

# GROVE®

## **GMK5120B**



**ALL TERRAIN HYDRAULIC CRANE**



# Superstructure specifications

## Boom

42 ft. - 167 ft. (12.8 m - 51 m) five section, full power MEGAFORM™ boom with patented Twin Lock boom pinning system. Maximum tip height: 177 ft. (54 m).

## Boom Elevation

Single lift cylinder with safety valve provides boom angle from -3° to +83°.

## Lattice Extension

36 ft. - 59 ft. (11 m - 18 m) lattice swingaway extension offsettable at 0°, 20° and 40°.

### \* Optional Lattice Jib Extension

Two 26 ft. (8 m) inserts for use with lattice swingaway extension to increase length up to 85 ft. (26 m) or 112 ft. (34 m). Offsettable at 0°, 20° and 40°.

## Load Moment & 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 construction cab is hydraulically tiltable (approximately 20°) and includes safety glass and adjustable operator's seat with hydraulic suspension. Other features include engine dependent hot water heater, armrest integrated crane controls, and ergonomically arranged instrumentation.

## Swing

2 swing gears with axial piston fixed displacement motors provide swing speed of 0 - 1.7 RPM thru planetary gear box. Holding brake and service brake.

## Counterweight

68,300 lbs. (31 Tonnes) consisting of various sections with hydraulic installation/removal system.

## Engine

Mercedes-Benz OM904LA, diesel, 4 cylinders, water cooled, turbocharged, 168 HP (125 kW) at 2300 rpm. Max. torque: 487 ft./lbs. (660 Nm) at 1200 rpm. Engine emission: EURO II/EUROMOT/EPA/CARB (non road).

## Fuel Tank Capacity

53 gal. (200 L).

## Hydraulic system

2 separate circuits, 1 axial piston variable displacement pump (load sensing) with electronic power limiting control and 1 gear pump for swing. Standard thermostatically controlled oil cooler keeps oil at optimum operating temperature. Tank capacity: 222 gal. (840 L)

## Control system

Full electronic control of all crane movements is accomplished using electrical control levers with automatic reset to zero. Controls are integrated with the LMI and engine management system by CAN-BUS.

## 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
Line length:	738 ft. (225 m)	591 ft. (180 m)
Rope diameter:	19 mm	19 mm
Line speed:	394 ft./min.	394 ft./min.
Line pull:	15,400 lbs. (70 kN)	15,400 lbs. (70 kN)

## Electrical system

24 V system with three-phase alternator 28 V/80 A, 2 batteries 12 V/170 Ah.

### \* Optional equipment

- \* Engine-independent hot water heater, with engine pre-heater.
- \* Second spotlight.
- \* Stereo/cassette player.
- \* Air Conditioning.

# Carrier specifications

## Chassis

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

## Outrigger System

Four hydraulic two-stage outrigger beams with vertical cylinders and outrigger pads. Outriggers can be set in two positions:

Fully extended (100%) - 24' 7" (7.5 m)

Partially extended (50%) - 16' 9" (5.1 m)

Independent horizontal and vertical movement control on each side of carrier. Crane level indicators at each control station.

## Engine

Mercedes-Benz OM502LA, diesel, 8 cylinders, water cooled, turbo charged, 469 HP (350 kW) at 1800 rpm. Max. torque: 1,696 ft./lbs. (2300 Nm) at 1080 rpm. Engine emission: EURO II/EUROMOT/EPA/CARB (non road).

## Fuel Tank Capacity

106 gal. (400 L).

## Transmission

Daimler Chrysler G 240-16 with EAS (Electronic Automatic Shifting), 16 forward and 2 reverse speeds. Single speed transfer case with inter-axle differential lock.

## Drive/Steer

10 x 8 x 10

## Axles

1st axle line - steer.

2nd axle line - drive/steer.

3rd axle line - drive/steer.

4th axle line - steer (off road only)/drive.

5th axle line - drive/steer.

Drive axles with planetary hub reduction and center mounted gearing.

## Suspension

GROVE GMK5120B features the Grove exclusive MEGATRAK® suspension. This revolutionary design features an independent hydroneumatic system with hydraulic lockout acting on all wheels. The suspension can be raised 6-1/2" (170 mm) or lowered 5" (130 mm) both longitudinally and transversely and features an automatic leveling system for on-highway travel.

## Tires

10 tires, 20.5 R25.

## Steering

Dual circuit steering system is hydraulic power assisted with a transfer case mounted, ground driven, emergency steering pump. Axles 1, 2, 3 and 5 steer on highway. Separate steering of the 4th and 5th axle for all wheel steer and crab-steer is controlled by an electric rocker switch.

## Brakes

A dual circuit air system operates on all wheels with a spring-applied, air released parking brake acting on axles 2, 3, 4 and 5. An air dryer is fitted to remove moisture from the air system.

Anti-lock braking system (ABS).

Auxiliary exhaust brake and constant throttle brake is standard.

## Cab

Two-man, aluminum construction driver's cab with thru access, includes the following features: safety glass; driver and passenger seats with hydraulic suspension, engine-dependent hot water heater, complete instrumentation and driving controls.

## Electrical system

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

## Maximum Speed

53 mph (85 km/h) with 20.5 R25 tires.

## Gradeability (Theoretical)

63% with 20.5 R25 tires.

