GROVE®

GRT780

Product Guide

ASME B30.5 Imperial 85%

80 USt
(80 t)

39.2 ft – 155.1 ft
(11,9 m - 47,3 m)

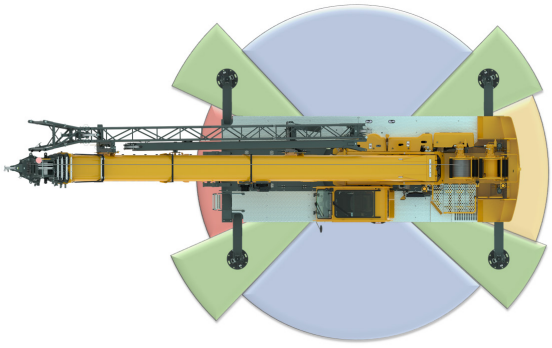
GVW
99,820 lbs
(45 278 kg)

max
220 ft
(67 m)

GROVE GRT780

FEATURES

- Strong load charts with long reach provide higher utilization and greater versatility.
- Three operator-selectable telescoping modes provide quick and simple operation along with flexibility for any application.
- Manual bi-fold swingaway increases ability to reach over obstacles.
- Compact dimensions, under 10 ft (3 m) wide & lightweight GVW – easy transportation to the job & excellent maneuverability once on site.
- 17,500 lb (7938 kg) or 20,500 lb (9299 kg) counterweight options combine maximum capacities with easy transportability. Hydraulically removable counterweight option available.
- MAXbase variable outrigger positioning system for increased lift capacities and easy access to any jobsite.
- oCSI (on Crane Service Interface) provides enhanced diagnostics and monitoring systems on-board for easy serviceability.
- Multiple site steering modes via the steering wheel provide simple operation when moving or positioning the crane on the job-site.



MAXbase variable outrigger positioning

MAXbase provides increased versatility on the jobsite by allowing asymmetrical outrigger spans. This makes it easier to work in congested jobsites with obstructions, and allows for increased capacities when comparing to the standard 360° load charts.

Backing up our promise

Our GRT line of Rough Terrain cranes have been designed from the ground up to provide class-leading specifications and have undergone extensive testing to ensure they provide industry-leading quality and reliability. We stand behind our GRT cranes and we're willing to prove it with a two-year standard warranty and available three, four or five-year extended warranty programs.

GRT780 GROVE. REAL. TOUGH.

Wider Full-Vision Cab with CCS +1

The wider full-vision cab was designed with operator comfort, visibility, and productivity in mind. Additional width, redesigned armrests and 20° cab tilt maximize the operator experience. Standard features include tilt/telescoping steering wheel, USB charging port, electronic seat adjustments, high output heating and air conditioning system, heavy duty foot rest bars, added storage behind the seat, and a three camera package. Also included is the new CCS 1+. The same Crane Control System you've come to expect on Grove Rough Terrain cranes, now on a single 12 inch (30.5 cm) touchscreen display. CCS 1+ provides simple, intuitive functionality for quick set-up and enhanced operation. New driving mode includes steering indication, fore and aft as well as side to side slope indication, travel speed and more.

GROVE® CONNECT™

GROVE CONNECT transforms the user experience of crane owners and makes everyday work easier.

Get access to secure, accurate data with an easy and intuitive remote 'real time' view on your crane's operation.

Scan to learn more or visit manitowoc.com/support.

New carrier design

The GRT780's carrier includes features that will make jobsite set-up simple, while also providing quick and easy access. Features include flat aluminum decking, additional storage compartments, a full LED lighting package with new side-mounted carrier lights, auto leveling of outrigger jacks along with smart length sensing outrigger monitoring system, and centrally located, accessible maintenance points.

The world's most advanced crane service and support network

WORLDWIDE SUPPORT NETWORK

Manitowoc's customer service extends beyond any borders. Our locations span the globe, covering five continents. No matter where the job takes you, you have a business partner nearby.

PARTS

Locating the correct part quickly is vital to managing your operations. With Manitowoc Customer Support, the parts you need are just a phone call or click away.

LIFT SOLUTIONS

The Manitowoc Crane Lift Solutions Team is dedicated to helping customers with unique and customized applications for their Manitowoc cranes, regardless of product line.

TRAINING

Manitowoc Training Centers offer courses for operators and technicians across the globe to provide in-depth instruction on crane operation, maintenance, and troubleshooting procedures.

EnCORE

Manitowoc's EnCORE program maximizes your investment by rebuilding or repairing your crane to extend its life significantly. EnCORE also includes remanufactured parts.

MANITOWOC FINANCE

Manitowoc Finance gets you in the field with the right equipment by giving you access to flexible, affordable financing. With Manitowoc Finance, equipment can be acquired with virtually no cash outlay, and unlike traditional lending, our financial products don't affect bank lines of credit. Your capital resources remain intact for times when you need ready access to cash.

Competitive rates with flexible financing options and payment schedules put you in control.

Did you know? Manitowoc Finance can finance used Manitowoc cranes. You can also trade-in your used fleet for upgrade and get financed by Manitowoc Finance.

