

# Grove TM500E-2

## Product Guide

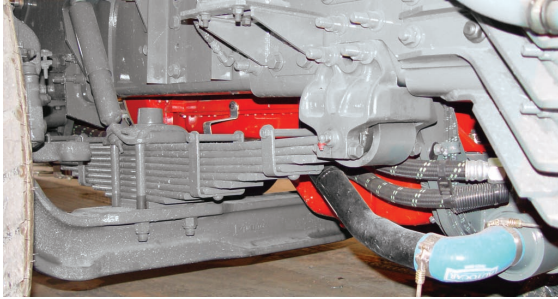


### Features

- 40 t (45 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
- Dual-Axis electronic joystick controllers
- Rear air suspension with shock absorbers



# Features



## Suspension

Spring front suspension with air ride rear suspension provides a comfortable ride at 105 km/h (65 mph).

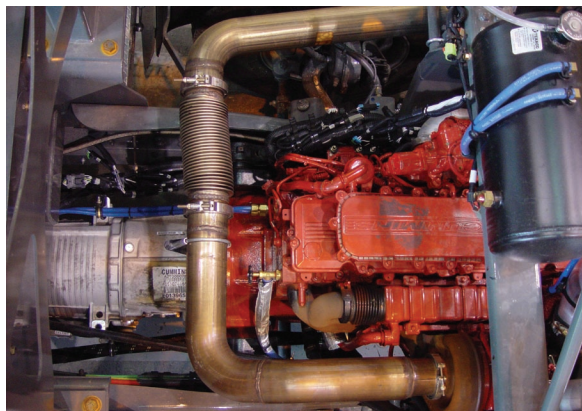


## Tip height

Maximum tip height of 47,0 m (154 ft) with 13,7 m (45 ft) telescopic extension.

## Carrier cab

Carrier cab layout provides automotive look. Tilt steering wheel enhances operator preference and comfort.



## Carrier engine

Cummins ISC diesel (07) engine meets current **On-Highway** emissions. Requires “ultra-low sulphur” diesel fuel.

# Contents

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# Specifications

## Superstructure



### Boom

8,8 m – 29 m (29 ft – 95 ft) four-section, synchronized full power boom.

Maximum tip height: 31,2 m (102.5 ft).



### \*Optional boom

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

Maximum tip height: 33,6 m (110 ft).



### Telescopic swingaway extension

7,9 m – 13,7 m (26 ft – 45 ft) offsettable telescopic lattice swingaway extension. Offsets at 0°, 15°, and 30°. Stows alongside base boom section.

Maximum tip height: 44,5 m (146 ft) with 29 m (95 ft) boom.

Maximum tip height: 47,0 m (154 ft) with 31 m (102 ft) boom.



### \*Optional fixed swingaway extension

7,9 m (26 ft) offsettable fixed swingaway extension. Offsets at 0°, 15°, and 30°. Stows alongside base boom section.

Maximum tip height: 38,9 m (127.6 ft) with 29 m (95 ft) boom.

Maximum tip height: 41,1 m (135 ft) with 31 m (102 ft) boom.



### Boom nose

Three nylatron sheaves (with 29 m/[95 ft] boom)  
Four nylatron sheaves (with 31 m/[102 ft] boom) mounted on heavy duty tapered roller bearings with removable pin-type rope guards. Quick reeve type boom nose.



### Boom elevation

One double acting hydraulic cylinder with integral holding valve provides elevation from -3° to +78°.



### Load moment and anti-two block system

Standard “Graphic Display” load moment and anti-two block system with audio-visual warning and control lever lockout. These systems provide electronic display of boom angle,

length, radius, tip height, relative load moment, maximum permissible load, load indication and warning of impending two-block condition. The standard Work Area Definition System allows the operator to pre-select and define safe working areas. If the crane approaches the pre-set limits, audio-visual warnings aid the operator in avoiding job-site obstructions.



### Cab

Full-vision, all-steel fabricated with acoustical lining and tinted safety glass throughout. Deluxe seat incorporates armrest-mounted electric dual-axis controllers. Dash panel incorporates gauges for all engine functions. Other standard features include: hot water heater, cab circulating air fan, sliding side and rear windows, sliding skylight with electric wiper and sunscreen, electric windshield wash/wipe, 12V power outlet, fire extinguisher and seat belt.



### Electrical system

Two 12V-maintenance free batteries.

24V electrical system with 24V starting and 24V lights.

Can-Bus diagnostic system.

Master battery disconnect for superstructure electrical system.



### Swing

Single speed, planetary swing drive with foot applied multi-disc wet brake. Spring applied, hydraulically released swing brake. Dual position mechanical house lock, operated from cab, and 360° mechanical swing lock. Maximum speed: 2.0 rpm.



### Engine (tier III)

Cummins QSB 3.3L 4 cylinder water-cooled diesel off-road engine. 82 kW (110 bhp) at 2400 rpm.

Maximum torque: 415 Nm (306 ft-lb)

Fuel requirement: Maximum of 5000 ppm sulfur content



### Fuel tank

114 L (30 gal)



### Counterweight (pinned to superstructure)

29 m (95 ft) boom: 1360 kg (3000 lb)

31 m (102 ft) boom: 2495 kg (5500 lb)

# Specifications

## Superstructure, continued



### Hydraulic system (S/S)

Two main pumps ([1] piston and [1] gear) with a combined capacity of 312 L/min (82.4 gpm).

Maximum operating pressure: 275.7 bar (4000 psi).

Three section pressure compensated valve bank. Return line type filter with full flow by-pass protection and service indicator. Replaceable cartridge with micron filtration rating of 5/12/16. 364 L (96 gal) hyd. reservoir. System pressure test ports.



### Hoist specifications (HP15C-17G) main and auxiliary hoists

Planetary reduction with automatic spring applied multi-disc wet brake. Electronic hoist drum rotation indicators, and hoist drum cable followers.

Maximum single line pull:

- 1st layer: 5280 kg (11,640 lb)
- 3rd layer: 4323 kg (9530 lb)
- 5th layer: 3656 kg (8060 lb)

Maximum permissible line pull:

- 5280 kg (11,640 lb) with 6x37 class rope.
- 5280 kg (11,640 lb) with 35x7 class rope.

Maximum single line speed: 136 m/min (445 fpm)

Rope Construction:

- 6X36 EIPS IWRC, Special Flexible
- 35x7 Flex-X, Rotation Resistant

Rope diameter: 16 mm (5/8 in)

Rope length:

- Main hoist: 137,0 m (450 ft)
- Auxiliary hoist: 137,0 m (450 ft)
- Maximum rope stowage: 181 m (596 ft)

## Carrier



### Chassis

“C” section frame fabricated from high-strength, low alloy steel with sub-frame “Huck-Bolted”. Front/rear towing and tie down lugs.



### Outrigger system

Four hydraulic telescoping single-stage double box beam outriggers with inverted jacks and integral holding valves. Three position setting, 0%, 50% and fully extended.

All steel fabricated, quick release type outrigger floats, 610 mm (24.0 in) round. \*Optional aluminum outrigger pads available in place of steel.

Maximum outrigger pad load: 27 216 kg (60,000 lb).



### Outrigger controls

Located in the superstructure cab, requires two hand operation. Crane level indicator (360° sight bubble) on left side of console. Carrier mounted controls with emergency shutdown located on each side of carrier for set-up also. Note: no front stabilizer required.



### Engine (Required for sale inside the US and Canada)

Cummins ISC300 (2007 On-Highway EPA Certified), six-cylinders, turbo-charged after cooled diesel engine. 224 kW (300 bhp) at 2000 rpm.

Maximum torque: 1166 Nm (860 ft lb) at 1300 rpm.

Fuel requirement: Maximum of 15 ppm sulfur content (ultra low sulfur diesel).

Equipped with engine exhaust brake, low oil pressure/high water temperature audio/visual warning system, grid heater and (120V) immersion block heater



### Engine (Required for sale outside the US and Canada)

Cummins ISC300 (2002 On-Highway EPA Certified) six-cylinders, turbo-charged after cooled diesel engine. 224 kW (300 bhp) at 2000 rpm.

Maximum torque: 1166 Nm (860 ft lb) at 1300 rpm

Fuel requirement: Maximum of 5000 ppm sulfur content

Equipped with engine exhaust brake, low oil pressure/high water temperature audio/visual warning system, grid heater and (120V) immersion block heater.



### Fuel tank

284 L (75 gal) aluminum.



### Transmission

Allison automatic push button with 6 speeds forward and 1 reverse.

Integral torque convertor. Remote mounted transmission dip-stick. Synthetic fluid.

# Specifications

## Carrier, continued



### Electrical system

Three (3) 12 V - maintenance free batteries.  
12 V starting and 12 V lighting. Master battery disconnect for carrier electrical system.



### Drive

6 x 4 x 2.



### Steering

Front axle, mechanical with hydraulic power assist controlled by the steering wheel.

Turning radius: 12,7 m (41.6 ft)



### Axles

Front: Single, Meritor non-drive / steer with 9072 kg (20,000 lb) rating.

