

## TMS500-2 Product Guide

ASME B30.5  
Imperial 85%  
Metric 85%



### Features

- 36,3 t (40 Ust) capacity
- 8,8 m – 29 m (29 ft – 95 ft) four-section full-power boom
- 9,8 m – 31 m (32 ft – 102 ft) four-section full-power boom
- 7,9 m – 13,7 m (26 ft – 45 ft) offsettable telescopic swingaway extension
- Crane Control System (CCS)
- 261 kW (350 bhp) Cummins ISL9 engine

# GROVE TMS500-2

The TMS500-2 is designed for superior roadability and fast setup.

## Features

### > Two four-section boom options for flexibility

- 8,8 m – 29,0 m (29 ft – 95 ft) four-section, synchronized, full-power boom
- 9,8 m – 31,0 m (32 ft – 102 ft) four-section, synchronized, full-power boom

### > Optional extension

- 7,9 m – 13,7m (26 ft – 45 ft) telescoping swingaway lattice extension with manual offsets at 0°, 15° and 30°
- Maximum tip height: 39,1 m (128.2 ft) with 29 m (95 ft) boom
- Maximum tip height: 42,0 m (134.8 ft) with 31 m (102 ft) boom

### > Outriggers

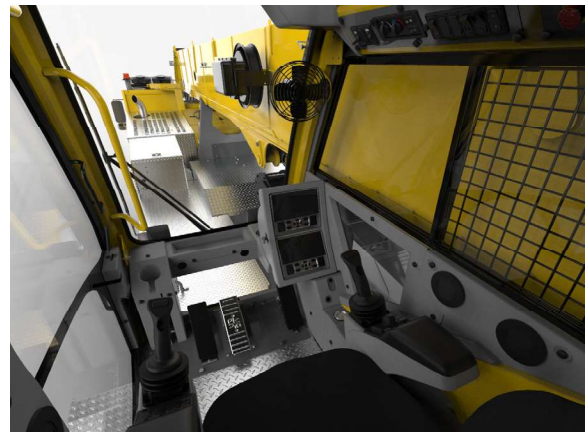
- Three outrigger position settings (0%, 50% and 100%)
- Inverted outrigger jacks
- Removable aluminum outrigger floats
- Standard auto leveling system
- Equipped with smart length sensing outrigger extension cylinders. This replaces traditional string pots measuring system to improve serviceability and increase accuracy.

### > Counterweight

- Removable counterweight inserts for a lightweight travel configuration
- Two counterweight packages available: 3629 kg (8000 lb) and 2495 kg (5500 lb)

### > Crane Control System (CCS)

- Hardware and software that integrates the Crane Control with the Rated Capacity Limiter (RCL) to create one system
- Tilting, full-color, high-resolution Operating and RCL displays for improved visibility
- Designed for maximum operator comfort
- Parts commonality across Grove, Manitowoc and Potain product lines to enhance operator familiarization and serviceability
- Working range limiter
- Programmable function speeds and ramps



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### > CraneSTAR is an exclusive and innovative crane asset management system

that helps improve your profitability and reduce costs by remotely monitoring critical crane data. Visit [www.cranestar.com](http://www.cranestar.com) for more information.

## Operator comfort

- Electronic dual-axis crane controls standard
- Improved A/C with higher output and better airflow
- Adjustable seat with hydraulic suspension
- Ergonomically arranged instrumentation
- Cummins ISL9 (2017 on-highway, EPA certified), six-cylinder turbocharged and after-cooled diesel engine, 261 kW (350 bhp) at 2000 rpm
- Eaton Ultrashift Plus automated transmission, 11 speeds forward and three reverse
- Travel speeds up to 105 kph (65 mph)
- ECO Mode for reduced fuel consumption and lower engine noise



