

Lifting Capacities

Telescopic Rough Terrain Crane

RTC-8030 *Series II* **30-ton (27.2 metric ton)**

Three-Section Boom Capacities

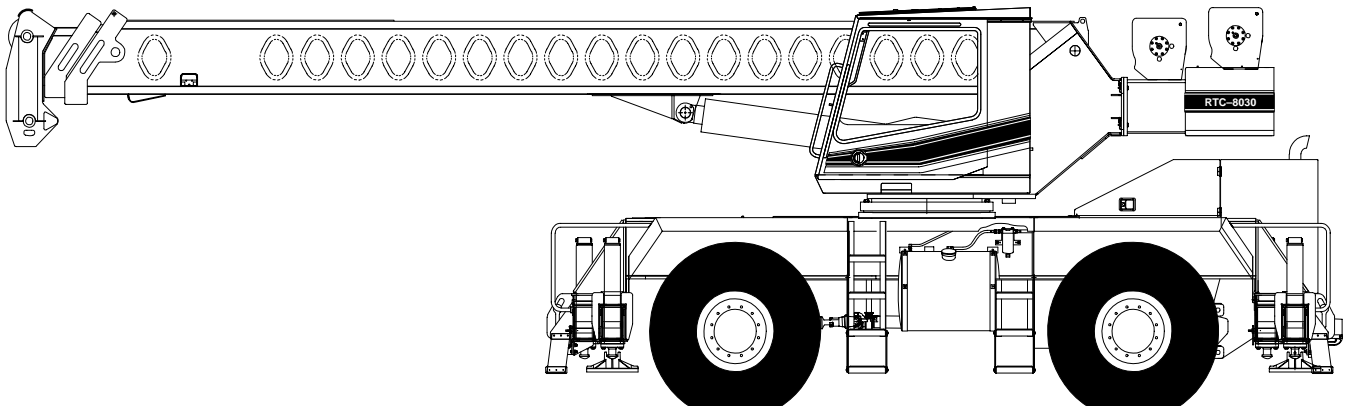
Boom and fly capacities for this machine are listed by the following sections:

Fully Extended Outriggers

- Working Range Diagram
- 30 to 78 ft. Main Boom capacities
- 25 ft. offset fly capacities
- 27 ft. offset fly capacities
- 27 to 44 ft. two-piece offset fly capacities

On-Tires

- Working Range Diagram
- 30 to 78 ft. Main Boom capacities



CAUTION: This material is supplied for reference use only. Operator must refer to in-cab Crane Rating Manual to determine allowable machine lifting capacities and operating procedures.



WARNING

READ AND UNDERSTAND THE OPERATOR'S AND SAFETY MANUALS AND THE FOLLOWING INSTRUCTIONS AND RATED LIFTING CAPACITIES BEFORE OPERATING THE CRANE. OPERATION WHICH DOES NOT FOLLOW THESE INSTRUCTIONS MAY RESULT IN AN ACCIDENT.

OPERATING INSTRUCTIONS

GENERAL:

1. Rated lifting capacities in pounds as shown on lift charts pertain to this crane as originally manufactured and normally equipped. Modifications to the crane or use of optional equipment other than that specified can result in a reduction of capacity.
2. Construction equipment can be dangerous if improperly operated or maintained. Operation and maintenance of this crane must be in compliance with the information in the Operator's, Parts, and Safety Manuals supplied with this crane. If these manuals are missing, order replacements through the distributor.
3. The operator and other personnel associated with this crane shall read and fully understand the latest applicable American National Standards ASME B30.5 safety standards for cranes.
4. The rated lifting capacities are based on crane standing level on firm supporting surface.

SET UP:

1. The crane 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 pontoons or tires to spread the load to a larger bearing surface.
2. When making lifts on outriggers, all tires must be free of supporting surface. All outrigger beams must be extended to the same length; fully retracted, intermediate extended, or fully extended.
3. When operating on tires over the side, do not exceed 75° maximum boom angle. Loss of backward stability will occur causing a backward tipping condition.
4. When making lifts on tires, they must be inflated to the recommended pressure. (See Operation note 20 and Tire Inflation.)
5. For required parts of line, see Wire Rope Capacity and Winch Performance.
6. Before setting up on intermediate outriggers, retracted outriggers, or tires, refer to Working Range Diagrams and rated lifting capacities to determine allowable crane configurations.

