



TMS865 65 TON CAPACITY 36 ft. - 146 ft. BOOM (FULL POWER)

PCSA CLASS 10-258

BIGGE
EQUIPMENT CO.

RATED LIFTING CAP

ON OUTRIGGERS FULLY EXTENDED - 360°

Radius in Feet	Main Boom Length in Feet										114 ft. + 32ft. Ext. (2° Offset)
	36	42	51	60	69	78	87	96	105	114	146
10	130,000 (67)	106,700 (70.5)	101,600 (74)	100,000 (77)	96,700 (79)						See Warning Note 18
12	123,500 (63)	106,700 (67.5)	101,600 (71.5)	96,500 (75)	87,850 (77)	84,700 (79)					
15	105,000 (57.5)	105,000 (63)	95,300 (68)	84,900 (72)	79,180 (74.5)	77,550 (77)	64,500 (79)				
20	78,850 (47)	78,850 (54.5)	78,850 (61.5)	70,550 (66.5)	64,310 (70)	63,800 (73)	55,000 (75.5)	51,900 (77)	48,450 (78.5)	38,750 (80)	
25	60,000 (34)	60,000 (45.5)	60,000 (55)	60,000 (61)	54,000 (65.5)	49,700 (69)	45,600 (72)	43,600 (74)	41,300 (76)	34,000 (77)	22,500 (80)
30		45,340 (34)	45,340 (47.5)	45,340 (55.5)	45,340 (61)	42,750 (65)	39,150 (68.5)	38,400 (71)	35,350 (73)	30,300 (74.5)	21,200 (78)
35		33,510 (16.5)	33,510 (39)	33,510 (49.5)	33,510 (56)	33,510 (61)	33,510 (64.5)	32,700 (67.5)	30,700 (70)	27,250 (72)	18,300 (76)
40			25,830 (28.5)	25,830 (42.5)	25,830 (50.5)	25,830 (56.5)	25,830 (61)	25,830 (64.5)	25,830 (67)	24,750 (69)	16,000 (74)
45	See Warning Note 16			21,170 (34.5)	21,170 (45)	21,170 (51.5)	21,170 (57)	21,170 (61)	21,170 (64)	21,170 (66.5)	14,620 (72)
50				16,450 (24)	16,450 (38.5)	16,450 (46.5)	16,450 (52.5)	16,450 (57.5)	16,450 (61)	16,450 (63.5)	13,730 (69.5)
60					11,010 (20)	11,010 (35)	11,010 (43.5)	11,010 (49.5)	11,010 (54)	11,010 (57.5)	11,450 (65)
70							6,710 (32)	6,710 (40.5)	6,710 (46.5)	6,710 (51)	9,500 (60.5)
80							3,980 (12.5)	3,980 (29.5)	3,980 (38)	3,980 (44)	6,900 (56)
90								2,270 (7)	2,270 (27)	2,270 (35.5)	4,710 (50.5)
100											2,950 (45)
110											1,640 (39)
Min. boom angle (deg.) for indicated length (no load)										0	34
Max. boom length (ft.) at 0 degree boom angle (no load)										114	87

NOTE: Boom angles are in degrees.

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NOTES FOR I

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, parts, and safety manuals 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 this machine shall fully acquaint themselves with the latest applicable American National Standards Institute (ANSI) Safety Standards for cranes.

SETUP:

1. 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.
2. For outrigger operation, outriggers shall be fully extended with tires raised free of crane weight before operating the boom or lifting loads.
3. If machine is equipped with front jack cylinder, the front jack cylinder shall be set in accordance with written procedure.
4. If machine is equipped with extendable counterweight, the counterweight shall be fully extended before 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.

OPERATION:

1. 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.
2. Rated loads do not exceed 85% of the tipping load as determined by SAE Crane Stability Test Code J-765a.
3. 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.
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. 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.
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.

