



LOAD CHARTS

TM890

PCSA CLASS 10-365

85% STABILITY

72977

SERIAL NUMBER

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 manual 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 machine shall fully acquaint themselves with the latest 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. When 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.
7. Do not travel with crane boom extension or jib erected.

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. All rated loads have been tested to and meet minimum requirements of SAE J1063 OCT80 - Cantilevered Boom Crane Structures - Method of Test, and do not exceed 85% of the tipping load on outriggers as determined by SAE J765 OCT80 Crane Stability Test Code.
3. Rated loads include the weight of hook block, slings and auxiliary lifting devices and their weights shall be subtracted from the listed rating to obtain the net load to be lifted. When more than the minimum required hoist reeving is used, the additional rope weight shall be considered part of the load to be handled.
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 (32km/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 18 inches (45.7 cm) below boom head at all times.
14. The boom angle before loading should be greater than the loaded boom angle 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 boom fully retracted. If boom is not fully retracted, capacities shall not exceed those shown for the 49 ft. (14.9 m) boom length.
17. If machine is equipped with a front jack cylinder, radii less than 40 feet or 12 meters not recommended when lifting over front of machine.

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 with the rated boom length.
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.

RATED LIFTING CAPACITIES IN POUNDS
36 ft. - 114 ft. FULL POWER BOOM
ON OUTRIGGERS - 360°

Radius in Feet	#01						
	Main Boom Length in Feet						
	36	49	62	75	88	101	114
10	180,000 (69)						
12	160,000 (65.5)	103,000 (72.5)	83,000 (76)	78,000 (78.5)			
15	120,000 (60)	100,000 (68.5)	81,000 (73.5)	76,500 (76.5)	63,000 (79)		
20	93,000 (50.5)	90,000 (62)	79,000 (68.5)	68,000 (72.5)	59,400 (76)	54,000 (77.5)	50,000 (80)
25	72,500 (39)	72,500 (55.5)	70,700 (63.5)	64,000 (68)	54,000 (72.5)	52,200 (74.5)	43,200 (78)
30	58,000 (23.5)	58,000 (48)	58,000 (58)	50,000 (64)	44,100 (69)	43,200 (71.5)	36,000 (75)
35		46,240 (39)	44,100 (52.5)	40,700 (59.5)	36,000 (65)	34,000 (68.5)	32,400 (72.5)
40	See Warning	36,530 (28.5)	36,530 (46)	35,000 (55)	30,000 (61.5)	29,000 (65.5)	27,000 (69.5)
45	Note 16	28,870 (11.5)	28,870 (39.5)	28,870 (50.5)	28,500 (57.5)	27,100 (62.5)	25,000 (67)
50			23,380 (31.5)	23,380 (45)	23,380 (53.5)	23,380 (59)	21,000 (64)
60				16,330 (33)	16,330 (44.5)	16,330 (52.5)	16,330 (58)
70				11,980 (13)	11,980 (34.5)	11,980 (45)	11,980 (51.5)
80					8,870 (19.5)	8,870 (36)	8,870 (44.5)
90						6,640 (24)	6,640 (36)
100							4,880 (26)
110							3,660 (8)
Minimum boom angle (deg.) at indicated boom length (no load)							0
Maximum boom length (ft.) at 0 deg. boom angle (no load)							114

Note: () Boom angles are in degrees.

A6-829-009048A

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

Lifting Capacities On Outriggers - 360 Degrees At Zero Degree Boom Angle							
Boom Angle	Main Boom Length in Feet						
	36	49	62	75	88	101	114
0°	32,500 (32.9)	20,550 (45.9)	13,600 (58.9)	9,160 (71.9)	5,980 (84.9)	3,610 (97.9)	1,770 (110.9)

Note: () Reference radii in feet.

A6-829-009517

33 ft. FIXED LENGTH EXTENSION ON OUTRIGGERS - 360°

Radius in Feet	#51		#52		#53	
	2' OFFSET	Cap. lbs.	15' OFFSET	Cap. lbs.	30' OFFSET	Cap. lbs.
30	80	*29,600				
35	77	26,100	80	*19,700		
40	75	23,750	77.5	17,300	80	*14,300
45	73	21,650	75.5	15,650	78	13,400
50	71	19,700	73	14,150	76	12,550
60	68.5	16,150	69	11,650	71.5	10,600
70	62	13,050	64.5	9,790	67	9,110
80	57.5	10,700	59.5	8,270	62	7,700
90	52.5	7,920	54.5	6,960	57	6,580
100	47	5,750	49.5	5,410	51.5	5,745
110	41	4,020	43.5	4,020	45	4,020
120	34.5	2,610	36.5	2,610	38	2,610

AG-829-008796A

#LMI operating code. Refer to LMI manual for operating instructions.
*This capacity is based upon the maximum boom angle.

