

# Load Rating Chart

***Model 28102S***

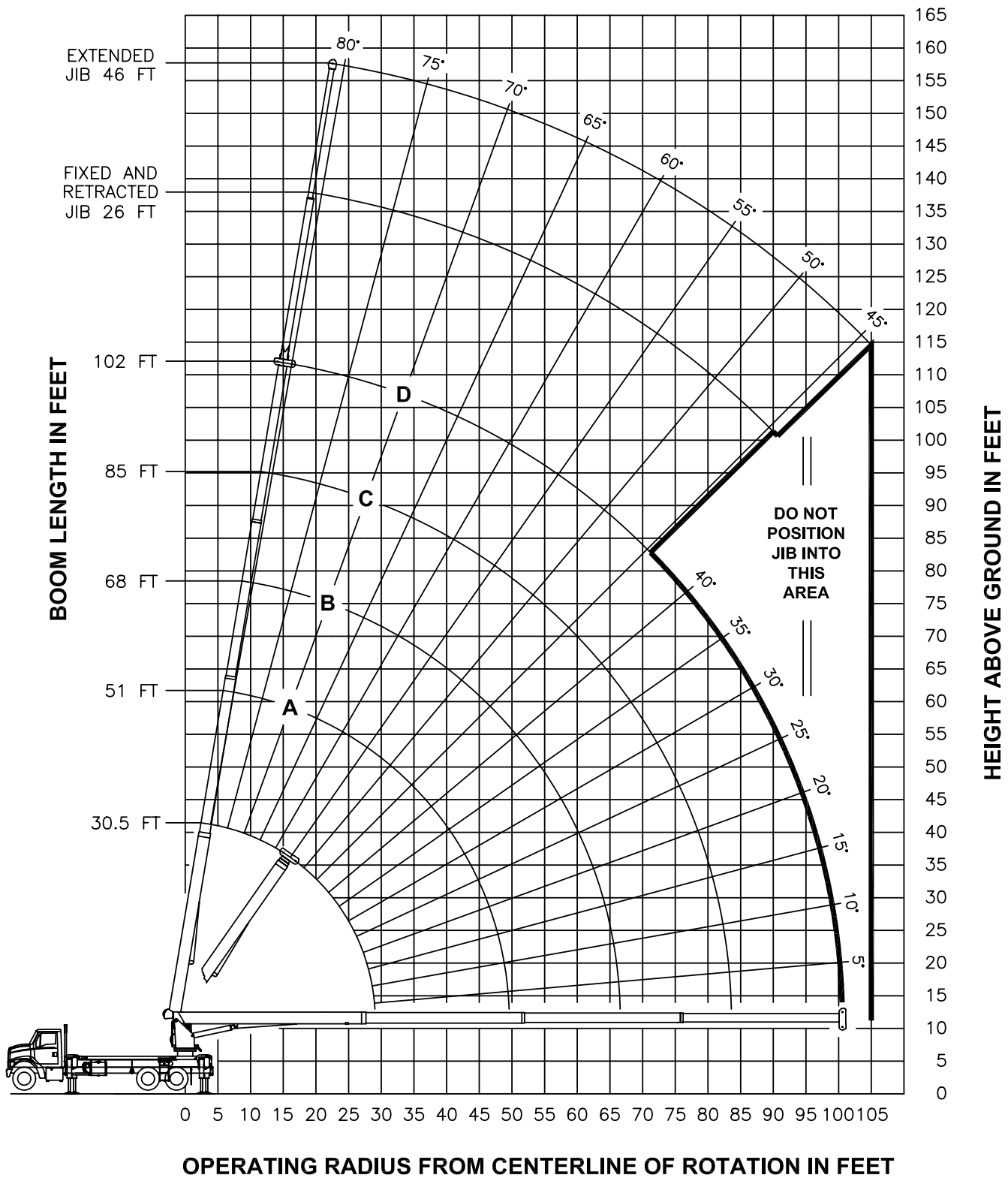


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**NOTE:** Additional copies of this Load Rating Chart can be purchased from your Manitex Distributor. When ordering, use the part number shown in the bottom left corner of this page.