Rear: Dual, drive/non-steer single reduction drive, inter-axle differential lock, with 20 866 kg (46,000 lb) rating.

Synthetic fluids.



### Brakes

ABS, S-cam, dual line air system operating on all wheels.  
Spring – applied, air released parking brake acting on rear axles. Air dryer is standard.



### Tires

**Std. Front:** 425/65R22.5 radial highway tread tubeless singles.

**Std. Rear:** 11R22.5 highway tread tubeless duals.



### Suspension

**Front:** Spring mounted single axle with shock absorbers.

**Rear:** Air bags with shock absorbers.



### Lights

Full lighting including turn indicators, head, tail, brake and hazard warning lights. Day-time running lights.



### Cab

Cab over / low profile two person design with manual hydraulic tilt.

Double galvanized steel fabricated with acoustical lining and tinted glass throughout. Deluxe fabric covered, fully air adjustable drivers seat with armrests and 3 point retractable seatbelt. Complete driving controls and engine instrumentation including tilt steering wheel, tachometer, hourmeter, engine oil pressure, engine coolant temperature, fuel level, air system pressure, and speedometer gauges, transmission temperature warning, low air warning, and park brake indicator. 50,000 BTU heater/defroster, and 28,500 BTU air conditioning combination. Wired for radio.



### Maximum speed

104,6 km/h (65 mph)



### Gradeability (theoretical)

32% based on 25 913 kg (57,127 lb) G.V.W.

## Miscellaneous standard equipment

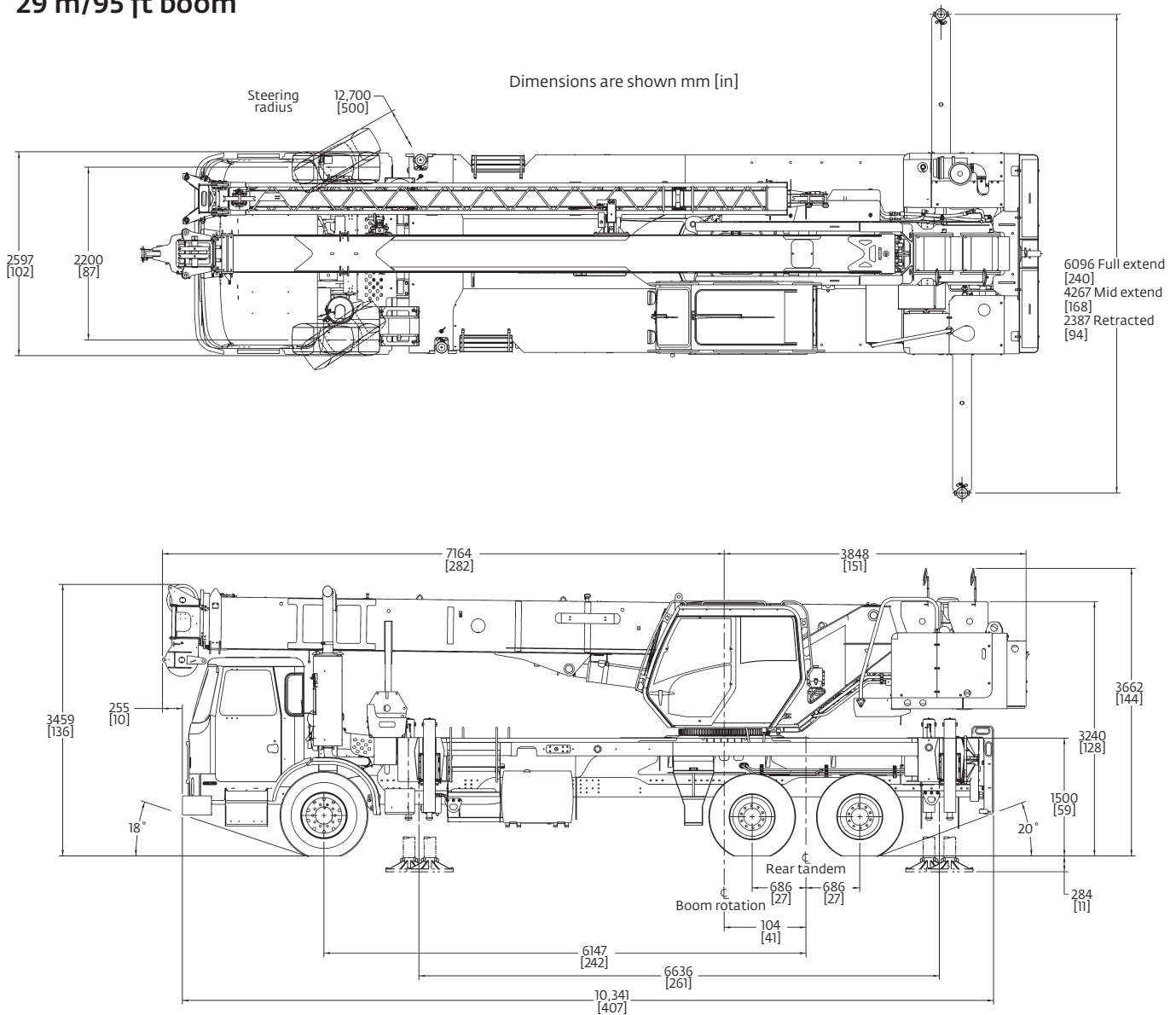
Full length aluminum decking, dual West Coast style rear view mirrors, electronic back-up alarm, hook block and headache ball stowage areas, hoist mirrors, aluminum front/rear wheels (outer rear only), stainless steel exhaust system with aluminum heat shield.

## \*Optional equipment

- ▶ **Auxiliary Hoist Package:** Includes Model HP15C-17G auxiliary hoist with electronic hoist drum rotation indicator, hoist drum cable follower, 137,0 m (450 ft) of 16 mm (5/8 in) 35 x 7 class wire rope and auxiliary single sheave boom nose.
- ▶ **Auxiliary Lighting Package:** Includes superstructure cab mounted amber flashing light, dual base boom mounted floodlights and LMI light bar (in cab).
- ▶ Pusher axle
- ▶ Full width rear mounted aluminum stowage box with access steps
- ▶ Right side mounted sling box
- ▶ Cross axle differential lock.
- ▶ Remote drive / steer
- ▶ -20 Degree cold weather package
- ▶ Aluminum outrigger pads
- ▶ Single axis controllers

# Dimensions

## 29 m/95 ft boom

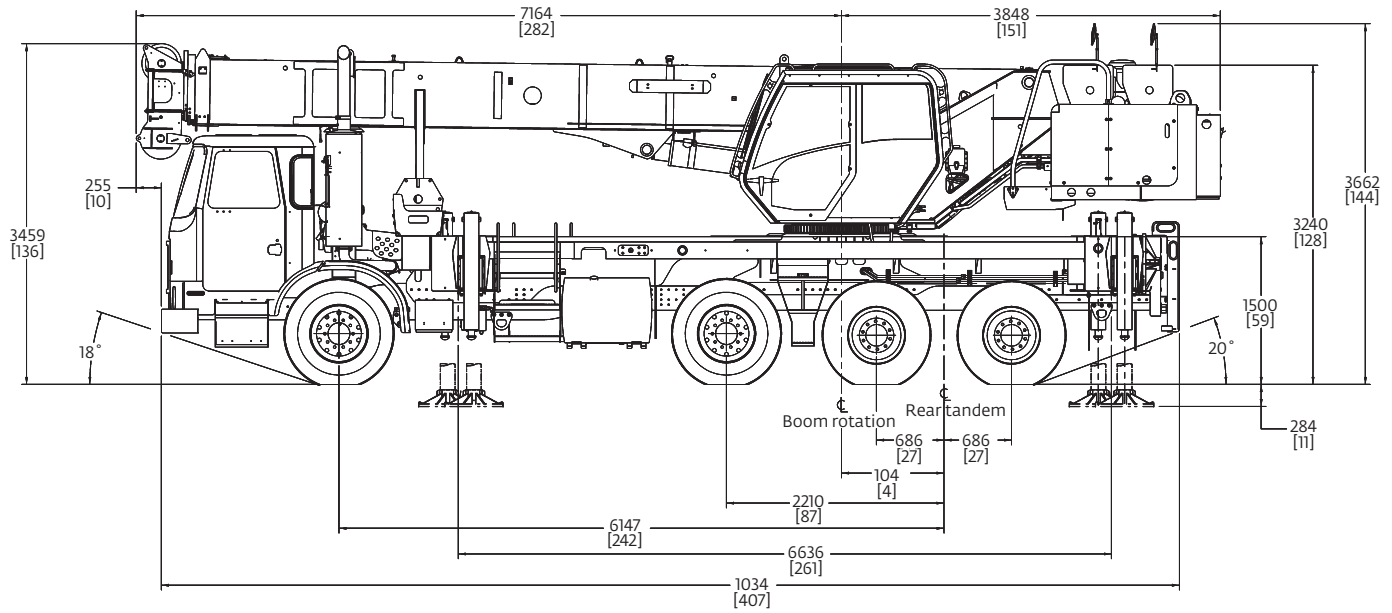


Weights	Gross (kg/lb)	Front (kg/lb)	Rear (kg/lb)
<b>Axle allowable</b>			
Basic machine including 29,0 m (95 ft) main boom, main hoist with 137,0 m (450 ft) of rope, full counterweight + IPO, 6,8 t (7.5 USt) headache ball, 22,6 t (25 USt) hookblock, and boom extension hangers	25 913 (57,127)	7669 (16,906)	18 244 (40,221)
<b>Additions:</b>			
7,9 m – 13,7 m (26 ft – 45 ft) telescopic boom extension	745 (1642)	518 (1143)	226 (499)
Auxiliary Hoist + 137,0 m (450 ft) of 35 x 7 hoist cable ILO the IPO counterweight	176 (388)	-58 (-128)	234 (516)
Air conditioning to S/S cab	35 (77)	5 (-12)	40 (89)

