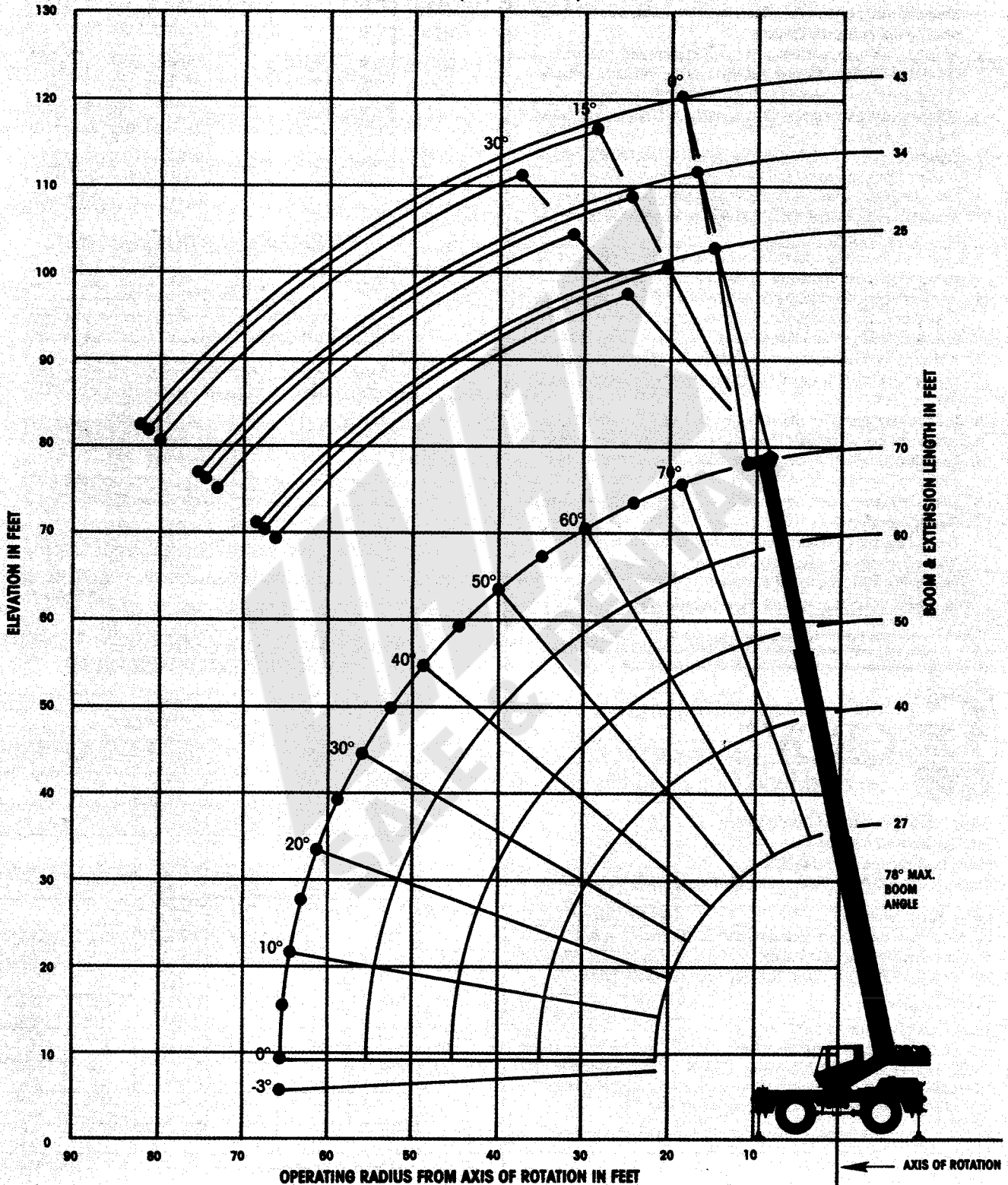


**GROVE**<sup>®</sup>  
worldwide

# RT420

Rough terrain hydraulic crane/85% Domestic  
27 ft. - 70 ft. full power boom

RANGE DIAGRAM (UNLADEN BOOM)



