

# Load Rating Chart

## *Model 50155S*



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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

<u>CODE</u>	<u>CRANE CONFIGURATION</u>	<u>OUTRIGGER CONFIGURATION</u>	<u>AREA OF OPERATION</u>
#1	— MAIN BOOM — — — — —	FULLY EXTENDED — — — — —	OVER REAR
#3	— MAIN BOOM — — — — —	FULLY EXTENDED — — — — —	FULL 360°
#4	— MAIN BOOM — — — — —	MID POSITION — — — — —	FULL 360°
#7	— FIXED JIB 0° OFFSET — — — — —	FULLY EXTENDED — — — — —	OVER REAR
#8	— FIXED JIB 0° OFFSET — — — — —	FULLY EXTENDED — — — — —	FULL 360°
#9	— FIXED JIB 15° OFFSET — — — — —	FULLY EXTENDED — — — — —	OVER REAR
#10	— FIXED JIB 15° OFFSET — — — — —	FULLY EXTENDED — — — — —	FULL 360°
#11	— FIXED JIB 30° OFFSET — — — — —	FULLY EXTENDED — — — — —	OVER REAR
#12	— FIXED JIB 30° OFFSET — — — — —	FULLY EXTENDED — — — — —	FULL 360°
#25	— PERSONNEL LIFTING MAIN BOOM — — — — —	FULLY EXTENDED — — — — —	FULL 360°
