

Lifting Capacities

Hydraulic Lattice Boom Crawler Crane

LS-278H

250-ton (227 metric ton)

Tube Boom Capacities
60–330 ft. (18.29 – 100.58 m)

35 ft. (10.67 m) Live Mast Capacities

- On Outrigger Jacks
- On Side Frames

10 ft. (3.05 m) Extension Lifting Capacities

- On Outrigger Jacks
- On Side Frames

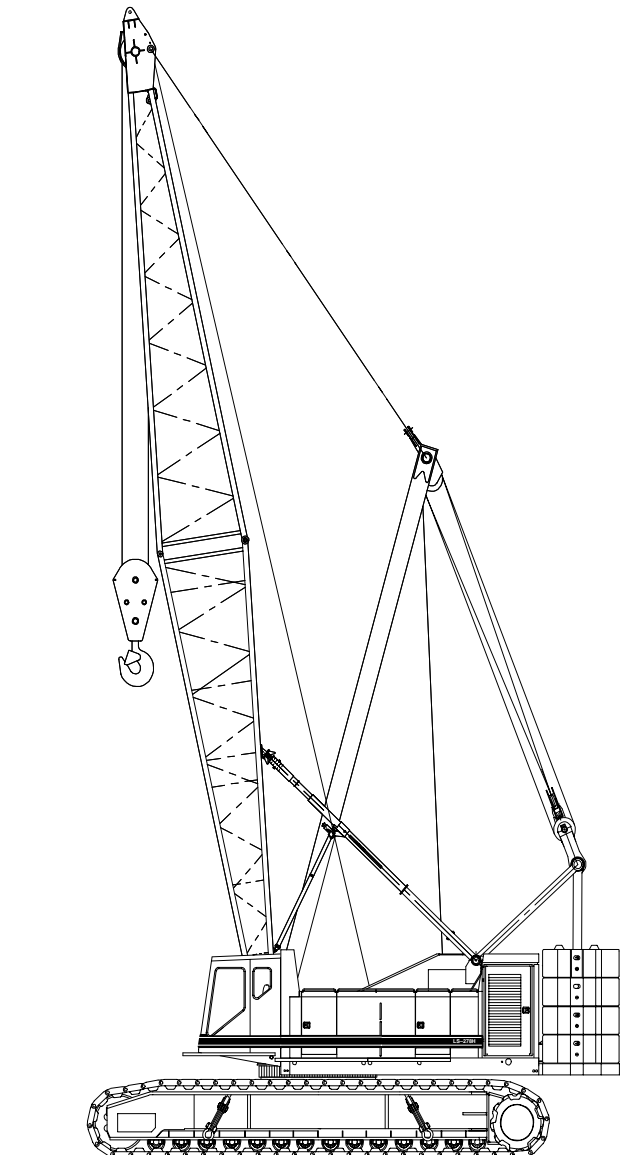
5 ft. (1.52 m) Auxiliary Tip Section

Duty Cycle Capacities

- 60 – 120 ft. (18.29 – 36.58 m)
- Clamshell / Magnet with 31K + 0 or 83K + 0 Counterweight

Tube Boom Capacities

- 60 – 330 ft. (18.29 – 100.58 m)
- 80 in. (2.03 m) Wide x 68 in. (1.72 m) Deep Boom
- 30 ft. (9.14 m) Open Throat Top Section
- 135K + LWR, 135K + 0, 83K + 0 and 31K + 0 Counterweight Combinations
- 360 degree and Blocked Over End
- 30 ft., 5 in. (9.27 m) Crawler Length



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 MANUAL AND THE FOLLOWING INSTRUCTIONS AND CHART VALUES 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 Institute (ANSI) safety standards for cranes.
4. All capacities listed in this book are in compliance with ASME/ANSI B30.5b-1991, SAE J987-April 1994, and SAE J765-October 1990.
6. The 35 ft. live mast must be used for all capacities in this Crane Rating Manual.
7. The least stable rated condition is over the side.
8. Booms may be erected and lowered over the end or over the side.
9. Do not operate at radii and boom lengths where the Crane Rating Manual lists no capacity. Do not use longer booms than those listed in this Crane Rating Manual. Any of the above can cause a tipping condition or boom failure.
10. Avoid excessive travel with lower counterweights installed on crane. Doing so may cause decreased travel torque and/or excessive wear to drive components.
11. These capacities apply only to the crane as originally manufactured and normally equipped by Link-Belt Construction Equipment Company.

LIFT CRANE OPERATION:

1. Capacities shown are in pounds and are not more than 75% of the tipping loads with the crane standing level on firm supporting surface. A deduction must be made from these capacities for weight of hook block, hook ball, sling, grapple, load weighing device, etc. When using main hook while jib is attached, reduce capacities by values shown on Capacity Deductions For Lifting Off Main Boom Hook With Jib Installed. When using main hook while 5 ft. tip extension is attached, reduce capacities by values shown on Capacity Deductions For Lifting Off Main Boom Hook With 5ft. Tip Extension Installed. See Operator's Manual for all limitations when raising or lowering attachment.
2. The crane capacities in the shaded areas are based on structural strength. The crane capacities in the non-shaded areas are based on stability ratings.
3. For recommended reeving, parts of line, wire rope type and wire rope inspection, see Wire Rope Capacity chart, Operator's Manual and Parts Manual. 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 2.4 lbs. for each extra foot of wire rope before attempting to lift a load.
4. Load ratings in this Crane Rating Manual are based on freely suspended loads and make no allowances for such factors as the effect of the wind, ground conditions, and operating speeds. The operator shall therefore reduce load ratings in order to take these conditions into account.
5. Rated lifting capacities do not account for the effects of wind on a suspended load or boom. Lifting capacities should be considered acceptable for wind speeds less than 20 mph and appropriately reduced for wind speeds greater than 20 mph. Extreme caution should be used when lifting heavy loads or loads with large wind sail area under high wind conditions (over 20 mph).

FOR OVER END CAPACITIES ONLY:

1. These capacities can be lifted over either end with the crane standing level on a firm supporting surface with adequate blocking placed under the tread member sprockets/idlers, to prevent rocking.
2. Do not travel with a load.