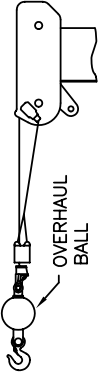


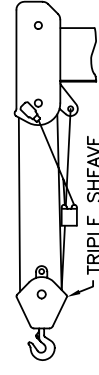

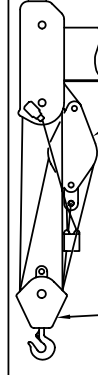
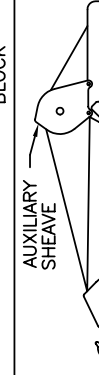
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### RANGE DIAGRAM - FULLY EXTENDED OUTRIGGER CONFIGURATION -



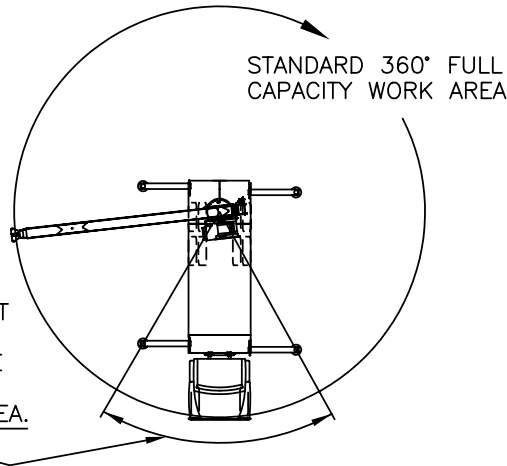
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ALLOWABLE LINE PULL							WARNING
1 PART LINE	2 PART LINE	3 PART LINE	4 PART LINE	5 PART LINE	6 PART LINE	7 PART LINE	
							<p>ANTI-TWO-BLOCK SYSTEM MUST BE IN GOOD OPERATING CONDITION BEFORE OPERATING CRANE.</p> <p>REFER TO THE OWNER'S MANUAL.</p> <p>KEEP AT LEAST 3 WRAPS OF LOAD LINE ON THE DRUM AT ALL TIMES.</p>
8500 LBS	17000 LBS	25500 LBS	34000 LBS	42500 LBS	51000 LBS	56000 LBS	9/16" 6X25 IWRC (3.5:1 SF) - 29750 LBS MIN BREAKING STRENGTH
7400 LBS	14800 LBS	22200 LBS	29600 LBS	37000 LBS	44400 LBS	51800 LBS	9/16" ROT RESISTANT (5.0:1 SF) - 37000 LBS MIN BREAKING STRENGTH

**AREA OF OPERATION**

**WARNING:**  
 THE FRONT TIRES MUST BE IN CONTACT WITH THE GROUND, AND THE MACHINE LEVEL, WHEN OPERATING IN THIS AREA.



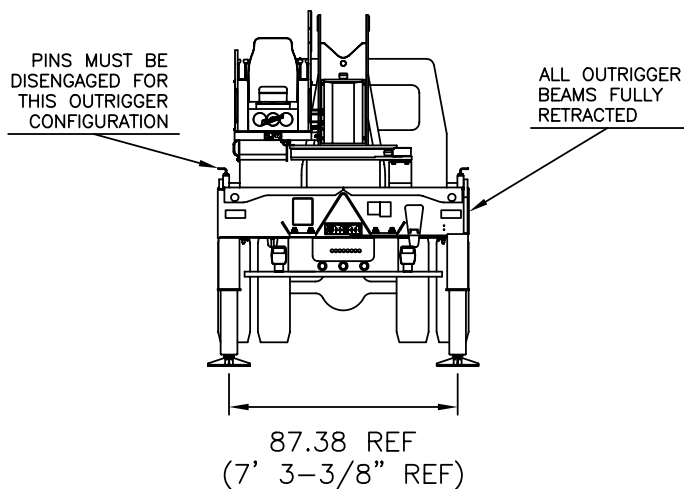
**DEDUCTIONS FROM RATED LOADS FOR LOAD HANDLING DEVICES SUPPLIED BY MANITOWOC BOOM TRUCKS, INC.**

