RT980

34 ft. - 146 ft. BOOM
(FULL POWER)
PCSA CLASS 10-397

RATED LIFTING CAPACITIES IN POUNDS

ON OUTRIGGERS FULLY EXTENDED - 360°

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	160,000 (67)	121,250 (70.5)	113,750 (74)	107,500 (77)	98,000 (79)						See Warning Note 17
12	150,000 (63)	120,000 (67.5)	110,000 (71.5)	101,250 (75)	97,500 (77.5)	92,500 (79.5)					
15	117,600 (57.5)	102,000 (63)	102,000 (68)	91,850 (72)	90,000 (75)	84,250 (77)	71,250 (79)				
20	92,200 (47)	92,200 (54.5)	86,250 (61.5)	78,000 (67)	76,600 (70.5)	70,250 (73)	62,500 (75.5)	57,250 (77.5)	53,000 (79)	43,600 (80)	
25	73,600 (34)	73,600 (45.5)	73,600 (55)	64,900 (61.5)	58,000 (66)	57,050 (69.5)	54,000 (72)	52,000 (74.5)	48,000 (76)	40,700 (77.5)	24,500 (80)
30	56,000 (9)	56,000 (34)	56,000 (47.5)	56,000 (55.5)	49,300 (61)	46,500 (65)	44,700 (68.5)	43,200 (71)	42,650 (73)	34,750 (75)	22,400 (79)
35		49,040 (16.5)	49,040 (38.5)	49,040 (49.5)	43,500 (56)	38,100 (61)	35,650 (65)	34,500 (68)	34,000 (70)	30,150 (72)	20,700 (77)
40			39,690 (28.5)	39,690 (42.5)	38,850 (51)	33,800 (56.5)	31,600 (61)	29,950 (64.5)	27,950 (67)	26,400 (69.5)	19,300 (75)
45	See Warning Note 16		31,180 (8)	31,180 (34.5)	31,180 (45)	30,250 (52)	28,300 (57)	26,650 (61)	24,800 (64)	23,350 (66.5)	18,000 (72.5)
50				25,940 (24)	25,940 (38.5)	25,940 (47)	25,500 (53)	23,950 (57.5)	22,150 (61)	20,800 (63.5)	16,900 (70.5)
60					18,620 (20)	18,620 (35)	18,620 (43.5)	18,620 (49.5)	18,050 (54.5)	16,800 (57.5)	14,100 (66)
70						13,490 (16.5)	13,490 (32)	13,490 (41)	13,490 (47)	13,490 (51.5)	11,750 (61.5)
80							10,020 (12.5)	10,020 (29.5)	10,020 (38.5)	10,020 (44)	9,950 (57)
90								7,120 (7)	7,120 (27.5)	7,120 (35.5)	8,520 (52)
100										4,900 (24.5)	7,120 (46.5)
110											5,360 (40.5)
120											3,930 (33.5)
130											2,640 (24)
Min. boom angle (deg.) for indicated length (no load)										0	0
Max. boom length (ft.) at 0 degree boom angle (no load)										114	146

NOTE: Boom angles are in degrees.

A6-829-003838A & -003837A

ON OUTRIGGERS FULLY EXTEND

Radius in Feet	Main Boom Length in Fe						
	36	42	51	60	69	78	
10	160,000 (67)	121,250 (70.5)	113,750 (74)	107,500 (77)	98,000 (79)		
12	150,000 (63)	120,000 (67.5)	110,000 (71.5)	101,250 (75)	97,500 (77.5)	92,500 (79.5)	
15	117,600 (57.5)	102,000 (63)	102,000 (68)	91,850 (72)	90,000 (75)	84,250 (77)	71 (75
20	92,200 (47)	92,200 (54.5)	86,250 (61.5)	78,000 (67)	76,600 (70.5)	70,250 (73)	62 (75
25	73,600 (34)	73,600 (45.5)	73,600 (55)	64,900 (61.5)	58,000 (66)	57,050 (69.5)	54 (72
30	56,000 (9)	56,000 (34)	56,000 (47.5)	56,000 (55.5)	49,300 (61)	46,500 (65)	44 (68
35		49,450 (16.5)	49,450 (38.5)	49,450 (49.5)	43,500 (56)	38,100 (61)	35 (65
40			42,350 (28.5)	42,350 (42.5)	38,850 (51)	33,800 (56.5)	31 (6
45	See Warning Note 16		36,000 (8)	36,000 (34.5)	34,950 (45)	30,250 (52)	28 (57
50				31,700 (24)	31,500 (38.5)	27,300 (47)	25 (53
60					24,500 (20)	22,600 (35)	21 (4
70						19,100 (16.5)	17 (3
80							14 (1
90							
100							
110							
120							
130							
Min. boom angle (deg.) for indicated length (no load)							
Max. boom length (ft.) at 0 degree boom angle (no load)							

