

# RT740

**40 TON CAPACITY**  
**33 ft. - 112 ft. BOOM**  
 (FULL POWER)  
 PCSA CLASS 10-192  
 85% OF TIPPING

# GROVE®

**FULL HYDRAULIC**  
**SELF-PROPELLED CRANE**

## RATED LIFTING CAPACITIES IN POUNDS

### 33 ft. - 112 ft. BOOM

### ON RUBBER CAPACITIES

#### 21.00x25 TIRES

Radius in Feet	Stationary Capacity	Stationary Capacity	Pick & Carry Cap. Up to 2.5 MPH
	Defined Arc (3) Over Front	360° Arc	Boom Centered (7) Over Front
10	67,760 (a)	42,050 (a)	45,600 (a)
12	56,670 (a)	36,880 (a)	41,820 (a)
15	45,970 (a)	27,220 (a)	36,150 (a)
20	33,850 (a)	16,900 (a)	29,880 (a)
25	23,540 (b)	11,370 (b)	23,540 (a)
30	17,120 (c)	8,160 (b)	16,550 (b)
35	13,630 (d)	5,930 (c)	13,630 (c)
40	11,050 (e)	4,370 (d)	11,050 (d)
45	8,970 (f)	3,210 (e)	8,970 (e)
50	7,310 (g)	2,400 (f)	7,310 (e)
55	5,870 (g)	1,650 (f)	5,870 (f)
60	4,630 (h)	1,070 (g)	4,630 (g)
65	3,720 (i)		3,720 (h)
70	2,880 (i)		2,880 (i)

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#### 26.5x25 TIRES

Radius in Feet	Stationary Capacity	Stationary Capacity	Pick & Carry Cap. Up to 2.5 MPH
	Defined Arc (3) Over Front	360° Arc	Boom Centered (7) Over Front
10	68,400 (a)	42,400 (a)	54,030 (a)
12	57,200 (a)	37,200 (a)	46,610 (a)
15	46,400 (a)	27,900 (a)	39,780 (a)
20	34,000 (a)	18,200 (a)	31,710 (a)
25	24,500 (b)	12,700 (b)	24,500 (a)
30	18,350 (c)	8,870 (b)	14,200 (b)
35	13,850 (d)	6,370 (c)	11,410 (c)
40	10,850 (e)	4,700 (d)	9,370 (d)
45	8,700 (f)	3,540 (e)	7,780 (e)
50	7,030 (g)	2,370 (f)	6,480 (e)
55	5,700 (g)	1,620 (f)	5,400 (f)
60	4,530 (h)	1,040 (g)	4,380 (g)
65	3,530 (i)		3,480 (h)
70	2,140 (i)		2,140 (i)

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#### 29.5x25 TIRES

Radius in Feet	Stationary Capacity	Stationary Capacity	Pick & Carry Cap. Up to 2.5 MPH
	Defined Arc (3) Over Front	360° Arc	Boom Centered (7) Over Front
10	72,170 (a)	46,700 (a)	52,900 (a)
12	61,050 (a)	39,520 (a)	46,200 (a)
15	49,520 (a)	29,410 (a)	38,520 (a)
20	36,200 (a)	17,980 (a)	30,880 (a)
25	24,270 (b)	12,050 (b)	24,270 (a)
30	17,010 (c)	8,040 (b)	14,950 (b)
35	13,100 (d)	6,180 (c)	12,370 (c)
40	10,700 (e)	4,800 (d)	10,640 (d)
45	8,870 (f)	3,720 (e)	8,870 (e)
50	7,210 (g)	2,720 (f)	7,210 (e)
55	5,870 (g)	1,800 (f)	5,870 (f)
60	4,800 (h)	1,140 (g)	4,800 (g)
65	3,880 (i)		3,880 (h)
70	3,040 (i)		3,040 (i)

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### NOTES FOR RUBBER CAPACITIES

- Capacities are in pounds and do not exceed 85% of tipping loads as determined by test in accordance with SAE J-765.
- Capacities are applicable to machine equipped with:

Maximum permissible boom length:

(a) 33.0 ft.	(f) 62.0 ft
(b) 38.0	(g) 68.0
(c) 44.0	(h) 74.0
(d) 50.0	(i) 80.0
(e) 56.0	

21.00x25 (24 ply)
26.5x25 (26 ply)
29.5x25 (22 ply)

Cold Inflation	2.5 MPH
85 PSI	70 PSI
80 PSI	65 PSI
60 PSI	50 PSI

- Defined Arc - Over front includes  $\pm 6^\circ$  on either side of longitudinal centerline of machine (ref. drawing C6-829-003529.)
- Capacities are applicable only with machine on firm level surface.
- Axle lockouts must be functioning before lifting on rubber. (Check automatic lockout system for proper functioning; refer to "Operation and Maintenance Manual" for description of a proper functioning axle lockout system.)
- All rubber 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.
- 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.
- On rubber lifting with power pinned fly extended, boom extension, or jib is not permitted.
- Creep - not over 200 feet (61 meters) of movement in any 30-minute period, and not exceeding 1 mph (1.6 kph).

Front (No Load)	Min boom angle (deg.) for indicated length	Main Boom 80 ft.	Main Boom w/32 ft. Ext.
		80.0	112.0
360 deg. (No Load)	Min boom angle (deg.) for indicated length	32	49
		68.0	44.0

### LIFTING CAPACITY NOTES

- Rated loads do not exceed 85% of the tipping load as determined by SAE Crane Stability Test Code J-765a.
- Rated loads include the weight of hook block, slings and auxiliary lifting devices and their weights shall be subtracted from the listed ratings to obtain the net load to be lifted.
- Load ratings are based on freely suspended loads. No attempt shall be made to move a load horizontally on the ground in any direction.
- Rated loads do not account for wind on lifted load or boom. It is recommended when wind velocity is above 20 mph (32 km/h), rated loads and boom lengths shall be appropriately reduced.
- Rated loads are for lift crane service only.
- 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.
- 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 within the limits of the capacity chart.
- 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 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, hazardous conditions, experience of personnel, two machine lifts, traveling with loads, electric wires, etc. Side pull on boom or jib is extremely dangerous.
- Power telescoping boom sections must be extended equally at all times.
- Handling of personnel from the boom is not authorized except with equipment furnished and installed by Grove Manufacturing Company.
- Keep load handling devices a minimum of 12 inches (30 cm) below boom head when lowering or extending boom.
- Loaded boom angles give an approximation of the operating radius at specified

- boom lengths. The boom angle before loading should be greater to account for deflection.
- Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
- Capacities for the 33 ft. (10.0 m) boom length shall be lifted with boom fully retracted. If boom is not fully retracted, capacities shall not exceed those shown for the 38 ft. (11.6 m) boom length.
- For boom lengths less than 112 ft. (34.0 m) with 32 ft. (9.8 m) boom extension erected, the rated loads are determined by boom angle only in the column headed by 112 ft. (34.0 m) boom. For boom angles not shown use rating of next lower boom angle. For this load column the 32 ft. (9.8 m) boom extension operational mode is to be selected on the Krueger L.M.I. WARNING: The Krueger L.M.I. readings are accurate only if all powered boom sections are fully extended.

#### DEFINITIONS:

- 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.
- 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.
- Working Area: Areas measured in a circular arc about the center line of rotation as shown on the working area diagram.
- Freely Suspended Load: Load hanging free with no direct external force applied except by the lift cable.
- Side Load: Horizontal force applied to the lifted load either on the ground or in the air.