AUXILIARY BLOCK	— — — — —	50 LBS
AUXILIARY SHEAVE	— — — — —	50 LBS
OVERHAUL BALL	— — — — —	SEE OVERHAUL BALL MANUFACTURER NAMEPLATE
LOAD BLOCK	— — — — —	SEE BLOCK MANUFACTURER NAMEPLATE
HOSE REEL	— — — — —	140 LBS
SWING AROUND JIB	— — — — —	SEE LOAD CHART

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**USE THIS CHART  
ONLY WHEN ALL  
OUTRIGGERS ARE  
FULLY RETRACTED**



**- FULLY RETRACTED OUTRIGGER CONFIGURATION -**

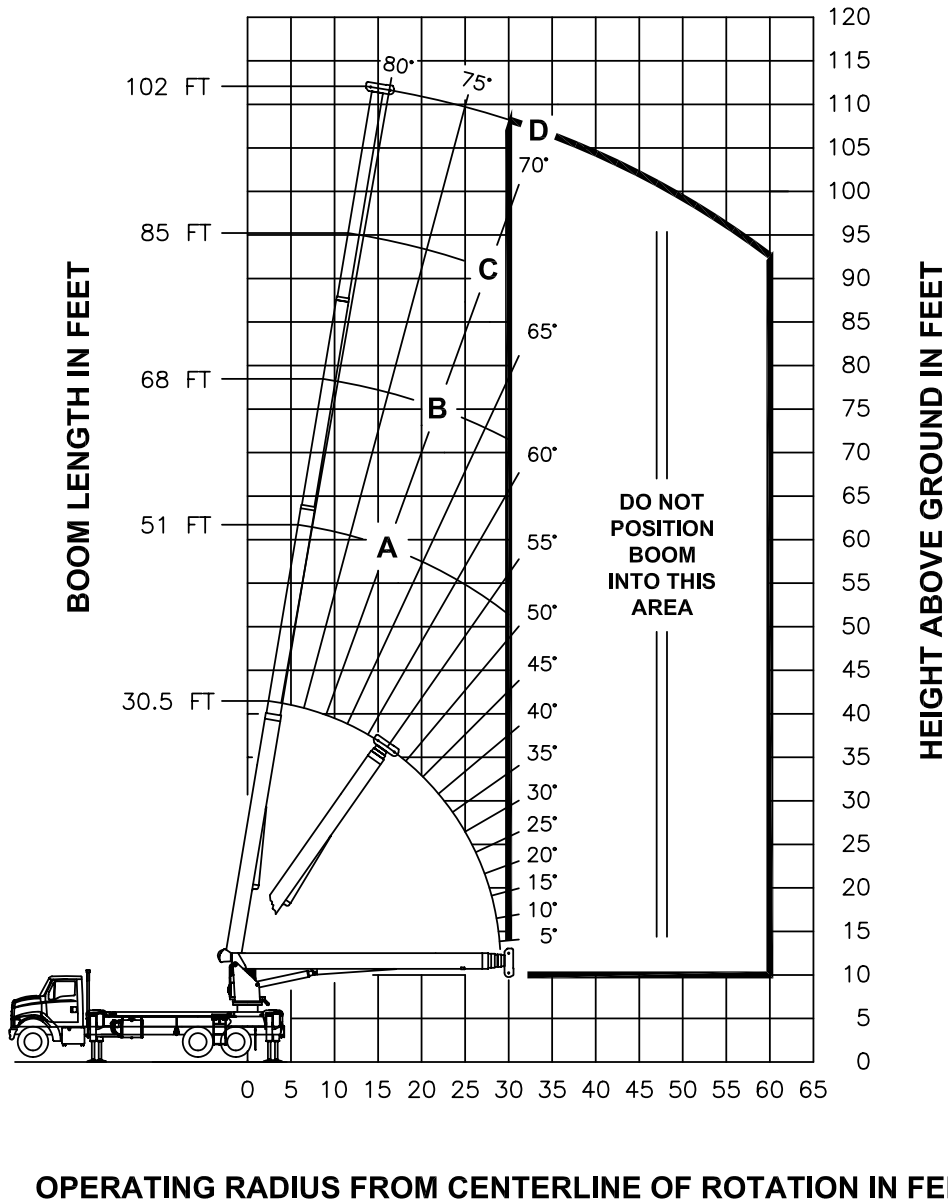
MAIN BOOM LOAD RATINGS IN LBS										
LMI CODE #13										
OPERATING RADIUS	LOADED BOOM ANGLE		BOOM LENGTH AND MARKER							
	FT	IN	FT	IN	A	B	C	D		
5	80	56000	51	68	85	102				
8	75	23010								
10	71	14590	79	15150						
12	67	10190	77	10700						
15	60	6490	73	6970	79	7140				
20	48	3330	67	3790	74	3950	78	4040	81	4090
25	33	1620	61	2090	70	2250	75	2330	78	2380
30			54	1040	65	1190	72	1270	76	1320
		490 LBS	290 LBS	220 LBS	180 LBS	150 LBS	DEDUCTIONS FOR STOWED FIXED JIB			
		730 LBS	440 LBS	330 LBS	260 LBS	220 LBS	DEDUCTIONS FOR STOWED TELESCOPIC JIB			

