



Grove Manitowoc National Crane Potain



# Grove GMK6400

## North American Provisional Product Guide

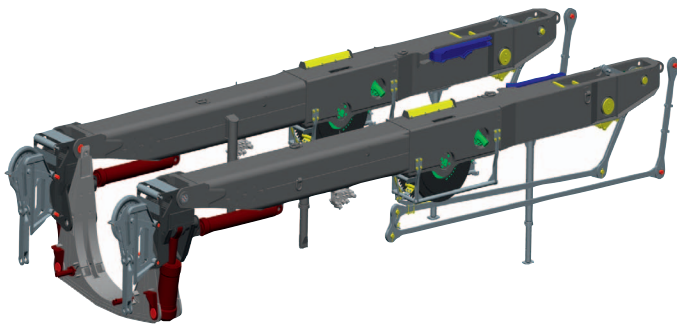


### Features

- 450 USt rating
- 15,4 m - 60 m (51 ft - 197 ft) five-section boom
- 79 m (259 ft) luffing jib
- New self-rigging MegaWingLift™
- 135 t (297,600 lb) counterweight with hydraulic removal system
- MegaDrive™ hybrid drive system



# Features



## MegaWingLift™

The new, patented self-rigging MegaWingLift™ reduces transportation and erection costs to a minimum. Both this and the auxiliary hoist can be installed without the need for an auxiliary crane.

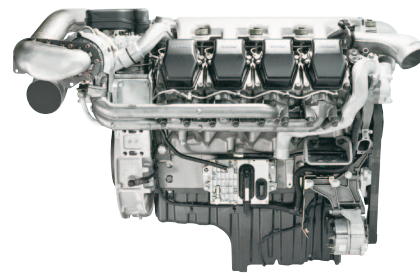
- Transport weight: < 11 t (24,000 lb)
- Transport height: < 2500 mm (8.2 ft)



## Carrier cab

New, wider carrier cabin that includes the following advantages for you:

- More driving comfort and better ergonomic instrumentation
- Improved heating- and cooling system with air conditioning as standard
- Full width cab for improved visibility
- Better aerodynamics
- Noise reduction
- Rust free glass-fiber and aluminum composite



## Engine

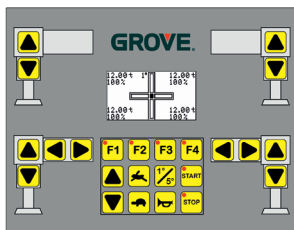
Latest engine technology including Tier 4i, stage Euromot IIIb Water-cooled Mercedes-Benz diesel engine:

- Turbocharged with intercooler
- High pressure fuel-injection system with unit injection pumps controlled by solenoid valves
- Electronic engine management
- OM 502 LA with eight-cylinder and 405kW
- Selective Catalytic Reduction (AdBlue) - reduces the NOx by 80%

## MegaDrive™

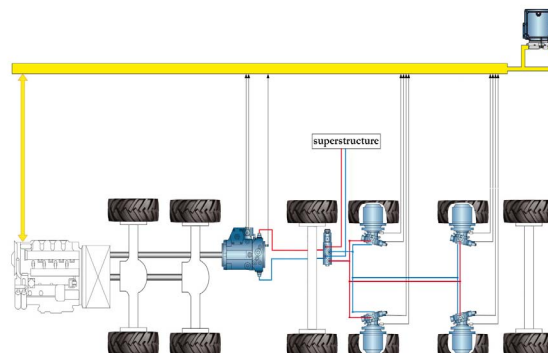
A mixture of conventional drive at the front and hybrid drive for slow speed. That creates the following advantages for you:

- Automatic on/off of MegaDrive™: over 25km/h (16 mph) off, less than 20 km/h (12 mph) on
- Better traction in bad surface conditions
- Longer lifecycle of parts because of less direct contact
- Smooth and powerful acceleration from standstill



## Man-Machine Interface

The new MMI display allows the control of the MEGATRAK™ suspension from both sides of the carrier. Adjustment of ground clearance independently of the outriggers. Flexibility on jobsite to react to varied site conditions. Outrigger pressure monitoring is standard. Active suspension control.





# Contents

Specifications	4
Dimensions	7
Counterweight	8
Working range (main boom)	9
Working range (main boom with MegaWingLift™)	10
Load charts (main boom with/without MegaWingLift™)	11
Working range (Luffing jib with MegaWingLift™)	12
Load charts (Luffing jib with MegaWingLift™)	13
Symbols glossary	14



# Specifications

## Superstructure



### Boom

15,4 m - 60,0 m (51 ft - 197 ft) 5-section, full power MEGAFORM™ boom with TWIN-LOCK™ Pinning.  
Maximum tip height: 63 m (206 ft).



### Boom nose

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



### Boom elevation

Single lift cylinder with safety valve provides boom angle from -1.5° to +82°.



### \*Optional jibs

25 m - 79 m (82 ft - 259 ft) luffing jib and offsettable 12 - 64 m (39 ft - 210 ft) fixed jib (3° to 25°).  
Maximum tip height: 141 m (462 ft).

### \*MegaWingLift™

Lift enhancing system to improve load charts. The self-rigging MegaWingLift™ can be installed without the help of an auxiliary crane.



