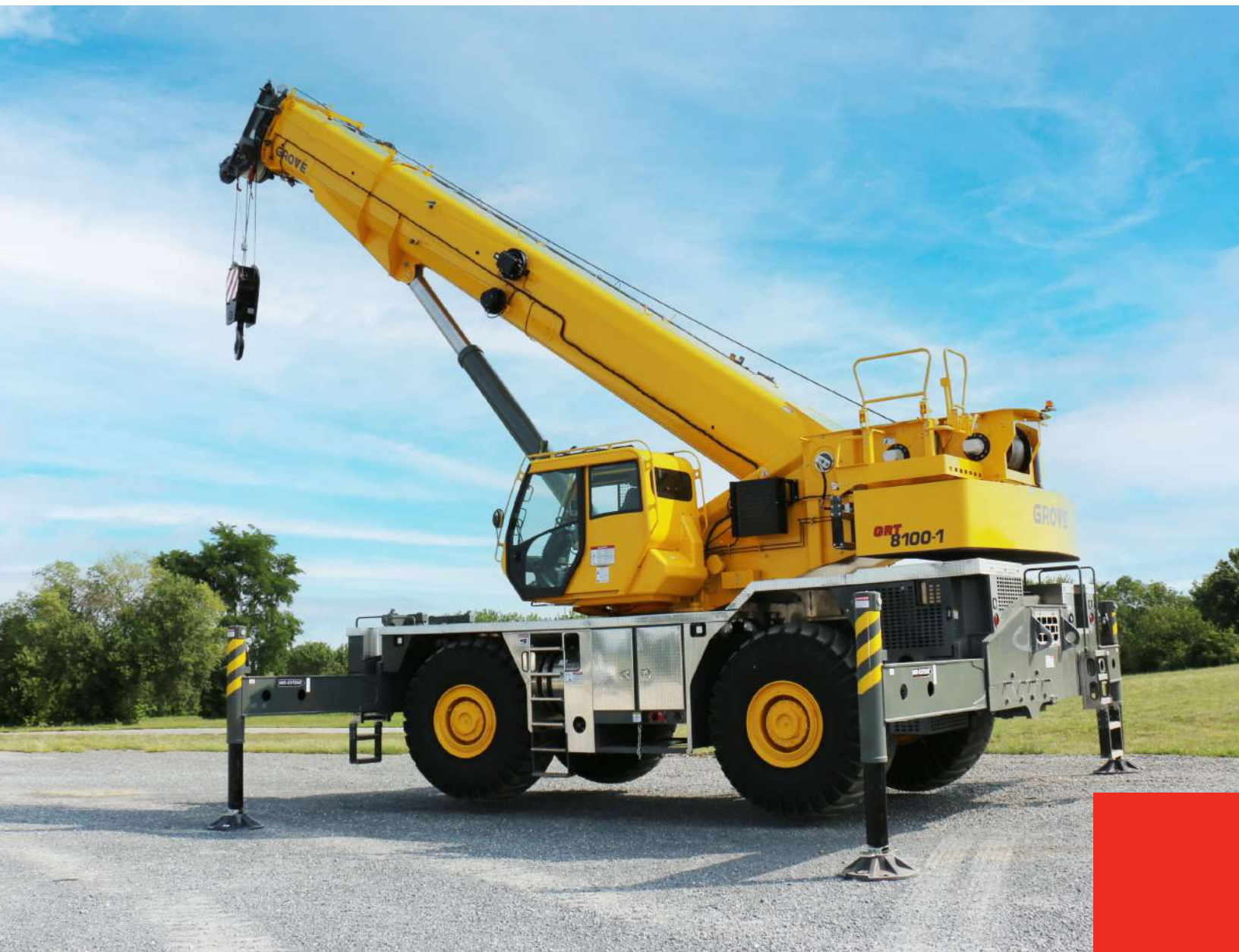


**GROVE®**

# GRT8100-1

**Product Guide**

*ASME B30.5 Imperial 85%*



**100 USt**  
(100 t)



**39.2 ft – 154.3 ft**  
(12 m - 47 m)



**GVW** **125,550 lbs**  
(56 945 kg)



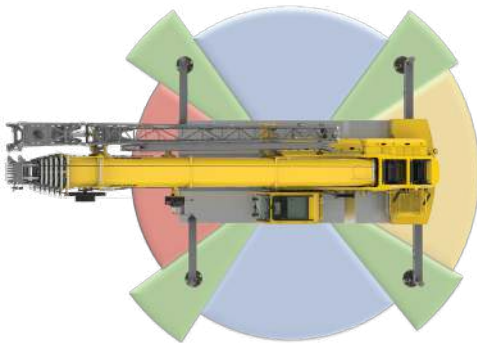
**239.4 ft**  
(72,9 m)



# GROVE GRT8100-1

## 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 or hydraulic bi-fold swingaway increases ability to reach over obstacles.
- Heavy duty jib provides additional clearance for two hook applications and working under height restrictions.
- Counterweight is hydraulically installed and removed for easy self-rigging with no assist crane needed.
- Innovative smart length sensing outrigger monitoring system offers reliable accuracy.
- ECO mode supports intelligent power management and decreased fuel consumption.
- Four modes of steering increase jobsite maneuverability and make crane positioning easier.



## 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.



## Wider Full-Vision Cab

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, windshield sun visor, added storage behind the seat, and a three camera package. Additional optional equipment includes radio with Bluetooth and heated seat.



## New carrier design

The GRT8100-1'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.





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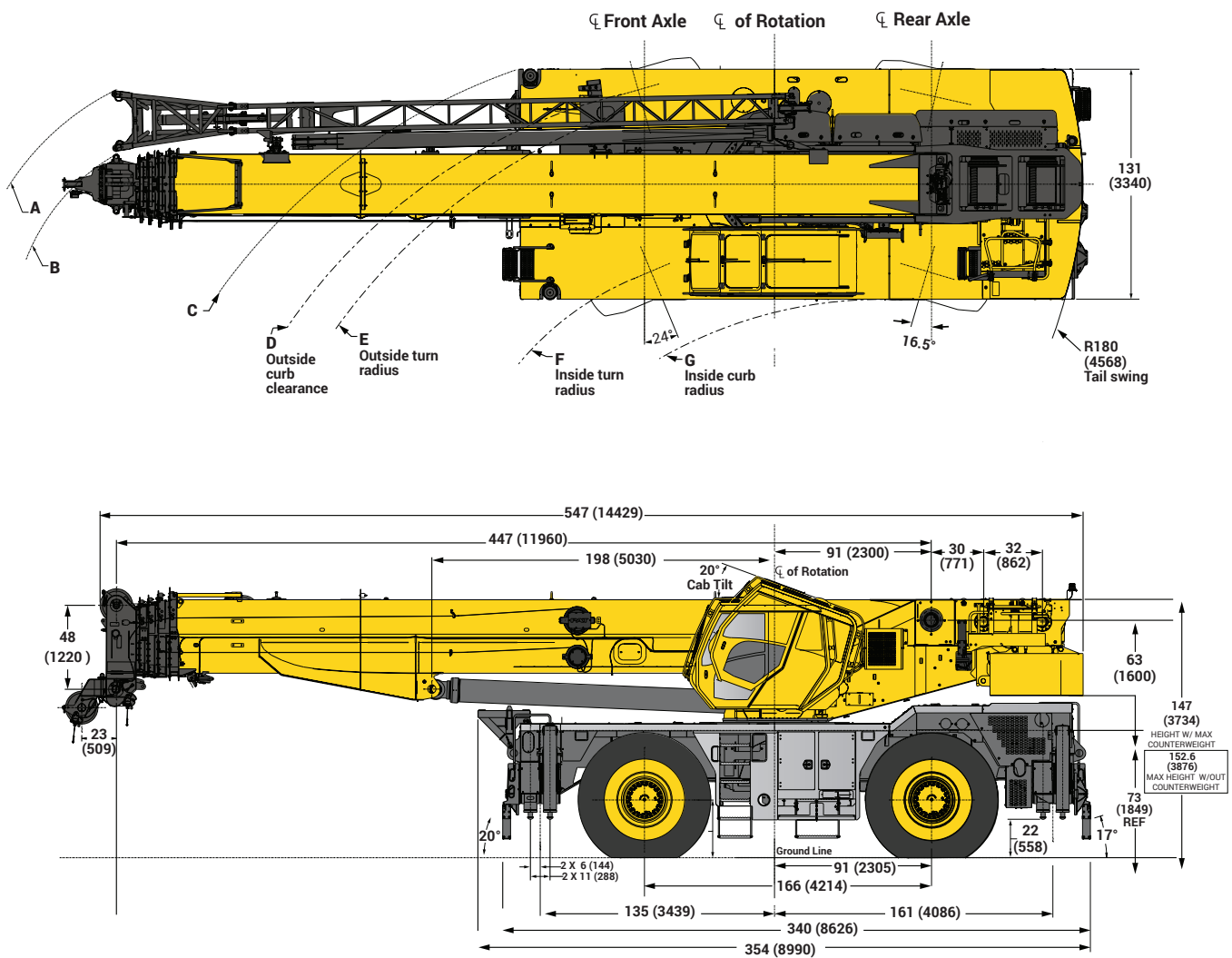
Specifications

# DIMENSIONS

**Tire Size: 29.5 x 25**

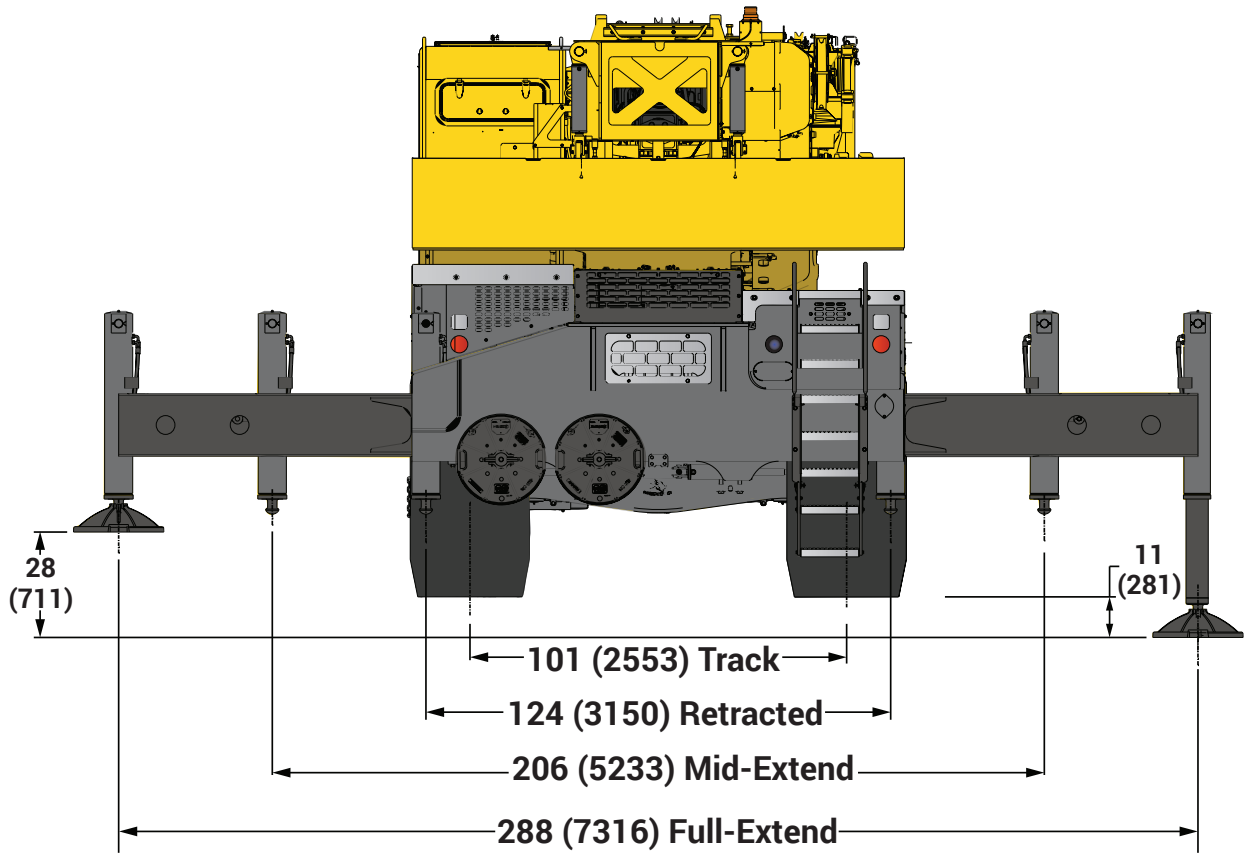
A	B	C	D	E	F	G	A	B	C	D	E	F	G
681 (17 300)	661 (16 800)	576 (14 630)	550 (13 970)	534 (13 564)	444 (11 278)	392 (9 957)	464 (11 800)	441 (11 200)	341 (8 661)	307 (7 798)	295 (7 493)	190 (4 826)	178 (4 521)
Two-Wheel Steer							Four-Wheel Steer						

Dimensions in inch (millimeter) unless otherwise specified.