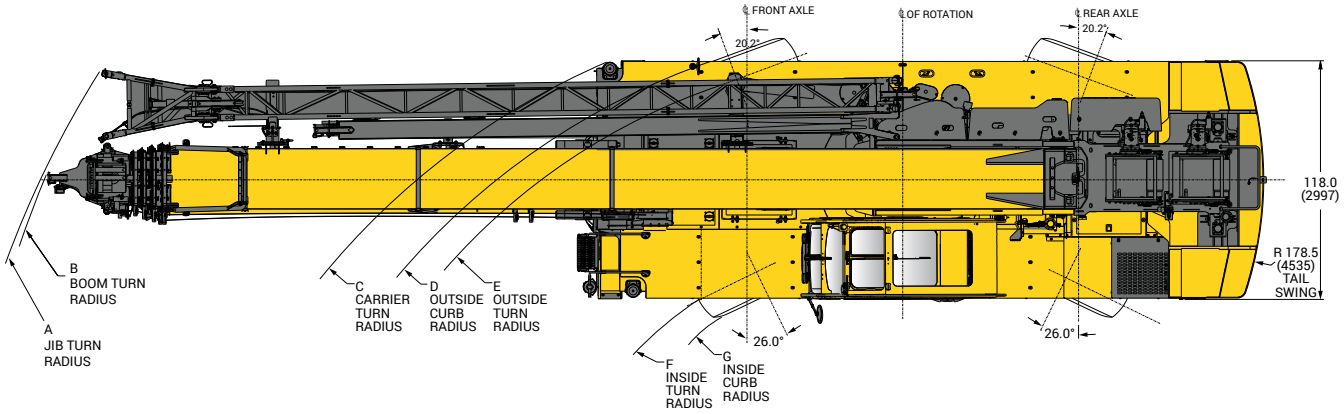

GROVE

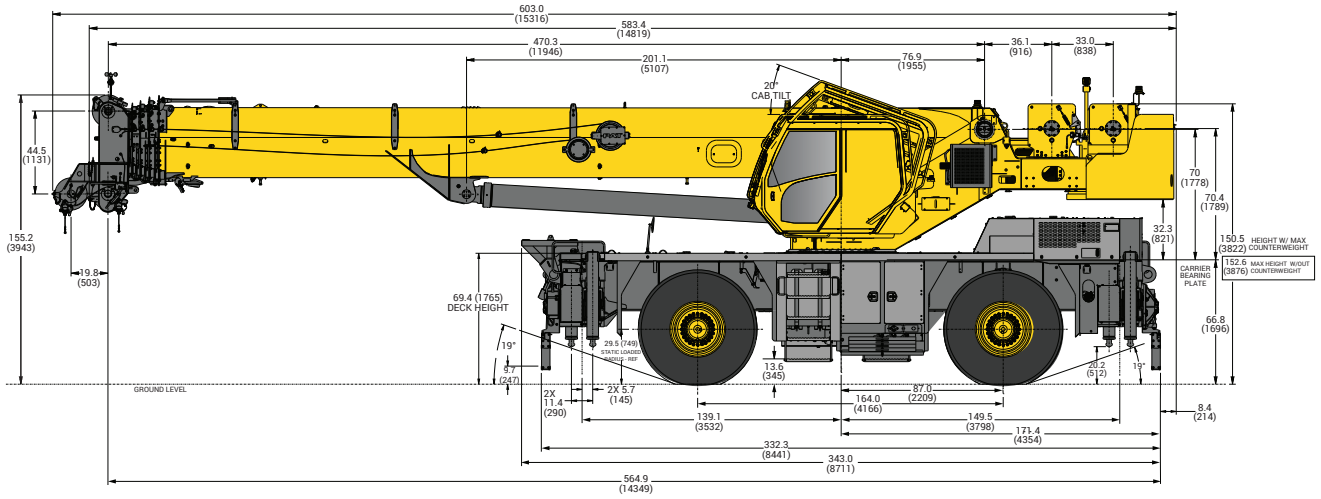
CONTENTS

DIMENSIONS

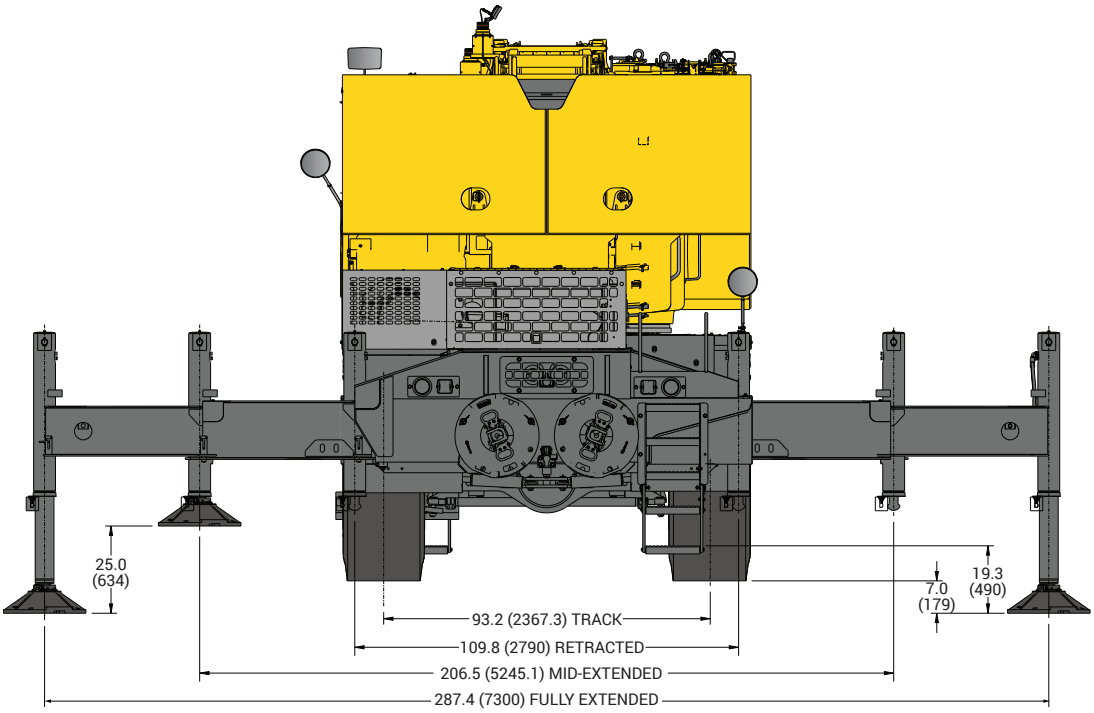
Tire Size: 23.5 x 25													
A	B	C	D	E	F	G	A	B	C	D	E	F	G
668.9 (16 990)	656.2 (16 667)	515.9 (13 103)	502.2 (12 755)	490.6 (12 461)	364.7 (9263)	350.8 (8910)	475.9 (12 089)	475.5 (12 077)	281.9 (7161)	262.9 (6678)	254.1 (6455)	179.1 (4550)	165.7 (4209)
Two-Wheel Steer							Four -Wheel Steer						

Dimensions in inches (mm) unless otherwise specified.





DIMENSIONS


25.0
(634)
7.0
(179)
19.3
(490)
93.2 (2367.3) TRACK
109.8 (2790) RETRACTED
206.5 (5245.1) MID-EXTENDED
287.4 (7300) FULLY EXTENDED

WEIGHTS

Weights	GVW		Front		Rear	
	lb	kg	lb	kg	lb	kg
Basic crane with Cummins Stage V/T4F engine, 155.2 ft (47.3 m) main boom, main and auxiliary hoist with wire rope and 17,500 lb (7938 kg) standard counterweight	94,925	43,057	49,068	22,257	45,857	20,800
Add: 56 ft (17.1 m) manually offset bi-fold swingaway & stowage brackets	2,955	1,340	5,101	2,314	-2,146	-973
Crane weight	97,880	44,398	54,169	24,571	43,711	19,827
Add: Auxiliary boom nose	130	59	393	178	-263	-119
Crane weight	98,010	44,457	54,562	24,749	43,448	19,708
Add: 12 USt (11 t) overhaul ball	575	261	933	423	-358	-162
Crane weight	98,585	44,717	55,495	25,172	43,090	19,545
Add: 50 USt (45 t) hookblock	1,235	560	1,145	519	90	41
Crane weight	99,820	45,278	56,640	25,691	43,180	19,586
Add: 3,000 lb (1361 kg) optional counterweight	3,000	1,361	-1,245	-565	4,245	1,925
Crane weight	102,820	46,638	55,395	25,127	47,425	21,512

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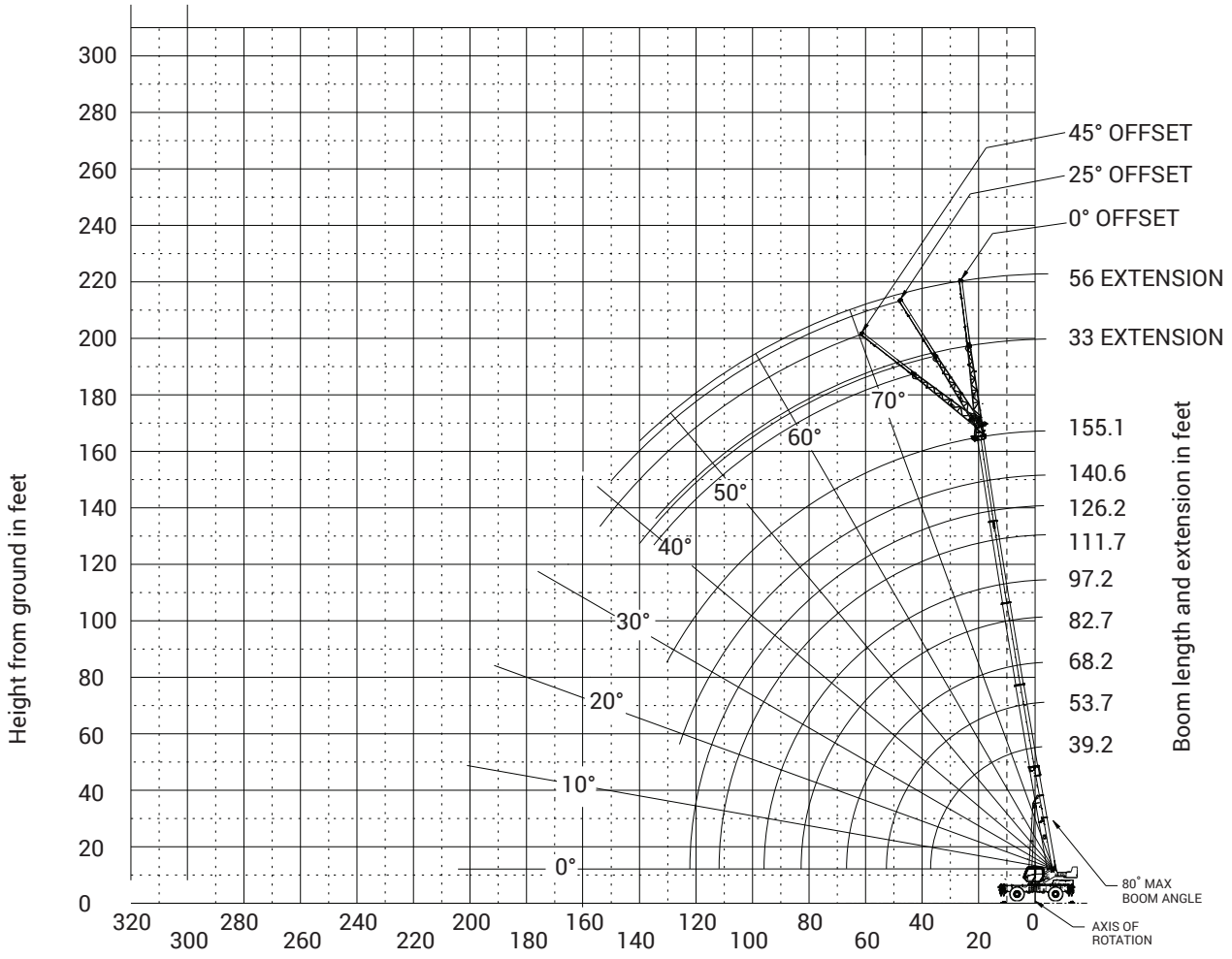
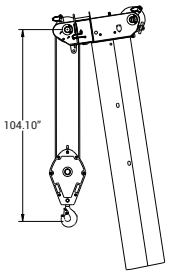
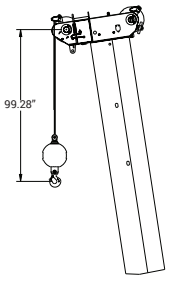
WORKING RANGE

Working Range Diagram with Bi-Fold Extension

(Boom deflection not shown)







DIMENSIONS ARE FOR LARGEST GROVE FURNISHED HOOK BLOCK AND HEADACHE BALL, WITH ANTI-TWO BLOCK ACTIVATED.

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LOAD CHART
Main Boom

 39.2 ft - 155.1ft

 20,500 lb

 100%

 360°

 Pounds

Feet	Main boom length in feet											
	39.2	53.7	53.7	68.2	68.2	68.2	82.7	82.7	82.7	97.2	97.2	97.2
Mode	A, X, B	A	X, B	A	X	B	A	X	B	A	X	B
8	160,000[1] (73.5)	46,650 (78.5)	117,500 (78.5)	-	-	-	-	-	-	-	-	-
10	135,000 (70.5)	46,650 (76.5)	117,500 (76.5)	46,500 (79.5)	57,850 (80)	37,950 (80)	-	-	-	-	-	-
12	120,500 (67)	46,650 (74)	117,500 (74)	46,500 (78)	57,850 (78)	37,950 (78)	*46,350 (80)	*57,700 (80)	*37,800 (80)	-	-	-
15	103,500 (62)	46,650 (70.5)	102,500 (70.5)	46,500 (75.5)	57,850 (75.5)	37,950 (75.5)	46,350 (78.5)	57,700 (78.5)	37,800 (78.5)	*29,000 (80)	*55,450 (80)	*37,700 (80)
20	80,750 (53)	46,650 (64.5)	79,750 (64.5)	46,500 (71)	57,850 (71)	37,950 (71)	46,350 (74.5)	57,700 (74.5)	37,800 (75)	29,000 (77.5)	55,450 (77.5)	37,700 (77.5)
25	61,050 (42.5)	46,650 (58.5)	60,100 (58.5)	46,500 (66)	57,850 (66.5)	37,950 (66.5)	46,350 (71)	57,700 (71)	37,800 (71)	29,000 (74.5)	55,450 (74.5)	37,700 (74.5)
30	48,000 (27.5)	46,650 (51.5)	47,100 (51.5)	46,500 (61.5)	49,100 (61.5)	37,950 (61.5)	45,300 (67)	50,350 (67)	37,800 (67.5)	29,000 (71.5)	50,100 (71.5)	37,700 (71.5)
35	-	41,150 (44)	37,900 (44)	42,400 (56.5)	39,900 (56.5)	37,350 (56.5)	40,450 (63.5)	41,150 (63.5)	35,950 (63.5)	29,000 (68)	42,000 (68)	33,850 (68)
40	-	32,550 (34.5)	29,600 (34.5)	34,300 (51)	31,050 (51)	28,800 (51)	35,100 (59.5)	32,300 (59.5)	30,050 (59.5)	27,050 (64.5)	33,550 (64.5)	29,450 (65)
45	-	25,650 (21.5)	23,050 (21.5)	27,600 (45)	24,700 (45)	22,650 (45)	28,600 (55)	25,900 (55)	23,800 (55)	24,600 (61.5)	27,150 (61.5)	25,000 (61.5)
50	-	-	-	22,600 (38)	19,950 (38)	17,950 (38)	23,800 (50.5)	21,150 (50.5)	19,200 (50.5)	22,550 (58)	22,400 (58)	20,350 (58)
55	-	-	-	18,650 (29.5)	16,150 (29.5)	14,000 (29.5)	20,100 (45.5)	17,500 (45.5)	15,450 (45.5)	20,350 (54)	18,700 (54)	16,750 (54)
60	-	-	-	15,550 (17)	13,150 (17)	10,850 (17)	17,150 (40)	14,550 (40)	12,400 (40)	17,400 (50)	15,800 (50)	13,800 (50.5)
65	-	-	-	-	-	-	14,700 (34)	12,100 (34)	9,910 (34)	15,050 (46)	13,300 (46)	11,350 (46)
70	-	-	-	-	-	-	12,650 (26)	10,050 (26)	7,810 (26)	13,050 (41.5)	11,300 (41.5)	9,360 (41.5)
75	-	-	-	-	-	-	10,900 (13.5)	8,330 (13.5)	6,040 (14)	11,350 (36.5)	9,580 (36.5)	7,640 (36.5)
80	-	-	-	-	-	-	-	-	-	9,880 (30.5)	8,080 (30.5)	6,150 (30.5)
85	-	-	-	-	-	-	-	-	-	8,580 (23)	6,780 (23)	4,850 (23.5)
90	-	-	-	-	-	-	-	-	-	7,440 (10.5)	5,650 (10.5)	3,730 (11)