**NO JIBS ARE TO  
BE ERECTED IN  
THIS  
OUTRIGGER  
CONFIGURATION**

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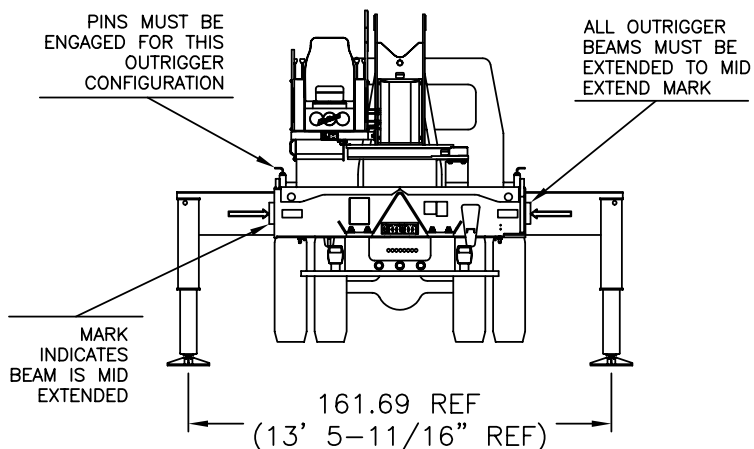
## RANGE DIAGRAM - FULLY RETRACTED OUTRIGGER CONFIGURATION -



**NOTE :** LIFTING PERSONNEL WITH CRANE IN THIS OUTRIGGER CONFIGURATION IS STRICTLY PROHIBITED. USE ONLY FULLY EXTENDED OUTRIGGER CONFIGURATION WHEN LIFTING PERSONNEL.