### Load moment and anti-two block system

Load moment and anti-two block system with audio/visual warning and control lever lockout provides electronic display of boom angle, length, radius, tip height, relative load moment, maximum permissible load, load indication and warning of impending two-block condition.



### Cab

All aluminum constructed cab with acoustical lining, hydraulic tilted to 20°. Includes tinted safety glass, adjustable operator's seat, opening windows at side and rear, hinged windshield with wiper, sun visor and window shade. Other features include hot water heater/defroster, armrest integrated crane controls, ergonomically arranged instrumentation and radio/CD player, air conditioning, working range limiter.



### Swing

3 planetary gear boxes with fixed displacement axial piston motors. Infinitely variable to 1.4 rpm. Free swing or hydrostatically engaged brake controlled by swing lever. Swing brake selected by foot operated switch.



### Counterweight

115 t (253,500 lb) consisting of various sections with hydraulic installation/removal system controlled from the superstructure cab.



### \*Optional counterweight

Additional 20 t (44,000 lb) for a total of 135 t (297,600 lb) in combination with MegaWingLift™ lift enhancing system.



### Electrical system

3 phase alternator: 28V/80A  
2 batteries: 12V/170Ah



### Hydraulic motor

235 kW (315 hp) Rexroth. Maximum torque 660 Nm (487 ft/lb). Supplied by hydraulic carrier pumps.



### Hydraulic system

Hydraulic tank capacity: 1300 L (343 gal)

Five separate circuits, three axial piston variable displacement pumps with power limiting control, one axial piston variable displacement pump for slewing and one fixed displacement pump for auxiliary gears. Standard thermostatically controlled oil coolers keep oil at optimum operating temperature. Driven by hydraulic motor.



# Specifications

## Superstructure continued



### Hoist

Main and auxiliary hoist are powered by axial piston motor with planetary gear and brake. "Thumb-thumper" hoist drum rotation indicator alerts operator of hoist movement.

	Main	Auxiliary
<b>Rope length</b>	380 m (1247 ft)	690 m (2263 ft)
<b>Rope diameter</b>	24 mm	24 mm
<b>Line speed</b>	120 m/min (394 fpm)	120 m/min (394 fpm)
<b>Line pull</b>	125 kN (28,101 lb)	125 kN (28,101 lb)

Hoist camera and light included.

### \*Optional equipment

- ▶ Work lights, mounted on boom base section
- ▶ Boom mounted aircraft warning light
- ▶ Hook blocks/headache ball
- ▶ Engine independent diesel cab heater, with engine pre-heater. Includes 24 hour timer
- ▶ Strobe light
- ▶ Data logger
- ▶ 360° NYC swing lock
- ▶ 1 m (3.3 ft) adapter winch can be used to make up 3,5 m (11.5 ft) heavy duty jib

## Carrier



### Chassis

Box type, torsion resistant frame is fabricated from high strength steel.



### Transmission

ZF AS Tronic 12 Electronic automatic shifting. Kessler W2500 single stage transfer case.



### Outrigger system

Four hydraulic two stage outrigger beams with vertical cylinders and outrigger pads, 700 mm (27.6 in) round. Outrigger can be set in 5 positions:

Full:	8,5 m (27.9 ft)
Partial:	7,4 m (24.3 ft)
Partial:	6,3 m (20.7 ft)
Partial:	5,0 m (16.4 ft)
Retracted:	2,7 m (8.9 ft)

Independent horizontal and vertical movement controlled from each side of carrier and the superstructure cab. Electronic crane level indicators. Hydraulic disconnect for front outrigger beams and removable rear outrigger box. Work light for each outrigger beam and outrigger pad load indicator with read out on both sides of carrier and in superstructure cabin. Includes outrigger length control.



### Drive/steer

12 x 8 x 12

### MegaDrive™

Hybrid drive system with axles 4 and 5 hydrostatically driven. Axles disconnect at speeds greater than 25 km/h (16 mph) and connect at speeds below 20 km/h (12 mph).



### Axles

- 1st axle line – drive/steer
- 2nd axle line – drive/steer
- 3rd axle line – steer
- 4th axle line – drive/steer (disconnects >25 km/h [16 mph])
- 5th axle line – drive/steer (disconnects >25 km/h [16 mph])
- 6th axle line – steer

Axles 1 and 2 with planetary hub reduction and center mounted gearing. Axles 4 and 5 MegaDrive™.



### Suspension

Grove exclusive MEGATRAK™ suspension. Independent hydro-pneumatic system acting on all wheels with hydraulic lockout. Suspension can be raised 220 mm (8.7 in) or lowered 80 mm (3.1 in), both longitudinally and transversely. Features an automatic leveling system for highway travel. Active suspension control on outrigger control units.



# Specifications

## Carrier continued



### Tires

12 tires, 16.00R25 (445/95R25)  
(vehicle width – 3,0 m [9.8 ft])



### Steering

Dual circuit, hydraulic power assisted steering system. Transfer case mounted, ground driven emergency steering pump. Axles 1, 2, 5 and 6 steer on highway, axles 3 and 4 disconnect at speeds greater than 25 km/h (16 mph). Separate steering (steer by wire) of the 3rd to 6th axles for all wheel and crab steering, controlled by an electronic rocker switch.