NOTE: ( ) Boom angles are in degrees.
*This capacity is based on maximum boom angle.
[1]Special equipment required to lift this capacity.

Boom angle	Lifting capacities at 0° boom angle											
	39.2	53.7	53.7	68.2	68.2	68.2	82.7	82.7	82.7	97.2	97.2	97.2
0°	23,850 (32.8)	15,650 (47.3)	13,100 (47.3)	10,950 (61.8)	8,940 (61.8)	6,930 (61.8)	7,910 (76.3)	6,230 (76.3)	4,550 (76.3)	5,770 (90.8)	4,330 (90.8)	2,890 (90.8)

NOTE: ( ) Reference radii in feet.
Shaded area indicates optimal lift capacity within boom length sections.

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LOAD CHART
Main Boom

 39.2 ft - 155.1 ft

 20,500 lb

 100%

 360°

 Pounds

Feet	Main boom length in feet								
	111.7	111.7	111.7	126.2	126.2	126.2	140.6	140.6	155.1
Mode	A	X	B	A	X	B	A, X	B	A, X, B
20	13,550 (79.5)	39,500 (79.5)	37,650 (79.5)	*8,520 (80)	*28,500 (80)	*29,000 (80)	-	-	-
25	13,550 (77)	39,500 (77)	37,650 (77)	8,520 (79)	28,500 (79)	29,000 (79)	*21,350 (80)	*23,300 (80)	-
30	13,550 (74)	36,400 (74)	37,150 (74)	8,520 (76.5)	28,500 (76.5)	29,000 (76.5)	21,350 (78.5)	23,300 (78.5)	18,000 (80)
35	13,550 (71.5)	32,800 (71.5)	32,300 (71.5)	8,520 (74)	28,500 (74)	29,000 (74)	21,350 (76)	23,300 (76.5)	18,000 (78)
40	13,550 (68.5)	29,800 (68.5)	28,150 (68.5)	8,520 (71.5)	27,900 (71.5)	27,050 (71.5)	21,350 (74)	23,300 (74)	18,000 (76)
45	13,550 (66)	27,250 (66)	24,750 (66)	8,520 (69)	25,350 (69)	23,900 (69)	21,350 (72)	22,700 (72)	18,000 (74)
50	13,550 (63)	22,850 (63)	21,500 (63)	8,520 (66.5)	23,050 (66.5)	21,200 (66.5)	20,650 (69.5)	20,500 (70)	18,000 (72)
55	13,550 (60)	19,150 (60)	17,850 (60)	8,520 (64)	19,500 (64)	18,350 (64)	18,950 (67.5)	18,400 (67.5)	17,450 (70)
60	13,550 (57)	16,150 (57)	15,000 (57)	8,520 (61.5)	16,550 (61.5)	15,450 (61.5)	16,950 (65)	15,950 (65.5)	15,900 (68)
65	13,550 (53.5)	13,750 (53.5)	12,650 (53.5)	8,520 (59)	14,150 (59)	13,100 (59)	14,600 (63)	13,600 (63)	14,000 (66)
70	13,350 (50)	11,750 (50)	10,700 (50)	8,520 (56)	12,200 (56)	11,150 (56)	12,650 (60.5)	11,600 (60.5)	12,000 (64)
75	11,700 (46.5)	10,050 (46.5)	9,100 (46.5)	8,520 (53)	10,500 (53)	9,540 (53)	11,000 (58)	9,960 (58)	10,350 (62)
80	10,250 (42.5)	8,630 (42.5)	7,650 (42.5)	8,520 (50)	9,120 (50)	8,080 (50)	9,610 (55.5)	8,520 (55.5)	8,960 (60)
85	9,040 (38.5)	7,380 (38.5)	6,380 (38.5)	8,520 (47)	7,890 (47)	6,830 (47)	8,400 (53)	7,290 (53)	7,740 (57.5)
90	7,910 (33.5)	6,270 (33.5)	5,240 (33.5)	8,240 (43.5)	6,820 (43.5)	5,740 (43.5)	7,350 (50)	6,210 (50.5)	6,680 (55)
95	6,920 (28)	5,290 (28)	4,240 (28)	7,290 (40)	5,880 (40)	4,780 (40)	6,420 (47.5)	5,260 (47.5)	5,750 (53)
100	6,040 (21)	4,410 (21)	3,350 (21)	6,430 (36)	5,030 (36)	3,910 (36)	5,600 (44.5)	4,420 (44.5)	4,900 (50.5)
105	5,250 (7.5)	3,640 (7.5)	2,550 (7.5)	5,660 (31.5)	4,260 (31.5)	3,130 (31.5)	4,860 (41)	3,670 (41.5)	4,140 (48)
110	-	-	-	4,970 (26)	3,570 (26)	2,430 (26)	4,180 (37.5)	2,990 (38)	3,450 (45)
115	-	-	-	4,340 (19)	2,950 (19.5)	1,790 (19.5)	3,540 (34)	2,370 (34)	2,830 (42)
120	-	-	-	-	-	-	2,960 (29.5)	1,790 (29.5)	2,270 (39)
125	-	-	-	-	-	-	2,430 (24.5)	1,260 (24.5)	1,740 (36)
130	-	-	-	-	-	-	1,950 (17.5)	-	1,250 (32)
Minimum boom angle (°) for indicated length (no load)						18.5°	16.5°	23.5°	31°
Maximum boom length (ft) at 0° boom angle (no load)									111.7 ft

NOTE: ( ) Boom angles are in degrees.
*This capacity is based on maximum boom angle.

Boom angle	Lifting capacities at 0° boom angle								
	111.7	111.7	111.7	126.2	126.2	126.2	140.6	140.6	155.1
0°	4,190 (105.2)	2,920 (105.2)	1,650 (105.2)	2,970 (119.7)	1,840 (119.7)	-	-	-	-

NOTE: ( ) Reference radii in feet.
Shaded area indicates optimal lift capacity within boom length sections.

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LOAD CHART
Main Boom - MAXbase

 39.2 ft - 155.1ft

 20,500 lb

 100%

 360°

 MAXbase

 Pounds

Feet	Main boom length in feet											
	39.2	53.7	53.7	68.2	68.2	68.2	82.7	82.7	82.7	97.2	97.2	97.2
Mode	A, X, B	A	X, B	A	X	B	A	X	B	A	X	B
10	135,500	47,050	118,000	46,500	57,850	37,950						
12	120,500	47,050	118,000	46,500	57,850	37,950	46,350	57,700	37,800			
15	103,500	47,050	103,000	46,500	57,850	37,950	46,350	57,700	37,800	29,000	55,450	37,700
20	80,950	47,050	79,900	46,500	57,850	37,950	46,350	57,700	37,800	29,000	55,450	37,700
25	61,050	47,050	60,100	46,500	57,850	37,950	46,350	57,700	37,800	29,000	55,450	37,700
30	48,000	47,050	47,100	46,500	49,100	37,950	45,300	50,350	37,800	29,000	50,100	37,700
35		41,150	37,900	42,400	39,900	37,350	40,450	41,150	35,950	29,000	42,000	33,850
40		34,300	31,100	35,550	33,050	30,550	36,350	34,300	31,200	27,050	35,150	29,450
45		28,950	25,750	30,250	27,750	25,300	31,050	29,000	26,950	24,600	29,850	25,850
50				26,000	23,550	21,100	26,800	24,800	22,750	22,550	25,650	22,850
55				22,550	20,100	17,650	23,350	21,350	19,350	20,750	22,200	20,350
60				19,700	17,250	14,800	20,500	18,500	16,500	19,200	19,350	17,600
65							18,100	16,050	14,100	17,900	16,900	15,200
70							16,000	14,000	12,000	16,550	14,850	13,150
75							14,200	12,200	10,200	14,750	13,050	11,400
80										13,200	11,450	9,810
85										11,700	10,000	8,380
90										10,400	8,720	7,090

Boom angle	Lifting capacities at 0° boom angle											
	39.2	53.7	53.7	68.2	68.2	68.2	82.7	82.7	82.7	97.2	97.2	97.2
0°	23,850	15,650	13,100	10,950	8,940	6,930	7,910	6,230	4,550	5,770	4,330	2,890

