



APPENDIX F LOAD CHART (RT875CC)

RT875CC 34'-60' BOOM 85% LIFTING CAPACITIES
(POUNDS) ON OUTRIGGERS – 360°

Radius in Feet	Main Boom Length in Feet					
	34	40	45	50	55	60
10	80,000 (65)	80,000 (68.5)	80,000 (71.5)	80,000 (73.5)	80,000 (75)	80,000 (76.5)
12	80,000 (61)	80,000 (65.5)	80,000 (68.5)	80,000 (71)	80,000 (73)	80,000 (74.5)
15	80,000 (55)	80,000 (60.5)	80,000 (64.5)	80,000 (67)	80,000 (69.5)	79,000 (71.5)
20	80,000 (43.5)	80,000 (52)	80,000 (57)	80,000 (60.5)	75,000 (64)	70,000 (66.5)
22	73,000 (38.5)	73,000 (48)	73,000 (53.5)	73,000 (58)	70,000 (61.5)	65,000 (64.5)
25	62,200 (30)	62,200 (41.5)	62,200 (48.5)	62,200 (53.5)	60,000 (57.5)	58,000 (61)
30		50,000 (28.5)	50,000 (39)	50,000 (46)	50,000 (51)	48,000 (55.5)
31			48,000 (37)	48,000 (44.5)	48,000 (50)	44,000 (54)
35			39,500 (27)	39,500 (37)	39,500 (44)	39,500 (49.5)
40				31,600 (25.5)	31,600 (35.5)	31,600 (42.5)
45					25,800 (24.5)	25,800 (34.5)
50						21,500 (24.5)

NOTE: Boom angles are in degrees.



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LOAD CHART (RT875CC) (Contd)

RT875CC 34'-60' BOOM LIFTING CAPACITY NOTES

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 this manual.
3. The operator and other personnel associated with machine shall fully acquaint themselves with the safety standards set forth in this manual.

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. Tires shall be inflated to the recommended pressure before lifting on rubber.

OPERATION:

1. Rated loads at rated radius shall not be exceeded. Do not tip the machine to determine allowable loads.
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 apply to loads on hook for machines equipped with originally furnished hookblock, auxiliary boom nose and overhaul ball.
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.



LOAD CHART RT875CC (Cont'd)

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 is extremely dangerous.
11. Handling of personnel from the boom is not authorized except with equipment furnished and installed by Grove Manufacturing Company.
12. Keep load handling devices a minimum of 18 inches (45.7 cm) below boom head at all times.
13. The boom angle before loading should be greater than the loaded boom angle to account for deflection.
14. Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
15. The LMI is calibrated to include originally furnished hookblock, auxiliary boom nose and overhaul ball as an integral part of the machine.
16. Load indicating device meets SAE J376 Section 4.2 accuracy requirements for loads on hook from 9,000 to 80,000 pounds.

DEFINITIONS:

1. **Operating Radius:** Horizontal distance from a projection of the axis of rotation 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.



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LOAD CHART -RT875CC (Cont'd)

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.

Radius in Feet	Stationary Capacity Defined Arc (3) Over Front	Stationary Capacity 360 Degree Arc	Pick & Carry Cap. Up to 2.5 MPH Boom Centered (7) Over Front
10	72,000 (a)	56,400 (e)	69,700 (a)
12	64,100 (a)	46,850 (f)	60,600 (b)
15	54,000 (a)	36,900 (f)	50,200 (d)
20	43,450 (a)	23,650 (f)	38,200 (d)
25	35,700 (c)	16,750 (f)	30,100 (f)
30	26,100 (d)	12,500 (f)	22,150 (f)
35	20,100 (e)	9,480 (f)	18,500 (f)
40	16,000 (f)		15,600 (f)
45	13,000 (f)		13,000 (f)
50	10,700 (f)		10,700 (f)



LOAD CHART RT875CC (Cont'd)

Maximum Permissible Boom Lengths:

- | | |
|------------|------------|
| (a) 34 ft. | (d) 50 ft. |
| (b) 40 ft. | (e) 55 ft. |
| (c) 45 ft. | (f) 60 ft. |