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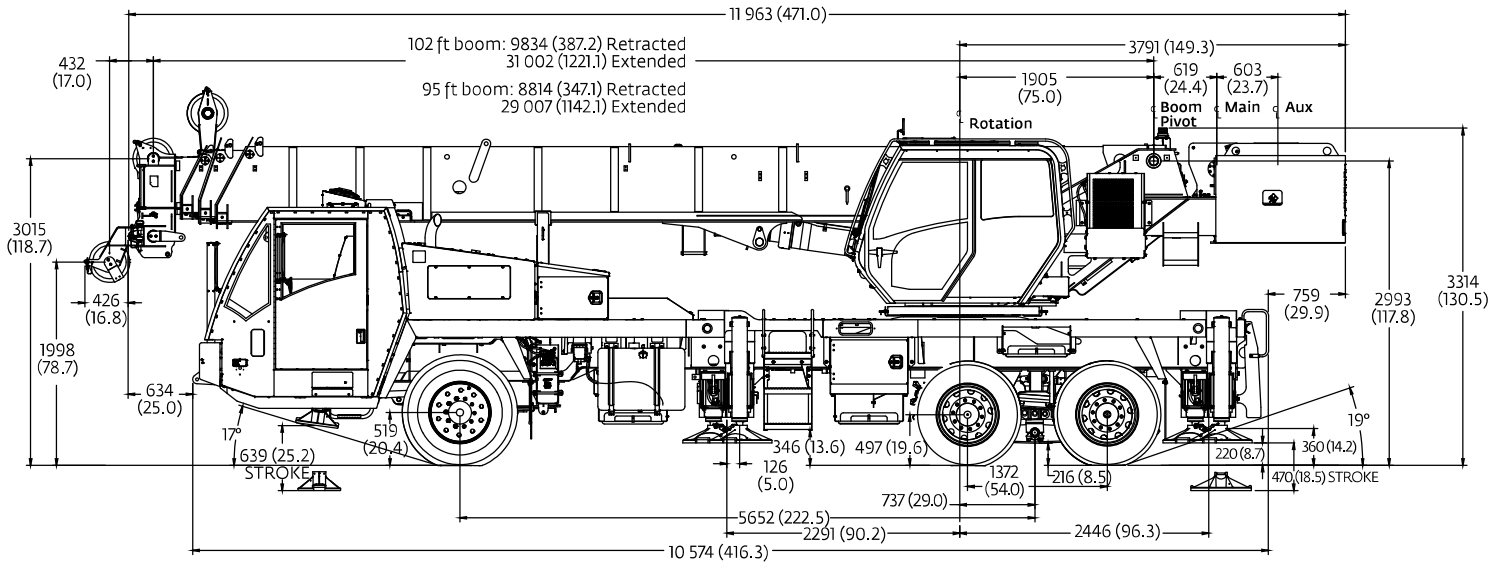
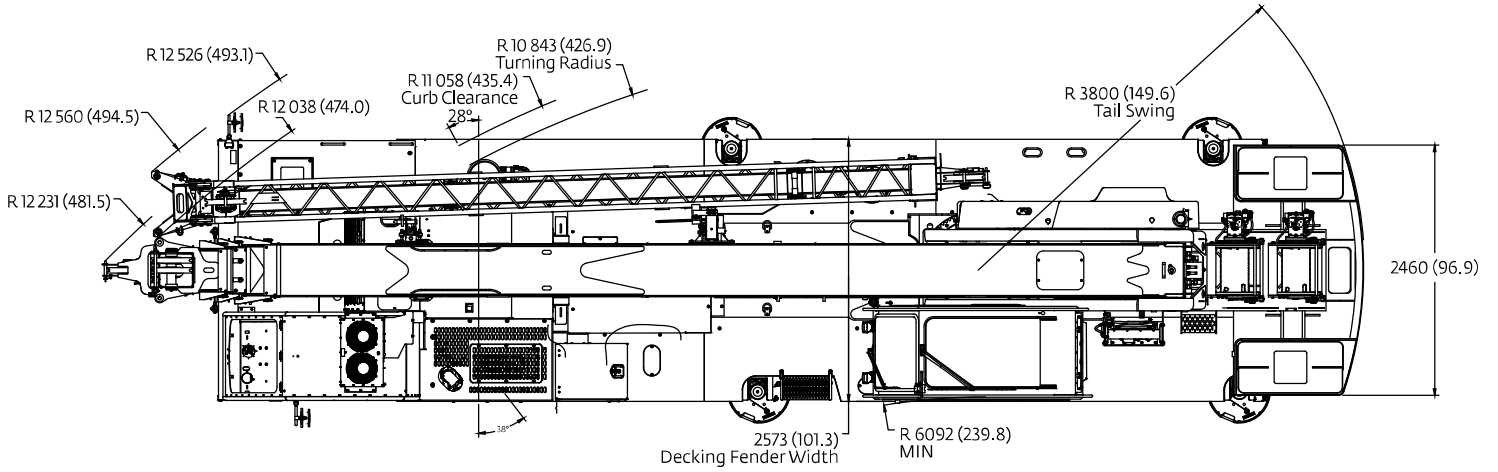


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Financial tools that help you capitalize on opportunity with solutions that fit your needs.

