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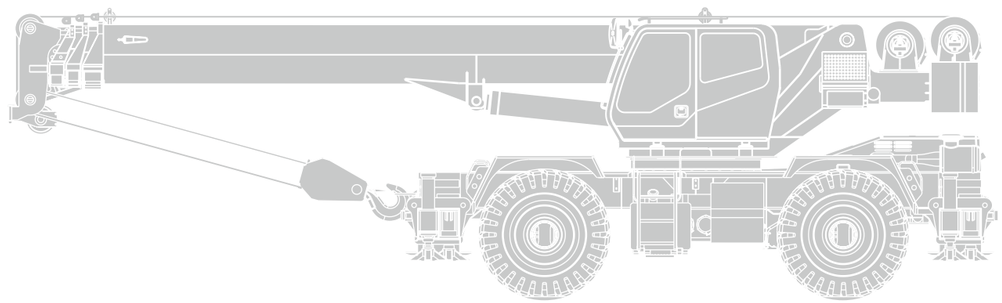
LOAD CHART MANUAL FOR RT35 ROUGH TERRAIN CRANE



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RT35 ROUGH TERRAIN CRANE

LOAD RATINGS

Dec. 2013

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To owners, users and operators

Zoomlion Cranes appreciates your selection of the ZOOMLION Rough Terrain Crane for your application.

No one should operate the crane unless they read and understand the information in this manual.

When you follow the instructions in this manual, your crane can operate at MAXIMUM EFFICIENCY.

The operator must keep this manual in the cab of the crane.

If there is anything in the manual that you do not understand, speak with us. We (Zoomlion Cranes) are NOT responsible for damages from an operator who does not obey the instructions in the *OPERATOR'S MANUAL*.

The OPERATOR'S MANUAL is an important part of the crane. If the crane becomes the property of a different person, make sure that the manual stays in the cab of the crane.

THANK YOU!

Mobile Crane Branch Company of ZOOMLION Heavy Industry Science and Technology Co., Ltd.

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Safety

Hazard Indicators

DANGER, WARNING, CAUTION, ATTENTION, NOTE, and IMPORTANT labels are on signs and decals, and as you read this manual to show important instructions. In this manual, DANGER, WARNING, and CAUTION labels are before the paragraph or item to which they apply. ATTENTION, NOTE, and IMPORTANT follow the paragraph or item they apply to. The markers are as follows:

Danger

Refers to a dangerous situation which, if you do not prevent, will cause death or injury.

Warning

Refers to a possible dangerous situation which, if you do not prevent, could cause death or injury.

Caution

Refers to a possible dangerous situation which, if you do not prevent, may cause light or moderate injury.

Attention

Refers to a situation which, if you do not prevent, may cause property or equipment damage.

Note

Refers to a tip or hint in the operation instructions.

Important

Emphasizes the importance of the data in this manual.

This symbol shows a step or procedure that is not approved and can cause a dangerous situation.

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CONTENTS

To owners, users and operators I

Safety II

1 Informational data 1-1

1.1 Hoist tackle chart 1-1

1.2 Tire inflation chart 1-1

1.3 Weights 1-2

1.4 General 1-3

1.5 Definitions 1-3

1.6 Set-up 1-4

1.7 Operation 1-5

2 Lifts with outrigger beams fully extended 2-1

2.1 Main boom rated loads 2-1

2.2 9 m jib rated loads 2-6

2.3 15 m jib rated loads 2-10

3 Lifts with outrigger beams at mid-position 3-1

3.1 Main boom rated loads 3-1

4 Lifts with outrigger beams fully retracted 4-1

4.1 Main boom rated loads 4-1

5 Lifts on tires 5-1

5.1 Main boom rated loads 5-1

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LOAD RATINGS FOR ROUGH TERRAIN CRANE

Chapter 1 Informational data

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Chapter 1 Informational Data

1.1 HOIST TACKLE CHART

This chart only represents the maximum permissible hoist line load per parts of line. You must refer to the proper Lift Charts for machine rated loads.

Table 01 – 1 Line Parts

MAXIMUM PERMISSIBLE HOIST LINE LOAD								
LINE PARTS	1	2	3	4	5	6	7	8
MAXIMUM PERMISSIBLE HOIST LINE LOAD (KG)	4375	8750	13125	17500	21875	26250	30625	35000
MAXIMUM PERMISSIBLE HOIST LINE LOAD (LBS)	9645	19290	28935	38580	48226	57871	67516	77161

Wire rope: 17NAT-15*K7-IWRC-1960MPa
(11/16″ROTATION RESISTANT 15×K7 COMPACTED STRAND, GRADE 1960)
Weight: 139 kg/100m (0.9 LBS/FT)
Minimum breaking strength: 251 kN (56.4 KIP)

1.2 TIRE INFLATION CHART

Table 01 – 2 Tire Inflation Chart

RECOMMENDED TIRE PRESSURE			
TIRE SIZE	**STATIONARY**	**CREEP (1.6 KM/H)**	**TRAVEL**
20.50-25-28PR	625 kpa (91 PSI)	625 kpa (91 PSI)	625 kpa (91 PSI)

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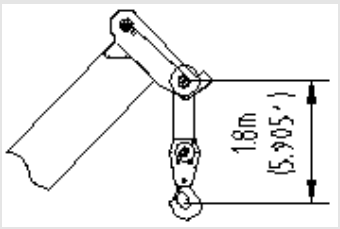
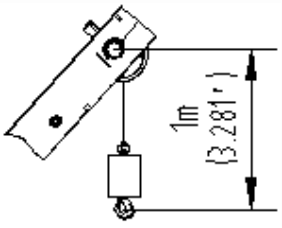
1.3 WEIGHTS

Table 01 – 3 Weights

HOOK ASSY. WEIGHTS	DIMENSIONS ARE FOR MAIN HOOK AND AUXILIARY HOOK.
Main hook weight: 330 kg (727 LBS)	
Auxiliary hook weight: 120 kg (264 LBS)	
MACHINE EQUIPMENT	
1. COUNTERWEIGHT: 4500 kg (9920 lbs)	
2. OUTRIGGER SPREAD: 6.8 m (22.30 ft) from center of outrigger float to center of outrigger float across the longitudinal axis of the machine 6.81 m (22.34 ft) from center of outrigger float to center of outrigger float across the transversal axis of the machine	
3. Powered boom length 9.8 m (32.1 ft) retracted to 31 m (101.7 ft) extended	
4. Crane height 3.6 m (11.8 ft), length 11.8 m (38.7 ft), width 2.9 m (9.5 ft), wheelbase 3.82 m (12.5 ft).	

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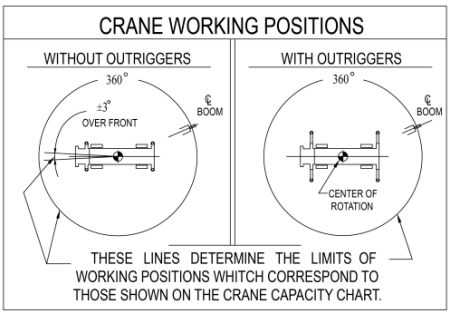
WARNING

1.4 GENERAL

1. Rated loads as shown on Lift 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. 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 Manual* supplied with this machine. If these manuals are missing, order replacements from the manufacturer through your distributor.
3. These warnings do not constitute all of the operating conditions for the crane. The operator and job site supervision must read the Operator's Manual.
4. This crane and its load ratings are in accordance with ASME/ANSI B30.5.

1.5 DEFINITIONS

1. LOAD RADIUS – The horizontal distance from the axis of rotation before loading to the center of the vertical hoist line or tackle with a load applied.
2. LOAD BOOM ANGLE – It is the angle between the boom base section and the horizontal, after lifting the rated load at the rated radius. The boom angle before loading should be greater to account for deflections. The loaded boom angle combined with the boom length give only an approximation of the operating radius.
3. WORKING AREA – Areas measured in a circular arc about the centerline of rotation as shown in the diagram.
4. FREELY SUSPENDED LOAD – Load hanging free with no direct external force applied except by the hoist rope.
5. Side load – Horizontal force applied to the lifted load either on the ground or in the air.



6. EXTRA-CAUTION ZONE – Tipping can occur with some boom/jib combinations at radii within this area without any load on the hook.
7. BOOM SIDE OF CRANE – The side of the crane over which the boom is positioned when in an OVER SIDE working position.

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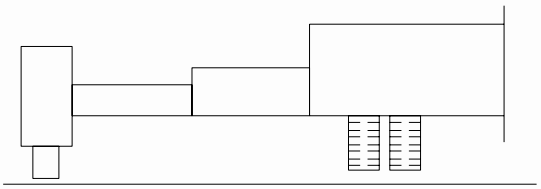
WARNING

1.6 SET-UP

1. Crane load ratings are based on the crane being leveled and standing on a firm and uniform supporting surface.
2. Crane load ratings on outriggers are based on all outrigger beams being fully extended / retracted, or in the case of partial extension ratings mechanically pinned in the appropriate position, and the tires raised free of the supporting surface.



