



# TM875

**80 TON CAPACITY**  
**36 ft. – 146 ft. BOOM**

**(POWER PINNED)**

**8 x 4 CARRIER and 12 x 6 CARRIER**  
**PCSA CLASS 12-324      PCSA CLASS 12-399**

## RATED LIFTING CAPACITIES IN POUNDS ON OUTRIGGERS FULLY EXTENDED OVER SIDE & REAR (360° W/FIFTH FRONT OUTRIGGER JACK)

### 8 x 4 CARRIER

Radius in Feet	Boom Length in Feet								Power Pin. Fly & 88 ft. ***114	32 ft. Ext. & 114 ft. ***146
	*36	44	52	60	68	76	82	88		
12	160,000 (65.5)	125,000 (70.0)	110,000 (73.0)	99,000 (75.5)	92,000 (77.5)	87,000 (79.0)				
15	125,000 (60.0)	112,500 (66.0)	103,000 (69.5)	94,800 (72.5)	88,200 (74.5)	82,300 (76.5)	74,150 (78.0)	63,000 (79.0)		
20	93,500 (50.0)	90,250 (58.5)	86,400 (63.5)	81,900 (67.5)	76,600 (70.5)	70,150 (72.5)	65,900 (74.0)	59,850 (75.5)	50,000 (79.5)	
25	72,500 (39.0)	70,950 (50.5)	68,900 (57.5)	66,200 (62.0)	62,500 (65.5)	57,050 (68.5)	55,250 (70.5)	54,000 (72.0)	45,000 (77.5)	30,000 (79.5)
30	58,000 (23.5)	56,000 (41.5)	56,000 (50.5)	54,900 (56.5)	52,350 (61.0)	47,600 (64.5)	46,000 (66.5)	44,700 (68.5)	39,250 (75.0)	28,400 (78.5)
35		42,090 (30.0)	42,090 (43.0)	42,090 (50.5)	42,090 (56.0)	40,500 (60.0)	39,050 (63.0)	37,850 (65.0)	33,900 (72.0)	25,900 (76.5)
40		32,430 (11.5)	32,430 (34.0)	32,430 (44.0)	32,430 (51.0)	32,430 (56.0)	32,430 (59.0)	32,430 (61.5)	29,650 (69.5)	23,800 (74.5)
45			26,270 (22.5)	26,270 (37.0)	26,270 (45.0)	26,270 (51.0)	26,270 (54.5)	26,270 (57.5)	26,150 (67.0)	21,900 (72.5)
50				21,190 (28.0)	21,190 (37.0)	21,190 (46.0)	21,190 (50.0)	21,190 (53.5)	23,300 (64.0)	20,300 (70.5)
60					14,030 (22.0)	14,030 (34.0)	14,030 (40.0)	14,030 (45.0)	17,230 (58.0)	17,100 (66.0)
70						10,300 (16.0)	10,300 (27.5)	10,300 (34.5)	12,480 (52.0)	14,100 (61.5)
80							6,610 (20.0)	9,160 (45.0)	10,840 (57.0)	
90								6,690 (37.0)	8,100 (52.0)	
100								4,490 (27.0)	6,060 (46.5)	
110								2,830 (9.0)	4,540 (40.5)	
120									3,210 (34.0)	
130									2,170 (25.5)	
140									1,310 (12.5)	

NOTE: Boom angles are in degrees.

