

NATIONAL CRANE

by **Manitowoc**

LOAD CHARTS NBT45-2

4,000 LB. COUNTERWEIGHT

**85% STABILITY
ON OUTRIGGERS**

XXXXXX

SERIAL NUMBER

CONTENTS

GENERAL NOTES	4-5
WEIGHT REDUCTIONS / BASKET RCL CODES	6
LINE PULLS & REEVING INFO / HOIST PERFORMANCE	7
LIFTING AREA DIAGRAM.....	8
RANGE DIAGRAM WITH EXTENSION	9

ON OUTRIGGERS FULLY EXTENDED - 360°

MAIN BOOM	10
31' EXTENSION	11
55' EXTENSION	12

ON OUTRIGGERS 50% EXTENDED - 360°

MAIN BOOM	13
31' EXTENSION	14
55' EXTENSION	15

ON OUTRIGGERS 0% EXTENDED - 360°

MAIN BOOM	16
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NOTES FOR LIFTING CAPACITIES

GENERAL:

1. Rated loads as shown on lift chart pertain to this machine as originally manufactured and equipped. Modifications to the machine or use of optional equipment other than that specified can result in a reduction of capacity.
2. Construction equipment can be hazardous if improperly operated or maintained. Operation and maintenance of this machine shall be in compliance with the information in the Operator's and Safety Handbook, Service Manual and Parts Manual supplied with this machine. If these manuals are missing, order replacements from the manufacturer through the distributor.
3. The operator and other personnel associated with machine shall fully acquaint themselves with the latest American National Safety Standards (ASME/ANSI) for cranes.

SETUP:

1. The machine shall be level and on a firm supporting surface. Depending on the nature of the supporting surface, it may be necessary to have structural supports under the outrigger floats or tires to spread the load to a larger bearing surface.
2. For outrigger operation, all outriggers shall be properly extended with tires raised free of crane weight before operating the boom or lifting loads.
3. When machine is equipped with center front stabilizer, the front stabilizer shall be set in accordance with instructions in Operator's and Safety Handbook.
4. When equipped with removable and/or extendible counterweight, the proper counterweight shall be installed and fully extended before and during operation.
5. With certain boom and hoist tackle combinations, maximum capacities may not be obtainable with standard cable lengths.
6. Unless approved by the crane manufacturer, do not travel with boom extension or jib erected unless otherwise noted. Refer to Operator's and Safety Handbook for job-site travel information.
7. Inspect vehicle and crane including crane operation prior to use each day.
8. Always level the crane with the level indicator located on the RCL display, or at each outrigger control location.

OPERATION:

1. Rated loads at rated radius shall not be exceeded. Do not attempt to tip the machine to determine allowable loads. For clamshell, grapple, magnet or concrete bucket operation, weight of component and load must not exceed 80% of rated lifting capacities.
2. All rated loads have been tested to and meet the requirements of SAE J1063 - Cantilevered Boom Crane Structures - Method of Test, and do not exceed 85% of the tipping load on outriggers fully extended, and SAE J1289 - Mobile Crane Stability Ratings $[1.25P < (T-0.1A)]$ on outriggers 50% and 0% extended (fully retracted) as determined by SAE J765 - Crane Stability Test Code. All the percentages are from ASME B30.5 5-1.1.1.
3. Rated loads include the weight of hookblock, slings and auxiliary lifting devices and their weights shall be subtracted from the listed rating to obtain the net load to be lifted. When more than the minimum required parts of line needed to pick the load are used, the additional rope weight as measured from the lower sheaves of the main boom nose shall be considered part of the load to be lifted. When both the hook block and headache ball are reeved, the lifting device that is NOT in use, including the line as measured from the lower sheave(s) of the nose supporting the unused device shall be considered part of the load.
4. Load ratings are based on freely suspended loads. No attempt shall be made to move a load horizontally on the ground in any direction.
5. The "maximum permissible wind speed" referenced in the capacity charts is the "3-second wind gust speed" measured at the boom tip height. These permissible wind speeds are based on the "wind resistance area of load" equal to 0.0059 square feet per pound of load. For larger "wind resistance area of load" refer to Operator's Manual for allowable reduced wind speeds. When lifting on the main boom only, the maximum permissible in-service wind speed is 30 mph. When lifting with the 31'-55' tele extension, the maximum permissible in-service wind speed is 22.5 mph.
6. Rated loads are for lift crane service only.
7. Do not operate at a radius or boom length where capacities are not listed. At these positions, the machine may overturn without any load on the hook.
8. The maximum load which can be telescoped is not definable because of variations in loadings and crane maintenance, but it is safe to attempt retraction and extension of the boom within the limits of the capacity chart.
9. When the boom length or lift radius or both are between values listed, the smallest load shown at either the next larger radius or next longer or shorter boom length shall be used.