TRAVELING WITH A LOAD:

1. All 360° Rotation capacities listed in this Crane Rating Manual are pick and carry capacities.
2. The boom must be pointing straight over one end of the crawler lower. If the load was lifted over the side, swing the load over the end and/or if the load was lifted at a long radius and the load is at or near capacity for that radius, boom up to obtain a greater lifting capacity before beginning travel.
3. Engage the swing lock and apply swing brake.
4. Travel slowly and cautiously on a firm and level supporting surface.

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. Boom 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.

WIRE ROPE CAPACITY

LIFTOFF CAPABILITIES

Parts of Line	1"			
	Type N	Type P	Type LB	Type RB
1	29,500	16,800	32,500	22,700*
2	59,000	33,600	65,000	45,400
3	88,500	50,400	97,500	68,100
4	118,000	67,200	130,000	90,800
5	147,500	84,000	162,500	113,500
6	177,000	100,800	195,000	136,200
7	206,500	117,600	227,500	158,900
8	236,000	134,400	260,000	181,600
9	265,500	151,200	292,500	204,300
10	295,000	168,000	325,000	227,000
11	324,500	184,800	357,500	249,700
12	354,000	201,600	390,000	272,400
13	383,500	218,400	422,500	295,100
14	413,000	235,200	455,000	317,800

Counterweight	Over End Blocked (see note 3)	
	Maximum Boom (ft)	Max. Boom + Jib (ft)
135K + LWR	330	300 + 100
135K + 0	310	N/A
83K + 0	270	N/A
31K + 0	220	N/A

Counterweight	Over Side	
	Maximum Boom (ft)	Max. Boom + Jib (ft)
135K + LWR	310	270 + 100
135K + 0	300	N/A
83K + 0	250	N/A
31K + 0	200	N/A

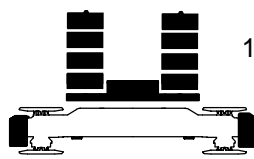
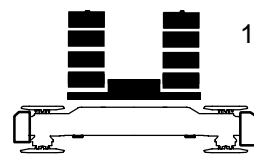
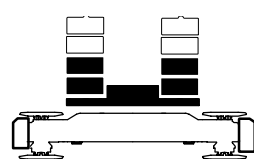
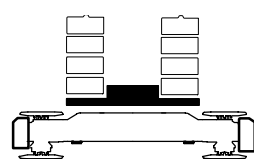
Notes:

1. For maximum stability, booms should be erected or lowered over the end with no load hook block on ground.
2. Crane must be standing level on a firm supporting surface.
3. Adequate blocking must be placed under the side frame sprockets/idlers to prevent rocking during liftoff over end.
4. Open throat booms 250 ft. and longer require mid-point suspension pendants.
5. Counterweight combinations are in "kips" (1 kip = 1000 lbs.)

Parts of Line	1-1/8"				
	Type N	Type P	Type LB	Type RB	Type SB
1	37,100	21,200	40,800	28,600*	52,400
2	74,200	42,400	81,600	57,200	104,800
3	111,300	63,600	122,400	85,800	157,200
4	148,400	84,800	163,200	114,400	209,600
5	185,500	106,000	204,000	143,000	262,000
6	222,600	127,200	244,800	171,600	314,400
7	259,700	148,400	285,600	200,200	366,800
8	296,800	169,600	326,400	228,800	419,200
9	333,900	190,800	367,200	257,400	471,600
10	371,000	212,000	408,000	286,000	524,000
11	408,100	233,200	448,800	314,600	576,400
12	445,200	254,400	489,600	343,200	628,800
13	482,300	275,600	530,400	371,800	681,200
14	519,400	296,800	571,200	400,400	733,600

ALLOWABLE COUNTERWEIGHT COMBINATIONS

Counterweight combinations are in kips (1 kip = 1000 lbs.)

	<p>135,000 lbs. Upper Counterweight Full Lower Counterweight 135K+LWR</p>
	<p>135,000 lbs. Upper Counterweight No Lower Counterweight 135K+0</p>
	<p>83,000 lbs. Upper Counterweight No Lower Counterweight 83K+0</p>
	<p>31,000 lbs. Upper Counterweight No Lower Counterweight 31K+0</p>

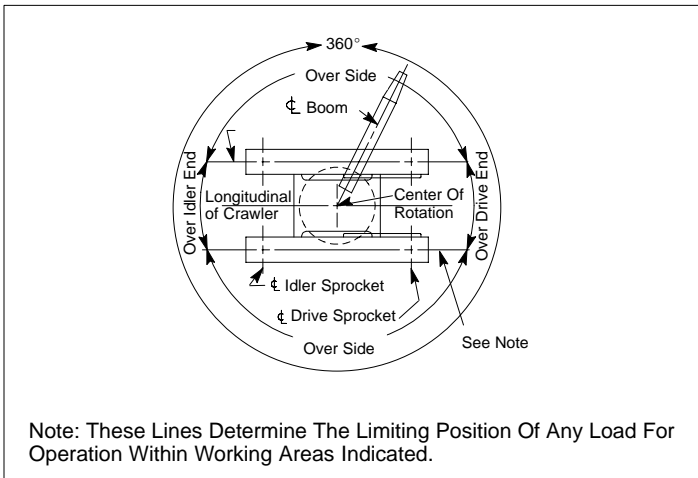
LBCE Type	Description
N	6 X 25 (6X19 Class) – Filler Wire – Extra Improved Plow Steel – Preformed – I.W.R.C. – Right Lay – Regular Lay
P	19 X 7 Rotation Resistant – Extra Improved Plow Steel – Preformed – Wire Center Core
LB	6 X 25 (6 X 19 Class – Filler Wire – Preformed – I.W.R.C. – Right Lay – Regular Lay – Compacted Strands
RB*	19 X 19 Rotation Resistant – Extra, Extra Improved Plow Steel – Preformed Right Lay – Regular Lay. Swaged
SB*	8 Strand Rope – Parallel Lay Construction – Compacted Strand – Right Lay – Regular Lay

* Use of swivel end with one part of line is not recommended.

Notes:

1. Capacities shown are in pounds and working loads must not exceed the ratings on the capacity charts in this Crane Rating Manual.
2. Study Operator's Manual for wire rope inspection procedures.