**ON RUBBER CAPACITIES 16.00x24 (16 PLY) TIRES  
STATIONARY (DEFINED ARC OVER FRONT)**

**NOTES FOR  
LIFTING CAPACITIES**

**"WARNING: THIS CHART IS ONLY A GUIDE. The Notes below are for illustration only and should not be relied upon to operate the crane. The individual crane's load chart, operating instructions and other instruction plates must be read and understood prior to operating the crane."**

- All rated loads have been tested to and meet minimum requirements of SAEJ1063 OCT80 - Cantilevered Boom Crane Structures - Method of Test, and do not exceed 85% of the tipping load on outriggers (75% of tipping load on rubber) as determined by SAEJ765 OCT 80 Crane Stability Test Code.
- Capacities given do not include the weight of hookblocks, slings, auxiliary lifting equipment and load handling devices. Their weights **MUST** be added to the load to be lifted. When more than minimum required reeving is used, the additional rope weight shall be considered part of the load.
- Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
- All capacities are for crane on firm, level surface. It may be necessary to have structural supports under the outrigger floats or tires to spread the load to a larger bearing surface.
- When either boom length or radius or both are between values listed, the smallest load shown at either the next larger radius or boom length shall be used.
- For outrigger operation, ALL outriggers shall be fully extended with tires raised free of ground before raising the boom or lifting loads.
- Tires shall be inflated to the recommended pressure before lifting on rubber.
- Unless otherwise stated, capacities are with powered boom sections equally extended.
- Defined Arc  $\pm 6^\circ$  on either side of longitudinal centerline of machine.
- With tele. boom extension in working position and main boom length greater than 60 ft., boom angle must not be less than  $30^\circ$ , since loss of stability will occur causing a tipping condition.

Constant improvement and engineering progress make it necessary that we reserve the right to make specification, equipment, and price changes without notice. Illustrations shown may include optional equipment and accessories and may not include all standard equipment.



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Form No.: LC-RT420-70F.P.-DOM. Part No.: 3-456 293-5M Printed in U.S.A.

Radius in Feet	#9005				
	Main Boom Length in Feet				
	27	40	50	60	70
8	<b>36,360</b> (64)				
9	32,200 (61.5)				
<b>10</b>	<b>28,100</b> (58)	<b>16,600</b> (70)			
12	20,750 (54)	16,600 (66.5)	9,950 (71.5)	8,900 (75.5)	
<b>15</b>	<b>13,900</b> (48)	<b>13,900</b> (61.5)	<b>8,950</b> (68)	<b>8,900</b> (72)	<b>8,910</b> (76.5)
20	8,520 (23)	8,520 (52.5)	8,520 (61.5)	8,520 (67)	6,500 (72)
<b>25</b>		<b>5,730</b> (42)	<b>5,730</b> (54.5)	<b>5,730</b> (61.5)	<b>5,730</b> (67)
30		4,120 (28.5)	4,120 (46.5)	4,120 (55.5)	4,120 (62.5)
<b>35</b>			<b>3,040</b> (37.5)	<b>3,040</b> (48.5)	<b>3,040</b> (57.5)
40			2,270 (25)	2,270 (42.5)	2,270 (52)
<b>45</b>				<b>1,690</b> (34)	<b>1,690</b> (48)
50				1,230 (23.5)	1,230 (39.5)
<b>55</b>					<b>890</b> (31.5)

A6-829-009107

**ON RUBBER (STATIONARY - 360°)**

Radius in Feet	#9005				
	Main Boom Length in Feet				
	27	40	50	60	70
8	<b>21,660</b> (64)				
9	17,600 (61.5)				
<b>10</b>	<b>14,660</b> (58)	<b>14,660</b> (70)			
12	10,750 (54)	10,750 (66.5)	8,900 (71.5)	8,900 (75.5)	
<b>15</b>	<b>7,420</b> (48)	<b>7,420</b> (61.5)	<b>7,310</b> (68)	<b>7,290</b> (72)	<b>6,910</b> (76.5)
20	4,330 (23)	4,330 (52.5)	4,330 (61.5)	4,330 (67)	4,330 (72)
<b>25</b>		<b>2,790</b> (42)	<b>2,790</b> (54.5)	<b>2,790</b> (61.5)	<b>2,790</b> (67)
30		1,870 (28.5)	1,870 (46.5)	1,870 (55.5)	1,870 (62.5)
<b>35</b>			<b>1,240</b> (37.5)	<b>1,240</b> (48.5)	<b>1,240</b> (57.5)
40			780 (25)	780 (42.5)	780 (52)