OPERATION:

1. Rated lifting capacities at rated radii shall not be exceeded. Do not tip the crane to determine allowable loads. For concrete bucket operation, weight of bucket and load shall not exceed 80% of rated lifting capacities. For clamshell bucket operation, weight of bucket and bucket contents is restricted to a maximum weight of 5000 pounds or 80% of rated lifting capacity, whichever is less. For magnet operation, weight of magnet and load is restricted to a maximum weight of 5000 pounds or 80% of rated lifting capacity, whichever is less. For clamshell and magnet operation, maximum boom length is restricted to 40 feet and the boom angle is restricted to a minimum of 35 degrees. Lifts with any fly erected are prohibited for both clam and magnet operation.
2. Rated lifting capacities shown on fully extended outriggers do not exceed 85% of the tipping loads. Rated lifting capacities shown on intermediate extended or fully retracted outriggers are determined by the formula, rated load = (tipping load – 0.1 X load factor) / 1.25. Rated lifting capacities shown on tires do not exceed 75% of the tipping loads. Tipping loads are determined by SAE crane stability test code J-765.
3. Rated lifting capacities in the shaded areas are based on structural strength or hydraulic limitations and have been tested to meet minimum requirements of SAE J-1063 cantilevered boom crane structures—method of test. Rated lifting capacities in the non-shaded areas are based on stability ratings. Some capacities are limited by a maximum obtainable 78° boom angle.
4. Rated lifting capacities include the weight of hook ball/block, slings, bucket, magnet and auxiliary lifting devices. Their weights must be subtracted from the listed rated capacity to obtain the net load that can be lifted. Rated lifting capacities include the deduct for any fly stowed on the base of the boom. For deducts of any fly erected, but not used, see Capacity Deductions For Auxiliary Load Handling Equipment.
5. Rated lifting capacities are based on freely suspended loads. No attempt shall be made to move a load horizontally on the ground in any direction.
6. Rated lifting capacities are for lift crane service only.
7. Do not operate at radii or boom lengths (minimum or maximum) where capacities are not listed. At these positions, the crane can tip or cause boom failure.
8. The maximum loads that can be telescoped are not definable because of variation in loadings and crane maintenance, but it is permissible to attempt retraction and extension within the limits of the applicable load rating chart.

9. For main boom capacities when either boom length or radius or both are between values listed, proceed as follows:
 - a. For boom lengths not listed, use rating for next longer boom length or next shorter boom length, whichever is smaller.
 - b. For load radii not listed, use rating for next larger radius.
10. The user shall operate at reduced ratings to allow for adverse job conditions, such as: soft or uneven ground, out of level conditions, wind, side loads, pendulum action, jerking or sudden stopping of loads, hazardous conditions, experience of personnel, traveling with loads, electrical wires, etc. Side load on boom or fly is dangerous and shall be avoided.
11. Rated lifting capacities do not account for wind on suspended load or boom. Rated capacities and boom length shall be appropriately reduced as wind velocity approaches 20 mph.
12. When making lifts with auxiliary head machinery, the effective length of the boom increases by 2 ft.
13. Power sections of boom must be extended equally. (Stroke of center and tip sections is 24 ft. for each section).
14. The least stable rated working area depends on the configuration of the crane set up.
15. Rated lifting capacities are based on correct reeving. Deduction must be made for excessive reeving. Any reeving over minimum required (see Wire Rope Capacity) is considered excessive and must be accounted for when making lifts. Use Working Range Diagram to estimate the extra feet of rope then deduct 1 lb. for each extra foot of wire rope before attempting to lift a load.
16. The loaded boom angle combined with the boom length give only an approximation of the operating radius. The boom angle, before loading, should be greater to account for deflection. For main boom capacities, the loaded boom angle is for reference only. For fly capacities, the load radius is for reference only.
17. For fly capacities with main boom length less than 78 ft., the rated capacities are determined by the boom angle using the 78 ft. boom and fly chart. For angles not shown use the next lower boom angle to determine the rated capacity.
18. The 30ft. boom length structural capacities are based on boom fully retracted. If the boom is not fully retracted, do not exceed capacities shown for the 40 ft. boom length.
19. Rated lifting capacities on tires depend on tire capacity, condition of tires, and tire air pressure. On tire capacities require lifting from main boom head only on a smooth and level surface. Pick and carry operations are restricted to speed of 2.5 mph and creep. The boom must be centered over the front of the crane with two—position travel swing lock engaged and the load must be restrained from swinging. Lifts with any fly erected on tires are prohibited. For correct tire pressure, see Tire Inflation.