- All capacities above the bold line are based on structural strength of boom extension.
- 33 ft. boom extension length may be used for double or single line lifting service.
- For main boom lengths less than fully extended with the boom extension erected, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is set up. For boom angles not shown, use rating of the next lower boom angle.
WARNING: Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
- Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting, rated load.
Extra listed are with outriggers fully extended and vertical jacks set only.

NO LOAD STABILITY FOR FULL POWER BOOM: For main boom extension length 88 ft. with 33 ft. offsettable boom extension in

working position, the boom angle must not be less than 32° 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 88 ft. This warning also applies for boom extension erection purposes.

WEIGHT REDUCTIONS FOR LOAD HANDLING DEVICES

33 ft. Extension	
*Stowed -	677 lbs.
*Erected -	6,115 lbs.

33 ft. - 58 ft. Tele. Ext.	
*Stowed -	933 lbs.
*Erected (ret.) -	9,105 lbs.
*Erected (ext.) -	12,528 lbs.

46 ft. - 88 ft. FIXED JIBS	
*46 ft. Jib Erected -	8,828 lbs.
*60 ft. Jib Erected -	12,962 lbs.
*74 ft. Jib Erected -	17,868 lbs.
*88 ft. Jib Erected -	23,548 lbs.

*Reduction of main boom capacities

HOOKBLOCKS:	
15 Ton, 1 Sheave	650 lbs.
90 Ton, 7 Sheave	2,060 lbs.
Auxiliary Boom Head	230 lbs.
10 Ton Headache Ball	560 lbs.
7 1/2 Ton Headache Ball	338 lbs.

When lifting over swingaway and/or jib combinations, deduct total weight of all load handling devices reeved over main boom nose directly from swingaway or jib capacity.

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.

33 ft. - 58 ft. TELE. EXTENSION ON OUTRIGGERS - 360°

Radius in Feet	33 ft. EXTENSION						48 ft. EXTENSION						58 ft. EXTENSION					
	#21		#22		#23		#31		#32		#33		#41		#42		#43	
	2' OFFSET	15' OFFSET	30' OFFSET	15' OFFSET	30' OFFSET	2' OFFSET	15' OFFSET	30' OFFSET	2' OFFSET	15' OFFSET	30' OFFSET	2' OFFSET	15' OFFSET	30' OFFSET	2' OFFSET	15' OFFSET	30' OFFSET	
Boom Angle Ref.	Cap. lbs.	Boom Angle Ref.	Cap. lbs.	Boom Angle Ref.	Cap. lbs.	Boom Angle Ref.	Cap. lbs.	Boom Angle Ref.	Cap. lbs.	Boom Angle Ref.	Cap. lbs.	Boom Angle Ref.	Cap. lbs.	Boom Angle Ref.	Cap. lbs.	Boom Angle Ref.	Cap. lbs.	
30	80.0	*29,600																
35	77.0	25,600	80.0	*19,200		80.0	*14,400					80.0	*9,200					
40	75.0	23,250	77.5	16,800	80.0	*13,800	77.0	13,700	80.0	*12,300		77.5	8,940					
45	73.0	21,150	75.5	15,150	78.0	12,900	75.0	13,200	78.5	11,750		76.0	8,770					
50	71.0	19,200	73.0	13,650	76.0	12,050	73.0	12,450	77.0	11,050	80.0	*8,600						
60	66.5	15,650	69.0	11,150	71.5	10,100	69.5	10,600	73.0	9,590	76.5	8,200	70.5	8,170	75.0	7,590	80.0	*6,600
70	62.0	12,550	64.5	9,250	67.0	8,570	65.5	8,680	69.0	7,980	72.5	7,280	67.0	7,490	71.5	7,060	75.5	6,020
80	57.5	9,940	59.5	7,730	62.0	7,160	61.5	7,140	64.5	6,550	68.0	6,130	63.5	6,480	67.5	6,070	71.5	5,590
90	52.5	7,140	54.5	6,420	57.0	6,040	57.0	5,940	60.5	5,540	63.5	5,150	59.5	5,350	63.5	5,020	67.5	4,840
100	47.0	4,970	49.5	4,970	51.5	4,970	52.5	4,980	56.0	4,690	59.0	4,410	55.5	4,560	59.5	4,260	63.0	4,050
110	41.0	3,240	43.5	3,240	45.0	3,240	48.0	3,930	51.0	3,910	53.5	3,830	51.5	3,820	55.0	3,570	58.5	3,470
120	34.5	1,830	36.5	1,830	38.0	1,830	42.5	3,090	45.5	2,970	48.0	3,080	47.0	2,940	50.5	3,010	53.5	2,920
130							37.0	1,960	39.5	1,960	41.5	1,960	42.0	1,860	45.0	2,300	48.0	2,360
140															39.5	1,300	42.0	1,520

