

# Load Rating Chart

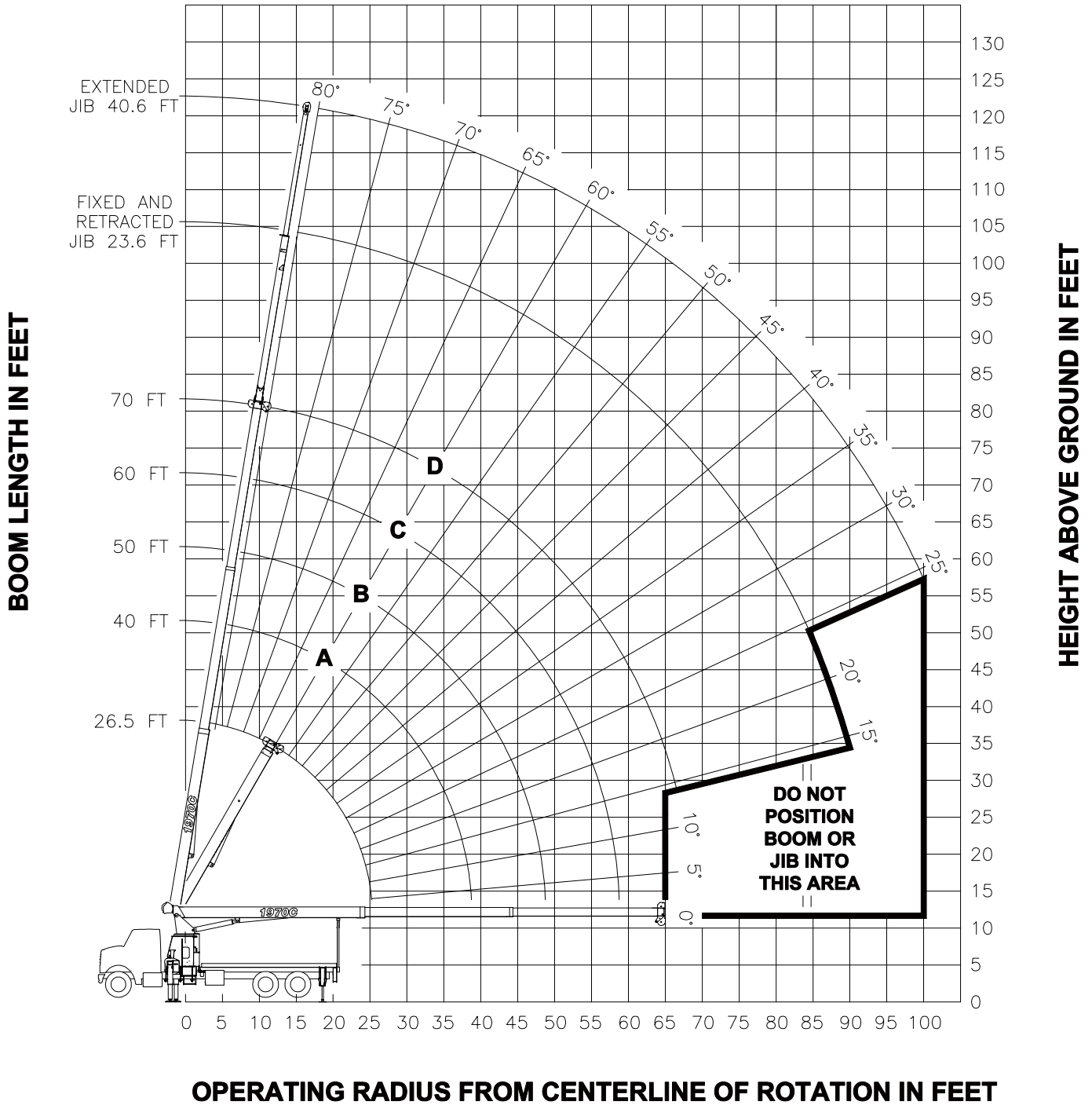
## *Model 1970C*



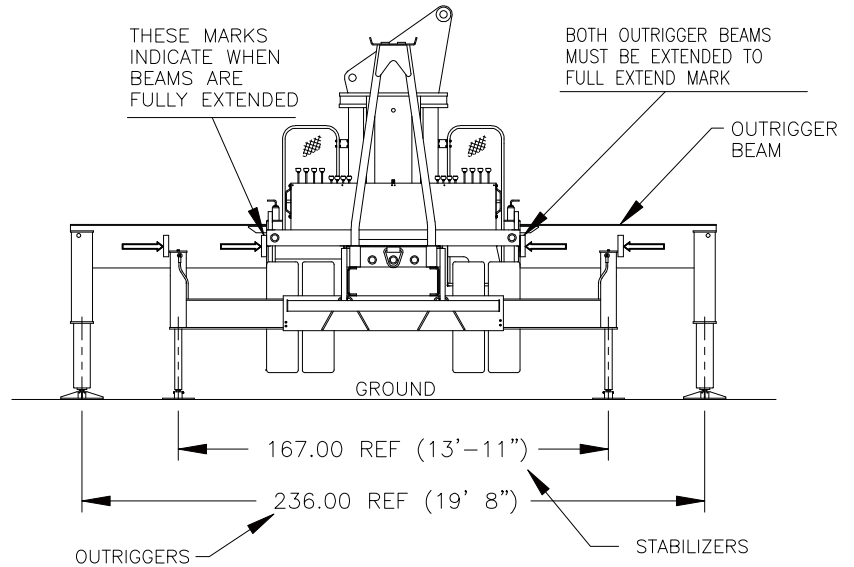
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**NOTE:** Additional copies of this Load Rating Chart can be purchased from your Manitex Distributor. When ordering, use the part number shown in the bottom left corner of this page.