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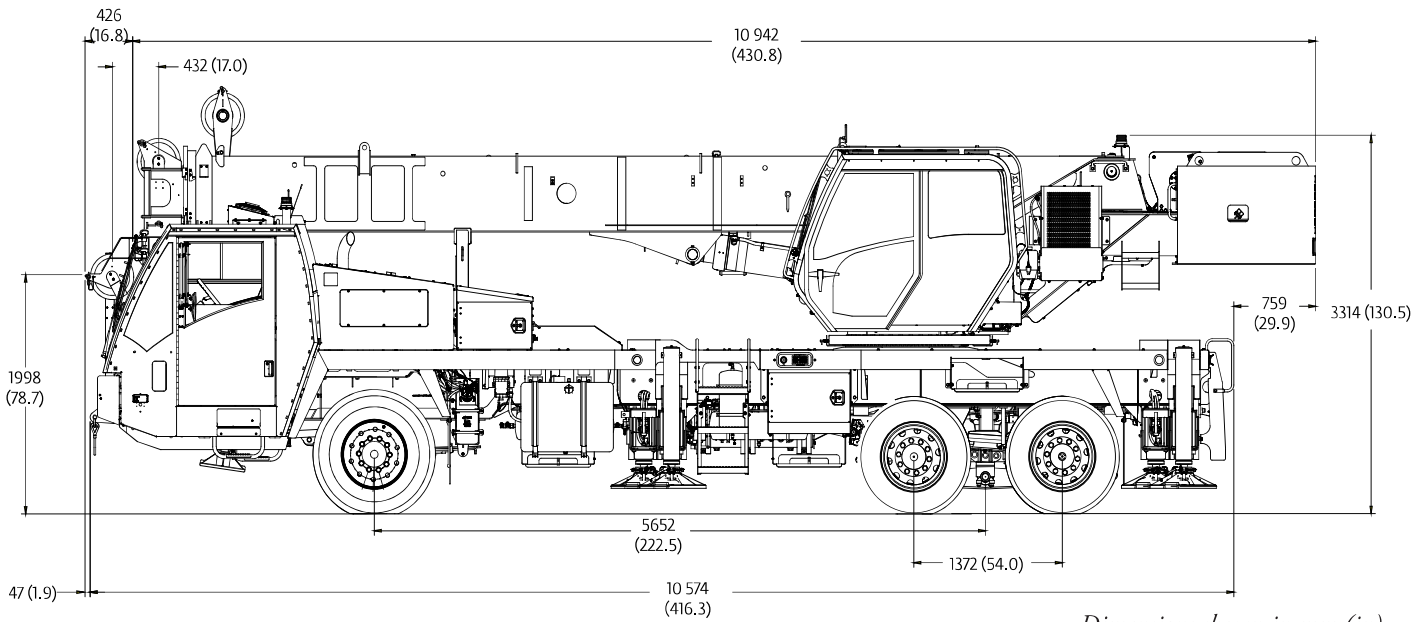
# Dimensions



Dimensions shown in mm (in)

# Travel proposals

## 29 m (95 ft) boom over front



Dimensions shown in mm (in)