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**USE THIS CHART ONLY WHEN  
ALL OUTRIGGERS ARE IN THE  
INTERMEDIATE POSITION**



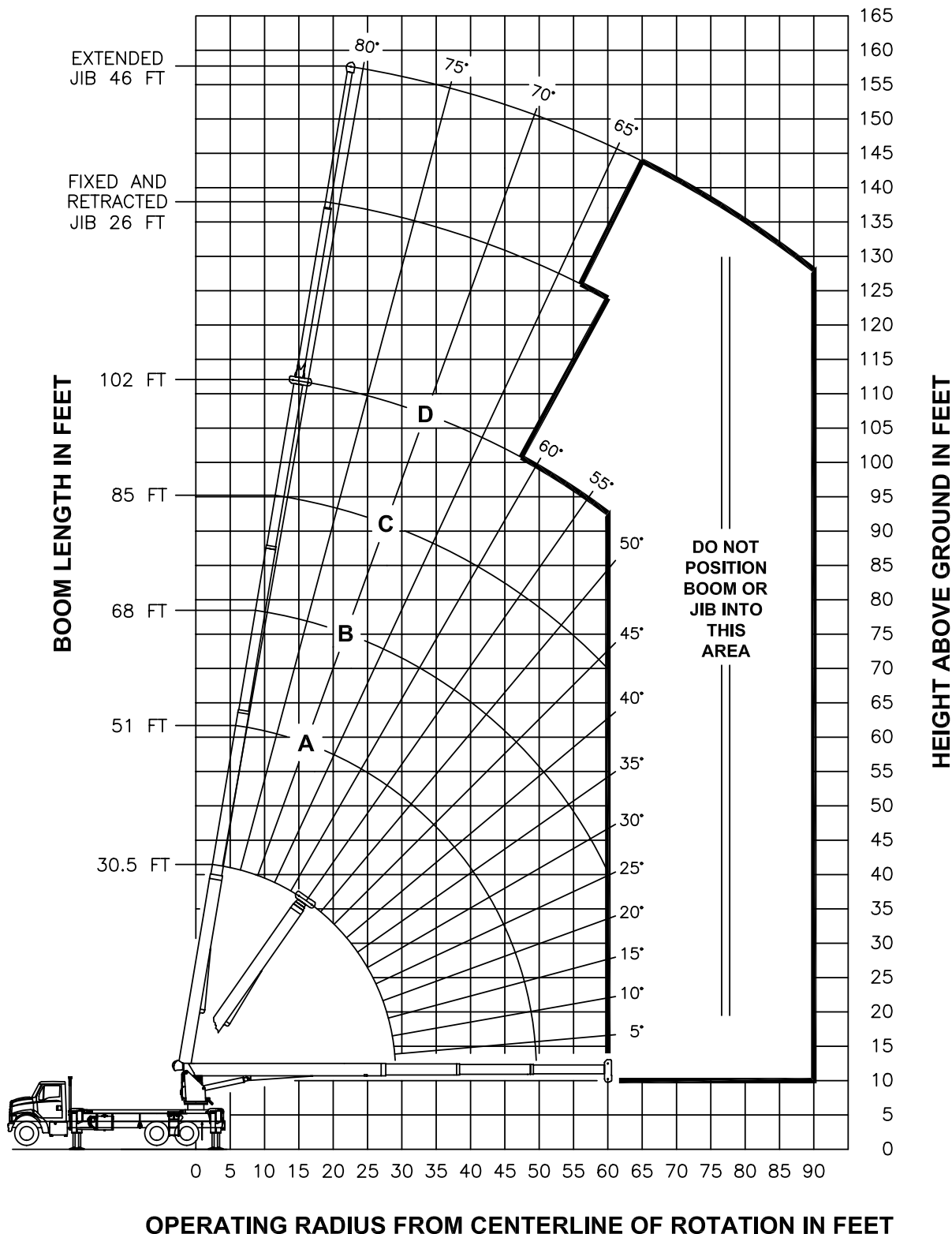
### - INTERMEDIATE OUTRIGGER CONFIGURATION - (MID EXTEND)