# DIMENSIONS



# WEIGHTS

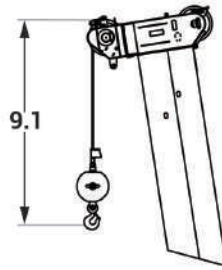
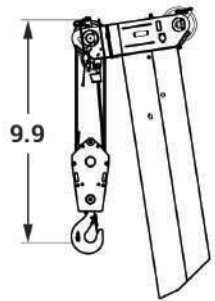
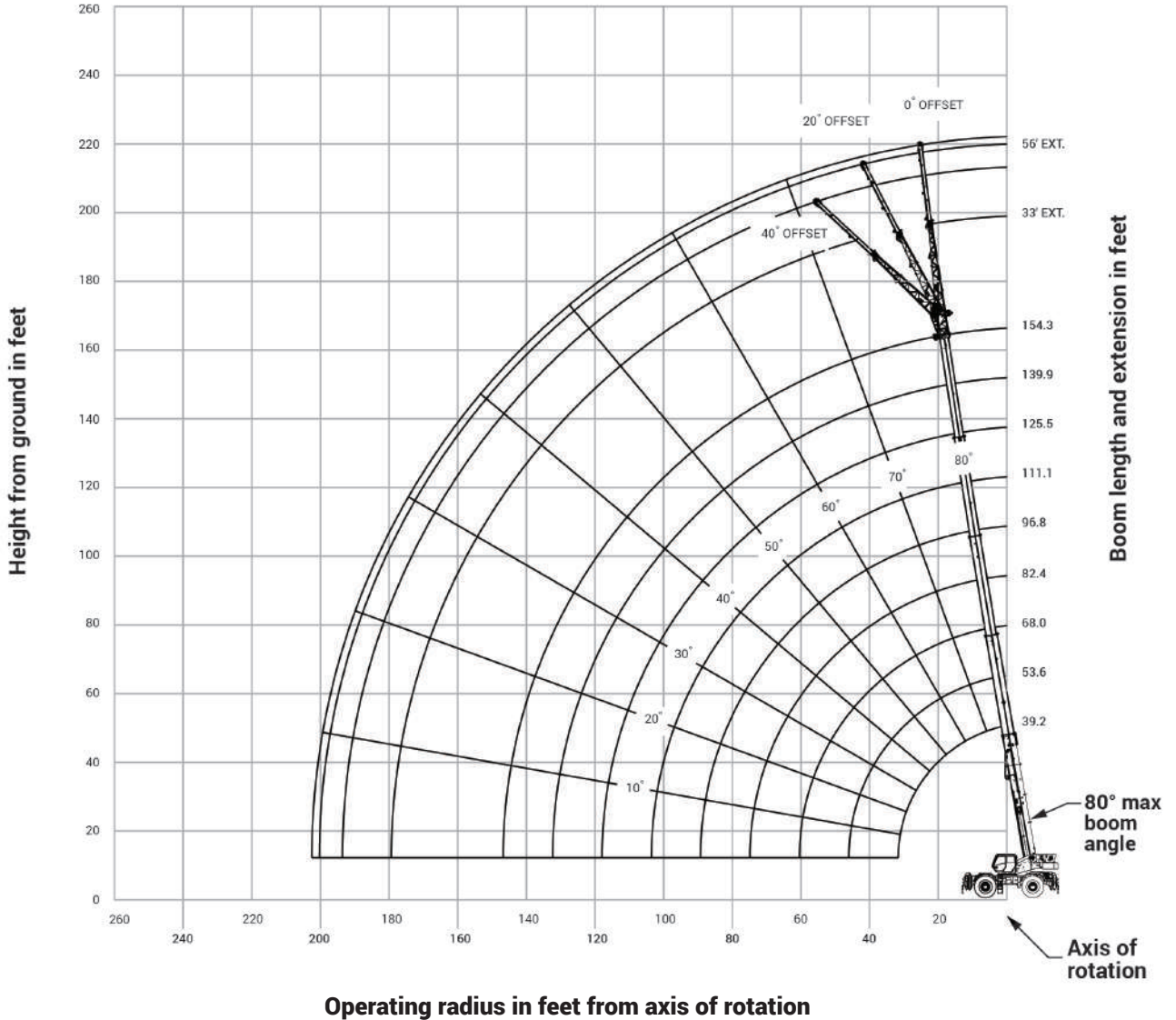
Weights	GVW		Front		Rear	
	kg	lb	kg	lb	kg	lb
Basic crane with Cummins Stage V/T4F engine, 47 m (154.3 ft) main boom, main and auxiliary hoist with wire rope and 9980 kg (22,000 lbs) counterweight.	52,276	115,249	25,309	55,798	26,967	59,451
Add: 17.1 m (56 ft) manually offset bi-fold swingaway & stowage brackets	1,511	3,332	2,606	5,746	-1,095	-2,414
crane weight	53,787	118,581	27,916	61,544	25,872	57,037
Add: Auxiliary boom nose	59	130	173	382	-114	-252
crane weight	53,846	118,711	28,089	61,926	25,757	56,785
Add: 11 t (12 USt) overhaul ball	261	575	418	921	-157	-346
crane weight	54,107	119,286	28,507	62,847	25,600	56,439
Add: 60 t (66 USt) hookblock	581	1,281	931	2,053	-350	-772
crane weight	54,688	120,567	29,438	64,900	25,250	55,667
Add: 2268 kg (5,000 lb) counterweight	2,255	4,971	-827	-1,824	3,082	6,795
crane weight	56,943	125,538	28,611	63,076	28,332	62,462

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

# WORKING RANGE

## Working Range Diagram with Bi-Fold Extension

(Boom deflection not shown)



Dimensions are for largest Grove furnished hook block and overhaul ball, with anti-two block activated.

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# LOAD CHART

## Main Boom



39.2 ft - 154.3 ft



22,000 lb



100%



360°



Pounds

Feet	Main boom length in feet											
	39.2	53.6	53.6	68.0	68.0	68.0	82.4	82.4	82.4	96.8	96.8	96.8
Mode	A,X,B	A	X,B	A	X	B	A	X	B	A	X	B
8	200,000 (72.5)	-	-	-	-	-	-	-	-	-	-	-
9	187,500 (71)	-	-	-	-	-	-	-	-	-	-	-
10	177,000 (69)	56,100 (75.5)	136,500 (75.5)	55,550 (78.5)	55,500 (78.5)	97,600 (79)	*55,500 (80)	*55,500 (80)	*55,450 (80)	-	-	-
12	158,500 (66)	56,100 (73)	136,500 (73)	55,550 (77)	55,500 (77)	97,600 (77)	55,500 (79.5)	55,500 (79.5)	55,450 (79.5)	-	-	-
15	135,500 (61)	56,100 (69.5)	134,500 (69.5)	55,550 (74)	55,500 (74)	93,750 (74.5)	55,500 (77)	55,500 (77)	55,450 (77.5)	37,850 (79.5)	55,500 (79.5)	55,450 (79.5)
20	103,000 (51.5)	56,100 (63.5)	102,000 (63.5)	55,550 (69.5)	55,500 (69.5)	76,300 (70)	55,500 (73.5)	55,500 (73.5)	55,450 (74)	37,850 (76.5)	55,500 (76.5)	55,450 (76.5)
25	79,800 (40)	56,100 (57)	78,200 (57)	55,550 (65)	55,500 (65)	63,400 (65)	55,500 (70)	55,500 (69.5)	55,450 (70)	37,850 (73.5)	55,500 (73.5)	54,200 (73.5)
30	59,750 (23.5)	56,100 (50)	55,250 (50)	55,550 (60)	55,500 (60)	53,800 (60.5)	55,500 (66)	55,500 (66)	49,150 (66.5)	37,850 (70)	55,500 (70)	46,150 (70.5)
35	-	46,000 (42)	41,900 (42)	46,950 (55)	43,900 (55)	43,500 (55)	47,750 (62)	45,800 (62)	42,300 (62.5)	34,400 (67)	47,850 (67)	39,750 (67)
40	-	35,800 (32.5)	32,650 (32)	37,200 (49.5)	34,700 (49)	33,200 (49.5)	38,200 (58)	36,100 (58)	34,300 (58.5)	30,550 (63.5)	38,100 (63.5)	34,600 (64)
45	-	28,650 (16.5)	25,000 (16.5)	30,350 (43.5)	28,200 (43)	25,950 (43.5)	31,450 (53.5)	29,300 (53.5)	27,150 (54)	27,350 (60)	30,900 (60)	28,250 (60.5)
50	-	-	-	25,100 (36)	22,600 (36)	20,450 (36)	26,450 (49)	24,200 (48.5)	21,800 (49.5)	24,750 (56.5)	25,550 (56.5)	22,950 (57)
55	-	-	-	21,050 (27)	18,200 (27)	16,200 (27)	22,600 (44)	20,300 (43.5)	17,650 (44)	22,500 (53)	21,450 (53)	18,850 (53)
60	-	-	-	17,800 (11)	14,700 (10.5)	12,800 (11)	19,500 (38.5)	17,150 (38)	14,300 (38.5)	19,950 (49)	18,150 (49)	15,550 (49)
65	-	-	-	-	-	-	16,900 (31.5)	14,550 (31.5)	11,550 (32)	17,350 (45)	15,400 (44.5)	12,900 (45)
70	-	-	-	-	-	-	14,550 (23)	12,350 (23)	9280 (23.5)	15,100 (40)	13,150 (40)	10,700 (40)
75	-	-	-	-	-	-	-	-	-	13,200 (35)	11,250 (34.5)	8770 (35)
80	-	-	-	-	-	-	-	-	-	11,500 (28.5)	9570 (28.5)	7120 (28.5)
85	-	-	-	-	-	-	-	-	-	9990 (20.5)	8080 (20)	5690 (20.5)
Minimum boom angle (°) for indicated length (no load)												0
Maximum boom length (ft) at 0° boom angle (no load) – Mode A and X												125.5
Maximum boom length (ft) at 0° boom angle (no load) – Mode B												111.1

\*This capacity is based on maximum boom angle

Boom angle	Lifting capacities at 0° boom angle											
	39.2	53.6	53.6	68.0	68.0	68.0	82.4	82.4	82.4	96.8	96.8	96.8
0°	28,350 (31.7)	18,300 (46.1)	16,000 (46.1)	13,100 (60.5)	10,600 (60.5)	8410 (60.5)	9240 (74.8)	7240 (74.8)	5390 (74.8)	6590 (89.2)	4920 (89.2)	3380 (89.2)

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

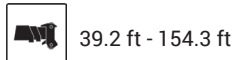
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# LOAD CHART

## Main Boom



Feet	Main boom length in feet cont'd								
	111.1	111.1	111.1	125.5	125.5	125.5	139.9	139.9	154.3
Mode	A	X	B	A	X	B	A, X	B	A, X, B
15	*26,350 (80)	*37,750 (80)	*54,500 (80)	–	–	–	–	–	–
20	26,350 (78.5)	37,750 (78.5)	54,500 (78.5)	21,650 (80)	26,300 (80)	*37,700 (80)	*21,600 (80)	*26,250 (80)	–
25	26,350 (76)	37,750 (76)	50,600 (76)	21,650 (78)	26,300 (78)	37,700 (78)	21,600 (79.5)	26,250 (79.5)	*21,550 (80)
30	26,350 (73)	37,750 (73.5)	43,800 (73.5)	21,650 (75.5)	26,300 (75.5)	37,700 (75.5)	21,600 (77.5)	26,250 (77.5)	21,550 (79)
35	26,350 (70.5)	37,750 (70.5)	37,950 (70.5)	21,650 (73)	26,300 (73)	36,300 (73)	21,600 (75)	26,250 (75)	21,550 (77)
40	26,350 (67.5)	34,300 (68)	33,050 (67.5)	21,650 (70.5)	26,300 (70.5)	31,900 (70.5)	21,600 (73)	26,250 (73)	21,550 (75)
45	24,400 (65)	30,950 (65)	29,100 (65)	21,650 (68)	26,300 (68)	28,100 (68)	21,600 (71)	26,250 (71)	21,550 (73)
50	22,000 (62)	26,900 (62)	24,050 (62)	20,050 (65.5)	24,550 (65.5)	24,650 (66)	21,600 (68.5)	24,200 (69)	21,150 (71)
55	19,900 (59)	22,550 (59)	20,000 (59)	18,100 (63)	22,350 (63)	20,550 (63.5)	20,050 (66.5)	21,150 (66.5)	21,150 (69)
60	18,150 (56)	19,100 (56)	16,750 (56)	16,450 (60.5)	19,300 (60.5)	17,300 (60.5)	18,300 (64)	17,900 (64.5)	18,500 (67.5)
65	16,600 (52.5)	16,300 (52.5)	14,100 (52.5)	15,000 (58)	16,550 (58)	14,700 (58)	16,750 (62)	15,250 (62)	15,850 (65.5)
70	15,250 (49)	13,950 (49)	11,900 (49)	13,700 (55)	14,300 (55)	12,500 (55)	14,600 (59.5)	13,100 (59.5)	13,650 (63.5)
75	13,650 (45.5)	12,000 (45.5)	10,050 (45.5)	12,600 (52)	12,350 (52)	10,650 (52)	12,700 (57)	11,250 (57.5)	11,800 (61)
80	12,000 (41.5)	10,300 (41.5)	8,470 (41.5)	11,600 (49)	10,700 (49)	9,080 (49)	11,100 (54.5)	9,670 (54.5)	10,250 (59)
85	10,550 (37)	8,810 (37)	7,060 (37)	10,700 (46)	9,310 (45.5)	7,710 (46)	9,750 (52)	8,300 (52)	8,890 (56.5)
90	9,340 (32)	7,510 (32)	5,820 (32)	9,760 (42.5)	8,060 (42)	6,510 (42.5)	8,540 (49)	7,110 (49.5)	7,700 (54.5)
95	8,190 (26)	6,350 (26)	4,730 (26)	8,650 (38.5)	6,940 (38.5)	5,430 (38.5)	7,470 (46)	6,060 (46.5)	6,640 (52)
100	7,150 (18)	5,330 (18)	3,750 (18)	7,670 (34.5)	5,940 (34.5)	4,460 (34.5)	6,520 (43)	5,120 (43.5)	5,710 (49.5)
105	–	–	–	6,800 (29.5)	5,040 (29.5)	3,600 (29.5)	5,650 (39.5)	4,260 (40)	4,880 (47)
110	–	–	–	6,010 (24)	4,240 (24)	2,830 (24)	4,860 (36)	3,490 (36.5)	4,130 (44)
115	–	–	–	5,300 (16)	3,510 (16)	2,120 (16)	4,150 (32)	2,790 (32.5)	3,430 (41)
120	–	–	–	–	–	–	3,510 (27.5)	2,150 (28)	2,800 (38)
125	–	–	–	–	–	–	2,900 (22)	1,550 (22)	2,220 (34.5)
130	–	–	–	–	–	–	2,340 (14)	1,000 (14)	1,690 (30.5)
135	–	–	–	–	–	–	–	–	1,180 (26)
Minimum boom angle (°) for indicated length (no load)						15	13	13	25
Maximum boom length (ft) at 0° boom angle (no load) - Mode A and X									125.5
Maximum boom length (ft) at 0° boom angle (no load) - Mode B									111.1