## ON OUTRIGGERS FULLY EXTENDED - 360°

Radius in Feet	Main Boom Length in Feet									32 ft. Ext. & 80 ft.
	33.0	38.0	44.0	50.0	56.0	62.0	68.0	74.0	80.0	
10	80,000 (62.5)	73,750 (67)	69,950 (70.5)	68,200 (73)	63,350 (75)					
12	75,000 (58.5)	73,750 (63.5)	66,700 (67.5)	61,600 (70.5)	57,150 (73)	53,750 (75)				See Warning Note 17
15	62,000 (52)	62,000 (58.5)	58,050 (63.5)	54,000 (67)	51,000 (69.5)	46,650 (72)	43,850 (74)	40,850 (75.5)		
20	47,300 (39.5)	47,300 (49)	47,300 (55.5)	43,950 (60.5)	40,550 (64)	38,000 (67)	35,700 (69.5)	33,100 (71)	30,000 (72.5)	
25	36,000 (21.5)	36,000 (37.5)	36,000 (47)	36,000 (53.5)	34,050 (58)	31,800 (61.5)	29,900 (64.5)	27,600 (67)	25,200 (69)	17,500 (76)
30		29,000 (21.5)	29,000 (37)	29,000 (46)	29,000 (52)	27,100 (56.5)	25,600 (60)	23,500 (62.5)	21,500 (65)	15,000 (73.5)
35			23,800 (23.5)	23,800 (37)	23,800 (44.5)	23,500 (50.5)	22,250 (54.5)	20,350 (58)	18,650 (61)	13,200 (71)
40	See Warning Note 16			19,200 (25)	19,200 (36.5)	19,200 (44)	19,200 (49)	17,800 (53.5)	16,200 (56.5)	12,300 (68)
45					15,900 (26.5)	15,900 (36.5)	15,900 (43.5)	15,750 (48.5)	14,250 (52)	11,400 (65)
50					13,150 (8)	13,150 (27.5)	13,150 (36.5)	13,150 (42.5)	12,600 (47)	10,200 (62.5)
55						11,200 (13)	11,200 (28)	11,200 (36.5)	11,200 (42)	9,110 (59.5)
60							9,560 (16.5)	9,560 (29)	9,560 (36)	8,200 (56)
65								8,140 (18.5)	8,140 (29)	7,400 (53)
70									6,920 (19.5)	6,700 (49.5)
75										6,120 (46)
80										5,600 (42)
85										5,060 (38)
90										4,500 (33)
95										3,890 (27.5)
100										3,260 (20.5)
105										2,350 (8)
Min. boom angle (deg.) for indicated length (no load)									0	0
Max. boom length (ft.) at 0 degree boom angle (no load)									80	112.0

NOTE: Boom angles are in degrees.

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### GENERAL:

- 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.
- 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, parts, and safety manuals supplied with this machine. If these manuals are missing, order replacements from the manufacturer through the distributor.
- The operator and other personnel associated with this machine shall fully acquaint themselves with the latest applicable American National Standards Institute (ANSI) Safety Standards for cranes.

### SETUP:

- The machine shall be leveled 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.
- For outrigger operation, outriggers shall be fully extended with tires raised free of crane weight before operating the boom or lifting loads.
- If machine is equipped with front jack cylinder, the front jack cylinder shall be set in accordance with written procedure.
- If machine is equipped with extendable counterweight, the counterweight shall be fully extended before operation.
- Tires shall be inflated to the recommended pressure before lifting on rubber.
- With certain boom and hoist tackle combinations, maximum capacities may not be obtainable with standard cable lengths.

### OPERATION:

- Rated loads at rated radius shall not be exceeded. Do not tip the machine to determine allowable loads. For clamshell or concrete bucket operation, weight of bucket and load must not exceed 80% of rated lifting capacities.