### Engine

Mercedes OM 502 LA, eight-cylinder  
Horsepower: 405 kW (551 bhp) at 1800 rpm  
Torque: 2600 Nm (1918 ft/lb) at 1300 rpm  
Engine emissions: EPA /CARB/EUROMOT (off road)



### Fuel tank capacity

700 L (185 gal)



### Brakes

Service brakes: pneumatic dual circuit acting on all wheels.  
Parking brake: pneumatically operated spring loaded brake acting on axle lines 2, 4, 5 and 6.  
Air dryer.



### Cab

Two-man, composite designed aluminum and fiber reinforced plastic construction with the following features: safety glass, driver seat with pneumatic suspension, engine-dependent hot water heater, power windows, heated rear view mirrors, complete instrumentation, driving controls, reversing camera system, air conditioning, radio/CD player, 12V plug and fire extinguisher.



### Electrical system

24V system with three phase alternator, 28V/100A  
2 batteries, 12V/170 Ah



### Maximum speed

85 km/h (53 mph)



### Gradeability (theoretical)

50% - 14.00R25 (385/95R25) tires  
50% - 16.00R25 (445/95R25)/20.5R25 (525/80R25) tires

### Miscellaneous standard equipment

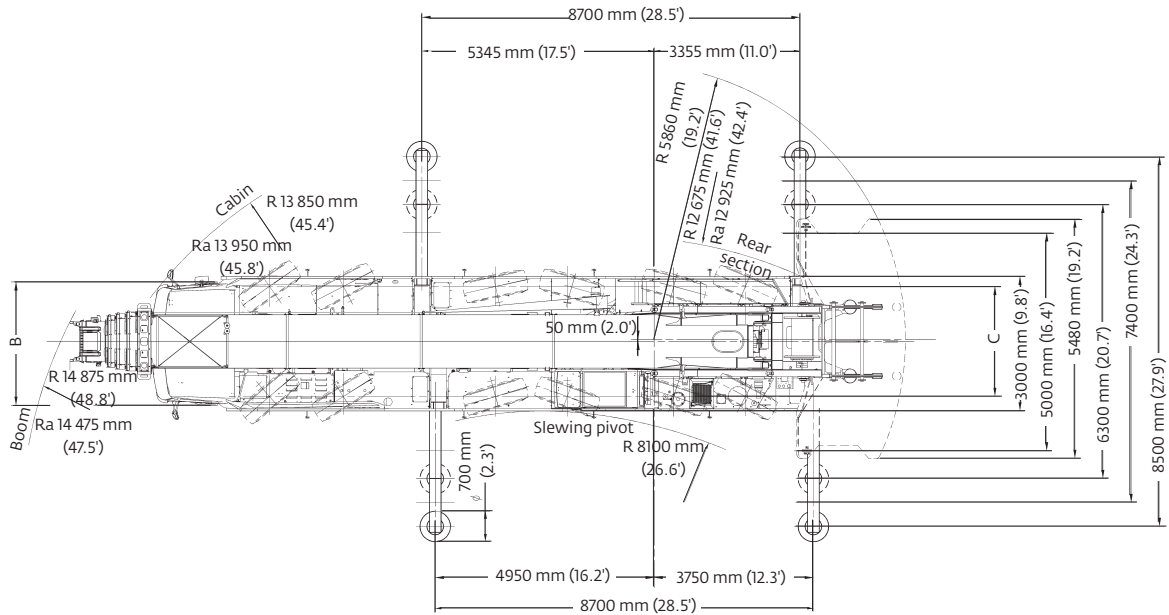
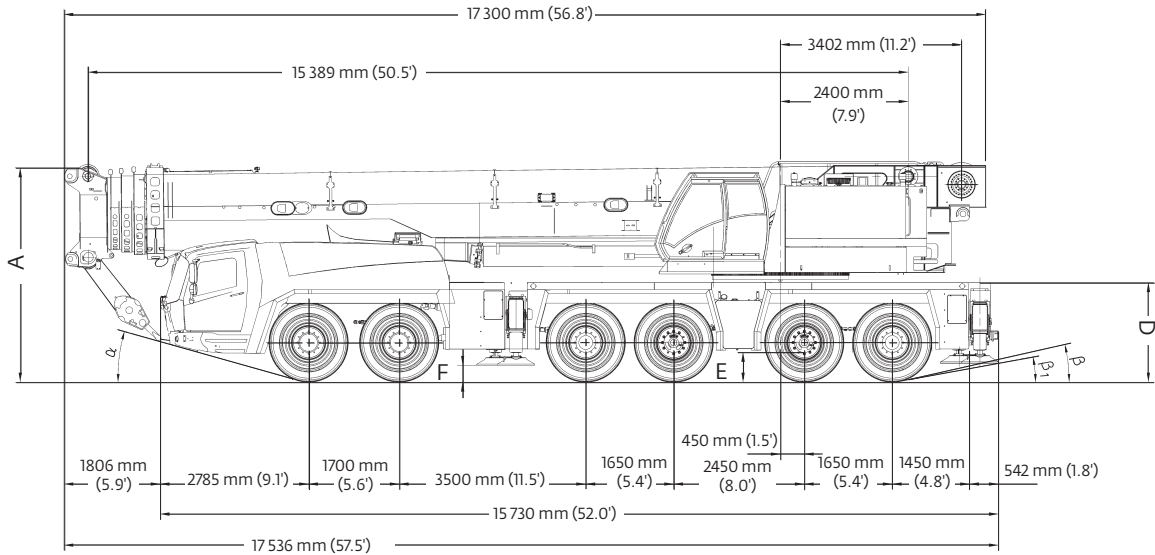
Work lights; tool kit, fire extinguishers; auxiliary boom nose and wind speed indicator.