# RANGE DIAGRAM - FULLY EXTENDED OUTRIGGER CONFIGURATION -



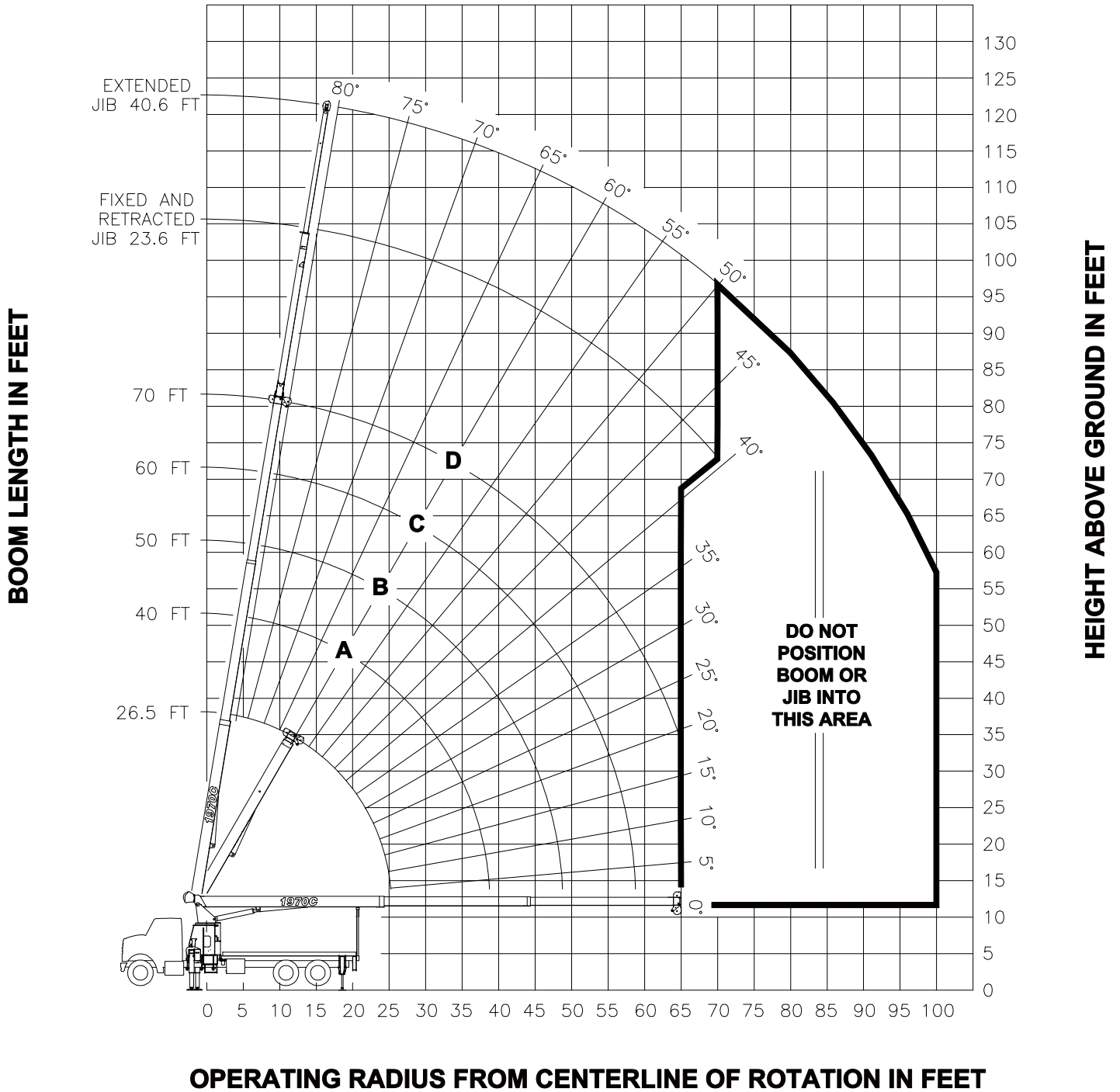
**USE THIS CHART ONLY  
WHEN OUTRIGGERS  
AND STABILIZERS ARE  
FULLY EXTENDED**



