

# RT58C

**18 TON CAPACITY**

**24 ft. - 42 ft. BOOM**

**(FULL POWER)**

**85% OF TIPPING - ON OUTRIGGERS**

**75% OF TIPPING - ON RUBBER**

## 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 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.
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 24 ft. (7.4m) boom length shall be lifted with boom fully retracted. If boom is not fully retracted, capacities shall not exceed those shown for the 27 ft. (8.2m) boom length.
17. Lifting loads at close radii directly over the operator's compartment is not recommended.

### 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.

Rated Capacity

Rated Capacity



RT

18 TON

24 ft. -

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85% OF TIPPING

75% OF TIP

**RATED LIFTING CAPACITIES IN POUNDS**

**ON OUTRIGGERS FULLY EXTENDED - 360°**

Radius in Feet	Main Boom Length in Feet						
	24	27	30	33	36	39	42
10	36,000 (59.5)	36,000 (63)	36,000 (66)	36,000 (68.5)	36,000 (70.5)	36,000 (72)	36,000 (73.5)
12	35,800 (54)	35,800 (58)	35,800 (61.5)	35,800 (64.5)	35,600 (67)	35,000 (69)	34,600 (70.5)
15	29,300 (44)	29,300 (50)	29,300 (54.5)	29,300 (58.5)	29,300 (61.5)	29,300 (64)	29,300 (66)
20	20,660 (20)	20,660 (33)	20,660 (41.5)	20,660 (47.5)	20,660 (52)	20,660 (55.5)	20,660 (58)
25			14,030 (22.5)	14,030 (33.5)	14,030 (40.5)	14,030 (46)	14,030 (49.5)
30	See Warning Note 16				10,550 (25)	10,550 (34)	10,550 (39)
35						8,140 (14.5)	8,140 (25.5)
Min. Boom Angle (deg) for indicated length [No Load]							0
Max. Boom Length (ft.) at 0 degree boom angle [No Load]							42.0

NOTE: Boom angles are in degrees.

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**ON OUTRIGGERS FULLY EXTENDED - OVER FRONT**

Radius in Feet	Main Boom Length in Feet						
	24	27	30	33	36	39	42
10	36,000 (59.5)	36,000 (63)	36,000 (66)	36,000 (68.5)	36,000 (70.5)	36,000 (72)	36,000 (73.5)
12	35,800 (54)	35,800 (58)	35,800 (61.5)	35,800 (64.5)	35,600 (67)	35,000 (69)	34,600 (70.5)
15	29,300 (44)	29,300 (50)	29,300 (54.5)	29,300 (58.5)	29,300 (61.5)	29,300 (64)	29,300 (66)
20	23,300 (20)	23,300 (33)	23,300 (41.5)	23,300 (47.5)	23,300 (52)	23,200 (55.5)	23,000 (58)
25			18,400 (22.5)	18,400 (33.5)	18,400 (40.5)	18,400 (46)	18,400 (49.5)
30	See Warning Note 16				14,900 (25)	14,900 (34)	14,900 (39)
35						11,710 (14.5)	11,710 (25.5)
Min. Boom Angle (deg) for indicated length [No Load]							0
Max. Boom Length (ft.) at 0 degree boom angle [No Load]							42.0

NOTE: Boom angles are in degrees.

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**NOTES FOR LIFTING**

**GENERAL:**

- Rated loads as shown on lift chart are for machines as originally manufactured and are subject to change due to the machine or use of optional equipment. The use of optional equipment that is not specified can result in a reduced rated load.
- Construction equipment can be used on this machine if operated or maintained. Operation of this machine shall be in compliance with the operator's, parts, and safety instructions for this machine. If these instructions are replaced by those of the manufacturer, the operator shall be replaced by the manufacturer's distributor.
- The operator and other personnel using this machine shall be fully acquainted with and follow applicable American National Standards for cranes.