\*This capacity is based on maximum boom angle

Boom angle	Lifting capacities at 0° boom angle cont'd								
	111.1	111.1	111.1	125.5	125.5	125.5	139.9	139.9	154.3
0°	4680 (103.6)	3230 (103.6)	1910 (103.6)	3230 (118)	1950 (118)	–	–	–	–

NOTE: ( ) Reference radii in feet.  
tions.

Shaded area indicates optimal lift capacity within boom length sections.

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# LOAD CHART

## Main Boom - MAXbase 20° over Outriggers



39.2 ft - 154.3 ft



22,000 lb



100%



360°



MAXbase



Pounds

Feet	Main boom length in feet													
	39.2	53.6	53.6	53.6	68	68	68	68	82.4	82.4	82.4	82.4	96.8	96.8
Mode	A, X, B, M	A	X, B	M	A	X	B	M	A	X	B	M	A	X
10	177,000 (69)	56,100 (75.5)	136,500 (75.5)	56,100 (75.5)	55,550 (78.5)	55,500 (78.5)	97,600 (79)	55,500 (78.5)	*55,500 (80)	*55,500 (80)	*55,450 (80)	*55,450 (80)	-	-
12	159,000 (66)	56,100 (73)	136,500 (73)	56,100 (73)	55,550 (77)	55,500 (77)	97,600 (77)	55,500 (77)	55,500 (79.5)	55,500 (79.5)	55,450 (79.5)	55,450 (79.5)	-	-
15	135,500 (61)	56,100 (69.5)	134,500 (69.5)	56,100 (69.5)	55,550 (74)	55,500 (74)	93,750 (74.5)	55,500 (74)	55,500 (77)	55,500 (77)	55,450 (77.5)	55,450 (77.5)	37,850 (79.5)	55,500 (79.5)
20	103,000 (51.5)	56,100 (63.5)	102,000 (63.5)	56,100 (63.5)	55,550 (69.5)	55,500 (69.5)	76,300 (70)	55,500 (69.5)	55,500 (73.5)	55,500 (73.5)	55,450 (74)	55,450 (74)	37,850 (76.5)	55,500 (76.5)
25	79,800 (40)	56,100 (57)	78,600 (57)	56,100 (57)	55,550 (65)	55,500 (65)	63,400 (65)	55,500 (65)	55,500 (70)	55,500 (69.5)	55,450 (70)	55,450 (70)	37,850 (73.5)	55,500 (73.5)
30	63,900 (23.5)	56,100 (50)	62,800 (50)	56,100 (50)	55,550 (60)	55,500 (60)	53,800 (60.5)	53,800 (60.5)	55,500 (66)	55,500 (66)	49,150 (66.5)	49,150 (66.5)	37,850 (70)	55,500 (70)
35	-	54,950 (42)	51,200 (42)	51,200 (42)	55,550 (55)	53,450 (55)	46,350 (55)	46,350 (55)	49,350 (62)	54,850 (62)	42,300 (62.5)	42,300 (62.5)	34,400 (67)	55,500 (67)
40	-	46,200 (32.5)	42,500 (32)	42,500 (32)	46,850 (49.5)	44,700 (49)	40,450 (49.5)	40,450 (49.5)	44,000 (58)	46,150 (58)	36,850 (58.5)	36,850 (58.5)	30,550 (63.5)	47,100 (63.5)
45	-	38,750 (16.5)	35,650 (16.5)	35,650 (16.5)	39,050 (43.5)	37,550 (43)	35,100 (43.5)	35,100 (43.5)	39,650 (53.5)	38,750 (53.5)	32,400 (54)	32,400 (54)	27,350 (60)	39,950 (60)
50	-	-	-	-	33,400 (36)	30,800 (36)	28,050 (36)	28,050 (36)	34,850 (49)	31,950 (48.5)	28,700 (49.5)	28,700 (49.5)	24,750 (56.5)	33,050 (56.5)
55	-	-	-	-	29,150 (27)	25,750 (27)	22,700 (27)	22,700 (27)	29,600 (44)	26,800 (43.5)	24,150 (44)	24,150 (44)	22,500 (53)	27,850 (53)
60	-	-	-	-	25,800 (11)	21,800 (10.5)	18,750 (11)	18,750 (11)	25,450 (38.5)	22,800 (38)	20,250 (38.5)	20,250 (38.5)	20,600 (49)	23,800 (49)
65	-	-	-	-	-	-	-	-	22,100 (31.5)	19,550 (31.5)	17,200 (32)	17,200 (32)	18,900 (45)	20,500 (44.5)
70	-	-	-	-	-	-	-	-	19,350 (23)	16,900 (23)	14,700 (23.5)	14,700 (23.5)	17,450 (40)	17,800 (40)
75	-	-	-	-	-	-	-	-	-	-	-	-	16,150 (35)	15,550 (34.5)
80	-	-	-	-	-	-	-	-	-	-	-	-	15,050 (28.5)	13,650 (28.5)
85	-	-	-	-	-	-	-	-	-	-	-	-	13,400 (20.5)	12,050 (20)

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# LOAD CHART

## Main Boom - MAXbase 20° over Outriggers



39.2 ft - 154.3 ft



22,000 lb



100%



360°



MAXbase



Pounds

Feet	Main boom length in feet														
	96.8	96.8	111.1	111.1	111.1	111.1	125.5	125.5	125.5	125.5	139.9	139.9	139.9	154.3	
Mode	B	M	A	X	B	M	A	X	B	M	A, X	B	M	A, X, B, M	
15	55,450 (79.5)	37,850 (79.5)	*26,350 (80)	*37,750 (80)	*54,500 (80)	*26,350 (80)	-	-	-	-	-	-	-	-	
20	55,450 (76.5)	37,850 (76.5)	26,350 (78.5)	37,750 (78.5)	54,500 (78.5)	26,350 (78.5)	21,650 (80)	26,300 (80)	*37,700 (80)	21,650 (80)	*21,600 (80)	*26,250 (80)	*21,600 (80)	-	
25	54,200 (73.5)	37,850 (73.5)	26,350 (76)	37,750 (76)	50,600 (76)	26,350 (76)	21,650 (78)	26,300 (78)	37,700 (78)	21,650 (78)	21,600 (79.5)	26,250 (79.5)	21,600 (79.5)	*21,550 (80)	
30	46,150 (70.5)	37,850 (70)	26,350 (73)	37,750 (73.5)	43,800 (73.5)	26,350 (73)	21,650 (75.5)	26,300 (75.5)	37,700 (75.5)	21,650 (75.5)	21,600 (77.5)	26,250 (77.5)	21,600 (77.5)	21,550 (79)	
35	39,750 (67)	34,400 (67)	26,350 (70.5)	37,750 (70.5)	37,950 (70.5)	26,350 (70.5)	21,650 (73)	26,300 (73)	36,300 (73)	21,650 (73)	21,600 (75)	26,250 (75.5)	21,600 (75)	21,550 (77)	
40	34,600 (64)	30,550 (63.5)	26,350 (67.5)	34,300 (68)	33,050 (67.5)	26,350 (67.5)	21,650 (70.5)	26,300 (70.5)	31,900 (70.5)	21,650 (70.5)	21,600 (73)	26,250 (73)	21,600 (73)	21,550 (75)	
45	30,400 (60.5)	27,350 (60)	24,400 (65)	30,950 (65)	29,100 (65)	24,400 (65)	21,650 (68)	26,300 (68)	28,100 (68)	21,650 (68)	21,600 (71)	26,250 (71)	21,600 (71)	21,550 (73)	
50	26,950 (57)	24,750 (56.5)	22,000 (62)	28,100 (62)	25,750 (62)	22,000 (62)	20,050 (65.5)	24,550 (65.5)	24,900 (66)	20,050 (65.5)	21,600 (68.5)	24,200 (69)	21,600 (68.5)	21,550 (71)	
55	24,000 (53)	22,500 (53)	19,900 (59)	25,700 (59)	22,950 (59)	19,900 (59)	18,100 (63)	22,350 (63)	22,200 (63.5)	18,100 (63)	20,050 (66.5)	21,600 (66.5)	20,050 (66.5)	21,150 (69)	
60	21,500 (49)	20,600 (49)	18,150 (56)	23,600 (56)	20,550 (56)	18,150 (56)	16,450 (60.5)	20,500 (60.5)	19,850 (60.5)	16,450 (60.5)	18,300 (64)	19,350 (64.5)	18,300 (64)	18,950 (67.5)	
65	18,550 (45)	18,550 (45)	16,600 (52.5)	21,500 (52.5)	18,450 (52.5)	16,600 (52.5)	15,000 (58)	18,850 (58)	17,850 (58)	15,000 (58)	16,750 (62)	17,400 (62)	16,750 (62)	17,050 (65.5)	
70	15,950 (40)	15,950 (40)	15,250 (49)	18,750 (49)	16,650 (49)	15,250 (49)	13,700 (55)	17,400 (55)	16,100 (55)	13,700 (55)	15,400 (59.5)	15,650 (59.5)	15,400 (59.5)	15,350 (63.5)	
75	13,750 (35)	13,750 (35)	14,050 (45.5)	16,450 (45.5)	14,700 (45.5)	14,050 (45.5)	12,600 (52)	16,100 (52)	14,500 (52)	12,600 (52)	14,250 (57)	14,150 (57.5)	14,150 (57.5)	13,900 (61)	
80	11,950 (28.5)	11,950 (28.5)	13,000 (41.5)	14,500 (41.5)	12,700 (41.5)	12,700 (41.5)	11,600 (49)	14,950 (49)	13,150 (49)	11,600 (49)	13,150 (54.5)	12,800 (54.5)	12,800 (54.5)	12,550 (59)	
85	10,350 (20.5)	10,350 (20.5)	12,050 (37)	12,800 (37)	11,050 (37)	11,050 (37)	10,700 (46)	13,250 (45.5)	11,650 (46)	10,700 (46)	12,200 (52)	11,600 (52)	11,600 (52)	11,400 (56.5)	
90	-	-	11,200 (32)	11,350 (32)	9,580 (32)	9,580 (32)	9,890 (42.5)	11,750 (42)	10,150 (42.5)	9,890 (42.5)	11,350 (49)	10,500 (49.5)	10,500 (49.5)	10,300 (54.5)	
95	-	-	10,400 (26)	10,050 (26)	8,290 (26)	8,290 (26)	9,150 (38.5)	10,400 (38.5)	8,850 (38.5)	8,850 (38.5)	10,550 (46)	9,410 (46.5)	9,410 (46.5)	9,370 (52)	
100	-	-	9,470 (18)	8,950 (18)	7,150 (18)	7,150 (18)	8,480 (34.5)	9,250 (34.5)	7,680 (34.5)	7,680 (34.5)	9,560 (43)	8,210 (43.5)	8,210 (43.5)	8,490 (49.5)	
105	-	-	-	-	-	-	7,870 (29.5)	8,210 (29.5)	6,640 (29.5)	6,640 (29.5)	8,490 (39.5)	7,140 (40)	7,140 (40)	7,670 (47)	
110	-	-	-	-	-	-	7,310 (24)	7,280 (24)	5,710 (24)	5,710 (24)	7,530 (36)	6,180 (36.5)	6,180 (36.5)	6,730 (44)	
115	-	-	-	-	-	-	6,640 (16)	6,440 (16)	4,860 (16)	4,860 (16)	6,660 (32)	5,310 (32.5)	5,310 (32.5)	5,890 (41)	
120	-	-	-	-	-	-	-	-	-	-	5,880 (27.5)	4,530 (28)	4,530 (28)	5,130 (38)	
125	-	-	-	-	-	-	-	-	-	-	5,160 (22)	3,820 (22)	3,820 (22)	4,430 (34.5)	
130	-	-	-	-	-	-	-	-	-	-	4,510 (14)	3,170 (14)	3,170 (14)	3,800 (30.5)	
135	-	-	-	-	-	-	-	-	-	-	-	-	-	3,220 (26)	
140	-	-	-	-	-	-	-	-	-	-	-	-	-	2,680 (20.5)	
145	-	-	-	-	-	-	-	-	-	-	-	-	-	2,190 (12.5)	
Min. Boom Angle for indicated length (no load)									15°			13°			11.5°
Max. boom length at 0° boom angle (no load)									125.5 ft.						125.5 ft.