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& -002169B

### 12 x 6 CARRIER

Radius in Feet	Main Boom Length in Feet (Power Pinned Fly Retracted)								Power Pin. Fly & 88 ft. ***114	32 ft. Ext. & 114 ft. ***146
	*36	44	52	60	68	76	82	88		
12	160,000 (65.5)	125,000 (70.0)	110,000 (73.0)	99,000 (75.5)	92,000 (77.5)	87,000 (79.0)				
15	125,000 (60.0)	113,000 (66.0)	103,500 (69.5)	95,700 (72.5)	89,250 (74.5)	83,800 (76.5)	74,150 (78.0)	63,000 (79.0)		
20	93,500 (50.0)	91,550 (58.5)	89,100 (63.5)	86,000 (67.5)	81,750 (70.5)	75,750 (72.5)	67,000 (74.0)	59,850 (75.5)	50,000 (79.5)	
25	72,500 (39.0)	72,000 (50.5)	71,250 (57.5)	70,150 (62.0)	68,100 (65.5)	63,500 (68.5)	58,000 (70.5)	54,000 (72.0)	45,000 (77.5)	30,000 (79.5)
30	58,000 (23.5)	57,900 (41.5)	57,800 (50.5)	57,550 (56.5)	57,000 (61.0)	52,950 (64.5)	48,850 (66.5)	44,700 (68.5)	39,250 (75.0)	28,400 (78.5)
35		48,100 (30.0)	48,050 (43.0)	48,000 (50.5)	47,900 (56.0)	45,200 (60.0)	41,700 (63.0)	37,850 (65.0)	33,900 (72.0)	25,900 (76.5)
40			39,915 (34.0)	39,915 (44.0)	39,915 (51.0)	39,150 (56.0)	35,950 (59.0)	32,500 (61.5)	29,650 (69.5)	23,800 (74.5)
45				32,510 (22.5)	32,510 (37.0)	32,510 (45.0)	32,510 (51.0)	31,250 (54.5)	28,250 (57.5)	26,150 (67.0)
50					26,500 (28.0)	26,500 (39.0)	26,500 (46.0)	26,500 (50.0)	24,750 (53.5)	23,300 (64.0)
60						18,600 (22.0)	18,600 (34.0)	18,600 (40.0)	18,600 (45.0)	18,800 (58.0)
70							12,800 (16.0)	12,800 (27.5)	12,800 (34.5)	14,785 (52.0)
80								9,000 (20.0)	11,060 (45.0)	11,800 (57.0)
90									8,415 (37.0)	9,600 (52.0)
100									5,925 (27.0)	7,230 (46.5)
110									3,590 (9.0)	5,575 (40.5)
120										4,080 (34.0)
130										2,835 (25.5)
140										1,700 (12.5)
142.5										1,500 (0.0)

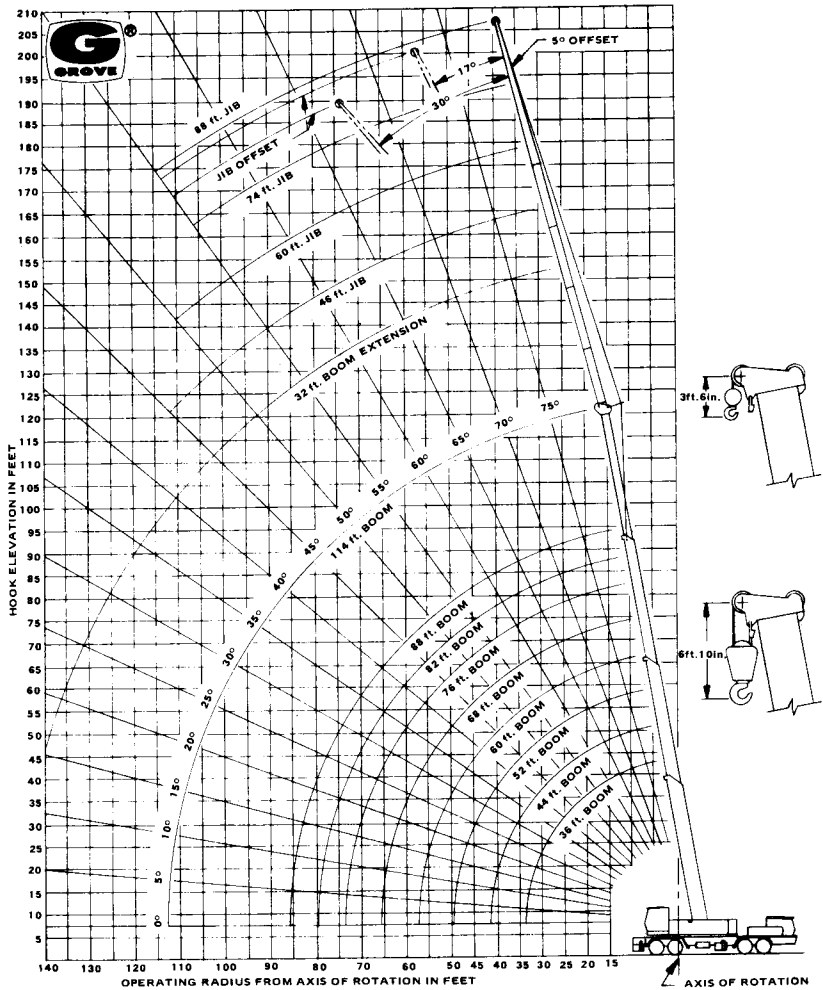
NOTE: Boom angles are in degrees.