NOTES FOR LIFTING CAPACITIES (continued)

OPERATION: (continued)

10. For safe operation, the user shall make due allowances for his particular job conditions, such as: soft or uneven ground, out of level conditions, high winds, side loads, pendulum action, jerking or sudden stopping of loads, experience of personnel, two machine (tandem) lifts, traveling with loads, electric wires, obstacles, hazardous conditions, etc. Side pull on boom or extension is extremely dangerous.
11. When handling personnel, the requirements of the applicable national, state, and local regulations and safety codes must be met.
12. The boom angle before loading should be greater than the loaded boom angle to account for deflection.
13. When operating the machine in the "On Outriggers 50% Extended" mode, the outrigger beam pins must be engaged. When operating in the "On Outriggers 0% Extended" mode, the outrigger beams must be fully retracted. Failure to follow these precautions could result in structural damage or loss of stability of the machine.
14. Do not lift loads when boom is fully lowered. The Rated Capacity Limiter (RCL) senses pressure and will not provide warnings or lockout. The crane can become overloaded if lift cylinder(s) is fully retracted.
15. Use RCL/angle indicator as reference only.
16. Capacities for the 31 ft. boom length shall be lifted with boom fully retracted. If boom is not fully retracted, capacities shall not exceed those shown for the 43 ft. boom length.
17. Always pay out load line before extending boom to avoid damaging loadline or crane structure or tripping anti-two-block system.
18. The maximum outrigger pad load is 67,000 lb on rear main outriggers and 50,000 lb on front main outriggers (not SFO) - minimum chassis requirement.
19. Loads lifted must be within safe winch capacity. Multiple part rope reeving must be used on loads exceeding winch single part rated pull. Auxiliary boom head rated for single part use except multi-reeve group used for nominal rated load. Extensions are rated for single part use only.
20. Do not operate the boom over personnel or allow them to walk or stand beneath the boom or load.
21. Do not allow personnel on carrier deck or crane frame area when rotating crane.
22. Do not allow personnel to ride on hook, hook block, or load. Handling of personnel is only permitted with full extension of all outrigger beams. Use only National Crane approved baskets for boom attached platforms.
23. Operate controls slowly and smoothly to avoid damage to crane or personnel.
24. Boom must be in carrying rack and outriggers fully retracted for travel.
25. Maintain a clearance of at least 10 feet between any part of the crane, loadline, or load, and any electrical line carrying up to 50,000 volts. One foot of clearance is required for every additional 30,000 volts or less.

DEFINITIONS:

1. Operating Radius: Horizontal distance from a projection of the axis of rotation to the supporting surface before loading to the center of the vertical hoist line or tackle with load applied.
2. Loaded Boom Angle (Shown in Parenthesis on Main Boom Capacity Chart): is the angle between the boom base section and the horizontal, after lifting the rated load at the rated radius with the rated boom length.
3. Working Area: Areas measured in a circular arc about the center line of rotation as shown on the working area diagram.
4. Freely Suspended Load: Load hanging free with no direct external force applied except by the lift cable.
5. Side Load: Horizontal force applied to the lifted load either on the ground or in the air.
6. No load stability limit: The stability limit radius is the radius beyond which it is not permitted to position the boom plus block configuration because machine can overturn without any load on the hook.
7. Structural length limit: An area where the boom, or the boom with jib deployed, cannot be extended because of structural limitations.

WEIGHT REDUCTIONS FOR LOAD HANDLING DEVICES

Auxiliary boom nose (single sheave)	60 lb
HOOKBLOCKS and HEADACHE BALLS:	
50 USt, 4 sheave	800 lb+
40 USt, 3 sheave	600 lb+
30 USt, 2 sheave	500 lb+
20 USt, 1 sheave	400 lb+
7 ton headache ball	250 lb+

+ Refer to rating plate for actual weight.

When lifting over boom extension, deduct total weight of all load handling devices reeved over main boom nose directly from boom extension capacity.

NOTE: All load handling devices and boom attachments are considered part of the load and suitable allowances **MUST BE MADE** for their combined weights. Weights are for National Crane furnished equipment.

Basket RCL Operating Codes

0051 - Basket on main boom

0053 - Basket on main boom with 31-55 ft. tele extension stowed

0063 - Basket on 31 ft. tele extension

0064 - Basket on 55 ft. tele extension

LINE PULLS AND REEVING INFORMATION

HOISTS	CABLE SPECS.	PERMISSIBLE LINE PULLS	NOMINAL CABLE LENGTH
Main & Aux	5/8" (16mm) 35x7 Class EEIPS, CS Min. breaking strength 56,400 lb	11,280 lb*	450 ft.