NOTE: Boom angles are in degrees.

ON RUBBER CAPACITIES

Radius in Feet	Stationary Capacity Defined Arc (3) Over Front	Stationary Capacity 360° Arc	Pick & Carry Cap. Up to 2.5 MPH Boom Centered (7) Over Front
10	100,000 (a)	80,000 (a)	92,360 (a)
12	87,500 (a)	66,700 (a)	81,560 (a)
15	73,850 (a)	50,350 (a)	68,800 (a)
20	58,850 (a)	33,320 (a)	53,790 (a)
25	47,400 (b)	22,980 (b)	44,000 (a)
30	38,950 (b)	15,290 (c)	35,570 (b)
35	30,490 (b)	10,880 (d)	29,710 (b)
40	23,780 (c)	7,960 (e)	23,780 (c)
45	19,070 (d)	5,610 (e)	16,400 (d)
50	15,600 (d)	3,940 (f)	13,960 (d)
60	10,300 (e)	1,320 (g)	9,820 (e)
70	6,820 (f)		6,820 (f)
80	4,550 (g)		4,550 (g)
90	2,610 (h)		
100	1,200 (i)		

A6-829-003769A

NOTES FOR RUBBER CAPACITIES

Maximum Permissible Boom Length:

(a) 36 ft. (f) 78 ft.
(b) 42 ft. (g) 87 ft.
(c) 51 ft. (h) 96 ft.
(d) 60 ft. (i) 114 ft.
(e) 69 ft.

Front (no load)	Min. boom angle (deg) for indicated le
	Max. boom length (ft.) at 0 deg. boom
360 deg. (no load)	Min. boom angle (deg.) for indicated le
	Max. boom length (ft.) at 0 deg. boom

1. Capacities are in pounds and do not exceed **85%** of tipping loads as deter with SAE J-765.
2. Capacities are applicable to machines equipped with 33.25x35 (32 ply) inflation pressure (65 psi for 2.5 mph pick & carry capacities).
3. (Defined Arc) - Over front includes ±6° on either side of longitudinal center
4. Capacities appearing above bold line are based on structural strength and upon as a capacity limitation.
5. Capacities are applicable only with machine on a firm level surface.
6. On rubber lifting with boom extensions not permitted.
7. For pick & carry operation, boom must be centered over front of machin engaged. When handling loads in the structural range with capacities close should be reduced to creep speed.
8. Axle lockouts must be functioning before lifting on rubber. (Check au proper functioning: Refer to "Operation and Maintenance Manual" for descr axle lockout system).
9. All lifting depends on proper tire inflation, capacity and condition. Cap lower tire inflation pressures. Damaged tires are hazardous to safe operation

Courtesy of Crane.Market

RT980

4 ft. - 146 ft. BOOM
(FULL POWER)
PCSA CLASS 10-397

GROVE®

FULL HYDRAULIC
SELF-PROPELLED CRANE

NG CAPACITIES IN POUNDS

	114 ft. + 32 ft. Ext. (2° Offset)
	146
	See Warning Note 17
00	
00	24,500 (80)
50	22,400 (79)
50	20,700 (77)
00	19,300 (75)
50	18,000 (72.5)
00	16,900 (70.5)
00	14,100 (66)
90	11,750 (61.5)
20	9,950 (57)
20	8,520 (52)
00	7,120 (46.5)
	5,360 (40.5)
	3,930 (33.5)
	2,640 (24)
	0
	146