A6-829-009108

**PICK & CARRY CAPACITIES (UP TO 2.5 MPH)  
BOOM CENTERED OVER FRONT**

Radius in Feet	#9006				
	Main Boom Length in Feet				
	27	40	50	60	70
8	<b>31,750</b> (64)				
9	30,000 (61.5)				
<b>10</b>	<b>28,200</b> (58)				
12	20,750 (54)				
<b>15</b>	<b>13,900</b> (45)	<b>13,000</b> (61.5)	<b>12,950</b> (68)		
20	8,520 (23)	8,520 (52.5)	8,520 (61.5)	8,520 (67)	
<b>25</b>		<b>5,730</b> (42)	<b>5,730</b> (54.5)	<b>5,730</b> (61.5)	<b>5,730</b> (67)
30		4,120 (28.5)	4,120 (46.5)	4,120 (55.5)	4,120 (62.5)
<b>35</b>			<b>3,040</b> (37.5)	<b>3,040</b> (48.5)	<b>3,040</b> (57.5)
40			2,270 (25)	2,270 (42.5)	2,270 (52)
<b>45</b>				<b>1,690</b> (34)	<b>1,690</b> (48)
50				1,230 (23.5)	1,230 (39.5)
<b>55</b>					<b>890</b> (31.5)

Note: Boom angles are in degrees

A6-829-009109

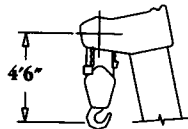
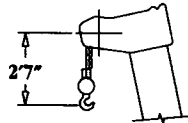
## WEIGHT REDUCTIONS FOR LOAD HANDLING DEVICES

25 FT. FIXED EXTENSION WITH 27 FT. - 70 FT. BOOM	
† Stowed -	294 lbs.
† Erected -	1,471 lbs.

25 FT. - 43 FT. TELE. BOOM EXTENSION WITH 27 FT. - 70 FT. BOOM	
† Stowed -	538 lbs.
† Erected (Retracted) -	3,906 lbs.
† Erected (Extended) -	4,995 lbs.

† Reduction of main boom capacities.

HOOKBLOCKS:	
22 Ton, 3 Sheave .....	499 lbs.
15 Ton, 2 Sheave .....	462 lbs.
12 Ton, 1 Sheave .....	360 lbs.
5 Ton Headache Ball .....	172 lbs.
Auxiliary Boom Head .....	145 lbs.



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

### NOTES FOR RUBBER CAPACITIES

No Load Stability Data		Main Boom 70 ft.
Front	Min. boom angle (deg.) for indicated length	23
(No load)	Max. boom length (ft.) at 0 deg. boom angle	60
360 Deg.	Min. boom angle (deg.) for indicated length	46
(No load)	Max. boom length (ft.) at 0 deg. boom angle	40

## 27 FT. - 70 FT. BOOM ON OUTRIGGERS FULLY EXTENDED - 360°

Radius in Feet	#0001					#0003 25 ft. Ext. & 70 ft. 95
	Main Boom Length in Feet					
	27	40	50	60	70	
9	40,000 (61.5)	40,000 (71.5)	39,850 (75.5)			
10	38,000 (59)	38,000 (70)	37,550 (74)			
12	31,450 (54)	31,450 (66.5)	31,450 (71.5)	31,450 (75.5)		
15	24,300 (45)	24,300 (61.5)	24,300 (68)	24,300 (72)	22,000 (76.5)	
20	18,000 (23)	17,650 (52.5)	17,650 (61.5)	17,650 (67)	17,650 (72)	12,500 (78)
		13,300 (42)	13,300 (54.5)	13,300 (61.5)	13,300 (67)	10,750 (74.5)
		10,400 (28.5)	10,400 (46.5)	10,400 (55.5)	10,400 (62.5)	9,810 (71)
35			8,370 (37.5)	8,370 (49.5)	8,370 (57.5)	8,930 (67.5)
40			6,630 (25)	6,630 (42.5)	6,630 (52)	7,820 (64)
45				5,370 (34)	5,370 (46)	6,210 (60.5)
50				4,410 (23.5)	4,410 (39.5)	5,040 (57)
55					3,660 (31.5)	4,140 (52.5)
60					3,060 (21.5)	3,430 (48.5)
65						2,860 (44)
Minimum boom angle (deg.) for indicated length (no load)					0	0
Maximum boom length (ft.) at 0 deg. boom angle (no load)					70	95

NOTE: Boom angles are in degrees

†LMI operating code. Refer to LMI manual for instructions.