## MAIN BOOM AND JIB LIFTING CAPACITIES

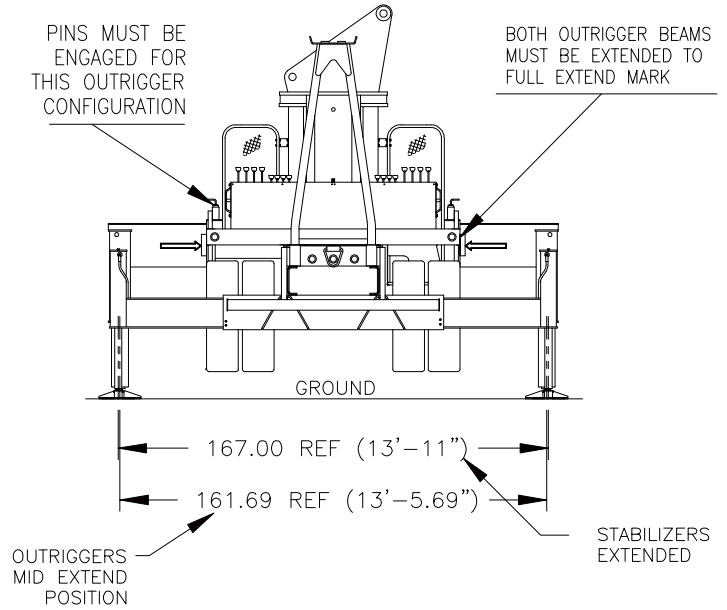
MAIN BOOM RATED LOADS										JIB RATED LOADS FOR ALL BOOM LENGTHS							
LOAD RADIUS (FT)	26.5 FT (RETR) LMI CODE 1		40 FT (A) LMI CODE 1		50 FT (B) LMI CODE 1		60 FT (C) LMI CODE 1		70 FT (D) LMI CODE 1		LOAD RADIUS (FT)	24 FT FIXED JIB LMI CODE 2		24 FT TELE JIB LMI CODE 3		41 FT TELE JIB LMI CODE 4	
	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)		LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)
5	79	38000									5						
8	73	27010	79	24000							8						
10	68	22330	76	21100	80	18000					10						
12	63	18410	73	18230	77	16230	80	13420			12						
15	55	14420	69	14600	74	13940	77	11900	80	9400	15						
20	40	10350	61	10540	68	10600	72	9810	76	8180	20	80	4400	80	4200		
25	12	7830	52	8070	61	8130	67	8170	71	7000	25	78	4200	78	4000	80	3000
30			41	6400	54	6470	62	6510	67	6050	30	75	4000	75	3800	78	2660
35			28	5160	47	5240	56	5280	62	5280	35	71	3600	71	3380	75	2380