DEFINITIONS:

1. Load 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: \angle° The angle between the boom base section and horizontal with freely suspended load at the rated radius.
3. Working Area: Area 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 hoist line.
5. Side Load: Horizontal side force applied to the lifted load either on the ground or in the air.
6. No Load Stability Limit: The radius or boom angle beyond which it is not permitted to position the boom because the crane can overturn without any load on the hook.
7. Load Factor: Load applied at the boom tip which gives the same moment effect as the boom mass.
8. Creep: Crane movement limited to 200 ft. in a 30 minute period and not to exceed 1 mph maximum speed.

TIRE INFLATION

Tire Size	Operation	Tire Pressure (psi)
20.5 X 25–24 Ply Rating	Stationary Creep 2.5 mph	95
		95
		76
20.5R25 – 1 Star Radial	Stationary Creep 2.5 mph	87
		83
		83

PONTOON LOADINGS

Maximum Pontoon Load:	Maximum Pontoon Ground Bearing Pressure:
50,600 lbs.	208 psi

CAPACITY DEDUCTIONS FOR AUXILIARY LOAD HANDLING EQUIPMENT

Load Handling Equipment:	(lbs.)
Auxiliary Head Attached	75
30-ton quick reeve 3 sheave hook block (see hook block for actual weight)	720
8.5-ton hook ball (see hook ball for actual weight)	360
Lifting From Main Boom With:	(lbs.)
Fly Stowed On Boom Base (See Operation Note 4)	0
25 Ft. Fixed Fly Erected But Not Used	1300
27 Ft. Offset Fly Erected But Not Used	3,300
44 Ft. Offset Fly Erected But Not Used	6,600
Lifting From 28.5 ft. Offset Fly With:	
17 ft. fly tip erected but not used	PROHIBITED
17 ft. fly tip stowed on 28.5 ft. offset fly	PROHIBITED
Note: Capacity deductions are for Link-Belt supplied equipment <u>only</u> .	

WINCH PERFORMANCE

Winch Line Pulls			Drum Rope Capacity (ft.)	
Wire Rope Layer	Two Speed Winch			
	Low Speed	High Speed	Layer	Total
	Available Lbs.*	Available lbs.		
1	11,948	6,125	77	77
2	10,807	5,540	85	161
3	9,866	5,058	93	254
4	9,075	4,652	101	355
5	8,401	4,307	109	464
*Maximum lifting capacity: Type DB Rope = 11,770 Type RB Rope = 9,080				

WIRE ROPE CAPACITY

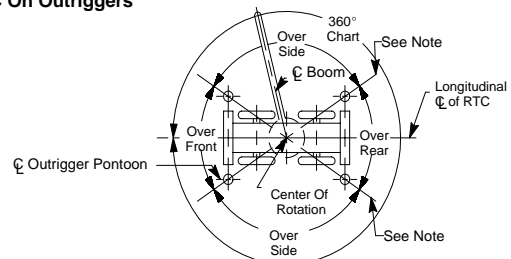
Maximum Lifting Capacities Based On Wire Rope Strength			
Parts of Line	5/8"	5/8"	Notes
	Type DB	Type RB	
1	11,770	9,080	Capacities shown are in pounds and working loads must not exceed the ratings on the capacity charts in the Crane Rating Manual.
2	23,540	18,160	
3	35,310	27,240	
4	47,080	36,320	
5	58,850	45,400	Study Operator's Manual for wire rope inspection procedures.
6	70,620	54,480	
7	82,390	63,540	
LBCEDESCRIPTION			
TYPE DB	6 x 26 (6 x 19 Class) – Warrington Seale – Extra Improved Plow Steel – Preformed – Right Regular Lay – I.W.R.C.		
TYPE RB	18 x 19 Rotation Resistant – Compacted Strand – High Strength – Preformed – Right Regular Lay		