### \*Optional equipment

- ▶ 14.00R25 (385/95R25) tires (vehicle width. 3 m [9.8 ft])
- ▶ 20.5R25 (525/80R25) tires (vehicle width. 3,1 m [10.2 ft])
- ▶ Hydraulic driveline retarder integrated into Allison transmission
- ▶ Engine independent diesel cab heater, with engine pre-heater. Includes 24 hour timer.
- ▶ Strobe light
- ▶ Spare tire and wheel with carry bracket
- ▶ Trailer hitch
- ▶ Steel outrigger pads
- ▶ Engine shut down valve



# Dimensions



Tires	A	A <sup>130 mm (0.4)</sup>	B	C	D	E	F	α	β	β <sub>1</sub>
14.00 R25	3956 mm (13.0')	3826 mm (12.6')	2970 mm (9.7')	2570 mm (8.4')	1815 mm (6.0')	400 mm (1.3')	209 mm (0.7')	14°	11°	8°
16.00 R25	4000 mm (13.1')	3870 mm (12.7')	2975 mm (9.8')	2510 mm (8.2')	1865 mm (6.1')	450 mm (1.5')	260 mm (0.9')	16°	13°	10°
20.5 R25	4000 mm (13.1')	3870 mm (12.7')	3070 mm (10.1')	2530 mm (8.3')	1865 mm (6.1')	450 mm (1.5')	260 mm (0.9')	16°	13°	10°

Ra = Radius all wheels steered  
°Lowered

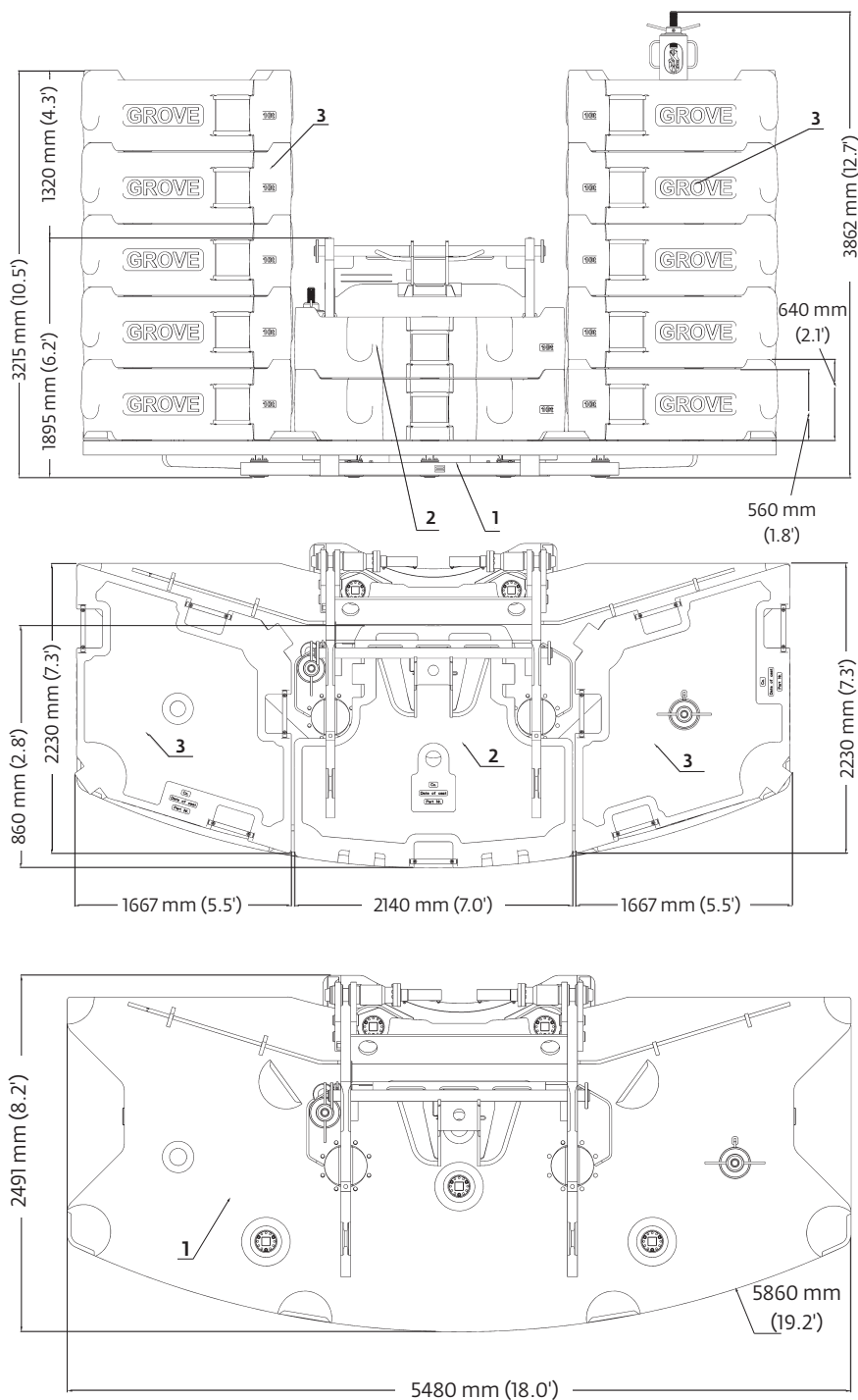
**PROVISIONAL**

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.