A6-829-008382 & 008259

## 25 FT. - 43 FT. TELE. BOOM EXTENSION (ON OUTRIGGERS - 360°)

Radius in Feet	25 ft. LENGTH						34 ft. LENGTH						43 ft. LENGTH						
	#0021		#0022		#0023		#0031		#0032		#0033		#0041		#0042		#0043		
	0° OFFSET	15° OFFSET	0° OFFSET	15° OFFSET	30° OFFSET	30° OFFSET	0° OFFSET	15° OFFSET	30° OFFSET	30° OFFSET	0° OFFSET	15° OFFSET	30° OFFSET	30° OFFSET	0° OFFSET	15° OFFSET	30° OFFSET	30° OFFSET	
Boom Angle Ref. (Deg.)	Cap. lbs.	Boom Angle Ref. (Deg.)	Cap. lbs.	Boom Angle Ref. (Deg.)	Cap. lbs.	Boom Angle Ref. (Deg.)	Cap. lbs.	Boom Angle Ref. (Deg.)	Cap. lbs.	Boom Angle Ref. (Deg.)	Cap. lbs.	Boom Angle Ref. (Deg.)	Cap. lbs.	Boom Angle Ref. (Deg.)	Cap. lbs.	Boom Angle Ref. (Deg.)	Cap. lbs.	Boom Angle Ref. (Deg.)	Cap. lbs.
20	78.0	*12,500				78.0	*8,500					78.0	*5,000						
25	75.0	10,750	78.0	7,500			77.0	8,030				77.5	4,750						
30	71.5	9,810	74.5	6,870	78.0	*5,500	74.0	7,170	78.0	*5,500			75.0	4,360					
35	68.0	8,930	71.0	6,330	74.5	5,110	71.0	6,390	75.5	4,910	78.0	*3,600	72.0	4,020	78.0	3,000			
40	64.5	7,200	67.5	5,880	71.0	4,770	68.0	5,680	72.5	4,540	76.0	3,290	69.5	3,710	75.5	2,800	78.0	*2,300	
45	61.0	5,670	64.0	5,450	67.5	4,490	65.0	5,040	69.0	4,180	72.5	2,930	66.5	3,420	72.5	2,650	76.5	2,210	
50	57.0	4,510	60.0	4,510	63.5	4,260	61.5	4,590	66.0	3,840	69.5	2,660	64.0	3,170	70.0	2,510	73.5	2,160	
55	53.0	3,600	56.0	3,600	59.5	3,600	58.5	4,010	62.5	3,510	66.0	2,430	61.0	2,940	67.0	2,400	70.5	2,100	
60	49.0	2,860	52.0	2,860	56.5	2,860	55.0	3,260	59.0	3,200	62.0	2,250	58.0	2,730	64.0	2,300	67.0	2,030	
65	44.0	2,260	47.0	2,260	50.5	2,260	51.0	2,650	55.5	2,650	58.5	2,100	54.5	2,540	60.5	2,210	63.5	1,970	
70							47.5	2,130	51.5	2,130	54.0	1,970	51.5	2,360	57.5	2,130	60.0	1,890	
75													48.0	2,140	54.0	2,060	56.5	1,820	
80													44.0	1,780	50.0	1,780	52.0	1,730	