A & -003837A

ON OUTRIGGERS FULLY EXTENDED - OVER FRONT

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	160,000 (67)	121,250 (70.5)	113,750 (74)	107,500 (77)	98,000 (79)						See Warning Note 17
12	150,000 (63)	120,000 (67.5)	110,000 (71.5)	101,250 (75)	97,500 (77.5)	92,500 (79.5)					
15	117,600 (57.5)	102,000 (63)	102,000 (68)	91,850 (72)	90,000 (75)	84,250 (77)	71,250 (79)				
20	92,200 (47)	92,200 (54.5)	86,250 (61.5)	78,000 (67)	76,600 (70.5)	70,250 (73)	62,500 (75.5)	57,250 (77.5)	53,000 (79)	43,600 (80)	
25	73,600 (34)	73,600 (45.5)	73,600 (55)	64,900 (61.5)	58,000 (66)	57,050 (69.5)	54,000 (72)	52,000 (74.5)	48,000 (76)	40,700 (77.5)	24,500 (80)
30	56,000 (9)	56,000 (34)	56,000 (47.5)	56,000 (55.5)	49,300 (61)	46,500 (65)	44,700 (68.5)	43,200 (71)	42,650 (73)	34,750 (75)	22,400 (79)
35		49,450 (16.5)	49,450 (38.5)	49,450 (49.5)	43,500 (56)	38,100 (61)	35,650 (65)	34,500 (68)	34,000 (70)	30,150 (72)	20,700 (77)
40			42,350 (28.5)	42,350 (42.5)	38,850 (51)	33,800 (56.5)	31,600 (61)	29,950 (64.5)	27,950 (67)	26,400 (69.5)	19,300 (75)
45	See Warning Note 16		36,000 (8)	36,000 (34.5)	34,950 (45)	30,250 (52)	28,300 (57)	26,650 (61)	24,800 (64)	23,350 (66.5)	18,000 (72.5)
50				31,700 (24)	31,500 (38.5)	27,300 (47)	25,500 (53)	23,950 (57.5)	22,150 (61)	20,800 (63.5)	16,900 (70.5)
60					24,500 (20)	22,600 (35)	21,100 (43.5)	19,650 (49.5)	18,050 (54.5)	16,800 (57.5)	14,100 (66)
70						19,100 (16.5)	17,850 (32)	16,400 (41)	14,900 (47)	13,750 (51.5)	11,750 (61.5)
80							14,360 (12.5)	13,900 (29.5)	12,500 (38.5)	11,400 (44)	9,950 (57)
90								9,420 (7)	9,420 (27.5)	9,420 (35.5)	8,520 (52)
100										7,950 (24.5)	7,120 (46.5)
110											5,950 (40.5)
120											4,960 (33.5)
130											4,110 (24)
Min. boom angle (deg.) for indicated length (no load)										0	0
Max. boom length (ft.) at 0 degree boom angle (no load)										114	146

NOTE: Boom angles are in degrees.

A6-829-003817A & -003837A

NOTES FOR RUBBER CAPACITIES

num Permissible
om Length:
ft. (f) 78 ft.
ft. (g) 87 ft.
ft. (h) 96 ft.
ft. (i) 114 ft.
ft.

		Main Boom 114 ft.	Main Boom 114ft. w/32 ft. Ext.
Front (no load)	Min. boom angle (deg) for indicated length	0	33
	Max. boom length (ft.) at 0 deg. boom angle	114	128
360 deg. (no load)	Min. boom angle (deg.) for indicated length	52	58
	Max. boom length (ft.) at 0 deg. boom angle	68.2	89

pacities are in pounds and do not exceed **85%** of tipping loads as determined by test in accordance th SAE J-765.
pacities are applicable to machines equipped with 33.25x35 (32 ply) bias ply tires, at 65 psi cold flation pressure (65 psi for 2.5 mph pick & carry capacities).
efined Arc) - Over front includes ±6° on either side of longitudinal centerline of machine.
pacities appearing above bold line are based on structural strength and tipping should not be relied on as a capacity limitation.
pacities are applicable only with machine on a firm level surface.
n rubber lifting with boom extensions not permitted.
or pick & carry operation, boom must be centered over front of machine and mechanical swing lock gaged. When handling loads in the structural range with capacities close to maximum ratings, travel ould be reduced to creep speed.
xle lockouts must be functioning before lifting on rubber. (Check automatic lockout system for oper functioning: Refer to "Operation and Maintenance Manual" for description of a proper functioning le lockout system).
l lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for wer tire inflation pressures. Damaged tires are hazardous to safe operation of crane.