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& -002169B

### LIFTING CAPACITY NOTES

- Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation. Capacities do not exceed 85% of tipping loads with counterweight fully extended as determined by test in accordance with SAE J-765.
- Do not exceed any rated load when lifting regardless of whether it is based on structural strength or stability.
- Capacities for the 36' (11.0m) boom length shall be lifted with boom fully retracted. If boom is not fully retracted, capacities shall not exceed those shown for the 44' (13.4m) boom length.
- Radii less than 30 feet or 9 meters not recommended when lifting over front of machine (if equipped with front jack cylinder).
- Capacities listed are with fully extended outriggers and front jack cylinder extended according to proper procedure.
- For boom lengths less than 114' (34.8m) with power pinned fly extended, the rated loads are determined by boom angle in the column headed by 114' (34.8m) boom. For boom angles not shown, use rating of next lower boom angle. For this load column, the extended power pinned fly operational mode is to be selected on the Krueger L.M.I.
- WARNING: The Krueger L.M.I. rating will apply for full boom extension only.
- For boom lengths less than 146' (44.5m) with power pinned fly extended and 32' (9.8m) boom ext. erected, the rated loads are determined by boom angle only in the column headed by 146' (44.5m) boom. For boom angles not shown, use rating of next lower boom angle. For this load column, the 32' (9.8m) boom extension operational mode is to be selected on the Krueger L.M.I.
- CAUTION: The Krueger L.M.I. rating will apply for full boom extension (power pinned fly extended) only.
- Boom angle is the included angle between horizontal and the longitudinal axis of the boom base section after lifting rated load.