3. Crane load ratings on tires depend on appropriate inflation pressure and the tire conditions. Caution must be exercised when increasing air pressures in tires. Consult *Operator's Manual* for precautions.
4. Consult appropriate section of the *Operator's Manual* for more exact description of hoist line reeving.
5. The use of more parts of line than required by the load may result in having insufficient rope to allow the hook block to reach the ground.
6. Properly maintained wire rope is essential for safe crane operation. Consult *Operator's Manual* for proper maintenance and inspection requirements.
7. When spin-resistant wire rope is used, the allowable rope loading shall be the breaking strength divided by five (5), unless otherwise specified by the wire rope manufacturer.

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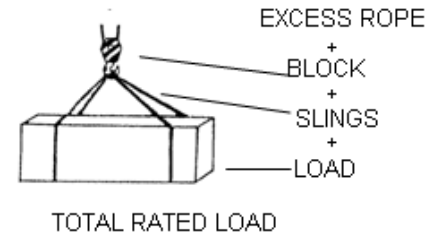
1.7 OPERATION

1. CRANE LOAD RATINGS MUST NOT BE EXCEEDED. DO NOT ATTEMPT TO TIP THE CRANE TO DETERMINE ALLOWABLE LOADS.
2. When either radius or boom length, or both, are between listed values, the smaller of the two listed load ratings shall be used.
3. Do not operate at longer radii than those listed on the applicable Lift Chart (cross hatched areas shown on range diagrams) as tipping can occur without a load on the hook.
4. The boom angles shown on the Lift Charts give an approximation of the operating radius for a specified boom length. The boom angle, before loading, should be greater to account for boom deflection. It may be necessary to retract the boom if maximum boom angle is insufficient to maintain rated radius.
5. All telescopic sections must be extended synchronically.

WARNING

6. Rated loads include the weight of hook block, slings, and auxiliary lifting devices. Their weights shall be subtracted from the listed rated load to obtain the net load that can be lifted.



7. When lifting over the jib, the weight of any hood block, slings, and auxiliary lifting devices at the boom head must be added to the load.
8. Rated lifting capacities are based on correct reeving. Deductions must be made for excessive reeving. Any reeving over the minimum required, (see Hoist Tackle Chart), is considered excessive and must be accounted for. Deduct for each meter of excessive wire rope before attempting to lift a load.
9. When jibs are erected but unused, add the weight of jib, any hook block, slings, and auxiliary lifting devices at the jib head to the load (jib weight: 525 kg (1157 LBS)).
10. Rated loads do not exceed 85% on outriggers or 75% on tires, of the tipping load as determined by *ANSI B30.5 .*
11. Rated loads are based on freely suspended loads. No attempt shall be made to drag a load horizontally on the ground in any direction.
12. The user shall operate at reduced ratings to allow for adverse job conditions, such as: soft or uneven ground, out of level conditions, high winds, side loads, pendulum action,

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jerking or sudden stopping off loads, hazardous conditions, experience of personnel, two-machine lifts, traveling with loads, electric wires, etc, (side pull on boom or jib is hazardous). If wind speed is higher than the maximum permissible value (45 ft/s (13.8 m/s), grade 6) or it is fulminous during crane operation, stop working and completely retract the boom and place it on the boom support for traveling.

13. Load ratings are dependent upon the crane being maintained according to manufacturer's specifications.

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LOAD RATINGS FOR ROUGH TERRAIN CRANE

Chapter 2 Lifts with outrigger beams fully extended

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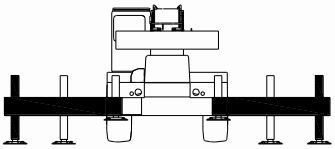
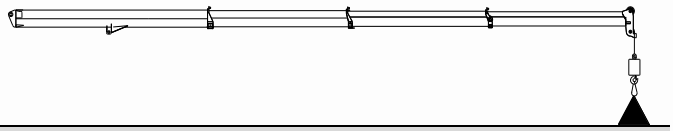
Chapter 2 Lifts with outrigger beams fully extended

2.1 MAIN BOOM RATED LOADS

USE THIS CHART ONLY WHEN ALL OUTRIGGERS ARE FULLY EXTENDED.





Rated loads on outriggers fully extended - 360°
(Unit: KG)

BOOM LENGTH (MM)	9805		13338		16870		20403	
LOAD RADIUS (MM)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)
3000	64.7	35000	71.8	20270				
3500	61.3	35000	69.5	20270				
4000	57.7	32950	67.2	20270	72.2	19650		
4500	54.0	29600	64.7	20270	70.4	19650		
5000	50.1	26800	62.3	20270	68.5	19650	72.4	18650
6000	41.3	22400	57.1	20270	64.8	19650	69.4	17100
7000	30.1	19040	51.6	19230	60.9	19650	66.4	15740
8000			45.6	15480	56.8	15680	63.2	14650
9000			38.8	12280	52.5	12460	59.9	12470
10000			30.6	10060	47.9	10210	56.6	10220
11000			19.0	8460	42.9	8570	53.0	8580
12000					37.4	7310	49.3	7320
13000					30.9	6330	45.4	6320
14000					22.6	5540	41.1	5520
15000					6.2	4930	36.4	4870
16000							31.1	4320
17000							24.6	3870
18000							15.6	3490

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Lifts with outrigger beams fully extended

BOOM LENGTH (MM)	23935		27468		31000	
LOAD RADIUS (MM)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)
6000	72.6	14100				
7000	70.1	13050	72.7	11350		
8000	67.5	12200	70.5	10650	72.8	9450
9000	64.8	11450	68.3	10000	70.9	8950
10000	62.1	10340	66.0	9450	68.9	8500
11000	59.3	8680	63.6	8650	66.9	7740
12000	56.4	7410	61.3	7380	64.8	7100
13000	53.4	6410	58.8	6390	62.7	6440
14000	50.3	5600	56.3	5580	60.6	5630
15000	47.0	4940	53.7	4910	58.4	4960
16000	43.6	4380	51.0	4350	56.2	4400
17000	39.8	3900	48.2	3880	53.9	3920
18000	35.8	3500	45.3	3470	51.5	3510
19000	31.2	3150	42.2	3120	49.1	3150
20000	25.9	2850	38.8	2810	46.5	2840
21000	19.1	2590	35.3	2540	43.9	2570
22000	6.9	2390	31.3	2310	41.1	2320
23000			26.8	2100	38.1	2100
24000			21.3	1920	34.9	1910
25000			13.8	1770	31.4	1740
26000					27.4	1580
27000					22.9	1440
28000					17.1	1320
29000					7.1	1230

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Rated loads on outriggers fully extended - 360° (Unit: LB)								
BOOM LENGTH (FT)	32		44		55		67	
LOAD RADIUS (FT)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)
10	64.4	77000	71.6	44700				
12	60.2	77000	68.8	44700				
15	53.5	64240	64.4	44700	70.1	42590		
20	40.3	48500	56.6	44700	64.4	42590	69.1	37290
25	19.9	36950	48.0	37620	58.4	38100	64.4	33110
30			37.7	26210	51.9	26600	59.5	26610
35			23.5	19670	44.6	19950	54.2	19960
40					36.2	15630	48.6	15640
45					25.3	12640	42.4	12620
50							35.2	10400
55							26.3	8730
60							11.5	7490

BOOM LENGTH (FT)	79		90		102	
LOAD RADIUS (FT)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)
10						
12						
15						
20	72.4	30800				
25	68.5	27500	71.4	23980		
30	64.4	24970	67.9	21780	70.6	19580
35	60.2	20210	64.4	20020	67.5	17600
40	55.8	15850	60.8	15790	64.4	15400
45	51.2	12800	57.0	12750	61.2	12860
50	46.2	10550	53.1	10500	57.9	10600
55	40.7	8820	48.9	8770	54.5	8870
60	34.5	7470	44.4	7410	50.8	7490
65	27.0	6390	39.5	6310	47.0	6380
70	16.2	5540	34.0	5420	43.0	5460
75			27.5	4680	38.5	4700
80			18.8	4090	33.6	4050
85					27.8	3510
90					20.6	3060
95					7.9	2730

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SET-UP

1. Crane load ratings are based on the crane being leveled and standing on a firm and uniform supporting surface.
2. Crane load ratings on outriggers are based on all outrigger beams being fully extended / retracted, or in the case of partial extension ratings mechanically pinned in the appropriated position, and the tires raised free of the supporting surface.