NOTE: ( ) Reference radii in feet.
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LOAD CHART
Main Boom - MAXbase

 39.2 ft - 155.1ft

 20,500 lb

 100%

 360°

 MAXbase

 Pounds

Feet	Main boom length in feet								
	111.7	111.7	111.7	126.2	126.2	126.2	140.6	140.6	155.1
Mode	A	X	B	A	X	B	A, X	B	A, X, B
20	13,550	39,500	37,650	8,520	28,500	29,000			
25	13,550	39,500	37,650	8,520	28,500	29,000	21,350	23,300	
30	13,550	36,400	37,150	8,520	28,500	29,000	21,350	23,300	18,000
35	13,550	32,800	32,300	8,520	28,500	29,000	21,350	23,300	18,000
40	13,550	29,800	28,150	8,520	27,900	27,050	21,350	23,300	18,000
45	13,550	27,250	24,750	8,520	25,350	23,900	21,350	22,700	18,000
50	13,550	25,100	21,900	8,520	23,050	21,200	20,650	20,500	18,000
55	13,550	22,800	19,500	8,520	21,000	18,850	18,950	18,400	17,450
60	13,550	19,950	17,450	8,520	19,200	16,900	17,450	16,450	15,900
65	13,550	17,550	15,650	8,520	17,650	15,150	16,100	14,800	14,500
70	13,550	15,450	14,000	8,520	15,950	13,650	14,900	13,350	13,100
75	13,550	13,650	12,200	8,520	14,000	12,350	13,800	12,050	11,850
80	12,600	11,950	10,500	8,520	12,300	11,050	12,650	10,900	10,700
85	11,700	10,500	9,090	8,520	10,850	9,630	11,150	9,900	9,730
90	10,700	9,250	7,840	8,520	9,600	8,370	9,900	8,780	8,820
95	9,600	8,140	6,750	8,520	8,490	7,270	8,790	7,680	7,990
100	8,600	7,150	5,760	8,430	7,510	6,310	7,800	6,710	7,010
105	7,620	6,260	4,880	7,860	6,640	5,450	6,930	5,840	6,140
110				7,140	5,860	4,670	6,150	5,070	5,360
115				6,410	5,140	3,960	5,440	4,370	4,660
120							4,810	3,750	4,030
125							4,220	3,160	3,460
130							3,680	2,630	2,940
135									2,460
140									2,000
145									1,590

Boom angle	Lifting capacities at 0° boom angle								
	111.7	111.7	111.7	126.2	126.2	126.2	140.6	140.6	155.1
0°	4,190	2,920	1,650	2,970	1,840	-	-	-	-

NOTE: ( ) Reference radii in feet.
Shaded area indicates optimal lift capacity within boom length sections.

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LOAD CHART
Manual Extension

 155.1 ft

 33 ft - 56 ft

 20,500 lb

 100%

 360°

 Pounds

Feet	33 ft length			56 ft length		
	0° offset	25° offset	45° offset	0° offset	25° offset	45° offset
35	9,080 (80)	-	-	-	-	-
40	9,080 (78.5)	-	-	5,470 (80)	-	-
45	9,080 (77)	-	-	5,470 (79)	-	-
50	9,080 (75.5)	9,140 (80)	-	5,470 (77.5)	-	-
55	9,080 (74)	9,140 (78.5)	6,400 (80)	5,470 (76.5)	-	-
60	9,080 (72.5)	9,140 (77)	6,260 (78.5)	5,470 (75)	-	-
65	9,080 (71)	9,140 (75.5)	6,140 (77)	5,470 (74)	5,080 (80)	-
70	9,080 (69.5)	9,140 (74)	6,030 (75.5)	5,470 (72.5)	4,940 (78.5)	-
75	9,080 (68)	9,010 (72)	5,920 (74.5)	5,470 (71)	4,800 (77.5)	3,000 (80)
80	9,080 (66.5)	8,820 (70.5)	5,830 (73)	5,470 (70)	4,670 (76.5)	2,930 (79)
85	8,070 (65)	8,630 (69)	5,740 (71.5)	5,470 (68.5)	4,550 (75)	2,870 (77.5)
90	6,980 (63)	8,460 (67.5)	5,650 (69)	5,470 (67)	4,430 (73.5)	2,810 (76.5)
95	6,030 (61.5)	7,490 (65.5)	5,580 (67)	5,470 (66)	4,330 (72)	2,760 (75)
100	5,180 (59.5)	6,470 (63.5)	5,510 (65)	5,470 (64.5)	4,230 (70.5)	2,710 (73.5)
105	4,420 (57.5)	5,530 (61)	5,450 (63)	5,440 (63)	4,130 (68.5)	2,660 (72)
110	3,740 (55.5)	4,700 (59)	5,010 (60.5)	4,720 (61.5)	4,040 (67)	2,620 (70)
115	3,120 (53.5)	3,940 (57)	4,300 (58.5)	4,080 (60)	3,960 (65)	2,580 (68)
120	2,570 (51.5)	3,250 (54.5)	3,630 (56)	3,490 (58)	3,880 (63.5)	2,540 (66)
125	2,060 (49.5)	2,630 (52.5)	3,000 (53.5)	2,950 (56.5)	3,810 (61.5)	2,510 (64)
130	1,590 (47)	2,060 (50)	2,410 (51.5)	2,430 (54.5)	3,460 (59.5)	2,480 (62)
135	1,170 (45)	1,530 (48)	1,880 (49)	1,950 (52.5)	2,900 (57.5)	2,460 (60)
140	-	1,040 (45.5)	-	1,510 (51)	2,360 (56)	2,430 (58)
145	-	-	-	1,100 (49)	1,860 (54)	2,120 (56)
150	-	-	-	-	1,390 (51.5)	1,650 (53.5)
155	-	-	-	-	-	1,220 (51)
Min. boom angle for indicated length (no load)	44°	44.5°	48°	48°	50.5°	50°
Max. boom length at 0° boom angle (no load)	97.2 ft			82.7 ft		

NOTE: ( ) Boom angles are in degrees.

1. 33 ft and 56 ft folding boom extension lengths may be used for single line lifting service only.
2. For main boom lengths less than 141 ft with the boom extension erected, the rated loads are determined by boom angle. Use only the column that corresponds to the boom extension length and offset for which the machine is set up. For boom angles not shown, use rating of the next lower boom angle.
3. WARNING: Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
4. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
5. Capacities listed are with outriggers properly extended and vertical jacks set only.
6. When lifting over the main boom nose with 33 ft or 56 ft extension erected, the outriggers must be fully extended.

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.
The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane

LOAD CHART
Pick and Carry

 39.2 ft - 155.1 ft

 20,500 lb

 Pick and carry up to 1 mph
23.5 x 25 tires

 Boom over front

Boom centered over front				
Radius in feet	Main boom length in feet			
	39.2	53.7	68.2	82.7
Mode	A	A	A	A
12	33,500 (67)	31,350 (73.5)	22,600 (77.5)	-
15	26,300 (61.5)	26,050 (70.5)	21,000 (75)	21,000 (77.5)
20	18,800 (52.5)	19,700 (64.5)	19,950 (70.5)	18,200 (74)
25	14,100 (42)	15,250 (58)	15,900 (66)	13,800 (70.5)
30	10,950 (27)	11,950 (51)	12,700 (61)	12,550 (66.5)
35	-	9,410 (43.5)	10,150 (56)	10,200 (63)
40	-	7,390 (34)	8,050 (50.5)	8,320 (58.5)
45	-	5,740 (21)	6,300 (44.5)	6,710 (54.5)
50	-	-	4,810 (37.5)	5,340 (50)
55	-	-	3,540 (29)	4,160 (45)
60	-	-	2,430 (16.5)	3,130 (39.5)
65	-	-	-	2,230 (33)
70	-	-	-	1,440 (25.5)
Minimum boom angle (°) for indicated length (no load)				24.5°
Maximum boom length at 0° boom angle (no load) - X mode				68.2 ft

NOTE: ( ) Boom angles are in degrees.
*This capacity is based on maximum boom angle.

1. Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J765.
2. Capacities are applicable to machines equipped with Titan ND LCM or Maitech MT212+ E-3/L-3 - 23.5x25 (36 ply) tires, at 102 psi (7.0 BAR)..
3. Capacities are applicable only with machine on firm level surface.
4. On rubber lifting with boom extension not permitted.
5. For pick and carry operation, boom must be centered over front of machine, mechanical swing lock engaged and load restrained from swinging.
6. Axle lockouts must be functioning when lifting on rubber.
7. All lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressures. See lifting capacity chart for tire used. Damaged tires are hazardous to safe operation of crane.
8. Creep — not over 200 ft of movement in any 30 minute period and not exceeding 1 mph.

Boom angle	Lifting capacities at 0° boom angle			
	39.2	53.7	68.2	82.7
0°	9,160 (32.8)	4,980 (47.3)	2,030 (61.8)	-

NOTE: ( ) Reference radii in feet.

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LOAD CHART
Stationary

 39.2 ft - 155.1 ft

 20,500 lb

 Stationary

 360°

Stationary capacities				
Radius in feet	Main boom length in feet			
	39.2	53.7	68.2	82.7
Mode	A	A	A	A
15	29,350 (61.5)	-	-	-
20	20,000 (52.5)	21,700 (64.5)	22,650 (70.5)	-
25	13,300 (42)	15,750 (58)	16,600 (66)	17,450 (70.5)
30	8,820 (27)	11,100 (51)	11,900 (61)	12,750 (66.5)
35	-	7,910 (43.5)	8,700 (56)	9,560 (63)
40	-	5,610 (34)	6,380 (50.5)	7,170 (58.5)
45	-	3,880 (21)	4,640 (44.5)	5,360 (54.5)
50	-	-	3,290 (37.5)	3,940 (50)
55	-	-	2,210 (29)	2,800 (45)
60	-	-	1,330 (16.5)	1,870 (45)
65	-	-	-	1,090 (33)
Minimum boom angle (°) for indicated length (no load)				32°
Maximum boom length at 0° boom angle (no load)				68.2 ft

NOTE: ( ) Boom angles are in degrees.
*This capacity is based on maximum boom angle.