40					37	4310	50	4360	58	4380	40	68	3220	68	3010	72	2150
45					25	3590	43	3640	52	3670	45	65	2880	65	2650	69	1940
50							35	3070	47	3100	50	61	2580	61	2340	66	1770
55							24	2590	40	2630	55	57	2310	57	2060	63	1620
60									33	2240	60	53	2070	53	1820	60	1490
65									23	1910	65	49	1870	49	1610	57	1380
70											70	45	1640	45	1360	54	1280
75											75	40	1400	40	1120	51	1190
80											80	34	1190	34	910	47	1110
85											85	27	1010	27	730	43	1020
90											90	19	840	19	560	39	860
95											95					34	710
100											100					28	580
	350 LBS		240 LBS		190 LBS		160 LBS		140 LBS		DEDUCTIONS FOR STOWED FIXED JIB						
	530 LBS		350 LBS		280 LBS		240 LBS		200 LBS		DEDUCTIONS FOR STOWED TELESCOPIC JIB						

# RANGE DIAGRAM - MID EXTEND OUTRIGGER CONFIGURATION -



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

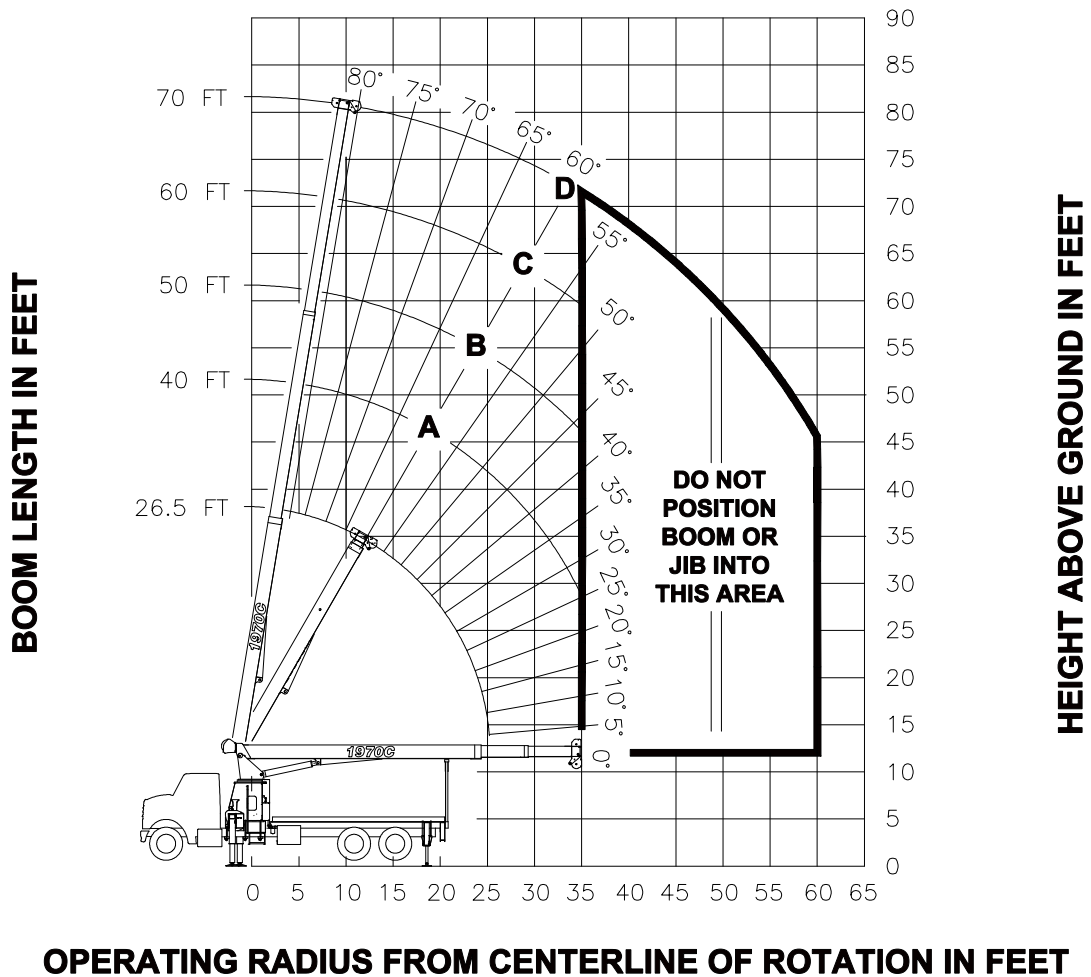
**USE THIS CHART ONLY WHEN  
FRONT OUTRIGGERS ARE IN THE  
MID EXTEND POSITION AND  
STABILIZERS  
ARE FULLY EXTENDED**