WORKING AREAS



10 FT. EXTENSION WITH LIFTING SHEAVES CAPACITIES – 360°


Load Radius (ft)	Boom Angle (deg)	On Jacks Without Ctw (lb)	On Side Frames With or Without Ctw (lb)
10.5	81.8	65,000	65,000
11	80.9	65,000	65,000
12	79.3	65,000	65,000
13	77.6	65,000	65,000
14	75.9	65,000	65,000
15	74.3	65,000	65,000
16	72.6	58,700	65,000
17	70.9	52,900	65,000
18	69.1	48,000	65,000
19	67.4	43,800	65,000
20	65.6	40,200	65,000
21	63.8	37,100	65,000
22	61.9	34,300	65,000
23	60.1	31,800	65,000
24	58.1	29,600	65,000
25	56.2	27,600	65,000
26	54.1	25,800	65,000
27	52.1	24,100	65,000
28	49.9	22,600	65,000
29	47.7	21,300	65,000
30	45.4	20,000	65,000
31	42.9	18,800	65,000
32	40.3	17,700	65,000
33	37.6	16,700	65,000
34	34.7	15,700	63,500
35	31.5	14,800	60,500
36	27.9	13,900	57,800

LIVE MAST LIFTING CAPACITIES (WITHOUT COUNTERWEIGHT INSTALLED)


Live Mast		On Jacks (lb)	On Side Frames (lb)
Radius (ft)	Angle (deg)		
10.5	77.1	65,000	65,000
12	74.5	65,000	65,000
13	72.8	65,000	65,000
14	71.1	65,000	65,000
15	69.4	63,200	65,000
16	67.6	56,900	65,000
17	65.8	51,700	65,000
18	64.0	47,300	65,000
19	62.2	43,600	65,000
20	60.3	40,500	65,000
22	56.5	35,200	65,000
24	52.4	31,000	65,000
26	48.2	27,700	65,000
28	43.6	24,900	65,000
30	38.7	22,600	65,000
35	22.5	18,200	62,600

- NOTES:
1. Refer to the Operator's Manual.
 2. Live mast backstops must be in position and operative.
 3. Hoist rope must contain 3 parts of 1in. diameter wire rope.
 4. Use rear drum only. Reeve hoist line over mast cross member.
 5. Capacities on jacks based on 85% stability. Capacities on side frames based on 75% stability.
 6. Cast upper counterweights may only be picked in stacks of two (2). Maximum allowable load on counterweight handling bars = 26,000 lbs.
 7. 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 pontoons, when on jacks, spread the load to a larger bearing surface.
 8. Rated capacities for 360° rotation.

- NOTES:
1. Refer to the Operator's Manual and Crane Rating Manual.
 2. Reeve front or rear hoist line under mast cross member.
 3. Capacities on jacks based on 85% stability. Capacities on side frames based on 75% stability.
 4. 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 pontoons, when on jacks, to spread the load to a larger bearing surface.
 5. Cast upper counterweights may only be picked in stacks of two (2). Maximum allowable load on counterweight handling bars = 26,000 lbs.

 **WARNING**

Do not install counterweights onto upper while crane is on carbody jack cylinders. Side frames must be installed and set before installing the counterweights.

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Do not install counterweights onto upper while crane is on carbody jack cylinders. Side frames must be installed and set before installing the counterweights.

DUTY CYCLE OPERATION NOTES FOR TUBULAR BOOM

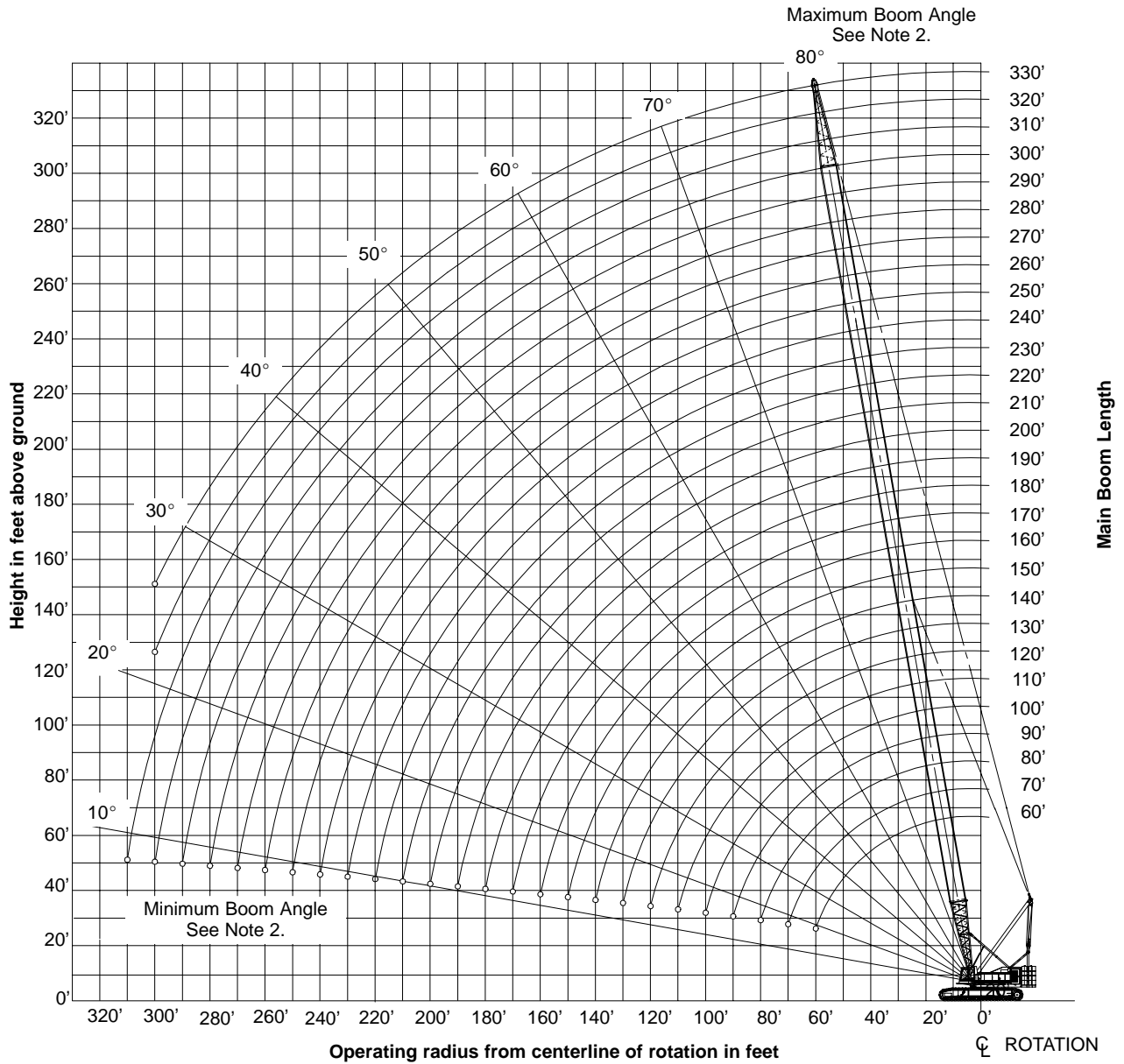
1. The capacities included in the following chart are the maximum allowable, and are based on machine standing level on firm supporting surface under ideal job conditions.
2. Capacities are based on 75% of minimum tipping loads for dragline; 67.5% for clamshell and magnet.
3. Capacities are maximum recommended by PCSA Standard #4. User must make allowances for soft or uneven supporting surfaces, rapid cycle operations, bucket suction or other unfavorable conditions which may require smaller buckets for most efficient operation.
4. Weight of bucket, plus load must not exceed these capacities.
5. Dragline operation is not recommended with boom angles less than 35°.
6. Boom length for dragline/clamshell attachment operation should not exceed 120'.
7. Retractable high gantry must be fixed in raised position for all capacities on this chart.
8. These capacities apply to the machine as originally manufactured and normally equipped by Link-Belt Construction Equipment Company.