OPERATION

1. CRANE LOAD RATINGS MUST NOT BE EXCEEDED. NO ATTEMPT TO TIP THE CRANE TO DETERMINE ALLOWABLE LOADS.
2. When either radius or boom length, or both, are between listed values, the smaller of the two listed load ratings shall be used.
3. EXTRA-CAUTION ZONE – Tipping can occur with some boom/jib combinations at radii within this area without any load on the hook.
4. The boom angles shown on the Lift Charts give an approximation of the operation radius for a specified boom length. The boom angle, before loading, should be greater to account for boom deflection. It may be necessary to retract the boom if maximum boom angle is insufficient to maintain rated radius.
5. Rated Loads include the weight of hook block, slings and auxiliary lifting devices. Their weights shall be subtracted from the listed rated load to obtain the net load that can be lifted. Rated lift ratings are based on correct reeving. Deductions must be made for excessive reeving. Any reeving over the minimum is considered excessive. Deduct for each foot of excessive wire rope before attempting to lift a load. See HOIST TACKLE CHART for rope information.
6. All telescopic sections must be extended synchronically.

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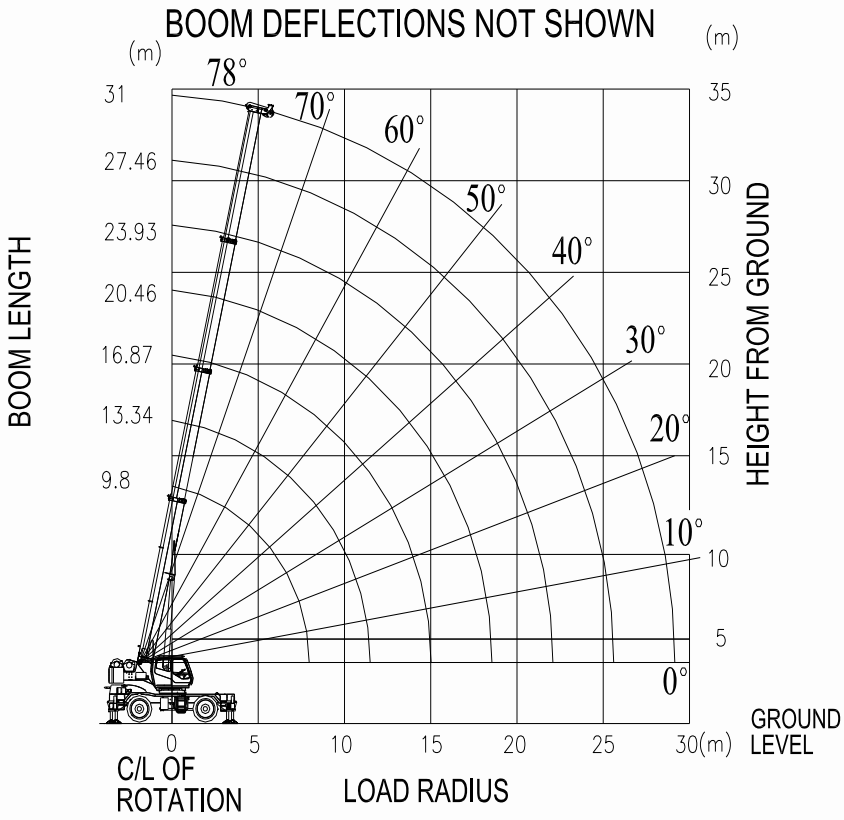
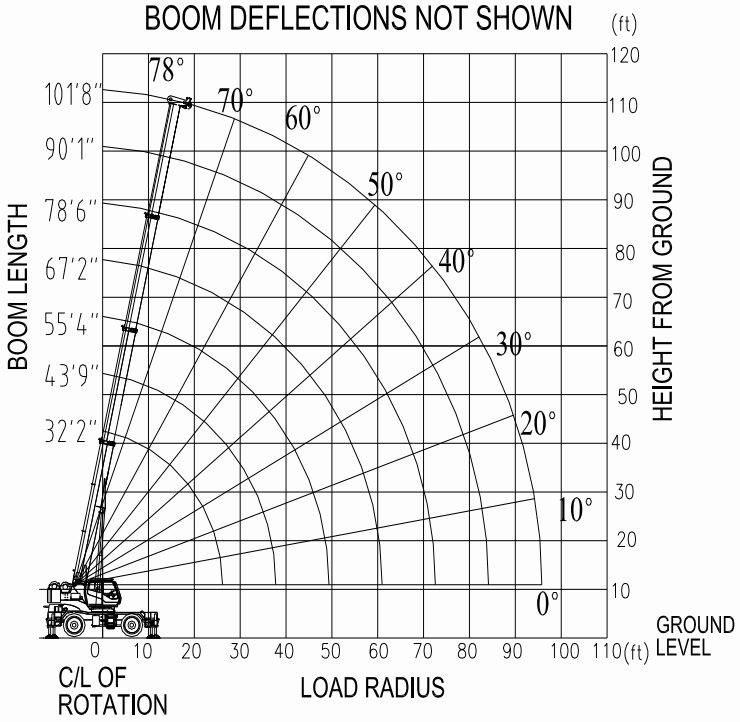


Lift Height on Outriggers Fully Extended (Unit: Metric meter)



Lift Height on Outriggers Fully Extended (Unit: Feet)

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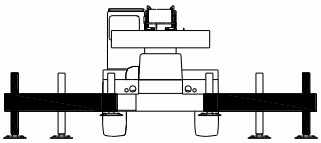
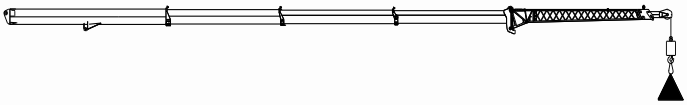
2.2 9 M JIB RATED LOADS

USE THIS CHART ONLY WHEN ALL OUTRIGGERS ARE FULLY EXTENDED.

USE THIS CHART ONLY WHEN JIB SECTION 2 IS NOT PULLED OUT FROM JIB SECTION 1.





9 M jib lifting capacities - 360°
(Lifting capacity unit: KG Load radius unit: MM)

0° Offset			20° Offset			40° Offset		
BOOM ANGLE (°)	LOAD RADIUS (MM)	360° (KG)	BOOM ANGLE (°)	LOAD RADIUS (MM)	360° (KG)	BOOM ANGLE (°)	LOAD RADIUS (MM)	360° (KG)
76	8072	3000	76	10900	1800	76	13127	1100
74	9454	3000	74	12237	1650	74	14387	1050
72	10823	3000	72	13557	1550	72	15628	990
70	12177	3000	70	14858	1450	70	16848	940
68	13514	2850	68	16139	1400	68	18045	940
66	14831	2550	66	17398	1300	66	19217	900
64	16129	2350	64	18633	1250	64	20364	900
62	17404	2150	62	19844	1200	62	21484	850
60	18656	1990	60	21028	1150	60	22576	850
58	19883	1850	58	22184	1100	58	23637	800
56	21084	1700	56	23311	1050	56	24668	800
54	22257	1600	54	24407	990	54	25666	800
52	23400	1500	52	25472	940	52	26631	750
50	24513	1400	50	26503	940	50	27561	750
48	25593	1290	48	27499	900	48	28456	750
46	26640	1160	46	28460	850	46	29313	750
44	27652	1040	44	29383	850	44	30132	700
42	28629	940	42	30269	800	42	30913	700
40	29568	850	40	31116	800	40	31653	700
38	30469	770	38	31922	730	38	32353	700

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30 FT jib lifting capacities - 360° (Lifting capacity unit: LB Load radius unit: FT)								
0° Offset			20° Offset			40° Offset		
BOOM ANGLE (°)	LOAD RADIUS (FT)	360° (LB)	BOOM ANGLE (°)	LOAD RADIUS (FT)	360° (LB)	BOOM ANGLE (°)	LOAD RADIUS (FT)	360° (LB)
76	26	6600	76	35	3960	76	43	2420
74	31	6600	74	40	3630	74	47	2310
72	35	6600	72	44	3410	72	51	2200
70	39	6600	70	48	3190	70	55	2090
68	44	6270	68	52	3080	68	59	2090
66	48	5610	66	57	2860	66	63	1980
64	52	5170	64	61	2750	64	66	1980
62	57	4730	62	65	2640	62	70	1870
60	61	4400	60	68	2530	60	74	1870
58	65	4070	58	72	2420	58	77	1760
56	69	3740	56	76	2310	56	80	1760
54	73	3520	54	80	2200	54	84	1760
52	76	3300	52	83	2090	52	87	1650
50	80	3080	50	86	2090	50	90	1650
48	83	2840	48	90	1980	48	93	1650
46	87	2550	46	93	1870	46	96	1650
44	90	2300	44	96	1870	44	98	1540
42	93	2080	42	99	1760	42	101	1540
40	97	1880	40	102	1760	40	103	1540
38	99	1700	38	104	1620	38	106	1540

SET-UP

1. Crane load ratings are based on the crane being leveled and standing on a firm and uniform supporting surface.
2. Crane load ratings on outriggers are based on all outriggers beams being fully extended / retracted, or in the case of partial extension ratings mechanically pinned in the appropriate position, and the tires raised free of the supporting surface.