*This capacity is based upon the maximum boom angle.

A6-829-008687

1. All capacities above the bold line are based on structural strength of boom extension.
2. 33 ft., 48 ft. and 58 ft. boom extension lengths may be used for double or single line lifting service.
3. For main boom lengths less than fully extended with the boom extension erected, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is set up. For boom angles not shown, use rating of the next lower boom angle.
WARNING: Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
4. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
5. Capacities listed are with outriggers fully extended and vertical jacks set only.
6. **NO LOAD STABILITY WITH FULL POWER BOOM:** For main boom length greater than 88 ft. with 33 - 58 ft. tele. boom extension in working position, the boom angle must not be less than 32° 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 88 ft. This warning also applies for boom extension erection purposes.

46 ft. - 88 ft. FIXED JIBS ON OUTRIGGERS - 360°

Main Boom Angle (Deg.)	46 ft. JIB			60 ft. JIB			74 ft. JIB											
	#71		#72	#73		#74	#75		#76	#77		#78		#79				
	5° OFFSET	17° OFFSET	30° OFFSET	5° OFFSET	17° OFFSET	30° OFFSET	5° OFFSET	17° OFFSET	30° OFFSET	5° OFFSET	17° OFFSET	30° OFFSET	5° OFFSET	17° OFFSET	30° OFFSET			
	Rad. Ref. ft.*	Cap. lbs.**	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.		
80	35.5	16,000	44.0	12,300	53.0	6,860	40.0	11,750	53.0	8,520	64.0	4,480	46.5	8,880	60.0	5,920	77.0	2,750
77.5	42.0	15,150	50.5	11,750	59.0	6,460	46.5	10,950	58.5	8,050	68.5	4,160	53.0	8,160	66.0	5,510	81.0	2,510
75	49.0	14,400	57.0	10,820	64.5	6,100	53.0	10,300	64.0	7,410	73.0	3,880	59.5	7,530	72.5	5,140	85.0	2,300
72.5	55.5	13,750	63.5	10,040	70.5	5,790	61.0	9,700	71.0	6,870	80.0	3,640	66.5	6,970	79.5	4,710	92.0	2,110
70	62.0	12,110	70.0	9,360	76.5	5,510	69.0	9,180	78.5	6,400	87.5	3,420	73.5	6,460	87.0	4,300	99.0	1,940
67.5	68.0	9,780	75.5	8,620	82.0	5,270	75.5	8,030	85.0	6,000	93.0	3,230	81.5	6,000	94.0	3,950	106.0	1,800
65	74.0	7,970	81.0	7,120	87.0	5,060	81.5	6,470	92.0	5,640	99.0	3,070	89.0	5,420	101.0	3,640	112.5	1,670
62.5	80.0	6,520	86.5	5,890	93.0	4,870	88.0	5,220	97.5	4,600	105.0	2,920	97.0	4,300	108.5	3,380	118.0	1,560
60	86.0	5,350	92.0	4,870	98.5	4,570	94.5	4,190	103.5	3,730	111.0	2,790	104.5	3,390	116.0	2,580	123.5	1,390
55	96.0	3,560	102.0	3,280	108.0	3,120	107.0	2,610	115.0	2,340	121.0	1,550	115.0	1,980				
50	105.5	2,280	112.5	2,120	116.5	2,030	117.5	1,470										
45	116.0	1,330	121.0	1,200														

#LMI operating codes. Refer to LMI manual for instructions.

