

GROVE

by **Manitowoc**

LOAD CHARTS RT890E

**85% STABILITY
ON OUTRIGGERS
75% STABILITY
ON RUBBER**

**235175
SERIAL NUMBER**

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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 & 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. Tires shall be inflated to the recommended pressure before lifting on rubber.
6. With certain boom and hoist tackle combinations, maximum capacities may not be obtainable with standard cable lengths.
7. Unless approved by the crane manufacturer, do not travel with boom extension or jib erected. Refer to Operator's and Safety Handbook for job-site travel information.

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. Capacities on outriggers 50% extended and 0% extended (fully retracted) correspond to SAE J1289 (Test Load = $1.25P + 0.1A$). 0.1A represents one-tenth (0.10) of the total boom weight reduced to the boom point. Loads are also determined by SAE J765 Crane Stability Test Code.
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 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 in-service wind speed is 20 m.p.h. It is recommended when wind velocity is above 20 m.p.h., rated loads and boom lengths shall be appropriately reduced. For machines not in-service, the main boom should be retracted and lowered with swing brake set in wind velocities over 30 m.p.h.
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.
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 jib is extremely dangerous.
11. Regardless of counterweight and outrigger spread configuration, no deduct is required from the main boom charts for a stowed boom extension.
12. Never handle personnel with this machine unless the requirements of the applicable national, state, and local regulations and safety codes are met.
13. Keep load handling devices a minimum of 42 inches below boom head at all times.
14. The boom angle before loading should be greater than the loaded boom angle to account for deflection.
15. Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
16. Capacities for the 37.3 ft. boom length shall be lifted with boom fully retracted. If boom is not fully retracted, capacities shall not exceed those shown for the 50.5 ft. boom length.
17. When operating in the "On Outriggers 50% Extended (17.3' spread)" mode, the outrigger beam pins must be engaged. When operating in the "On Outriggers 0% Extended (10.3' spread)" 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.
18. 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.
19. **WARNING:** Lifting with the 33 ft. extension base, with the 23 ft. extension fly either erected or folded along side of extension base, is strictly prohibited.
20. When utilizing the 33-56 ft. folding boom extension, with or without inserts, the main boom will sequence as follows: inner-mid 100%, then center-mid 100%, then outer-mid & fly.
21. The maximum outrigger pad load is 123,000 lb.

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.

WEIGHT REDUCTIONS FOR LOAD HANDLING DEVICES

33 FT. - 56 FT. FOLDING BOOM EXTENSION	
*33 ft. Extension (erected) -	3,750 lb
*56 ft. Extension (erected) -	8,000 lb
*72 ft. (1 insert erected) -	10,450 lb
*88 ft. (2 inserts erected) -	13,000 lb

*Reduction of main boom capacities

(no deduct required for stowed boom extension)

AUXILIARY BOOM NOSE	133 lb
HOOKBLOCKS and HEADACHE BALLS:	
80 ton, 5 sheave	1600 lb+
90 ton, 5 sheave	1300 lb+
12 ton overhaul ball	558 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 Grove furnished equipment.

NOTE: When operating at temperatures below -40°F, capacities shall be derated 3.6% of rated load for each degree Fahrenheit below -40°F without shock load.

INSTALLATION AND REMOVAL OF COUNTERWEIGHT AND AUXILIARY HOIST

RATED LIFTING CAPACITIES IN POUNDS
ON OUTRIGGERS FULLY EXTENDED - 360°

Radius in Feet	RCL code #0801
	Main Boom Length
	37.3 ft.*
10	26,000
12	26,000
15	26,000
20	26,000
25	26,000
30	26,000

* The boom must be fully retracted.

A6-829-103450A

HOIST PERFORMANCE

Wire Rope Layer	Hoist Line Pulls		Drum Rope Capacity (ft.)	
	Two Speed Hoist			
	Low	High	Layer	Total
	Available lb*	Available lb*		
1	20,250	9,610	101	101
2	18,490	8,770	110	211
3	17,010	8,070	120	331
4	15,750	7,470	129	460
5	14,660	6,960	139	599

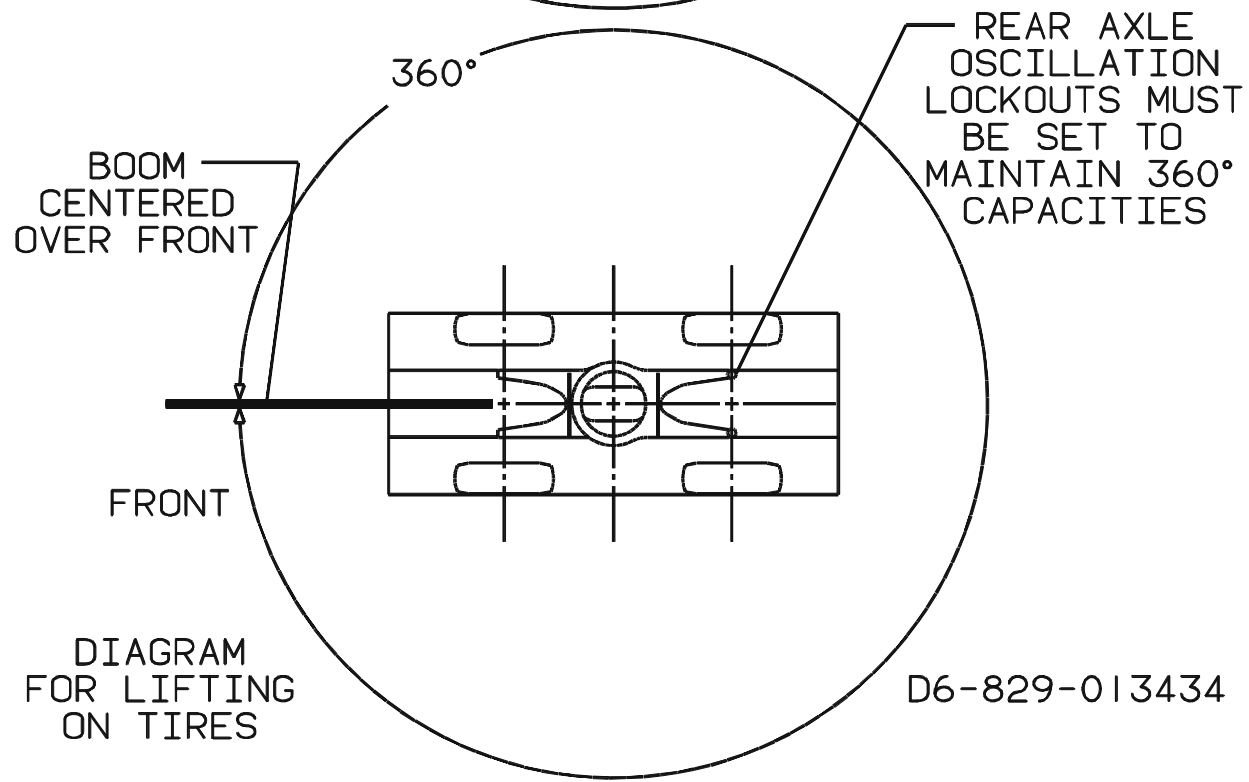
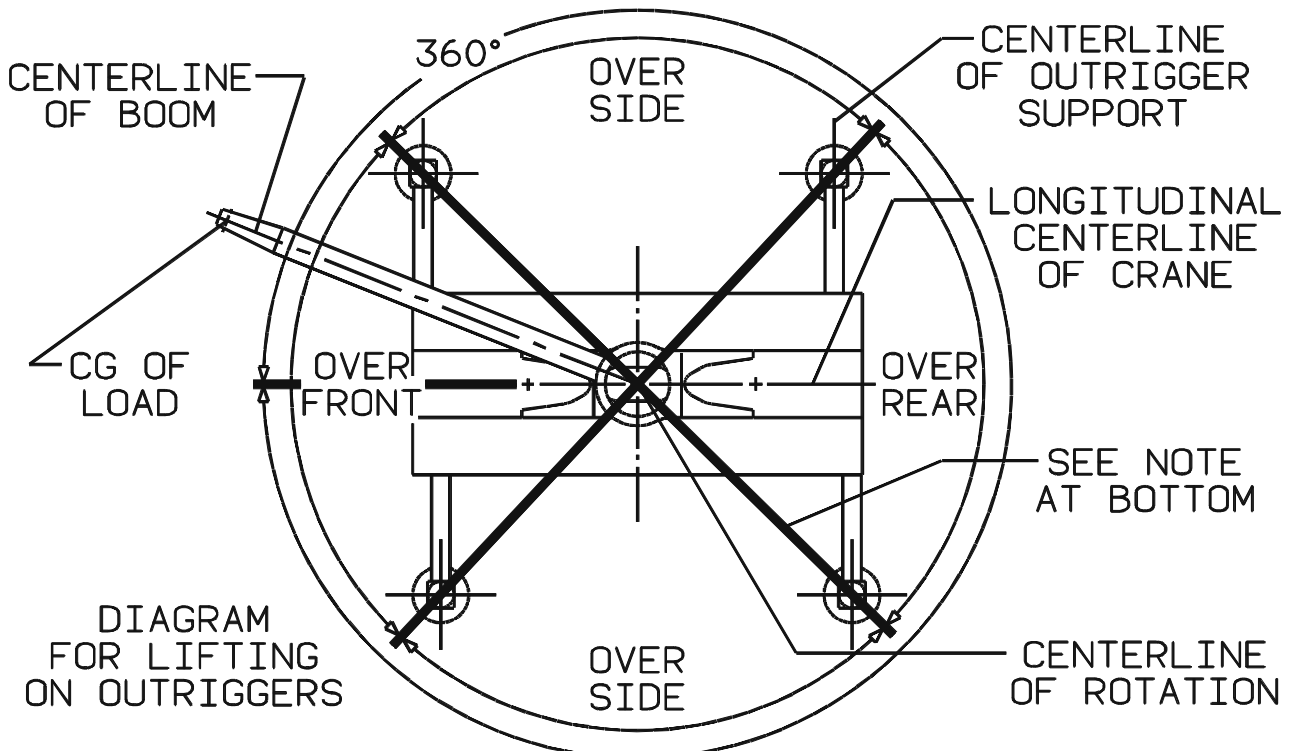
*Max. lifting capacity: 6x37& 35x7 class = 16,800 lb