#26	— PERSONNEL LIFTING FIXED JIB 0° OFFSET — — — — —	FULLY EXTENDED — — — — —	FULL 360°
#27	— PERSONNEL LIFTING FIXED JIB 15° OFFSET — — — — —	FULLY EXTENDED — — — — —	FULL 360°
#28	— PERSONNEL LIFTING FIXED 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 THE LOAD 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.
10. LIFTING OFF THE MAIN BOOM POINT WHILE THE SWING AROUND JIB IS ERECTED IS NOT INTENDED OR APPROVED.

## **INFORMATION**

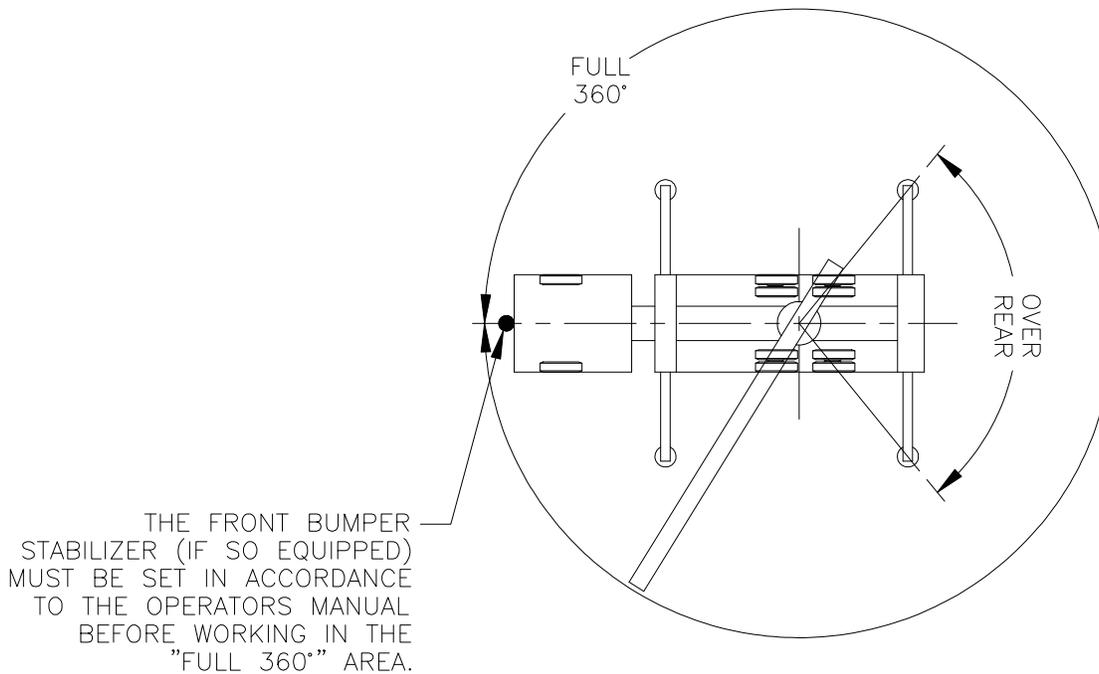
1. DEDUCTIONS MUST BE MADE FROM RATED LOADS FOR JIB, OPTIONAL ATTACHMENTS, HOOKS AND LOADBLOCKS (SEE DEDUCTION CHART). WEIGHTS OF SLINGS AND ALL OTHER LOAD HANDLING DEVICES SHALL BE CONSIDERED A PART OF THE LOAD.
2. LOAD RATINGS ABOVE THE HEAVY LINE ARE STRUCTURALLY LIMITED CAPACITIES. LOAD RATINGS BELOW 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										<b>WARNING</b>
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	100000 LBS	5/8" XLT4 LOW-TORQUE (3.5:1 SF) - 35000 LBS MIN BREAKING STRENGTH