# RT740

40 TON CAPACITY

33 ft. - 112 ft. BOOM

(FULL POWER)

PCSA CLASS 10-192

85% OF TIPPING

## JIB CAPACITIES IN POUNDS

### 24 ft. "A" FRAME JIB

ON OUTRIGGERS — 360°

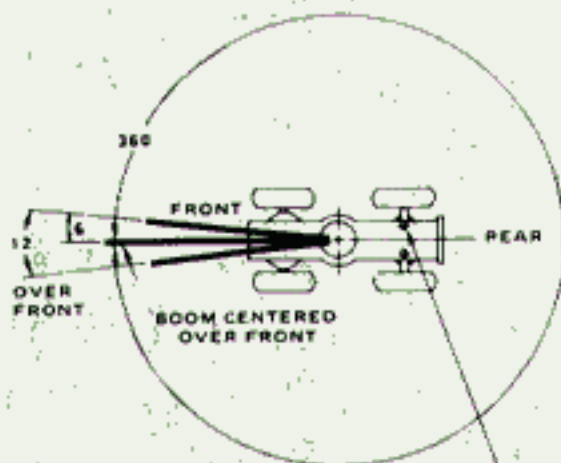
Boom Angle	5° Offset	17° Offset	30° Offset
76°	6,000	5,200	4,600
70	4,300	3,940	3,650
65	3,670	3,380	3,100
60	3,100	2,900	2,700
55	2,600	2,500	2,400
50	2,200	2,100	2,000

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## NOTES FOR JIB CAPACITIES

1. All capacities are in pounds. Capacities are based on structural strength of 24 ft. jib and 32 ft. boom extension combination at given main boom angle regardless of main boom length.
2. **WARNING:** Operation of machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with jib occurs rapidly and without advance warning.
3. **24 FT. JIB WARNING:** For main boom length greater than 80 ft. with 32 ft. boom extension and 24 ft. jib in working position, the boom angle must not be less than 45° since loss of stability will occur causing a tipping condition. The boom angle is not restricted for main boom length equal to or less than 80 ft. This warning applies for jib erection purposes also.
4. **WARNING:** Lifting on rubber with 32 ft. boom extension or 24 ft. jib and 32 ft. boom extension combination is prohibited.

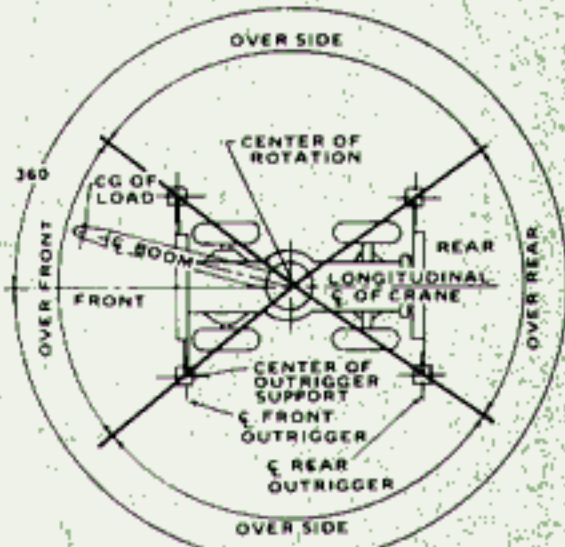
## LIFTING AREA DIAGRAMS



REAR AXLE OSCILLATION LOCKOUTS MUST BE SET TO MAINTAIN 360° CAPACITIES.