GROVE®

FULL HYDRAULIC CARRIER-MOUNTED CRANE

ITIES IN POUNDS

ON OUTRIGGERS FULLY EXTENDED - OVER REAR

Radius in Feet	Main Boom Length in Feet										114 ft. + 32 ft. Ext. (2° Offset)
	36	42	51	60	69	78	87	96	105	114	146
10	130,000 (67)	106,700 (70.5)	101,600 (74)	100,000 (77)	96,700 (79)						See Warning Note 18
12	123,500 (63)	106,700 (67.5)	101,600 (71.5)	96,500 (75)	87,850 (77)	84,700 (79)					
15	105,000 (57.5)	105,000 (63)	95,300 (68)	84,900 (72)	79,180 (74.5)	77,550 (77)	64,500 (79)				
20	78,850 (47)	78,850 (54.5)	78,850 (61.5)	70,550 (66.5)	64,310 (70)	63,800 (73)	55,000 (75.5)	51,900 (77)	48,450 (78.5)	38,750 (80)	
25	60,000 (34)	60,000 (45.5)	60,000 (55)	60,000 (61)	54,000 (65.5)	49,700 (69)	45,600 (72)	43,600 (74)	41,300 (76)	34,000 (77)	22,500 (80)
30		47,900 (34)	47,900 (47.5)	47,900 (55.5)	46,650 (61)	42,750 (65)	39,150 (68.5)	38,400 (71)	35,350 (73)	30,300 (74.5)	21,200 (78)
35		38,100 (16.5)	38,100 (39)	38,100 (49.5)	38,100 (56)	37,300 (61)	34,050 (64.5)	32,700 (67.5)	30,700 (70)	27,250 (72)	18,300 (76)
40			31,870 (28.5)	31,870 (42.5)	31,870 (50.5)	31,870 (56.5)	29,550 (61)	28,850 (64.5)	27,000 (67)	24,750 (69)	16,000 (74)
45	See Warning Note 16			25,660 (34.5)	25,660 (45)	25,660 (51.5)	25,660 (57)	25,650 (61)	23,900 (64)	22,650 (66.5)	14,620 (72)
50				20,680 (24)	20,680 (38.5)	20,680 (46.5)	20,680 (52.5)	20,680 (57.5)	20,680 (61)	20,680 (63.5)	13,730 (69.5)
60					14,130 (20)	14,130 (35)	14,130 (43.5)	14,130 (49.5)	14,130 (54)	14,130 (57.5)	11,450 (65)
70							9,520 (32)	9,520 (40.5)	9,520 (46.5)	9,520 (51)	9,540 (60.5)
80							6,730 (12.5)	6,730 (29.5)	6,730 (38)	6,730 (44)	8,090 (56)
90								4,440 (7)	4,440 (27)	4,440 (35.5)	6,760 (50.5)
100										2,760 (24.5)	4,700 (45)
110											3,130 (39)
120											1,860 (31.5)
Min. boom angle (deg.) for indicated length (no load)										0	20
Max. boom length (ft.) at 0 degree boom angle (no load)										114	96

NOTE: Boom angles are in degrees.

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CAPACITIES

- 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 36 ft. (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 42 ft. (12.8m) boom length.
- Radii less than 35 ft. or 12m not recommended when lifting over front of machine.
- For boom lengths less than 146 ft. (44.3m) with 32 ft. (9.8m) boom extension erected, the rated loads are determined by boom angle only. In the column headed by 146 ft. (44.3m). For boom angles not shown, use rating of next lower boom angle. For this load column, the 32 ft. (9.8m) boom extension operational mode is to be selected on the Krueger L.M.I. (opt.).
- WARNING: The Krueger L.M.I. (opt.) calibration will apply for fully extended main boom only.

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.

**65 TON CAPACITY
36 ft. - 146 ft. BOOM
(FULL POWER)**

Boom Angle	5° OFFSET		17° OFFSET		30° OFFSET	
	Radius (Ref) ft.	Cap. lbs.	Radius (Ref) ft.	Cap. lbs.	Radius (Ref) ft.	Cap. lbs.
80°	32.6	10,000	38.1	8,450	42.3	6,430
75	47.1	8,720	52.2	7,430	56.4	5,870
70	61.2	7,430	65.8	6,520	70.1	5,510
65	74.8	5,650	78.9	5,040	82.8	4,250
60	87.8	4,510	91.4	4,210	94.9	3,700
55	100.2	2,900	103.2	2,730	106.2	2,730
50	111.8	1,930	114.2	1,830	116.8	1,670
45	122.3	860	124.4	860	126.4	810

NOTES:

- NOTES:**
1. All capacities are in pounds. Capacities are based on structural strength of 28 ft. and 32 ft. boom extension combination at given main boom angle regardless of main boom length. (Two part lifting service is required with Krueger LMI; at any other time, single or two part line may be used.)
 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. **28 ft. JIB WARNING:** For main boom length greater than 69 ft. with 32 ft. boom extension and 28 ft. jib in working position, the boom angle must not be less than 40° 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 69 ft. This warning applies for jib erection purposes also.
 4. **WARNING:** Lifting on rubber with 32 ft. boom extension or 28 ft. jib and 32 ft. boom extension combination is prohibited.
 5. Reference radii listed are for fully extended main boom only.

Diagram illustrating the working area of a crane, showing the center of rotation, center of support, and various axes.