**SETUP:**

- The machine shall be level on the lifting surface. Depending on the surface, it may be necessary to use larger bearing floats or larger bearing surface.
- For outrigger operation, the machine shall be extended with tires raised for operation of the boom or lifting.
- If machine is equipped with a jacking cylinder, the jacking cylinder shall be set up according to the procedure.
- If machine is equipped with a counterweight, the counterweight shall be in place for operation.
- Tires shall be inflated to the correct pressure before lifting on rubber.
- With certain boom and hook configurations, maximum capacities may not be achieved at certain cable lengths.

**OPERATION:**

- Rated loads at rated radius shall be used. Do not tip the machine to determine clamshell or concrete bucket capacity and load must not exceed 80% of rated load.
- Rated loads do not exceed those determined by SAE Crane Standards.
- Rated loads include the weight of auxiliary lifting devices and shall be subtracted from the listed rated load to be lifted.
- Load ratings are based on the assumption that an attempt shall be made to move the load in any direction.
- Rated loads do not account for wind. It is recommended that wind speed (32 km/h), rated loads be appropriately reduced.
- Rated loads are for lift cranes only. Other capacities are not listed. At times, the machine may overturn without any load.
- The maximum load which can be lifted is not definable because of variable conditions such as maintenance, but it is safe to operate within the limits of the rated load.
- When either boom length or radius is less than the values listed, the smallest load capacity shall be used for larger radius or boom length.
- For safe operation, the user shall be responsible for his particular job conditions, including ground, out of level conditions, pendulum action, jerking or hazardous conditions, experience, machine lifts, traveling with load, and pulling on boom or jib is extremely hazardous.
- Power telescoping boom sections shall be extended equally at all times.
- Handling of personnel from the machine shall be done except with equipment furnished by Grove Manufacturing Company.
- Keep load handling devices at least 15 cm (6 in) below boom head when lifting.
- Loaded boom angles give the rated load at specified angle before loading should be made. Deflection shall be checked.
- Capacities appearing above the rated load are based on structural strength and tipping and are not a capacity limitation.
- Capacities for the 24 ft. (7.3 m) boom length, when fully retracted, capacities shall not be used for 27 ft. (8.2 m) boom length.
- Lifting loads at close radius to the machine compartment is not recommended.

**DEFINITIONS:**

- Operating Radius: Horizontal distance from the axis of rotation to the center of the load with load applied.
- Loaded Boom Angle (Show on Boom Capacity Chart): is the angle between the base section and the horizontal line through the load at the rated radius.
- Working Area: Areas measured from the center line of rotation as shown in the diagram.
- Freely Suspended Load: Load applied to the machine by an external force applied except for the weight of the load.
- Side Load: Horizontal force applied to the load either on the ground or in the air.



# GROVE®

## FULL HYDRAULIC SELF-PROPELLED CRANE

### ON RUBBER CAPACITIES

#### 20.5x25 (20 ply) TIRES

Radius in Feet	Stationary Capacity		Pick & Carry Capacity Up To 2.5 MPH Boom Centered (7) Over Front
	Defined Arc (3) Over Front	360° Arc	
10	27,520 (a)	19,100 (a)	28,720 (a)
12	25,500 (a)	14,200 (a)	25,000 (a)
15	18,980 (c)	10,230 (c)	18,980 (a)
20	12,080 (d)	6,400 (d)	12,080 (b)
25	8,520 (e)	4,320 (e)	8,520 (c)
30	6,410 (f)	3,200 (f)	6,410 (f)
35	5,060 (g)	2,330 (g)	5,060 (f)

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#### 17.5x25 (20 ply) TIRES

Radius in Feet	Stationary Capacity		Pick & Carry Capacity Up To 2.5 MPH Boom Centered (7) Over Front
	Defined Arc (3) Over Front	360° Arc	
10	28,300 (a)	18,320 (a)	25,280 (a)
12	25,800 (a)	14,360 (a)	21,970 (a)
15	19,240 (c)	10,150 (c)	18,170 (a)
20	11,810 (d)	6,210 (d)	11,810 (b)
25	8,360 (e)	4,270 (e)	8,150 (c)
30	6,180 (f)	3,170 (f)	6,180 (e)
35	4,800 (g)	2,370 (g)	4,800 (f)