The approximate weight of 5/8" wire rope is 1.0 lb/ft.

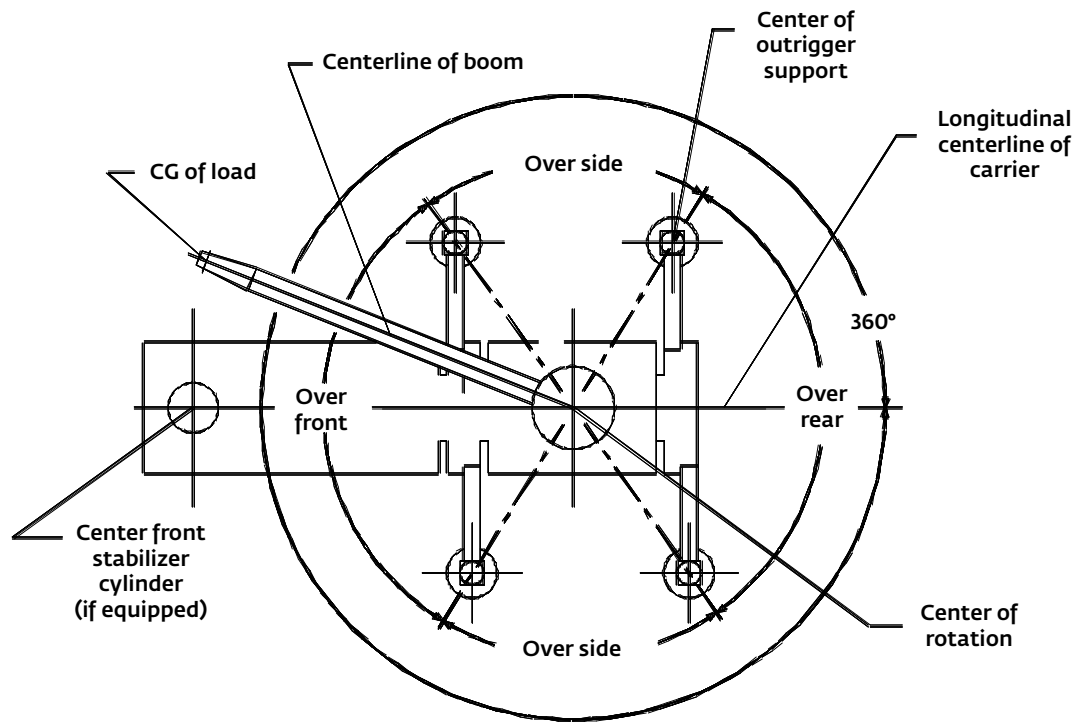
* With certain boom and hoist tackle combinations, the allowable line pull may be limited by hoist performance. Refer to Hoist Performance table for lift planning to ensure adequate hoist performance on drum rope layer required.

Parts of line	1	2	3	4	5	6	7	8
Max. boom length (ft.) at max. elevation with stated rigging and load block at ground level	212	138	101	78	63	53	45	39
Low speed lift (lb)	11,280	22,500	33,750	45,000	56,250	67,500	78,750	90,000
High speed lift (lb)	5,000	10,000	15,000	20,000	25,000	30,000	35,000	40,000

Wire Rope Layer	Hoist Line Pulls		Drum Rope Capacity (ft)	
	Two Speed Hoist			
	Low	High		
	Available lb*	Available lb*	Layer	Total
1	17,250	7,040	78	78
2	15,450	6,310	87	165
3	14,000	5,720	96	261
4	12,790	5,220	105	366
5	11,780	4,810	114	480

* Refer to Line Pulls and Reeving Information table for maximum lifting capacity of wire rope.