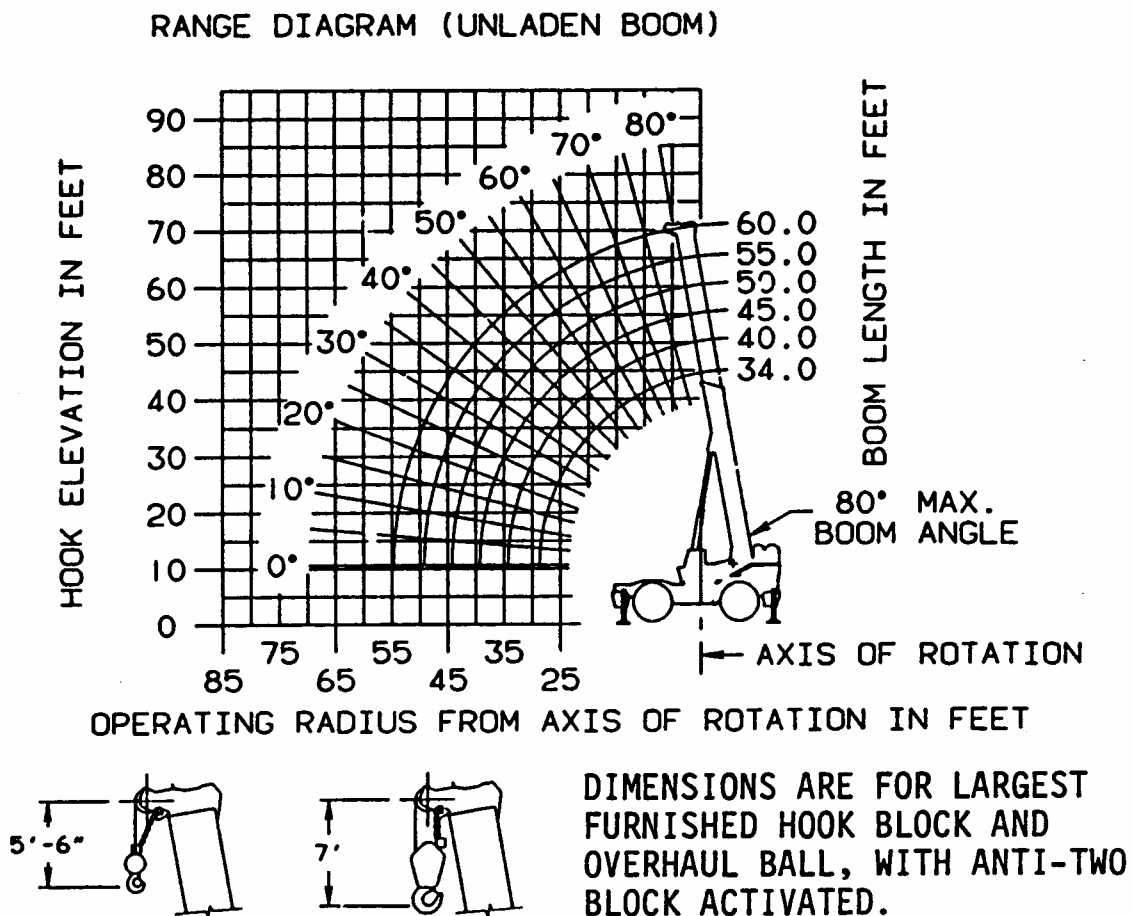
	No Load Stability Data	Main Boom 60 ft.
Front	Min. boom angle (deg.) for indicated length	0
(No load)	Max. boom length (ft.) at 0 deg. boom angle	60
360 Deg.	Min. boom angle (deg.) for indicated length	0
(No load)	Max. boom length (ft.) at 0 deg. boom angle	60

1. Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J765 OCT80.
2. Capacities are applicable to machines equipped with 29.5 x 25 (28 PR) bias ply tires, at 75 psi cold inflation pressure.
3. Defined Arc - Over front includes 6' on either side of longitudinal centerline of machine.
4. Capacities are applicable only with machine on firm level surface.
5. Rear axle lockout valve must be functioning properly before lifting on rubber. Refer to TM5-3810-306-20.
6. All rubber lifting depends on proper tire inflation and condition. Capacities must be reduced for lower tire inflation pressures. Damaged tires are hazardous to safe operation of crane.
7. 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 must be reduced to creep speeds.
8. Creep-not over 200 ft. of movement in any 30 min. period and not exceeding 1 mph.



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LOAD CHART RT875CC (Cont'd)