DUTY CYCLE CAPACITIES FOR TUBULAR BOOM (All capacities are listed in pounds)

Boom Length (ft)	Load Radius (ft)	Boom Angle (deg)	83K + 0		31K + 0		Boom Length (ft)	Load Radius (ft)	Boom Angle (deg)	83K + 0		31K + 0	
			Dragline	Clamshell Magnet	Dragline	Clamshell Magnet				Dragline	Clamshell Magnet	Dragline	Clamshell Magnet
60	20	73.7	—	34,500	—	34,500	100	20	80.3	—	34,500	—	34,500
60	25	68.7	—	34,500	—	34,500	100	25	77.4	—	34,500	—	34,500
60	30	63.4	—	34,500	—	34,500	100	30	74.4	—	34,500	—	34,500
60	35	58.0	34,500	34,500	34,500	34,500	100	35	71.4	—	34,500	—	34,500
60	40	52.1	34,500	34,500	34,500	34,500	100	40	68.4	—	34,500	—	34,500
60	50	38.7	34,500	34,500	34,500	34,500	100	50	62.1	—	34,500	—	34,500
60	60	18.7	—	34,500	—	34,500	100	60	55.4	34,500	34,500	34,500	34,500
70	20	76.1	—	34,500	—	34,500	100	70	48.1	34,500	34,500	32,200	28,900
70	25	71.8	—	34,500	—	34,500	100	80	39.8	34,500	34,500	26,200	23,600
70	30	67.5	—	34,500	—	34,500	100	90	29.7	—	31,700	—	19,500
70	35	63.0	—	34,500	—	34,500	100	100	14.5	—	27,100	—	16,300
70	40	58.3	34,500	34,500	34,500	34,500	110	20	81.2	—	34,500	—	34,500
70	50	48.0	34,500	34,500	34,500	34,500	110	25	78.6	—	34,500	—	34,500
70	60	35.7	34,500	34,500	34,500	34,500	110	30	75.9	—	34,500	—	34,500
70	70	17.3	—	34,500	—	28,200	110	35	73.2	—	34,500	—	34,500
80	20	77.9	—	34,500	—	34,500	110	40	70.4	—	34,500	—	34,500
80	25	74.2	—	34,500	—	34,500	110	50	64.8	—	34,500	—	34,500
80	30	70.4	—	34,500	—	34,500	110	60	58.9	34,500	34,500	34,500	34,500
80	35	66.6	—	34,500	—	34,500	110	70	52.6	34,500	34,500	32,100	28,900
80	40	62.6	—	34,500	—	34,500	110	80	45.7	34,500	34,500	26,100	23,500
80	50	54.2	34,500	34,500	34,500	34,500	110	90	37.9	34,500	31,700	21,700	19,500
80	60	44.7	34,500	34,500	34,500	34,500	110	100	28.3	—	27,200	—	16,300
80	70	33.3	—	34,500	—	28,500	110	110	13.8	—	23,400	—	13,700
80	80	16.2	—	34,500	—	23,100	120	20	81.9	—	34,500	—	34,500
90	20	79.2	—	34,500	—	34,500	120	25	79.5	—	34,500	—	34,500
90	25	76.0	—	34,500	—	34,500	120	30	77.1	—	34,500	—	34,500
90	30	72.7	—	34,500	—	34,500	120	35	74.6	—	34,500	—	34,500
90	35	69.3	—	34,500	—	34,500	120	40	72.1	—	34,500	—	34,500
90	40	65.8	—	34,500	—	34,500	120	50	67.0	—	34,500	—	34,500
90	50	58.6	34,500	34,500	34,500	34,500	120	60	61.7	—	34,500	—	34,500
90	60	50.8	34,500	34,500	34,500	34,500	120	70	56.2	34,500	34,500	32,000	28,800
90	70	42.0	34,500	34,500	32,200	28,900	120	80	50.2	34,500	34,500	26,000	23,400
90	80	31.4	—	34,500	—	23,600	120	90	43.6	34,500	31,600	21,500	19,400
90	90	15.2	—	31,600	—	19,400	120	100	36.2	30,100	27,100	18,000	16,200
							120	110	27.1	—	23,400	—	13,700
							120	120	13.2	—	20,400	—	11,500

WORKING RANGE DIAGRAM

60 TO 330 FT. OPEN THROAT BOOM



Notes:

1. 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.
2. Maximum and minimum boom angles are equal to the values listed in the capacity chart for each boom length.