*Reference radius refers to fully extended boom and appropriate jib length

**Capacities at loaded main boom angle.

A6-829-008738A

Main Boom Angle (Deg.)	88 ft. JIB					
	#80		#81		#82	
	5° OFFSET	17° OFFSET	17° OFFSET	30° OFFSET	30° OFFSET	30° OFFSET
	Rad. Ref. ft.*	Cap. lbs.**	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.
80	47.0	6,890	62.5	3,950	83.0	1,550
77.5	56.5	6,180	71.5	3,510	89.0	1,350
75	64.0	5,550	81.0	3,110	95.5	1,180
72.5	73.0	5,000	89.0	2,760	103.0	1,030
70	81.5	4,450	97.0	2,430		
67.5	90.5	3,950	104.5	2,140		
65	99.0	3,520	111.5	1,870		
62.5	106.0	3,120	118.0	1,640		
60	113.0	2,750	124.5	1,470		

Capacities at loaded main boom angle with counterweight fully

3. **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.
4. Rated load is based on loaded main boom angle with reference to horizontal, regardless of main boom length. (Ref. radius in ft. is for fully extended 114 ft. boom length only. The LMI system will give an accurate radius indication for this condition only.)
5. **46 FT. JIB WARNING:** With 46' jib in working position, the boom angle must not be less than 45° since loss of stability will occur causing a tipping condition.
6. **60 FT. JIB WARNING:** With 60' jib in working position, the boom angle must not be less than 50° since loss of stability will occur causing a tipping condition.
7. **74 FT. JIB WARNING:** With 74' jib in working position, the boom angle must not be less than 55° since loss of stability will occur causing a tipping condition.
8. **88 FT. JIB WARNING:** With 88' jib in working position, the boom angle must not be less than 55° since loss of stability will occur causing a tipping condition. Capacities listed are with fully extended outriggers and front jack cylinder extended according to proper procedure.

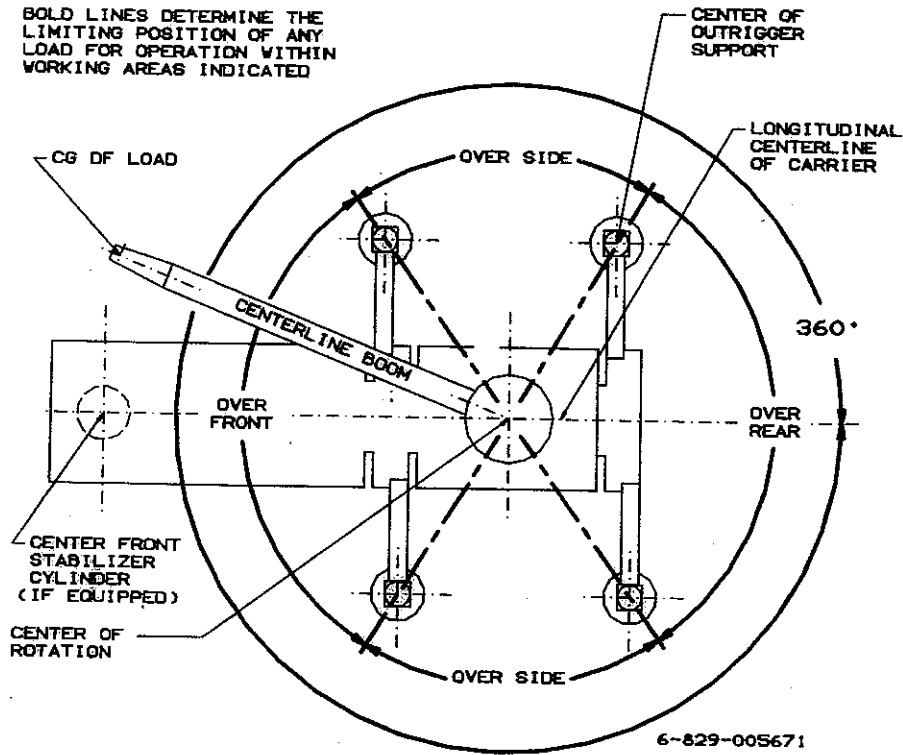
JIB ERECTION NOTES:

A. Max. total length of main boom for purpose of erecting jib, over rear or over side, below 30° main boom angle is:

- 46 ft. Jib - 103 ft.
- 60 ft. Jib - 95 ft.
- 74 ft. Jib - 86 ft.
- 88 ft. Jib - 77 ft.