LINE PULLS AND REEVING INFORMATION

HOISTS	CABLE SPECS.	PERMISSIBLE LINE PULLS	NOMINAL CABLE LENGTH
Main	3/4" (19 mm) 6x37 Class EIPS, WRC Special Flexible Min. Breaking Str. 58,800 lb	16,800 lb*	600 ft.
Main & Aux.	3/4" (19 mm) 35x7 Class Rotation Resistant (non-rotating) Min. Breaking Strength 85,800 lb	16,800 lb*	607 ft.

The approximate weight of 3/4" wire rope is 1.5 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.



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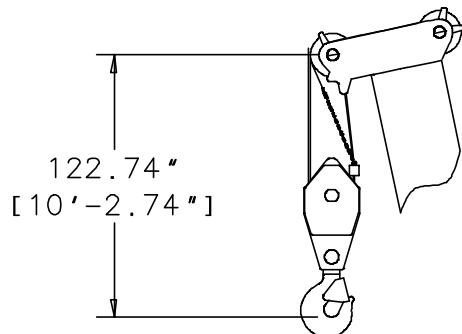
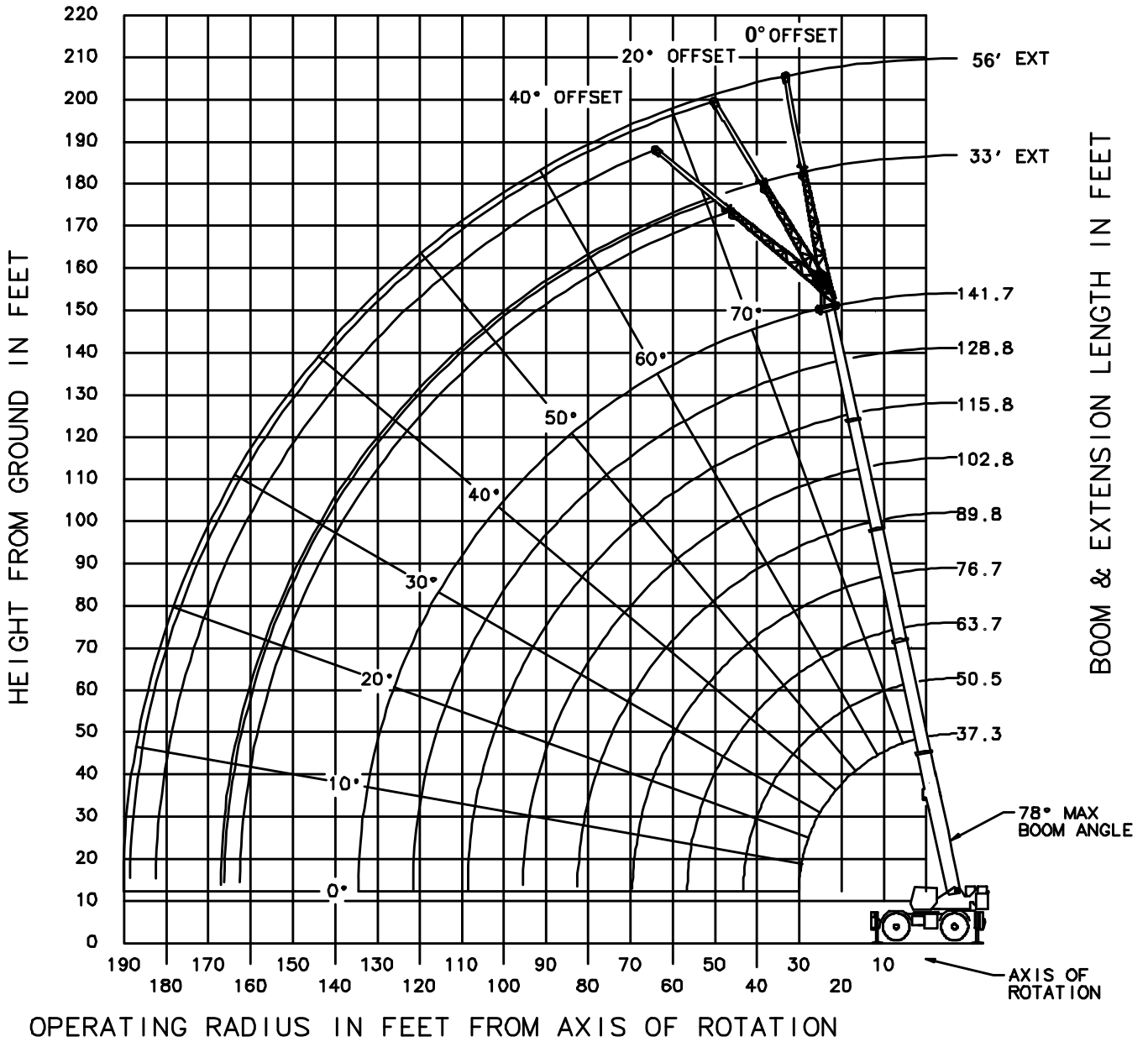
BOLD LINES DETERMINE THE LIMITING POSITION OF ANY LOAD FOR OPERATION WITHIN WORKING AREAS INDICATED