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#### 14:00x24 (20 ply) TIRES

Radius in Feet	Stationary Capacity		Pick & Carry Capacity Up To 2.5 MPH Boom Centered (7) Over Front
	Defined Arc (3) Over Front	360° Arc	
10	24,750 (a)	18,810 (a)	23,150 (a)
12	23,330 (a)	14,040 (a)	21,340 (a)
15	18,770 (c)	9,650 (c)	18,640 (a)
20	11,420 (d)	5,900 (d)	11,420 (b)
25	7,950 (e)	4,140 (e)	7,950 (c)
30	6,000 (f)	3,010 (f)	6,000 (e)
35	4,680 (g)	2,210 (g)	4,680 (f)

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#### MAXIMUM PERMISSIBLE BOOM LENGTH:

- (a) 24 ft.      (e) 36 ft.
- (b) 27 ft.      (f) 39 ft.
- (c) 30 ft.      (g) 42 ft.
- (d) 33 ft.

		Main Boom 42.0 ft.	Main Boom w/20ft.jib
Front (No Load)	Minimum boom angle for indicated length	0°	0°
	Maximum boom length at 0° boom angle	42.0 ft.	62.0 ft.
360° (No Load)	Minimum boom angle for indicated length	0°	0°
	Maximum boom length at 0° boom angle	42.0 ft.	62.0 ft.

#### NOTES FOR ON RUBBER CAPACITIES

- Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J-765.
- Machines equipped with 20.5x25 (20 ply) tires require 80 psi cold inflation pressure (65 psi for 2.5 mph pick & carry capacities); 17.5x25 (20 ply) tires require 95 psi cold inflation pressure (85 psi for 2.5 mph pick & carry capacities); 14.00x24 (20 ply) tires require 115 psi cold inflation pressure (110 psi for 2.5 mph pick & carry capacities).
- (Defined Arc) - Over front includes ±6° on either side of longitudinal centerline of machine.
- Capacities appearing above bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
- Capacities are applicable only with machine on a firm level surface.
- On rubber lifting with jib not permitted.
- For pick and carry operation, boom must be centered over front of machine and mechanical swing lock engaged. When handling loads in the structural range with capacities close to maximum ratings, travel should be reduced to creep speed.
- Axle lockouts must be functioning before lifting on rubber. (Check automatic lockout system for proper functioning: Refer to "operation and maintenance manual" for description of a proper functioning axle lockout system).
- All lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressures. See lifting capacity chart for tire used. Damaged tires are hazardous to safe operation of crane.
- Lifting loads at close radii directly over the operator's compartment is not recommended.



# RT58C

18 TON CAPACITY

24 ft. - 42 ft. BOOM

(FULL POWER)