# Dimensions

## 29 m/ 95 ft boom with pusher axle

Dimensions are shown mm [in]

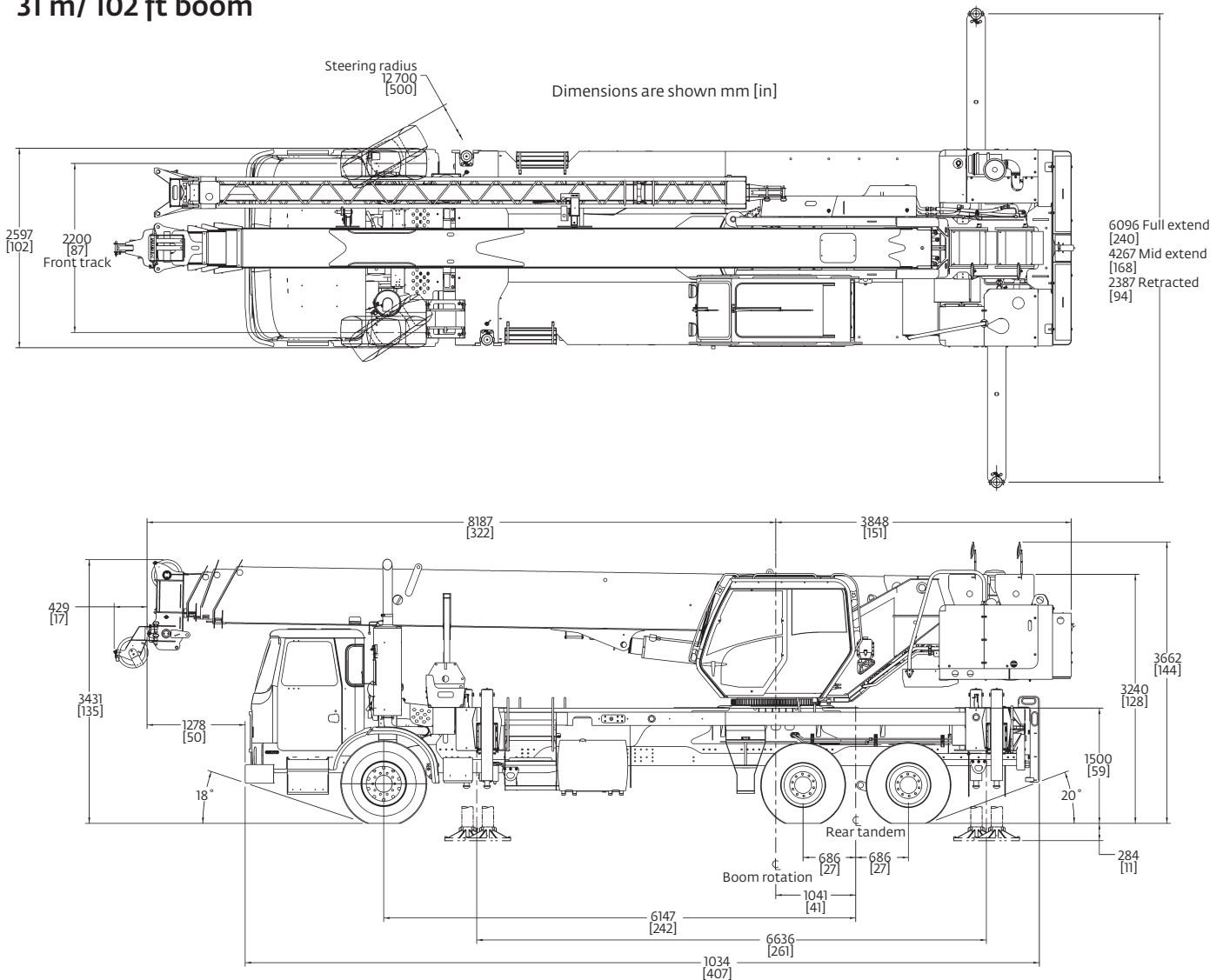


Weights	Gross (kg/lb)	Front (kg/lb)	Pusher (kg/lb)	Rear (kg/lb)
<b>Axle allowable</b>				
Basic machine with pusher axle including 29,0 m (95 ft) main boom, main hoist with 137,0 m (450 ft) of rope, full counterweight + IPO, 22,6 t (25 USt) hookblock, 6,8 t (7.5 USt) headache ball and boom extension hangers	26 780 (59,039)	4748 (10,467)	9072 (20,000)	12 960 (28,572)
<b>Additions:</b>				
7,9 m – 13,7 m (26 ft – 45 ft) telescopic boom extension	745 (1642)	518 (1143)	NO CHANGE	226 (499)
Auxiliary Hoist + 137,0 m (450 ft) of 35 x 7 hoist cable ILO the IPO counterweight	176 (388)	-58 (-128)	NO CHANGE	234 (516)
Air conditioning to S/S cab	35 (77)	5 (-12)	NO CHANGE	40 (89)



# Dimensions

## 31 m/ 102 ft boom

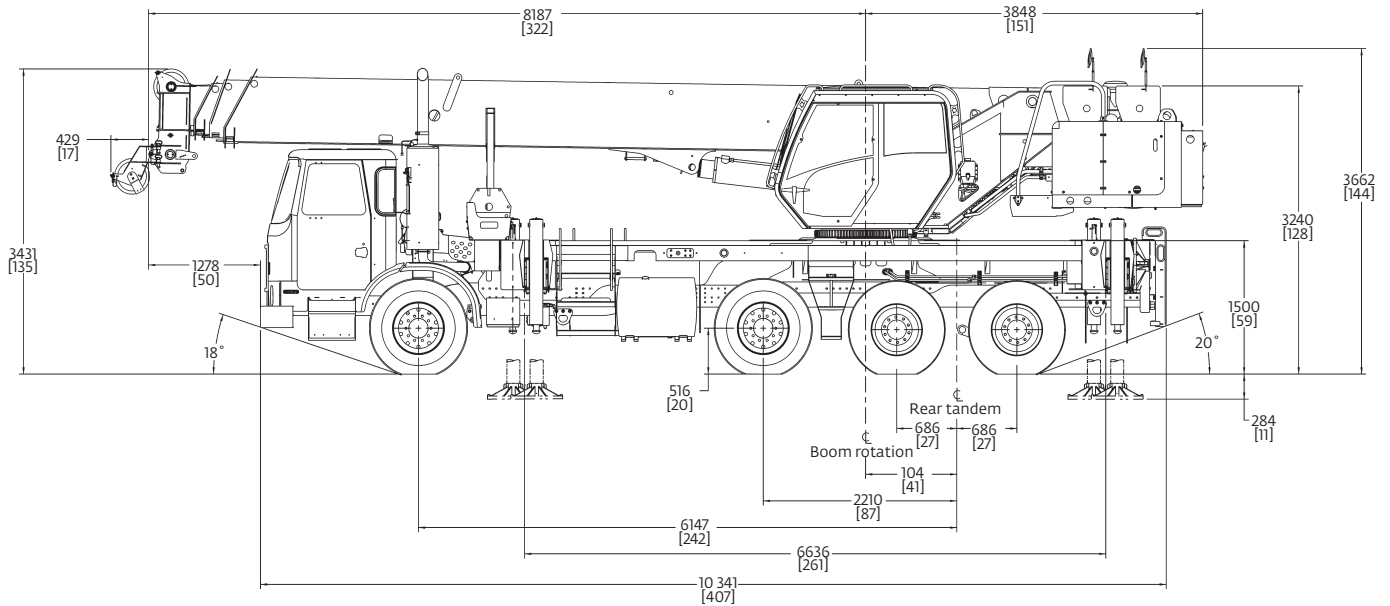


Weights	Gross (kg/lb)	Front (kg/lb)	Rear (kg/lb)
<b>Axle allowable</b>			
Basic machine including 31,0 m (102 ft) main boom, main hoist with 137,0 m (450 ft) of rope, full counterweight + IPO, 6,8 t (7.5 USt) headache ball, 22,6 t (25 USt) hookblock, and boom extension hangers	28 019 (61,770)	8112 (17,903)	19 898 (43,867)
<b>Additions:</b>			
7,9 m – 13,7 m (26 ft – 45 ft) telescopic boom extension	745 (1642)	642 (1416)	103 (226)
Auxiliary Hoist + 137,0 m (450 ft) of 35 x 7 hoist cable ILO the IPO counterweight	176 (388)	-58 (-128)	234 (516)
Air conditioning to S/S cab	35 (77)	5 (-12)	40 (89)