### Unit configuration

	Front		Rear		G.V.W.	
<b>Basic machine:</b> Includes ISL9 on-highway engine, main hoist with wire rope, air conditioning, no counterweight, full fuel tank and driver	8965 kg	19,765 lb	14 139 kg	31,172 lb	23 103 kg	50,934 lb
<b>Add:</b> 2268 kg (5000 lb) counterweight	8028 kg	17,699 lb	17 348 kg	38,245 lb	25 376 kg	55,944 lb
<b>Add:</b> 3856 kg (8500 lb) counterweight	7384 kg	16,278 lb	19 580 kg	43,166 lb	26 963 kg	59,444 lb
7,9 m – 13,7 m (26 ft – 45 ft) telescoping swingaway lattice extension (includes brackets)	592 kg	1305 lb	269 kg	593 lb	861 kg	1898 lb
Auxiliary hoist	-75 kg	-165 lb	260 kg	574 lb	186 kg	409 lb
Auxiliary boom nose	67 kg	148 lb	-20 kg	-43 lb	48 kg	105 lb
6,8 t (7.5 USt) overhaul ball in stowage tray	229 kg	505 lb	-62 kg	-136 lb	167 kg	369 lb
30 t (33 USt) three-sheave hook block in stowage tray	409 kg	902 lb	-117 kg	-258 lb	292 kg	644 lb

# Load handling

<b>Auxiliary boom nose</b>	48 kg (105 lb)
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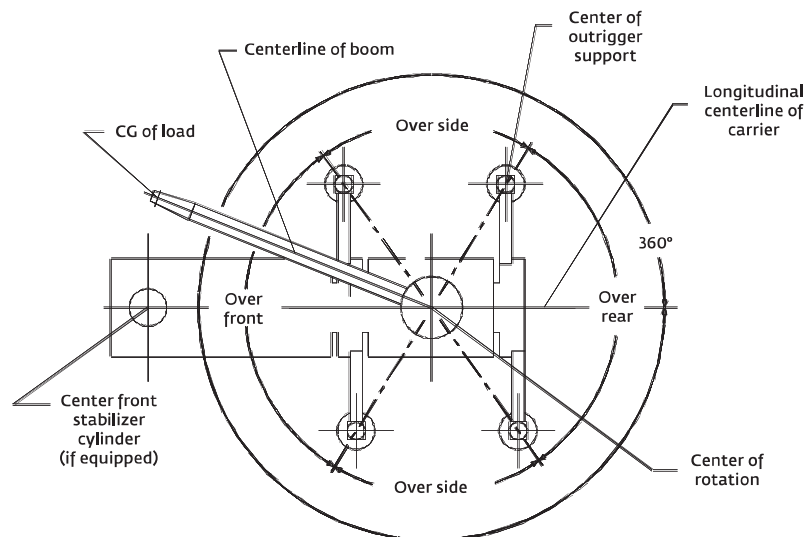
<b>Hook blocks and overhaul weights:</b>	
36 t (40 USt) 4-sheave	351 kg (774 lb) +
30 t (33 USt) 3-sheave	292 kg (644 lb) +
17 t (19 USt) 1-sheave	261 kg (575 lb) +
6,8 t (7,5 USt) overhaul ball	167 kg (369 lb) +
+ Refer to rating plate for actual weight.	
When lifting over extension and/or jib combinations, deduct total weight of all load handling devices reeved over main boom nose directly from swingaway or jib capacity.	

Hoists	Cable specs	Permissible line pulls	Nominal cable length
Main	16 mm (5/8 in) 35 x 7 Class Rotation Resistant Min. Breaking Strength 27 760 kg (61,200 lb)	5552 kg (12,240 lb)	138 m (453 ft)
Auxiliary	16 mm (5/8 in) 35 x 7 Class Rotation Resistant Min. Breaking Strength 27 760 kg (61,200 lb)	5552 kg (12,240 lb)	138 m (453 ft)
The approximate weight of 16 mm (5/8 in) wire rope is 1.3 kg/m (0.9 lb/ft)			

<b>Hoist performance</b>			
Wire rope layer	Hoist line pull	Drum rope capacity m (ft)	
	Available*	Layer	Total
1	5500 kg (12,200 lb)	22,6 m (74 ft)	22,6 m (74 ft)
2	5035 kg (11,100 lb)	24,7 m (81 ft)	47,2 m (155 ft)
3	4600 kg (10,100 lb)	27,1 m (89 ft)	74,4 m (244 ft)
4	4218 kg (9300 lb)	29,3 m (96 ft)	103,6 m (340 ft)
5	3950 kg (8700 lb)	31,7 m (104 ft)	135,3 m (444 ft)