85% OF TIPPING - ON OUTRIGGERS

75% OF TIPPING - ON RUBBER

## 20 FT. A-FRAME JIB

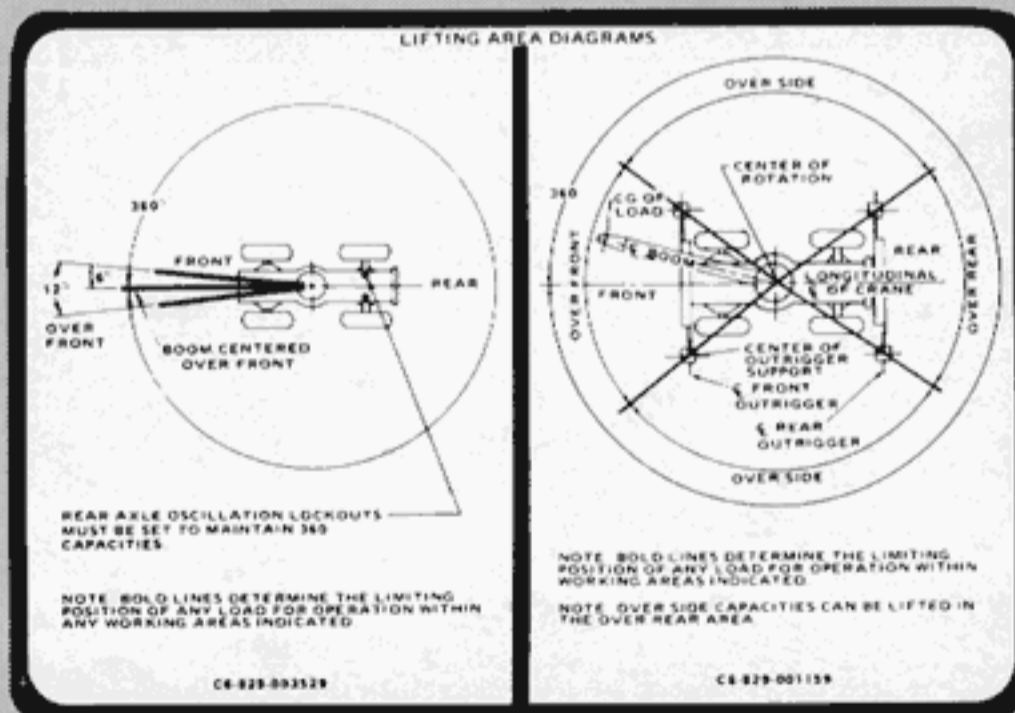
MAIN BOOM ANGLE	0° OFFSET		15° OFFSET		30° OFFSET	
	Radius (Ref.) Ft.	Cap. lbs.	Radius (Ref.) Ft.	Cap. lbs.	Radius (Ref.) Ft.	Cap. lbs.
75°	14.4	9,500	19.2	6,100	22.8	4,200
70	18.4	8,400	23.3	5,450	26.6	3,870
65	23.4	7,140	28.0	4,850	31.0	3,660
60	28.2	6,230	32.4	4,400	35.2	3,500
55	32.8	5,570	36.6	4,150	39.0	3,330
50	37.0	5,070	40.4	3,900	42.5	3,200
45	41.0	4,680	44.0	3,750	45.8	3,080
40	44.7	4,390	47.2	3,600	48.5	2,980
35	47.9	4,150	49.9	3,450	50.9	2,890
30	50.8	3,740	52.3	3,350	52.9	2,800

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### NOTES FOR JIB CAPACITIES

1. All capacities are in pounds. 20 ft. jib may be used for double line lifting service. Capacities are based on structural strength of 20 ft. jib at a given main boom angle regardless of main boom length.
2. **WARNING:** Operation of machine with heavier loads than the capacities listed strictly prohibited. Machine tipping with jib occurs rapidly and without advance warning.
3. Capacities listed are with fully extended outriggers only.
4. **WARNING:** Lifting on rubber with jib is prohibited.
5. Reference radii listed are for fully extended main boom only.
6. No load stability on outriggers with 20 ft. jib installed.
  - a. Minimum boom angle for 42 ft. main boom = 0°
  - b. Maximum main boom length at 0° main boom angle = 42 ft.