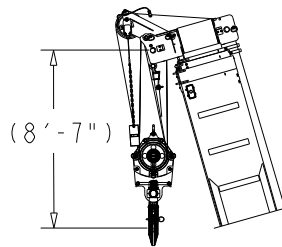
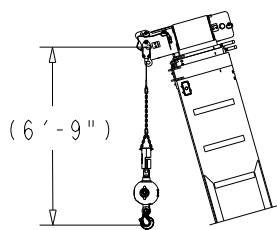
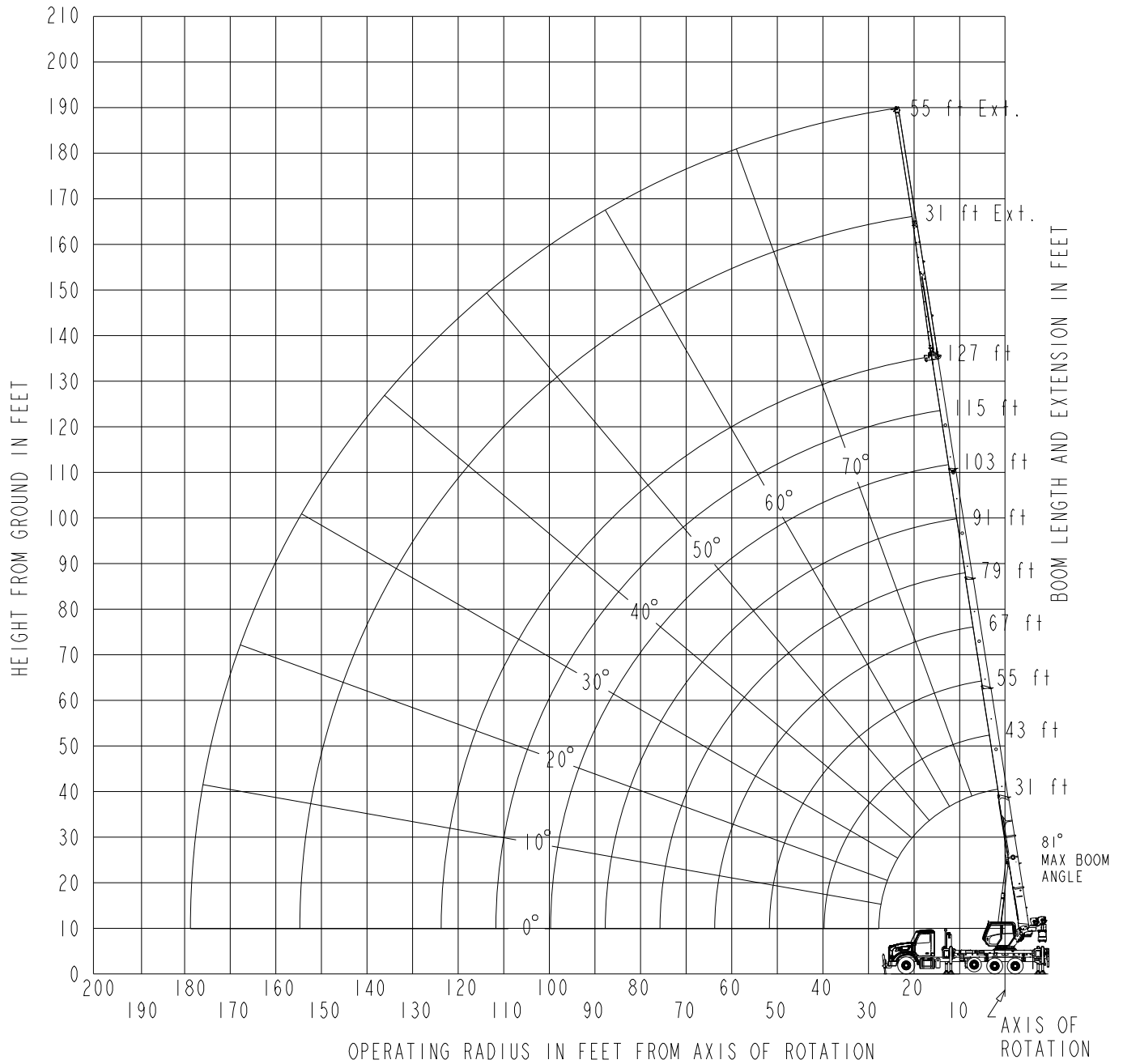
WORKING AREA DIAGRAM



6-829-005671

Bold lines determine the limiting position of any load for operation within working areas indicated.

GEOMETRIC RANGE DIAGRAM
(BOOM DEFLECTION NOT SHOWN) 80138096



DIMENSIONS ARE FOR
LARGEST FURNISHED
HOOK BLOCK & HEADACHE
BALL, WITH ANTI-TWO
BLOCK ACTIVATED.

RATED LIFTING CAPACITIES IN POUNDS
31 FT. - 127 FT. BOOM
WITH 4,000 LB. FIXED COUNTERWEIGHT
ON OUTRIGGERS FULLY EXTENDED - 360°