Boom angle	Lifting capacities at 0° boom angle			
	39.2	53.7	68.2	82.7
0°	6,960 (32.8)	3,190 (47.3)	1,040 (61.8)	-

NOTE: ( ) Reference radii in feet.

1. Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J765.
2. Capacities are applicable to machines equipped with Titan ND LCM or Maitech MT212+ E-3/L-3 - 23.5x25 (36 ply) tires, at 102 psi (7.0 BAR).
3. Capacities are applicable only with machine on firm level surface.
4. On rubber lifting with boom extension not permitted.
5. For pick and carry operation, boom must be centered over front of machine, mechanical swing lock engaged and load restrained from swinging.
6. Axle lockouts must be functioning when lifting on rubber.
7. All lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressures. See lifting capacity chart for tire used. Damaged tires are hazardous to safe operation of crane.
8. Creep — not over 200 ft of movement in any 30 minute period and not exceeding 1 mph.

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LOAD CHART
Main Boom

 39.2 ft - 155.1 ft

 17,500 lb

 100%

 360°

 Pounds

Feet	Main boom length in feet											
	39.2	53.7	53.7	68.2	68.2	68.2	82.7	82.7	82.7	97.2	97.2	97.2
Mode	A, X, B	A	X, B	A	X	B	A	X	B	A	X	B
8	160,000[1] (73.5)	46,650 (78.5)	117,500 (78.5)	-	-	-	-	-	-	-	-	-
10	134,500 (70.5)	46,650 (76.5)	117,500 (76.5)	46,500 (79.5)	57,850 (80)	37,950 (80)	-	-	-	-	-	-
12	120,000 (67)	46,650 (74)	117,500 (74)	46,500 (78)	57,850 (78)	37,950 (78)	*46,350 (80)	*57,700 (80)	*37,800 (80)	-	-	-
15	102,500 (62)	46,650 (70.5)	102,000 (70.5)	46,500 (75.5)	57,850 (75.5)	37,950 (75.5)	46,350 (78.5)	57,700 (78.5)	37,800 (78.5)	*29,000 (80)	*55,450 (80)	*37,700 (80)
20	78,650 (53)	46,650 (64.5)	77,650 (64.5)	46,500 (71)	57,850 (71)	37,950 (71)	46,350 (74.5)	57,700 (74.5)	37,800 (75)	29,000 (77.5)	55,450 (77.5)	37,700 (77.5)
25	59,300 (42.5)	46,650 (58.5)	58,350 (58.5)	46,500 (66)	57,850 (66.5)	37,950 (66.5)	46,350 (71)	57,700 (71)	37,800 (71)	29,000 (74.5)	55,450 (74.5)	37,700 (74.5)
30	46,550 (27.5)	46,650 (51.5)	45,650 (51.5)	46,500 (61.5)	47,650 (61.5)	37,950 (61.5)	45,300 (67)	48,900 (67)	37,800 (67.5)	29,000 (71.5)	49,800 (71.5)	37,700 (71.5)
35	-	39,500 (44)	36,050 (44)	40,750 (56.5)	37,500 (56.5)	34,900 (56.5)	40,450 (63.5)	38,750 (63.5)	35,950 (63.5)	29,000 (68)	40,050 (68)	33,850 (68)
40	-	30,250 (34.5)	27,350 (34.5)	32,050 (51)	28,850 (51)	26,600 (51)	32,900 (59.5)	30,100 (59.5)	27,850 (59.5)	27,050 (64.5)	31,350 (64.5)	29,100 (65)
45	-	23,700 (21.5)	21,150 (21.5)	25,650 (45)	22,800 (45)	20,750 (45)	26,750 (55)	24,050 (55)	21,950 (55)	24,600 (61.5)	25,250 (61.5)	23,150 (61.5)
50	-	-	-	20,900 (38)	18,250 (38)	16,300 (38)	22,200 (50.5)	19,550 (50.5)	17,600 (50.5)	22,400 (58)	20,750 (58)	18,700 (58)
55	-	-	-	17,150 (29.5)	14,650 (29.5)	12,500 (29.5)	18,650 (45.5)	16,050 (45.5)	14,000 (45.5)	18,900 (54)	17,300 (54)	15,300 (54)
60	-	-	-	14,200 (17)	11,800 (17)	9,530 (17)	15,850 (40)	13,250 (40)	11,100 (40)	16,100 (50)	14,450 (50)	12,500 (50.5)
65	-	-	-	-	-	-	13,550 (34)	10,900 (34)	8,720 (34)	13,850 (46)	12,100 (46)	10,150 (46)
70	-	-	-	-	-	-	11,600 (26)	8,970 (26)	6,720 (26)	12,000 (41.5)	10,200 (41.5)	8,260 (41.5)
75	-	-	-	-	-	-	9,900 (13.5)	7,320 (13.5)	5,040 (14)	10,350 (36.5)	8,570 (36.5)	6,630 (36.5)
80	-	-	-	-	-	-	-	-	-	8,950 (30.5)	7,140 (30.5)	5,210 (30.5)
85	-	-	-	-	-	-	-	-	-	7,710 (23)	5,910 (23)	3,990 (23.5)
90	-	-	-	-	-	-	-	-	-	6,620 (10.5)	4,830 (10.5)	2,910 (11)

NOTE: ( ) Boom angles are in degrees.
*This capacity is based on maximum boom angle.
[1]Special equipment required to lift this capacity.

Boom angle	Lifting capacities at 0° boom angle											
	39.2	53.7	53.7	68.2	68.2	68.2	82.7	82.7	82.7	97.2	97.2	97.2
0°	23,850 (32.8)	15,650 (47.3)	13,100 (47.3)	10,950 (61.8)	8,940 (61.8)	6,930 (61.8)	7,910 (76.3)	6,230 (76.3)	4,550 (76.3)	5,770 (90.8)	4,330 (90.8)	2,760 (90.8)

NOTE: ( ) Reference radii in feet.
Shaded area indicates optimal lift capacity within boom length sections.

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LOAD CHART
Main Boom

 39.2 ft - 155.1 ft

 17,500 lb

 100%

 360°

 Pounds

Feet	Main boom length in feet								
	111.7	111.7	111.7	126.2	126.2	126.2	140.6	140.6	155.1
Mode	A	X	B	A	X	B	A, X	B	A, X, B
20	13,550 (79.5)	39,500 (79.5)	37,650 (79.5)	*8,520 (80)	*28,500 (80)	*29,000 (80)	-	-	-
25	13,550 (77)	39,500 (77)	37,650 (77)	8,520 (79)	28,500 (79)	29,000 (79)	*21,350 (80)	*23,300 (80)	-
30	13,550 (74)	36,400 (74)	37,150 (74)	8,520 (76.5)	28,500 (76.5)	29,000 (76.5)	21,350 (78.5)	23,300 (78.5)	18,000 (80)
35	13,550 (71.5)	32,800 (71.5)	32,300 (71.5)	8,520 (74)	28,500 (74)	29,000 (74)	21,350 (76)	23,300 (76.5)	18,000 (78)
40	13,550 (68.5)	29,800 (68.5)	28,150 (68.5)	8,520 (71.5)	27,900 (71.5)	27,050 (71.5)	21,350 (74)	23,300 (74)	18,000 (76)
45	13,550 (66)	25,800 (66)	24,300 (66)	8,520 (69)	25,350 (69)	23,900 (69)	21,350 (72)	22,700 (72)	18,000 (74)
50	13,550 (63)	21,250 (63)	19,850 (63)	8,520 (66.5)	21,550 (66.5)	20,250 (66.5)	20,650 (69.5)	20,500 (70)	18,000 (72)
55	13,550 (60)	17,700 (60)	16,400 (60)	8,520 (64)	18,050 (64)	16,900 (64)	18,400 (67.5)	17,400 (67.5)	17,450 (70)
60	13,550 (57)	14,850 (57)	13,700 (57)	8,520 (61.5)	15,250 (61.5)	14,150 (61.5)	15,600 (65)	14,650 (65.5)	15,050 (68)
65	13,550 (53.5)	12,550 (53.5)	11,500 (53.5)	8,520 (59)	12,950 (59)	11,950 (59)	13,400 (63)	12,400 (63)	12,800 (66)
70	12,250 (50)	10,650 (50)	9,660 (50)	8,520 (56)	11,100 (56)	10,100 (56)	11,550 (60.5)	10,500 (60.5)	10,900 (64)
75	10,700 (46.5)	9,060 (46.5)	8,110 (46.5)	8,520 (53)	9,530 (53)	8,530 (53)	10,000 (58)	8,950 (58)	9,370 (62)
80	9,350 (42.5)	7,700 (42.5)	6,710 (42.5)	8,520 (50)	8,190 (50)	7,150 (50)	8,680 (55.5)	7,590 (55.5)	8,030 (60)
85	8,170 (38.5)	6,520 (38.5)	5,510 (38.5)	8,440 (47)	7,020 (47)	5,960 (47)	7,530 (53)	6,420 (53)	6,880 (57.5)
90	7,100 (33.5)	5,450 (33.5)	4,420 (33.5)	7,420 (43.5)	6,010 (43.5)	4,930 (43.5)	6,530 (50)	5,400 (50.5)	5,870 (55)
95	6,150 (28)	4,520 (28)	3,470 (28)	6,530 (40)	5,120 (40)	4,020 (40)	5,650 (47.5)	4,500 (47.5)	4,980 (53)
100	5,310 (21)	3,690 (21)	2,630 (21)	5,710 (36)	4,310 (36)	3,190 (36)	4,870 (44.5)	3,700 (44.5)	4,170 (50.5)
105	4,570 (7.5)	2,950 (7.5)	1,870 (7.5)	4,980 (31.5)	3,580 (31.5)	2,450 (31.5)	4,180 (41)	2,990 (41.5)	3,450 (48)
110	-	-	-	4,320 (26)	2,930 (26)	1,780 (26)	3,530 (37.5)	2,350 (38)	2,800 (45)
115	-	-	-	3,730 (19)	2,330 (19.5)	1,170 (19.5)	2,920 (34)	1,750 (34)	2,210 (42)
120	-	-	-	-	-	-	2,370 (29.5)	1,200 (29.5)	1,680 (39)
125	-	-	-	-	-	-	1,870 (24.5)	-	1,170 (36)
130	-	-	-	-	-	-	1,410 (17.5)	-	-
Minimum boom angle (°) for indicated length (no load)						18.5°	16.5°	28.5°	35°
Maximum boom length (ft) at 0° boom angle (no load)						111.7 ft			

NOTE: ( ) Boom angles are in degrees.
*This capacity is based on maximum boom angle.