WORKING AREA DIAGRAM

WORKING RANGE DIAGRAM WITH NO INSERTS

(BOOM DEFLECTION NOT SHOWN)

6-829-103435



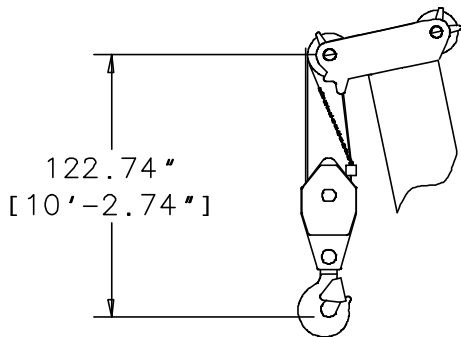
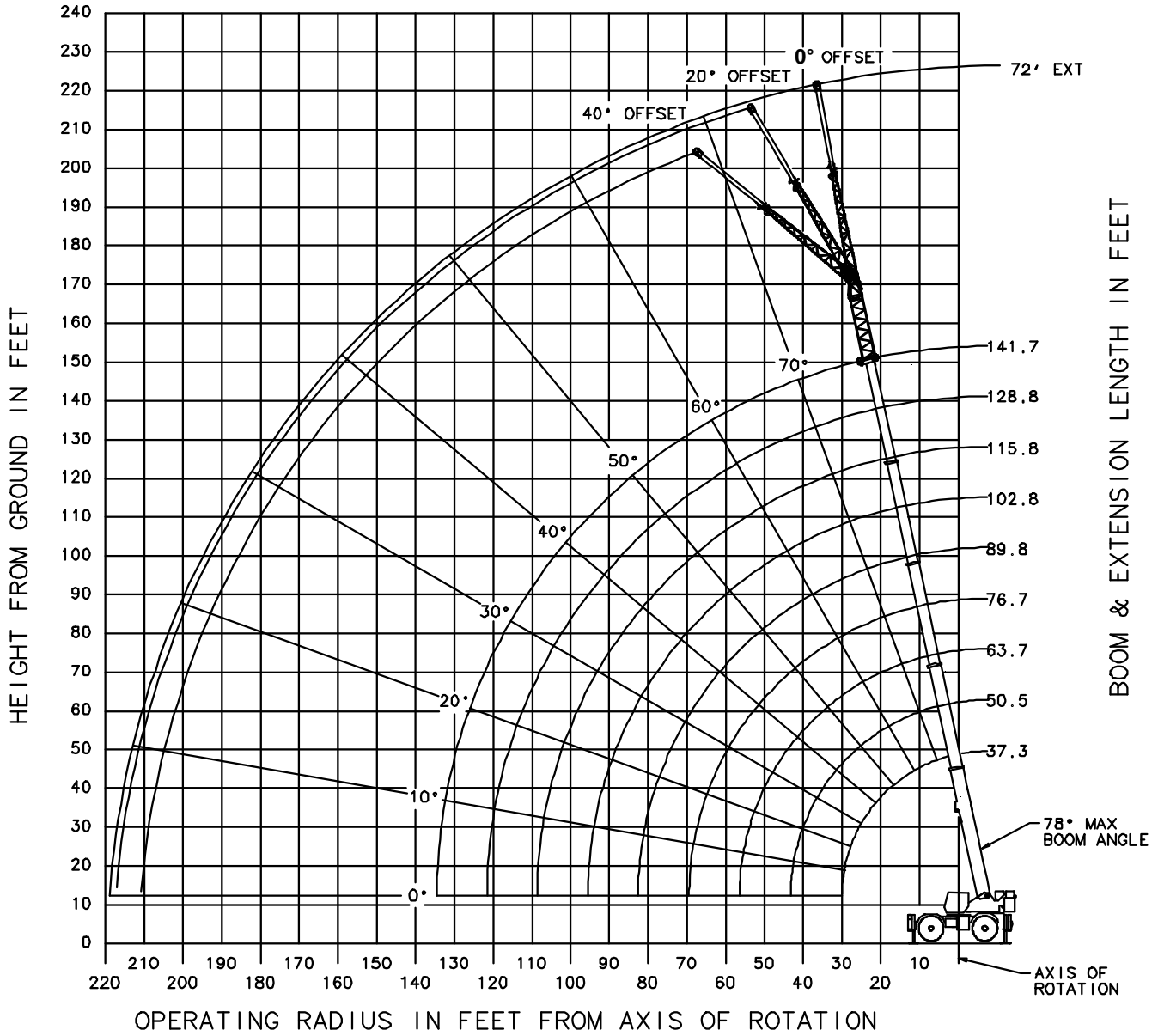
DIMENSIONS ARE FOR LARGEST GROVE FURNISHED HOOKBLOCK AND HEADACHE BALL, WITH ANTI-TWO BLOCK ACTIVATED.

MODE B SHOWN

WORKING RANGE DIAGRAM WITH ONE INSERT

(BOOM DEFLECTION NOT SHOWN)

6-829-103436



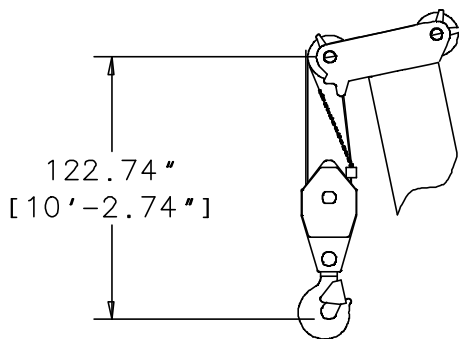
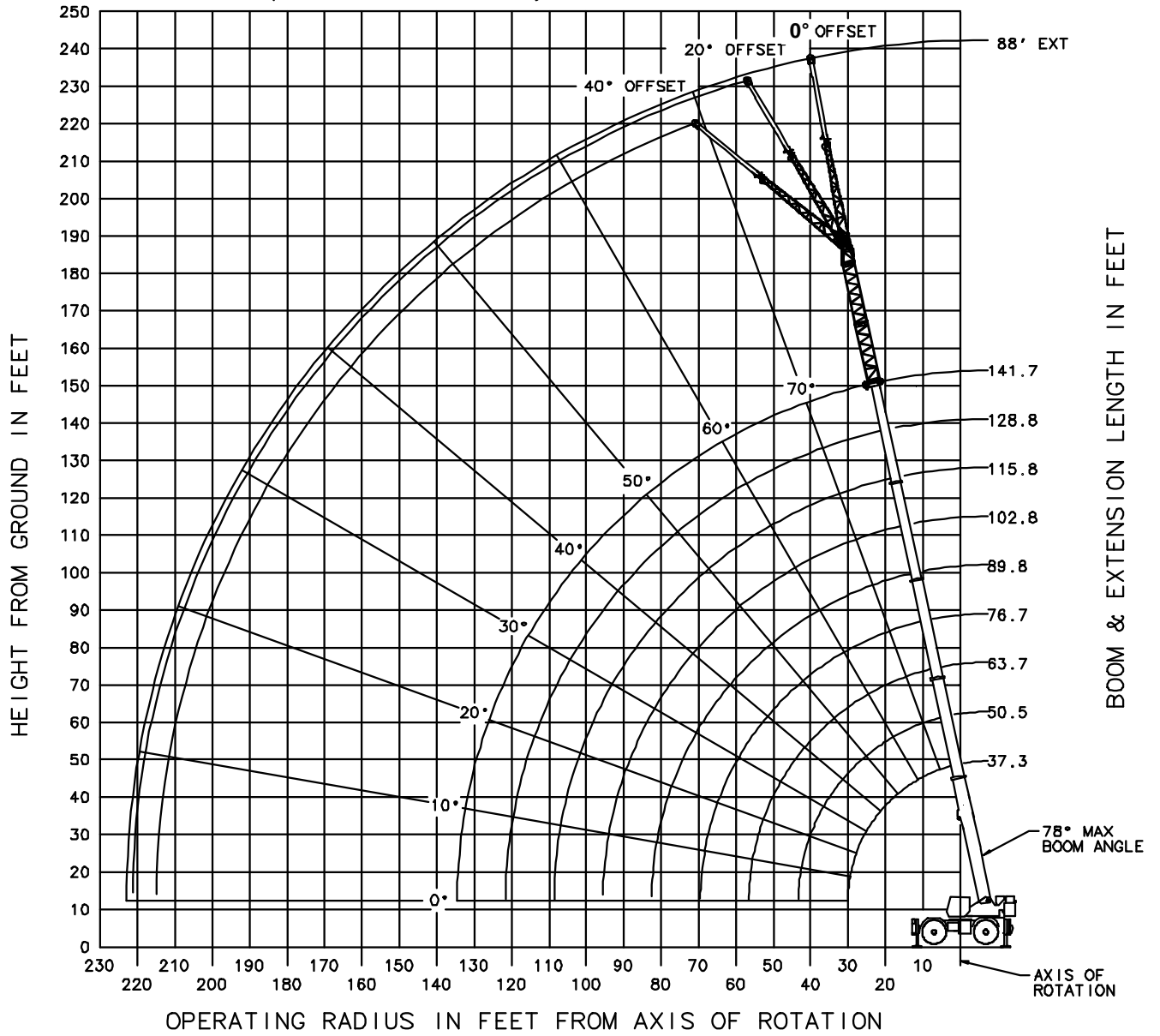
DIMENSIONS ARE FOR LARGEST GROVE FURNISHED HOOKBLOCK AND HEADACHE BALL, WITH ANTI-TWO BLOCK ACTIVATED.