# Counterweight



	1	2	3
15,0 t (33,000 lb)	X		
35,0 t (77,000 lb)	X		2X
55,0 t (121,000 lb)	X	2X	2X
75,0 t (165,500 lb)	X	2X	4X
95,0 t (209,500 lb)	X	2X	6X
115,0 t (253,500 lb)	X	2X	8X
135,0 t (297,600 lb)	X	2X	10X

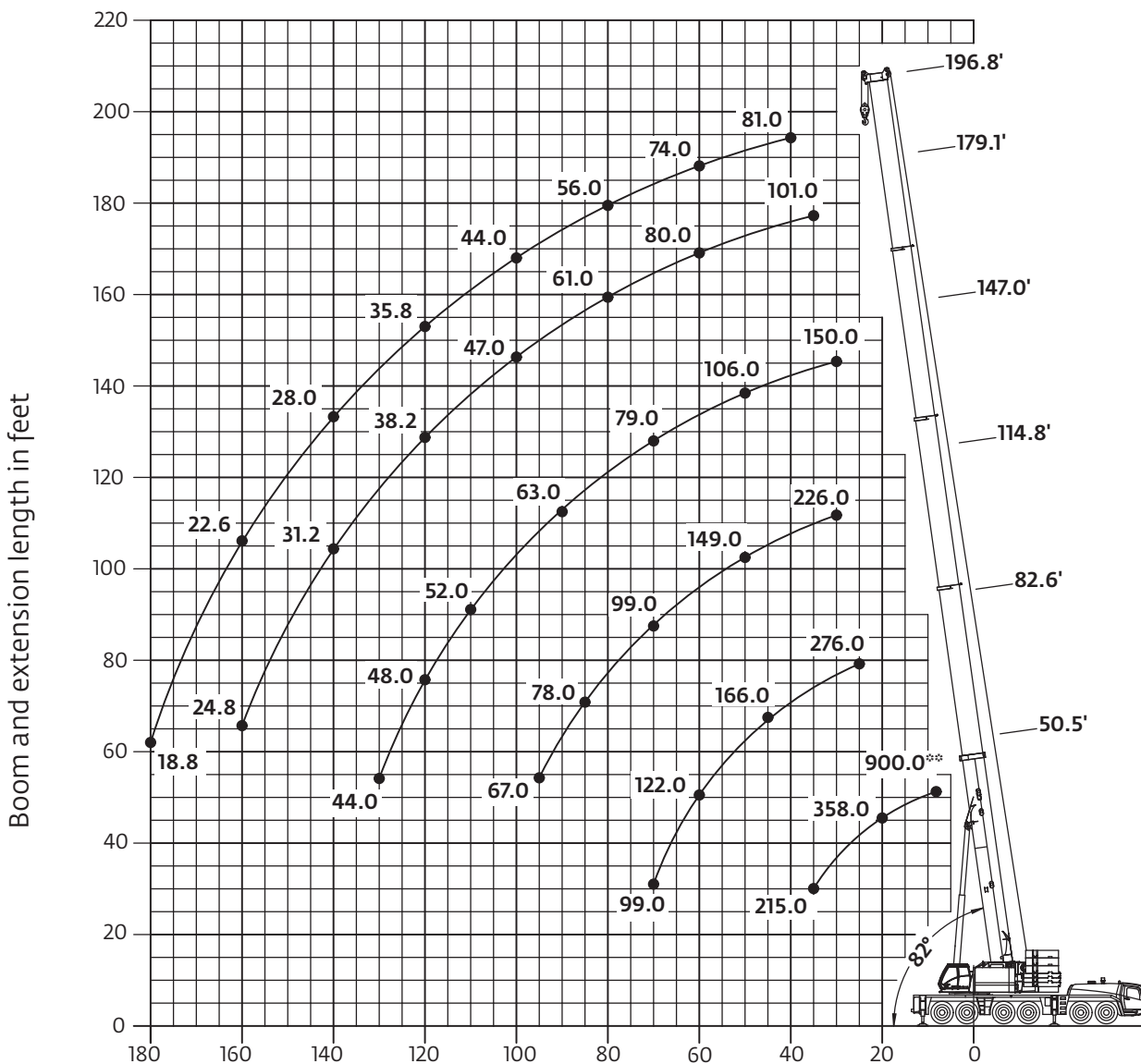




# Working range

## Main boom

60 m (197 ft) main boom



Operating radius in feet from axis of rotation

*Hook heights shown in the working diagram do not consider loaded boom deflection.*