Boom angle	Lifting capacities at 0° boom angle								
	111.7	111.7	111.7	126.2	126.2	126.2	140.6	140.6	155.1
0°	4,190 (105.2)	2,920 (105.2)	1,650 (105.2)	2,970 (119.7)	1,810 (119.7)	-	-	-	-

NOTE: ( ) Reference radii in feet.
Shaded area indicates optimal lift capacity within boom length sections.

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LOAD CHART
Main Boom - MAXbase

 39.2 ft - 155.1ft

 17,500 lb

 100%

 360°

 MAXbase

 Pounds

Feet	Main boom length in feet											
	39.2	53.7	53.7	68.2	68.2	68.2	82.7	82.7	82.7	97.2	97.2	97.2
Mode	A, X, B	A	X, B	A	X	B	A	X	B	A	X	B
10	134,500	47,050	118,000	46,500	57,850	37,950						
12	120,000	47,050	118,000	46,500	57,850	37,950	46,350	57,700	37,800			
15	103,000	47,050	102,500	46,500	57,850	37,950	46,350	57,700	37,800	29,000	55,450	37,700
20	78,700	47,050	77,700	46,500	57,850	37,950	46,350	57,700	37,800	29,000	55,450	37,700
25	59,300	47,050	58,350	46,500	57,850	37,950	46,350	57,700	37,800	29,000	55,450	37,700
30	46,550	47,050	45,650	46,500	47,650	37,950	45,300	48,900	37,800	29,000	49,800	37,700
35		39,900	36,700	41,200	38,650	36,150	40,450	39,900	35,950	29,000	40,800	33,850
40		33,200	30,000	34,450	31,950	29,500	35,300	33,200	31,150	27,050	34,050	29,450
45		28,000	24,800	29,300	26,800	24,350	30,100	28,050	26,000	24,600	28,900	25,850
50				25,150	22,700	20,250	25,950	23,900	21,900	22,550	24,750	22,850
55				21,800	19,350	16,900	22,600	20,550	18,550	20,750	21,400	19,700
60				18,950	16,500	14,050	19,800	17,750	15,750	19,200	18,600	16,900
65							17,450	15,400	13,350	17,900	16,150	14,400
70							15,250	13,200	11,150	15,700	13,900	12,200
75							13,300	11,250	9,240	13,750	12,000	10,300
80										12,150	10,400	8,760
85										10,750	9,020	7,370
90										9,490	7,780	6,150

Boom angle	Lifting capacities at 0° boom angle											
	39.2	53.7	53.7	68.2	68.2	68.2	82.7	82.7	82.7	97.2	97.2	97.2
0°	23,850	15,650	13,100	10,950	8,940	6,930	7,910	6,230	4,550	5,770	4,330	2,890

NOTE: ( ) Reference radii in feet.
Shaded area indicates optimal lift capacity within boom length sections.

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LOAD CHART
Main Boom - MAXbase

 39.2 ft - 155.1ft

 17,500 lb

 100%

 360°

 MAXbase

 Pounds

Feet	Main boom length in feet								
	111.7	111.7	111.7	126.2	126.2	126.2	140.6	140.6	155.1
Mode	A	X	B	A	X	B	A, X	B	A, X, B
20	13,550	39,500	37,650	8,520	28,500	29,000			
25	13,550	39,500	37,650	8,520	28,500	29,000	21,350	23,300	
30	13,550	36,400	37,150	8,520	28,500	29,000	21,350	23,300	18,000
35	13,550	32,800	32,300	8,520	28,500	29,000	21,350	23,300	18,000
40	13,550	29,800	28,150	8,520	27,900	27,050	21,350	23,300	18,000
45	13,550	27,250	24,750	8,520	25,350	23,900	21,350	22,700	18,000
50	13,550	25,100	21,900	8,520	23,050	21,200	20,650	20,500	18,000
55	13,550	22,050	19,500	8,520	21,000	18,850	18,950	18,400	17,450
60	13,550	19,250	17,450	8,520	19,200	16,900	17,450	16,450	15,900
65	13,550	16,700	15,150	8,520	17,100	15,150	16,100	14,800	14,500
70	13,550	14,400	12,900	8,520	14,800	13,500	14,900	13,350	13,100
75	13,550	12,500	11,050	8,520	12,900	11,600	13,200	12,050	11,850
80	12,400	10,900	9,470	8,520	11,250	10,000	11,550	10,400	10,700
85	11,000	9,530	8,110	8,520	9,890	8,650	10,200	9,060	9,380
90	9,800	8,330	6,920	8,520	8,680	7,460	8,990	7,870	8,180
95	8,740	7,280	5,880	8,520	7,630	6,410	7,930	6,820	7,130
100	7,770	6,320	4,930	8,000	6,700	5,500	6,990	5,900	6,200
105	6,920	5,480	4,100	7,160	5,880	4,680	6,160	5,080	5,380
110				6,400	5,120	3,930	5,420	4,340	4,640
115				5,710	4,430	3,250	4,760	3,680	3,980
120							4,150	3,080	3,380
125							3,580	2,520	2,830
130							3,070	2,010	2,340
135									1,870
140									1,440
145									1,050

Boom angle	Lifting capacities at 0° boom angle								
	111.7	111.7	111.7	126.2	126.2	126.2	140.6	140.6	155.1
0°	4,190	2,920	1,650	2,970	1,840	-	-	-	-

NOTE: ( ) Reference radii in feet.
Shaded area indicates optimal lift capacity within boom length sections.

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LOAD CHART
Manual Extension

 155.1 ft

 33 ft - 56 ft

 17,500 lb

 100%

 360°

 Pounds

Feet	33 ft length			56 ft length		
	0° offset	25° offset	45° offset	0° offset	25° offset	45° offset
35	9,080 (80)	-	-	-	-	-
40	9,080 (78.5)	-	-	5,470 (80)	-	-
45	9,080 (77)	-	-	5,470 (79)	-	-
50	9,080 (75.5)	9,140 (80)	-	5,470 (77.5)	-	-
55	9,080 (74)	9,140 (78.5)	6,400 (80)	5,470 (76.5)	-	-
60	9,080 (72.5)	9,140 (77)	6,260 (78.5)	5,470 (75)	-	-
65	9,080 (71)	9,140 (75.5)	6,140 (77)	5,470 (74)	5,080 (80)	-
70	9,080 (69.5)	9,140 (74)	6,030 (75.5)	5,470 (72.5)	4,940 (78.5)	-
75	9,080 (68)	9,010 (72)	5,920 (74.5)	5,470 (71)	4,800 (77.5)	3,000 (80)
80	8,390 (66.5)	8,820 (70.5)	5,830 (73)	5,470 (70)	4,670 (76.5)	2,930 (79)
85	7,200 (65)	8,630 (69)	5,740 (71.5)	5,470 (68.5)	4,550 (75)	2,870 (77.5)
90	6,170 (63)	7,780 (67.5)	5,650 (69)	5,470 (67)	4,430 (73.5)	2,810 (76.5)
95	5,260 (61.5)	6,730 (65.5)	5,580 (67)	5,470 (66)	4,330 (72)	2,760 (75)
100	4,460 (59.5)	5,740 (63.5)	5,510 (65)	5,470 (64.5)	4,230 (70.5)	2,710 (73.5)
105	3,740 (57.5)	4,850 (61)	5,110 (63)	4,760 (63)	4,130 (68.5)	2,660 (72)
110	3,090 (55.5)	4,050 (59)	4,360 (60.5)	4,080 (61.5)	4,040 (67)	2,620 (70)
115	2,510 (53.5)	3,320 (57)	3,690 (58.5)	3,460 (60)	3,960 (65)	2,580 (68)
120	1,980 (51.5)	2,670 (54.5)	3,040 (56)	2,900 (58)	3,880 (63.5)	2,540 (66)
125	1,500 (49.5)	2,070 (52.5)	2,430 (53.5)	2,390 (56.5)	3,520 (61.5)	2,510 (64)
130	1,060 (47)	1,520 (50)	1,880 (51.5)	1,890 (54.5)	2,920 (59.5)	2,480 (62)
135	-	1,010 (48)	1,360 (49)	1,430 (52.5)	2,380 (57.5)	2,460 (60)
140	-	-	-	1,010 (51)	1,860 (56)	2,140 (58)
145	-	-	-	-	1,380 (54)	1,650 (56)
150	-	-	-	-	-	1,190 (53.5)
Min. boom angle for indicated length (no load)	46°	47°	48°	50°	53°	52.5°
Max. boom length at 0° boom angle (no load)	97.2 ft			82.7 ft		

NOTE: ( ) Boom angles are in degrees.

1. 33 ft and 56 ft folding boom extension lengths may be used for single line lifting service only.
2. For main boom lengths less than 141 ft with the boom extension erected, the rated loads are determined by boom angle. Use only the column that corresponds to the boom extension length and offset for which the machine is set up. For boom angles not shown, use rating of the next lower boom angle.
3. WARNING: Operation of this machine with heavier loads than the capacities listed is strictly prohibited. Machine tipping with boom extension occurs rapidly and without advance warning.
4. Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
5. Capacities listed are with outriggers properly extended and vertical jacks set only.
6. When lifting over the main boom nose with 33 ft or 56 ft extension erected, the outriggers must be fully extended.