OPERATION

1. CRANE LOAD RATINGS MUST NOT BE EXCEEDED. NO ATTEMPT TO TIP THE CRANE TO DETERMINE ALLOWABLE LOADS.
2. When either radius or boom length, or both, are between listed values, the smaller of the two listed load ratings shall be used.
3. EXTRA-CAUTION ZONE – Tipping can occur with some boom/jib combinations at radii within this area without any load on the hook.
4. The boom angles shown on the Lift Chart give an approximation of the operation radius for a specified boom length. The boom angle, before loading, should be greater to account for boom deflection. It may be necessary to retract the boom if maximum boom angle is

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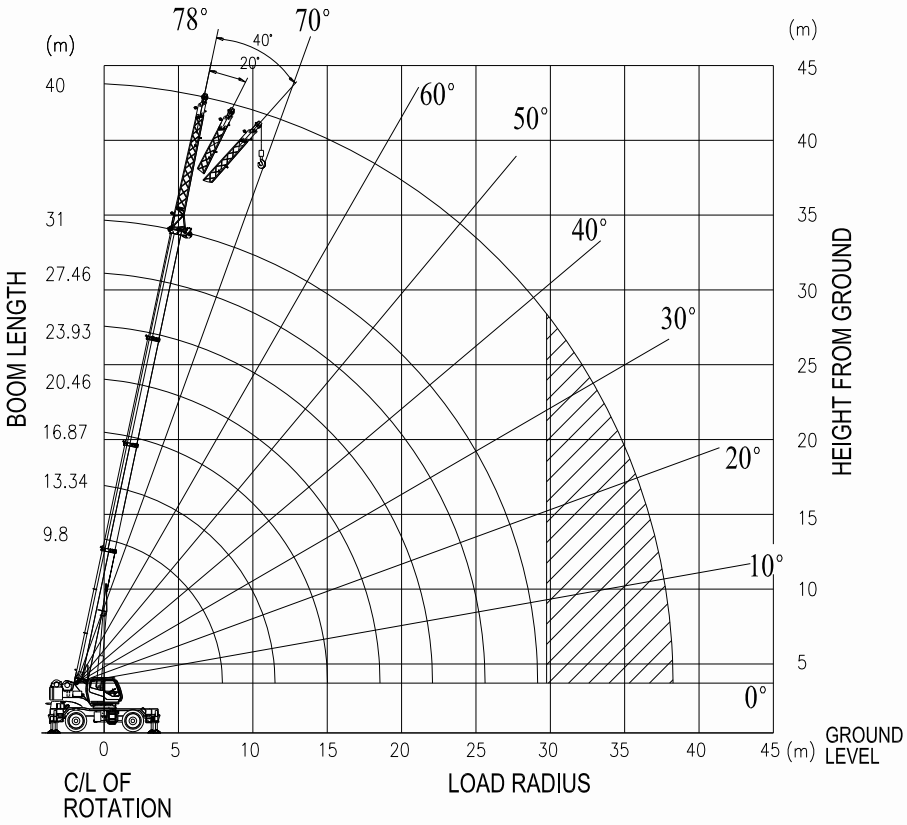
insufficient to maintain rated radius.

5. Rated Loads include the weight of hook block, slings and auxiliary lifting devices. Their weights shall be subtracted from the listed rated load to obtain the net load that can be lifted. Rated lift ratings are based on correct reeving. Deductions must be made for excessive reeving. Any reeving over the minimum is considered excessive. Deduct for each foot of excessive wire rope before attempting to lift a load. See HOIST TACKLE CHART for rope information.

BOOM DEFLECTIONS NOT SHOWN



Lift Height on Jib Section 1 Erected (Unit: Metric meter)

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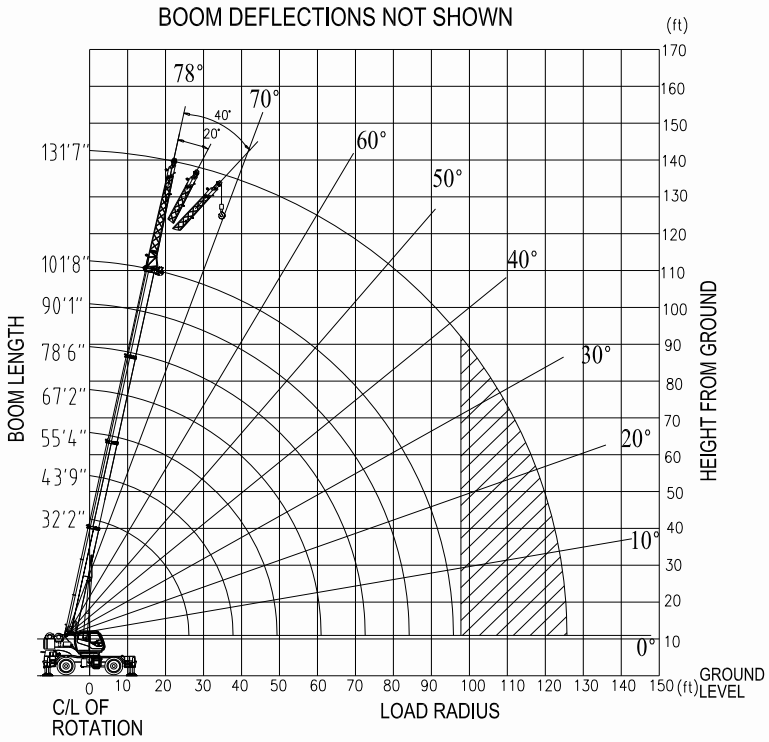

Lift Height on Jib Section 1 Erected (Unit: Feet)

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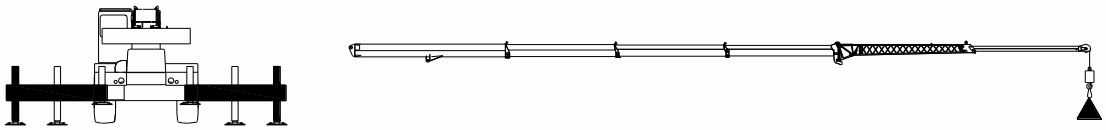
2.3 15 M JIB RATED LOADS

USE THIS CHART ONLY WHEN ALL OUTRIGGERS ARE FULLY EXTENDED.

USE THIS CHART WHEN JIB SECTION 2 IS PULLED OUT FROM JIB SECTION 1.



15 jib lifting capacities - 360°
(Lifting capacity unit: KG Load radius unit: MM)

0º Offset			20º Offset			40º Offset		
BOOM ANGLE (º)	LOAD RADIUS (MM)	360º (KG)	BOOM ANGLE (º)	LOAD RADIUS (MM)	360º (KG)	BOOM ANGLE (º)	LOAD RADIUS (MM)	360º (KG)
76	9764	2400	76	14811	940	76	18785	550
74	11382	2050	74	16348	900	74	20186	550
72	12985	1850	72	17863	800	72	21559	490
70	14569	1650	70	19354	750	70	22905	490
68	16134	1450	68	20819	700	68	24220	450
66	17676	1350	66	22256	650	66	25503	450
64	19195	1200	64	23664	650	64	26754	400
62	20688	1100	62	25041	600	62	27969	400
60	22153	990	60	26386	550	60	29148	400
58	23590	940	58	27695	550	58	30289	350
56	24995	850	56	28969	490	56	31391	350
54	26368	800	54	30205	490	54	32453	350
52	27706	750	52	31403	450	52	33472	350
50	29008	700	50	32559	450	50	34449	350
48	30273	650	48	33674	400	48	35381	300
46	31498	600	46	34746	400	46	36269	300
44	32683	600	44	35773	400	44	37109	300
42	33826	550	42	36754	350	42	37902	300
40	34926	490	40	37688	350	40	38647	300
38	35980	490	38	38574	350	38	39343	300

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50 FT jib lifting capacities - 360° (Lifting capacity unit: LB Load radius unit: FT)								
0º Offset			20º Offset			40º Offset		
BOOM ANGLE (º)	LOAD RADIUS (FT)	360º (LB)	BOOM ANGLE (º)	LOAD RADIUS (FT)	360º (LB)	BOOM ANGLE (º)	LOAD RADIUS (FT)	360º (LB)
76	32	5280	76	48	2090	76	61	1210
74	37	4510	74	53	1980	74	66	1210
72	42	4070	72	58	1760	72	70	1100
70	47	3630	70	63	1650	70	75	1100
68	52	3190	68	68	1540	68	79	990
66	57	2970	66	73	1430	66	83	990
64	62	2640	64	77	1430	64	87	880
62	67	2420	62	82	1320	62	91	880
60	72	2200	60	86	1210	60	95	880
58	77	2090	58	90	1210	58	99	770
56	82	1870	56	95	1100	56	102	770
54	86	1760	54	99	1100	54	106	770
52	90	1650	52	103	990	52	109	770
50	95	1540	50	106	990	50	113	770
48	99	1430	48	110	880	48	116	660
46	103	1320	46	113	880	46	118	660
44	107	1320	44	117	880	44	121	660
42	110	1210	42	120	770	42	124	660
40	114	1100	40	123	770	40	126	660
38	118	1100	38	126	770	38	129	660

SET-UP

1. Crane load ratings are based on the crane being leveled and standing on a firm and uniform supporting surface.
2. Crane load ratings on outriggers are based on all outriggers beams being fully extended / retracted, or in the case of partial extension ratings mechanically pinned in the appropriate position, and the tires raised free of the supporting surface.