Radius in Feet	#0001 or #0003								
	Main Boom Length in Feet								
	31.4	43-A	55-B	67-C	79-D	91-E	103-F	115-G	127.3
6	90,000 (74.6)	41,800 (79.4)							
8	81,350 (70.8)	41,800 (76.6)	41,800 (80)						
10	71,100 (66.8)	41,800 (73.9)	41,800 (77.9)	37,500 (80.6)					
12	62,950 (62.7)	41,800 (71.1)	41,050 (75.8)	36,450 (78.9)	29,900 (81)				
15	53,350 (56.1)	41,800 (66.8)	38,350 (72.6)	33,200 (76.3)	29,300 (78.8)	22,950 (80.8)			
20	37,150 (43.3)	38,250 (59.2)	34,500 (67.1)	28,900 (72)	25,850 (75.3)	20,750 (77.7)	18,050 (79.6)		
25	27,600 (25.3)	28,750 (50.7)	28,950 (61.4)	25,600 (67.5)	22,850 (71.6)	18,650 (74.6)	16,750 (76.9)	14,500 (78.8)	10,900 (80.3)
30		22,500 (40.7)	22,700 (55)	23,000 (62.8)	20,500 (67.8)	16,600 (71.4)	14,950 (74.2)	13,350 (76.4)	10,900 (78.2)
35		18,050 (27.4)	18,300 (48)	18,900 (57.7)	18,600 (63.9)	14,850 (68.2)	13,400 (71.4)	12,050 (73.9)	10,350 (76)
40			15,000 (39.7)	15,600 (52.3)	15,800 (59.7)	13,400 (64.8)	12,050 (68.5)	10,950 (71.4)	9,750 (73.8)
45			12,450 (29.3)	13,000 (46.1)	13,300 (55.3)	12,100 (61.2)	10,950 (65.6)	9,960 (68.9)	9,080 (71.6)
50			10,150 (13.1)	10,550 (39.3)	10,950 (50.4)	10,950 (57.4)	9,960 (62.5)	9,080 (66.3)	8,310 (69.3)
55				8,710 (30.7)	9,100 (45)	9,140 (53.4)	9,050 (59.2)	8,320 (63.6)	7,620 (67)
60				7,220 (18.9)	7,630 (39)	7,660 (49)	7,660 (55.8)	7,590 (60.6)	7,010 (64.7)
65					6,430 (31.6)	6,470 (44.2)	6,480 (52.1)	6,510 (57.6)	6,420 (62.1)
70					5,440 (22.2)	5,480 (38.9)	5,500 (48)	5,530 (54.4)	5,480 (59.3)
75					4,590 (5.1)	4,550 (32.4)	4,690 (43.6)	4,710 (50.9)	4,660 (56.5)
80						3,830 (24.5)	4,000 (38.8)	4,010 (47.2)	3,980 (53.5)
85						3,190 (13.4)	3,400 (33)	3,400 (43.2)	3,400 (50.2)
90							2,880 (26.1)	2,880 (38.9)	2,910 (46.8)
95							2,350 (17.3)	2,290 (33.6)	2,480 (43.1)
100								1,860 (27.4)	2,000 (39.1)
105								1,490 (20)	1,560 (34.3)
110								1,080 (9)	1,170 (28.8)
115									810 (22.4)
Min. boom angle for indicated length (no load)									21.4°
Max. boom length at 0° boom angle (no load)									115 ft.

#RCL operating code. Refer to RCL manual for operating instructions.

NOTE: () Boom angles are in degrees.

Boom Angle	Main Boom Length in Feet							
	31.4	43-A	55-B	67-C	79-D	91-E	103-F	115-G
0°	17,050 (27.5)	10,950 (39.2)	7,090 (51.2)	5,040 (63.2)	3,440 (75.2)	2,240 (87.2)	1,340 (99.2)	610 (111.2)

NOTE: () Reference radii in feet.

80131733

Note: Lifting over the main boom nose with the tele extension erected is strictly prohibited.

RATED LIFTING CAPACITIES IN POUNDS
31 FT. - 55 FT. MANUAL TELE BOOM EXTENSION
WITH 4,000 LB. FIXED COUNTERWEIGHT
ON OUTRIGGERS FULLY EXTENDED - 360°
31 FT. EXTENSION AT 0° OFFSET ANGLE