CAPACITY DEDUCTIONS FOR LIFTING OFF MAIN BOOM HOOK WITH JIB INSTALLED (OPEN THROAT BOOM ONLY)

When using main boom hook, while jib is attached, reduce boom capacities by the values in the following chart:

Jib Length (ft)	Capacity Deduction (lbs)
30	2,600
40	3,000
50	3,400
60	3,800
70	4,200
80	4,600
90	5,000
100	5,400

CAPACITY DEDUCTIONS FOR LIFTING OFF MAIN BOOM HOOK WITH 5-FEET TIP EXTENSION INSTALLED

When using main boom hook, while 5-ft. tip extension is attached, reduce boom capacities by the values in the following chart:

Tip Extension (ft)	Capacity Deduction (lbs.)
5	1,100

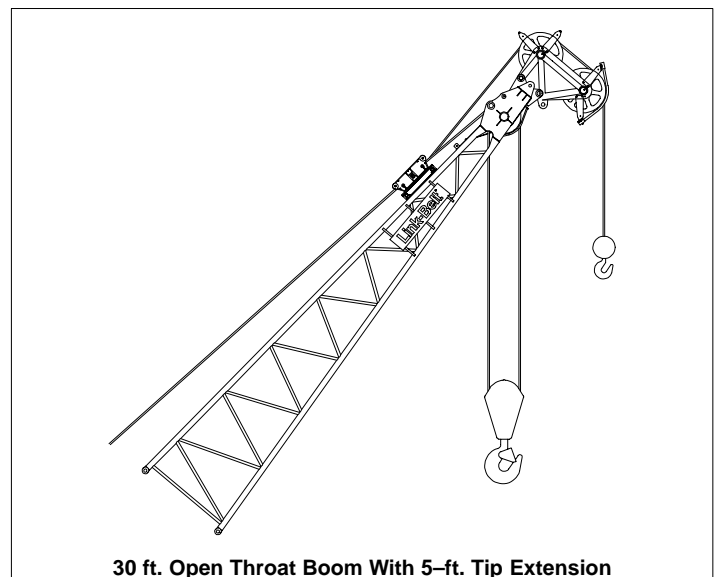
MAXIMUM ALLOWABLE CAPACITIES FOR 5-FEET TIP EXTENSION

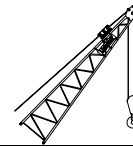
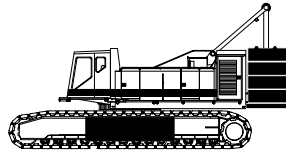
LIFTING CAPACITY TO BE THE SMALLEST OF THE FOLLOWING VALUES:

- 50,000 lbs. (Maximum).
- The standard crane lift capacity minus 1,100 lbs. for the boom length, tip extension load radius, and counterweight configuration in use on the crane.

NOTES:

- All notes are to be adhered to as listed on the standard lift crane capacity charts .
- Reduce the main boom lift capacities by 1,100 lbs. when the tip extension is installed.
- The maximum boom length on which the tip extension can be installed is 300 ft.
- Do not lift or suspend a load from the boom tip extension and main boom at the same time.





Note: Refer to page 7 for “Capacity Deductions” caused by any jib attachment or tip extension.

Main Boom Capacities – 60 Ft. – Open Throat Boom

Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K+ LWR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K+ LWR (lb)	135K+0 (lb)
12	81.5	500,000	500,000	500,000	439,600	500,000	500,000
13	80.6	500,000	500,000	470,400	406,200	500,000	500,000
14	79.6	496,900	496,900	437,200	377,300	496,900	496,900
15	78.6	464,100	464,100	408,200	352,200	464,100	464,100
16	77.6	435,300	435,300	382,800	330,200	435,300	435,300
17	76.7	409,800	409,800	360,200	310,600	409,800	409,800
18	75.7	387,000	387,000	340,100	293,200	387,000	387,000
19	74.7	366,600	366,600	322,100	270,200	366,600	366,600
20	73.7	348,100	348,100	305,800	241,000	348,100	348,100
25	68.7	277,700	277,700	229,700	155,400	277,700	277,700
30	63.4	230,300	224,200	168,900	113,700	230,300	230,300
35	58.0	191,000	176,900	132,900	89,000	196,300	196,300
40	52.1	157,400	145,600	109,100	72,600	170,700	170,700
50	38.7	115,500	106,700	79,500	52,200	134,600	131,900
60	18.7	90,400	83,400	61,600	39,900	101,000	101,000

Main Boom Capacities – 80 Ft. – Open Throat Boom

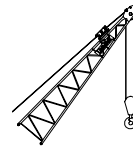
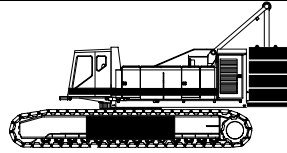
Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K+ LWR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K+ LWR (lb)	135K+0 (lb)
14.3	82.0	433,400	433,400	425,500	367,300	433,400	433,400
15	81.5	428,000	428,000	405,900	350,200	428,000	428,000
16	80.8	421,300	421,300	380,700	328,400	421,300	421,300
17	80.0	407,600	407,600	358,300	309,000	407,600	407,600
18	79.3	385,000	385,000	338,400	291,700	385,000	385,000
19	78.6	364,700	364,700	320,500	272,400	364,700	364,700
20	77.9	346,400	346,400	304,300	242,900	346,400	346,400
25	74.2	276,300	276,300	230,700	156,400	276,300	276,300
30	70.4	229,100	224,700	169,500	114,200	229,100	229,100
35	66.6	191,300	177,200	133,200	89,200	195,200	195,200
40	62.6	157,500	145,800	109,200	72,700	167,200	167,200
50	54.2	115,500	106,700	79,500	52,200	128,500	128,500
60	44.7	90,400	83,400	61,700	39,900	103,200	102,100
70	33.3	73,700	67,900	49,800	31,700	84,300	82,600
80	16.2	61,700	56,700	41,200	25,700	69,600	68,800