## Working area diagram

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



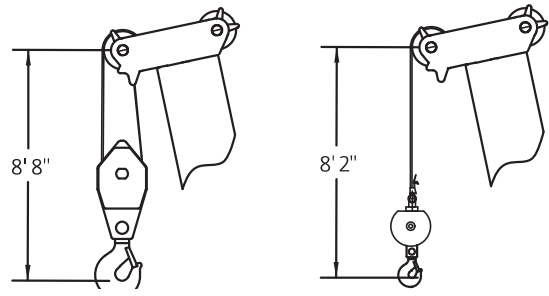
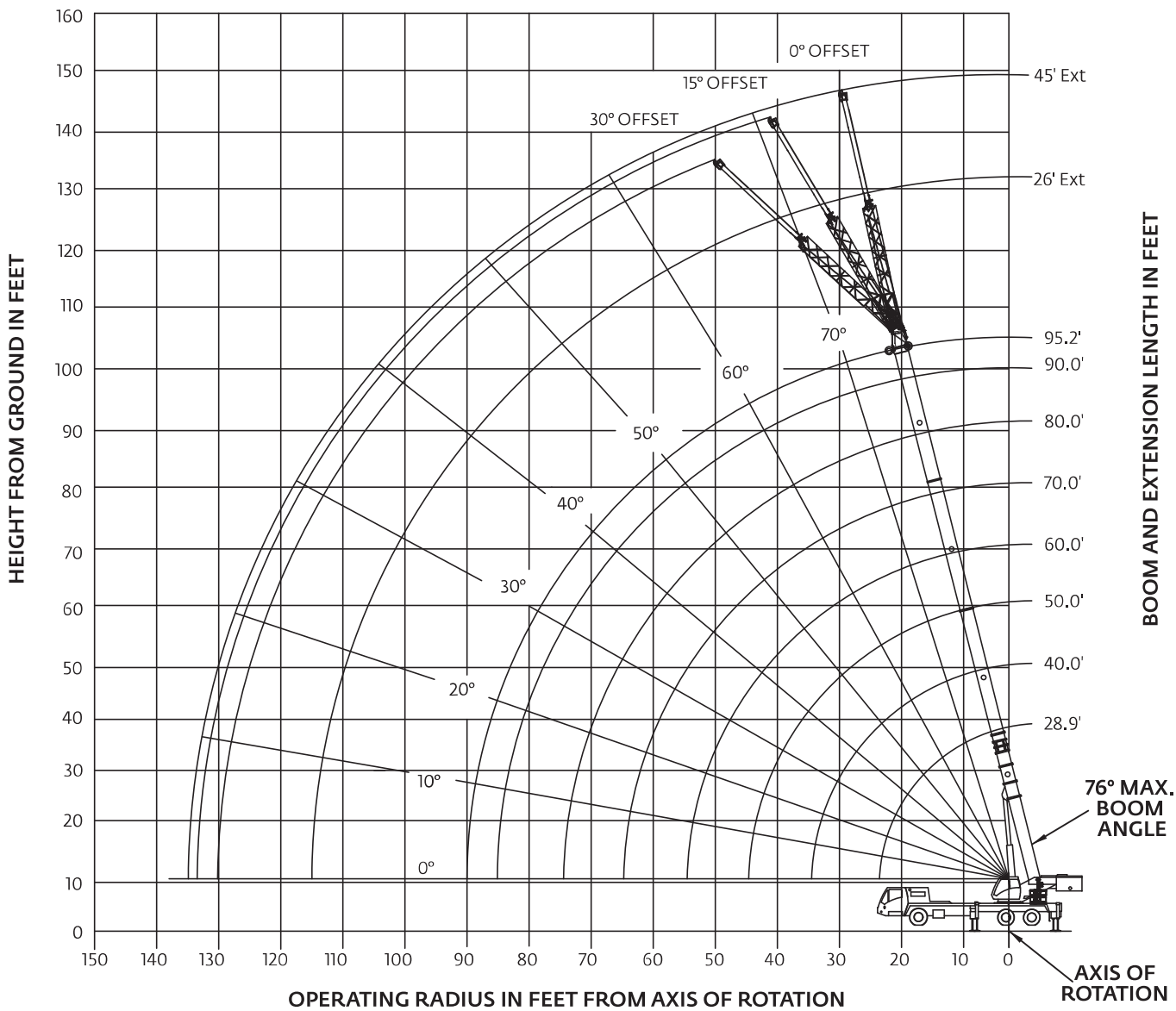
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# Working range