## MAIN BOOM AND JIB LIFTING CAPACITIES

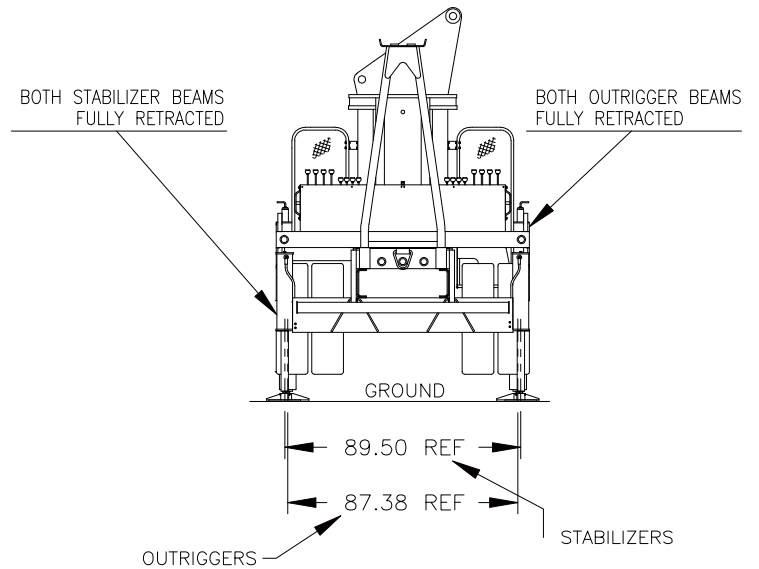
MAIN BOOM RATED LOADS										JIB RATED LOADS FOR ALL BOOM LENGTHS							
LOAD RADIUS (FT)	26.5 FT (RETR) LMI CODE 9		40 FT (A) LMI CODE 9		50 FT (B) LMI CODE 9		60 FT (C) LMI CODE 9		70 FT (D) LMI CODE 9		LOAD RADIUS (FT)	24 FT FIXED JIB LMI CODE 10		24 FT TELE JIB LMI CODE 11		41 FT TELE JIB LMI CODE 12	
	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)		LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)
5	79	38000									5						
8	73	27010	79	24000							8						
10	68	22330	76	21100	80	18000					10						
12	63	18410	73	18230	77	16320	80	13420			12						
15	55	14420	69	14600	74	13940	77	11900	80	9400	15						
20	40	8550	61	8810	68	8900	72	8960	76	8180	20	80	4400	80	4200		
25	12	5610	52	5900	61	5980	67	6030	71	6070	25	78	4200	78	4000	80	3000
30			41	4230	54	4310	62	4360	67	4390	30	75	4000	75	3800	78	2660
35			28	3150	47	3240	56	3280	62	3310	35	71	3390	71	3150	75	2380
40					37	2480	50	2530	58	2560	40	68	2620	68	2380	72	2150
45					25	1910	43	1970	52	2000	45	65	2060	65	1820	69	1940
50							35	1540	47	1570	50	61	1630	61	1380	66	1680
55							24	1190	40	1230	55	57	1280	57	1040	63	1330
60									33	950	60	53	1000	53	760	60	1050
65									23	710	65	49	770			57	810
70											70	45	580			54	620
75																	
		350 LBS		240 LBS		190 LBS		160 LBS		140 LBS		DEDUCTIONS FOR STOWED FIXED JIB					
		530 LBS		350 LBS		280 LBS		240 LBS		200 LBS		DEDUCTIONS FOR STOWED TELESCOPIC JIB					