MAIN BOOM LOAD RATINGS IN LBS										JIB LOAD RATINGS IN LBS							
LMI CODE #9										FIXED JIB		TELESCOPIC JIB					
OPERATING RADIUS IN FT	LOADED BOOM ANGLE BOOM LENGTH AND MARKER									LMI CODE #10		LMI CODE #11		LMI CODE #12			
	30.5 FT		A	B	C	D	26 FT		26 FT		46 FT						
5	80	56000															
8	75	39690															
10	71	33510	79	22500						10							
12	67	29120	77	22500						12							
15	60	21230	73	21710	79	20590				15							
20	48	11770	67	12340	74	12540	78	12660	81	10500	20						
25	33	7460	61	8020	70	8200	75	8300	78	8370	25	81	5300	81	5100		
30			54	5550	65	5720	72	5820	76	5880	30	79	5300	79	5100	81	3050
35			47	3950	60	4120	68	4210	73	4270	35	77	4360	77	4050	79	3050
40			38	2820	55	3000	64	3090	70	3150	40	75	3230	75	2920	77	3050
45			27	1980	50	2160	60	2260	66	2310	45	72	2390	72	2080	76	2590
50					43	1520	56	1620	63	1670	50	70	1750	70	1440	74	1930
55					36	1010	51	1110	60	1170	55	68	1240	68	930	72	1410
60					28	600	47	700	56	750	60	65	820	65	510	70	990
65											65					68	640
			490 LBS	290 LBS	220 LBS	180 LBS	150 LBS	DEDUCTIONS FOR STOWED FIXED JIB									
			730 LBS	440 LBS	330 LBS	260 LBS	220 LBS	DEDUCTIONS FOR STOWED TELESCOPIC JIB									

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### RANGE DIAGRAM - INTERMEDIATE OUTRIGGER CONFIGURATION - (MID EXTEND)



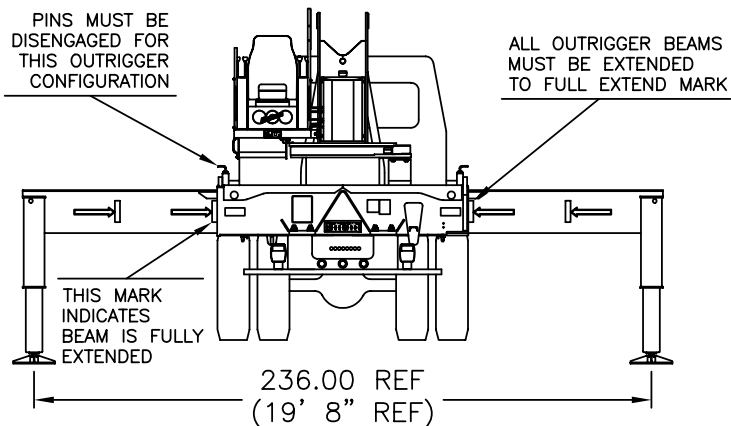
**OPERATING RADIUS FROM CENTERLINE OF ROTATION IN FEET**

**NOTE :** LIFTING PERSONNEL WITH CRANE IN THIS OUTRIGGER CONFIGURATION IS STRICTLY PROHIBITED. USE ONLY FULLY EXTENDED OUTRIGGER CONFIGURATION WHEN LIFTING PERSONNEL.