OPERATION

1. CRANE LOAD RATINGS MUST NOT BE EXCEEDED. NO ATTEMPT TO TIP THE CRANE TO DETERMINE ALLOWABLE LOADS.
2. When either radius or boom length, or both, are between listed values, the smaller of the two listed load ratings shall be used.
3. EXTRA-CAUTION ZONE – Tipping can occur with some boom/jib combinations at radii within this area without any load on the hook.
4. The boom angles shown on the Lift Chart give an approximation of the operation radius for a specified boom length. The boom angle, before loading, should be greater to account for

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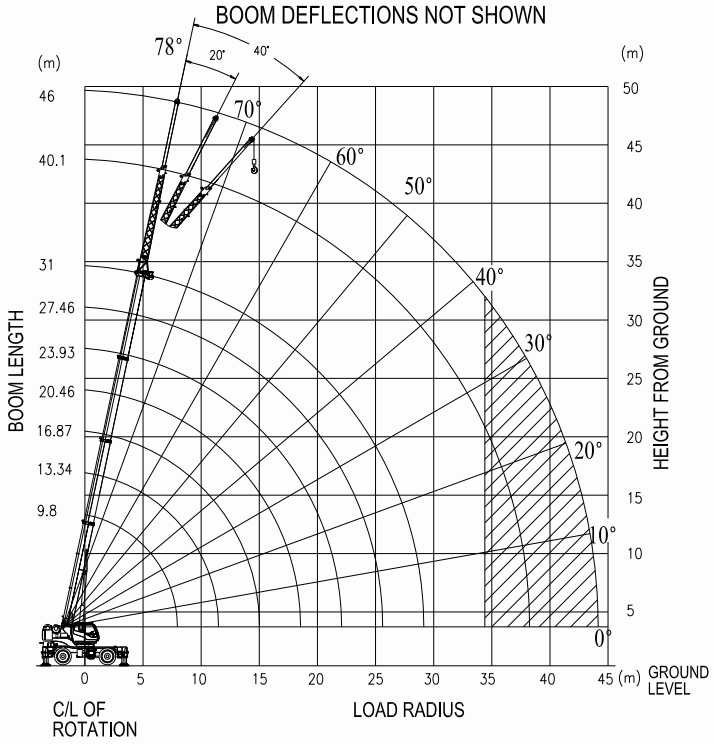
boom deflection. It may be necessary to retract the boom if maximum boom angle is insufficient to maintain rated radius.

5. Rated Loads include the weight of hook block, slings and auxiliary lifting devices. Their weights shall be subtracted from the listed rated load to obtain the net load that can be lifted. Rated lift ratings are based on correct reeving. Deductions must be made for excessive reeving. Any reeving over the minimum is considered excessive. Deduct for each foot of excessive wire rope before attempting to lift a load. See HOIST TACKLE CHART for rope information.
6. For all boom lengths less than the maximum with the jib erected, the rated loads are determined by boom angle only in the appropriate column.
7. For all boom lengths less than the listed boom length, the rated load is to be determined by boom angle.



Lift Height on Jib Section 2 Erected (Unit: Metric meter)

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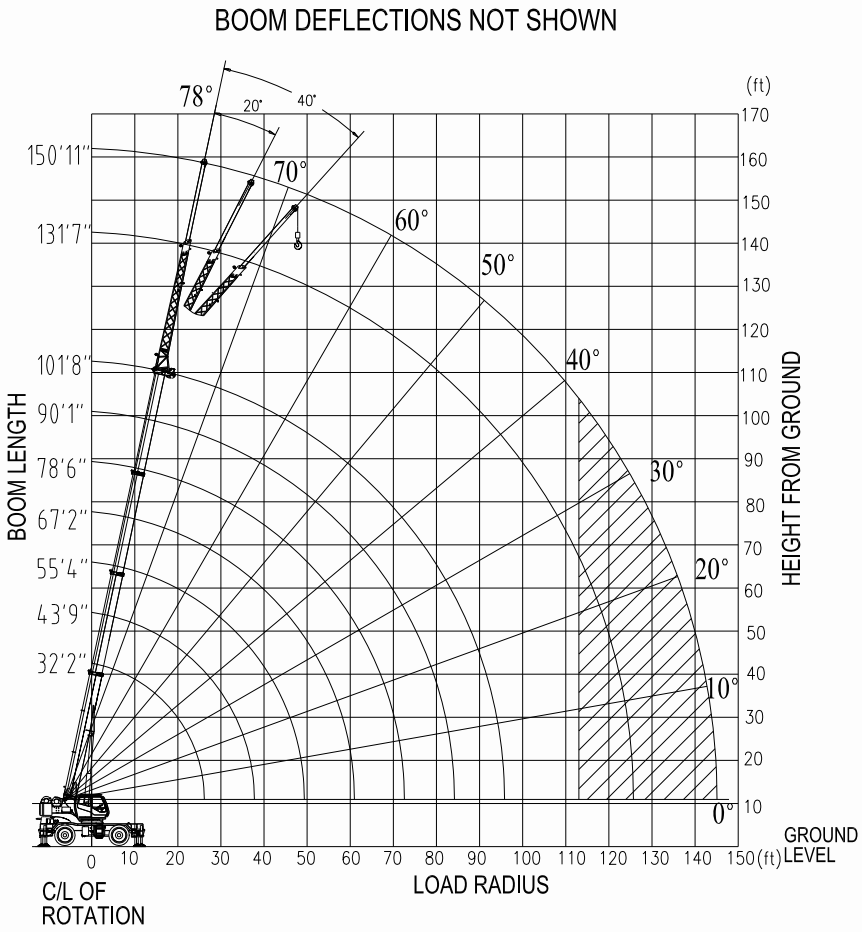

Lift Height on Jib Section 2 Erected (Unit: Feet)

Lifts with outrigger beams fully extended

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ZOOMLION

LOAD RATINGS FOR ROUGH TERRAIN CRANE

Chapter 3 Lifts with outrigger beams at mid-position

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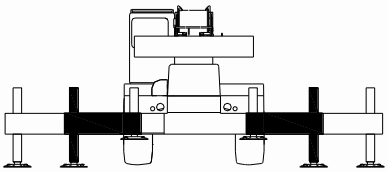
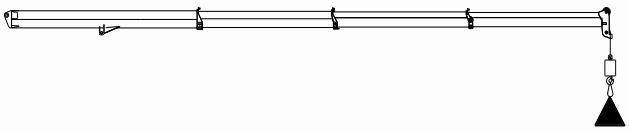
Chapter 3 Lifts with outrigger beams at mid-position

3.1 MAIN BOOM RATED LOADS

USE THIS CHART ONLY WHEN ALL OUTRIGGERS ARE PINNED IN THE MID-POSITION.