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, 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 rope 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.
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 within the limits of the capacity chart.
9. 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.
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, hazardous conditions, experience of personnel, two machine lifts, traveling with loads, electric wires, etc. Side pull on boom or jib is extremely dangerous.
11. Power telescoping boom sections must be extended equally at all times.
12. Handling of personnel from the boom is not authorized except with equipment furnished and installed by Grove Manufacturing Company.
13. Keep load handling devices a minimum of 12 inches (30 cm) below boom head when lowering or extending boom.
14. 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.
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 36 ft. (11.0 m) boom length shall be lifted with the boom fully retracted. If boom is not fully retracted, capacities shall not exceed those shown for the 42 ft. (12.8 m).
17. For boom lengths less than **146 ft.** (44.3 m) with 32 ft. boom extension erected, the rated loads are determined by boom angle only in the column headed by **146 ft.** (44.3 m). For boom angles not shown, use rating of next lower boom angle.

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.
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.

Courtesy of Crane.Market

RT980

80 TON CAPACITY

34 ft. - 146 ft. BOOM
(FULL POWER)

JIB CAPACITIES IN POUNDS

28 ft. JIB and 32 ft. EXT. Combination

ON OUTRIGGERS - 360°

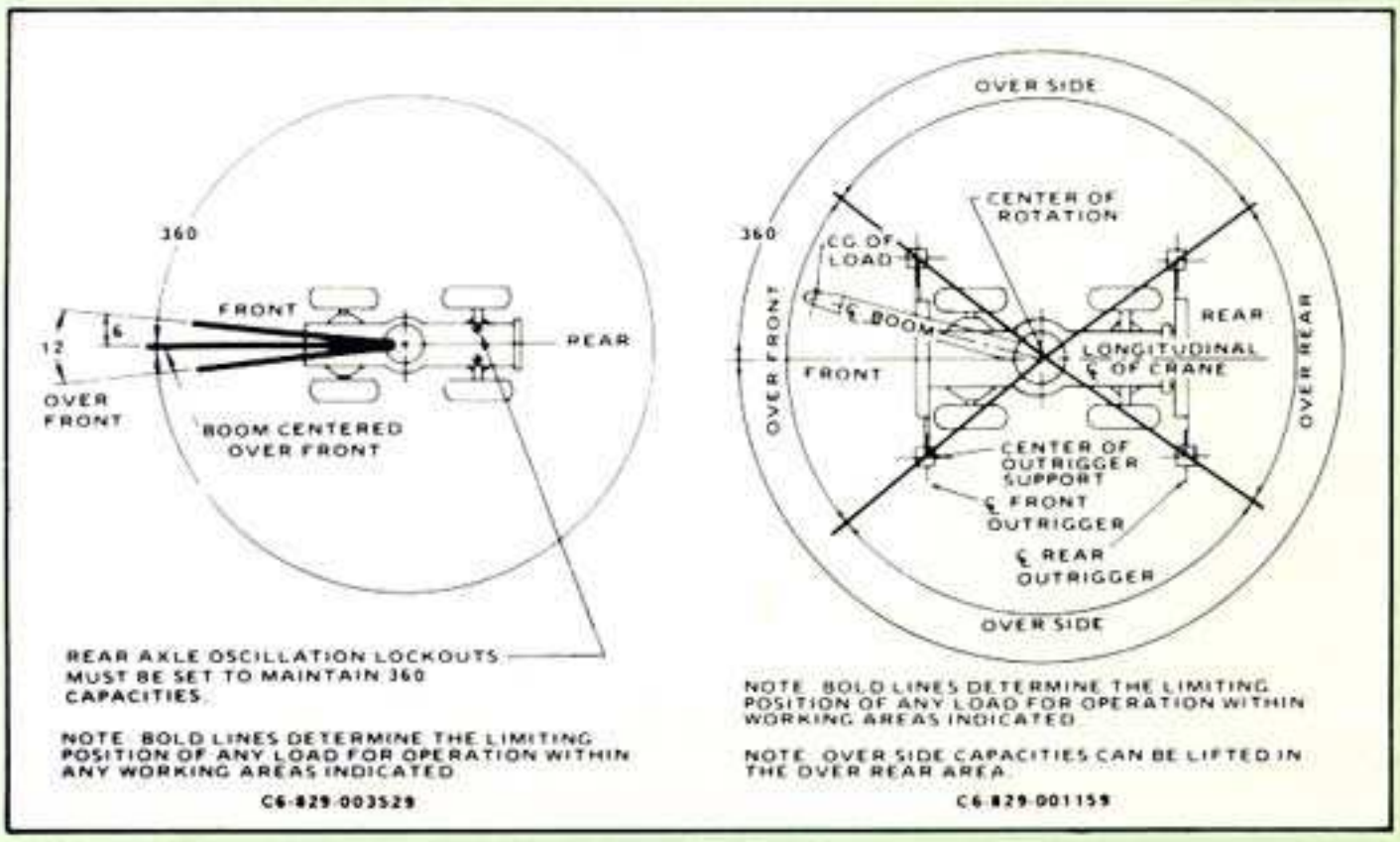
Boom Angle	5° OFFSET		17° OFFSET		30° OFFSET	
	Radius (Ref.) ft.	Caps. (lbs.)	Radius (Ref.) ft.	Caps. (lbs.)	Radius (Ref.) ft.	Caps. (lbs.)
80°	38.0	11,000	41.6	9,200	48.0	7,000
75	51.7	9,500	55.7	8,100	60.7	6,400
70	65.2	8,100	69.1	7,100	73.6	6,000
65	78.2	6,900	82.0	6,100	86.0	5,200
60	90.7	5,700	94.2	5,100	97.7	4,500
55	102.5	4,400	105.9	4,100	108.7	3,700
50	113.5	3,170	116.7	3,080	119.0	3,000
45	123.7	2,400	126.6	2,300	128.2	2,200
40	132.8	1,700	135.6	1,600	136.5	1,530
35	141.1	1,040	143.4	1,000	143.7	950

A6-829-003988

NOTES FOR JIB CAPACITIES

1. 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.
2. WARNING: Capacities are to be lifted with two parts line only.
3. WARNING: Operation of machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with jib occurs rapidly and without advance warning.
4. Maximum total length of boom including 32 ft. boom extension for purpose of erecting 28 ft. jib below 30° elevation is 135 ft.
5. 28 FT. JIB WARNING: For total boom length including 32 ft. boom extension greater than 135 ft. with 28 ft. jib in working position the boom angle must not be less than 30° since loss of stability will occur causing a tipping condition.
6. WARNING: Lifting on rubber with 32 ft. boom extension combination is prohibited.
7. Reference radii listed are for fully extended main boom only.
8. Capacities listed are with fully extended outriggers only.