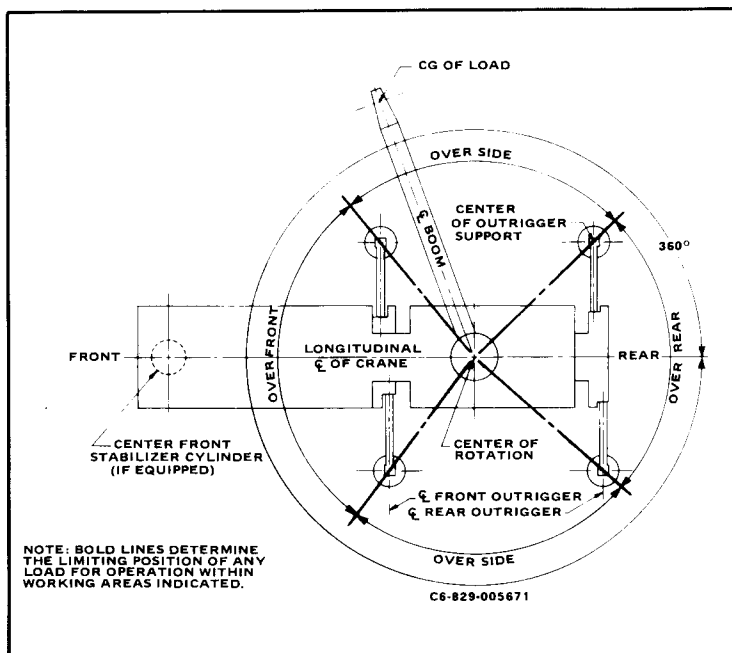
# RANGE DIAGRAM



# LIFTING CAPACITY NOTES

1. Do not exceed any rated lifting capacity. Rated lifting capacities are based on freely suspended loads with the machine leveled and standing on a firm supporting surface. Ratings with outriggers are based on outriggers being extended to their maximum position and tires raised free of crane weight before extending the boom or lifting loads.
2. Practical working loads for each particular job shall be established by the user depending on operating condition to include: the supporting surface, wind and other factors affecting stability, hazardous surroundings, experience of personnel, handling of load, etc. No attempt must be made to move a load horizontally on the ground in any direction.
3. Operating radius is the horizontal distance from the axis of rotation before loading to the centerline of the vertical hoist line or tackle with loads applied.
4. "On Rubber" lifting (if permitted) depends on proper tire inflation, capacity and condition. "On Rubber" loads may be transported at a maximum vehicle speed of 2.5 mi/hr (4 Km/hr) on a firm and level surface under conditions specified.
5. Jibs may be used for lifting crane service only. Jib capacities are based on structural strength of jib or main boom and on main boom angle.
6. Operation is not intended or approved for any conditions outside of those shown hereon. Handling of personnel from the boom is not authorized except with equipment furnished and installed by Grove Manufacturing Company.
7. For clamshell or concrete bucket operation, weight of bucket and load must not exceed 80% of rated lifting capacities.
8. Power-telescoping boom sections must be extended equally at all times. Long cantilever booms can create a tipping condition when in extended and lowered position.
9. The maximum load which may be telescoped is limited by hydraulic pressure, boom angle, boom lubrication, etc. It is safe to attempt to telescope any load within the limits of rated lifting capacity chart.
10. With certain boom and hoist tackle combinations, maximum capacities may not be obtainable with standard cable lengths.
11. With certain boom and load combinations, raising of load with boom lift cylinders may not be possible. Operational safety is not affected by this condition.
12. Keep load handling devices a minimum of 12 inches (30 cm) below boom head when lowering or extending boom.
13. If actual boom length and/or radius is between values listed, use lifting capacity for the next longer rated length and/or radius.
14. All load handling devices and boom attachments are considered part of the load and suitable allowances must be made for their combined weights.
15. Operation of this equipment in excess of rating charts or disregard of the instructions is hazardous and voids the warranty and manufacturer's liability.

## LIFTING AREA DIAGRAM



## JIB CAPACITIES WITH TWO PART LINE ONLY ON OUTRIGGERS FULLY EXTENDED OVER SIDE & REAR (360° W/FIFTH FRONT OUTRIGGER JACK)

Loaded Main Boom Angle	46 ft. JIB CAPACITIES						60 ft. JIB CAPACITIES						74 ft. JIB CAPACITIES						88 ft. JIB CAPACITIES					
	9° OFFSET		17° OFFSET		30° OFFSET		9° OFFSET		17° OFFSET		30° OFFSET		9° OFFSET		17° OFFSET		30° OFFSET		9° OFFSET		17° OFFSET		30° OFFSET	
	Ref. Rad.	Load lbs.**	Ref. Rad.	Load lbs.	Ref. Rad.	Load lbs.	Ref. Rad.	Load lbs.	Ref. Rad.	Load lbs.	Ref. Rad.	Load lbs.	Ref. Rad.	Load lbs.	Ref. Rad.	Load lbs.	Ref. Rad.	Load lbs.	Ref. Rad.	Load lbs.	Ref. Rad.	Load lbs.	Ref. Rad.	Load lbs.
80°	31.5	16,500	40.5	12,800	49	7,980	39	12,250	48	9,020	58	5,180	42.5	9,380	55	6,420	67.5	3,580	46.5	7,390	63	4,450	79	2,370
77.5	38	15,650	47	12,300	55	7,550	45	11,450	54	8,550	63.5	4,890	49	8,660	61.5	6,010	73.5	3,350	53.5	6,680	70	4,010	85	2,160
75	45	14,900	53.5	11,900	61.5	7,170	52.5	10,800	61	7,910	70.5	4,640	57	8,030	69	5,640	80.5	3,140	62	6,050	78	3,610	92.5	1,980
72.5	51.5	14,250	60	11,100	67.5	6,840	59.5	10,200	67.5	7,370	77	4,410	64.5	7,470	76.5	5,280	87.5	2,960	70	5,500	85.5	3,260	100	1,810
70	58	12,610	66	10,400	73.5	6,540	66.5	9,680	74.5	6,900	83	4,210	72.5	6,960	83.5	4,930	94	2,780	78.5	4,950	93.5	2,930	107	1,620
67.5	64.5	10,280	72	9,120	79	6,280	73.5	8,530	81	6,500	89.5	4,030	79.5	6,500	90.5	4,610	101	2,620	86	4,460	101	2,640	113.5	1,450
65	70.5	8,470	78	7,620	84.5	6,050	80	6,970	87.5	6,140	95.3	3,880	87	5,920	97.5	4,330	107	2,490	94	4,020	108	2,370	120.5	1,310
62.5	76.5	7,020	84	6,390	90	5,850	86.5	5,720	93.5	5,100	101	3,740	94	4,800	104	4,080	113	2,370	101.5	3,620	115	2,140	126.5	1,170
60	82.5	5,850	89.5	5,370	95.5	5,070	93	4,690	100	4,230	106.5	3,620	101	3,890	110.5	3,080	119	1,890	109	3,260	122	1,570		
55	94	4,060	100.5	3,780	105.5	3,620	105	3,110	111.5	2,840	117.5	2,050	114	2,480	123	1,180			123	1,260				
50	104.5	2,780	110.5	2,620	114.5	2,530	116.5	1,970	122	1,200														
45	114.5	1,830	119.5	1,700	123	1,350																		