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# LOAD CHART

## Manual Extension



154.3 ft



33 ft - 56 ft



22,000 lb



100%



360°



Pounds

Feet	33 ft length			56 ft length		
	0° offset	20° offset	40° offset	0° offset	20° offset	40° offset
30	*13,900 (80)	—	—	—	—	—
35	13,900 (79.5)	—	—	*7960 (80)	—	—
40	13,900 (78)	*13,600 (80)	—	7960 (79)	—	—
45	13,900 (76.5)	13,600 (79.5)	—	7960 (78)	—	—
50	13,900 (75)	13,600 (78)	11,750 (80)	7960 (76.5)	—	—
55	13,900 (73.5)	13,600 (76.5)	11,600 (78.5)	7960 (75.5)	6700 (80)	—
60	13,900 (72)	13,550 (75)	11,450 (76.5)	7960 (74)	6450 (79)	—
65	13,900 (70.5)	13,300 (73)	11,300 (75)	7960 (72.5)	6240 (77.5)	*5000 (80)
70	13,900 (69)	13,000 (71.5)	11,150 (73.5)	7600 (71.5)	6040 (76)	5000 (79.5)
75	12,100 (67.5)	12,750 (70)	11,050 (71.5)	7190 (70)	5850 (74.5)	4900 (78)
80	10,500 (66)	11,500 (68.5)	10,950 (70)	6780 (68.5)	5660 (73)	4810 (76.5)
85	9150 (64.5)	10,050 (66.5)	10,750 (68)	6450 (67.5)	5500 (72)	4730 (74.5)
90	7930 (62.5)	8750 (64.5)	9370 (66.5)	6120 (66)	5350 (70.5)	4650 (73)
95	6870 (60.5)	7600 (63)	8170 (64.5)	5860 (64.5)	5200 (69)	4580 (71.5)
100	5920 (58.5)	6580 (61)	7100 (62.5)	5600 (63)	5050 (67.5)	4510 (69.5)
105	5070 (56.5)	5670 (58.5)	6140 (60.5)	5360 (61.5)	4920 (66)	4450 (68)
110	4310 (54.5)	4860 (56.5)	5280 (58)	4900 (60)	4800 (64)	4390 (66)
115	3620 (52.5)	4120 (54.5)	4500 (56)	4220 (58.5)	4690 (62.5)	4340 (64.5)
120	3000 (50)	3450 (52.5)	3800 (53.5)	3610 (56.5)	4580 (60.5)	4290 (62.5)
125	2430 (48)	2830 (50)	3150 (51)	3050 (54.5)	3950 (59)	4240 (61)
130	1910 (45.5)	2270 (47.5)	2560 (48.5)	2530 (52.5)	3370 (57)	3940 (59)
135	1430 (43.5)	1760 (45)	2020 (46)	2060 (50.5)	2850 (55)	3340 (57)
140	—	1280 (43)	1520 (43.5)	1630 (48.5)	2360 (52.5)	2790 (55)
145	—	—	1060 (40.5)	1220 (46.5)	1900 (50.5)	2280 (53)
150	—	—	—	—	1480 (48.5)	1800 (50.5)
155	—	—	—	—	1090 (46.5)	1360 (48)
Min. boom angle for indicated length (no load)	41°	40°	39°	45°	45°	46°
Max. boom length at 0° boom angle (no load)	97 ft			97 ft		

NOTE: ( ) Boom angles are in degrees.

\*This capacity is based on maximum obtainable boom angle.

- 33 ft and 56 ft folding boom extension lengths may be used for single line lifting service only.
- For main boom lengths less than 154.3 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.
- 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.
- Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
- Capacities listed are with outriggers properly extended and vertical jacks set only.
- 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.

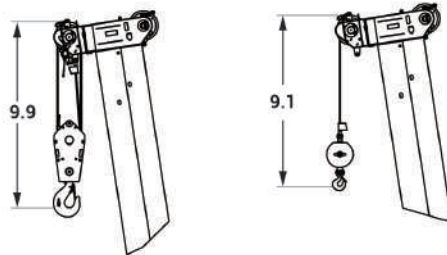
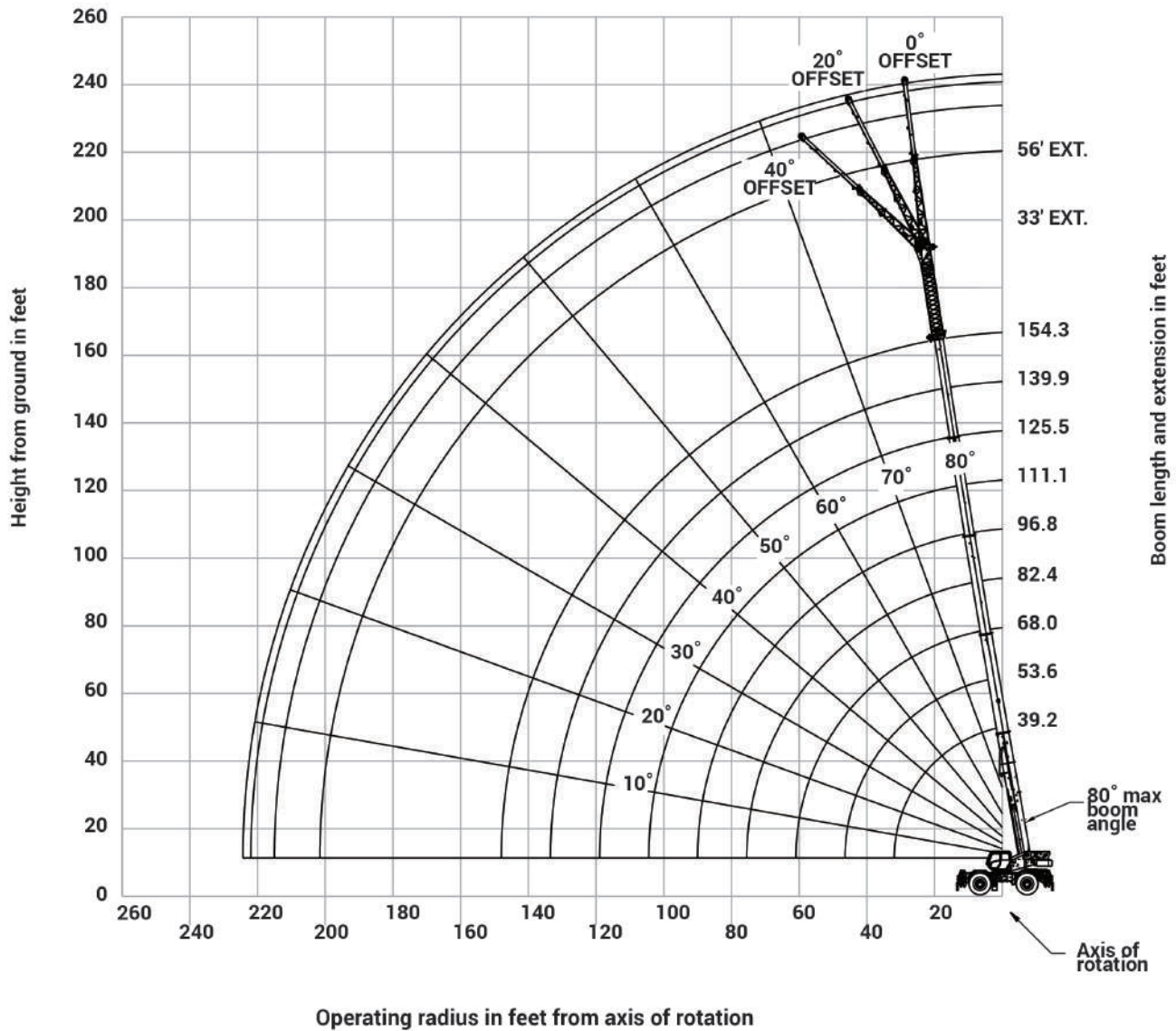
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# WORKING RANGE

## Working Range Diagram with Bi-Fold Extension and Insert

(Boom deflection not shown)



Dimensions are for largest Grove furnished hook block and overhaul ball, with anti-two block activated.

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# LOAD CHART

## Manual Extension



154.3 ft



33 ft - 56 ft



20 ft



22,000 lb



100%



360°



Pounds

Feet	76 ft length (56 ft ext + 20 ft insert)		
	0° offset	20° offset	40° offset
40	*6190 (80)	—	—
45	6190 (79.5)	—	—
50	6190 (78.5)	—	—
55	6190 (77.5)	—	—
60	6190 (76)	*6000 (80)	—
65	6190 (75)	6000 (79.5)	—
70	6190 (74)	5940 (78)	—
75	6190 (72.5)	5760 (77)	4800 (80)
80	6190 (71.5)	5580 (75.5)	4800 (78.5)
85	6190 (70)	5420 (74.5)	4800 (77.5)
90	6190 (69)	5260 (73)	4740 (76)
95	6190 (68)	5130 (72)	4670 (74.5)
100	6090 (66.5)	5000 (70.5)	4610 (73)
105	5830 (65)	4880 (69.5)	4540 (71.5)
110	5100 (64)	4760 (68)	4480 (70.5)
115	4440 (62.5)	4650 (66.5)	4430 (69)
120	3840 (61)	4540 (65)	4380 (67.5)
125	3290 (59.5)	4150 (63.5)	4330 (66)
130	2780 (58)	3580 (61.5)	4220 (64)
135	2320 (56)	3060 (60)	3630 (62.5)
140	1900 (54.5)	2570 (58)	3080 (60.5)
145	1500 (52.5)	2130 (56)	2580 (58.5)
150	1140 (51)	1710 (54.5)	2110 (56.5)
155	—	1320 (52.5)	1680 (54.5)
160	—	—	1270 (52.5)
Min. boom angle for indicated length (no load)	50°	51°	51°
Max. boom length at 0° boom angle (no load)	82 ft		

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

1. The 56 ft folding boom extension length may be used for single line lifting service only.
2. For main boom lengths less than 154.3 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 the 56 ft extension erected and 20 ft insert, the outriggers must be fully extended.

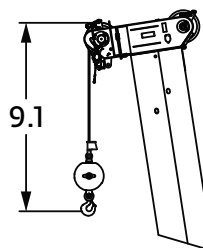
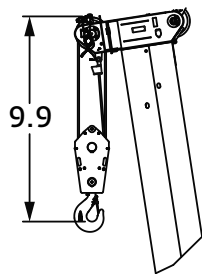
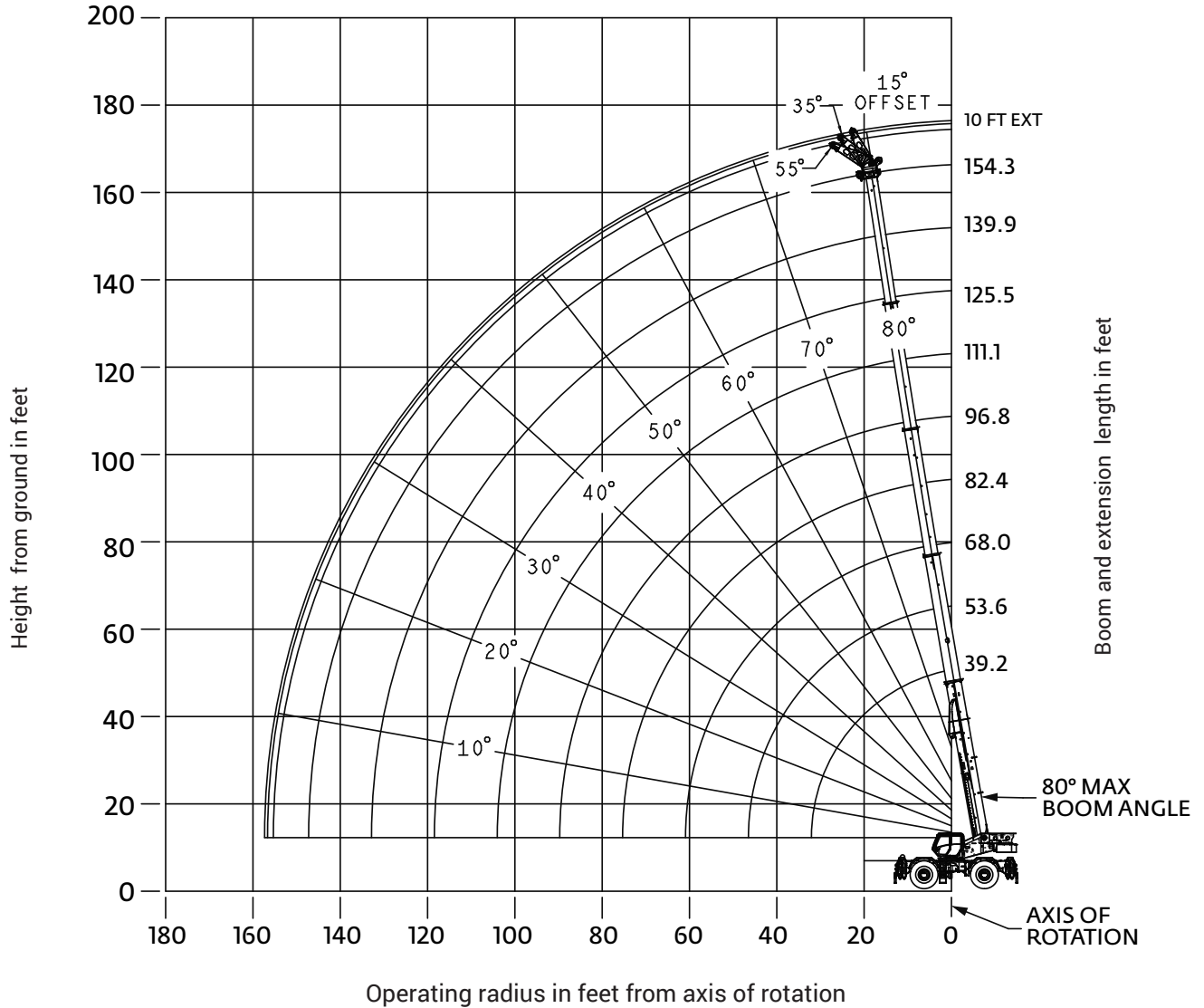
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# WORKING RANGE

## Working Range Diagram with 10 ft Heavy-Duty Boom Extension

(Boom deflection not shown)



Dimensions are for the largest Grove furnished hook block and overhaul ball, with anti-two block activated.