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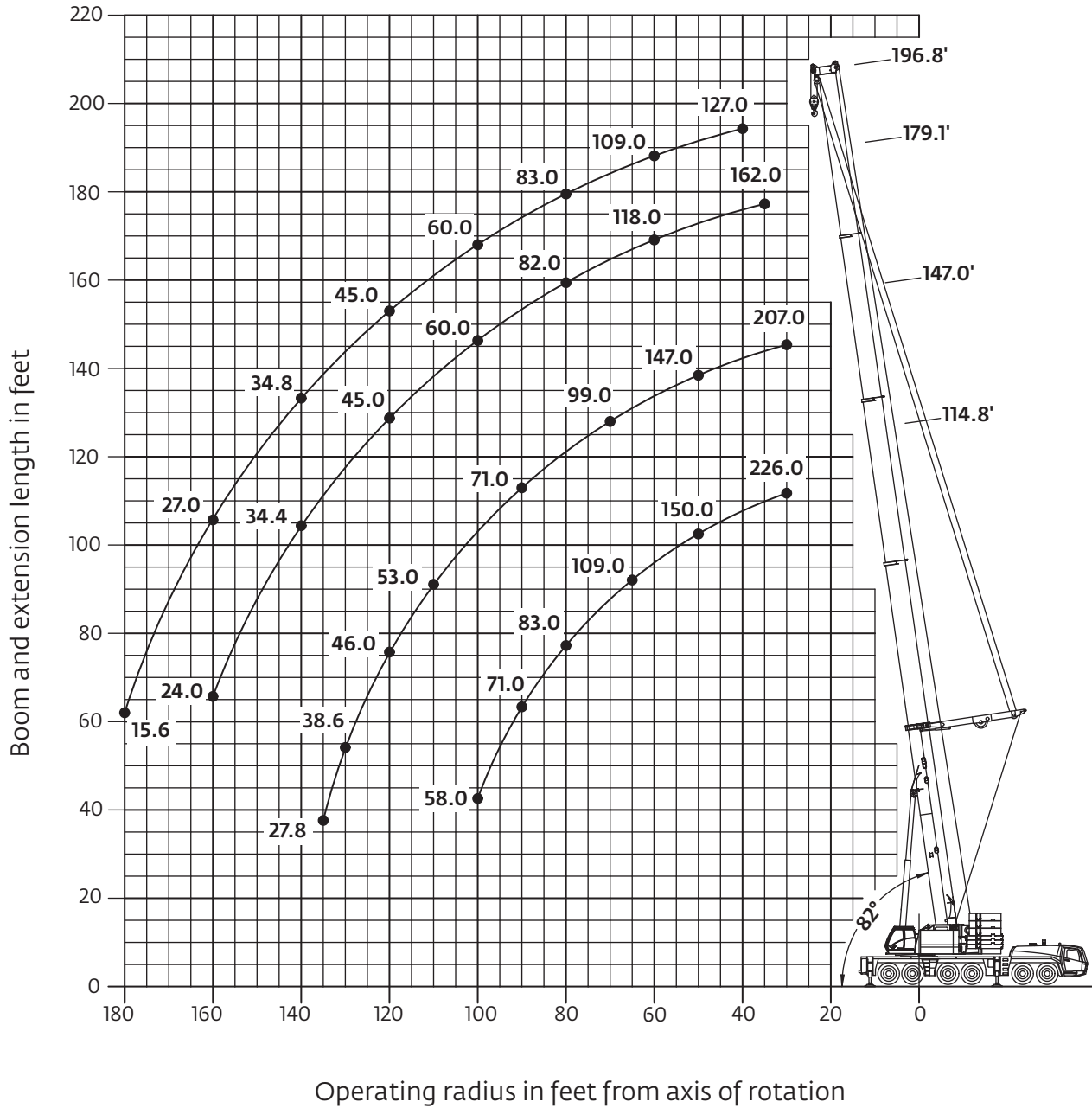
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# Working range

## Main boom and MegaWingLift™

60 m (197 ft) main boom and MegaWingLift



Hook heights shown in the working diagram do not consider loaded boom deflection.

### PROVISIONAL

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# Load chart

## Main boom with and without MegaWingLift™

  
15,4 m - 60 m  
(51 ft - 197 ft)

  
135,000 kg  
(297,600 lb)

  
8.7 m x 8.5 m  
(28.5 ft x 27.9 ft)  
(100%)