MODE B SHOWN

WORKING RANGE DIAGRAM WITH TWO INSERTS

(BOOM DEFLECTION NOT SHOWN)

6-829-103437



DIMENSIONS ARE FOR LARGEST GROVE FURNISHED HOOKBLOCK AND HEADACHE BALL, WITH ANTI-TWO BLOCK ACTIVATED.

MODE B SHOWN

**BOOM SECTION vs.
SECTION EXTENSION PERCENTAGES**

MODE A - Inner Mid Retracted

	Main Boom Length in Feet							
	37.3	50.4	63.4	76.4	89.4	102.4	115.4	141.7
Boom sections:	Percent Extension							
Inner-mid	0	0	0	0	0	0	0	100
Center-mid	0	50	100	100	100	100	100	100
Outer-mid	0	0	0	25	50	75	100	100
Fly	0	0	0	25	50	75	100	100

MODE B - Normal Mode

	Main Boom Length in Feet								
	37.3	50.5	63.7	76.7	89.8	102.8	115.8	128.8	141.7
Boom sections:	Percent Extension								
Inner-mid	0	50	75	75	100	100	100	100	100
Center-mid	0	0	25	75	100	100	100	100	100
Outer-mid	0	0	0	0	0	25	50	75	100
Fly	0	0	0	0	0	25	50	75	100

**RATED LIFTING CAPACITIES IN POUNDS WITH COUNTERWEIGHT - MODE A
37.3 FT. - 141.7 FT. BOOM**

ON OUTRIGGERS FULLY EXTENDED - 360°

Radius in Feet	#0001							
	Main Boom Length in Feet							
	37.3	50.4	63.4	76.4	89.4	102.4	115.4	141.7
10	+180,000 (68.5)	134,000 (75)	*80,800 (78)					
12	156,000 (65)	134,000 (72.5)	80,800 (76.5)	*38,700 (78)				
15	128,500 (59.5)	129,000 (68.5)	80,800 (73.5)	38,700 (77)	*38,500 (78)			
20	98,650 (49.5)	98,950 (62)	70,950 (68.5)	38,700 (73)	38,500 (76.5)	*38,400 (78)		
25	78,800 (36.5)	79,150 (55)	62,300 (63.5)	38,700 (69)	38,500 (73)	38,400 (76)	24,400 (78)	
30	51,550 (12.5)	60,500 (47)	55,250 (58)	38,700 (65)	38,500 (69.5)	37,500 (73)	24,400 (76)	*24,400 (78)
35		45,150 (38)	44,900 (52.5)	38,700 (60.5)	36,750 (66)	33,150 (70)	24,400 (73.5)	24,400 (77)
40		35,250 (25.5)	34,700 (46)	36,750 (56)	32,750 (62)	29,550 (67)	24,400 (70.5)	24,250 (75)
45			27,600 (39)	29,450 (51)	29,400 (58.5)	26,500 (63.5)	24,400 (68)	21,900 (73)
50	See Note 16		22,400 (30)	24,000 (45.5)	25,650 (54.5)	23,950 (60.5)	22,050 (65)	19,800 (70.5)
55			18,250 (15.5)	19,850 (39.5)	21,350 (50)	21,750 (57)	20,000 (62)	17,900 (68.5)
60				16,600 (32.5)	17,950 (45.5)	18,900 (53.5)	18,250 (59)	16,150 (66)
65				13,850 (23)	15,200 (40)	16,150 (49.5)	16,700 (56)	14,650 (64)
70					12,950 (34.5)	13,850 (45.5)	14,800 (53)	12,850 (61.5)
75					11,000 (27.5)	11,950 (41)	12,900 (49.5)	10,950 (59)
80					9,340 (17)	10,300 (36)	11,250 (45.5)	9,380 (56.5)
85						8,900 (30)	9,830 (42)	7,980 (54)
90						7,640 (22.5)	8,590 (37.5)	6,770 (51)
95						6,520 (8)	7,510 (32.5)	5,700 (48.5)
100							6,520 (26.5)	4,750 (45.5)
105							5,640 (18.5)	3,910 (42)
110								3,150 (38.5)
115								2,460 (35)
120								1,840 (30.5)
125								1,250 (25.5)
Minimum boom angle (deg.) for indicated length (no load)								24
Maximum boom length (ft.) at 0 deg. boom angle (no load)								115.4

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

*This capacity is based upon maximum obtainable boom angle.

Note: () Boom angles are in degrees.

+11 parts line required to lift this capacity (using aux. boom nose). Refer to Operator's & Safety Handbook for reeving diagram.

Lifting Capacities at Zero Degree Boom Angle								
Boom Angle	Main Boom Length in Feet							
	37.3	50.4	63.4	76.4	89.4	102.4	115.4	
0°	27,500 (30.1)	17,300 (43.2)	11,050 (56.2)	8,580 (69.2)	6,700 (82.2)	5,380 (95.2)	4,280 (108.2)	

Note: () Reference radii in feet.