Radius in Feet	#0013		
	Main Boom Length in Feet		
	103-F	115-G	127.3
25	7,860 (80.1)		
30	7,710 (78.1)	6,530 (79.5)	4,870 (80.8)
35	7,300 (76.1)	6,520 (77.7)	4,850 (79.2)
40	6,540 (74.1)	6,370 (75.9)	4,820 (77.5)
45	5,910 (72)	5,770 (74)	4,800 (75.8)
50	5,360 (69.9)	5,260 (72.1)	4,760 (74.1)
55	4,890 (67.7)	4,810 (70.2)	4,540 (72.3)
60	4,490 (65.5)	4,410 (68.2)	4,210 (70.6)
65	4,130 (63.2)	4,070 (66.2)	3,890 (68.8)
70	3,810 (60.6)	3,760 (64.2)	3,610 (66.9)
75	3,530 (58)	3,480 (61.9)	3,350 (65.1)
80	3,280 (55.2)	3,240 (59.6)	3,120 (63)
85	3,060 (52.2)	3,020 (57.1)	2,910 (60.9)
90	2,730 (49.2)	2,590 (54.4)	2,480 (58.6)
95	2,250 (46)	2,120 (51.6)	2,000 (56.2)
100	1,830 (42.6)	1,690 (48.7)	1,580 (53.7)
105	1,450 (39)	1,310 (45.7)	1,200 (51.1)
110	1,110 (34.6)	980 (42.5)	860 (48.4)
115	800 (29.5)	670 (39.1)	560 (45.6)
120	530 (23.7)		
Min. boom angle for indicated length (no load)	22.7°	38.1°	44.6°
Max. boom length at 0° boom angle (no load)	43 ft.	43 ft.	43 ft.

#RCL operating code. Refer to RCL manual for operating instructions.

NOTE: () Boom angles are in degrees.

80131734_31

BOOM EXTENSION CAPACITY NOTES:

1. 31 ft. and 55 ft. extension lengths may be used for single line lifting service only.
2. Radii listed are for boom extended to boom length column. For main boom lengths shorter than the shortest boom length column, the rated loads are determined by boom angles listed in the shortest boom length column. For boom angles not shown, use the rating of the next lower boom angle.
- WARNING:** Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
3. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
4. Capacities listed are with outriggers properly extended and vertical jacks set only.

RATED LIFTING CAPACITIES IN POUNDS
31 FT. - 55 FT. MANUAL TELE BOOM EXTENSION
WITH 4,000 LB. FIXED COUNTERWEIGHT
ON OUTRIGGERS FULLY EXTENDED - 360°
55 FT. EXTENSION AT 0° OFFSET ANGLE

Radius in Feet	#0014		
	Main Boom Length in Feet		
	103-F	115-G	127.3
30	4,040 (80.8)		
35	3,630 (79.1)	3,520 (80.3)	
40	3,270 (77.5)	3,370 (78.8)	2,520 (80)
45	2,960 (75.8)	3,080 (77.2)	2,520 (78.6)
50	2,690 (74)	2,810 (75.7)	2,520 (77.2)
55	2,460 (72.3)	2,580 (74.1)	2,510 (75.7)
60	2,270 (70.5)	2,390 (72.5)	2,480 (74.2)
65	2,100 (68.7)	2,210 (70.8)	2,310 (72.7)
70	1,950 (66.9)	2,060 (69.2)	2,160 (71.2)
75	1,820 (65)	1,920 (67.5)	2,020 (69.7)
80	1,700 (63)	1,800 (65.8)	1,890 (68.1)
85	1,590 (60.9)	1,690 (63.9)	1,780 (66.5)
90	1,500 (58.7)	1,600 (62)	1,680 (64.9)
95	1,410 (56.2)	1,510 (60)	1,590 (63.2)
100	1,330 (53.7)	1,420 (57.7)	1,510 (61.4)
105	1,260 (51.1)	1,350 (55.4)	1,430 (59.4)
110	1,190 (48.4)	1,280 (53)	1,360 (57.2)
115	1,130 (45.6)	1,220 (50.6)	1,240 (55)
120	1,080 (42.6)	1,110 (48)	960 (52.7)
125	1,030 (39.4)	860 (45.3)	710 (50.3)
130	790 (35.5)	620 (42.6)	
135	580 (31.1)		
Min. boom angle for indicated length (no load)	30.1°	41.6°	49.3°
Max. boom length at 0° boom angle (no load)	43 ft.	43 ft.	43 ft.

#RCL operating code. Refer to RCL manual for operating instructions.

NOTE: () Boom angles are in degrees.

80131734_55

BOOM EXTENSION CAPACITY NOTES:

1. 31 ft. and 55 ft. extension lengths may be used for single line lifting service only.
 2. Radii listed are for boom extended to boom length column. For main boom lengths shorter than the shortest boom length column, the rated loads are determined by boom angles listed in the shortest boom length column. For boom angles not shown, use the rating of the next lower boom angle.
- WARNING:** Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
3. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
 4. Capacities listed are with outriggers properly extended and vertical jacks set only.