Main boom

95 ft main boom



**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



29 ft – 95 ft



8500 lb



100%



360°



Pounds

Radius in feet	Main boom length in feet							
	28.9	40.0	50.0	60.0	70.0	80.0	90.0	95.2
8	80,000 (66)							
10	63,000 (61.5)	50,100 (70)	46,950 (74.5)					
12	55,050 (56.5)	50,100 (67)	44,950 (72)	38,850 (75.5)				
15	46,300 (48)	48,750 (62)	41,050 (68.5)	36,000 (72.5)	29,450 (75.5)			
20	36,300 (30.5)	38,400 (53.5)	36,450 (62)	29,500 (67.5)	27,400 (71)	22,450 (74)	18,550* (76)	15,500* (76)
25		29,150 (43)	29,550 (55)	24,800 (62)	23,100 (66.5)	19,250 (70)	16,500 (72.5)	15,300 (73.5)
30		23,050 (29.5)	23,450 (47.5)	21,100 (56.5)	19,600 (62)	16,850 (66)	14,400 (69)	13,200 (70.5)
35			18,600 (38.5)	18,350 (50)	17,000 (57)	14,850 (62)	12,700 (65.5)	11,500 (67)
40			14,650 (26.5)	14,650 (43)	14,950 (52)	13,250 (58)	11,000 (62)	10,000 (64)
45				11,800 (35)	12,150 (46.5)	11,950 (53.5)	9630 (58.5)	9060 (60.5)
50				9710 (24)	10,000 (40)	10,350 (48.5)	8740 (54.5)	7990 (57)
55					8390 (32.5)	8730 (43.5)	7760 (50.5)	7100 (53)
60					7080 (22)	7410 (37.5)	6920 (46)	6320 (49)
65						6340 (30.5)	6210 (41)	5650 (45)
70						5440 (21)	5460 (35.5)	5080 (40)
75							4700 (29)	4570 (35)
80							4050 (20)	4060 (28.5)
85								3490 (20)
Min. boom angle for indicated length (no load)							0°	
Max. boom length at 0° boom angle (no load)							95.2 ft	

NOTE: ( ) Boom angles are in degrees.

Boom angle	Main boom length in feet							
	28.9	40	50	60	70	80	90	95.2
0°	26,450 (22.7)	17,850 (33.8)	12,450 (43.8)	8430 (53.8)	6240 (63.8)	4860 (73.8)	3610 (83.8)	3100 (88.9)

NOTE: ( ) Reference radii in feet.

\* This capacity is based on maximum boom angle.

*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

## Main boom



Pounds

Radius in feet	Main boom length in feet							
	28.9	40.0	50.0	60.0	70.0	80.0	90.0	95.2
8	80,000 (66)							
10	63,000 (61.5)	50,100 (70)	46,950 (74.5)					
12	55,050 (56.5)	50,100 (67)	44,950 (72)	38,850 (75.5)				
15	46,300 (48)	48,750 (62)	41,050 (68.5)	36,000 (72.5)	29,450 (75.5)			
20	35,800 (30.5)	36,650 (53.5)	36,450 (62)	29,500 (67.5)	27,400 (71)	22,450 (74)	18,550* (76)	15,500* (76)
25		27,750 (43)	28,150 (55)	24,800 (62)	23,100 (66.5)	19,250 (70)	16,500 (72.5)	15,300 (73.5)
30		21,500 (29.5)	21,500 (47.5)	21,100 (56.5)	19,600 (62)	16,850 (66)	14,400 (69)	13,200 (70.5)
35			16,200 (38.5)	16,200 (50)	16,500 (57)	14,850 (62)	12,700 (65.5)	11,500 (67)
40			12,650 (26.5)	12,650 (43)	12,950 (52)	13,250 (58)	11,000 (62)	10,000 (64)
45				10,100 (35)	10,450 (46.5)	10,750 (53.5)	9630 (58.5)	9060 (60.5)
50				8220 (24)	8550 (40)	8880 (48.5)	8740 (54.5)	7990 (57)
55					7070 (32.5)	7400 (43.5)	7420 (50.5)	7100 (53)
60					5880 (22)	6220 (37.5)	6240 (46)	6240 (49)
65						5250 (30.5)	5270 (41)	5280 (45)
70						4440 (21)	4460 (35.5)	4470 (40)
75						3780 (29)	3790 (35)	3790 (35)
80						3190 (20)	3200 (28.5)	3200 (28.5)
85							2690 (20)	2690 (20)
Min. boom angle for indicated length (no load)							0°	
Max. boom length at 0° boom angle (no load)							95.2 ft	

NOTE: ( ) Boom angles are in degrees.