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**USE THIS CHART ONLY  
WHEN ALL OUTRIGGERS  
ARE FULLY EXTENDED**



**- FULLY EXTENDED OUTRIGGER CONFIGURATION -**

MAIN BOOM LOAD RATINGS IN LBS										JIB LOAD RATINGS IN LBS													
LMI CODE #1										LMI CODE #2													
OPERATING RADIUS FT	LOADED BOOM ANGLE		BOOM LENGTH AND MARKER							OPERATING RADIUS FT	FIXED JIB		TELESCOPIC JIB										
	30.5 FT	51 FT	68 FT	85 FT	102 FT	LMI CODE #2	LMI CODE #3	LMI CODE #4	BOOM ANGLE		JIB LENGTH FOR ALL BOOM LENGTHS SEE WARNING NOTE 4	BOOM ANGLE	JIB LENGTH FOR ALL BOOM LENGTHS SEE WARNING NOTE 4	BOOM ANGLE	JIB LENGTH FOR ALL BOOM LENGTHS SEE WARNING NOTE 4								
	5	8	10	12	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105
	80	75	71	67	60	48	33																
	56000	39690	33510	29120	23260	16530	12410																
			79	77	73	67	61																
			22500	22500	21710	16910	12870																
			79	74	79	74	70																
			20590	15830	20590	15830	12840																
			78	78	75	78	75																
			14420	14420	12180	14420	12180																
			81	81	78	81	78																
			10500	10500	9650	10500	9650																
			81	79	81	79	81																
			5300	5300	5100	5300	5100																
			79	77	79	77	79																
			5300	4990	5300	4990	5100																
			4990	4580	4990	4580	4310																
			4580	4190	4580	4190	3910																
			4190	3830	4190	3830	3550																
			3830	3480	3830	3480	3110																
			3480	3110	3480	3110	2740																
			3110	2740	3110	2740	2590																
			2740	2590	2740	2590	2410																
			2590	2410	2590	2410	2130																
			2410	2130	2410	2130	1880																
			2130	1880	2130	1880	1610																
			1880	1610	1880	1610	1400																
			1610	1400	1610	1400	1150																
			1400	1150	1400	1150	910																
			1150	910	1150	910	700																
			910	700	910	700	510																
			700	510	700	510	480																
			510	480	510	480	490 LBS																
			480	490 LBS	480	490 LBS	290 LBS																
			290 LBS	220 LBS	290 LBS	220 LBS	180 LBS																
			220 LBS	180 LBS	220 LBS	180 LBS	150 LBS																
			180 LBS	150 LBS	180 LBS	150 LBS	730 LBS																
			150 LBS	730 LBS	150 LBS	730 LBS	440 LBS																
			730 LBS	440 LBS	730 LBS	440 LBS	330 LBS																
			440 LBS	330 LBS	440 LBS	330 LBS	260 LBS																
			330 LBS	260 LBS	330 LBS	260 LBS	220 LBS																
			260 LBS	220 LBS	260 LBS	220 LBS	DEDUCTIONS FOR STOWED FIXED JIB																
			220 LBS	DEDUCTIONS FOR STOWED TELESCOPIC JIB	220 LBS	DEDUCTIONS FOR STOWED TELESCOPIC JIB																	

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**LMI OPERATING CODES**

SETTING	CRANE CONFIGURATION	OUTRIGGER CONFIGURATION
#1	— MAIN BOOM	FULLY EXTENDED
#2	— FIXED JIB	FULLY EXTENDED
#3	— TELESCOPIC JIB—RETRACTED	FULLY EXTENDED
#4	— TELESCOPIC JIB—EXTENDED	FULLY EXTENDED
#5	— PERSONNEL LIFTING PLATFORM ON MAIN BOOM	FULLY EXTENDED
#6	— PERSONNEL LIFTING PLATFORM ON FIXED JIB	FULLY EXTENDED
#7	— PERSONNEL LIFTING PLATFORM ON TELESCOPIC JIB—RETRACTED	FULLY EXTENDED
#8	— PERSONNEL LIFTING PLATFORM ON TELESCOPIC JIB—EXTENDED	FULLY EXTENDED
#9	— MAIN BOOM	INTERMEDIATE
#10	— FIXED JIB	INTERMEDIATE
#11	— TELESCOPIC JIB—RETRACTED	INTERMEDIATE
#12	— TELESCOPIC JIB—EXTENDED	INTERMEDIATE
#13	— MAIN BOOM	FULLY RETRACTED

**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.
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.

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## **WARNING (CONTINUED)**

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 STOWED 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 AS SHOWN IN THE COLUMN HEADED BY , IS THE INCLUDED ANGLE BETWEEN THE HORIZONTAL AND LONGITUDINAL AXES OF THE BOOM BASE AFTER LIFTING RATED LOAD AT RATED RADIUS.

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