HYDRAULIC CIRCUIT PRESSURE SETTINGS

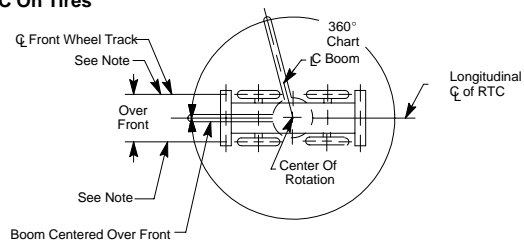
Function	Pressure (PSI)
Front And Rear Winch	3500
Outriggers	3000
Boom Hoist / Telescope	3500
Swing	1600
Steering	2700
Pilot Control	500
Throttle	150

WORKING AREAS

RTC On Outriggers

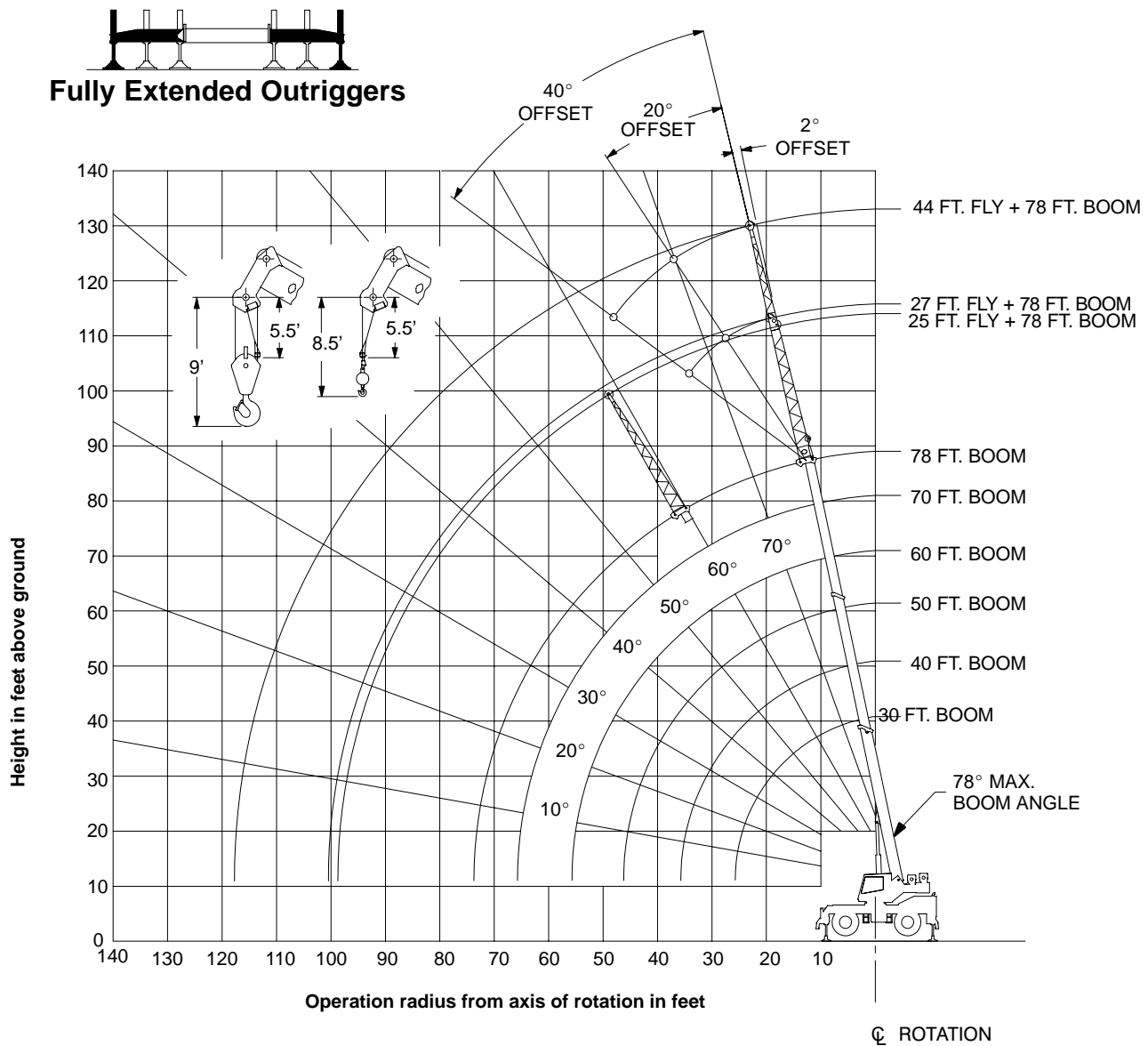


RTC On Tires



Note: These Lines Determine The Limiting Position Of Any Load For Operation Within Working Areas Indicated.