\*This capacity is based upon the maximum boom angle

A6-829-008268

**ON RUBBER CAPACITIES 17.5x25 (20 PLY) TIRES  
STATIONARY (DEFINED ARC OVER FRONT)**

Radius in Feet	#9005				
	Main Boom Length in Feet				
	27	40	50	60	70
8	36,300 (64)	33,000 (73)	28,150 (76.5)		
9	31,950 (61.5)	28,650 (71.5)	25,650 (75.5)		
10	27,900 (59)	25,250 (70)	22,850 (74)		
12	20,750 (54)	20,200 (66.5)	18,550 (71.5)	17,150 (75.5)	
15	13,900 (45)	13,900 (61.5)	13,900 (68)	13,350 (72)	12,500 (76.5)
20	8,520 (23)	8,520 (52.5)	8,520 (61.5)	8,520 (67)	8,520 (72)
25		5,730 (42)	5,730 (54.5)	5,730 (61.5)	5,730 (67)
30		4,120 (28.5)	4,120 (46.5)	4,120 (55.5)	4,120 (62.5)
35			3,040 (37.5)	3,040 (49.5)	3,040 (57.5)
40			2,270 (25)	2,270 (42.5)	2,270 (52)
45				1,690 (34)	1,690 (46)
50				1,230 (23.5)	1,230 (39.5)
55					860 (31.5)

A6-829-008932

**ZERO DEGREE BOOM ANGLE CHARTS**

**ON OUTRIGGERS - 360 DEGREES**

Boom Angle	Main Boom Length in Feet				
	27	40	50	60	70
0°	16,550 (21.1)	8,910 (33.7)	5,650 (43.7)	3,830 (53.7)	2,680 (63.8)

**ON RUBBER (STATIONARY - 360°)**

Radius in Feet	#9005				
	Main Boom Length in Feet				
	27	40	50	60	70
8	21,850 (64)	20,300 (73)	14,300 (76.5)		
9	17,600 (61.5)	17,600 (71.5)	12,800 (75.5)		
10	14,650 (59)	14,650 (70)	11,550 (74)		
12	10,750 (54)	10,750 (66.5)	9,520 (71.5)	9,470 (75.5)	
15	7,420 (45)	7,420 (61.5)	7,310 (68)	7,290 (72)	6,910 (76.5)
20	4,330 (23)	4,330 (52.5)	4,330 (61.5)	4,330 (67)	4,330 (72)
25		2,790 (42)	2,790 (54.5)	2,790 (61.5)	2,790 (67)
30		1,870 (28.5)	1,870 (46.5)	1,870 (55.5)	1,870 (62.5)
35			1,240 (37.5)	1,240 (49.5)	1,240 (57.5)
40			780 (25)	780 (42.5)	780 (52)

A6-829-008933

**ON RUBBER  
(16.00 OR 17.5)**

Stationary Capacity Defined Arc (3) Over Front and  
Pick & Carry Capacities Up To 2.5 MPH Boom Centered (7) Over Front

Boom Angle	Main Boom Length in Feet			
	27	40	50	60
0°	7,670 (21.1)	2,670 (33.7)	1,010 (43.7)	950 (53.7)

Stationary Capacity 360° Arc

Boom Angle	Main Boom Length in Feet	
	27	40
0°	3,860 (21.1)	1,380 (33.7)

A6-829-009364A

Note: ( ) Reference radii in feet

Refer to in-cab load chart for notes.

**PICK & CARRY CAPACITIES (UP TO 2.5 MPH)  
BOOM CENTERED OVER FRONT**

Radius in Feet	#9006				
	Main Boom Length in Feet				
	27	40	50	60	70
8	28,400 (64)	22,000 (73)	21,800 (76.5)		
9	26,200 (61.5)	20,150 (71.5)	20,000 (75.5)		
10	24,250 (59)	18,600 (70)	18,450 (74)		
12	20,750 (54)	15,950 (66.5)	15,850 (71.5)	14,200 (75.5)	
15	13,900 (45)	13,000 (61.5)	12,950 (68)	11,500 (72)	11,500 (76.5)
20	8,520 (23)	8,520 (52.5)	8,520 (61.5)	8,520 (67)	8,500 (72)
25		5,730 (42)	5,730 (54.5)	5,730 (61.5)	5,730 (67)
30		4,120 (28.5)	4,120 (46.5)	4,120 (55.5)	4,120 (62.5)
35			3,040 (37.5)	3,040 (49.5)	3,040 (57.5)
40			2,270 (25)	2,270 (42.5)	2,270 (52)
45				1,690 (34)	1,690 (46)
50				1,230 (23.5)	1,230 (39.5)
55					860 (31.5)

NOTE: Boom angles are in degrees.

A6-829-008934