**APPENDIX F****LOAD CHART (RT875CCS)****RT875CCS 34'-60' BOOM 85% LIFTING CAPACITIES
(POUNDS) ON OUTRIGGERS - 360°**

RADIUS IN FEET	ON OUTRIGGERS, ALL BEAMS FULLY EXTENDED - 360° #9001					
	MAIN BOOM LENGTH IN FEET					
	34	40	45	50	55	60
10	80,000 (65)	80,000 (68.5)	80,000 (71.5)	80,000 (73.5)	80,000 (75)	80,000 (76.5)
12	80,000 (61)	80,000 (65.5)	80,000 (68.5)	80,000 (71)	80,000 (73)	80,000 (74.5)
15	80,000 (55)	80,000 (60.5)	80,000 (64.5)	80,000 (67)	80,000 (69.5)	79,000 (71.5)
20	80,000 (43.5)	80,000 (52)	80,000 (57)	80,000 (60.5)	75,000 (64)	70,000 (66.5)
22	73,000 (38.5)	73,000 (48)	73,000 (53.5)	73,000 (58)	70,000 (61.5)	65,000 (64.5)
25	62,200 (30)	62,200 (41.5)	62,200 (48.5)	62,200 (53.5)	60,000 (57.5)	58,000 (61)
30		50,000 (28.5)	50,000 (39)	50,000 (46)	50,000 (51)	48,000 (55.5)
31			48,000 (37)	48,000 (44.5)	48,000 (50)	44,000 (54)
35			39,500 (27)	39,500 (37)	39,500 (44)	39,500 (49.5)
40				31,600 (25.5)	31,600 (35.5)	31,600 (42.5)
45					25,800 (24.5)	25,800 (34.5)
50						21,500 (24.5)
MINIMUM BOOM ANGLE (DEG.) FOR INDICATED LENGTH (NO LOAD)						0
MAXIMUM BOOM LENGTH (FT.) AT 0 DEG. BOOM ANGLE (NO LOAD)						60
< > INDICATES REFERENCE BOOM ANGLE IN DEGREES						A6-829-008831B

#XXXX INDICATES LMI OPERATING CODE: SEE OPERATOR'S
MANUAL FOR INSTRUCTIONS

NOTE: Boom angles are in degrees.

ZERO DEGREE BOOM ANGLE CHART

BOOM ANGLE	ON OUTRIGGERS, ALL BEAMS FULLY EXTENDED - 360°					
	MAIN BOOM LENGTH IN FEET					
	34	40	45	50	55	60
0 DEG.	33,350 (28.7)	27,650 (34.2)	23,750 (39.2)	20,600 (44.2)	18,050 (49.2)	15,450 (54.7)
CAPACITIES ARE IN LBS. () INDICATES REFERENCE RADIUS IN FEET.						



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LOAD CHART RT875CCS (Cont'd)

NOTES - 34'-60' BOOM LIFTING CAPACITY

GENERAL:

1. Rated loads as shown on capacity charts 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. Capacities appearing above the bold lines are based on structural strength, and tipping should not be relied upon as capacity limitation.
3. Construction equipment can be hazardous if improperly operated or maintained. Operation and maintenance of this machine shall be in compliance with the information contained in the various technical manuals supplied with this machine. If these manuals are missing, obtain replacements immediately.
4. The operator and other personnel associated with machine shall fully acquaint themselves with the latest American National Safety Standards (ASME/ANSI) for cranes.

SETUP:

1. The machine shall be level and 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. Tires shall be inflated to the recommended pressure before lifting on rubber. The rear axle oscillation lock-out system shall be functioning correctly. Verify correct operation of the lock-out system according to procedures contained in this manual.

OPERATION:

1. Rated loads at rated radius shall not be exceeded. Do not tip the machine to determine allowable loads.
2. All rated loads shall have been tested to and meet minimum requirements of SAE J1063 - Cantilevered Boom Crane Structures - Method of Test. Rated loads do not exceed 85% of the tipping load (on outriggers) or 75% of the tipping load (on rubber capacities) as determined by SAE J765 Crane Stability Test Code.
3. Rated loads shown are net loads which may be suspended freely from the hookblock when the crane is equipped with a Grove-furnished lifting device (i.e., Grove 40-ton, 3-sheave hookblock weighing 760 lbs, or Grove 5-ton overhaul ball weighing 230 lbs), and with auxiliary boom nose installed. If other lifting devices are used, and/or if additional devices are used below the hook, the additional weight of those devices shall be considered part of the load to be lifted.
4. When more than the minimum required hoist reeving is used, the additional rope weight shall be considered part of the load to be lifted.
5. Rated loads are for lift crane service only.
6. When boom length and/or lift radius are between values listed, the smallest load shown at either the next larger radius or the next longer or shorter boom length shall be used.
7. Load ratings are based on freely suspended loads. No attempt shall be made to move a load horizontally in any direction while on the ground or on any supporting surface.
8. On-rubber capacities are applicable only with machine on firm level surface.



LOAD CHART – RT875CCS (Cont'd)

9. On-rubber capacities are applicable only when crane is equipped with General 29.5-25 ND LCM or MCS E-3 28 PR bias-ply tires or Michelin 29.5R25 XHA One-Star Rating radial tires, inflated to 75 psi cold inflation pressure.
10. All on-rubber lifting depends on proper tire inflation and condition. Capacities must be reduced for lower tire inflation pressure. Damaged tires are hazardous to safe operation of crane.