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# LOAD CHART

## Main Boom with Heavy-Duty Jib Extension



39.2 ft - 154.3 ft



22,000 lb



100%



360°



Pounds

Feet	Main boom length in feet											
	39.2			96.8			125.5			154.3		
	15° offset	35° offset	55° offset	15° offset	35° offset	55° offset	15° offset	35° offset	55° offset	15° offset	35° offset	55° offset
<b>Mode</b>	X	X	X	X	X	X	X	X	X	X	X	X
<b>10</b>	67,200 (74)	56,450 (77)	46,300 (79.5)	—	—	—	—	—	—	—	—	—
<b>12</b>	67,200 (71.5)	54,150 (74.5)	45,000 (77)	—	—	—	—	—	—	—	—	—
<b>15</b>	66,000 (67.5)	51,200 (70.5)	43,350 (73)	—	—	—	—	—	—	—	—	—
<b>20</b>	58,000 (61)	47,200 (64)	41,150 (66)	53,850 (78)	*45,450 (80)	—	—	—	—	—	—	—
<b>25</b>	51,950 (54)	44,150 (56.5)	39,600 (58)	48,350 (75)	41,550 (76.5)	38,450 (77.5)	25,300 (79)	—	—	—	—	—
<b>30</b>	47,350 (45.5)	41,950 (48)	—	43,800 (72.5)	38,250 (73.5)	35,750 (74.5)	25,300 (77)	25,300 (78)	25,300 (78.5)	*20,050 (80)	—	—
<b>35</b>	43,850 (35.5)	40,700 (37.5)	—	39,950 (69.5)	35,450 (70.5)	33,450 (71.5)	25,300 (74.5)	25,300 (75.5)	25,300 (76.5)	20,050 (78)	19,250 (79)	17,950 (79.5)
<b>40</b>	37,650 (21)	—	—	36,750 (66.5)	33,000 (68)	31,400 (68.5)	25,300 (72.5)	25,300 (73.5)	25,300 (74)	20,050 (76)	19,200 (77)	17,950 (77.5)
<b>45</b>	—	—	—	30,650 (63.5)	30,900 (64.5)	29,650 (65.5)	24,800 (70)	24,450 (71)	24,400 (72)	19,250 (74.5)	17,700 (75)	17,050 (76)
<b>50</b>	—	—	—	25,300 (60.5)	25,850 (61.5)	26,150 (62.5)	22,400 (68)	22,150 (69)	22,150 (69.5)	18,100 (72.5)	15,550 (73.5)	15,200 (74)
<b>55</b>	—	—	—	21,200 (57)	21,600 (58.5)	21,900 (59)	20,350 (66.5)	20,150 (66.5)	20,150 (67)	15,450 (70.5)	14,550 (71.5)	14,250 (72)
<b>60</b>	—	—	—	17,900 (53.5)	18,300 (55)	18,450 (55.5)	18,500 (63)	18,450 (64)	18,450 (65)	14,450 (69)	13,850 (70)	13,600 (70.5)
<b>65</b>	—	—	—	15,300 (50)	15,600 (51.5)	—	16,000 (61)	16,350 (62)	16,600 (62.5)	13,750 (67)	13,050 (68)	12,850 (68.5)
<b>70</b>	—	—	—	13,100 (46.5)	13,350 (47.5)	—	13,800 (58)	14,100 (59)	14,300 (59.5)	12,950 (65)	12,350 (66)	12,150 (66.5)
<b>75</b>	—	—	—	11,250 (42.5)	11,450 (43.5)	—	11,900 (55.5)	12,200 (56.5)	12,350 (57)	11,150 (63.5)	11,450 (64)	11,600 (64.5)
<b>80</b>	—	—	—	9,670 (38)	9,820 (39)	—	10,300 (53)	10,550 (54)	—	9,570 (61.5)	9,860 (62)	10,000 (62.5)
<b>85</b>	—	—	—	8,300 (33)	—	—	8,950 (50)	9,150 (51)	—	8,190 (59.5)	8,450 (60)	8,600 (60.5)
<b>90</b>	—	—	—	7,090 (27)	—	—	7,740 (47)	7,910 (48)	—	6,980 (57)	7,220 (58)	7,350 (58.5)
<b>95</b>	—	—	—	6,030 (19.5)	—	—	6,670 (44)	6,820 (45)	—	5,920 (55)	6,140 (55.5)	6,240 (56)
<b>100</b>	—	—	—	—	—	—	5,730 (40.5)	5,850 (41.5)	—	4,990 (52.5)	5,170 (53.5)	—
<b>105</b>	—	—	—	—	—	—	4,890 (37)	4,990 (38)	—	4,150 (50.5)	4,320 (51)	—
<b>110</b>	—	—	—	—	—	—	4,130 (33)	—	—	3,390 (48)	3,540 (48.5)	—
<b>115</b>	—	—	—	—	—	—	3,450 (28.5)	—	—	2,720 (45.5)	2,850 (46)	—
<b>120</b>	—	—	—	—	—	—	2,840 (23)	—	—	2,100 (42.5)	2,210 (43.5)	—
<b>125</b>	—	—	—	—	—	—	—	—	—	1,540 (40)	1,640 (40.5)	—
<b>130</b>	—	—	—	—	—	—	—	—	—	1,030 (37)	1,110 (37.5)	—
<b>Min. boom angle (°) for indicated length (no load)</b>	18°	35°	55°	17°	36°	55°	20°	35°	55°	36°	36°	55°

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# LOAD CHART

## Main Boom



39.2 ft - 154.3 ft



27,000 lb



100%



360°



Pounds

Feet	Main boom length in feet											
	39.2	53.6	53.6	68.0	68.0	68.0	82.4	82.4	82.4	96.8	96.8	96.8
Mode	A,X,B	A	X,B	A	X	B	A	X	B	A	X	B
8	200,000 (72.5)	–	–	–	–	–	–	–	–	–	–	–
9	188,500 (71)	–	–	–	–	–	–	–	–	–	–	–
10	178,000 (69)	56,100 (75.5)	136,500 (75.5)	55,550 (78.5)	55,500 (78.5)	97,600 (79)	*55,500 (80)	*55,500 (80)	*55,450 (80)	–	–	–
12	159,500 (66)	56,100 (73)	136,500 (73)	55,550 (77)	55,500 (77)	97,600 (77)	55,500 (79.5)	55,500 (79.5)	55,450 (79.5)	–	–	–
15	137,500 (61)	56,100 (69.5)	136,500 (69.5)	55,550 (74)	55,500 (74)	93,750 (74.5)	55,500 (77)	55,500 (77)	55,450 (77.5)	37,850 (79.5)	55,500 (79.5)	55,450 (79.5)
20	106,000 (51.5)	56,100 (63.5)	105,000 (63.5)	55,550 (69.5)	55,500 (69.5)	76,300 (70)	55,500 (73.5)	55,500 (73.5)	55,450 (74)	37,850 (76.5)	55,500 (76.5)	55,450 (76.5)
25	82,200 (40)	56,100 (57)	81,000 (57)	55,550 (65)	55,500 (65)	63,400 (65)	55,500 (70)	55,500 (69.5)	55,450 (70)	37,850 (73.5)	55,500 (73.5)	54,200 (73.5)
30	65,150 (23.5)	56,100 (50)	60,650 (50)	55,550 (60)	55,500 (60)	53,800 (60.5)	55,500 (66)	55,500 (66)	49,150 (66.5)	37,850 (70)	55,500 (70)	46,150 (70.5)
35	–	50,250 (42)	46,150 (42)	51,200 (55)	48,150 (55)	46,350 (55)	49,350 (62)	50,050 (62)	42,300 (62.5)	34,400 (67)	52,100 (67)	39,750 (67)
40	–	39,300 (32.5)	36,350 (32)	40,750 (49.5)	38,200 (49)	36,700 (49.5)	41,700 (58)	39,600 (58)	36,850 (58.5)	30,550 (63.5)	41,650 (63.5)	34,600 (64)
45	–	31,600 (16.5)	28,150 (16.5)	33,350 (43.5)	31,200 (43)	28,950 (43.5)	34,450 (53.5)	32,300 (53.5)	30,100 (54)	27,350 (60)	33,900 (60)	30,400 (60.5)
50	–	–	–	27,700 (36)	25,350 (36)	23,050 (36)	29,050 (49)	26,850 (48.5)	24,400 (49.5)	24,750 (56.5)	28,200 (56.5)	25,550 (57)
55	–	–	–	23,350 (27)	20,600 (27)	18,500 (27)	24,900 (44)	22,650 (43.5)	19,950 (44)	22,500 (53)	23,750 (53)	21,150 (53)
60	–	–	–	19,850 (11)	16,850 (10.5)	14,850 (11)	21,550 (38.5)	19,250 (38)	16,400 (38.5)	20,600 (49)	20,250 (49)	17,650 (49)
65	–	–	–	–	–	–	18,750 (31.5)	16,400 (31.5)	13,450 (32)	18,900 (45)	17,250 (44.5)	14,800 (45)
70	–	–	–	–	–	–	16,350 (23)	14,100 (23)	11,000 (23.5)	16,850 (40)	14,900 (40)	12,400 (40)
75	–	–	–	–	–	–	–	–	–	14,750 (35)	12,850 (34.5)	10,350 (35)
80	–	–	–	–	–	–	–	–	–	13,000 (28.5)	11,100 (28.5)	8590 (28.5)
85	–	–	–	–	–	–	–	–	–	11,400 (20.5)	9510 (20)	7070 (20.5)
Minimum boom angle (°) for indicated length (no load)												0
Maximum boom length (ft) at 0° boom angle (no load) – Mode A and X												125.5
Maximum boom length (ft) at 0° boom angle (no load) – Mode B												111.1
*This capacity is based on maximum boom angle												

Boom angle	Lifting capacities at 0° boom angle											
	39.2	53.6	53.6	68.0	68.0	68.0	82.4	82.4	82.4	96.8	96.8	96.8
0°	28,350 (31.7)	18,300 (46.1)	16,000 (46.1)	13,100 (60.5)	10,600 (60.5)	8410 (60.5)	9240 (74.8)	7240 (74.8)	5390 (74.8)	6590 (89.2)	4920 (89.2)	3380 (89.2)