A6-829-103320B

**RATED LIFTING CAPACITIES IN POUNDS WITH COUNTERWEIGHT - MODE A
37.3 FT. - 141.7 FT. BOOM**

ON OUTRIGGERS 50% EXTENDED (17.3' spread) - 360°

Radius in Feet	#4001							
	Main Boom Length in Feet							
	37.3	50.4	63.4	76.4	89.4	102.4	115.4	141.7
10	149,500 (68.5)	134,000 (75)	*80,800 (78)					
12	127,000 (65)	127,000 (72.5)	80,800 (76.5)	*38,700 (78)				
15	103,500 (59.5)	103,000 (68.5)	80,800 (73.5)	38,700 (77)	*38,500 (78)			
20	77,100 (49.5)	71,750 (62)	67,450 (68.5)	38,700 (73)	38,500 (76.5)	*38,400 (78)		
25	48,450 (36.5)	47,000 (55)	47,250 (63.5)	38,700 (69)	38,500 (73)	38,400 (76)	24,400 (78)	
30	33,100 (12.5)	33,400 (47)	33,650 (58)	35,700 (65)	35,850 (69.5)	35,650 (73)	24,400 (76)	*24,400 (78)
35		24,800 (38)	24,850 (52.5)	26,950 (60.5)	28,300 (66)	28,400 (70)	24,400 (73.5)	24,300 (77)
40		18,950 (25.5)	18,850 (46)	20,700 (56)	22,500 (62)	23,050 (67)	23,250 (70.5)	19,650 (75)
45	See Note 16		14,400 (39)	16,150 (51)	17,800 (58.5)	18,650 (63.5)	19,300 (68)	16,000 (73)
50			11,000 (30)	12,750 (45.5)	14,250 (54.5)	15,100 (60.5)	16,000 (65)	13,100 (70.5)
55			8,370 (15.5)	9,990 (39.5)	11,450 (50)	12,300 (57)	13,200 (62)	10,750 (68.5)
60				7,770 (32.5)	9,200 (45.5)	10,100 (53.5)	10,950 (59)	8,800 (66)
65				5,940 (23)	7,300 (40)	8,250 (49.5)	9,130 (56)	7,140 (64)
70					5,710 (34.5)	6,690 (45.5)	7,590 (53)	5,720 (61.5)
75					4,360 (27.5)	5,340 (41)	6,280 (49.5)	4,450 (59)
80					3,200 (17)	4,190 (36)	5,150 (45.5)	3,340 (56.5)
85						3,180 (30)	4,140 (42)	2,370 (54)
90						2,290 (22.5)	3,260 (37.5)	1,530 (51)
95						1,510 (8)	2,480 (32.5)	
100							1,790 (26.5)	
105							1,170 (18.5)	
0.1A (lb)	1,500	1,550	1,540	1,380	1,270	1,190	1,120	1,300
Minimum boom angle (deg.) for indicated length (no load)							10	50
Maximum boom length (ft.) at 0 deg. boom angle (no load)							102.4	

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

*This capacity is based upon maximum obtainable boom angle.

Note: () Boom angles are in degrees.

Lifting Capacities at Zero Degree Boom Angle								
Boom Angle	Main Boom Length in Feet							
	37.3	50.4	63.4	76.4	89.4	102.4		
0°	27,500 (30.1)	16,100 (43.2)	7,810 (56.2)	4,630 (69.2)	2,740 (82.2)	1,490 (95.2)		

Note: () Reference radii in feet.

A6-829-103441

**RATED LIFTING CAPACITIES IN POUNDS WITH COUNTERWEIGHT - MODE A
37.3 FT. - 141.7 FT. BOOM**

ON OUTRIGGERS 0% EXTENDED (10.3' spread) - 360°

Radius in Feet	#8001							
	Main Boom Length in Feet							
	37.3	50.4	63.4	76.4	89.4	102.4	115.4	141.7
10	108,500 (68.5)	98,050 (75)	*80,800 (78)					
12	84,250 (65)	75,750 (72.5)	69,750 (76.5)	*38,700 (78)				
15	60,250 (59.5)	55,100 (68.5)	51,400 (73.5)	38,700 (77)	*38,500 (78)			
20	38,200 (49.5)	35,100 (62)	33,850 (68.5)	34,150 (73)	33,950 (76.5)	*33,450 (78)		
25	24,200 (36.5)	23,300 (55)	23,650 (63.5)	24,500 (69)	24,800 (73)	24,750 (76)	24,400 (78)	
30	15,750 (12.5)	16,150 (47)	16,650 (58)	17,800 (65)	18,650 (69.5)	18,900 (73)	19,050 (76)	*15,500 (78)
35		11,400 (38)	11,600 (52.5)	12,850 (60.5)	14,000 (66)	14,700 (70)	15,000 (73.5)	11,750 (77)
40		7,990 (25.5)	7,990 (46)	9,340 (56)	10,500 (62)	11,500 (67)	11,900 (70.5)	8,940 (75)
45			5,280 (39)	6,640 (51)	7,930 (58.5)	8,990 (63.5)	9,470 (68)	6,680 (73)
50	See Note 16		3,170 (30)	4,550 (45.5)	5,840 (54.5)	6,930 (60.5)	7,500 (65)	4,860 (70.5)
55			1,480 (15.5)	2,870 (39.5)	4,170 (50)	5,210 (57)	5,840 (62)	3,340 (68.5)
60				1,500 (32.5)	2,810 (45.5)	3,780 (53.5)	4,460 (59)	2,070 (66)
65					1,670 (40)	2,580 (49.5)	3,280 (56)	
70						1,570 (45.5)	2,270 (53)	
75							1,400 (49.5)	
0.1A (lb)	1,500	1,550	1,540	1,380	1,270	1,190	1,120	1,300
Minimum boom angle (deg.) for indicated length (no load)				30	38	44	48	64
Maximum boom length (ft.) at 0° boom angle (no load)				63.4				

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

*This capacity is based upon maximum obtainable boom angle.

Note: () Boom angles are in degrees.

Lifting Capacities at Zero Degree Boom Angle								
Boom Angle	Main Boom Length in Feet							
	37.3	50.4	63.4					
0°	15,600 (30.1)	6,290 (43.2)	1,120 (56.2)					

Note: () Reference radii in feet.

A6-829-103442

ON RUBBER CAPACITIES WITH COUNTERWEIGHT - MODE A

STATIONARY CAPACITIES - 360°

Radius in Feet	#9005			
	Main Boom Length in Feet			
	37.3	50.4	63.4	76.4
12	39,500 (65)	41,650 (72.5)		
15	37,750 (59.5)	38,950 (68.5)	18,900 (73.5)	15,650 (77)
20	24,850 (49.5)	24,850 (62)	18,900 (68.5)	15,650 (73)
25	16,300 (36.5)	16,650 (55)	17,450 (63.5)	15,650 (69)
30	10,200 (12.5)	11,350 (47)	11,450 (58)	13,200 (65)
35		7,650 (38)	7,630 (52.5)	9,280 (60.5)
40		4,920 (25.5)	5,020 (46)	6,510 (56)
45				4,490 (51)
Minimum boom angle (°) for indicated length (no load)			39	46
Maximum boom length (ft.) at 0° boom angle (no load)			50.4	

Note: () Boom angles are in degrees.

Lifting Capacities at Zero Degree Boom Angle				
Boom Angle	Main Boom Length in Feet			
	37.3	50.4		
0°	10,050 (30.1)	3,150 (43.2)		

Note: () Reference radii in feet. A6-829-103452A

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

ON RUBBER CAPACITIES WITH COUNTERWEIGHT - MODE A (cont'd.)

PICK & CARRY CAPACITIES (UP TO 2.5 MPH) - BOOM CENTERED OVER FRONT (See note 6)

Radius in Feet	#9006			
	Main Boom Length in Feet			
	37.3	50.4	63.4	76.4
12	41,600 (65)	41,700 (72.5)		
15	41,600 (59.5)	41,700 (68.5)	22,400 (73.5)	15,650 (77)
20	36,250 (49.5)	36,450 (62)	22,400 (68.5)	15,650 (73)
25	27,600 (36.5)	28,250 (55)	22,400 (63.5)	15,650 (69)
30	21,300 (12.5)	22,200 (47)	22,400 (58)	15,650 (65)
35		17,500 (38)	17,950 (52.5)	15,650 (60.5)
40		13,800 (25.5)	14,350 (46)	15,650 (56)
45			11,000 (39)	12,500 (51)
50			8,360 (30)	9,820 (45.5)
55			6,240 (15.5)	7,690 (39.5)
Minimum boom angle (°) for indicated length (no load)				36
Maximum boom length (ft.) at 0° boom angle (no load)				63.4

Note: () Boom angles are in degrees.