Main Boom Capacities – 70 Ft. – Open Throat Boom

Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K+ LWR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K+ LWR (lb)	135K+0 (lb)
12.9	82.0	478,200	478,200	471,600	407,200	475,700	475,700
13	81.9	478,200	478,200	468,400	404,400	475,700	475,700
14	81.1	469,200	469,200	435,400	375,700	469,700	469,700
15	80.3	460,400	460,400	406,600	350,700	458,000	458,000
16	79.4	433,600	433,600	381,200	328,800	433,600	433,600
17	78.6	408,200	408,200	358,800	309,300	408,200	408,200
18	77.8	385,500	385,500	338,800	291,900	385,500	385,500
19	76.9	365,200	365,200	320,800	271,300	365,200	365,200
20	76.1	346,800	346,800	304,600	241,900	346,800	346,800
25	71.8	276,500	276,500	230,100	155,800	276,500	276,500
30	67.5	229,200	224,300	169,000	113,800	229,200	229,200
35	63.0	191,000	176,800	132,900	88,900	195,300	195,300
40	58.3	157,200	145,500	108,900	72,400	169,700	169,700
50	48.0	115,300	106,500	79,200	51,900	132,300	131,800
60	35.7	90,200	83,200	61,400	39,600	105,500	101,800
70	17.3	73,400	67,600	49,500	31,300	84,200	82,200

Main Boom Capacities – 90 Ft. – Open Throat Boom

Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K+ LWR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K+ LWR (lb)	135K+0 (lb)
15.7	82.0	409,500	409,500	389,000	335,900	409,500	409,500
16	81.8	407,000	407,000	381,600	329,400	407,000	407,000
17	81.2	401,900	401,900	359,200	310,000	401,900	401,900
18	80.5	385,800	385,800	339,300	292,700	385,800	385,800
19	79.9	365,500	365,500	321,400	275,600	365,500	365,500
20	79.2	347,200	347,200	305,200	245,800	347,200	347,200
25	76.0	277,100	277,100	232,600	158,300	277,100	277,100
30	72.7	229,900	226,100	170,900	115,600	229,900	229,900
35	69.3	192,500	178,300	134,300	90,400	195,900	195,900
40	65.8	158,400	146,700	110,200	73,700	170,300	170,300
50	58.6	116,200	107,400	80,200	52,900	134,300	132,900
60	50.8	91,000	84,000	62,200	40,500	110,100	102,700
70	42.0	74,200	68,400	50,300	32,200	90,700	83,100
80	31.4	62,200	57,200	41,700	26,200	75,800	69,300
90	15.2	53,000	48,700	35,100	21,600	64,600	58,900



Main Boom Capacities – 100 Ft. – Open Throat Boom

Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K+ LWR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K+ LWR (lb)	135K+0 (lb)
17.1	82.0	377,500	377,500	356,600	307,800	377,500	377,500
18	81.5	370,400	370,400	338,600	292,100	370,400	370,400
19	80.9	364,700	364,700	320,700	276,400	364,700	364,700
20	80.3	346,500	346,500	304,600	246,400	346,500	346,500
25	77.4	276,600	276,600	232,900	158,600	276,600	276,600
30	74.4	229,500	226,300	171,100	115,800	229,500	229,500
35	71.4	192,600	178,400	134,500	90,500	195,600	195,600
40	68.4	158,500	146,800	110,300	73,700	170,000	170,000
50	62.1	116,200	107,500	80,200	52,900	134,000	133,000
60	55.4	91,000	84,000	62,200	40,500	109,900	102,800
70	48.1	74,200	68,400	50,300	32,200	90,800	83,200
80	39.8	62,200	57,200	41,700	26,200	75,800	69,400
90	29.7	53,200	48,800	35,300	21,700	64,700	59,100
100	14.5	46,000	42,200	30,100	18,100	56,100	51,100

Main Boom Capacities – 120 Ft. – Open Throat Boom

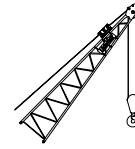
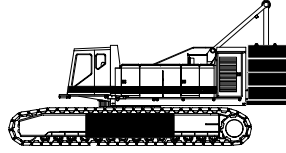
Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K+ LWR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K+ LWR (lb)	135K+0 (lb)
19.9	82.0	319,300	319,300	305,200	251,000	319,300	319,300
20	81.9	318,300	318,300	303,100	247,400	318,300	318,300
25	79.5	275,400	275,400	233,400	159,100	275,400	275,400
30	77.1	228,600	226,500	171,300	116,000	228,600	228,600
35	74.6	192,600	178,500	134,500	90,600	194,800	194,800
40	72.1	158,500	146,700	110,200	73,700	169,300	169,300
50	67.0	116,100	107,300	80,000	52,800	133,400	133,000
60	61.7	90,800	83,800	62,000	40,300	109,300	102,700
70	56.2	74,000	68,200	50,100	32,000	90,600	83,000
80	50.2	62,000	57,000	41,500	26,000	75,700	69,200
90	43.6	53,000	48,600	35,100	21,500	64,600	59,000
100	36.2	46,000	42,100	30,100	18,000	56,000	51,100
110	27.1	40,300	36,900	26,000	15,200	49,200	44,700
120	13.2	35,600	32,500	22,600	12,800	43,600	39,500

Main Boom Capacities – 110 Ft. – Open Throat Boom

Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K + LWR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K + LWR (lb)	135K + 0 (lb)
18.5	82.0	346,500	346,500	329,000	283,900	346,500	346,500
19	81.7	344,400	344,400	320,000	276,000	344,400	344,400
20	81.2	341,100	341,100	303,900	246,900	341,100	341,100
25	78.6	276,100	276,100	233,200	158,900	276,100	276,100
30	75.9	229,100	226,500	171,200	116,000	229,100	229,100
35	73.2	192,600	178,500	134,500	90,500	195,200	195,200
40	70.4	158,500	146,800	110,300	73,700	169,700	169,700
50	64.8	116,200	107,400	80,100	52,900	133,700	133,000
60	58.9	90,900	83,900	62,200	40,400	109,700	102,800
70	52.6	74,100	68,300	50,200	32,100	90,700	83,100
80	45.7	62,100	57,200	41,600	26,100	75,800	69,300
90	37.9	53,100	48,800	35,200	21,700	64,700	59,100
100	28.3	46,100	42,200	30,200	18,100	56,100	51,100
110	13.8	40,400	36,900	26,100	15,200	49,200	44,700