B. **WARNING:** Do not attempt to erect jibs over front of machine.

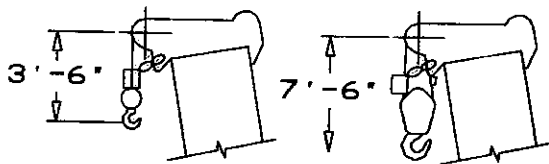
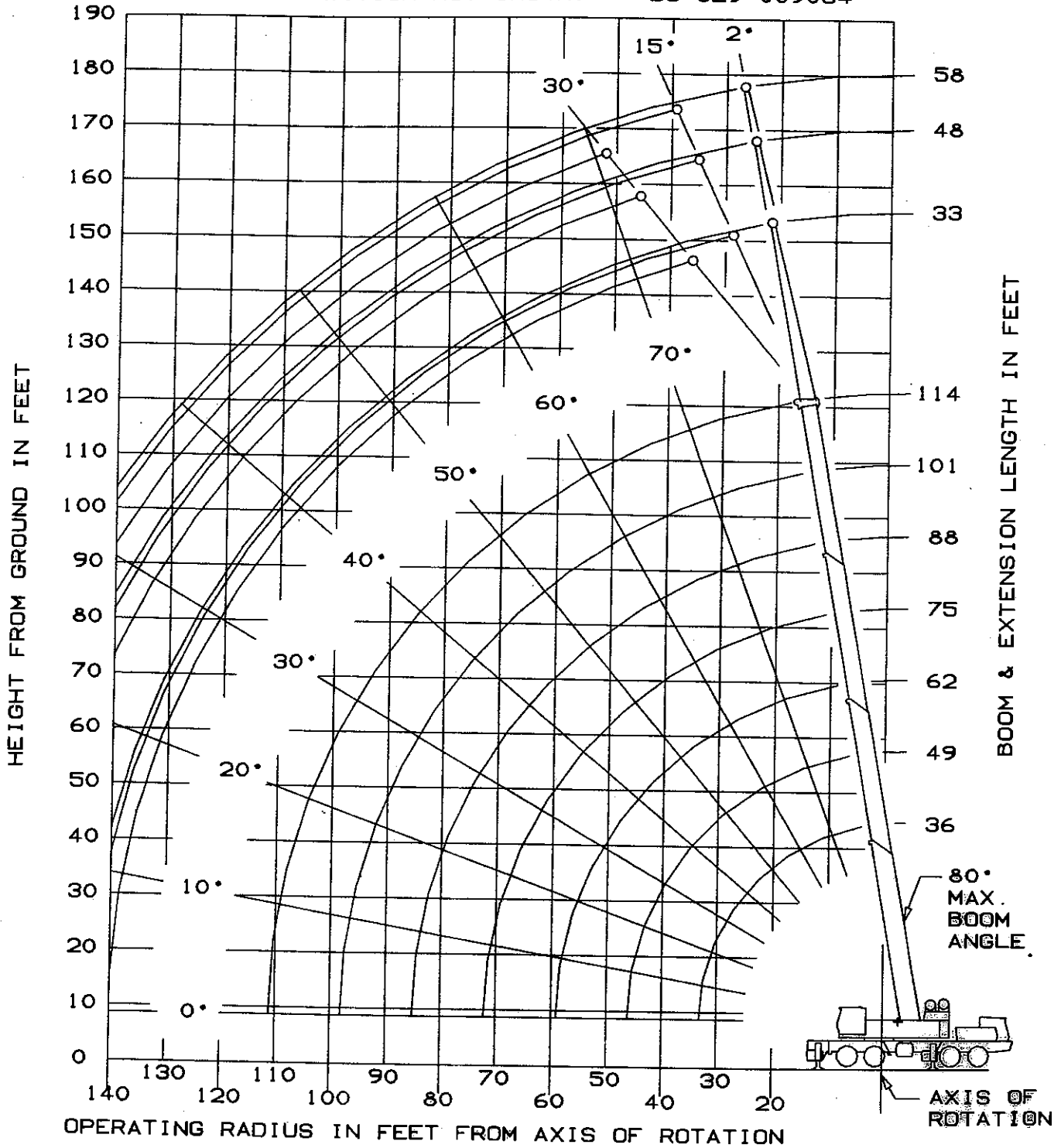
WORKING AREA DIAGRAM