# RANGE DIAGRAM - FULLY RETRACTED OUTRIGGER AND STABILIZER CONFIGURATION -



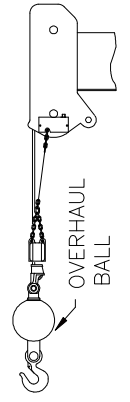
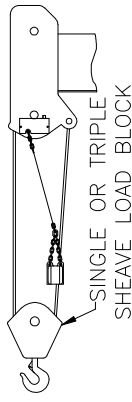
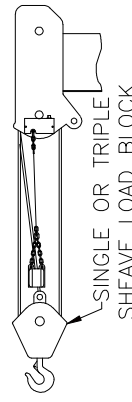
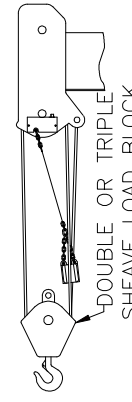
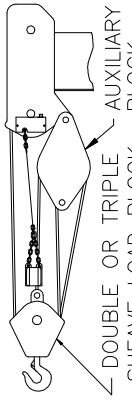
**NOTE :** LIFTING PERSONNEL WITH CRANE IN THIS OUTRIGGER CONFIGURATION IS STRICTLY PROHIBITED. USE ONLY FULLY EXTENDED OUTRIGGER CONFIGURATION WHEN LIFTING PERSONNEL.