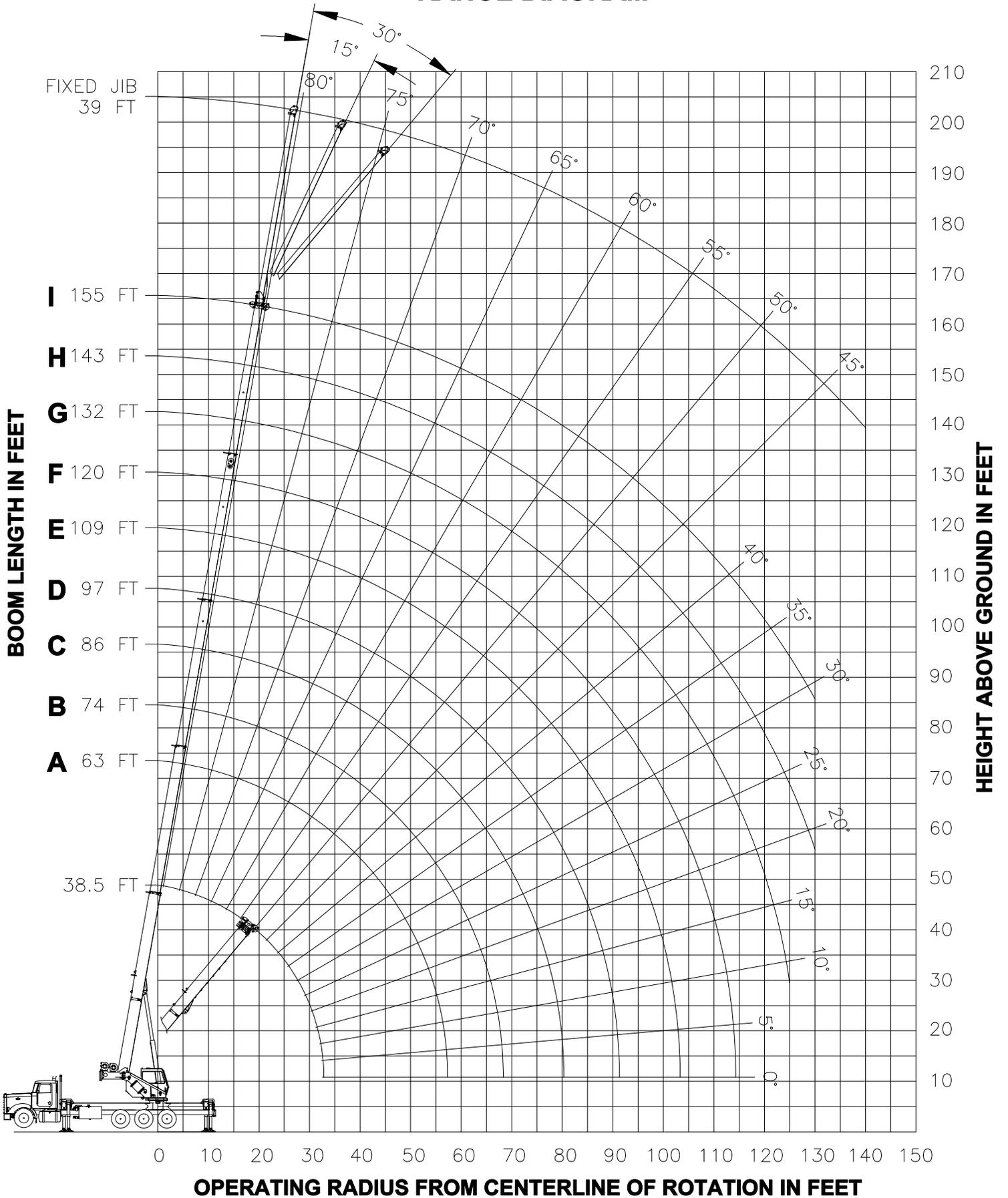
## AREA OF OPERATION



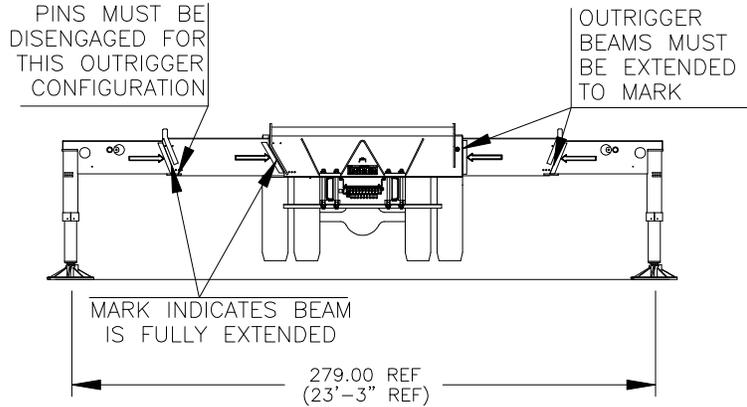
### DEDUCTIONS FROM RATED LOADS FOR LOAD HANDLING DEVICES SUPPLIED BY MANITEX

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 -



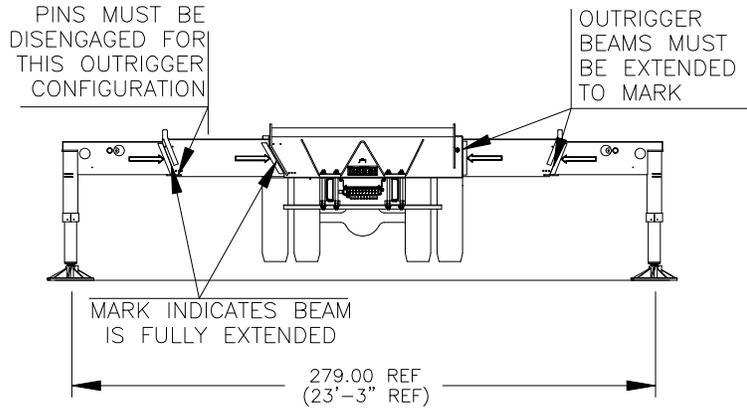
**USE THIS CHART ONLY  
WHEN ALL OUTRIGGER  
BEAMS ARE FULLY  
EXTENDED**



**MAIN BOOM LIFTING CAPACITIES**

LOAD RADIUS (FT)	BOOM LENGTH 38.5 FT			BOOM LENGTH 63 FT (A)			BOOM LENGTH 74 FT (B)			BOOM LENGTH 86 FT (C)			BOOM LENGTH 97 FT (D)			LOAD RADIUS (FT)
	LOADED BOOM ANGLE (DEG)	CODE 1 OVER REAR (LBS)	CODE 3 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 1 OVER REAR (LBS)	CODE 3 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 1 OVER REAR (LBS)	CODE 3 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 1 OVER REAR (LBS)	CODE 3 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 1 OVER REAR (LBS)	CODE 3 FULL 360° (LBS)	
6	73.5	100000	100000													6
8	70.5	85400	85400													8
10	67	75100	75100	77	40000	40000										10
12	64	67100	67100	75	40000	40000	78	37700	37700							12
15	58.5	57700	57700	72.5	40000	40000	75.5	36340	36340	78.5	31000	31000				15