  
360°



Pounds x 1000

Feet	50.5°	50.5	82.6	114.8	114.8	147.0	147.0	179.1	179.1	196.8	196.8	Feet
8	<b>900.00**/560.00</b>											8
10	500.00											10
15	422.00											15
20	358.00											20
25	304.00	294.00	276.00									25
30	258.00	254.00	250.00	226.00	<b>226.00</b>	150.00	<b>207.00</b>					30
35	215.00	215.00	220.00	205.00	<b>205.00</b>	139.00	<b>190.00</b>	101.00	<b>162.00</b>			35
40			190.00	189.00	<b>188.00</b>	127.00	<b>173.00</b>	101.00	<b>161.00</b>	81.00	<b>127.00</b>	40
45			166.00	168.00	<b>169.00</b>	116.00	<b>159.00</b>	99.00	<b>148.00</b>	81.00	<b>127.00</b>	45
50			148.00	149.00	<b>150.00</b>	106.00	<b>147.00</b>	92.00	<b>136.00</b>	81.00	<b>122.00</b>	50
55			135.00	133.00	<b>133.00</b>	98.00	<b>134.00</b>	86.00	<b>126.00</b>	78.00	<b>115.00</b>	55
60			122.00	120.00	<b>120.00</b>	90.00	<b>121.00</b>	80.00	<b>118.00</b>	74.00	<b>109.00</b>	60
65			111.00	109.00	<b>109.00</b>	84.00	<b>109.00</b>	74.00	<b>108.00</b>	69.00	<b>104.00</b>	65
70			99.00	99.00	<b>99.00</b>	79.00	<b>99.00</b>	70.00	<b>98.00</b>	65.00	<b>99.00</b>	70
75				91.00	<b>90.00</b>	74.00	<b>91.00</b>	65.00	<b>90.00</b>	60.00	<b>90.00</b>	75
80				84.00	<b>83.00</b>	70.00	<b>83.00</b>	61.00	<b>82.00</b>	56.00	<b>83.00</b>	80
85				78.00	<b>76.00</b>	67.00	<b>77.00</b>	56.00	<b>76.00</b>	53.00	<b>76.00</b>	85
90				72.00	<b>71.00</b>	63.00	<b>71.00</b>	53.00	<b>70.00</b>	50.00	<b>70.00</b>	90
95				67.00	<b>64.00</b>	60.00	<b>66.00</b>	50.00	<b>64.00</b>	47.00	<b>65.00</b>	95
100					<b>58.00</b>	57.00	<b>61.00</b>	47.00	<b>60.00</b>	44.00	<b>60.00</b>	100
105						54.00	<b>57.00</b>	44.00	<b>56.00</b>	41.80	<b>56.00</b>	105
110						52.00	<b>53.00</b>	42.00	<b>52.00</b>	39.40	<b>52.00</b>	110
115						50.00	<b>50.00</b>	40.00	<b>48.00</b>	37.60	<b>49.00</b>	115
120						48.00	<b>46.00</b>	38.20	<b>45.00</b>	35.80	<b>45.00</b>	120
125						46.00	<b>42.00</b>	36.20	<b>42.00</b>	33.80	<b>42.40</b>	125
130						44.00	<b>38.60</b>	34.40	<b>39.20</b>	32.00	<b>39.80</b>	130
135							<b>27.80</b>	32.80	<b>36.60</b>	30.00	<b>37.20</b>	135
140								31.20	<b>34.40</b>	28.00	<b>34.80</b>	140
145								29.80	<b>32.20</b>	26.00	<b>32.60</b>	145
150								28.00	<b>29.80</b>	24.80	<b>30.60</b>	150
155								26.40	<b>26.40</b>	23.80	<b>28.80</b>	155
160								24.80	<b>24.00</b>	22.60	<b>27.00</b>	160
165										21.60	<b>24.80</b>	165
170										20.60	<b>21.40</b>	170
175										19.60	<b>20.80</b>	175
180										18.80	<b>15.60</b>	180

Values in bold italics denote main boom with MegaWingLift™

\*Over rear

\*\* with special equipment

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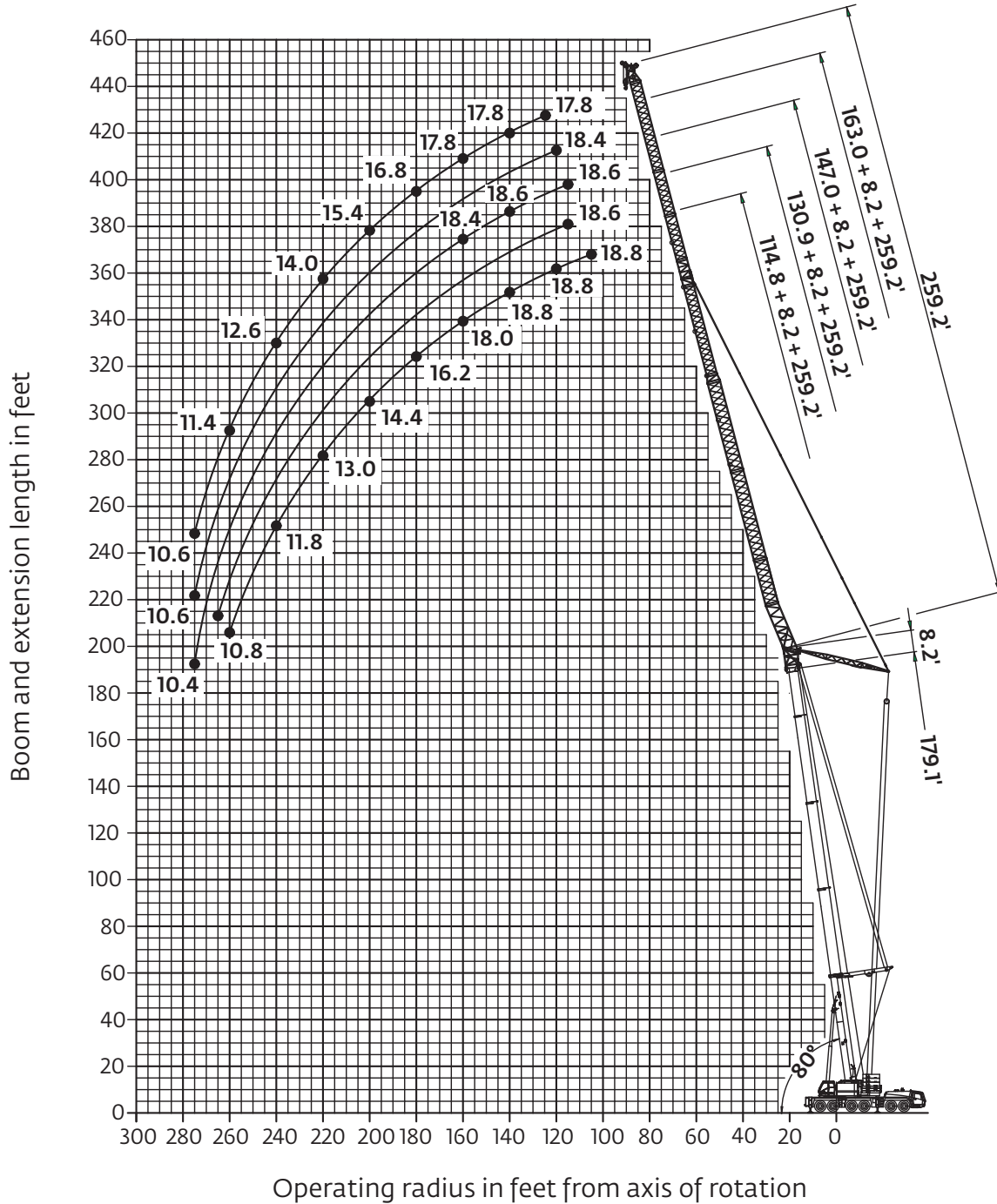
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# Working range