RATED LIFTING CAPACITIES IN POUNDS
31 FT. - 127 FT. BOOM
WITH 4,000 LB. FIXED COUNTERWEIGHT
ON OUTRIGGERS 50% EXTENDED (16 FT. SPREAD) - 360°

Radius in Feet	#0401 or #0403								
	Main Boom Length in Feet								
	31.4	43-A	55-B	67-C	79-D	91-E	103-F	115-G	127.3
6	88,550 (74.6)	41,800 (79.4)							
8	75,850 (70.8)	41,800 (76.6)	41,800 (80)						
10	66,150 (66.8)	41,800 (73.9)	41,800 (77.9)	37,500 (80.6)					
12	58,400 (62.7)	41,800 (71.1)	41,050 (75.8)	36,450 (78.9)	29,900 (81)				
15	46,650 (56.1)	41,800 (66.8)	38,350 (72.6)	33,200 (76.3)	29,300 (78.8)	22,950 (80.8)			
20	26,250 (43.3)	26,700 (59.2)	25,100 (67.1)	24,450 (72)	23,350 (75.3)	20,750 (77.7)	18,050 (79.6)		
25	16,250 (25.3)	17,500 (50.7)	17,350 (61.4)	17,150 (67.5)	16,550 (71.6)	15,950 (74.6)	15,400 (76.9)	14,500 (78.8)	10,900 (80.3)
30		12,050 (40.7)	12,100 (55)	12,600 (62.8)	12,350 (67.8)	11,950 (71.4)	11,600 (74.2)	11,250 (76.4)	10,850 (78.2)
35		8,600 (27.4)	8,830 (48)	9,330 (57.7)	9,440 (63.9)	9,200 (68.2)	8,970 (71.4)	8,700 (73.9)	8,440 (76)
40			6,440 (39.7)	7,000 (52.3)	7,110 (59.7)	7,170 (64.8)	7,010 (68.5)	6,810 (71.4)	6,620 (73.8)
45			4,670 (29.3)	5,280 (46.1)	5,410 (55.3)	5,470 (61.2)	5,510 (65.6)	5,360 (68.9)	5,210 (71.6)
50			3,290 (13.1)	3,940 (39.3)	4,120 (50.4)	4,170 (57.4)	4,230 (62.5)	4,210 (66.3)	4,090 (69.3)
55				2,870 (30.7)	3,070 (45)	3,150 (53.4)	3,210 (59.2)	3,220 (63.6)	3,170 (67)
60				1,990 (18.9)	2,210 (39)	2,330 (49)	2,380 (55.8)	2,400 (60.6)	2,410 (64.7)
65					1,500 (31.6)	1,620 (44.2)	1,700 (52.1)	1,720 (57.6)	1,730 (62.1)
70					900 (22.2)	1,020 (38.9)	1,120 (48)	1,150 (54.4)	1,160 (59.3)
75						520 (32.4)	620 (43.6)	670 (50.9)	680 (56.5)
Min. boom angle for indicated length (no load)					21.2°	31.4°	42.6°	49.9°	55.5°
Max. boom length at 0° boom angle (no load)					67 ft.				

#RCL operating code. Refer to RCL manual for operating instructions.

NOTE: () Boom angles are in degrees.

Boom Angle	Main Boom Length in Feet								
	31.4	43-A	55-B	67-C	79-D	91-E	103-F	115-G	127.3
0°	12,950 (27.5)	6,380 (39.2)	2,960 (51.2)	1,470 (63.2)					

NOTE: () Reference radii in feet.

80137050

Note: Lifting over the main boom nose with the tele extension erected is strictly prohibited.

RATED LIFTING CAPACITIES IN POUNDS

31 FT. - 55 FT. MANUAL TELE BOOM EXTENSION

WITH 4,000 LB. FIXED COUNTERWEIGHT

ON OUTRIGGERS 50% EXTENDED (16 FT. SPREAD) - 360°

31 FT. EXTENSION AT 0° OFFSET ANGLE

Radius in Feet	#0413		
	Main Boom Length in Feet		
	103-F	115-G	127.3
25	7,860 (80.1)		
30	7,710 (78.1)	6,530 (79.5)	4,870 (80.8)
35	7,300 (76.1)	6,520 (77.7)	4,850 (79.2)
40	6,540 (74.1)	6,270 (75.9)	4,820 (77.5)
45	5,210 (72)	4,900 (74)	4,620 (75.8)
50	4,080 (69.9)	3,810 (72.1)	3,550 (74.1)
55	3,160 (67.7)	2,910 (70.2)	2,680 (72.3)
60	2,400 (65.5)	2,160 (68.2)	1,950 (70.6)
65	1,750 (63.2)	1,530 (66.2)	1,330 (68.8)
70	1,170 (60.6)	990 (64.2)	800 (66.9)
75	680 (58)	520 (61.9)	
Min. boom angle for indicated length (no load)	57°	60.9°	65.9°
Max. boom length at 0° boom angle (no load)	43 ft.	43 ft.	43 ft.

#RCL operating code. Refer to RCL manual for operating instructions.