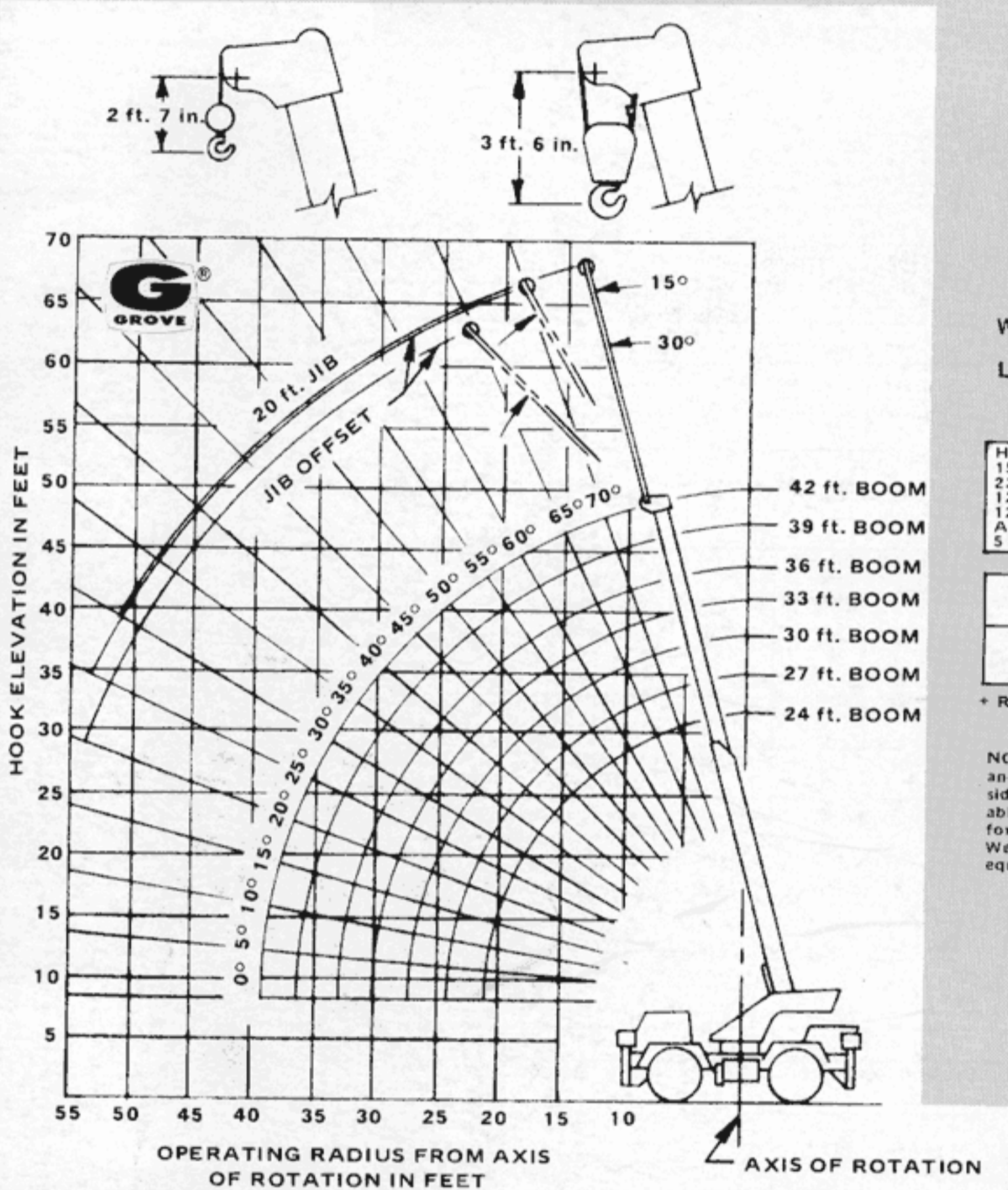
### LIFTING AREA DIAGRAM



# GROVE®

# RT58C

## RANGE DIAGRAM



### WEIGHT REDUCTIONS FOR LOAD HANDLING DEVICES

HOOK BLOCKS:	
15 ton, 2 sheave	300 lbs.
22 ton, 3 sheave	490 lbs.
12 ton, 1 sheave	400 lbs.
12 ton, 1 sheave	285 lbs.
Aux. Boom Head	100 lbs.
5 ton headache ball	150 lbs.

20 Ft. A-Frame JIB 24 ft. - 42 ft. BOOM	
+ STOWED	238 lbs.
+ ERECTED	1,368 lbs.

+ Reduction of main boom 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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