Main Boom Capacities – 130 Ft. – Open Throat Boom

Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K + LWR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K + LWR (lb)	135K + 0 (lb)
21.3	82.0	296,200	296,200	284,300	217,700	296,200	296,200
25	80.3	274,700	274,700	233,500	159,200	274,700	274,700
30	78.1	228,000	226,200	171,300	116,100	228,000	228,000
35	75.8	192,600	178,500	134,500	90,500	194,300	194,300
40	73.5	158,400	146,700	110,100	73,600	168,800	168,800
50	68.9	116,000	107,200	79,900	52,600	133,000	132,900
60	64.1	90,600	83,600	61,900	40,100	108,900	102,600
70	59.1	73,800	68,000	49,900	31,800	90,500	82,900
80	53.8	61,800	56,800	41,300	25,800	75,500	69,100
90	48.1	52,800	48,500	34,900	21,400	64,400	58,800
100	34.7	45,800	41,900	29,900	17,900	55,900	50,900
110	37.9	40,200	36,700	25,900	15,100	49,100	44,600
120	26.0	35,600	32,400	22,600	12,700	43,500	39,500
130	12.7	31,600	28,700	19,700	10,700	38,800	35,100



Main Boom Capacities – 140 Ft. – Open Throat Boom

Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K+L WR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K+LWR (lb)	135K+0 (lb)
22.7	82.0	272,800	272,800	265,900	191,900	272,800	272,800
25	81.0	267,700	267,700	233,600	159,300	267,700	267,700
30	79.0	227,400	226,600	171,300	116,100	227,400	227,400
35	76.9	192,500	178,400	134,400	90,500	193,800	193,800
40	74.7	158,300	146,600	110,000	73,500	168,300	168,300
50	70.5	115,800	107,000	79,800	52,500	132,500	132,500
60	66.0	90,500	83,500	61,700	39,900	108,500	102,400
70	61.5	73,600	67,800	49,700	31,600	90,300	82,700
80	56.7	61,600	56,600	41,100	25,600	75,300	68,900
90	51.7	52,600	48,300	34,700	21,200	64,300	58,600
100	46.2	45,600	41,700	29,700	17,700	55,700	50,700
110	40.3	40,000	36,500	25,700	14,900	48,900	44,400
120	33.4	35,400	32,200	22,400	12,500	43,300	39,300
130	25.0	31,500	28,600	19,600	10,600	38,700	35,000
140	12.2	28,200	25,500	17,200	8,900	34,700	31,300

Main Boom Capacities – 160 Ft. – Open Throat Boom

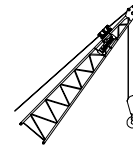
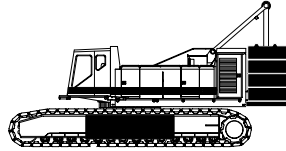
Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K + LWR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K + LWR (lb)	135K + 0 (lb)
25.4	82.0	234,200	234,200	226,700	154,500	234,200	234,200
30	80.3	226,100	226,100	171,200	116,000	226,100	226,100
35	78.5	192,400	178,200	134,200	90,300	192,600	192,600
40	76.7	158,000	146,300	109,800	73,200	167,300	167,300
50	73.0	115,400	106,700	79,400	52,100	131,600	131,600
60	69.2	90,000	83,000	61,300	39,500	107,600	102,100
70	65.3	73,200	67,300	49,200	31,100	89,900	82,300
80	61.3	61,100	56,100	40,600	25,100	74,900	68,400
90	57.1	52,100	47,800	34,200	20,700	63,800	58,200
100	52.8	45,100	41,200	29,200	17,200	55,200	50,300
110	48.1	39,500	36,000	25,200	14,400	48,400	44,000
120	43.1	34,900	31,700	21,900	12,100	42,900	38,800
130	37.6	31,100	28,200	19,200	10,100	38,300	34,600
140	31.2	27,800	25,100	16,800	8,500	34,400	31,000
150	23.4	25,000	22,500	14,800	7,000	31,000	27,900
160	11.4	22,500	20,200	12,900	5,700	28,100	25,100

Main Boom Capacities – 150 Ft. – Open Throat Boom

Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K+L WR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K+LWR (lb)	135K+0 (lb)
24.0	82.0	254,300	254,300	249,500	171,400	254,300	254,300
25	81.6	251,900	251,900	233,700	159,400	251,900	251,900
30	79.7	226,800	226,500	171,300	116,000	226,800	226,800
35	77.7	192,500	178,300	134,300	90,400	193,200	193,200
40	75.8	158,200	146,400	109,900	73,400	167,800	167,800
50	71.8	115,600	106,900	79,600	52,300	132,100	132,100
60	67.7	90,300	83,300	61,500	39,700	108,100	102,200
70	63.5	73,400	67,600	49,500	31,400	90,100	82,500
80	59.2	61,400	56,400	40,900	25,400	75,100	68,700
90	54.6	52,400	48,000	34,500	20,900	64,000	58,400
100	49.8	45,400	41,500	29,500	17,400	55,500	50,500
110	44.6	39,800	36,300	25,500	14,600	48,700	44,200
120	38.8	35,200	32,000	22,200	12,300	43,100	39,100
130	32.3	31,300	28,400	19,400	10,400	38,500	34,800
140	24.2	28,000	25,400	17,000	8,700	34,600	31,200
150	11.8	25,100	22,700	14,900	7,200	31,200	28,000

Main Boom Capacities – 170 Ft. – Open Throat Boom

Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K+L WR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K+LWR (lb)	135K+0 (lb)
26.8	82.0	218,300	218,300	206,500	140,500	218,300	218,300
30	80.9	213,600	213,600	171,200	115,900	213,600	213,600
35	79.2	192,000	178,100	134,100	90,100	192,000	192,000
40	77.5	157,900	146,100	109,600	73,100	166,800	166,800
50	74.0	115,200	106,400	79,200	51,900	131,100	131,100
60	70.5	89,800	82,800	61,000	39,300	107,100	101,800
70	66.9	72,900	67,100	49,000	30,900	89,700	82,100
80	63.1	60,900	55,900	40,400	24,900	74,700	68,200
90	59.3	51,800	47,500	33,900	20,400	63,500	57,900
100	55.3	44,800	41,000	28,900	16,900	55,000	50,000
110	51.1	39,200	35,700	24,900	14,100	48,200	43,700
120	46.6	34,600	31,500	21,600	11,800	42,600	38,600
130	41.7	30,800	27,900	18,900	9,900	38,000	34,300
140	36.4	27,500	24,900	16,500	8,200	34,100	30,700
150	30.3	24,700	22,200	14,500	6,800	30,800	27,600
160	22.7	22,300	20,000	12,800	5,500	27,900	24,900
170	11.1	20,100	17,900	11,100	4,400	25,300	22,500