# Dimensions

## 31 m/102 ft boom with pusher axle

Dimensions are shown in mm [in]

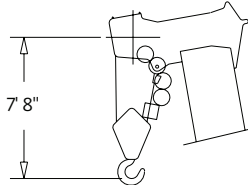
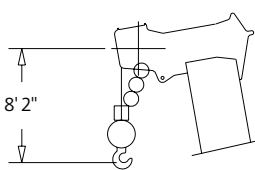
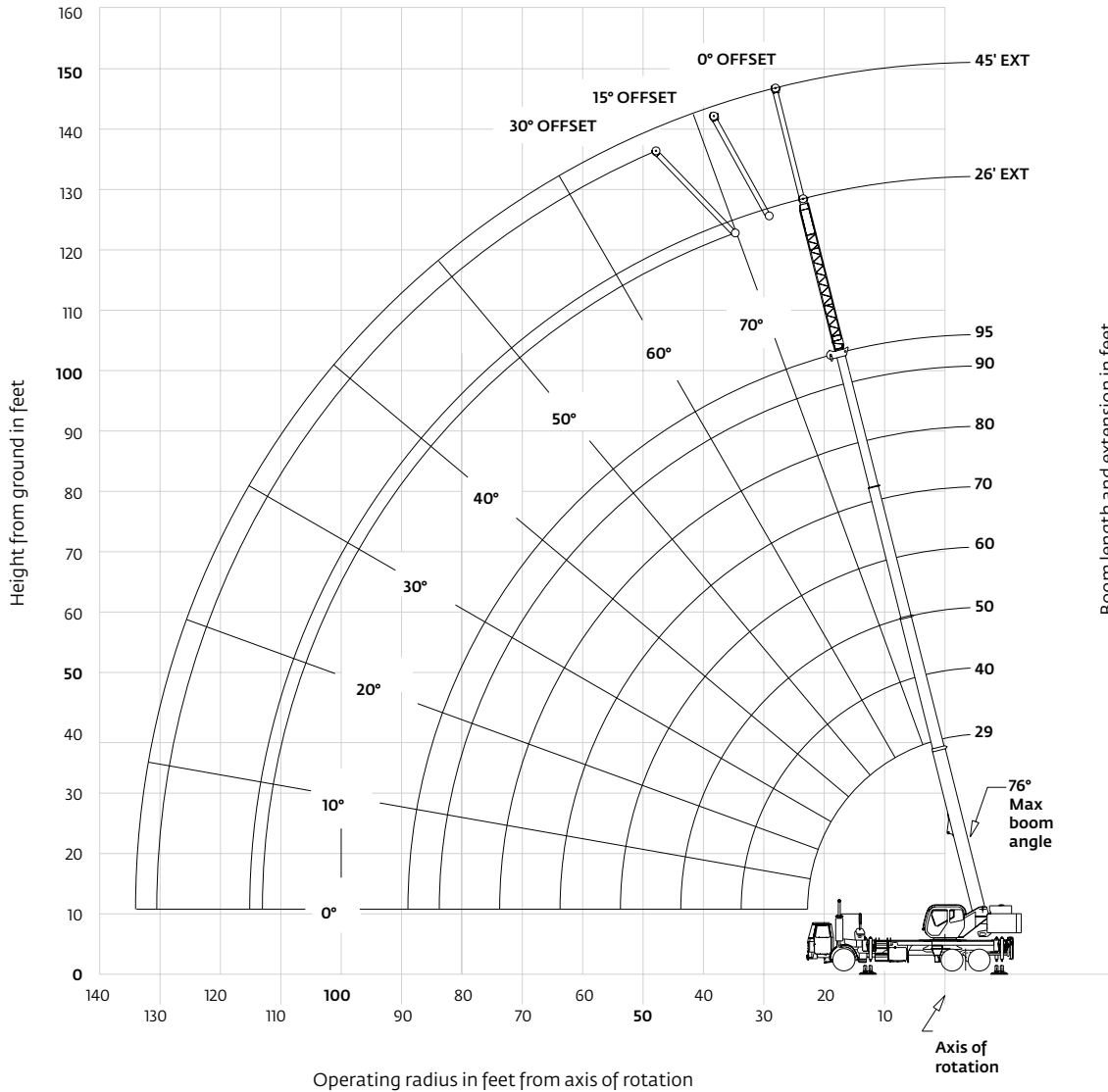


Weights	Gross (kg/lb)	Front (kg/lb)	Pusher (kg/lb)	Rear (kg/lb)
<b>Axle allowable</b>				
Basic machine with pusher axle including 31,0 m (102 ft) main boom, main hoist with 137,0 m (450 ft) of rope, full counterweight + IPO, 22,6 t (25 USt) hookblock, 6,8 t (7.5 USt) headache ball & boom extension hangers	28 886 (63,682)	5200 (11,463)	9072 (20,000)	14 615 (32,219)
<b>Additions:</b>				
7,9 m – 13,7 m (26 ft – 45 ft) telescopic boom extension	745 (1642)	642 (1416)	NO CHANGE	103 (226)
Auxiliary Hoist + 37,0 m (450 ft) of 35 x 7 hoist cable ILO the IPO counterweight	176 (388)	-58 (-128)	NO CHANGE	234 (516)
Air conditioning to S/S cab	35 (77)	5 (-12)	NO CHANGE	40 (89)

# Working range

29 ft – 95 ft main boom + 26 ft – 45 ft lattice extension

(Boom deflection not shown)



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

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.

Grove TM500E-2 The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.

# Load charts

 29 ft - 95 ft    
  3000 lb    
  100%  
20 ft 0 in    
  360°

		Pounds							
		Main boom length in feet							
Feet		29	40	50	60	70	80	90	95
8	80,000 (65.5)								
10	63,000 (61)	50,100 (70.5)	46,950 (75.5)						
12	55,050 (56)	50,100 (67.5)	44,950 (73)	38,850 (75.5)					
15	46,300 (48)	48,450 (62.5)	41,050 (69)	36,000 (73.5)	29,450 (75.5)				
20	34,600 (30.5)	35,400 (53.5)	35,750 (62.5)	29,500 (68.5)	27,400 (72)	22,450 (75)	18,550 (75.5)	15,500 (75.5)	
25		27,300 (43)	27,650 (55.5)	24,800 (63)	23,100 (67.5)	19,250 (71)	16,500 (73.5)	15,300 (74.5)	
30		21,850 (29.5)	22,200 (48)	21,100 (57)	19,600 (63)	16,850 (67)	14,400 (70)	13,200 (71.5)	
35			17,750 (38.5)	17,950 (51)	17,000 (58)	14,850 (63)	12,700 (66.5)	11,500 (68)	
40			14,000 (26.5)	14,150 (44)	14,300 (52.5)	13,250 (58.5)	11,000 (63)	10,000 (65)	
45				11,500 (35.5)	11,550 (47)	11,650 (54)	9630 (59)	9060 (61.5)	
50	See Note 16			9480 (25)	9540 (40.5)	9600 (49.5)	8740 (55)	7990 (57.5)	
55					7950 (33)	8000 (44)	7760 (51)	7100 (54)	
60						6690 (23)	6720 (38)	6780 (46.5)	6320 (50)
65							5670 (31)	5750 (41.5)	5650 (45.5)
70								4800 (21.5)	4890 (36)
75									4160 (29.5)
80									
85									
	Minimum boom angle (°) for indicated length (no load)								0
	Maximum boom length (ft) at 0° boom angle (no load)								95

NOTE: ( ) Boom angles are in degrees.  
#LMI operating code. Refer to LMI manual for operating instructions.  
\*This capacity is based on maximum boom angle.