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### JIB CAPACITY NOTES

1. All capacities are based on structural strength of jib and do not exceed 85% of tipping loads with counterweight fully extended as determined by test in accordance with SAE J-765.
2. 46', 60', 74' & 88' (14.0, 18.3, 22.6 & 26.8 Meter) jibs may be used for two-parts line lifting crane service only.
3. Rated load is based on loaded main boom angle.
4. **WARNING:** Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with every jib occurs rapidly and without advance warning.
5. Rated load is based on loaded main boom angle with reference to horizontal regardless of main boom length. (Ref. radius in feet (meters) is for fully extended boom and power pinned fly extended 114 ft. (34.8m) boom length only. The Krueger L.M.I. System will give an accurate radius indication for this condition only.)
6. **46 FT. (14.0 METER) JIB WARNING:** With 46' (14.0m) jib in working position, the boom angle must not be less than 45° (over side and rear [360° w/front outrigger jack]), or 60° (over front) since loss of stability will occur causing a tipping condition.  
**60 FT. (18.3 METER) JIB WARNING:** With 60' (18.3m) jib in working position, the boom angle must not be less than 50° (over side and rear [360° w/front outrigger jack]), or 62.5° (over front) since loss of stability will occur causing a tipping condition.

7. **74 FT. (22.6 METER) JIB WARNING:** With 74' (22.6m) jib in working position, the boom angle must not be less than 55° (over side and rear [360° w/front outrigger jack]), or 65° (over front) since loss of stability will occur causing a tipping condition.
8. **88 FT. (26.8 METER) JIB WARNING:** With 88' (26.8m) jib in working position, the boom angle must not be less than 55° (over side and rear [360° w/front outrigger jack]), or 67.5° (over front) since loss of stability will occur causing a tipping condition.
7. Capacities listed are with fully extended outriggers and front jack cylinder extended according to proper procedure.

### JIB ERECTION NOTES:

- A. Maximum total length of boom including extended power pinned fly for purpose of erecting jib, over side or over rear, below 30° main boom angle is:
  - 46' (14.0m) Jib — 103 Ft. (31.4 Meters)
  - 60' (18.3m) Jib — 95 Ft. (29.0 Meters)
  - 74' (22.6m) Jib — 86 Ft. (26.2 Meters)
  - 88' (26.8m) Jib — 77 Ft. (23.5 Meters)
- B. **WARNING:** Do not attempt to erect jibs over front of machine.

### WEIGHT REDUCTION FOR LOAD HANDLING DEVICES

32 ft. BOOM EXTENSION WITH 36 - 114 ft. BOOM
† STOWED - 365 lbs.
† ERECTED - 2,455 lbs.

36 - 114 ft. BOOM WITH	
† 46 ft. JIB	- 8,828 lbs.
† 60 ft. JIB	- 12,962 lbs.
† 74 ft. JIB	- 17,868 lbs.
† 88 ft. JIB	- 23,548 lbs.

HOOK BLOCK	
80 Ton, 6 Sheave	. . . 1,615 lbs.
15 Ton, 1 Sheave	. . . 650 lbs.
Auxiliary Boom Head	. . . 230 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 Weight. Weights are for Grove furnished equipment.

† Reduction of main boom capacities only.

## GROVE MANUFACTURING COMPANY

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