Rated loads on outriggers pinned in mid-position - 360°
(Rated load unit: KG)

BOOM LENGTH (MM)	9805		13338		16870		20403	
LOAD RADIUS (MM)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)
3000	64.7	35000	71.8	20270				
3500	61.3	33400	69.5	20270				
4000	57.7	29600	67.2	20270	72.2	20000		
4500	54.0	26500	64.7	20270	70.4	20000		
5000	50.1	21850	62.3	20270	68.5	20000	72.4	18650
6000	41.3	15020	57.1	15350	64.8	15560	69.4	15560
7000	30.1	11180	51.6	11460	60.9	11640	66.4	11650
8000			45.6	8970	56.8	9140	63.2	9140
9000			38.8	7240	52.5	7390	59.9	7400
10000			30.6	5980	47.9	6110	56.6	6120
11000			19.0	5040	42.9	5140	53.0	5140
12000					37.4	4370	49.3	4370
13000					30.9	3750	45.4	3750
14000					22.6	3260	41.1	3240
15000					6.2	2880	36.4	2820
16000							31.1	2460
17000							24.6	2170
18000							15.6	1930

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BOOM LENGTH (MM)	23935		27468		31000	
LOAD RADIUS (MM)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)
6000	72.6	14100				
7000	70.1	11780	72.7	11350		
8000	67.5	9260	70.5	9220	72.8	9260
9000	64.8	7510	68.3	7470	70.9	7510
10000	62.1	6220	66.0	6190	68.9	6220
11000	59.3	5230	63.6	5200	66.9	5250
12000	56.4	4460	61.3	4430	64.8	4480
13000	53.4	3830	58.8	3810	62.7	3850
14000	50.3	3310	56.3	3290	60.6	3340
15000	47.0	2880	53.7	2860	58.4	2900
16000	43.6	2510	51.0	2490	56.2	2530
17000	39.8	2200	48.2	2180	53.9	2220
18000	35.8	1930	45.3	1910	51.5	1940
19000	31.2	1700	42.2	1670	49.1	1700
20000	25.9	1500	38.8	1460	46.5	1490
21000	19.1	1330	35.3	1280	43.9	1300
22000	6.9	1200	31.3	1120	41.1	1130

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Rated loads on outriggers pinned in mid-position - 360° (Rated load unit: LB)								
BOOM LENGTH (FT)	32		44		55		67	
LOAD RADIUS (FT)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)
10	64.4	77000	71.6	44700				
12	60.2	70730	68.8	44700				
15	53.5	57420	64.4	44700	70.1	42590		
20	40.3	32030	56.6	32740	64.4	33200	69.1	33210
25	19.9	21030	48.0	21570	58.4	21950	64.4	21970
30			37.7	15490	51.9	15810	59.5	15830
35			23.5	11720	44.6	11960	54.2	11970
40					36.2	9330	48.6	9340
45					25.3	7460	42.4	7430
50							35.2	6010
55							26.3	4920
60							11.5	4120

BOOM LENGTH (FT)	79		90		102	
LOAD RADIUS (FT)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)
20	72.4	30800				
25	68.5	22240	71.4	22140		
30	64.4	16070	67.9	15990	70.6	16070
35	60.2	12180	64.4	12120	67.5	12210
40	55.8	9520	60.8	9460	64.4	9570
45	51.2	7600	57.0	7550	61.2	7650
50	46.2	6140	53.1	6090	57.9	6190
55	40.7	5000	48.9	4950	54.5	5040
60	34.5	4100	44.4	4040	50.8	4120
65	27.0	3380	39.5	3310	47.0	3370
70	16.2	2810	34.0	2700	43.0	2740
75			27.5	2200	38.5	2220

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SET-UP

1. Crane load ratings are based on the crane being leveled and standing on a firm and uniform supporting surface.
2. Crane load ratings on outriggers are based on all outrigger beams being fully extended / retracted, or partial extension ratings mechanically pinned in the appropriated position, and the tyres raised free of the supporting surface.

OPERATION

1. CRANE LOAD RATINGS MUST NOT BE EXCEEDED. NO ATTEMPT TO TIP THE CRANE TO DETERMINE ALLOWABLE LOADS.
2. When either radius or boom length, or both, are between listed values, the smaller of the two listed load ratings shall be used.
3. EXTRA-CAUTION ZONE – Tipping can occur with some boom/jib combinations at radii within this area without any load on the hook.
4. The boom angles shown on the Lift Charts give an approximation of the operation radius for a specified boom length. The boom angle, before loading, should be greater to account for boom deflection. It may be necessary to retract the boom if maximum boom angle is insufficient to maintain rated radius.
5. Rated Loads include the weight of hook block, slings and auxiliary lifting devices. Their weights shall be subtracted from the listed rated load to obtain the net load that can be lifted. Rated lifting capacities are based on correct reeving. Deductions must be made for excessive reeving. Any reeving over the minimum is considered excessive. Deduct for each foot of excessive wire rope before attempting to lift a load. See HOIST TACKLE CHART for rope information.
6. All telescopic sections must be extended synchronously.

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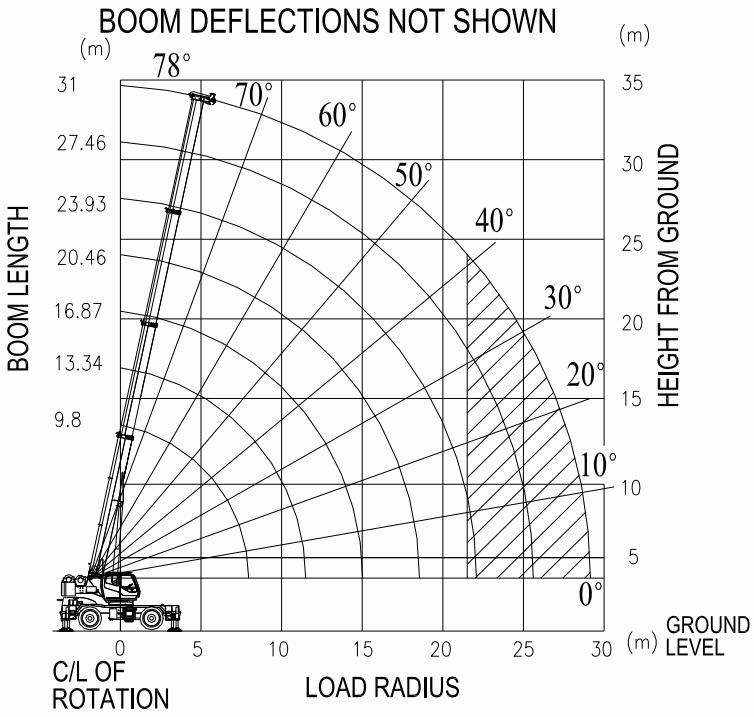
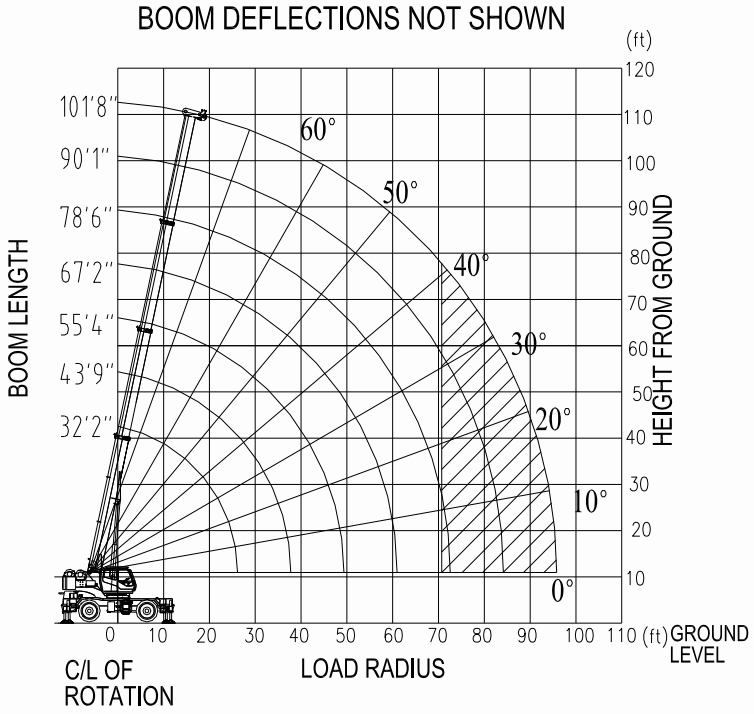


Lift Height on Outriggers Pinned in the Mid-position (Unit: Metrci meter)



Lift Height on Outriggers Pinned in the Mid-position (Unit: Feet)

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ZOOMLION

LOAD RATINGS FOR ROUGH TERRAIN CRANE

Chapter 4 Lifts with outrigger beams fully retracted

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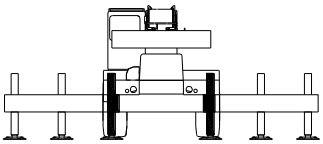
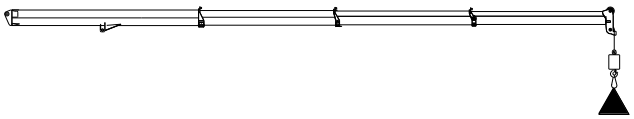
Chapter 3 Lifts with outrigger beams fully retracted

4.1 MAIN BOOM RATED LOADS

USE THIS CHART ONLY WHEN ALL OUTRIGGERS ARE BEAMS FULLY RETRACTED





Rated loads on outriggers are beams fully retracted - 360°

(Rated load unit: KG)