## Luffing jib with MegaWingLift™

79 m (259 ft) luffing jib



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# Load chart

## Luffing jib with MegaWingLift™




35 m - 60 m  
(115 ft - 197 ft)



79 m  
(259 ft)



135,000 kg  
(297,600 lb)



8.7 m x 8.5 m  
(28.5 ft x 27.9 ft)  
(100%)



360°



Pounds x 1000

Feet	114.8	130.9	147.0	163.0	179.1	Feet
105	18.80					105
110	18.80					110
115	18.80	18.60	18.60			115
120	18.80	18.60	18.60	18.40		120
125	18.80	18.60	18.60	18.40	17.80	125
130	18.80	18.60	18.60	18.40	17.80	130
135	18.80	18.60	18.60	18.40	17.80	135
140	18.80	18.60	18.60	18.40	17.80	140
145	18.80	18.60	18.60	18.40	17.80	145
150	18.80	18.60	18.60	18.40	17.80	150
155	18.40	18.60	18.60	18.40	17.80	155
160	18.00	18.20	18.40	18.40	17.80	160
165	17.40	17.60	17.80	18.00	17.80	165
170	17.00	17.20	17.40	17.60	17.60	170
175	16.60	16.80	17.00	17.20	17.20	175
180	16.20	16.40	16.60	16.80	16.80	180
185	15.60	16.00	16.20	16.40	16.40	185
190	15.20	15.60	15.80	16.00	16.20	190
195	14.80	15.00	15.40	15.60	15.80	195
200	14.40	14.60	14.80	15.20	15.40	200
205	14.00	14.40	14.60	14.80	15.00	205
210	13.80	14.00	14.20	14.40	14.60	210
215	13.40	13.60	13.80	14.00	14.20	215
220	13.00	13.20	13.40	13.60	14.00	220
225	12.40	13.00	13.20	13.40	13.60	225
230	12.40	12.60	12.80	13.00	13.20	230
235	12.20	12.40	12.60	12.60	13.00	235
240	11.80	12.00	12.20	12.40	12.60	240
245	11.60	11.80	12.00	12.20	12.40	245
250	11.20	11.40	11.60	11.80	12.00	250
255	11.00	11.20	11.40	11.60	11.80	255
260	10.80	11.00	11.20	11.40	11.40	260
265		10.80	11.00	11.00	11.20	265
270			10.60	10.80	11.00	270
275			10.40	10.60	10.60	275

**PROVISIONAL**

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# Symbols glossary



Axles



Counterweight



Grade



Gear



Boom



Drive



Heavy duty jib



Radius



Boom elevation



Electrical system



Hoist



Rotation



Boom extension



Engine/Motor



Hookblock



Speed



Boom length



Extension



Hydraulic system



Steering



Boom nose



Frame



Lights



Suspension



Brakes



Fuel tank capacity



Oil



Swing



Cab



Outriggers



Outrigger controls



Tires



Transmission



## Notes



Grove Manitowoc National Crane Potain



## Manitowoc Cranes

### Regional headquarters

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Fax: +65 6862 4040

### Regional offices

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Monterrey  
**Chile**  
Santiago

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Netvorice  
**France**  
Baudemont  
Cergy  
Decines  
**Germany**  
Langenfeld  
**Hungary**  
Budapest  
**Italy**  
Lainate  
**Netherlands**  
Breda  
**Poland**  
Warsaw  
**Portugal**  
Baltar  
**Russia**  
Moscow  
**U.A.E.**  
Dubai  
**U.K.**  
Buckingham

#### China

Beijing  
Chengdu  
Guangzhou  
Xian

#### Greater Asia-Pacific

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Melbourne  
Sydney  
**India**  
Calcutta  
Chennai  
Delhi  
Hyderabad  
Pune  
**Korea**  
Seoul  
**Philippines**  
Makati City  
**Singapore**

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**Brazil**  
Alphaville  
**China**  
TaiAn  
Zhangjiagang  
**France**  
Charlieu  
Moulins  
**Germany**  
Wilhelmshaven  
**India**  
Pune  
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Fânzeres  
**Slovakia**  
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