NOTE: () Boom angles are in degrees.

80137051_31

BOOM EXTENSION CAPACITY NOTES:

1. 31 ft. and 55 ft. extension lengths may be used for single line lifting service only.
2. Radii listed are for boom extended to boom length column. For main boom lengths shorter than the shortest boom length column, the rated loads are determined by boom angles listed in the shortest boom length column. For boom angles not shown, use the rating of the next lower boom angle.
- WARNING:** Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
3. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
4. Capacities listed are with outriggers properly extended and vertical jacks set only.

RATED LIFTING CAPACITIES IN POUNDS

31 FT. - 55 FT. MANUAL TELE BOOM EXTENSION

WITH 4,000 LB. FIXED COUNTERWEIGHT

ON OUTRIGGERS 50% EXTENDED (16 FT. SPREAD) - 360°

55 FT. EXTENSION AT 0° OFFSET ANGLE

Radius in Feet	#0414		
	Main Boom Length in Feet		
	103-F	115-G	127.3
30	4,040 (80.8)		
35	3,630 (79.1)	3,520 (80.3)	
40	3,270 (77.5)	3,370 (78.8)	2,520 (80)
45	2,960 (75.8)	3,080 (77.2)	2,520 (78.6)
50	2,690 (74)	2,810 (75.7)	2,520 (77.2)
55	2,460 (72.3)	2,580 (74.1)	2,510 (75.7)
60	2,270 (70.5)	2,390 (72.5)	2,480 (74.2)
65	2,100 (68.7)	2,210 (70.8)	2,040 (72.7)
70	1,950 (66.9)	1,750 (69.2)	1,520 (71.2)
75	1,480 (65)	1,290 (67.5)	1,070 (69.7)
80	1,050 (63)	880 (65.8)	670 (68.1)
85	680 (60.9)	500 (63.9)	
Min. boom angle for indicated length (no load)	59.9°	62.9°	67.1°
Max. boom length at 0° boom angle (no load)	43 ft.	43 ft.	43 ft.

#RCL operating code. Refer to RCL manual for operating instructions.

NOTE: () Boom angles are in degrees.

80137051_55

BOOM EXTENSION CAPACITY NOTES:

1. 31 ft. and 55 ft. extension lengths may be used for single line lifting service only.
2. Radii listed are for boom extended to boom length column. For main boom lengths shorter than the shortest boom length column, the rated loads are determined by boom angles listed in the shortest boom length column. For boom angles not shown, use the rating of the next lower boom angle.
- WARNING:** Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
3. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
4. Capacities listed are with outriggers properly extended and vertical jacks set only.

RATED LIFTING CAPACITIES IN POUNDS
31 FT. - 127 FT. BOOM
WITH 4,000 LB. FIXED COUNTERWEIGHT
ON OUTRIGGERS FULLY RETRACTED - 360°

Radius in Feet	#0801 or #0803					
	Main Boom Length in Feet					
	31.4	43-A	55-B	67-C	79-D	91-E
6	56,450 (74.6)	41,800 (79.4)				
8	36,050 (70.8)	32,950 (76.6)	29,450 (80)			
10	25,550 (66.8)	24,050 (73.9)	21,850 (77.9)	20,700 (80.6)		
12	19,050 (62.7)	18,400 (71.1)	16,900 (75.8)	16,250 (78.9)	15,250 (81)	
15	12,900 (56.1)	13,050 (66.8)	12,050 (72.6)	11,800 (76.3)	11,200 (78.8)	10,600 (80.8)
20	7,170 (43.3)	7,690 (59.2)	7,320 (67.1)	7,390 (72)	7,080 (75.3)	6,750 (77.7)
25	3,700 (25.3)	4,560 (50.7)	4,390 (61.4)	4,700 (67.5)	4,540 (71.6)	4,350 (74.6)
30		2,510 (40.7)	2,440 (55)	2,840 (62.8)	2,830 (67.8)	2,710 (71.4)
35		1,050 (27.4)	1,050 (48)	1,500 (57.7)	1,540 (63.9)	1,520 (68.2)
40					570 (59.7)	570 (64.8)
Min. boom angle for indicated length (no load)		26.4°	47°	56.7°	58.7°	63.8°
Max. boom length at 0° boom angle (no load)		31.4 ft.				

#RCL operating code. Refer to RCL manual for operating instructions.

NOTE: () Boom angles are in degrees.

Boom Angle	Main Boom Length in Feet					
	31.4	43-A	55-B	67-C	79-D	91-E
0°	2,280 (27.5)					

NOTE: () Reference radii in feet.

80137052

Note: Lifting over the main boom nose with the tele extension erected is strictly prohibited.