210
85	60	1890	63.5	2350	67	2740
90	57.5	1500	61.5	1910	64.5	2260
95	55.5	1150	59	1530	62	1840
100	53	840	57	1180	59.5	1460
105			54.5	870	57	1110
110					54.5	800