20	49	46070	46070	67.5	38250	38250	72	33380	33380	75	28200	28200	77.5	24120	24120	20
25	38	35280	35280	62.5	35040	35040	67.5	30620	30620	71.5	25970	25970	74.5	22200	22200	25
30	22.5	27920	27490	57	29140	29140	63	28020	28020	68	23950	23950	71	20480	20480	30
35				51.5	23890	21500	58.5	24130	21830	64	22080	22080	68	18670	18670	35
40				45	19920	16460	54	20170	16770	60.5	20350	17010	65	17210	17170	40
45				38	16810	12910	48.5	17060	13220	56.5	17250	13450	61.5	15920	13610	45
50				29.5	14290	10280	43	14570	10590	52	14760	10820	58	14720	10970	50
55				17	12200	8210	37	12510	8560	47.5	12710	8790	54	12830	8940	55
60							29	10780	6940	42.5	11000	7180	50	11120	7320	60
65							19	9300	5600	37	9540	5860	46	9670	6010	65
70										30.5	8280	4760	41.5	8420	4920	70
75										22.5	7170	3830	36.5	7330	3990	75
80										7.5	4360	2990	30.5	6370	3200	80
85													23.5	5520	2510	85
90													12	4140	1880	90
95																95
STOWED JIB	960 LBS		590 LBS		500 LBS		430 LBS		390 LBS							
ERECTED JIB	2620 LBS		2270 LBS		2190 LBS		2130 LBS		2080 LBS							
DEDUCTIONS FOR JIB FROM MAIN BOOM CAPACITIES																