\* This capacity is based on maximum boom angle.

Boom angle	Main boom length in feet							
	28.9	40	50	60	70	80	90	95.2
0°	26,450 (22.7)	17,300 (33.8)	10,700 (43.8)	7060 (53.8)	5130 (63.8)	3910 (73.8)	2800 (83.8)	2340 (88.9)

NOTE: ( ) Reference radii in feet.

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# Load chart

## Main boom



29 ft – 95 ft



0 lb



100%



360°



Pounds

Radius in feet	Main boom length in feet							
	28.9	40	50	60	70	80	90	95.2
8	80,000 (66)							
10	63,000 (61.5)	50,100 (70)	46,950 (74.5)					
12	55,050 (56.5)	50,100 (67)	44,950 (72)	38,850 (75.5)				
15	46,300 (48)	47,550 (62)	41,050 (68.5)	36,000 (72.5)	29,450 (75.5)			
20	30,200 (30.5)	33,500 (53.5)	33,900 (62)	29,500 (67.5)	27,400 (71)	22,450 (74)	18,550* (76)	15,500* (76)
25		24,600 (43)	24,650 (55)	24,700 (62)	23,100 (66.5)	19,250 (70)	16,500 (72.5)	15,300 (73.5)
30		17,200 (29.5)	17,250 (47.5)	17,250 (56.5)	17,550 (62)	16,850 (66)	14,400 (69)	13,200 (70.5)
35			12,750 (38.5)	12,750 (50)	13,100 (57)	13,400 (62)	12,700 (65.5)	11,500 (67)
40			9820 (26.5)	9800 (43)	10,100 (52)	10,450 (58)	10,450 (62)	10,000 (64)
45				7670 (35)	8000 (46.5)	8330 (53.5)	8350 (58.5)	8370 (60.5)
50				6070 (24)	6400 (40)	6730 (48.5)	6760 (54.5)	6770 (57)
55					5160 (32.5)	5490 (43.5)	5510 (50.5)	5520 (53)
60					4160 (22)	4500 (37.5)	4520 (46)	4530 (49)
65						3680 (30.5)	3710 (41)	3720 (45)
70						3010 (21)	3030 (35.5)	3040 (40)
75						2450 (29)	2470 (35)	2470 (35)
80						1960 (20)	1970 (28.5)	1970 (28.5)
85							1550 (20)	1550 (20)
Min. boom angle for indicated length (no load)							0°	
Max. boom length at 0° boom angle (no load)							95.2 ft	

NOTE: ( ) Boom angles are in degrees.

\* This capacity is based on maximum boom angle.

Boom angle	Main boom length in feet							
	28.9	40	50	60	70	80	90	95.2
0°	20,800 (22.7)	13,700 (33.8)	8150 (43.8)	5100 (53.8)	3530 (63.8)	2560 (73.8)	1630 (83.8)	1240 (88.9)

NOTE: ( ) Reference radii in feet.

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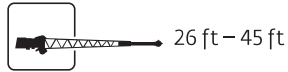
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# Load chart