		Lifting capacities at zero degree boom angle							
		Main boom length in feet							
Boom angle		29	40	50	60	70	80	90	95
0°		26,150 (22.7)	17,550 (33.8)	11,900 (43.8)	8250 (53.8)	5880 (63.8)	4220 (73.8)	3110 (83.8)	2670 (88.9)

NOTE: ( ) Reference radii in feet. 80006510

 29 ft - 95 ft    
  3000 lb    
  100%  
20 ft 0 in    
  Over rear

		Pounds							
		Main boom length in feet							
Feet		29	40	50	60	70	80	90	95
8	+90,000 (65.5)								
10	63,000 (61)	50,100 (70.5)	46,950 (75.5)						
12	55,050 (56)	50,100 (67.5)	44,950 (73)	38,850 (75.5)					
15	46,300 (48)	48,450 (62.5)	41,050 (69)	36,000 (73.5)	29,450 (75.5)				
20	34,600 (30.5)	35,400 (53.5)	35,750 (62.5)	29,500 (68.5)	27,400 (72)	22,450 (75)	18,550 (75.5)	15,500 (75.5)	
25		27,300 (43)	27,650 (55.5)	24,800 (63)	23,100 (67.5)	19,250 (71)	16,500 (73.5)	15,300 (74.5)	
30		21,850 (29.5)	22,200 (48)	21,100 (57)	19,600 (63)	16,850 (67)	14,400 (70)	13,200 (71.5)	
35			18,300 (38.5)	18,350 (51)	17,000 (58)	14,850 (63)	12,700 (66.5)	11,500 (68)	
40			15,300 (26.5)	15,550 (44)	15,200 (52.5)	13,250 (58.5)	11,000 (63)	10,000 (65)	
45	See Note 16			13,200 (35.5)	13,350 (47)	11,950 (54)	9630 (59)	9060 (61.5)	
50				11,350 (25)	11,300 (40.5)	10,800 (49.5)	8740 (55)	7990 (57.5)	
55					9620 (33)	9630 (44)	7760 (51)	7100 (54)	
60						8240 (23)	8280 (38)	6920 (46.5)	6320 (50)
65							7170 (31)	6210 (41.5)	5650 (45.5)
70								6220 (21.5)	5590 (36)
75									5040 (29.5)
80									
85									
	Minimum boom angle (°) for indicated length (no load)								0
	Maximum boom length (ft) at 0° boom angle (no load)								95

NOTE: ( ) Boom angles are in degrees.  
#LMI operating code. Refer to LMI manual for operating instructions.  
\*This capacity is based on maximum boom angle.  
+Special equipment required to lift this capacity.

		Lifting capacities at zero degree boom angle							
		Main boom length in feet							
Boom angle		29	40	50	60	70	80	90	95
0°		26,150 (22.7)	17,550 (33.8)	13,100 (43.8)	10,100 (53.8)	7370 (63.8)	5600 (73.8)	4300 (83.8)	3730 (88.9)

NOTE: ( ) Reference radii in feet. 80006511

# Load charts



		26 ft LENGTH			45 ft LENGTH		
Feet	Pounds						
	0° OFFSET	15° OFFSET	30° OFFSET	0° OFFSET	15° OFFSET	30° OFFSET	
30	<sup>*</sup> 8750 (75.5)						
35	8750 (75)	<sup>*</sup> 7770 (75.5)		<sup>*</sup> 5250 (75.5)			
40	8500 (72.5)	7600 (75)	<sup>*</sup> 6300 (75.5)	5250 (75)			
45	8130 (69.5)	7130 (72.5)	5920 (74.5)	5160 (74)	<sup>*</sup> 3660 (75.5)		
50	7420 (67)	6420 (70)	5650 (72)	4850 (72)	3600 (75)		
55	6520 (64.5)	5630 (67)	5400 (69.5)	4440 (69.5)	3480 (73)	<sup>*</sup> 3000 (75.5)	
60	5820 (61.5)	4950 (64.5)	4990 (66.5)	4110 (67.5)	3370 (71)	2950 (75)	
65	5100 (59)	4380 (61.5)	4450 (63.5)	3870 (65)	3260 (68.5)	2850 (72.5)	
70	4500 (56)	3860 (58.5)	3940 (60.5)	3690 (62.5)	3160 (66)	2750 (70)	
75	3910 (52.5)	3410 (55.5)	3480 (57.5)	3550 (60)	3040 (63.5)	2660 (67.5)	
80	3480 (49.5)	3010 (52)	3070 (54)	3390 (57.5)	2920 (61)	2570 (65)	
85	3040 (46)	2650 (48.5)	2700 (50.5)	3080 (55)	2800 (58.5)	2500 (62)	
90	2580 (42.5)	2330 (45)	2360 (46.5)	2760 (52.5)	2700 (55.5)	2430 (59.5)	
95	2170 (38.5)	2040 (41)	2070 (42)	2470 (49.5)	2590 (53)	2380 (56.5)	
100	1800 (33.5)	1780 (36.5)	1700 (37.5)	2200 (46.5)	2360 (50)	2320 (53)	
105	1470 (28.5)	1510 (31)		1960 (43)	2140 (46.5)	2210 (49.5)	
110	1180 (21.5)			1740 (39.5)	1910 (43)	1970 (46)	
115				1490 (36)	1620 (39)	1650 (42)	
120				1230 (31.5)	1350 (34.5)	1360 (37)	
125				1000 (26.5)	1110 (29.5)		
Min. boom angle for indicated length (no load)	10°	24°	30°	25°	25°	30°	
Max. boom length at 0° boom angle (no load)		90 ft			80 ft		

NOTE: ( ) Boom angles are in degrees.  
 #LMI operating code. Refer to LMI manual for instructions.  
<sup>\*</sup>This capacity based on maximum boom angle.  
<sup>\*\*</sup>26 ft capacities are also applicable to fixed offsettable ext. However, the LMI codes will change to #0051, #0052 and #0053 for 0°, 15° and 30° offset, respectively.

80006519

## NOTES:

- All capacities above the bold line are based on structural strength of boom extension.
- 26 ft and 45 ft extension lengths may be used for single line lifting service.
- Radii listed are for a fully extended boom with the boom extension erected. For main boom lengths less than fully extended, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is configured. For boom angles not shown, use the 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 26 ft or 45 ft extension erected, the outriggers must be fully extended or 50% extended (14 ft spread).

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.

# Load charts



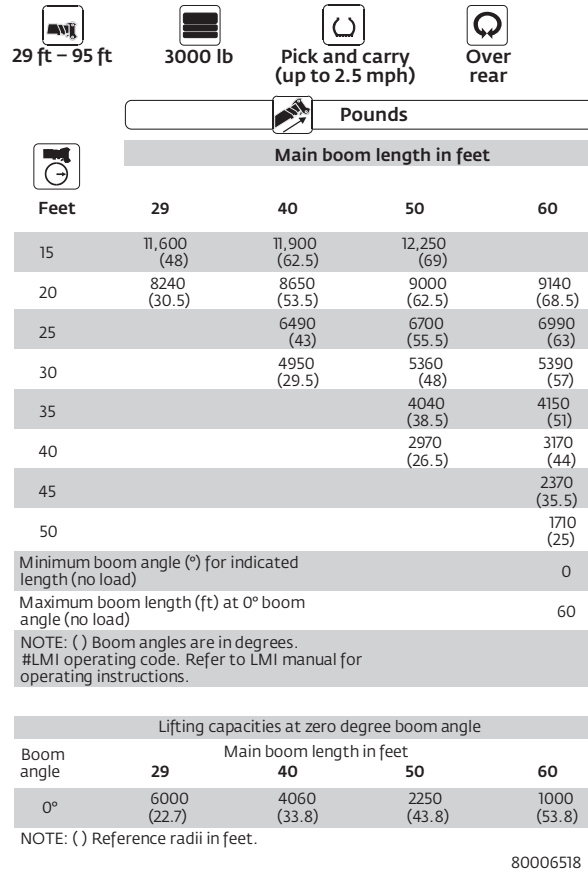
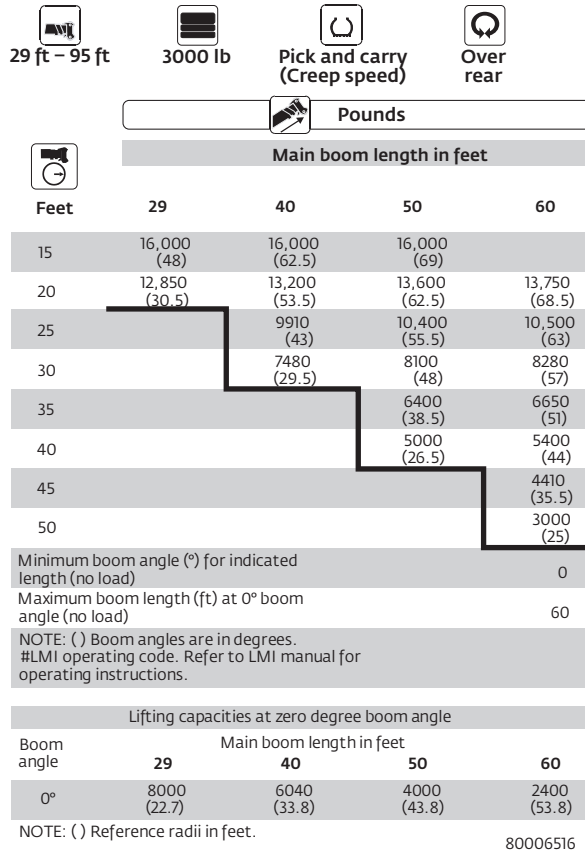
Feet	Pounds					
	26 ft LENGTH			45 ft LENGTH		
	0° OFFSET	15° OFFSET	30° OFFSET	0° OFFSET	15° OFFSET	30° OFFSET
30	<b>8750</b> (75.5)					
35	8750 (75)	<b>7770</b> (75.5)		<b>5250</b> (75.5)		
40	8500 (72.5)	7600 (75)	<b>6300</b> (75.5)	5250 (75)		
45	8130 (69.5)	7130 (72.5)	5920 (74.5)	5160 (74)	<b>3660</b> (75.5)	
50	7420 (67)	6420 (70)	5650 (72)	4850 (72)	3600 (75)	
55	6520 (64.5)	5630 (67)	5400 (69.5)	4440 (69.5)	3480 (73)	<b>3000</b> (75.5)
60	5820 (61.5)	4950 (64.5)	4990 (66.5)	4110 (67.5)	3370 (71)	2950 (75)
65	5100 (59)	4380 (61.5)	4450 (63.5)	3870 (65)	3260 (68.5)	2850 (72.5)
70	4500 (56)	3860 (58.5)	3940 (60.5)	3690 (62.5)	3160 (66)	2750 (70)
75	3910 (52.5)	3410 (55.5)	3480 (57.5)	3550 (60)	3040 (63.5)	2660 (67.5)
80	3480 (49.5)	3010 (52)	3070 (54)	3390 (57.5)	2920 (61)	2570 (65)
85	3050 (46)	2650 (48.5)	2700 (50.5)	3080 (55)	2800 (58.5)	2500 (62)
90	2650 (42.5)	2330 (45)	2360 (46.5)	2760 (52.5)	2700 (55.5)	2430 (59.5)
95	2310 (38.5)	2040 (41)	2070 (42)	2470 (49.5)	2590 (53)	2380 (56.5)
100	2000 (33.5)	1780 (36.5)	1700 (37.5)	2200 (46.5)	2360 (50)	2320 (53)
105	1710 (28.5)	1510 (31)		1960 (43)	2140 (46.5)	2210 (49.5)
110	1450 (21.5)			1740 (39.5)	1930 (43)	1990 (46)
115				1560 (36)	1740 (39)	1790 (42)
120				1440 (31.5)	1470 (34.5)	1400 (37)
125				1240 (26.5)	1280 (29.5)	
130				1040 (19.5)		
Min. boom angle for indicated length (no load)	10°	15°	30°	15°	15°	30°
Max. boom length at 0° boom angle (no load)		90 ft			80 ft	