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

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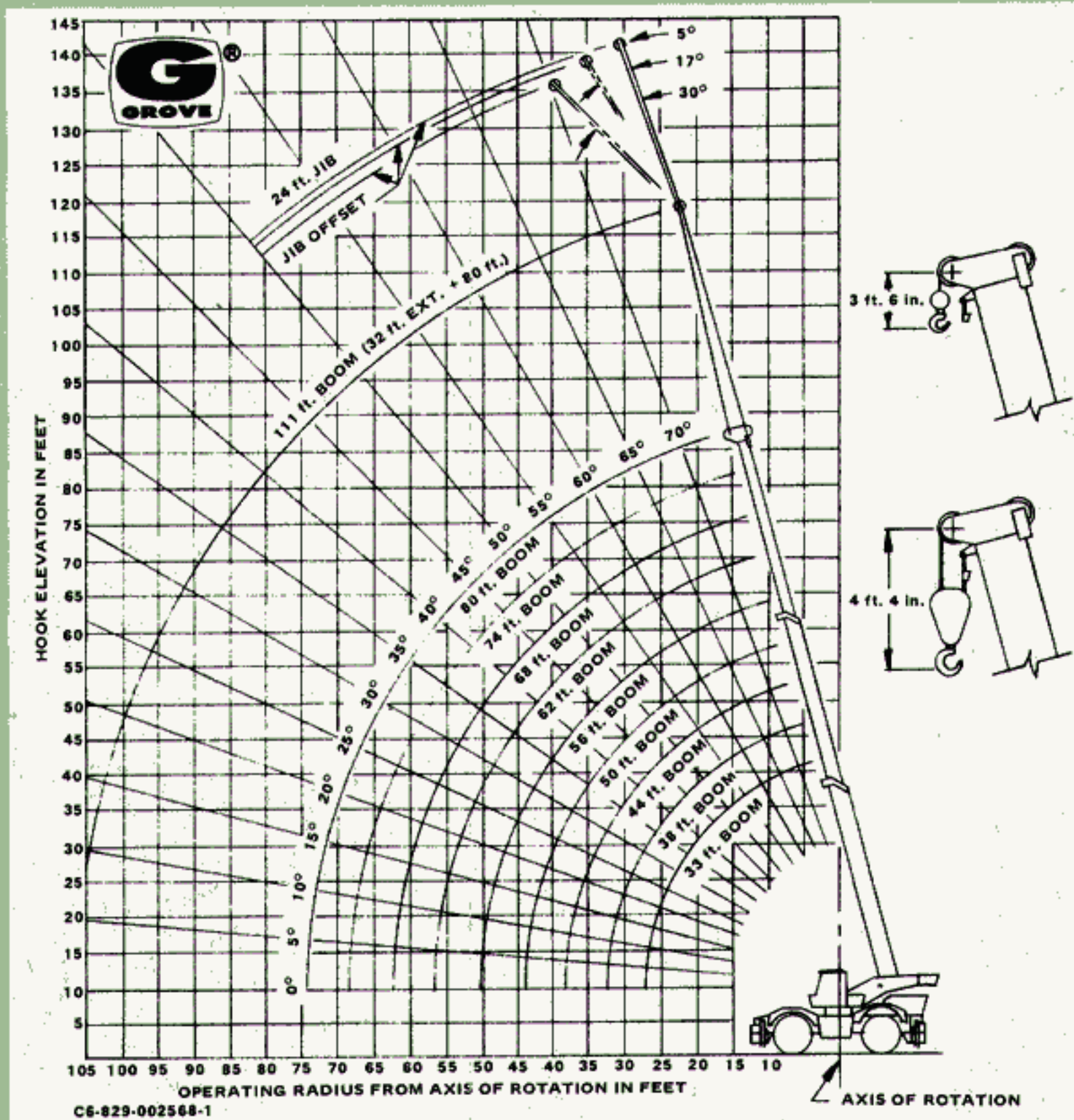


NOTE: BOLD LINES DETERMINE THE LIMITING POSITION OF ANY LOAD FOR OPERATION WITHIN WORKING AREAS INDICATED.

NOTE: OVER SIDE CAPACITIES CAN BE LIFTED IN THE OVER REAR AREA.

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## RANGE DIAGRAM



CE-829-002568-1

### WEIGHT REDUCTION FOR LOAD HANDLING DEVICES

32 ft. BOOM EXTENSION	
†Stowed	443 lbs.
†Erected	2,935 lbs.
24 ft. Jib & 32 ft. Boom Ext. Combination	
†Stowed	529 lbs.
†Erected	6,909 lbs.
††Erected	1,680 lbs.

HOOK BLOCK	
40 Ton, 3 Sheave	.915 lbs.
15 Ton, 1 Sheave	.310 lbs.
Auxiliary Boom Head	.220 lbs.
5 Ton Headache Ball	.150 lbs.
7 1/2 Ton Headache Ball	.300 lbs.
10 Ton Headache Ball	.500 lbs.

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.

†Reduction of main boom capacities.  
††Reduction of 32 ft. Ext. capacities.



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