LIFTING AREA DIAGRAM



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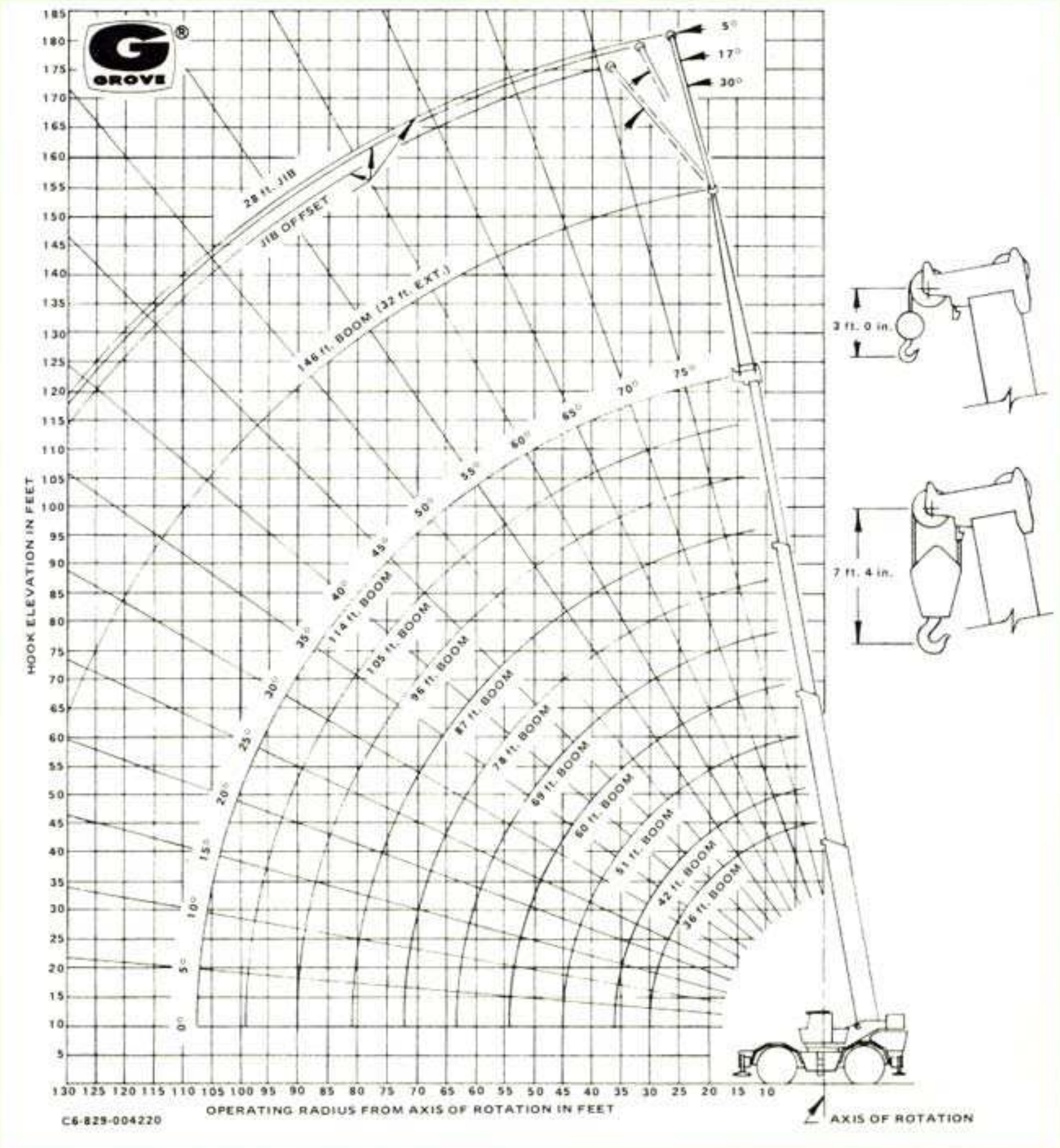
GROVE®

RT980

RANGE DIAGRAM



WEIGHT REDUCTION FOR LOAD HANDLING DEVICES

32 ft. BOOM EXTENSION	
†Stowed	703 lbs.
†Erected	3,829 lbs.
28 ft. Jib & 32 ft. Boom Ext. Combination	
†Stowed	962 lbs.
†Erected	8,983 lbs.
††Erected	2,081 lbs.

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

HOOK BLOCK	
80 Ton, 6 Sheave	1,970 lbs.
15 Ton, 1 Sheave	310 lbs.
10 Ton Headache Ball	500 lbs.
7½ Ton Headache Ball	300 lbs.
Auxiliary Boom Head	220 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.

GROVE MANUFACTURING COMPANY
Division of Walter Kidde & Company, Inc.
KIDDE

Box 21, Shady Grove, Pennsylvania 17256

Form No. 15681078-15M

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