Lifting Capacities at Zero Degree Boom Angle				
Boom Angle	Main Boom Length in Feet			
	37.3	50.4	63.4	
0°	21,150 (30.1)	11,600 (43.2)	5,790 (56.2)	

Note: () Reference radii in feet. A6-829-103453

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

NOTES TO ALL RUBBER CAPACITY CHARTS:

1. Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J765.
2. Capacities are applicable to machines equipped with 29.5x25 (34 ply) General/Titan tires at 76 psi cold inflation pressure.
3. Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
4. Capacities are applicable only with machine on firm level surface.
5. On rubber lifting with boom extensions not permitted.
6. For pick and carry operation, boom must be centered over front of machine, mechanical swing lock engaged and load restrained from swinging. When handling loads in the structural range with capacities close to maximum ratings, travel should be reduced to creep speeds.
7. Axle lockouts must be functioning when lifting on rubber.
8. All lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressures. See lifting capacity chart for tire used. Damaged tires are hazardous to safe operation of crane.
9. Creep - not over 200 ft. of movement in any 30 minute period and not exceeding 1 mph.

**RATED LIFTING CAPACITIES IN POUNDS WITH COUNTERWEIGHT - MODE B
37.3 FT. - 141.7 FT. BOOM**

ON OUTRIGGERS FULLY EXTENDED - 360°

Radius in Feet	#0001								
	Main Boom Length in Feet								
	37.3	50.5	63.7	76.7	89.8	102.8	115.8	128.8	141.7
10	+180,000 (68.5)	134,000 (75)	*97,500 (78)						
12	156,000 (65)	134,000 (72.5)	97,500 (76.5)						
15	128,500 (59.5)	127,500 (69)	97,500 (74)	69,950 (77)	*46,600 (78)				
20	98,650 (49.5)	97,600 (62.5)	86,200 (69)	63,600 (73)	46,600 (76.5)	*38,700 (78)			
25	78,800 (36.5)	77,800 (55.5)	74,850 (64)	55,100 (69)	41,950 (73)	38,700 (75.5)	*37,900 (78)	*30,850 (78)	
30	51,550 (12.5)	58,700 (47.5)	59,300 (58.5)	48,150 (65)	37,350 (69.5)	37,900 (72.5)	35,000 (75)	30,850 (77.5)	*24,400 (78)
35		43,250 (38.5)	43,200 (52.5)	42,450 (60.5)	33,300 (66)	33,200 (69.5)	30,950 (72.5)	28,900 (75)	24,400 (77)
40		33,250 (26)	32,850 (46.5)	33,050 (56)	29,850 (62.5)	29,300 (66.5)	27,450 (70)	25,850 (72.5)	24,250 (75)
45			25,650 (39)	26,000 (51)	25,900 (58.5)	25,950 (63.5)	24,450 (67)	23,150 (70)	21,900 (73)
50			20,350 (30.5)	20,750 (45.5)	20,550 (54.5)	21,950 (60)	21,800 (64.5)	20,750 (67.5)	19,800 (70.5)
55	See Note 16		16,200 (16.5)	16,800 (39.5)	16,450 (50)	17,800 (56.5)	19,150 (61.5)	18,650 (65)	17,900 (68.5)
60				13,600 (33)	13,200 (45.5)	14,550 (53)	15,900 (58.5)	16,800 (62.5)	16,150 (66)
65				11,000 (23.5)	10,600 (40.5)	11,900 (49)	13,250 (55.5)	14,200 (60)	14,650 (64)
70					8,420 (34.5)	9,750 (45)	11,050 (52)	11,950 (57)	12,850 (61.5)
75					6,570 (28)	7,910 (40.5)	9,250 (48.5)	10,100 (54.5)	10,950 (59)
80					4,960 (18)	6,340 (36)	7,670 (45)	8,530 (51.5)	9,380 (56.5)
85						4,990 (30)	6,320 (41)	7,150 (48.5)	7,980 (54)
90						3,780 (23)	5,140 (37)	5,950 (45)	6,770 (51)
95						2,710 (10)	4,100 (32)	4,900 (41.5)	5,700 (48.5)
100							3,160 (26)	3,960 (37.5)	4,750 (45.5)
105							2,310 (18.5)	3,130 (33.5)	3,910 (42)
110								2,370 (28.5)	3,150 (38.5)
115								1,680 (22.5)	2,460 (35)
120								1,050 (13)	1,840 (30.5)
125									1,250 (25.5)
Minimum boom angle (deg.) for indicated length (no load)								0	24
Maximum boom length (ft.) at 0 deg. boom angle (no load)								128.8	

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

*This capacity is based upon maximum obtainable boom angle.

Note: () Boom angles are in degrees.

+11 parts line required to lift this capacity (using aux. boom nose). Refer to Operator's & Safety Handbook for reeving diagram.

Lifting Capacities at Zero Degree Boom Angle									
Boom Angle	Main Boom Length in Feet								
	37.3	50.5	63.7	76.7	89.8	102.8	115.8		
0°	27,500 (30.1)	15,950 (43.3)	9,560 (56.4)	5,840 (69.5)	2,730 (82.6)	1,910 (95.6)	1,200 (108.5)		

Note: () Reference radii in feet.

A6-829-103321B

33 FT. - 56 FT. MANUAL FOLDING BOOM EXTENSION WITH CWT - MODE B

ON OUTRIGGERS FULLY EXTENDED - 360°

Radius in Feet	33 ft. LENGTH			56 ft. LENGTH		
	0° OFFSET	20° OFFSET	40° OFFSET	0° OFFSET	20° OFFSET	40° OFFSET
	#0021	#0022	#0023	#0041	#0042	#0043
40	13,700 (78)					
45	13,700 (76.5)	*13,000 (78)		7,160 (78)		
50	13,700 (75)	12,950 (77.5)		7,160 (77.5)		
55	13,700 (73)	12,600 (76)	*10,250 (78)	7,160 (76)		
60	13,700 (71.5)	12,200 (74)	10,050 (77)	7,160 (74.5)	*6,400 (78)	
65	13,700 (69.5)	11,900 (72.5)	9,900 (75)	7,160 (73)	6,250 (77.5)	
70	13,500 (68)	11,550 (70.5)	9,750 (73)	7,160 (71.5)	6,110 (76)	
75	12,400 (66)	11,250 (68.5)	9,610 (71)	7,160 (70)	5,980 (74.5)	*5,110 (78)
80	10,800 (64)	11,000 (67)	9,480 (69)	7,160 (68.5)	5,850 (73)	5,020 (77)
85	9,330 (62)	10,250 (65)	9,370 (67)	7,150 (66.5)	5,730 (71.5)	4,930 (75)
90	8,050 (60)	8,900 (63)	8,980 (65)	6,960 (65)	5,620 (69.5)	4,850 (73.5)
95	6,920 (58)	7,700 (61)	8,530 (63)	6,770 (63.5)	5,510 (68)	4,780 (71.5)
100	5,920 (56)	6,630 (59)	7,360 (61)	6,590 (61.5)	5,410 (66)	4,710 (69.5)
105	5,030 (54)	5,690 (56.5)	6,310 (58.5)	6,030 (60)	5,310 (64.5)	4,650 (68)
110	4,230 (52)	4,830 (54.5)	5,370 (56.5)	5,200 (58)	5,220 (62.5)	4,600 (66)
115	3,510 (49.5)	4,060 (52)	4,520 (54)	4,450 (56.5)	5,110 (60.5)	4,550 (64)
120	2,850 (47.5)	3,360 (50)	3,750 (51.5)	3,770 (54.5)	4,780 (59)	4,500 (62)
125	2,250 (45)	2,730 (47.5)	3,040 (49)	3,150 (52.5)	4,080 (57)	4,460 (60)
130	1,700 (42)	2,150 (44.5)	2,400 (46)	2,580 (50.5)	3,450 (55)	3,970 (58)
135	1,200 (39.5)	1,610 (42)		2,060 (48.5)	2,870 (53)	3,330 (55.5)
140		1,120 (39)		1,570 (46.5)	2,330 (50.5)	2,730 (53)
145				1,130 (44)	1,830 (48.5)	2,180 (50.5)
150					1,370 (46)	1,670 (48)
155						1,200 (45)
Minimum boom angle (°) for indicated length (no load)	38	38	40	43	44	44
Maximum boom length (ft.) at 0° boom angle (no load)	102.8			89.8		