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LOAD CHART
Pick and Carry

 39.2 ft - 155.1 ft

 17,500 lb

 Pick and carry up to 1 mph
23.5 x 25 tires

 Boom over front

Boom centered over front				
Radius in feet	Main boom length in feet			
	39.2	53.7	68.2	82.7
Mode	A	A	A	A
12	29,850 (67)	28,350 (73.5)	21,650 (77.5)	-
15	25,000 (61.5)	24,050 (70.5)	21,000 (75)	16,850 (77.5)
20	18,750 (52.5)	18,650 (64.5)	18,900 (70.5)	15,950 (74)
25	13,950 (42)	14,650 (58)	15,200 (66)	13,800 (70.5)
30	10,200 (27)	11,600 (51)	12,250 (61)	12,100 (66.5)
35	-	9,230 (43.5)	9,920 (56)	9,890 (63)
40	-	7,280 (34)	7,960 (50.5)	8,060 (58.5)
45	-	5,670 (21)	6,310 (44.5)	6,550 (54.5)
50	-	-	4,900 (37.5)	5,280 (50)
55	-	-	3,690 (29)	4,180 (45)
60	-	-	2,630 (16.5)	3,240 (39.5)
65	-	-	-	2,420 (33)
70	-	-	-	1,690 (25.5)
75	-	-	-	1,040 (13)
Minimum boom angle (°) for indicated length (no load)				12°
Maximum boom length at 0° boom angle (no load) - X mode				68.2 ft

NOTE: ( ) Boom angles are in degrees.
*This capacity is based on maximum boom angle.

Boom angle	Lifting capacities at 0° boom angle			
	39.2	53.7	68.2	82.7
0°	8,100 (32.8)	4,930 (47.3)	2,250 (61.8)	-

NOTE: ( ) Reference radii in feet.

1. Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J765.
2. Capacities are applicable to machines equipped with Titan ND LCM or Maitech MT212+ E-3/L-3 - 23.5x25 (36 ply) tires, at 102 psi (7.0 bar).
3. Capacities are applicable only with machine on firm level surface.
4. On rubber lifting with boom extension not permitted.
5. For pick and carry operation, boom must be centered over front of machine, mechanical swing lock engaged and load restrained from swinging.
6. Axle lockouts must be functioning when lifting on rubber.
7. All lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressures. See lifting capacity chart for tire used. Damaged tires are hazardous to safe operation of crane.
8. Creep — not over 200 ft of movement in any 30 minute period and not exceeding 1 mph.

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LOAD CHART
Stationary

 39.2 ft - 155.1 ft

 17,500 lb

 Stationary

 360°

Stationary capacities				
Radius in feet	Main boom length in feet			
	39.2	53.7	68.2	82.7
Mode	A	A	A	A
15	30,150 (61.5)	29,050 (70.5)	-	-
20	18,650 (52.5)	21,350 (64.5)	22,450 (70.5)	22,150 (74)
25	11,850 (42)	14,400 (58)	15,550 (66)	15,650 (70.5)
30	7,680 (27)	9,970 (51)	10,850 (61)	11,200 (66.5)
35	-	6,830 (43.5)	7,620 (56)	8,160 (63)
40	-	4,510 (34)	5,270 (50.5)	5,890 (58.5)
45	-	2,730 (21)	3,500 (44.5)	4,170 (54.5)
50	-	-	2,110 (37.5)	2,830 (50)
55	-	-	1,000 (29)	1,750 (45)
Minimum boom angle (°) for indicated length (no load)			28°	44°
Maximum boom length at 0° boom angle (no load)		53.7 ft		

NOTE: ( ) Boom angles are in degrees.
*This capacity is based on maximum boom angle.

1. Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J765.
2. Capacities are applicable to machines equipped with Titan ND LCM or Maitech MT212+ E-3/L-3 - 23.5x25 (36 ply) tires, at 102 psi (7.0 bar).
3. Capacities are applicable only with machine on firm level surface.
4. On rubber lifting with boom extension not permitted.
5. For pick and carry operation, boom must be centered over front of machine, mechanical swing lock engaged and load restrained from swinging.
6. Axle lockouts must be functioning when lifting on rubber.
7. All lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressures. See lifting capacity chart for tire used. Damaged tires are hazardous to safe operation of crane.
8. Creep — not over 200 ft of movement in any 30 minute period and not exceeding 1 mph.

Boom angle	Lifting capacities at 0° boom angle			
	39.2	53.7	68.2	82.7
0°	5,940 (32.8)	2,030 (47.3)	-	-

NOTE: ( ) Reference radii in feet.

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RIGGING CHARTS

Installation and removal of optional hydraulic removable counterweight on outriggers fully extended				
Radius in feet	**Main boom length in feet**			
	39.2	**53.7**	**68.2**	**82.7**
Mode	A	A	A	A
8	147,500 (73.5)	46,650 (78.5)	-	-
10	130,000 (70.5)	46,650 (76.5)	46,500 (79.5)	-
12	116,000 (67)	46,650 (74)	46,500 (78)	*46,350 (80)
15	94,400 (62)	46,650 (70.5)	46,500 (75.5)	46,350 (78.5)
20	65,750 (53)	46,650 (64.5)	46,500 (71)	46,350 (74.5)
25	46,300 (42.5)	46,650 (58.5)	46,500 (66)	46,350 (71)
30	30,750 (27.5)	32,900 (51.5)	34,300 (61.5)	35,450 (67)
35	-	23,350 (44)	24,850 (56.5)	26,100 (63.5)
40	-	17,000 (34.5)	18,750 (51)	20,000 (59.5)
45	-	12,450 (21.5)	14,400 (45)	15,700 (55)
50	-	-	"11,150 (38)	12,550 (50.5)
55	-	-	8,550 (29.5)	10,100 (45.5)
60	-	-	6,480 (17)	8,160 (40)
65	-	-	-	6,550 (34)
70	-	-	-	5,180 (26)
75	-	-	-	4,000 (13.5)
Minimum boom angle (°) for indicated length (no load)				33°
Maximum boom length at 0° boom angle (no load)				68.2 ft

NOTE: ( ) Boom angles are in degrees.
*This capacity is based on maximum boom angle.

Loading and unloading - on rubber (0 lb counterweight)	
Radius in feet	**Main boom length in feet**
	39.2
Mode	A
12	5,400 (67)"
15	5,400 (61.5)
20	5,400 (52.5)
25	5,400 (42)
30	5,400 (27)
Min. boom angle for indicated length (no load)	0°
Max. boom length at 0° boom angle (no load)	39.2 ft

Note: ( ) Boom angles are in degrees

Boom angle	Lifting capacities at 0° boom angle
	39.2
0°	5,400 (32.8)

Note: ( ) Reference radii in feet.
For loading and unloading, the boom must be centered over front of machine and mechanical swing lock engaged.

Boom angle	**Lifting capacities at 0° boom angle**			
	39.2	**53.7**	**68.2**	**82.7**
0°	23,850 (32.8)	10,800 (47.3)	5,840 (61.8)	3,720 (76.3)

NOTE: ( ) Reference radii in feet.

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LOAD HANDLING

Weight reductions for load handling devices	
Auxiliary boom nose	115 lb (52 kg)
Hook blocks and overhaul weights:	
83 USt (75 t), 5 sheave	1592 lb (722 kg) +
50 USt (45 t), 3 Sheave	1235 lb (560 kg) +
29 USt (26 t), 1 sheave	983 lb (446 kg) +
12 USt (11 t), overhaul weight	648 lb (294 kg) +
12 USt (11 t), overhaul ball	575 lb (261 kg) +

+Refer to rating plate for actual weight.

Tire inflation - PSI (bar)		
Size (front and rear)	TRA Code	Lifting service, general travel and extended travel
		Static, creep and 2.5 mph (4.0 km/h)
23.5 x 25 (36)	E-3/L-3	102 (7.0)

Line pulls and reeving information			
Hoists	Cable Specs.	Permissible Line Pulls	Nominal Cable Length
Main and Auxiliary	19 mm (3/4 in) 35x7 Class Rotation Resistant (non-rotating) Min. Breaking strength 85,800 lb	17,160 lb*	Main Hoist: 580 ft Auxiliary Hoist: 452 ft Optional Main & Auxiliary Hoist: 702 ft

The approximate weight of 3/4 in wire rope is 1.3 lb/ft.
*With certain boom and hoist tackle combinations, the allowable line pull may be limited by hoist performance. Refer to Hoist Performance table for lift planning to ensure adequate hoist performance on drum rope layer required.

33 ft - 56 ft (10 m - 17 m) folding boom extension		
	Without overhaul ball or block	With 648 lb (294 kg) overhaul ball
*33 ft (10 m) extension (erected)	3,900 lb (1769 kg)	6,300 lb (2858 kg)
*56 ft (17 m) extension (erected)	7,600 lb (3447 kg)	11,700 lb (5307 kg)

*Reduction of main boom capacities (no deduct required for stowed boom extension)

NOTE: All load handling devices and boom attachments are considered part of the load and suitable allowances MUST BE MADE for their combined weights. Weights are for Grove furnished equipment.

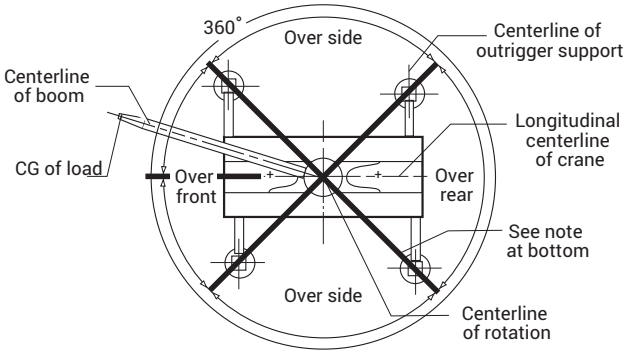
NOTE: When operating at temperatures below -40°F, capacities shall be derated 3.6% of rated load for each degree Fahrenheit below -40°F without shock load.