LINE PULLS & REEVING INFORMATION

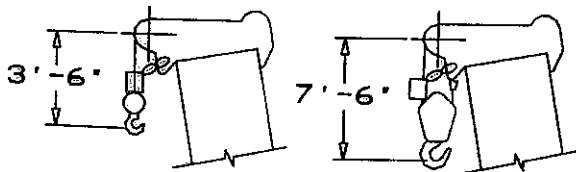
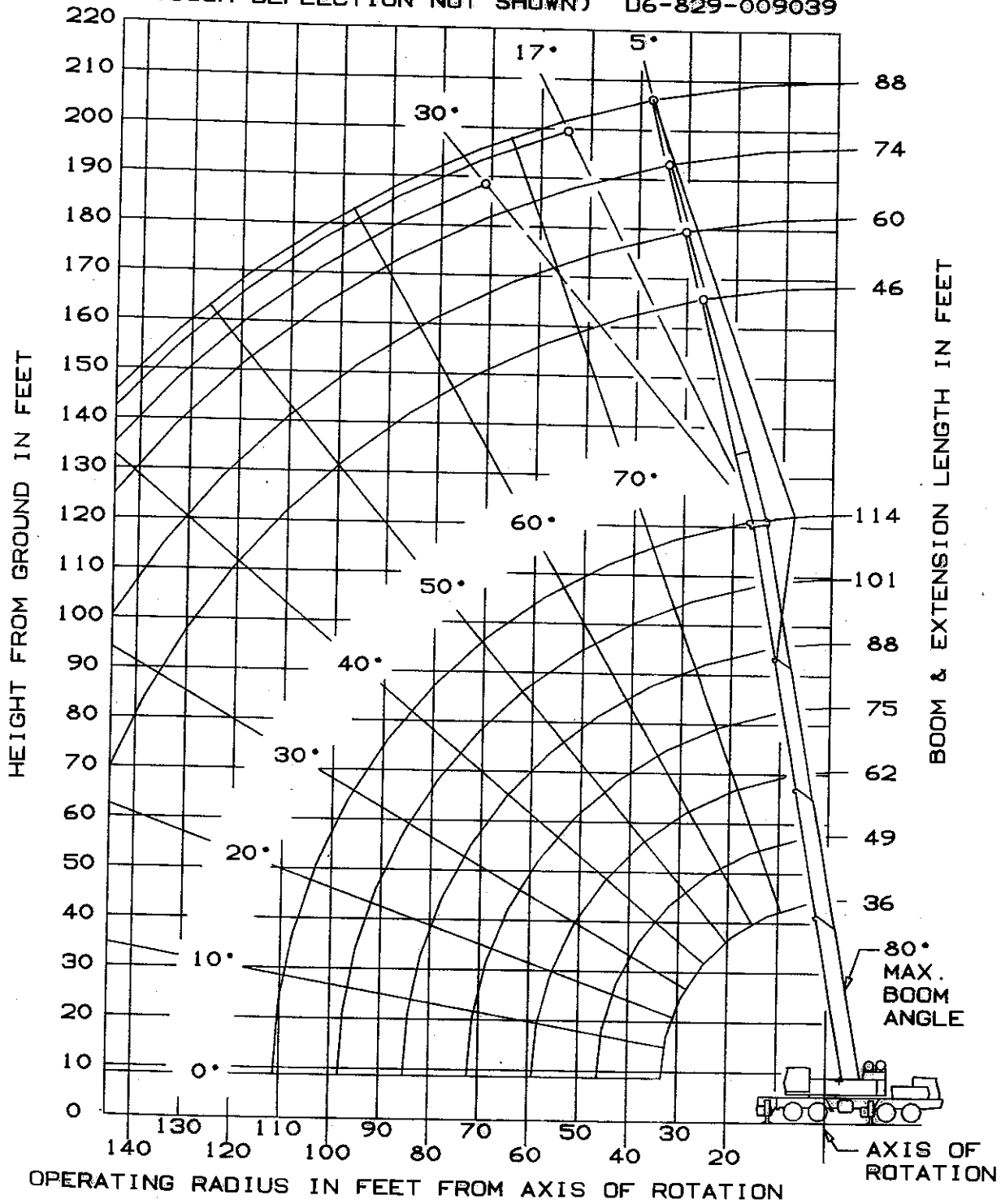
HOISTS	CABLE SPECS.	PERMISSIBLE LINE PULLS
MAIN & AUX. Model 30	19 mm (3/4 in.) 40x7 Class Rotation Resistant Min. Breaking Str. 75,000 lbs.	15,000 lbs.
AUXILIARY Model 30	3/4 in. (19 mm) 18x19 Class or 35x7 Rotation Resistant Min. Breaking Str. 64,600 lbs.	12,920 lbs.

WORKING RANGE DIAGRAM
(BOOM DEFLECTION NOT SHOWN) D6-829-009034



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

WORKING RANGE DIAGRAM
 (BOOM DEFLECTION NOT SHOWN) D6-829-009039



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