NOTE: () Boom angles are in degrees.

A6-829-103447

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

*This capacity is based upon maximum boom angle.

1. All capacities above the bold line are based on structural strength of boom extension and do not exceed 85% of tipping loads, in accordance with SAE J-765.
2. The 33 ft. and 56 ft. extension lengths may be used for single line lifting service only.
3. For main boom lengths less than 141.7 ft. with the boom extension erected, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is set up. For boom angles not shown, use rating of the next lower boom angle.
4. **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.
5. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
6. Capacities listed are with outriggers properly extended and vertical jacks set only.
7. When lifting over the main boom nose with 33 ft. or 56 ft. extension erected, the outriggers must be fully extended or 50% extended (17.3 ft. spread).

33 FT. - 56 FT. MANUAL FOLDING BOOM EXTENSION WITH INSERTS - MODE B WITH COUNTERWEIGHT

ON OUTRIGGERS FULLY EXTENDED - 360°

Radius in Feet	72 ft. (56 ft. LENGTH + 1 INSERT)			88 ft. (56 ft. LENGTH + 2 INSERTS)		
	0° OFFSET	20° OFFSET	40° OFFSET	0° OFFSET	20° OFFSET	40° OFFSET
	#0084	#0085	#0086	#0084	#0085	#0086
50	6,300 (78)					
55	6,300 (77.5)					
60	6,300 (76.5)			5,000 (78)		
65	6,300 (75)			5,000 (77.5)		
70	6,300 (73.5)	*6,100 (78)		5,000 (76)		
75	6,300 (72)	5,860 (77.5)		5,000 (74.5)	*4,900 (78)	
80	6,300 (70.5)	5,750 (76)	*5,000 (78)	5,000 (73.5)	4,900 (77.5)	
85	6,300 (69)	5,650 (74.5)	4,890 (77.5)	5,000 (72)	4,900 (76)	
90	6,300 (67.5)	5,550 (73)	4,820 (76)	4,900 (70.5)	4,900 (74.5)	*4,800 (78)
95	6,300 (66)	5,450 (71.5)	4,760 (74.5)	4,850 (69.5)	4,900 (73.5)	4,640 (76.5)
100	6,300 (64.5)	5,360 (70)	4,690 (73)	4,800 (68)	4,710 (72)	4,370 (75)
105	5,810 (63)	5,120 (68)	4,580 (71.5)	4,670 (66.5)	4,420 (70.5)	4,120 (73.5)
110	5,030 (61.5)	4,880 (66.5)	4,480 (69.5)	4,550 (65)	4,130 (69)	3,870 (72)
115	4,320 (59.5)	4,620 (65)	4,270 (68)	4,240 (63.5)	3,880 (67.5)	3,650 (70.5)
120	3,680 (58)	4,370 (63.5)	4,060 (66)	3,850 (62)	3,630 (66)	3,440 (69)
125	3,100 (56.5)	4,110 (61.5)	3,870 (64.5)	3,260 (60.5)	3,410 (64.5)	3,240 (67.5)
130	2,560 (54.5)	3,500 (60)	3,680 (62.5)	2,720 (59)	3,190 (63)	3,050 (65.5)
135	2,070 (53)	2,940 (58)	3,510 (60.5)	2,220 (57.5)	3,000 (61.5)	2,880 (64)
140	1,610 (51)	2,420 (56)	2,980 (58.5)	1,760 (56)	2,630 (60)	2,710 (62.5)
145	1,190 (49)	1,950 (54.5)	2,440 (56.5)	1,340 (54.5)	2,150 (58)	2,560 (60.5)
150		1,500 (52.5)	1,930 (54.5)		1,700 (56.5)	2,210 (58.5)
155		1,090 (50.5)	1,470 (52)		1,290 (54.5)	1,750 (57)
160			1,030 (50)			1,310 (55)
Minimum boom angle (°) for indicated length (no load)	48	49	49	52	53	53
Maximum boom length (ft.) at 0° boom angle (no load)	76.7			76.7		

1. All capacities above the bold line are based on structural strength of boom extension and do not exceed 85% of tipping loads, in accordance with SAE J-765.
2. The 56 ft. extension length may be used for single line lifting service only.
3. For main boom lengths less than 141.7 ft. with the boom extension erected, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is set up. For boom angles not shown, use rating of the next lower boom angle.
4. **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.
5. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
6. When lifting over the main boom nose with 56 ft. extension erected and inserts, the outriggers must be fully extended and vertical jacks set.

NOTE: () Boom angles are in degrees.

A6-829-103478

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

*This capacity is based upon maximum boom angle.

**RATED LIFTING CAPACITIES IN POUNDS WITH COUNTERWEIGHT - MODE B
37.3 FT. - 141.7 FT. BOOM**

ON OUTRIGGERS 50% EXTENDED (17.3' spread) - 360°

Radius in Feet	#4001								
	Main Boom Length in Feet								
	37.3	50.5	63.7	76.7	89.8	102.8	115.8	128.8	141.7
10	149,500 (68.5)	134,000 (75)	*97,500 (78)						
12	127,000 (65)	125,500 (72.5)	97,500 (76.5)						
15	103,500 (59.5)	102,000 (69)	97,500 (74)	69,950 (77)	*46,600 (78)				
20	77,100 (49.5)	69,150 (62.5)	64,400 (69)	61,050 (73)	46,600 (76.5)	*38,700 (78)			
25	48,450 (36.5)	46,350 (55.5)	44,550 (64)	42,650 (69)	40,200 (73)	38,700 (75.5)	*37,900 (78)	*30,850 (78)	
30	33,100 (12.5)	32,100 (47.5)	32,300 (58.5)	31,400 (65)	29,600 (69.5)	30,300 (72.5)	30,600 (75)	30,700 (77.5)	*24,400 (78)
35		23,150 (38.5)	23,250 (52.5)	23,300 (60.5)	22,300 (66)	23,300 (69.5)	23,850 (72.5)	24,150 (75)	24,300 (77)
40		17,000 (26)	17,150 (46.5)	17,300 (56)	16,750 (62.5)	18,100 (66.5)	18,850 (70)	19,350 (72.5)	19,650 (75)
45	See Note 16		12,600 (39)	12,950 (51)	12,450 (58.5)	13,800 (63.5)	15,000 (67)	15,600 (70)	16,000 (73)
50			9,160 (30.5)	9,700 (45.5)	9,210 (54.5)	10,500 (60)	11,800 (64.5)	12,650 (67.5)	13,100 (70.5)
55			6,440 (16.5)	7,050 (39.5)	6,650 (50)	7,950 (56.5)	9,230 (61.5)	10,200 (65)	10,750 (68.5)
60				4,920 (33)	4,580 (45.5)	5,880 (53)	7,140 (58.5)	8,110 (62.5)	8,800 (66)
65				3,170 (23.5)	2,840 (40.5)	4,170 (49)	5,430 (55.5)	6,350 (60)	7,140 (64)
70					1,380 (34.5)	2,740 (45)	4,000 (52)	4,870 (57)	5,720 (61.5)
75						1,490 (40.5)	2,780 (48.5)	3,620 (54.5)	4,450 (59)
80							1,720 (45)	2,540 (51.5)	3,340 (56.5)
85								1,600 (48.5)	2,370 (54)
90									1,530 (51)
0.1A (lb)	1,500	1,670	1,690	1,670	1,710	1,570	1,460	1,380	1,300
Minimum boom angle (deg.) for indicated length (no load)					33	39	43	47	50
Maximum boom length (ft.) at 0° boom angle (no load)					76.7				