NOTE: ( ) Boom angles are in degrees.  
 #LMI operating code. Refer to LMI manual for instructions.  
 \*This capacity based on maximum boom angle.  
 \*\*26 ft capacities are also applicable to fixed offsettable ext. However, the LMI codes wto #0051, #0052 and #0053 for 0°, 15° and 30° offset, respectively.  
 80006521

## NOTES:

- All capacities above the bold line are based on structural strength of boom extension.
- 26 ft and 45 ft extension lengths may be used for single line lifting service.
- Radii listed are for a fully extended boom with the boom extension erected. For main boom lengths less than fully extended, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is configured. For boom angles not shown, use the 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 26 ft or 45 ft extension erected, the outriggers must be fully extended or 50% extended (14 ft spread).

# Load charts



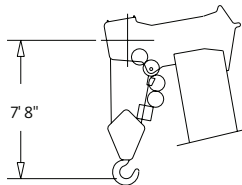
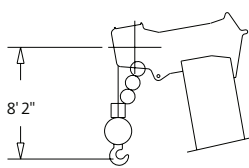
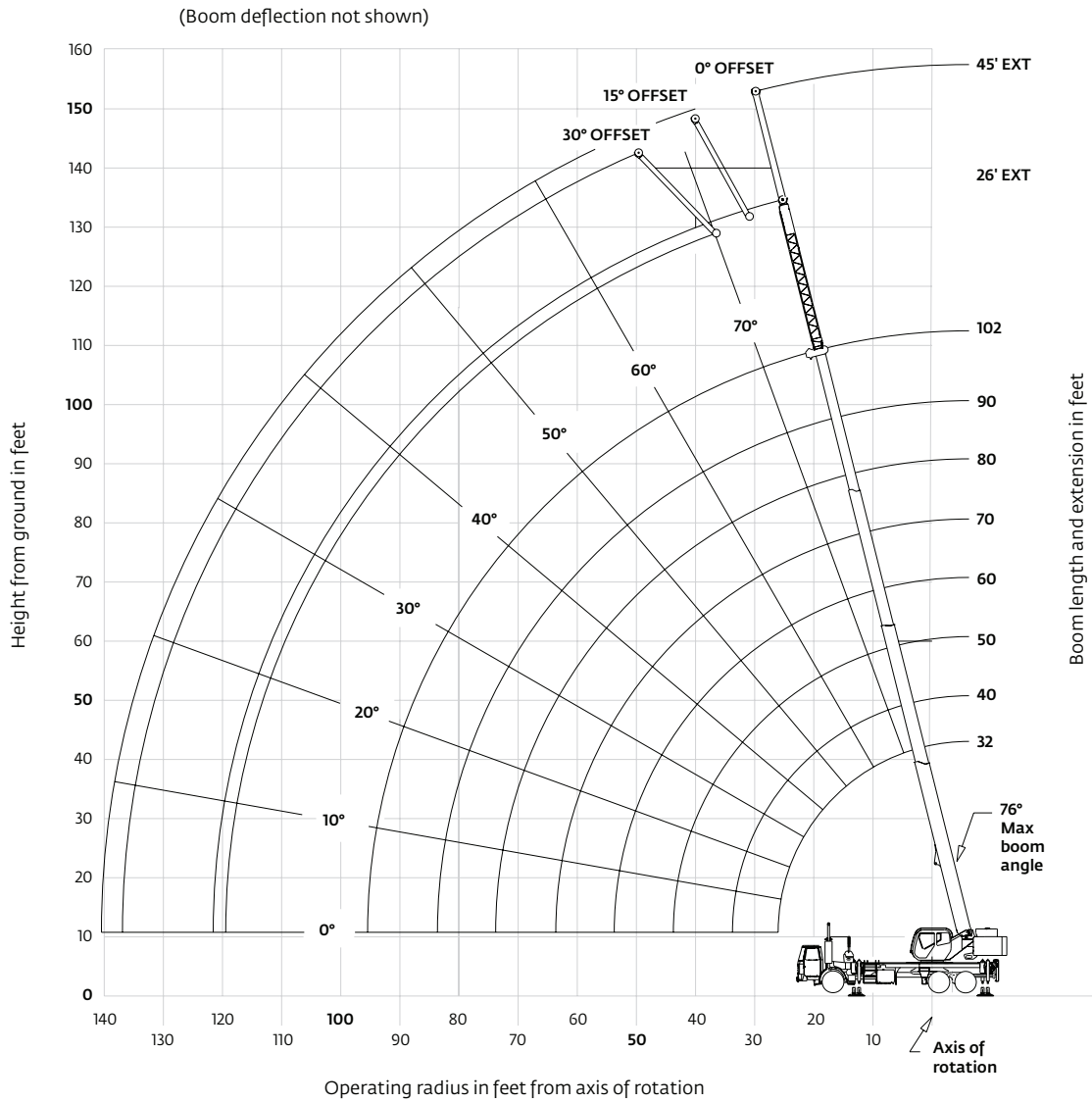
**NOTES:**

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 based on rear tire size of 11R22.5 at 105 psi cold inflation pressure.
3. Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
4. All rubber lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressure. Damaged tires are hazardous to safe operation of crane.
5. Capacities are applicable only with machine on firm level surface and with mechanical swing lock engaged.
6. On rubber lifting with boom extension is not permitted.
7. For 2.5 mph pick and carry operation boom must be centered over rear of machine, mechanical swing lock engaged and load restrained from swinging. When handling loads in the structural range, travel should be reduced to creep speed.
8. Lifting over side on rubber is not permitted.
9. **WARNING:** Prior to any 'on rubber' operation, extend outrigger beams (fully or 50%), extend jack cylinders and level crane. Swing boom directly over rear and engage swing lock. Outrigger jack cylinders may then be retracted for on rubber operation. Do not rotate superstructure over the side while on rubber.
10. Creep - not over 200 ft of movement in any 30 minute period and not exceeding 2.5 mph.
11. Air bags must be deflated when lifting on rubber.

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.