WORKING RANGE DIAGRAM



Note: Boom and fly geometry shown are for unloaded condition and crane standing level on firm supporting surface. Boom deflection, subsequent radius and boom angle change must be accounted for when applying load to hook.

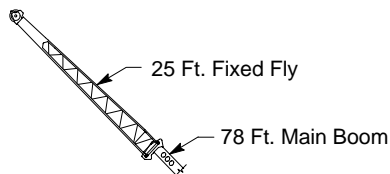


WARNING

Do Not Lower The Boom Below The Minimum Boom Angle For No Load Stability As Shown In The Lift Charts For The Boom Lengths Given. Loss Of Stability Will Occur Causing A Tipping Condition.

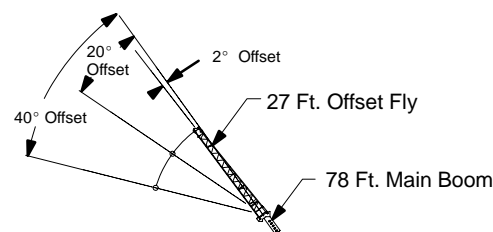
Rated Lifting Capacities In Pounds Fully Extended Outriggers. See Set Up Note 2.									
FULL									
Load Radius (Ft.)	30 Ft.			40 Ft.			50 Ft.		
	2°	360°	Over Front	2°	360°	Over Front	2°	360°	Over Front
10	66.0	60,000	60,000	72.5	49,900	49,900	76.5	48,500	48,500
12	61.5	53,100	53,100	69.5	48,800	48,800	74.5	44,100	44,100
15	54.5	43,500	43,500	64.5	43,100	43,100	70.5	38,500	38,500
20	40.5	31,200	31,200	56.0	31,800	31,800	64.5	32,100	32,100
25	17.5	23,700	23,700	46.5	24,300	24,300	57.5	24,700	24,700
30				34.5	19,400	19,400	50.0	19,800	19,800
35				15.0	15,100	15,100	41.5	15,400	15,400
40							31.0	12,200	12,300
45							13.0	9,900	10,000
Min.Bm. Ang./Cap.	0 (25.8)	22,300	22,300	0 (35.8)	13,700	13,700	0 (45.8)	9,500	9,500
Load Radius (Ft.)	60 Ft.			70 Ft.			78 Ft.		
	2°	360°	Over Front	2°	360°	Over Front	2°	360°	Over Front
12	77.5	40,300	40,300	77.5	31,200	31,200			
15	74.5	35,600	35,600						
20	69.5	29,200	29,200	73.5	25,800	25,800	75.5	22,800	22,800
25	64.5	24,100	24,100	69.0	22,100	22,100	71.5	18,400	18,400
30	58.5	20,000	20,000	64.5	19,100	19,100	67.5	15,300	15,300
35	52.5	15,600	15,600	59.5	15,700	15,700	63.5	13,000	13,000
40	45.5	12,400	12,400	54.0	12,500	12,500	59.0	11,700	11,700
45	38.0	10,100	10,200	48.5	10,200	10,300	54.5	10,200	10,200
50	28.5	8,400	8,500	42.5	8,500	8,600	49.5	8,600	8,600
55	12.0	7,000	7,100	35.5	7,100	7,200	44.0	7,200	7,300
60				26.5	6,000	6,100	38.0	6,100	6,200
65				11.5	5,100	5,200	30.5	5,200	5,300
70							21.0	4,500	4,600
Min.Bm. Ang./Cap.	0 (55.8)	6,800	6,900	0 (65.8)	5,000	5,100	0 (73.8)	4,000	4,100

Note: Refer To Page 5 For "Capacity Deductions For Auxiliary Load Handling Equipment".
 2° Loaded Boom Angle In Degrees. () Reference Radius For Minimum Boom Angle Capacities (Shown in Parenthesis) Are In Feet.