BOOM LENGTH (MM)	9805		13338		16870		20403	
LOAD RADIUS (MM)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)
3000	64.7	25310	71.8	20270				
3500	61.3	18610	69.5	18970				
4000	57.7	14490	67.2	14820	72.2	15010		
4500	54.0	11700	64.7	12000	70.4	12190		
5000	50.1	9690	62.3	9970	68.5	10150	72.4	10140
6000	41.3	6990	57.1	7240	64.8	7410	69.4	7410
7000	30.1	5270	51.6	5500	60.9	5650	66.4	5650
8000			45.6	4290	56.8	4430	63.2	4430
9000			38.8	3410	52.5	3540	59.9	3540
10000			30.6	2740	47.9	2850	56.6	2860
11000			19.0	2230	42.9	2320	53.0	2320
12000					37.4	1890	49.3	1890
13000					30.9	1540	45.4	1540
14000					22.6	1260	41.1	1240
15000					6.2	1060	36.4	1000

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BOOM LENGTH (MM)	23935		27468		31000	
LOAD RADIUS (MM)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)	BOOM ANGLE (°)	360° (KG)
6000	72.6	7530				
7000	70.1	5760	72.7	5720		
8000	67.5	4540	70.5	4500	72.8	4540
9000	64.8	3640	68.3	3600	70.9	3640
10000	62.1	2950	66.0	2920	68.9	2950
11000	59.3	2400	63.6	2380	66.9	2420
12000	56.4	1970	61.3	1940	64.8	1980
13000	53.4	1610	58.8	1590	62.7	1630
14000	50.3	1310	56.3	1290	60.6	1330
15000	47.0	1060	53.7	1040	58.4	1080

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Rated loads on outriggers are beams fully retracted- 360° (Rated load unit: LB)								
BOOM LENGTH (FT)	32		44		55		67	
LOAD RADIUS (FT)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)
10	64.4	53880	71.6	44700				
12	60.2	37660	68.8	38430				
15	53.5	25030	64.4	25680	70.1	26090		
20	40.3	14950	56.6	15500	64.4	15860	69.1	15860
25	19.9	9910	48.0	10350	58.4	10670	64.4	10680
30			37.7	7260	51.9	7540	59.5	7550
35			23.5	5250	44.6	5470	54.2	5480
40					36.2	4000	48.6	4000
45					25.3	2940	42.4	2910
50							35.2	2090

BOOM LENGTH (FT)	79		90		102	
LOAD RADIUS (FT)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)	BOOM ANGLE (°)	360° (LB)
10						
12						
15						
20	72.4	16120				
25	68.5	10910	71.4	10820		
30	64.4	7760	67.9	7690	70.6	7760
35	60.2	5660	64.4	5600	67.5	5680
40	55.8	4170	60.8	4120	64.4	4210
45	51.2	3060	57.0	3020	61.2	3110
50	46.2	2210	53.1	2160	57.9	2250

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SET-UP

1. Crane load ratings are based on the crane being leveled and standing on a firm and uniform supporting surface.
2. Crane load ratings on outriggers are based on all outrigger beams being fully extended / retracted, or partial extension ratings mechanically pinned in the appropriated position, and the tyres raised free of the supporting surface.

OPERATION

1. CRANE LOAD RATINGS MUST NOT BE EXCEEDED. NO ATTEMPT TO TIP THE CRANE TO DETERMINE ALLOWABLE LOADS.
2. When either radius or boom length, or both, are between listed values, the smaller of the two listed load ratings shall be used.
3. EXTRA-CAUTION ZONE – Tipping can occur with some boom/jib combinations at radii within this area without any load on the hook.
4. The boom angles shown on the Lift Charts give an approximation of the operation radius for a specified boom length. The boom angle, before loading, should be greater to account for boom deflection. It may be necessary to retract the boom if maximum boom angle is insufficient to maintain rated radius.
5. Rated Loads include the weight of hook block, slings and auxiliary lifting devices. Their weights shall be subtracted from the listed rated load to obtain the net load that can be lifted. Rated lifting capacities are based on correct reeving. Deductions must be made for excessive reeving. Any reeving over the minimum is considered excessive. Deduct for each foot of excessive wire rope before attempting to lift a load. See HOIST TACKLE CHART for rope information.
6. All telescopic sections must be extended synchronously.

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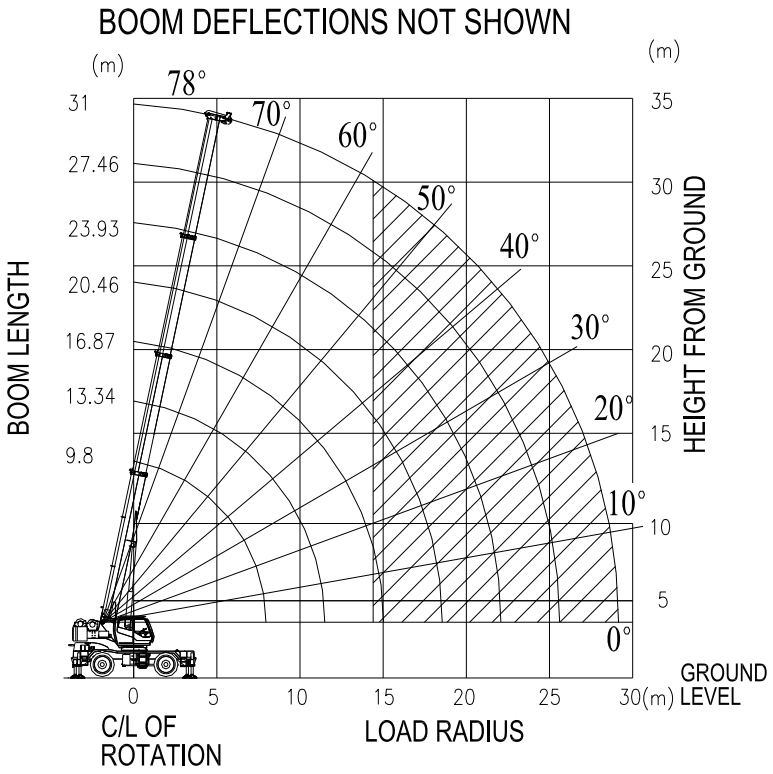
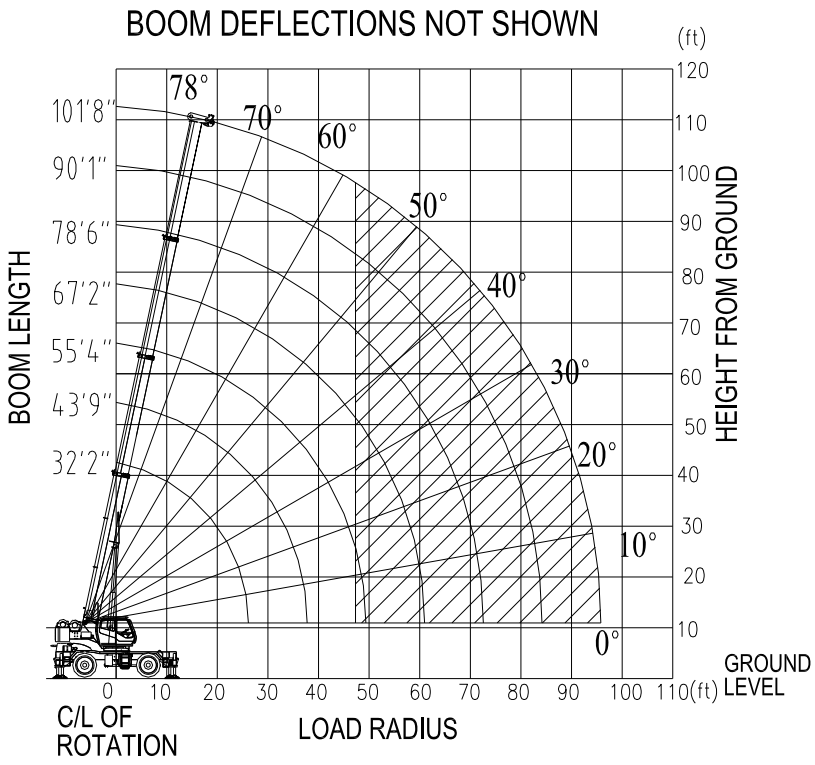


Lift Height on Outriggers Beams Fully Retracted (Unit: Metric meter)



Lift Height on Outriggers Beams Fully Retracted (Unit: Feet)

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ZOOMLION

LOAD RATINGS FOR ROUGH TERRAIN CRANE

Chapter 5 Lifts on tires

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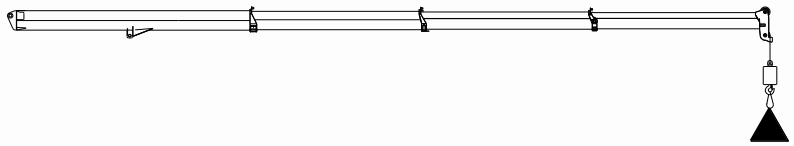
Chapter 4 Lifts on tires

5.1 MAIN BOOM RATED LOADS

USE THIS CHART ONLY WHEN LIFTING ON TIRES.