# Working range

32 ft – 102 ft main boom + 26 ft – 45 ft lattice extension



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



# Load charts






 **Pounds**  
 **Main boom length in feet**

Feet	32	40	50	60	70	80	90	102
8	80,000 (69)							
10	72,750 (65)	50,700 (70.5)	48,500 (75.5)					
12	62,600 (60.5)	50,700 (67.5)	48,500 (73)	*46,400 (76)				
15	49,200 (54)	49,700 (62.5)	48,500 (69)	44,300 (73.5)	*38,700 (76)			
20	35,500 (41)	35,950 (53.5)	36,350 (62.5)	35,300 (68)	31,000 (72)	29,700 (75)	*22,000 (76)	
25	27,100 (20)	27,550 (43.5)	27,950 (55.5)	28,150 (62.5)	25,800 (67.5)	24,600 (71)	22,000 (74)	*18,500 (76)
30		21,900 (30)	22,300 (48)	22,500 (57)	21,800 (63)	20,800 (67)	18,350 (71)	17,500 (73.5)
35			18,200 (38.5)	18,400 (50.5)	18,550 (58)	17,800 (63)	15,600 (67)	15,200 (70.5)
40			15,100 (26.5)	15,300 (43.5)	15,300 (52.5)	15,300 (58.5)	13,500 (63.5)	13,200 (67.5)
45	See Note 16			12,300 (35.5)	12,350 (47)	12,350 (54)	11,750 (60)	11,600 (64)
50				10,050 (24.5)	10,150 (40.5)	10,150 (49.5)	10,150 (56)	10,150 (61)
55					8440 (33)	8490 (44)	8470 (51.5)	8440 (57.5)
60					7040 (23)	7120 (38)	7100 (47)	7070 (54)
65						5970 (31)	5980 (42)	5950 (50)
70					5010 (21.5)	5030 (36.5)	5010 (46)	
75						4220 (30)	4220 (41.5)	
80						3520 (21)	3530 (36.5)	
85							2920 (30.5)	
90							2390 (23.5)	
95							1920 (10)	

Minimum boom angle (°) for indicated length (no load) 0  
 Maximum boom length (ft) at 0° boom angle (no load) 102  
 NOTE: ( ) Boom angles are in degrees.  
 # LMI operating code. Refer to LMI manual for operating instructions.  
 \* This capacity is based on maximum boom angle.


Lifting capacities at zero degree boom angle

Boom angle	Main boom length in feet							
	32	40	50	60	70	80	90	102
0°	25,700 (26)	18,700 (33.8)	12,800 (43.8)	8730 (53.8)	6150 (63.8)	4390 (73.8)	3060 (83.8)	1880 (95.5)

NOTE: ( ) Reference radii in feet. 80001204B






 **Pounds**  
 **Main boom length in feet**

Feet	32	40	50	60	70	80	90	102
8	+90,000 (69)							
10	72,750 (65)	50,700 (70.5)	48,500 (75.5)					
12	62,600 (60.5)	50,700 (67.5)	48,500 (73)	*46,400 (76)				
15	49,200 (54)	49,700 (62.5)	48,500 (69)	44,300 (73.5)	*38,700 (76)			
20	35,500 (41)	35,950 (53.5)	36,350 (62.5)	35,300 (68)	31,000 (72)	29,700 (75)	*22,000 (76)	
25	27,100 (20)	27,550 (43.5)	27,950 (55.5)	28,150 (62.5)	25,800 (67.5)	24,600 (71)	22,000 (74)	*18,500 (76)
30		21,900 (30)	22,300 (48)	22,500 (57)	21,800 (63)	20,800 (67)	18,350 (71)	17,500 (73.5)
35			18,200 (38.5)	18,400 (50.5)	18,550 (58)	17,800 (63)	15,600 (67)	15,200 (70.5)
40			15,100 (26.5)	15,300 (43.5)	15,300 (52.5)	15,500 (58.5)	13,500 (63.5)	13,200 (67.5)
45	See Note 16			12,900 (35.5)	13,050 (47)	13,150 (54)	11,750 (60)	11,600 (64)
50				11,000 (24.5)	11,150 (40.5)	11,200 (49.5)	10,350 (56)	10,200 (61)
55					9560 (33)	9660 (44)	9170 (51.5)	9040 (57.5)
60					8240 (23)	8330 (38)	8170 (47)	8050 (54)
65						7200 (31)	7300 (42)	7190 (50)
70						6240 (21.5)	6300 (36.5)	6340 (46)
75							5420 (30)	5460 (41.5)
80							4660 (21)	4710 (36.5)
85							4060 (30.5)	
90							3480 (23.5)	
95							2980 (10)	

Minimum boom angle (°) for indicated length (no load) 0  
 Maximum boom length (ft) at 0° boom angle (no load) 102  
 NOTE: ( ) Boom angles are in degrees.  
 # LMI operating code. Refer to LMI manual for operating instructions.  
 \* This capacity is based on maximum boom angle.  
 + Directly over the rear only.

Lifting capacities at zero degree boom angle

Boom angle	Main boom length in feet							
	32	40	50	60	70	80	90	102
0°	25,700 (26)	18,700 (33.8)	13,250 (43.8)	9770 (53.8)	7370 (63.8)	5570 (73.8)	4160 (83.8)	2930 (95.5)

NOTE: ( ) Reference radii in feet. 80001675A

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.

Grove TM500E-2 The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.

# Load charts

32 ft – 102 ft    26 ft – 45 ft    5500 lb    100%    360°

20 ft 0 in spread

Pounds

Feet	26 ft LENGTH			45 ft LENGTH		
	0° OFFSET	15° OFFSET	30° OFFSET	0° OFFSET	15° OFFSET	30° OFFSET
35	*10,200 (76)					
40	9460 (73.5)	*7770 (76)		*5250 (76)		
45	8760 (71)	7370 (73)	*6030 (76)	5250 (74.5)		
50	8150 (68.5)	6870 (70.5)	5780 (73.5)	5050 (72.5)	3660 (76)	
55	7510 (66)	6050 (68)	5520 (71)	4650 (70.5)		3540 (73.5)
60	6700 (63.5)	5350 (65.5)	5290 (68)	4290 (68)	3430 (71.5)	*3000 (76)
65	5990 (60.5)	4740 (63)	4810 (65.5)	4000 (66)	3320 (69)	2890 (73.5)
70	5310 (58)	4210 (60)	4270 (62.5)	3800 (63.5)	3220 (67)	2790 (71.5)
75	4490 (55)	3750 (57)	3800 (59.5)	3650 (61.5)	3130 (64.5)	2700 (69)
80	3790 (52)	3330 (54)	3380 (56.5)	3520 (59)	3000 (62.5)	2620 (66.5)
85	3180 (49)	2960 (51)	3010 (53.5)	3360 (56.5)	2880 (60)	2550 (64)
90	2650 (45.5)	2630 (48)	2670 (50)	3030 (54)	2770 (57)	2480 (61.5)
95	2180 (42)	2330 (44)	2360 (46.5)	2730 (51.5)	2680 (54.5)	2410 (58.5)
100	1760 (38.5)	1900 (40.5)	1990 (42.5)	2450 (48.5)	2570 (52)	2380 (55.5)
105	1390 (34)	1510 (36)	1560 (38)	2070 (46)	2340 (49)	2310 (52.5)
110	1050 (29.5)	1150 (31)		1700 (42.5)	1,960 (46)	2170 (49.5)
115				1360 (39.5)	1610 (42.5)	1780 (46)
120				1050 (36)	1300 (38.5)	1430 (42)
125					1010 (34.5)	1110 (37.5)
Min. boom angle for indicated length (no load)						
	25.5°	25.5°	33°	33°	31.5°	32.5°
Max. boom length at 0° boom angle (no load)						
		80 ft			80 ft	

#LMI operating code. Refer to LMI manual for instructions. 80001208B  
 \*This capacity based on maximum boom angle.

## NOTES:

- All capacities above the bold line are based on structural strength of boom extension.
- 26 ft and 45 ft tele extension lengths may be used for single line lifting service.
- Radii listed are for a fully extended boom with the boom extension erected. For main boom lengths less than fully extended, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is configured. For boom angles not shown, use the 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 26 ft or 45 ft tele extension erected, the outriggers must be fully extended or 50% extended (14 ft spread).

# Load charts



Feet	Pounds					
	26 ft LENGTH			45 ft LENGTH		
	0° OFFSET	15° OFFSET	30° OFFSET	0° OFFSET	15° OFFSET	30° OFFSET
35	<sup>#</sup> 10,200 (76)					
40	9460 (73.5)	<sup>#</sup> 7770 (76)		<sup>#</sup> 5250 (76)		
45	8760 (71)	7370 (73)	<sup>#</sup> 6030 (76)	5250 (74.5)		
50	8150 (68.5)	6870 (70.5)	5780 (73.5)	5050 (72.5)	3660 (76)	
55	7510 (66)	6050 (68)	5520 (71)	4650 (70.5)	3540 (73.5)	
60	6700 (63.5)	5350 (65.5)	5290 (68)	4290 (68)	3430 (71.5)	<sup>#</sup> 3000 (76)
65	5990 (60.5)	4740 (63)	4810 (65.5)	4000 (66)	3320 (69)	2890 (73.5)
70	5380 (58)	4210 (60)	4270 (62.5)	3800 (63.5)	3220 (67)	2790 (71.5)
75	4840 (55)	3750 (57)	3800 (59.5)	3650 (61.5)	3130 (64.5)	2700 (69)
80	4360 (52)	3330 (54)	3380 (56.5)	3520 (59)	3000 (62.5)	2620 (66.5)
85	3930 (49)	2960 (51)	3010 (53.5)	3360 (56.5)	2880 (60)	2550 (64)
90	3530 (45.5)	2630 (48)	2670 (50)	3030 (54)	2770 (57)	2480 (61.5)
95	3030 (42)	2330 (44)	2360 (46.5)	2730 (51.5)	2680 (54.5)	2410 (58.5)
100	2590 (38.5)	2050 (40.5)	2070 (42.5)	2450 (48.5)	2570 (52)	2380 (55.5)
105	2190 (34)	1800 (36)	1810 (38)	2200 (46)	2340 (49)	2310 (52.5)
110	1830 (29.5)	1550 (31)		1970 (42.5)	2130 (46)	2200 (49.5)
115	1500 (23.5)	1300 (25)		1760 (39.5)	1940 (42.5)	1990 (46)
120	1210 (14)			1580 (36)	1760 (38.5)	1800 (42)
125				1480 (32)	1500 (34.5)	1500 (37.5)
130				1330 (27)	1300 (30)	
135				1100 (21)	1170 (23.5)	
Min. boom angle for indicated length (no load)	10°	15°	30°	15°	15°	30°
Max. boom length at 0° boom angle (no load)		80 ft			80 ft	