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 - 154.3 ft



27,000 lb



100%



360°



Pounds

Feet	Main boom length in feet cont'd								
	111.1	111.1	111.1	125.5	125.5	125.5	139.9	139.9	154.3
Mode	A	X	B	A	X	B	A, X	B	A, X, B
15	*26,350 (80)	*37,750 (80)	*54,500 (80)	-	-	-	-	-	-
20	26,350 (78.5)	37,750 (78.5)	54,500 (78.5)	21,650 (80)	26,300 (80)	*37,700 (80)	*21,600 (80)	*26,250 (80)	-
25	26,350 (76)	37,750 (76)	50,600 (76)	21,650 (78)	26,300 (78)	37,700 (78)	21,600 (79.5)	26,250 (79.5)	*21,550 (80)
30	26,350 (73)	37,750 (73.5)	43,800 (73.5)	21,650 (75.5)	26,300 (75.5)	37,700 (75.5)	21,600 (77.5)	26,250 (77.5)	21,550 (79)
35	26,350 (70.5)	37,750 (70.5)	37,950 (70.5)	21,650 (73)	26,300 (73)	36,300 (73)	21,600 (75)	26,250 (75.5)	21,550 (77)
40	26,350 (67.5)	34,300 (68)	33,050 (67.5)	21,650 (70.5)	26,300 (70.5)	31,900 (70.5)	21,600 (73)	26,250 (73)	21,550 (75)
45	24,400 (65)	30,950 (65)	29,100 (65)	21,650 (68)	26,300 (68)	28,100 (68)	21,600 (71)	26,250 (71)	21,550 (73)
50	22,000 (62)	28,100 (62)	25,750 (62)	20,050 (65.5)	24,550 (65.5)	24,900 (66)	21,600 (68.5)	24,200 (69)	21,550 (71)
55	19,900 (59)	24,850 (59)	22,300 (59)	18,100 (63)	22,350 (63)	22,200 (63)	20,050 (66.5)	21,600 (66.5)	21,150 (69)
60	18,150 (56)	21,200 (56)	18,800 (56)	16,450 (60.5)	20,500 (60.5)	19,400 (60.5)	18,300 (64)	19,350 (64.5)	18,950 (67.5)
65	16,600 (52.5)	18,150 (52.5)	15,950 (52.5)	15,000 (58)	18,450 (58)	16,550 (58)	16,750 (62)	17,150 (62)	17,050 (65.5)
70	15,250 (49)	15,700 (49)	13,600 (49)	13,700 (55)	16,000 (55)	14,200 (55)	15,400 (59.5)	14,800 (59.5)	15,350 (63.5)
75	14,050 (45.5)	13,600 (45.5)	11,650 (45.5)	12,600 (52)	13,950 (52)	12,200 (52)	14,250 (57)	12,800 (57.5)	13,400 (61)
80	13,000 (41.5)	11,750 (41.5)	9,940 (41.5)	11,600 (49)	12,200 (49)	10,550 (49)	12,600 (54.5)	11,100 (54.5)	11,700 (59)
85	11,950 (37)	10,150 (37)	8,430 (37)	10,700 (46)	10,650 (45.5)	9,080 (46)	11,100 (52)	9,670 (52)	10,250 (56.5)
90	10,600 (32)	8,790 (32)	7,110 (32)	9,890 (42.5)	9,350 (42)	7,800 (42.5)	9,820 (49)	8,390 (49.5)	8,980 (54.5)
95	9,440 (26)	7,560 (26)	5,930 (26)	9,150 (38.5)	8,140 (38.5)	6,630 (38.5)	8,680 (46)	7,260 (46.5)	7,850 (52)
100	8,340 (18)	6,460 (18)	4,890 (18)	8,480 (34.5)	7,080 (34.5)	5,600 (34.5)	7,660 (43)	6,260 (43.5)	6,850 (49.5)
105	-	-	-	7,870 (29.5)	6,120 (29.5)	4,680 (29.5)	6,730 (39.5)	5,340 (40)	5,960 (47)
110	-	-	-	7,030 (24)	5,260 (24)	3,850 (24)	5,890 (36)	4,510 (36.5)	5,160 (44)
115	-	-	-	6,270 (16)	4,490 (16)	3,100 (16)	5,130 (32)	3,760 (32.5)	4,410 (41)
120	-	-	-	-	-	-	4,440 (27.5)	3,080 (28)	3,730 (38)
125	-	-	-	-	-	-	3,810 (22)	2,460 (22)	3,110 (34.5)
130	-	-	-	-	-	-	3,220 (14)	1,880 (14)	2,540 (30.5)
135	-	-	-	-	-	-	-	-	2,020 (26)
140	-	-	-	-	-	-	-	-	1,520 (20.5)
145	-	-	-	-	-	-	-	-	1,060 (12.5)
Minimum boom angle (°) for indicated length (no load)						15	13	13	11
Maximum boom length (ft) at 0° boom angle (no load) - Mode A and X									125.5
Maximum boom length (ft) at 0° boom angle (no load) - Mode B									111.1

\*This capacity is based on maximum boom angle

Boom angle	Lifting capacities at 0° boom angle								
	111.1	111.1	111.1	125.5	125.5	125.5	139.9	139.9	154.3
0°	4680 (103.6)	3230 (103.6)	1910 (103.6)	3230 (118)	1950 (118)	-	-	-	-

NOTE: ( ) Reference radii in feet.

Shaded area indicates optimal lift capacity within boom length sections.

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# LOAD CHART

## Main Boom - MAXbase 20° over Outriggers



39.2 ft - 154.3 ft



27,000 lb



100%



360°



MAXbase



Pounds

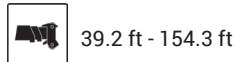
Feet	Main boom length in feet													
	39.2	53.6	53.6	53.6	68	68	68	68	82.4	82.4	82.4	82.4	96.8	96.8
Mode	A, X, B, M	A	X, B	M	A	X	B	M	A	X	B	M	A	X
10	178,000 (69)	56,100 (75.5)	136,500 (75.5)	56,100 (75.5)	55,550 (78.5)	55,500 (78.5)	97,600 (79)	55,500 (78.5)	*55,500 (80)	*55,500 (80)	*55,450 (80)	*55,450 (80)	-	-
12	159,500 (66)	56,100 (73)	136,500 (73)	56,100 (73)	55,550 (77)	55,500 (77)	97,600 (77)	55,500 (77)	55,500 (79.5)	55,500 (79.5)	55,450 (79.5)	55,450 (79.5)	-	-
15	137,500 (61)	56,100 (69.5)	136,500 (69.5)	56,100 (69.5)	55,550 (74)	55,500 (74)	93,750 (74.5)	55,500 (74)	55,500 (77)	55,500 (77)	55,450 (77.5)	55,450 (77.5)	37,850 (79.5)	55,500 (79.5)
20	106,000 (51.5)	56,100 (63.5)	105,000 (63.5)	56,100 (63.5)	55,550 (69.5)	55,500 (69.5)	76,300 (70)	55,500 (69.5)	55,500 (73.5)	55,500 (73.5)	55,450 (74)	55,450 (74)	37,850 (76.5)	55,500 (76.5)
25	82,200 (40)	56,100 (57)	81,000 (57)	56,100 (57)	55,550 (65)	55,500 (65)	63,400 (65)	55,500 (65)	55,500 (70)	55,500 (69.5)	55,450 (70)	55,450 (70)	37,850 (73.5)	55,500 (73.5)
30	65,900 (23.5)	56,100 (50)	64,800 (50)	56,100 (50)	55,550 (60)	55,500 (60)	53,800 (60.5)	53,800 (60.5)	55,500 (66)	55,500 (66)	49,150 (66.5)	49,150 (66.5)	37,850 (70)	55,500 (70)
35	-	56,100 (42)	53,050 (42)	53,050 (42)	55,550 (55)	55,300 (55)	46,350 (55)	46,350 (55)	49,350 (62)	55,500 (62)	42,300 (62.5)	42,300 (62.5)	34,400 (67)	55,500 (67)
40	-	47,850 (32.5)	44,100 (32)	44,100 (32)	49,250 (49.5)	46,350 (49)	40,450 (49.5)	40,450 (49.5)	44,000 (58)	47,750 (58)	36,850 (58.5)	36,850 (58.5)	30,550 (63.5)	48,750 (63.5)
45	-	40,850 (16.5)	37,100 (16.5)	37,100 (16.5)	42,300 (43.5)	39,400 (43)	35,600 (43.5)	35,600 (43.5)	39,650 (53.5)	40,800 (53.5)	32,400 (54)	32,400 (54)	27,350 (60)	41,800 (60)
50	-	-	-	-	36,550 (36)	33,850 (36)	31,000 (36)	31,000 (36)	36,000 (49)	35,100 (48.5)	28,700 (49.5)	28,700 (49.5)	24,750 (56.5)	36,200 (56.5)
55	-	-	-	-	31,900 (27)	28,500 (27)	25,450 (27)	25,450 (27)	32,350 (44)	29,550 (43.5)	25,550 (44)	25,550 (44)	22,500 (53)	30,600 (53)
60	-	-	-	-	27,000 (11)	24,250 (10.5)	21,250 (11)	21,250 (11)	27,900 (38.5)	25,250 (38)	22,700 (38.5)	22,700 (38.5)	20,600 (49)	26,250 (49)
65	-	-	-	-	-	-	-	-	24,350 (31.5)	21,750 (31.5)	19,400 (32)	19,400 (32)	18,900 (45)	22,750 (44.5)
70	-	-	-	-	-	-	-	-	21,350 (23)	18,900 (23)	16,750 (23.5)	16,750 (23.5)	17,450 (40)	19,850 (40)
75	-	-	-	-	-	-	-	-	-	-	-	-	16,150 (35)	17,450 (34.5)
80	-	-	-	-	-	-	-	-	-	-	-	-	15,050 (28.5)	15,400 (28.5)
85	-	-	-	-	-	-	-	-	-	-	-	-	14,000 (20.5)	13,650 (20)

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# LOAD CHART

## Main Boom - MAXbase 20° over Outriggers



Feet	Main boom length in feet (cont.)													
	96.8	96.8	111.1	111.1	111.1	111.1	125.5	125.5	125.5	125.5	139.9	139.9	139.9	154.3
Mode	B	M	A	X	B	M	A	X	B	M	A, X	B	M	A, X, B, M
15	55,450 (79.5)	37,850 (79.5)	*26,350 (80)	*37,750 (80)	*54,500 (80)	*26,350 (80)	-	-	-	-	-	-	-	-
20	55,450 (76.5)	37,850 (76.5)	26,350 (78.5)	37,750 (78.5)	54,500 (78.5)	26,350 (78.5)	21,650 (80)	26,300 (80)	*37,700 (80)	21,650 (80)	*21,600 (80)	*26,250 (80)	*21,600 (80)	-
25	54,200 (73.5)	37,850 (73.5)	26,350 (76)	37,750 (76)	50,600 (76)	26,350 (76)	21,650 (78)	26,300 (78)	37,700 (78)	21,650 (78)	21,600 (79.5)	26,250 (79.5)	21,600 (79.5)	*21,550 (80)
30	46,150 (70.5)	37,850 (70)	26,350 (73)	37,750 (73.5)	43,800 (73.5)	26,350 (73)	21,650 (75.5)	26,300 (75.5)	37,700 (75.5)	21,650 (75.5)	21,600 (77.5)	26,250 (77.5)	21,600 (77.5)	21,550 (79)
35	39,750 (67)	34,400 (67)	26,350 (70.5)	37,750 (70.5)	37,950 (70.5)	26,350 (70.5)	21,650 (73)	26,300 (73)	36,300 (73)	21,650 (73)	21,600 (75)	26,250 (75.5)	21,600 (75)	21,550 (77)
40	34,600 (64)	30,550 (63.5)	26,350 (67.5)	34,300 (68)	33,050 (67.5)	26,350 (67.5)	21,650 (70.5)	26,300 (70.5)	31,900 (70.5)	21,650 (70.5)	21,600 (73)	26,250 (73)	21,600 (73)	21,550 (75)
45	30,400 (60.5)	27,350 (60)	24,400 (65)	30,950 (65)	29,100 (65)	24,400 (65)	21,650 (68)	26,300 (68)	28,100 (68)	21,650 (68)	21,600 (71)	26,250 (71)	21,600 (71)	21,550 (73)
50	26,950 (57)	24,750 (56.5)	22,000 (62)	28,100 (62)	25,750 (62)	22,000 (62)	20,050 (65.5)	24,550 (65.5)	24,900 (66)	20,050 (65.5)	21,600 (68.5)	24,200 (69)	21,600 (68.5)	21,550 (71)
55	24,000 (53)	22,500 (53)	19,900 (59)	25,700 (59)	22,950 (59)	19,900 (59)	18,100 (63)	22,350 (63)	22,200 (63.5)	18,100 (63)	20,050 (66.5)	21,600 (66.5)	20,050 (66.5)	21,150 (69)
60	21,500 (49)	20,600 (49)	18,150 (56)	23,600 (56)	20,550 (56)	18,150 (56)	16,450 (60.5)	20,500 (60.5)	19,850 (60.5)	16,450 (60.5)	18,300 (64)	19,350 (64.5)	18,300 (64)	18,950 (67.5)
65	19,300 (45)	18,900 (45)	16,600 (52.5)	21,800 (52.5)	18,450 (52.5)	16,600 (52.5)	15,000 (58)	18,850 (58)	17,850 (58)	15,000 (58)	16,750 (62)	17,400 (62)	16,750 (62)	17,050 (65.5)
70	17,400 (40)	17,400 (40)	15,250 (49)	20,250 (49)	16,650 (49)	15,250 (49)	13,700 (55)	17,400 (55)	16,100 (55)	13,700 (55)	15,400 (59.5)	15,650 (59.5)	15,400 (59.5)	15,350 (63.5)
75	15,650 (35)	15,650 (35)	14,050 (45.5)	18,300 (45.5)	15,000 (45.5)	14,050 (45.5)	12,600 (52)	16,100 (52)	14,500 (52)	12,600 (52)	14,250 (57)	14,150 (57.5)	14,150 (57.5)	13,900 (61)
80	13,650 (28.5)	13,650 (28.5)	13,000 (41.5)	16,200 (41.5)	13,600 (41.5)	13,000 (41.5)	11,600 (49)	15,000 (49)	13,150 (49)	11,600 (49)	13,150 (54.5)	12,800 (54.5)	12,800 (54.5)	12,550 (59)
85	11,950 (20.5)	11,950 (20.5)	12,050 (37)	14,400 (37)	12,300 (37)	12,050 (37)	10,700 (46)	13,950 (45.5)	11,900 (46)	10,700 (46)	12,200 (52)	11,600 (52)	11,600 (52)	11,400 (56.5)
90	-	-	11,200 (32)	12,850 (32)	11,050 (32)	11,050 (32)	9,890 (42.5)	13,050 (42)	10,800 (42.5)	9,890 (42.5)	11,350 (49)	10,500 (49.5)	10,500 (49.5)	10,300 (54.5)
95	-	-	10,400 (26)	11,450 (26)	9,690 (26)	9,690 (26)	9,150 (38.5)	11,800 (38.5)	9,790 (38.5)	9,150 (38.5)	10,550 (46)	9,550 (46.5)	9,550 (46.5)	9,370 (52)
100	-	-	9,730 (18)	10,250 (18)	8,470 (18)	8,470 (18)	8,480 (34.5)	10,550 (34.5)	8,870 (34.5)	8,480 (34.5)	9,880 (43)	8,650 (43.5)	8,650 (43.5)	8,490 (49.5)
105	-	-	-	-	-	-	7,870 (29.5)	9,460 (29.5)	7,880 (29.5)	7,870 (29.5)	9,230 (39.5)	7,830 (40)	7,830 (40)	7,690 (47)
110	-	-	-	-	-	-	7,310 (24)	8,460 (24)	6,890 (24)	6,890 (24)	8,630 (36)	7,080 (36.5)	7,080 (36.5)	6,950 (44)
115	-	-	-	-	-	-	6,790 (16)	7,560 (16)	5,990 (16)	5,990 (16)	7,780 (32)	6,380 (32.5)	6,380 (32.5)	6,270 (41)
120	-	-	-	-	-	-	-	-	-	-	6,940 (27.5)	5,600 (28)	5,600 (28)	5,640 (38)
125	-	-	-	-	-	-	-	-	-	-	6,180 (22)	4,840 (22)	4,840 (22)	5,050 (34.5)
130	-	-	-	-	-	-	-	-	-	-	5,490 (14)	4,140 (14)	4,140 (14)	4,510 (30.5)
135	-	-	-	-	-	-	-	-	-	-	-	-	-	4,000 (26)
140	-	-	-	-	-	-	-	-	-	-	-	-	-	3,510 (20.5)
145	-	-	-	-	-	-	-	-	-	-	-	-	-	3,050 (12.5)
Min. boom angle for indicated length (no load)									15°	15°	13°	13°	13°	11.5°
Max. boom length at 0° boom angle (no load)									125.5 ft					