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

*This capacity is based upon maximum obtainable boom angle.

Note: () Boom angles are in degrees.

Lifting Capacities at Zero Degree Boom Angle									
Boom Angle	Main Boom Length in Feet								
	37.3	50.5	63.7	76.7					
0°	27,500 (30.1)	13,900 (43.3)	5,760 (56.4)	1,840 (69.5)					

Note: () Reference radii in feet.

A6-829-103443

33 FT. - 56 FT. MANUAL FOLDING BOOM EXTENSION WITH CWT - MODE B

ON OUTRIGGERS 50% EXTENDED (17.3' spread) - 360°

Radius in Feet	33 ft. LENGTH			56 ft. LENGTH		
	0° OFFSET	20° OFFSET	40° OFFSET	0° OFFSET	20° OFFSET	40° OFFSET
	#4021	#4022	#4023	#4041	#4042	#4043
40	13,700 (78)					
45	13,700 (76.5)	*13,000 (78)		7,160 (78)		
50	13,200 (75)	12,950 (77.5)		7,160 (77.5)		
55	10,950 (73)	12,600 (76)	*10,250 (78)	7,160 (76)		
60	9,130 (71.5)	10,750 (74)	10,050 (77)	7,160 (74.5)	*6,400 (78)	
65	7,560 (69.5)	9,050 (72.5)	9,900 (75)	7,160 (73)	6,250 (77.5)	
70	6,210 (68)	7,570 (70.5)	8,680 (73)	6,870 (71.5)	6,110 (76)	
75	5,040 (66)	6,280 (68.5)	7,270 (71)	5,710 (70)	5,980 (74.5)	*5,110 (78)
80	4,010 (64)	5,150 (67)	6,040 (69)	4,700 (68.5)	5,850 (73)	5,020 (77)
85	3,110 (62)	4,150 (65)	4,950 (67)	3,800 (66.5)	5,600 (71.5)	4,930 (75)
90	2,300 (60)	3,260 (63)	3,980 (65)	3,010 (65)	4,670 (69.5)	4,850 (73.5)
95	1,580 (58)	2,460 (61)	3,100 (63)	2,290 (63.5)	3,830 (68)	4,780 (71.5)
100		1,730 (59)	2,310 (61)	1,640 (61.5)	3,080 (66)	4,010 (69.5)
105		1,080 (56.5)	1,590 (58.5)	1,060 (60)	2,390 (64.5)	3,210 (68)
110					1,760 (62.5)	2,480 (66)
115					1,190 (60.5)	1,830 (64)
120						1,230 (62)
0.1A (lb)	1240	1200	1240	1160	1130	1180
Minimum boom angle (°) for indicated length (no load)	54	55	56	57	58	59
Maximum boom length (ft.) at 0° boom angle (no load)	76.7			63.7		

NOTE: () Boom angles are in degrees.

A6-829-103448A

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

*This capacity is based upon maximum boom angle.

- All capacities above the bold line are based on structural strength of boom extension and do not exceed 85% of tipping loads, in accordance with SAE J-765.
- The 33 ft. and 56 ft. extension lengths may be used for single line lifting service only.
- For main boom lengths less than 141.7 ft. with the boom extension erected, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is set up. For boom angles not shown, use 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.
- Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
- Capacities listed are with outriggers properly extended and vertical jacks set only.
- When lifting over the main boom nose with 33 ft. or 56 ft. extension erected, the outriggers must be fully extended or 50% extended (17.3 ft. spread).

**RATED LIFTING CAPACITIES IN POUNDS WITH COUNTERWEIGHT - MODE B
37.3 FT. - 141.7 FT. BOOM**

ON OUTRIGGERS 0% EXTENDED (10.3' spread) - 360°

Radius in Feet	#8001								
	Main Boom Length in Feet								
	37.3	50.5	63.7	76.7	89.8	102.8	115.8	128.8	141.7
10	108,500 (68.5)	95,050 (75)	*85,500 (78)						
12	84,250 (65)	73,100 (72.5)	66,650 (76.5)						
15	60,250 (59.5)	52,800 (69)	48,700 (74)	45,800 (77)	*42,450 (78)				
20	38,200 (49.5)	33,750 (62.5)	31,450 (69)	29,900 (73)	27,850 (76.5)	*28,250 (78)			
25	24,200 (36.5)	22,750 (55.5)	21,450 (64)	20,500 (69)	19,000 (73)	19,850 (75.5)	*20,250 (78)	*20,450 (78)	
30	15,750 (12.5)	15,050 (47.5)	14,750 (58.5)	14,300 (65)	13,150 (69.5)	14,150 (72.5)	14,800 (75)	15,200 (77.5)	*15,500 (78)
35		9,930 (38.5)	10,050 (52.5)	9,840 (60.5)	8,930 (66)	10,050 (69.5)	10,800 (72.5)	11,400 (75)	11,750 (77)
40		6,250 (26)	6,420 (46.5)	6,460 (56)	5,700 (62.5)	7,000 (66.5)	7,830 (70)	8,470 (72.5)	8,940 (75)
45	See Note 16		3,620 (39)	3,840 (51)	3,170 (58.5)	4,540 (63.5)	5,470 (67)	6,160 (70)	6,680 (73)
50			1,450 (30.5)	1,750 (45.5)	1,140 (54.5)	2,550 (60)	3,540 (64.5)	4,290 (67.5)	4,860 (70.5)
55							1,930 (61.5)	2,740 (65)	3,340 (68.5)
60								1,410 (62.5)	2,070 (66)
0.1A (lb)	1,500	1,670	1,690	1,670	1,710	1,570	1,460	1,380	1,300
Minimum boom angle (deg.) for indicated length (no load)			29	44	54	58	60	62	64
Maximum boom length (ft.) at 0° boom angle (no load)			50.5						

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

*This capacity is based upon maximum obtainable boom angle.

Note: () Boom angles are in degrees.

Lifting Capacities at Zero Degree Boom Angle									
Boom Angle	Main Boom Length in Feet								
	37.3	50.5							
0°	15,600 (30.1)	4,330 (43.3)							

Note: () Reference radii in feet.

A6-829-103444

TIRE INFLATION - PSI (BAR)		
SIZE (FRONT & REAR)	TRA CODE	LIFTING SERVICE , GENERAL TRAVEL AND EXTENDED TRAVEL
		STATIC, CREEP & 2.5 MPH (4.0 km/h)
29.5x25 (34)	E-3	76 (5.2)
Michelin 29.5R25 XHA*	-----	76 (5.2) (SEE OPERATOR'S MANUAL FOR EXTENDED ROADING)