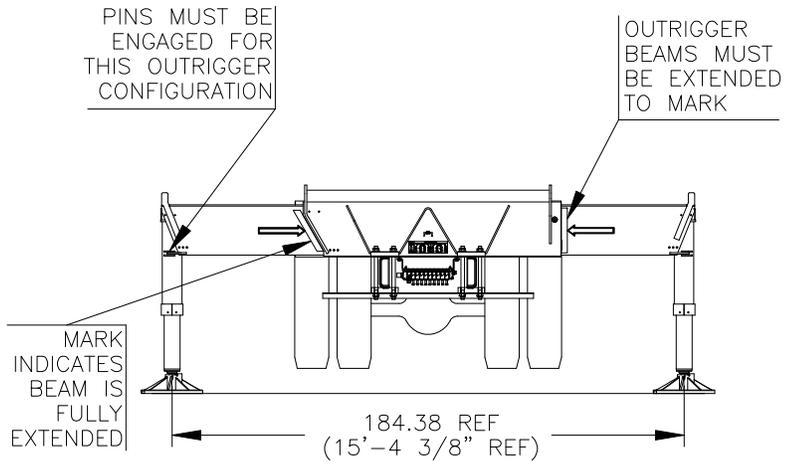
**USE THIS CHART ONLY  
WHEN ALL OUTRIGGER  
BEAMS ARE FULLY  
EXTENDED**



**MAIN BOOM LIFTING CAPACITIES**

LOAD RADIUS (FT)	BOOM LENGTH 109 FT (E)			BOOM LENGTH 120 FT (F)			BOOM LENGTH 132 FT (G)			BOOM LENGTH 143 FT (H)			BOOM LENGTH 155 FT (I)			LOAD RADIUS (FT)
	LOADED BOOM ANGLE (DEG)	CODE 1 OVER REAR (LBS)	CODE 3 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 1 OVER REAR (LBS)	CODE 3 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 1 OVER REAR (LBS)	CODE 3 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 1 OVER REAR (LBS)	CODE 3 FULL 360° (LBS)	LOADED BOOM ANGLE (DEG)	CODE 1 OVER REAR (LBS)	CODE 3 FULL 360° (LBS)	
25	77	18000	18000	79	16260	16260										25
30	74	17000	17000	76.5	15280	15280	78	13500	13500	79.5	11500	11500				30
35	71.5	15920	15920	74	14270	14270	76	12900	12900	77.5	11300	11300	79	9000	9000	35
40	68.5	14700	14700	71.5	13310	13310	74	12000	12000	75.5	11000	11000	77	9000	9000	40
45	65.5	13570	13570	69	12410	12410	71.5	11300	11300	73.5	10460	10460	75.5	9000	9000	45
50	62.5	12540	11100	66	11600	11180	69	10550	10550	71.5	9460	9460	73.5	8800	8800	50
55	59.5	11580	9060	63.5	10840	9150	67	9610	9220	69.5	8880	8880	71.5	8320	8320	55
60	56	10690	7440	60.5	9960	7530	64.5	9000	7600	67.5	8330	7650	69.5	7820	7700	60
65	53	9770	6130	57.5	9230	6210	62	8430	6280	65	7800	6330	67.5	7340	6380	65
70	49	8530	5040	54.5	8550	5120	59	7880	5190	62.5	7300	5240	65.5	6880	5290	70
75	45.5	7440	4120	51.5	7520	4200	56.5	7390	4270	60.5	6820	4320	63.5	6410	4360	75
80	41.5	6490	3330	48	6570	3410	53.5	6630	3480	58	6360	3530	61.5	5980	3570	80
85	37	5650	2640	44.5	5730	2730	50.5	5790	2800	55.5	5830	2850	59	5560	2890	85
90	32	4890	2040	41	4980	2130	47.5	5040	2200	52.5	5090	2250	57	5120	2300	90
95	25.5	4210	1510	36.5	4300	1610	44.5	4370	1680	50	4420	1730	54.5	4460	1770	95
100	17	3590	1030	32	3700	1140	41	3770	1210	47	3820	1260	52	3850	1310	100
105				26	3140		37	3220		44	3270	850	49.5	3310	890	105
110				19	2630		33	2720		40.5	2770		47	2810		110
115							28	2250		37	2310		44	2360		115
120							22	1830		33	1890		41	1940		120
125							12	860		28.5	1500		37.5	1550		125
130										23	1140		34	1190		130
135																135
STOWED JIB		340 LBS		310 LBS			280 LBS			260 LBS			240 LBS			
ERECTED JIB		2050 LBS		2020 LBS			1990 LBS			1970 LBS			1950 LBS			
DEDUCTIONS FOR JIB FROM MAIN BOOM CAPACITIES																