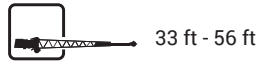
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# LOAD CHART

## Manual Extension



Feet	33 ft length			56 ft length		
	0° offset	20° offset	40° offset	0° offset	20° offset	40° offset
30	*13,900 (80)	—	—	—	—	—
35	13,900 (79.5)	—	—	*7960 (80)	—	—
40	13,900 (78)	*13,600 (80)	—	7960 (79)	—	—
45	13,900 (76.5)	13,600 (79.5)	—	7960 (78)	—	—
50	13,900 (75)	13,600 (78)	11,750 (80)	7960 (76.5)	—	—
55	13,900 (73.5)	13,600 (76.5)	11,600 (78.5)	7960 (75.5)	6700 (80)	—
60	13,900 (72)	13,550 (75)	11,450 (76.5)	7960 (74)	6450 (79)	—
65	13,900 (70.5)	13,300 (73)	11,300 (75)	7960 (72.5)	6240 (77.5)	*5000 (80)
70	13,900 (69)	13,000 (71.5)	11,150 (73.5)	7600 (71.5)	6040 (76)	5000 (79.5)
75	13,400 (67.5)	12,750 (70)	11,050 (71.5)	7190 (70)	5850 (74.5)	4900 (78)
80	12,000 (66)	12,450 (68.5)	10,950 (70)	6780 (68.5)	5660 (73)	4810 (76.5)
85	10,500 (64.5)	11,400 (66.5)	10,850 (68)	6450 (67.5)	5500 (72)	4730 (74.5)
90	9220 (62.5)	10,000 (64.5)	10,650 (66.5)	6120 (66)	5350 (70.5)	4650 (73)
95	8070 (60.5)	8810 (63)	9370 (64.5)	5860 (64.5)	5200 (69)	4580 (71.5)
100	7060 (58.5)	7720 (61)	8230 (62.5)	5600 (63)	5050 (67.5)	4510 (69.5)
105	6150 (56.5)	6750 (58.5)	7220 (60.5)	5360 (61.5)	4920 (66)	4450 (68)
110	5330 (54.5)	5880 (56.5)	6300 (58)	5120 (60)	4800 (64)	4390 (66)
115	4600 (52.5)	5090 (54.5)	5480 (56)	4930 (58.5)	4690 (62.5)	4340 (64.5)
120	3930 (50)	4380 (52.5)	4730 (53.5)	4540 (56.5)	4590 (60.5)	4290 (62.5)
125	3320 (48)	3720 (50)	4040 (51)	3940 (54.5)	4490 (59)	4240 (61)
130	2760 (45.5)	3130 (47.5)	3410 (48.5)	3390 (52.5)	4230 (57)	4200 (59)
135	2250 (43.5)	2580 (45)	2840 (46)	2880 (50.5)	3660 (55)	4160 (57)
140	1770 (41)	2070 (43)	2310 (43.5)	2410 (48.5)	3140 (52.5)	3570 (55)
145	1330 (38.5)	1600 (40)	1810 (40.5)	1980 (46.5)	2660 (50.5)	3030 (53)
150	—	1170 (37.5)	—	1580 (44.5)	2210 (48.5)	2530 (50.5)
155	—	—	—	1210 (42.5)	1800 (46.5)	2060 (48)
160	—	—	—	—	1410 (44)	1630 (45.5)
165	—	—	—	—	1050 (42)	—
Min. boom angle for indicated length (no load)	36°	36°	38°	41°	41°	44°
Max. boom length at 0° boom angle (no load)	97 ft			97 ft		

NOTE: ( ) Boom angles are in degrees.

\*This capacity is based on maximum obtainable boom angle.

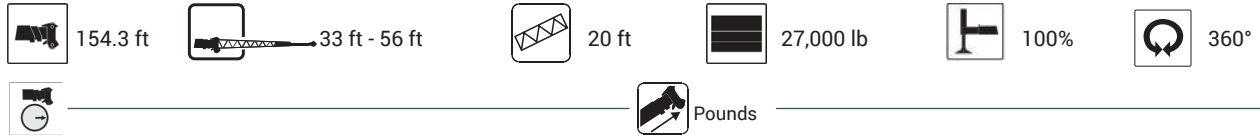
- 33 ft and 56 ft folding boom extension lengths may be used for single line lifting service only.
- For main boom lengths less than 154 ft with the boom extension erected, the rated loads are determined by boom angle. Use only the column that corresponds to the boom extension length and offset for which the machine is set up. For boom angles not shown, use rating of the next lower boom angle.
- 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.
- Boom angle is the angle above or below horizontal of the longitudinal axis of the boom base section after lifting rated load.
- Capacities listed are with outriggers properly extended and vertical jacks set only.
- 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

## Manual Extension



Feet	76 ft length (56' ext + 20' insert)		
	0° offset	20° offset	40° offset
40	*6190 (80)	—	—
45	6190 (79.5)	—	—
50	6190 (78.5)	—	—
55	6190 (77.5)	—	—
60	6190 (76)	*6000 (80)	—
65	6190 (75)	6000 (79.5)	—
70	6190 (74)	5940 (78)	—
75	6190 (72.5)	5760 (77)	4800 (80)
80	6190 (71.5)	5580 (75.5)	4800 (78.5)
85	6190 (70)	5420 (74.5)	4800 (77.5)
90	6190 (69)	5260 (73)	4740 (76)
95	6190 (68)	5130 (72)	4670 (74.5)
100	6090 (66.5)	5000 (70.5)	4610 (73)
105	5830 (65)	4880 (69.5)	4540 (71.5)
110	5580 (64)	4760 (68)	4480 (70.5)
115	5380 (62.5)	4650 (66.5)	4430 (69)
120	4770 (61)	4540 (65)	4380 (67.5)
125	4180 (59.5)	4440 (63.5)	4330 (66)
130	3640 (58)	4350 (61.5)	4280 (64)
135	3140 (56)	3870 (60)	4240 (62.5)
140	2680 (54.5)	3360 (58)	3870 (60.5)
145	2260 (52.5)	2880 (56)	3330 (58.5)
150	1860 (51)	2440 (54.5)	2840 (56.5)
155	1500 (49)	2030 (52.5)	2380 (54.5)
160	1160 (47.5)	1640 (51)	1950 (52.5)
165	—	1280 (49)	1550 (50.5)
170	—	—	1170 (48.5)
Min. boom angle for indicated length (no load)	46°	47°	47°
Max. boom length at 0° boom angle (no load)	82 ft		

1. The 56 ft folding boom extension length may be used for single line lifting service only.
2. For main boom lengths less than 154.3 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 the 56 ft extension erected and 20 ft insert, the outriggers must be fully extended.

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

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# LOAD CHART

## Main Boom with Heavy-Duty Jib Extension



39.2 ft - 154.3 ft



27,000 lb



100%



360°



Pounds

Feet	Main boom length in feet											
	39.2			96.8			125.5			154.3		
	15° offset	35° offset	55° offset	15° offset	35° offset	55° offset	15° offset	35° offset	55° offset	15° offset	35° offset	55° offset
Mode	X	X	X	X	X	X	X	X	X	X	X	X
10	67,200 (74)	56,450 (77)	46,300 (79.5)	—	—	—	—	—	—	—	—	—
12	67,200 (71.5)	54,150 (74.5)	45,000 (77)	—	—	—	—	—	—	—	—	—
15	66,000 (67.5)	51,200 (70.5)	43,350 (73)	—	—	—	—	—	—	—	—	—
20	58,000 (61)	47,200 (64)	41,150 (66)	53,850 (78)	*45,450 (80)	—	—	—	—	—	—	—
25	51,950 (54)	44,150 (56.5)	39,600 (58)	48,350 (75)	41,550 (76.5)	38,450 (77.5)	25,300 (79)	—	—	—	—	—
30	47,350 (45.5)	41,950 (48)	—	43,800 (72.5)	38,250 (73.5)	35,750 (74.5)	25,300 (77)	25,300 (78)	25,300 (78.5)	*20,050 (80)	—	—
35	43,850 (35.5)	40,700 (37.5)	—	39,950 (69.5)	35,450 (70.5)	33,450 (71.5)	25,300 (74.5)	25,300 (75.5)	25,300 (76.5)	20,050 (78)	19,250 (79)	17,950 (79.5)
40	41,150 (21)	—	—	36,750 (66.5)	33,000 (68)	31,400 (68.5)	25,300 (72.5)	25,300 (73.5)	25,300 (74)	20,050 (76)	19,200 (77)	17,950 (77.5)
45	—	—	—	33,600 (63.5)	30,900 (64.5)	29,650 (65.5)	24,800 (70)	24,450 (71)	24,400 (72)	19,250 (74.5)	17,700 (75)	17,050 (76)
50	—	—	—	27,900 (60.5)	28,450 (61.5)	28,100 (62.5)	22,400 (68)	22,150 (69)	22,150 (69.5)	18,100 (72.5)	15,550 (73.5)	15,200 (74)
55	—	—	—	23,500 (57)	23,950 (58.5)	24,200 (59)	20,350 (65.5)	20,150 (66.5)	20,150 (67)	15,450 (70.5)	14,550 (71.5)	14,250 (72)
60	—	—	—	20,000 (53.5)	20,350 (55)	20,550 (55.5)	18,550 (63)	18,450 (64)	18,450 (65)	14,450 (69)	13,850 (70)	13,600 (70.5)
65	—	—	—	17,150 (50)	17,450 (51.5)	—	17,000 (61)	16,950 (62)	16,950 (62.5)	13,750 (67)	13,050 (68)	12,850 (68.5)
70	—	—	—	14,800 (46.5)	15,050 (47.5)	—	15,500 (58)	15,600 (59)	15,650 (59.5)	12,950 (65)	12,350 (66)	12,150 (66.5)
75	—	—	—	12,850 (42.5)	13,000 (43.5)	—	13,500 (55.5)	13,750 (56.5)	13,900 (57)	12,250 (63.5)	11,850 (64)	11,600 (64.5)
80	—	—	—	11,100 (38)	11,250 (39)	—	11,800 (53)	12,000 (54)	—	11,000 (61.5)	11,300 (62)	11,050 (62.5)
85	—	—	—	9,670 (33)	—	—	10,300 (50)	10,500 (51)	—	9,560 (59.5)	9,820 (60)	9,970 (60.5)
90	—	—	—	8,380 (27)	—	—	9,020 (47)	9,200 (48)	—	8,270 (57)	8,500 (58)	8,630 (58.5)
95	—	—	—	7,230 (19.5)	—	—	7,880 (44)	8,030 (45)	—	7,130 (55)	7,340 (55.5)	7,450 (56)
100	—	—	—	—	—	—	6,870 (40.5)	6,990 (41.5)	—	6,120 (52.5)	6,310 (53.5)	—
105	—	—	—	—	—	—	5,970 (37)	6,070 (38)	—	5,220 (50.5)	5,390 (51)	—
110	—	—	—	—	—	—	5,160 (33)	—	—	4,420 (48)	4,570 (48.5)	—
115	—	—	—	—	—	—	4,430 (28.5)	—	—	3,690 (45.5)	3,820 (46)	—
120	—	—	—	—	—	—	3,770 (23)	—	—	3,030 (42.5)	3,140 (43.5)	—
125	—	—	—	—	—	—	—	—	—	2,430 (40)	2,520 (40.5)	—
130	—	—	—	—	—	—	—	—	—	1,880 (37)	1,960 (37.5)	—
135	—	—	—	—	—	—	—	—	—	1,370 (33.5)	—	—
Min. boom angle (°) for indicated length (no load)	18°	35°	55°	17°	36°	55°	20°	35°	55°	36°	36°	55°

\*This capacity is based on maximum boom angle

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# LOAD CHART

## Pick and Carry



39.2 ft - 82.4 ft



27,000 lb or  
22,000 lb



Pick and carry up to 1 mph  
29.5 x 25 tires



Boom over front

Boom centered over front				
Radius in feet	Main boom length in feet			
	39.2	53.6	68.0	82.4
Mode	X	X	X	X
12	49,450 (66)	42,150 (73)	—	—
15	40,450 (61)	39,050 (69.5)	30,400 (74)	—
20	29,550 (52)	29,100 (63.5)	27,300 (69.5)	24,350 (73.5)
25	21,850 (42)	22,150 (57.5)	23,400 (65)	22,300 (69.5)
30	16,150 (25)	16,850 (50.5)	18,550 (60)	20,250 (66)
35	—	12,800 (43.5)	14,750 (55)	16,350 (62)
40	—	9,640 (34.5)	11,700 (50)	13,250 (58)
45	—	7,050 (18.5)	9,240 (44)	10,700 (53.5)
50	—	—	7,110 (37.5)	8,460 (49)
55	—	—	5,280 (29)	6,520 (44)
60	—	—	3,780 (13)	4,940 (38)
65	—	—	—	3,630 (31.5)
70	—	—	—	2,520 (23)
Minimum boom angle (°) for indicated length (no load)				32
Maximum boom length at 0° boom angle (no load) - X mode				82.4 ft

\*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 General / Titan 29.5x25 (34 ply) bias ply tires, at 76 psi cold inflation pressure.
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	53.6	68.0	82.4
0°	14,550 (31.7)	6,540 (46.1)	3,650 (60.5)	1,600 (74.8)

NOTE: ( ) Reference radii in feet.