Main Boom Capacities – 300 Ft. – Open Throat Boom

Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K+L WR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K+ LWR (lb)	135K+0 (lb)
44.9	82.0	60,300	60,300	PROHIBITED	PROHIBITED	60,300	60,300
50	81.0	59,900	59,900			59,900	59,900
60	79.1	59,100	59,100			59,100	59,100
70	77.1	54,300	54,300			54,300	54,300
80	75.2	49,600	49,600			49,600	49,600
90	73.2	45,500	43,200			45,500	45,500
100	71.2	38,700	36,600			38,700	38,700
110	69.1	34,800	31,300			35,600	35,600
120	67.1	30,100	27,000			32,900	32,900
130	65.0	26,300	23,400			30,000	29,900
140	62.9	23,000	20,300			27,700	26,300
150	60.7	20,200	17,700			25,700	23,200
160	58.5	17,800	15,400			23,500	20,500
170	56.2	15,600	13,500			21,000	18,200
180	53.9	13,800	11,700			18,700	16,100
190	51.5	12,100	10,200			16,800	14,300
200	49.0	10,600	8,800			15,000	12,700
210	46.4	9,200	7,500			13,400	11,200
220	43.7	8,000	6,400			12,000	9,900
230	40.9	6,900	5,300			10,600	8,700
240	37.9	5,900	4,400			9,200	7,500
250	34.6	4,900	3,500			8,000	6,500
260	31.1	4,100	2,700			6,900	5,600
270	27.2	3,300	—			5,800	4,700
280	22.7	2,500	—			4,800	3,900
290	17.0	—	—			3,800	3,100
300	8.3	—	—			2,700	2,400

Main Boom Capacities – 320 Ft. – Open Throat Boom

Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K+L WR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K+ LWR (lb)	135K+0 (lb)
47.7	82.0	51,700	PROHIBITED	PROHIBITED	PROHIBITED	51,700	51,700
50	81.6	51,700				51,700	
60	79.8	50,800				50,800	
70	77.9	46,600				46,600	
80	76.1	42,600				42,600	
90	74.3	36,200				36,200	
100	72.4	33,000				33,000	
110	70.5	30,500				30,500	
120	68.6	27,800				27,800	
130	66.6	25,500				25,800	
140	64.7	22,300				23,500	
150	62.7	19,400				21,700	
160	60.7	17,000				20,100	
170	58.6	14,900				18,600	
180	56.5	13,000				17,200	
190	54.3	11,300				15,900	
200	52.0	9,800				14,200	
210	49.7	8,500				12,600	
220	47.3	7,300				11,000	
230	44.9	6,100				9,500	
240	42.3	5,100				8,200	
250	39.5	4,200				7,000	
260	36.6	3,300				5,800	
270	33.5	2,500				4,800	
280	30.1	—				3,800	
290	26.3	—				2,900	
300	21.9	—				2,000	

Main Boom Capacities – 310 Ft. – Open Throat Boom

Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K+L WR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K+ LWR (lb)	135K+0 (lb)
46.3	82.0	55,800	55,800	PROHIBITED	PROHIBITED	55,800	55,800
50	81.3	55,800	55,800			55,800	55,800
60	79.4	54,700	54,700			54,700	54,700
70	77.5	50,300	50,300			50,300	50,300
80	75.6	45,900	45,900			45,900	45,900
90	73.7	39,000	39,000			39,000	39,000
100	71.8	35,800	35,800			35,800	35,800
110	69.8	32,900	30,900			32,900	32,900
120	67.9	29,800	26,600			30,200	30,200
130	65.8	25,900	23,000			27,800	27,800
140	63.8	22,600	19,900			25,700	25,700
150	61.7	19,800	17,300			23,600	22,900
160	59.6	17,400	15,100			21,800	20,200
170	57.4	15,300	13,100			20,200	17,800
180	55.2	13,400	11,300			18,400	15,800
190	52.9	11,700	9,800			16,400	13,900
200	50.6	10,200	8,400			14,600	12,300
210	48.1	8,900	7,100			13,000	10,800
220	45.6	7,600	6,000			11,500	9,500
230	43.0	6,500	4,900			10,100	8,300
240	40.2	5,500	4,000			8,700	7,200
250	37.2	4,600	3,100			7,500	6,200
260	34.1	3,700	2,300			6,300	5,200
270	30.6	2,900	—			5,300	4,400
280	26.7	2,200	—			4,300	3,500
290	22.3	—	—			3,400	2,800
300	16.8	—	—			2,500	2,100

Main Boom Capacities – 330 Ft. – Open Throat Boom

Load Radius (ft)	Boom Angle (deg)	360° Rotation				Over End Blocked	
		135K+L WR (lb)	135K + 0 (lb)	83K + 0 (lb)	31K + 0 (lb)	135K+ LWR (lb)	135K+0 (lb)
49.1	82.0	47,900	PROHIBITED	PROHIBITED	PROHIBITED	47,900	47,900
50	81.8	47,900				47,900	
60	80.1	47,300				47,300	
70	78.3	43,100				43,100	
80	76.5	36,400				36,400	
90	74.7	33,400				33,400	
100	72.9	30,700				30,700	
110	71.1	28,000				28,000	
120	69.3	25,900				25,900	
130	67.4	23,600				23,600	
140	65.5	21,900				21,900	
150	63.6	19,100				20,100	
160	61.6	16,600				18,600	
170	59.6	14,500				17,200	
180	57.6	12,600				15,900	
190	55.5	10,900				14,700	
200	53.4	9,400				13,600	
210	51.2	8,100				12,000	
220	48.9	6,900				10,400	
230	46.6	5,800				9,000	
240	44.1	4,700				7,700	
250	41.6	3,800				6,400	
260	38.9	2,900				5,300	
270	36.0	2,100				4,200	
280	33.0	—				3,300	
290	29.6	—				2,300	

Suggested Open Throat Boom Make Up