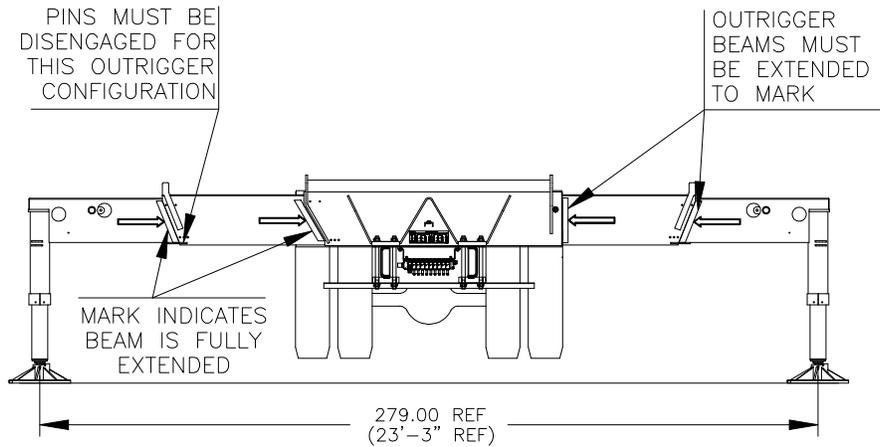
**USE THIS CHART ONLY  
WHEN ALL OUTRIGGER  
BEAMS ARE IN THE MID  
POSITION**



**MAIN BOOM LIFTING CAPACITIES**

LMI OPERATING CODE 4																					
BOOM LENGTH																					
RAD (FT)	38.5 FT		63 FT		74 FT		86 FT		97 FT		109 FT		120 FT		132 FT		143 FT		155 FT		RAD (FT)
	BOOM ANGLE (DEG)	FULL 360° (LBS)																			
6	73.5	100000																			6
8	70.5	85400																			8
10	67	75100	77	40000																	10
12	64	67100	75	40000	78	37700															12
15	58.5	52390	72.5	40000	75.5	36340	78.5	31000													15
20	49	27810	67.5	29440	72	29810	75	28200	77.5	24120											20
25	38	17380	62.5	18840	67.5	19150	71.5	19400	74.5	19570	77	18000	79	16260							25
30	22.5	11540	57	12980	63	13270	68	13490	71	13650	74	13780	76.5	13870	78	13500	79.5	11500			30
35			51.5	9260	58.5	9530	64	9740	68	9890	71.5	10010	74	10100	76	10170	77.5	10230	79	9000	35
40			45	6680	54	6950	60.5	7150	65	7290	68.5	7400	71.5	7490	74	7560	75.5	7610	77	7660	40
45			38	4780	48.5	5050	56.5	5250	61.5	5390	65.5	5500	69	5570	71.5	5640	73.5	5690	75.5	5740	45
50			29.5	3310	43	3600	52	3800	58	3930	62.5	4040	66	4110	69	4180	71.5	4230	73.5	4270	50
55			17	2130	37	2440	47.5	2650	54	2780	59.5	2890	63.5	2960	67	3020	69.5	3070	71.5	3110	55
60					29	1500	42.5	1710	50	1850	56	1950	60.5	2030	64.5	2090	67.5	2140	69.5	2180	60
65									46	1070	53	1180	57.5	1250	62	1320	65	1360	67.5	1400	65
70																					70
STOWED	960		590		500		430		390		340		310		280		260		240		
ERECTED	2620		2270		2190		2130		2080		2050		2020		1990		1970		1950		
DEDUCTIONS FOR JIB FROM MAIN BOOM CAPACITIES (LBS)																					

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



**39 FT FIXED JIB LIFTING CAPACITIES**

LOAD RADIUS (FT)	0° OFFSET			15° OFFSET			30° OFFSET		
	LOADED BOOM ANGLE (DEG)	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	80	4000	4000						
45	78	4000	4000						
50	77.5	4000	4000	80	4000	4000			
55	75.5	4000	4000	78	4000	4000			
60	74	4000	4000	76.5	4000	4000	80	4000	4000
65	72.5	4000	4000	75	4000	4000	78	4000	4000
70	71	4000	4000	73.5	4000	4000	76	4000	4000
75	69.5	4000	4000	72	4000	4000	74.5	3880	3880
80	68	4000	4000	71	3940	3940	73	3730	3730
85	66.5	3860	3360	69.5	3780	3780	71.5	3570	3570
90	65	3720	2750	67.5	3630	3350	70	3430	3430
95	63.5	3430	2210	66	3480	2760	68	3290	3230
100	61.5	3150	1740	64.5	3340	2250	66.5	3160	2670
105	60	2880	1310	62.5	3180	1780	65	3030	2170
110	58	2610	930	61	2880	1370	63	2920	1720
115	56	2360		59	2610	990	61	2800	1310
120	54.5	2130		57	2350		59	2570	940
125	52.5	1840		55	2110		57	2290	
130	50.5	1490		53	1830		55	2040	
135	48.5	1160		51	1480		53	1710	
140	46	860		48.5	1150		50.5	1350	
145				46.5	840		48	1020	
150									