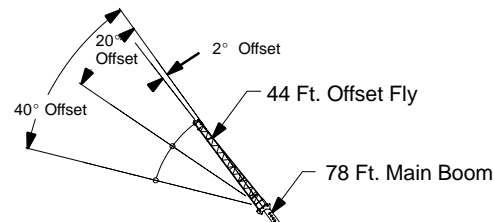
Rated Lifting Capacities In Pounds Fully Extended Outriggers. See Set Up Note 2.			
FULL			
Load Radius (Ft.)	2°	360°	Load Radius (Ft.)
25	77.0	11,700	25
30	74.0	11,200	30
35	71.0	10,400	35
40	68.5	9,700	40
45	65.0	8,500	45
50	62.0	7,500	50
55	58.5	6,700	55
60	55.0	6,000	60
65	51.5	5,400	65
70	47.5	4,900	70
75	43.5	4,400	75
80	38.5	3,900	80
85	33.5	3,400	85
90	27.0	3,000	90
95	19.0	2,700	95
Min.Bm. Ang./Cap.	0	2,400	Min.Bm. Ang./Cap.

Note: Refer To Page 5 For "Capacity Deductions For Auxiliary Load Handling Equipment".
 2° Loaded Boom Angle In Degrees.



Rated Lifting Capacities In Pounds Fully Extended Outriggers. See Set Up Note 2.							
FULL							
Load Radius (Ft.)	2° Offset		20° Offset		40° Offset		Load Radius (Ft.)
	2°	360°	2°	360°	2°	360°	
25	77.0	11,000					25
30	74.5	10,700					30
35	71.5	9,900	75.5	7,100			35
40	69.0	9,200	72.5	6,600	76.5	5,100	40
45	66.0	8,000	70.0	6,200	73.5	4,900	45
50	62.5	7,000	66.5	5,800	70.5	4,700	50
55	59.5	6,200	63.5	5,500	67.0	4,500	55
60	56.0	5,500	60.5	5,200	63.5	4,400	60
65	52.5	4,900	57.0	5,000	60.0	4,300	65
70	48.5	4,400	53.0	4,500	56.0	4,200	70
75	44.5	4,000	49.0	4,100	52.0	4,100	75
80	40.0	3,600	44.5	3,700	47.0	3,800	80
85	35.0	3,100	39.5	3,300	41.5	3,400	85
90	29.5	2,700	33.5	2,800			90
95	22.0	2,400	25.5	2,400			95
100	9.5	2,000					100
Min.Bm. Ang./Cap.	0	2,000	0	2,000	0	2,200	Min.Bm. Ang./Cap.

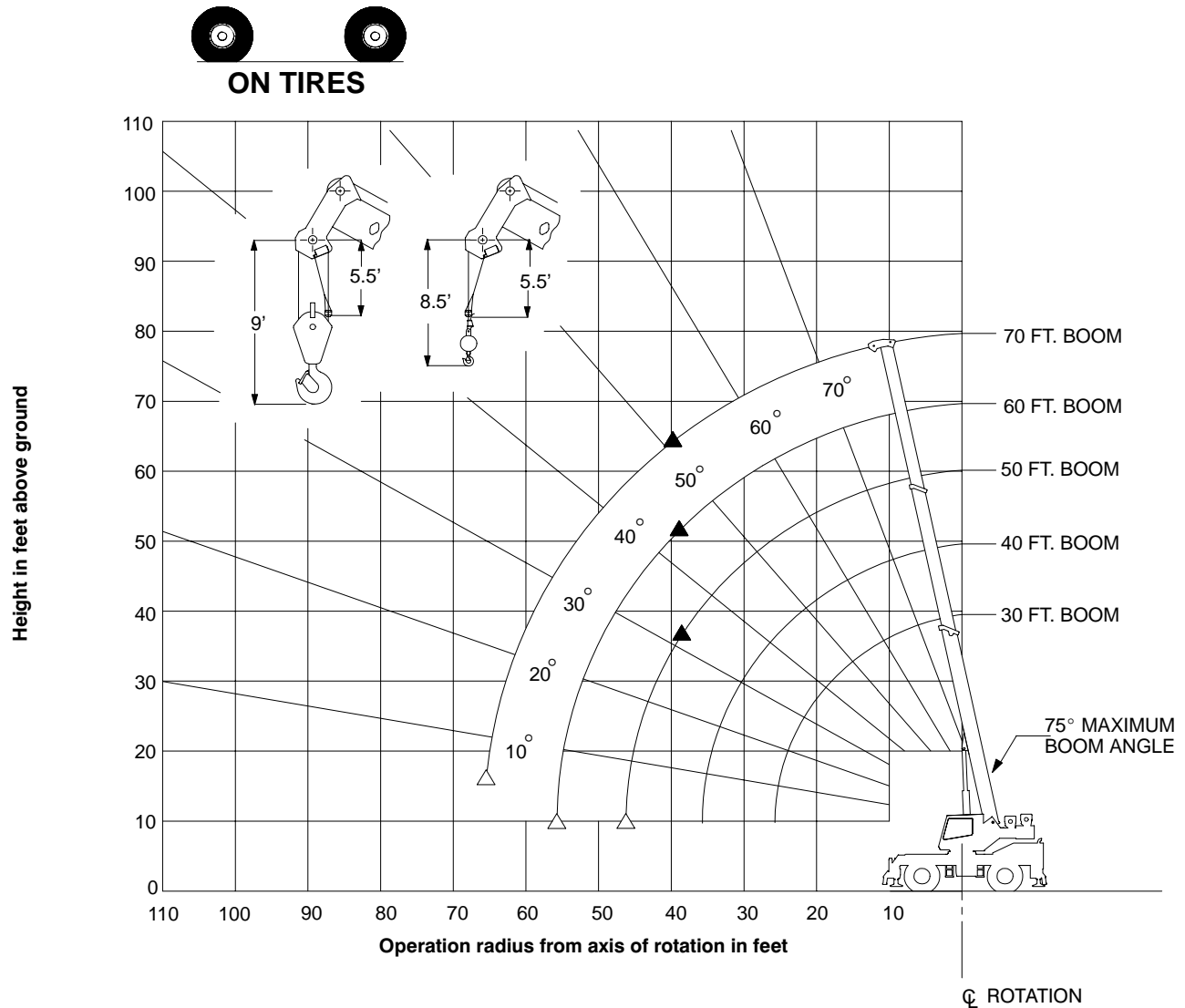
Note: Refer To Page 5 For "Capacity Deductions For Auxiliary Load Handling Equipment".
 2° Loaded Boom Angle In Degrees.