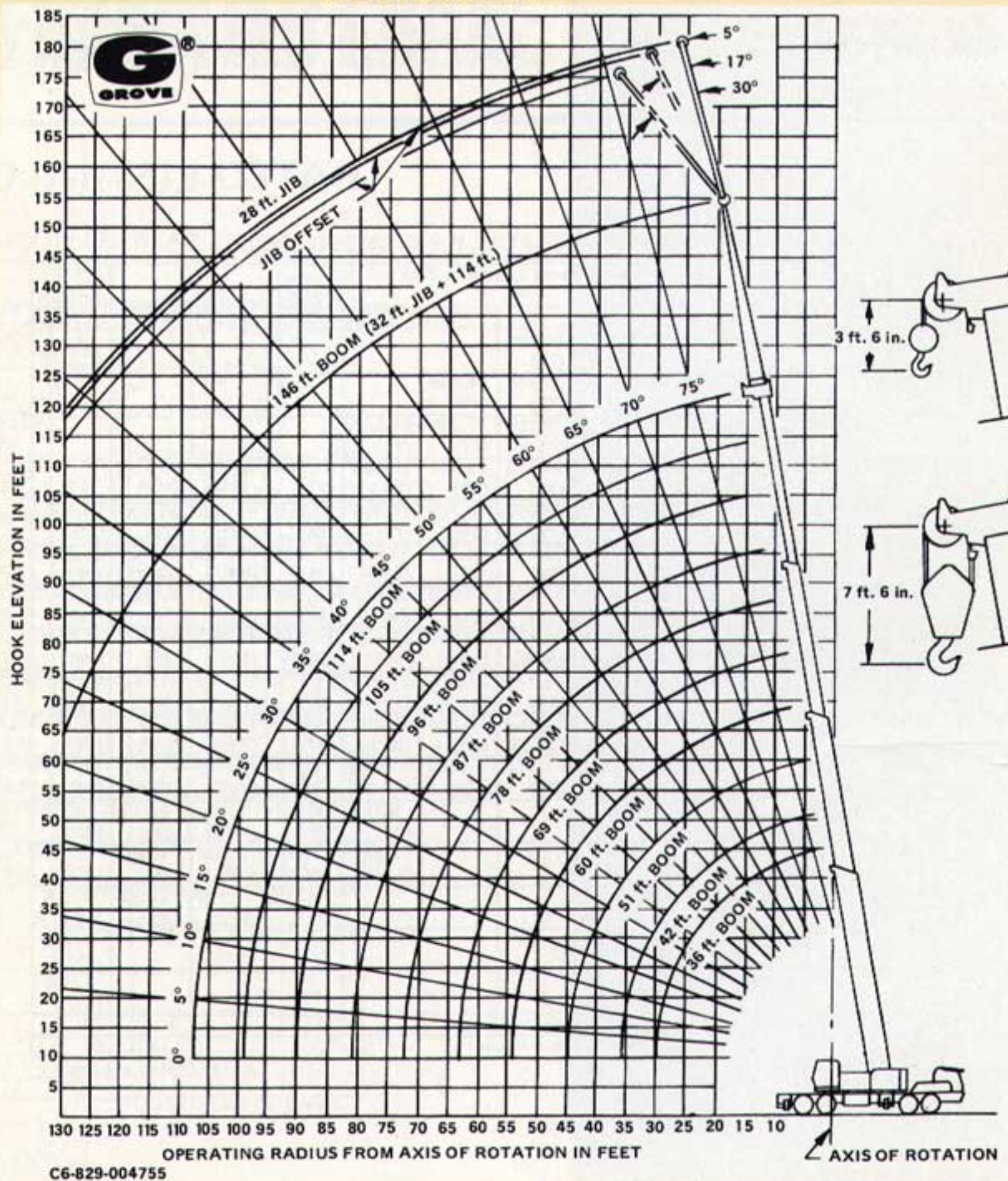
Labels and components shown in the diagram:

- CG OF LOAD
- OVER SIDE
- CENTER OF OUTRIGGER SUPPORT
- OVER FRONT
- FRONT
- CENTER FRONT STABILIZER CYLINDER
- LONGITUDINAL ϵ OF CRANE
- REAR
- OVER REAR
- CENTER OF ROTATION
- ϵ FRONT OUTRIGGER
- ϵ REAR OUTRIGGER
- OVER SIDE

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

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RANGE DIAGRAM



WEIGHT REDUCTION FOR LOAD HANDLING DEVICES

32 ft. BOOM EXTENSION	
†Stowed	386 lbs.
†Erected	3,312 lbs.
28 ft. Jib & 32 ft. Boom Ext. Combination	
†Stowed	649 lbs.
†Erected	9,396 lbs.
††Erected	2,111 lbs.

HOOK BLOCK	
65 Ton, 5 Sheave	1,900 lbs.
15 Ton, 1 Sheave	580 lbs.
10 Ton Headache Ball	500 lbs.
7 1/2 Ton Headache Ball	300 lbs.
Auxiliary Boom Head	220 lbs.

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

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.



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