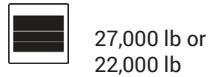
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# LOAD CHART

## Stationary



Stationary capacities				
Radius in feet	Main boom length in feet			
	39.2	53.6	68.0	82.4
Mode	X	X	X	X
20	24,050 (52)	21,500 (63.5)	24,050 (69.5)	25,100 (73.5)
25	15,300 (42)	14,150 (57.5)	16,200 (65)	17,450 (69.5)
30	10,150 (25)	9330 (50.5)	11,100 (60)	12,450 (66)
35	—	5870 (43.5)	7640 (55)	8970 (62)
40	—	3290 (34.5)	5070 (50)	6400 (58)
45	—	1270 (18.5)	3100 (44)	4420 (53.5)
50	—	—	1550 (37.5)	2860 (49)
55	—	—	—	1600 (44)
Minimum boom angle (°) for indicated length (no load)		0	36	43
Maximum boom length at 0° boom angle (no load) - X mode	53.6 ft			

\*This capacity is based on maximum boom angle

Boom angle	Lifting capacities at 0° boom angle			
	39.2	53.6	68.0	82.4
0°	8860 (31.7)	—	—	—

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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 General / Titan 29.5x25 (34 ply) bias ply tires, at 76 psi cold inflation pressure.
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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# RIGGING CHARTS

## Rigging chart Installation and removal of hydraulic removable CWT on O/R's fully extended

Radius in feet	Main boom length in feet		
	39.2	53.6	68.0
Tele I	0%	50%	50%
Tele II	0%	0%	17%
Tele III	0%	0%	17%
Tele IV	0%	0%	17%
Mode	X	X	X
8	195,000 (72.5)	—	—
9	183,000 (71)	—	—
10	172,500 (69)	136,500 (75.5)	55,500 (78.5)
12	152,000 (66)	136,500 (73)	55,500 (77)
15	124,500 (61)	123,000 (69.5)	55,500 (74)
20	90,250 (51.5)	89,000 (63.5)	55,500 (69.5)
25	55,600 (40)	52,600 (57)	54,650 (65)
30	37,100 (23.5)	34,950 (50)	36,850 (60)
35	—	24,750 (42)	26,500 (55)
40	—	17,850 (32)	19,800 (49)
45	—	12,750 (16.5)	15,100 (43)
Minimum boom angle (°) for indicated length (no load)			0
Maximum boom length at 0° boom angle (no load) – X mode			68.0

\*This capacity is based on maximum boom angle

Boom angle	Lifting capacities at 0° boom angle		
	39.2	53.6	68.0
0°	28,350 (31.7)	11,800 (46.1)	6200 (60.5)

NOTE: ( ) Reference radii in feet.

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## Loading and unloading - on rubber (0 lb counterweight)

Radius in feet	Main boom length in feet
	39.2
Tele I	0%
Tele II	0%
Tele III	0%
Tele IV	0%
Mode	X
12	5400 (66)
15	5400 (61)
20	5400 (78.5)
25	5400 (42)
30	5400 (25)

Note: ( ) Boom angles are in degrees

Boom angle	Lifting capacities at 0° boom angle
	39.2
0°	4070 (31.7)

Note: ( ) Reference radii in feet. 80089238

NOTE: For loading and unloading, the boom must be centered over front of machine and mechanical swing lock engaged.

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# LOAD HANDLING

Weight reductions for load handling devices	
Auxiliary boom nose	130 lb
Hook blocks and overhaul weights:	
102 USt, 6-sheave	1451 lb+
90 USt, 5-sheave	1369 lb+
66 USt, 5-sheave	1281 lb+
50 USt, 3-sheave	992 lb+
29 USt, single sheave	712 lb+
12 USt, overhaul weight	648 lb+
12 USt, overhaul ball	575 lb+

+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)
29.5 x 25 (34)	E-3/L-3	76 (5.2)

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: 702 ft Auxiliary Hoist: 580 ft

The approximate weight of 3/4 in wire rope is 1.5 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 folding boom extension		
	Without block or overhaul weight	With 648 lb overhaul weight
*33 ft extension (erected)	3,500 lb	6,000 lb
*56 ft extension (erected)	7,300 lb	11,500 lb
Folding ext. with 20 ft insert		
*56 ft extension (erected)	12,100 lb	17,400 lb

\*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.

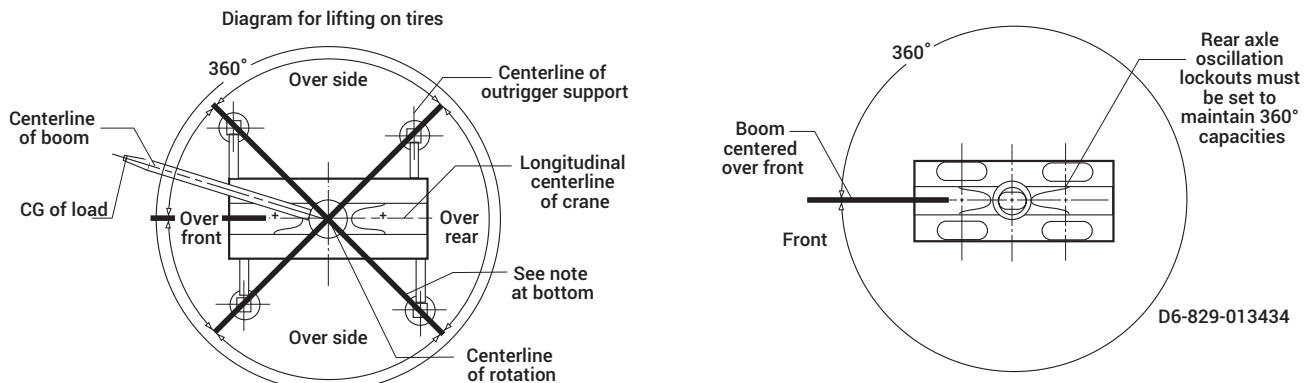
NOTE: When operating at temperatures below -40°F, capacities shall be derated 3.6% of rated load for each degree Fahrenheit below -40°F without shock load.

Hoist performance				
Wire rope layer	Hoist line pulls		Drum capacity (ft)	
	Two speed hoist		Layer	Total
	Low	High		
	Available lb	Available lb		
1	24,100	15,000	111	111
2	22,200	13,800	120	231
3	20,600	12,800	130	361
4	19,200	11,900	139	500
5	18,000	11,200	149	649
6	16,900	10,500	158	807

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

Bold lines determine the limiting position of any load for operation within working areas indicated.

## Working Area Diagram



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# SPECIFICATIONS

## Superstructure



### Boom

12 m – 47 m (39.2 ft – 154.3 ft) 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: 50 m (165 ft).



### Manual bi-fold swingaway extension\*

10 m – 17 m (33 ft – 56 ft) bi-fold lattice swingaway extension. Offsettable at 0°, 20°, and 40°. Stows alongside base boom section. Electric motor assist for stowing and pin alignment. Maximum tip height: 67 m (220 ft).



### Hydraulic bi-fold swingaway extension\*

10 m – 17 m (33 ft – 56 ft) bi-fold lattice swingaway extension. Hydraulic luffing offset from 0° to 40°. Stows alongside base boom section. Electric motor assist for stowing and pin alignment. Maximum tip height: 67 m (220 ft).



### Lattice extension insert\*

(1) x 6 m (20 ft) lattice extension insert. Installs between boom nose and either optional extension. Maximum tip height: 72,9 m (239.4 ft).



### Heavy duty jib\*

3 m (10 ft) two sheave, heavy duty jib, manually offset at 15°, 35°, and 55°.



### Boom nose

Five 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)

Rated Capacity Limiter (RCL) with graphical display. 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 includes an Operating display which shows 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 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.



### Counterweight

Standard 9979 kg (22,000 lb). Hydraulically installed and removed. Controls located on superstructure.

\*Optional 12 247 kg (27,000 lb) one-piece counterweight. Hydraulically installed and removed. Controls located on superstructure.

\*Optional 2268 kg (5000 lb) pinned slab increases counterweight to 12 247 kg (27,000 lb) hydraulically installed and removed with standard counterweight.



### 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 drums, axial piston motors, planetary gears and multiple disc brakes. Electronic hoist drum rotation indicator alerts operator of hoist movement. Third wrap indicator with hoist function cut-out and hoist camera is standard.

**Maximum hoist single line pull:** 1st layer: 10 930 kg (24,100 lb)      3rd layer: 9344 kg (20,600 lb)      6th layer: 7666 kg (16,900 lb)

**Maximum permissible single line pull:** 7784 kg (17,160 lb) with 35 x 7 class rope

**Maximum hoist single line speed (no load):** 131 m/min (430 ft/min)

**Rope construction:** 35 x 7 rotation – resistant

**Rope diameter:** 19 mm (3/4 in)

**Rope length:** Main hoist: 214 m (702 ft)      Aux. hoist: 177 m (580 ft)

**Maximum usable rope:** 241 m (790 ft) 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 single stage double box beam outriggers with inverted jack cylinders and integral jack holding valves. Three position settings, 0%, 50%, and fully extended. Polymer outrigger floats 600 mm (23.6 in) diameter. Outrigger Monitoring System (OMS) with in-cylinder sensors. Outrigger beam position shown on RCL display.



### 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 gear with a combined output capacity of 507 L/min (134 gal/min). Maximum operating pressure: 276 bar (4000 psi). 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. Carrier 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. 224 kw (300 HP) at 2,500 rpm. Maximum torque: 990 Nm (730 lb-ft) 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. 224 kw (300 HP) at 2,500 rpm. Maximum torque: 1288 Nm (950 lb-ft) 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

271 L (72 gal)



### 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 254 mm (10 in) of oscillation only with boom centered over the front.



### Brakes

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



### Steering

Fully independent power steering. Front: Fully hydraulic steering wheel controlled. Rear: Fully hydraulic via separate momentary switch provides infinite variations 4 steering modes, front only, rear only, coordinated and crab. Rear steer not aligned indicator. Outside 4WS coordinated steer radius: 7,5 m (24.6 ft). Inside 4WS coordinated steer radius: 4,8 m (15.8 ft).



### Tires

29.5 x 25 - 34 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

24,1 km/h (15 mph) with 9979 kg (22,000 lb) counterweight  
16 km/h (10 mph) with 12 247 kg (27,000 lb) counterweight



### Gradeability (theoretical)

115% to drive train stall based on 54 688 kg (120,567 lb) GVW with 29.5 x 25 tires, standard counterweight, auxiliary hoist, and bi-fold extension.

\* Denotes optional equipment

# SPECIFICATIONS

## Miscellaneous standard equipment

Full-length 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, hourmeter, A/V warning system, combination lift/tie-down/towing lugs, coolant sight level indicator, hoist access platform, storage boxes on both sides of carrier and cribbing storage 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, 177 m (580 ft) of 19 mm ( $\frac{3}{4}$  in.) 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 in-cab RCL light bar.

10 m - 17 m (33 ft – 56 ft) Manual bi-fold swingway extension

10 m – 17 m (33 ft – 56 ft) hydraulic luffing extension

3 m (10 ft) heavy-duty extension with two sheaves

5000 lb (2268 kg) additional counterweight slab

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

-29C / -20F cold weather package

-40C / -40F 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

CraneSTAR asset management system



# NOTES

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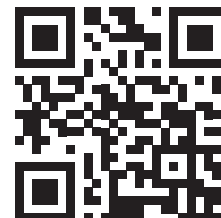
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