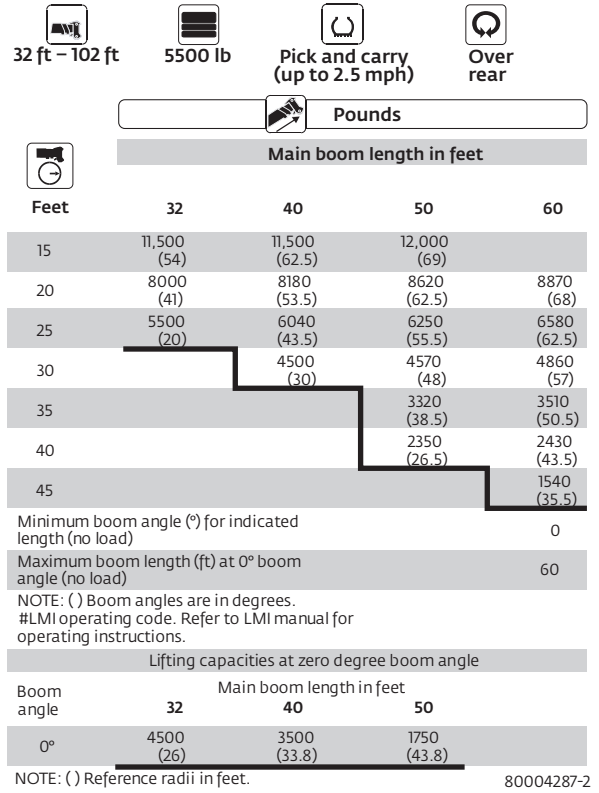
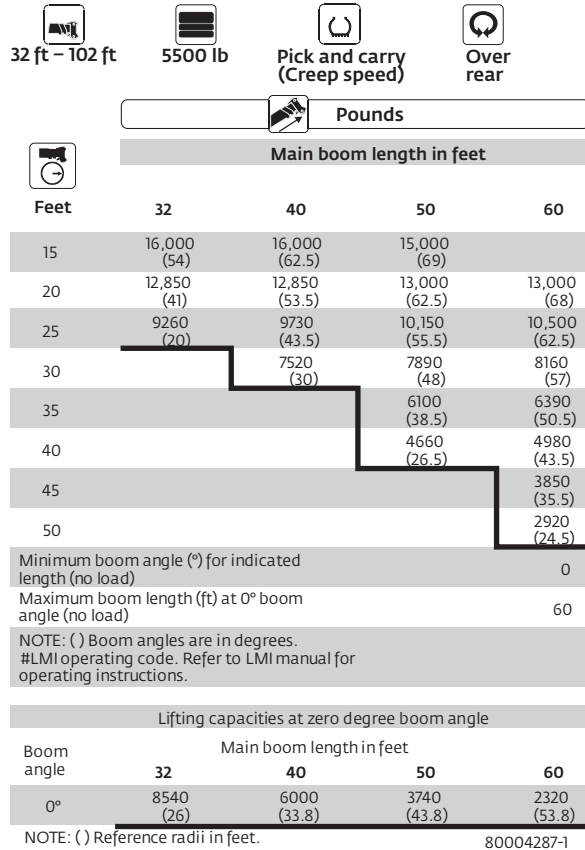
NOTE: ( ) Boom angles are in degrees. 80001676A  
 #LMI operating code. Refer to LMI manual for instructions.  
 \*This capacity based on maximum boom angle.

## NOTES:

1. All capacities above the bold line are based on structural strength of boom extension.
2. 26 ft and 45 ft tele extension lengths may be used for single line lifting service.
3. Radii listed are for a fully extended boom with the boom extension erected. For main boom lengths less than fully extended, the rated loads are determined by boom angle. Use only the column which corresponds to the boom extension length and offset for which the machine is configured. For boom angles not shown, use the 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.
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 26 ft or 45 ft tele extension erected, the outriggers must be fully extended or 50% extended (14 ft spread).

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.

# Load charts



## NOTES:

- Capacities are in pounds and do not exceed 75% of tipping loads as determined by test in accordance with SAE J765.
- Capacities are based on rear tire size of 11R22.5 (G load range - 14 ply) at 105 psi cold inflation pressure.
- Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
- All rubber lifting depends on proper tire inflation, capacity and condition. Capacities must be reduced for lower tire inflation pressure. Damaged tires are hazardous to safe operation of crane.
- Capacities are applicable only with machine on firm level surface and with mechanical swing lock engaged.
- On rubber lifting with boom extension is not permitted.
- For 2.5 mph pick and carry operation boom must be centered over rear of machine, mechanical swing lock engaged and load restrained from swinging. When handling loads in the structural range, travel should be reduced to creep speed.
- Lifting over side on rubber is not permitted.
- WARNING:** Prior to any 'on rubber' operation, extend outrigger beams (fully or 50%), extend jack cylinders and level crane. Swing boom directly over rear and engage swing lock. Outrigger jack cylinders may then be retracted for on rubber operation. Do not rotate superstructure over the side while on rubber.
- Creep - not over 200 ft of movement in any 30 minute period and not exceeding 2.5 mph.
- Air bags must be deflated when lifting on rubber.

# Load handling

## Weight reductions for load handling devices

26 ft offsettable boom extension	
*Erected	2300 lb
26 ft – 45 ft telescopic boom extension	
*Erected (retracted)	3260 lb
*Erected (extended)	4380 lb

\*Reduction of main boom capacities

When lifting over boom extension, deduct total weight of all load handling devices reeved over main boom nose directly from boom extension capacity.

## Line pulls and reeving information

Hoists	Cable specs.	Permissible line pulls	Nominal cable length
Main	16 mm (5/8") 6x37 Class, EIPS, IWRC Special flexible	11,640 lb	450 ft
	Min breaking strength 41,200 lb		
Main and Aux	16 mm (5/8") Flex-X 35 Rotation resistant (Non-rotating)	11,640 lb	450 ft
	Min breaking strength 61,200 lb		

The approximate weight of 5/8" wire rope is 1.0 lb/ft

Auxiliary boom nose	105 lb
---------------------	--------

## Hookblocks and headache balls:

40 USt, 4 Sheave (CE)	774 lb +
40 USt, 3 Sheave (14" sheave) (CE)	623 lb +
40 USt, 3 Sheave (12" sheave)	600 lb +
25 USt 3 Sheave	550 lb +
7.5 USt Overhaul Ball	369 lb +

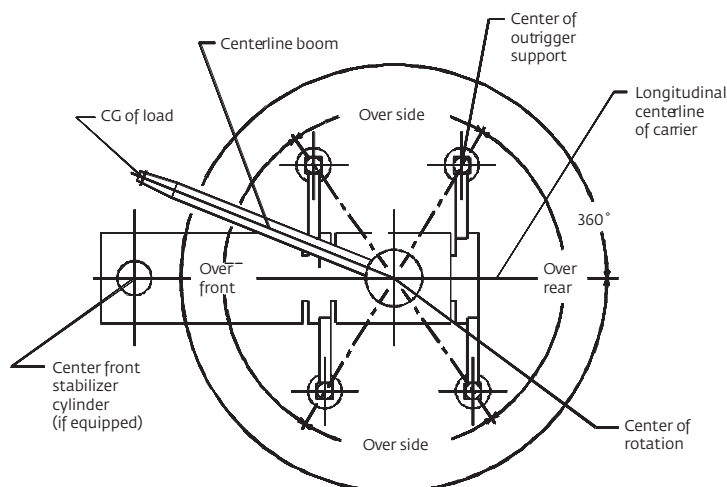
+ Refer to rating plate for actual weight.

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.

Wire rope layer	Hoist line pulls Available lb*	Drum rope capacity (ft)	
		Layer	Total
1	11,640	77	77
2	10,480	85	162
3	9530	94	256
4	8730	102	358
5	8060	111	469
6	7490	119	588

\*Max lifting capacity: 6x37 or 35x7 class = 11,640 lb

## Working area diagram



6-829-005671

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

*THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.*

Grove TM500E-2 *The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.*

# Notes



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