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

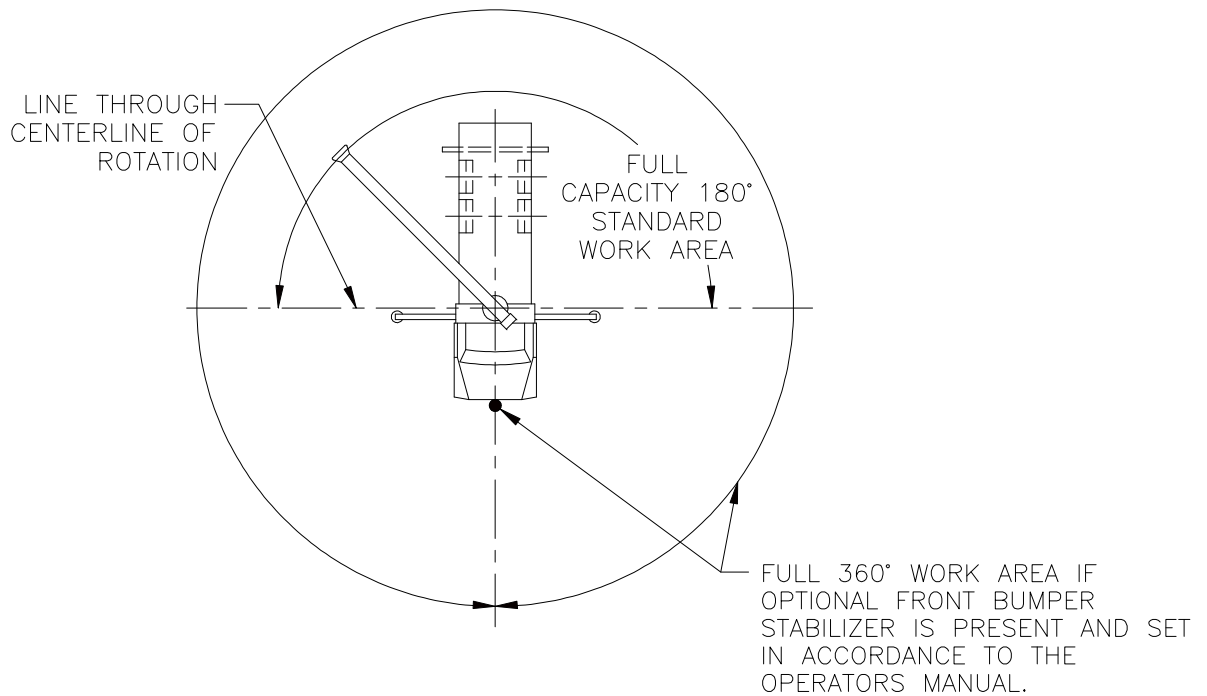


## MAIN BOOM CAPACITIES

MAIN BOOM RATED LOADS											
LOAD RADIUS (FT)	26.5 FT (RETR) LMI CODE 13		40 FT (A) LMI CODE 13		50 FT (B) LMI CODE 13		60 FT (C) LMI CODE 13		70 FT (D) LMI CODE 13		
	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	LOADED BOOM ANGLE (DEG)	LIFTING CAPACITY (LBS)	
5	79	38000									
8	73	15870	79	16160							
10	68	10270	76	10510	80	10600					
12	63	7340	73	7570	77	7650	80	7700			
15	55	4880	69	5090	74	5170	77	5220	80	5250	
20	40	2780	61	2980	68	3050	72	3100	76	3120	
25	12	1620	52	1860	61	1930	67	1970	71	2000	
30			41	1160	54	1230	62	1270	67	1290	
35			28	670	47	750	56	790	62	810	
40											
45											
50											
55											
60											
65											
70											
75											
	350 LBS		240 LBS		190 LBS		160 LBS		140 LBS		FIXED
	530 LBS		350 LBS		280 LBS		240 LBS		200 LBS		TELESCOPIC
DEDUCTIONS FOR STOWED JIB											

ALLOWABLE LINE PULL					<b>WARNING</b>
1 PART LINE	2 PART LINE	3 PART LINE	4 PART LINE	5 PART LINE	
					
8500 LBS	17000 LBS	25500 LBS	34000 LBS	38000 LBS	
7700 LBS	15400 LBS	23100 LBS	30800 LBS	38000 LBS	
					<p>9/16" - 6X25 IWRC (3.5:1 S.F.) 29750 LBS. BREAKING STRENGTH</p> <p>9/16" ROT RESISTANT (5.0:1 S.F.) 38800 LBS. BREAKING STRENGTH</p>

### AREA OF OPERATION



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

- AUXILIARY BLOCK — — — — — 50 LBS
- OVERHAUL BALL — — — — — SEE OVERHAUL BALL MANUFACTURER NAMEPLATE
- LOAD BLOCK — — — — — SEE BLOCK MANUFACTURER NAMEPLATE
- HOSE REEL — — — — — 160 LBS
- SWING AROUND JIB — — — — — SEE LOAD CHART



## 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
#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.

## **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  $\angle$ , IS THE INCLUDED ANGLE BETWEEN THE HORIZONTAL AND LONGITUDINAL AXES OF THE BOOM BASE AFTER LIFTING RATED LOAD AT RATED RADIUS.