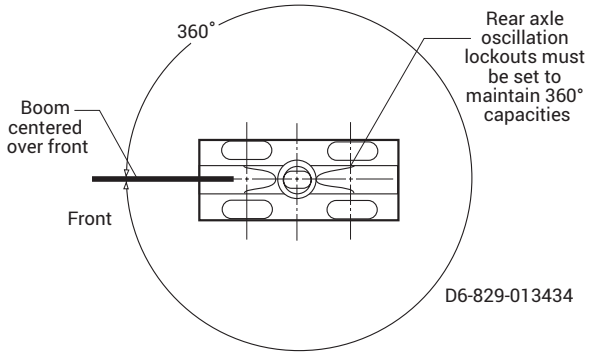
Hoist performance				
Wire rope layer	Hoist line pulls		Drum capacity	
	Two speed hoist			
	Low	High	Layer	Total
	Available*	Available*		
1	21,300 lb (9662 kg)	10,100 lb (4581 kg)	95 ft (29,0 m)	95 ft (29,0 m)
2	19,500 lb (8845 kg)	9,300 lb (4218 kg)	103 ft (31,4 m)	198 ft (60,4 m)
3	18,100 lb (8210 kg)	8,600 lb (3901 kg)	112 ft (34,1 m)	310 ft (94,5 m)
4	16,900 lb (7666 kg)	8,000 lb (3629 kg)	120 ft (36,6 m)	430 ft (131,1 m)
5	15,800 lb (7167 kg)	7,500 lb (3402 kg)	128 ft (39,0 m)	558 ft (170,1 m)
6	14,800 lb (6713 kg)	7,000 lb (3175 kg)	136 ft (41,5 m)	694 ft (211,5 m)

*Refer to Line Pulls and Reeving Information table for max. lifting capacity of wire rope.

Working Area Diagram

Diagram for lifting on tires





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SPECIFICATIONS

Superstructure

Boom
39.2 ft – 155.1 ft (11,9 m – 47 m) five-section, sequenced synchronized, full-power boom with three operator selectable modes of extension and retraction. Any mode can be enabled or disabled to offer all modes or limited mode depending on user or application usage. Maximum tip height: 164 ft (50 m).

Manual bi-fold swingaway extension*
33 ft – 56 ft (10.1 m – 17.1 m) bi-fold lattice swingaway extension. Offsettable at 0°, 25°, and 45°. Stows alongside base boom section. Maximum tip height: 220 ft (67 m).

Boom nose
Four nylatron sheaves mounted on heavy-duty tapered roller bearings with removable pin-type guards. Quick-reeve type boom nose. Removable single sheave auxiliary boom nose with removable pin type rope guard.

Boom elevation
One double-acting hydraulic cylinder with integral holding valve provides elevation from -3° to +80°.

Crane Control System (CCS) 1+
Rated Capacity Limiter (RCL) with 12 in. (30,5 cm) graphical display with operation via touch screen or the armrest mounted jog dial keypad. Load moment and anti-two block system with audio-visual warning and control lever lockout. This system provides electronic display of boom angle, boom length, load radius, boom tip height, maximum permissible load, actual load, and warning of impending two-block condition. Also displays the crane operating indicators, levels, warnings, and faults. Other features include a Working Range Limiter (WRL) which allows the operator to preselect and define working areas. If the crane approaches the operator's preset limits, audio-visual warnings aid the operator in avoiding obstructions. ECO mode system to control engine rpm to lower noise and improve fuel consumption. Driving mode provides steering indication, fore/aft as well as side to side slope indication and travel speed.

Counterweight
Standard 17,500 lb (7938 kg) one-piece counterweight, pinned to superstructure.

*Optional 20,500 lb (9299 kg) one-piece counterweight, pinned to superstructure.

*Optional 3000 lb (1360 kg) two additional pieces of counterweight, for a total of 9299 kg (20,500 lb) of counterweight pinned to the superstructure.

*Optional hydraulic counterweight installation and removal system with superstructure controls.

Cab
Operator-controlled 20° hydraulic cab tilt, full vision; all steel, galvanealed construction with acoustical lining and tinted safety glass throughout. Deluxe seat with electronic seat controls and headrest, incorporates armrest-mounted electronic programmable single-axis or dual-axis controllers and a jog dial for easy data input. Tilt/telescoping steering wheel with controls incorporated into the steering column. Other standard features include heater (hot water), circulating air fan, high-output air conditioning system, sliding skylight with sunscreen, windshield and skylight washer/wiper, windshield sun visor, fire extinguisher, seat belt, USB charging port, pivoting cup holder, and dual cab-mounted LED work lights, and three camera package (rear-view, right side and hoists).

Swing
Variable speed, 360° continuous rotation. Planetary swing drive with foot actuated multi-disc brake. Spring-applied, hydraulically released swing brake. Two-position mechanical swing lock pin, operated from cab.

Hoist (main and optional auxiliary hoist)
Equipped with grooved drum, piston motor, planetary gear and multiple disc brake. Electronic hoist drum rotation indicator alerts operator of hoist movement. Third wrap indictor with hoist function cut-out, hoist cable follower, hoist access platform and hoist camera are standard.

Maximum hoist single line pull: 1st layer: 21,300 lb (9662 kg) 3rd layer: 18,100 lb (8210 kg) 5th layer: 15,800 lb (7167 kg)
Maximum permissible single line pull: 17,160 lb (7784 kg) with 35 x 7 class rope
Maximum hoist single line speed (no load): 543 ft/min (165.5 m/min)
Rope construction: 35 x 7 rotation – resistant
Rope diameter: 3/4 in (19 mm)
Rope length: Main hoist: 580 ft (177 m) Aux. hoist: 452 ft (138 m)
Maximum usable rope: 702 ft (214 m) 6 layers

* Denotes optional equipment

SPECIFICATIONS

Carrier

Chassis
Parallel box section fabricated from high-strength, low-alloy steel with integral outrigger boxes, front and rear lift, tie-down, and towing lugs.

Outrigger system
Four hydraulic telescoping two-stage double box beam outriggers with inverted jacks and integral holding valves. Three position settings, 0%, 54%, and fully extended. Outrigger Monitoring System (OMS) with in-cylinder sensors. Outrigger beam position shown on RCL display. Polymer outrigger floats 23.6 in (600 mm) diameter. Maximum outrigger pad load: 93,800 lb (42 547 kg).

Outrigger controls
Main controls and digital level shown on operating display in cab. Extension and retraction are through the CCS system. Includes automatic leveling feature.

Hydraulic system
Two main pumps variable displacement piston and single gear with a combined output capacity of 107 gal/min (406 L/min). Maximum operating pressure: 4000 psi (276 bar). Return line in-tank filter with full flow by-pass protection and service indicator. Replaceable cartridge with 4-micron filtration rating per ISO cleanliness level of 17/15/12. Superstructure mounted oil cooler with thermostatically controlled hydraulic motor driven fan / air to oil. System pressure test ports.

Engine (Tier 4 Final/Stage V)
Cummins B6.7L diesel engine with after-treatment system. Six-cylinder, turbo-charged and water cooled engine. 260 HP (194 kw) at 2,500 rpm. Maximum torque: 850 lb-ft (1152 Nm) at 1500 rpm. Meets emissions per U.S. EPA Tier 4 Final and E.U. Stage V. Fuel requirement: Maximum of 15 ppm sulfur content (ultra low sulfur diesel). Diesel exhaust fluid required. Please review your country's appropriate engine emissions standards before selecting an engine.

Engine (non-certified)
Cummins B6.7L diesel engine without aftertreatment system. Six-cylinder, turbo-charged and water cooled engine. 260 HP (194 kw) at 2,500 rpm. Maximum torque: 850 lb-ft (1152 Nm) at 1500 rpm. Fuel requirement: Maximum of 5000 ppm sulfur diesel fuel. Please review your country's appropriate engine emissions standards before selecting an engine.

Fuel tank capacity
70 gal (266 L)

Transmission
Rangeshift with six forward and six reverse speeds. (Three speeds high and three speeds low). Front axle disconnect for 4 x 2 drive.

Axles
FRONT: Drive / steer with differential and planetary reduction hubs rigid mounted to frame.
REAR: Drive / steer with differential and planetary reduction hubs pivot mounted to frame. Automatic full hydraulic lockouts on rear axle permits 8.5 in (215 mm) of oscillation only with boom centered over the front.

Brakes
Full hydraulic split (dual) circuit dry disc operating on all wheels with dual calipers on front axle. High pressure parking brake is spring applied / hydraulically released on the front axle input shaft.

Steering
Fully independent power steering. 4 steering modes, front only, rear only, coordinated and crab with site steering via steering wheel. Steering indication shown via graphical display in cab.

Tires
23.5 x 25 – 36 bias ply rating.

Electrical system
Two 12 V maintenance-free batteries with disconnect. 24 V system / 24 V lighting.

Lighting
Full LED lighting package including turn indicators; head, tail, brake and hazard warning lights; carrier side mounted work lights and work lights mounted on cab front.

Maximum Drive Speed
21 mph (33,8 km/h) with maximum counterweight.

Gradeability (theoretical)
126% to drive train stall based on 99,820 lbs (45 278 kg) GVW with 23.5 x 25 tires, maximum counterweight, auxiliary hoist, and bi-fold extension.

* Denotes optional equipment

SPECIFICATIONS

Miscellaneous standard equipment

Flat aluminum decking, dual rear view mirrors, hook block tie-down, electronic back-up alarm, covered deck storage compartment, hot water cab heater / defroster, cab air conditioner, hour meter, A/V warning system, combination lift/tie-down/ towing lugs, coolant sight level indicator, hoist access platform and storage box on left side of carrier.

Optional equipment

- **Auxiliary Hoist Package:** Includes auxiliary hoist with electronic hoist drum rotation indicator, third wrap indicator with hoist function cut-out, 452 ft (138 m) of ¾ in (19 mm) of 35 x 7 class rotation resistant wire rope.
- **Auxiliary Lighting and Convenience Package:** Includes superstructure-mounted amber flashing beacon, dual base boom-mounted LED work lights, controlled from cab and decking storage box mat.
- 33 ft – 56 ft (10.1 m – 17.1 m) Manual bi-fold swingaway extension
- 20,500 lb (9299 kg) maximum counterweight
- 360° Positive swing lock
- Rear pintle hitch
- Cab-controlled cross axle differential locks (front and rear)
- Wireless wind speed indicator
- Boom mounted, boom position indicator light
- Vertical RCL light tower
- Auxiliary oil cooler
- Automatic lubrication of superstructure
- Swing alarm
- Superstructure lighting package
- Cribbing storage compartment w/ four cribbing mats
- -20F/-29C cold weather package
- -40F/-40C arctic weather package
- Emergency stop buttons on each side of carrier
- Second beacon light
- Refinery package
- MAXbase - variable outrigger positioning system
- Bluetooth / AM / FM radio
- Heated Seat

NOTES

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