Rated Lifting Capacities In Pounds Fully Extended Outriggers. See Set Up Note 2.							
FULL							
Load Radius (Ft.)	2° Offset		20° Offset		40° Offset		Load Radius (Ft.)
	2°	360°	2°	360°	2°	360°	
30	77.0	6,400					30
35	74.5	5,900					35
40	72.5	5,400					40
45	70.0	5,000	76.0	3,600			45
50	67.5	4,600	73.5	3,300			50
55	65.0	4,200	71.0	3,200	76.5	2,500	55
60	62.5	3,900	68.5	3,000	74.0	2,400	60
65	59.5	3,600	65.5	2,800	71.0	2,300	65
70	57.0	3,400	63.0	2,700	68.0	2,200	70
75	54.0	3,200	60.0	2,600	65.0	2,200	75
80	51.0	3,000	57.0	2,400	61.5	2,100	80
85	47.5	2,800	53.5	2,300	58.0	2,100	85
90	44.0	2,500	50.0	2,300	54.0	2,000	90
95	40.0	2,200	46.0	2,200	50.0	2,000	95
100	36.0	2,000	42.0	2,100	45.0	2,000	100
105	31.0	1,800	37.0	1,900	39.0	1,900	105
110	25.5	1,700	30.5	1,700			110
115	17.0	1,500	21.0	1,500			115
Min.Bm. Ang./Cap.	0	1,200	0	1,300	0	1,400	Min.Bm. Ang./Cap.

Note: Refer To Page 5 For "Capacity Deductions For Auxiliary Load Handling Equipment".
 2° Loaded Boom Angle In Degrees.

WORKING RANGE DIAGRAM



Crane Configurations Prohibited:
 Boom Lengths Greater than 70 FT.
 25 Ft. Fixed Fly
 27 Ft. Offset Fly
 44 Ft. Offset Fly

- △ Denotes Main Boom Between Tire Tracks Over Front Or Boom Centered Over Front
- ▲ Denotes Main Boom 360°

Note: Boom geometry shown is for unloaded condition and crane standing level on firm supporting surface. Boom deflection, subsequent radius and boom angle change must be accounted for when applying load to hook.

WARNING

Do Not Lower The Boom Below The Minimum Boom Angle For No Load Stability As Shown In The Lift Charts For The Boom Lengths Given. Loss Of Stability Will Occur Causing A Tipping Condition.