Rated loads on tires (Rated load unit: KG)								
BOOM LENGTH (MM)	9805				13338			
LOAD RADIUS (MM)	BOOM ANGLE (º)	360º (KG)	STATIONARY OVER FRONT (KG)	PICK & CARRY (KG)	BOOM ANGLE (º)	360º (KG)	STATIONARY OVER FRONT (KG)	PICK & CARRY (KG)
3000	64.7	14340	23400	17650	71.8	14560	20270	17850
3500	61.3	12200	20800	15640	69.5	12430	20720	15800
4000	57.7	10560	18650	13930	67.2	10760	18810	14140
4500	54.0	9180	16820	12500	64.7	9410	16990	12720
5000	50.1	7660	15260	11300	62.3	7920	15460	11480
6000	41.3	5370	11240	9370	57.1	5610	11490	9570
7000	30.1	3890	8550	7740	51.6	4110	8770	7950
8000					45.6	3050	6950	6130
9000					38.8	2280	5660	4840
10000					30.6	1700	4690	3880
11000					19.0	1250	3960	3150

BOOM LENGTH (MM)	16870				20403			
LOAD RADIUS (MM)	BOOM ANGLE (º)	360º (KG)	STATIONARY OVER FRONT (KG)	PICK & CARRY (KG)	BOOM ANGLE (º)	360º (KG)	STATIONARY OVER FRONT (KG)	PICK & CARRY (KG)
4000	72.2	10900	18890	14220				
4500	70.4	9540	17100	12820				
5000	68.5	8090	15600	11630	72.4	8080	15590	11610
6000	64.8	5770	11660	9690	69.4	5760	11660	9680
7000	60.9	4250	8920	8100	66.4	4250	8930	8100
8000	56.8	3190	7090	6270	63.2	3190	7100	6270
9000	52.5	2410	5780	4960	59.9	2410	5790	4960
10000	47.9	1810	4800	3990	56.6	1800	4810	3980
11000	42.9	1330	4050	3230	53.0	1330	4050	3220
12000	37.4	——	3440	2630	49.3	——	3440	2620
13000	30.9	——	2950	2140	45.4	——	2950	2130

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BOOM LENGTH (MM)	16870				20403			
LOAD RADIUS (MM)	BOOM ANGLE (º)	360º (KG)	STATIONARY OVER FRONT (KG)	PICK & CARRY (KG)	BOOM ANGLE (º)	360º (KG)	STATIONARY OVER FRONT (KG)	PICK & CARRY (KG)
14000	22.6	——	2560	1750	41.1	——	2540	1720
15000	6.2	——	2260	1460	36.4	——	2200	1380
16000					31.1	——	1920	1100
17000					24.6	——	1680	——
18000					15.6	——	1490	——

Rated loads on tires
(Rated load unit: LB)

BOOM LENGTH (FT)	32				44			
LOAD RADIUS (FT)	BOOM ANGLE (º)	360º (LB)	STATIONARY OVER FRONT (LB)	PICK & CARRY (LB)	BOOM ANGLE (º)	360º (LB)	STATIONARY OVER FRONT (LB)	PICK & CARRY (LB)
10	64.4	31070	50930	38390	71.6	31550	44700	38830
12	60.2	25670	44190	33150	68.8	26150	44550	33480
15	53.5	19830	36460	27190	64.4	20330	36840	27540
20	40.3	11450	24030	20260	56.6	11970	24590	20690
25	19.9	7100	16220	14450	48.0	7520	16650	14850
30					37.7	4820	12110	10310
35					23.5	3050	9210	7420

BOOM LENGTH (FT)	55				67			
LOAD RADIUS (FT)	BOOM ANGLE (º)	360º (LB)	STATIONARY OVER FRONT (LB)	PICK & CARRY (LB)	BOOM ANGLE (º)	360º (LB)	STATIONARY OVER FRONT (LB)	PICK & CARRY (LB)
15	70.1	20600	37170	27770				
20	64.4	12320	24960	20950	69.1	12310	24950	20930
25	58.4	7830	16970	15160	64.4	7830	16980	15160
30	51.9	5090	12380	10580	59.5	5090	12390	10570
35	44.6	3260	9420	7620	54.2	3250	9420	7610
40	36.2	——	7350	5560	48.6	——	7350	5540
45	25.3	——	5870	4080	42.4	——	5840	4030
50					35.2	——	4690	2890
55					26.3	——	3810	——
60					11.5	——	3180	——

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SET-UP

1. Crane load ratings are based on the crane being leveled and standing on a firm and uniform supporting surface.
2. Crane load ratings on tires depend on appropriate inflation pressure and tire condition. Caution must be exercised when increasing air pressures in tires. Consult *Operator's Manual* for precautions.
3. Use of jib is not permitted for pick-and-carry operations.

SET-UP

1. For pick-and-carry operations, boom must be centered over the front of the crane with swing and brake lock engaged. Use minimum boom point height and keep load close to ground surface. Travel must be on smooth level surface.
2. The load should be restrained from swinging. No on tire operation with jib erected.

OPERATION

1. CRANE LOAD RATINGS MUST NOT BE EXCEEDED. NO ATTEMPT TO TIP THE CRANE TO DETERMINE ALLOWABLE LOADS.
2. When radius is between listed values, the smaller of the two listed load ratings shall be used.
3. Do not operate at longer radii than those listed on the applicable Lift Chart as tipping can occur without a load on the hook.
4. All telescopic sections must be extended synchronously.
5. Without outriggers, never maneuver the boom beyond listed load radii for applicable tires used to ensure stability.
6. Creep speed is crane movement of less than 61 m(200ft)in 30-minutes period and not exceeding 1.6 KM/H(1mph).

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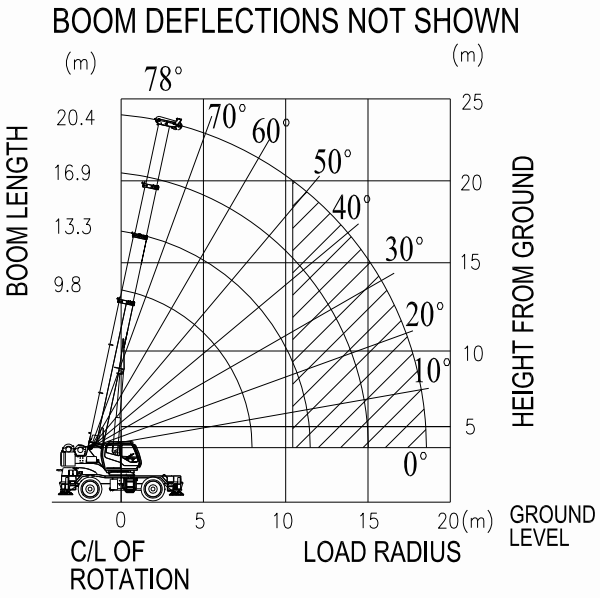
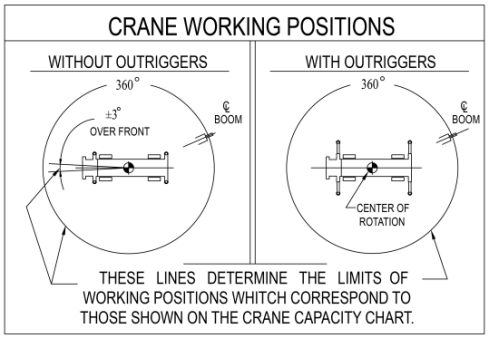
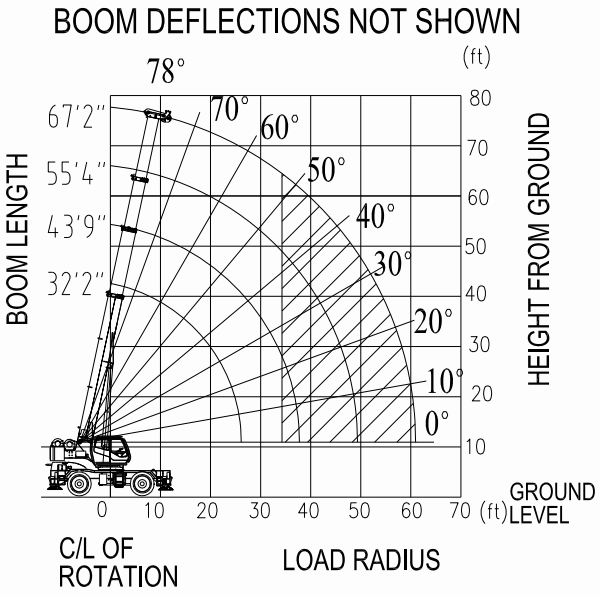


Lift Height on Tires (Unit: Metric meter)





Lift Height on Tires (Unit: Feet)