WARNING

IF NOT REQUIRED TO PERFORM AN ON-RUBBER LIFT, THE BOTTOM LIFT SLING MUST BE REMOVED FROM ITS ON CRANE STOWAGE CRADLE FOR ALL ON RUBBER LIFTS.

11. Because the crane's on-rubber capacity is based on using the maximum axle capacity, the addition of the bottom lift sling to the crane DOES impact the crane's overall on-rubber capacity, including pick and carry capacity. The bottom lift sling MUST be removed from the stowage crane whenever on-rubber lifts are made. If the bottom lift sling is in use for on-rubber handling of containers, it's weight is suspended from the hook and must be considered part of the load being lifted. If the bottom lift sling is not being used for handling of containers, it should be removed from the crane when making on-rubber lifts. Otherwise, it's weight acts to increase the live axle load without that weight being taken into effect through the LMI.
12. For pick and carry operation, boom must be centered over the front of machine, mechanical swing lock engaged, and load restrained from swinging. When handling load in the structural range with capacities close to maximum ratings, travel must be reduced to creep speeds.
13. 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.
14. The boom angle before loading should be greater than the reference boom angle, to account for deflection.
15. Keep load handling devices a minimum of 42 inches (107 cm) below boom head at all times.
16. Do not lift loads when boom is fully lowered. The Load Moment Indicator (LMI) senses pressure and will not provide warnings or lockout. The crane can be overloaded if the lift cylinders are fully retracted.
17. For safe operation, the user shall make due allowances for the 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, experience of personnel, two machine (tandem) lifts, traveling with loads, electric wires, obstacles, hazardous conditions, etc. Side pull on boom is extremely dangerous.
18. Never handle personnel with this machine unless requirements of the applicable national, state, and local regulations and safety codes are met.
19. The maximum in-service wind speed is 20 mph (32 km/h). It is recommended when wind velocity is above 20 mph (32 km/h), rated loads and boom lengths shall be reduced appropriately. For machines not in-service, the main boom should be retracted and lowered with the swing brake set when wind velocities are over 30 mph (48 km/h).
20. 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 charts.



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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. Reference 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 lifting area diagrams.
4. Freely Suspended Load: Load hanging free with no direct external force applied except by the hoist cable.
5. Side Load: Horizontal force applied to the lifted load either on the ground or in the air.
6. Defined Arc: Over front includes 6° on either side of longitudinal centerline of machine.
7. Creep: Not over 200 ft (61 m) of movement in any 30-minute period, and not exceeding 1 mph (1.6 km/h).



**RT875CCS 34'-60' BOOM 75% LIFTING CAPACITIES
ON RUBBER (POUNDS) 29.5 x 25 (28 PLY) TIRES**

ON-RUBBER CAPACITIES			
RADIUS IN FEET	STATIONARY CAPACITY #9005	STATIONARY CAPACITY #9005	PICK AND CARRY CAP. UP TO 2.5 MPH #9006
	DEFINED ARC OVER FRONT	360°	BOOM CENTERED OVER FRONT
10	72,000 (a)	56,400 (e)	69,700 (a)
12	64,100 (a)	46,850 (f)	60,600 (b)
15	54,000 (a)	36,900 (f)	50,200 (d)
20	43,450 (a)	23,650 (f)	38,200 (d)
25	35,700 (c)	16,750 (f)	30,100 (f)
30	26,100 (d)	12,500 (f)	22,150 (f)
35	20,100 (e)	9,480 (f)	18,500 (f)
40	16,000 (f)		15,600 (f)
45	13,000 (f)		13,000 (f)
50	10,700 (f)		10,700 (f)
MAX. PERMISSIBLE BOOM LENGTHS: (a) 34 ft. (b) 40 ft. (c) 45 ft. (d) 50 ft. (e) 55 ft. (f) 60 ft.			
A6-829-008832			

RANGE DIAGRAM (UNLADEN BOOM)

NOTES TO ON-RUBBER CAPACITIES

MAIN BOOM 60 FEET		
FRONT	MINIMUM BOOM ANGLE (DEG.) FOR INDICATED LENGTH (NO LOAD)	0
	MAXIMUM BOOM LENGTH (FT) FOR 0 DEG. BOOM ANGLE (NO LOAD)	60
360 DEG.	MINIMUM BOOM ANGLE (DEG.) FOR INDICATED LENGTH (NO LOAD)	0
	MAXIMUM BOOM LENGTH (FT) FOR 0 DEG. BOOM ANGLE (NO LOAD)	60
ON-RUBBER CAPACITIES ARE VALID ONLY FOR GENERAL 29.5-25 28 PR E-3 ND LCM OR MCS TIRES INFLATED TO 75 PSI COLD INFLATION PRESSURE.		



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LOAD CHART - RT875CCS (Cont'd)