## Main boom and extension



95 ft



26 ft – 45 ft



5000 lb



100%



360°



Pounds

Radius in feet	26 ft length			45 ft length		
	0° offset	15° offset	30° offset	0° offset	15° offset	30° offset
30	8750* (76)					
35	8750 (73.5)	7770* (76)		5250* (76)		
40	8500 (71)	7600 (73.5)	6300* (76)	5250 (74.5)		
45	8130 (68.5)	7130 (71)	5920 (74)	5160 (72.5)	3660* (76)	
50	7420 (66)	6420 (68)	5650 (71)	4850 (70.5)	3600 (74)	
55	6520 (63.5)	5630 (65.5)	5400 (68.5)	4440 (68)	3480 (71.5)	3000* (76)
60	5820 (60.5)	4950 (62.5)	4990 (65.5)	4110 (66)	3370 (69)	2950 (74)
65	5100 (57.5)	4380 (60)	4450 (62.5)	3870 (63.5)	3260 (67)	2850 (71.5)
70	4410 (54.5)	3860 (57)	3940 (59.5)	3690 (61)	3160 (64.5)	2750 (69)
75	3710 (51.5)	3410 (54)	3480 (56.5)	3550 (58.5)	3040 (62)	2660 (66.5)
80	3110 (48.5)	3010 (50.5)	3070 (53)	3390 (56)	2920 (59.5)	2570 (64)
85	2590 (45)	2650 (47)	2700 (49)	3080 (53.5)	2800 (57)	2500 (61)
90	2140 (41)	2300 (43)	2360 (45.5)	2760 (51)	2700 (54)	2430 (58)
95	1730 (37)	1880 (39)	1980 (41)	2430 (48)	2590 (51.5)	2380 (55)
100	1380 (32.5)	1510 (34.5)	1590 (36)	2070 (45)	2240 (48.5)	2320 (52)
105	1060 (27.5)	1170 (29)		1750 (42)	1890 (45)	2120 (48.5)
110				1460 (38.5)	1580 (41.5)	1780 (44.5)
115				1200 (34.5)	1290 (37.5)	1470 (40.5)
120					1030 (33)	1190 (35.5)
Min. boom angle for indicated length (no load)	26°	28°	35°	31°	32°	34°
Max. boom at 0° boom angle (no load)	80 ft			70 ft		

NOTE: ( ) Boom angles are in degrees.

\* This capacity is based on maximum boom angle.

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# Load chart

## Main boom and extension



29 ft – 95 ft



26 ft – 45 ft



8500 lb



100%



360°



Pounds

Radius in feet	26 ft length			45 ft length		
	0° offset	15° offset	30° offset	0° offset	15° offset	30° offset
30	8750* (76)					
35	8750 (73.5)	7770* (76)		5250* (76)		
40	8500 (71)	7600 (73.5)	6300* (76)	5250 (74.5)		
45	8130 (68.5)	7130 (71)	5920 (74)	5160 (72.5)	3660* (76)	
50	7420 (66)	6420 (68)	5650 (71)	4850 (70.5)	3600 (74)	
55	6520 (63.5)	5630 (65.5)	5400 (68.5)	4440 (68)	3480 (71.5)	3000* (76)
60	5820 (60.5)	4950 (62.5)	4990 (65.5)	4110 (66)	3370 (69)	2950 (74)
65	5100 (57.5)	4380 (60)	4450 (62.5)	3870 (63.5)	3260 (67)	2850 (71.5)
70	4500 (54.5)	3860 (57)	3940 (59.5)	3690 (61)	3160 (64.5)	2750 (69)
75	3910 (51.5)	3410 (54)	3480 (56.5)	3550 (58.5)	3040 (62)	2660 (66.5)
80	3480 (48.5)	3010 (50.5)	3070 (53)	3390 (56)	2920 (59.5)	2570 (64)
85	3050 (45)	2650 (47)	2700 (49)	3080 (53.5)	2800 (57)	2500 (61)
90	2650 (41)	2330 (43)	2360 (45.5)	2760 (51)	2700 (54)	2430 (58)
95	2310 (37)	2040 (39)	2070 (41)	2470 (48)	2590 (51.5)	2380 (55)
100	2000 (32.5)	1780 (34.5)	1700 (36)	2200 (45)	2360 (48.5)	2320 (52)
105	1690 (27.5)	1510 (29)		1960 (42)	2140 (45)	2210 (48.5)
110	1370 (20.5)			1740 (38.5)	1930 (41.5)	1990 (44.5)
115				1560 (34.5)	1740 (37.5)	1790 (40.5)
120				1440 (30.5)	1470 (33)	1400 (35.5)
125				1240 (25.5)	1280 (28)	
130				1040 (18.5)		
Min. boom angle for indicated length (no load)	19°	28°	35°	17°	27°	34°
Max. boom at 0° boom angle (no load)	90 ft			80 ft		

NOTE: ( ) Boom angles are in degrees.

\* This capacity is based on maximum boom angle.

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