## Miscellaneous standard equipment

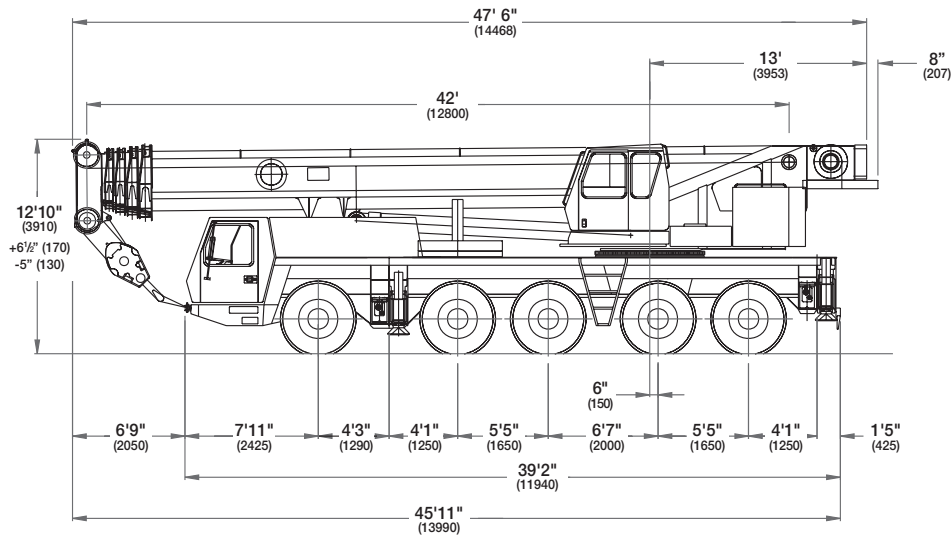
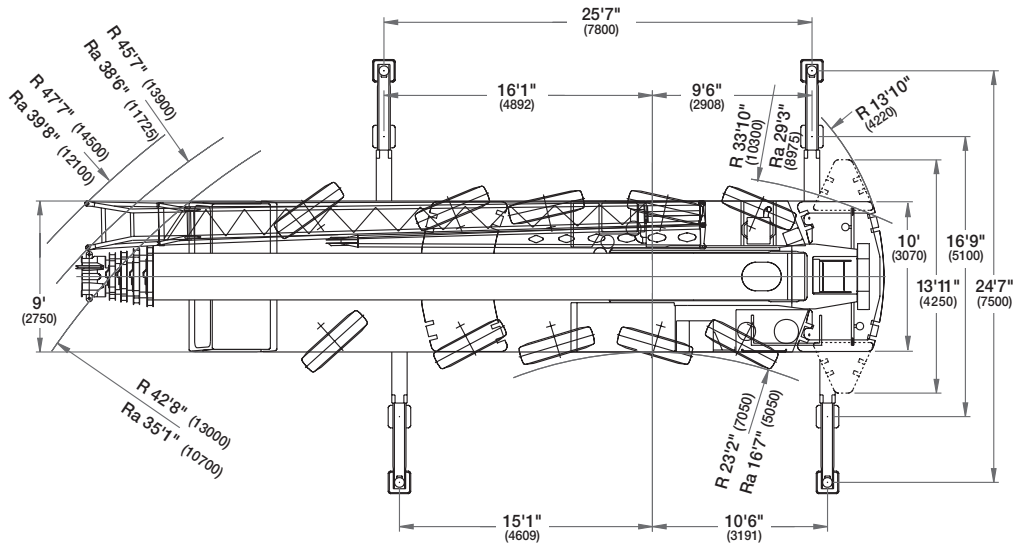
Trailing boom kit (less dolly); additional hydraulic oil cooler; spare tire and wheel - 20.5 R25 with carry bracket; flashing amber warning light on carrier cab; working light; tool kit; fire extinguisher; rooster sheave; radio cassette in carrier cab.

## \* Optional equipment

- \* 10 x 6 x 10 Drive/Steer
- \* Electric driveline retarder.
- \* 16.00 R25 tires (vehicle width 9 ft. 10 in. [3 m]).
- \* 14.00 R25 tires (vehicle width 9 ft. [2.75 m]).
- \* Engine-independent hot water heater, with engine pre-heater.
- \* Trailing boom "boost" weight transfer kit.
- \* Air conditioning.

\* Denotes optional equipment

# Dimensions



Note: ( ) Reference dimensions in mm

## BASIC WEIGHTS (LBS.)

With Mercedes Power, 20.5 R25 Tires  
 Auxiliary Hoist, 2nd Hydraulic Oil Cooler,  
 Brackets for Lattice Extension

	Axles 1 - 3	Axles 4 & 5	Total
With Mercedes Power, 20.5 R25 Tires Auxiliary Hoist, 2nd Hydraulic Oil Cooler, Brackets for Lattice Extension	65,068	41,405	106,473

## Additions:

Outrigger Pads	119	190	309
Lattice Extension - 36/59 ft	3,788	-(613)	3,175
Auxiliary Boom Nose	362	-(207)	154
* 24,200 lbs Counterweight (15,400 lbs on Carrier)	11,274	10,750	22,024
* 44,000 lbs Counterweight (38,800 lbs on Carrier)	23,227	18,991	42,218
Engine Driveline Retarder	-(64)	717	653
Spare Tire - 14.00 R25	-(340)	924	584
Spare Tire - 16.00 R25	-(423)	1,140	717
Spare Tire - 20.5 R25	-(487)	1,296	809

## Removal:

* Substitute Counterweight IPO Auxiliary Hoist	93	-(46)	46
10 x 6 x 10 in lieu	-(772)	-(22)	-(794)
16.00 R25 Tires in lieu	-(556)	-(370)	-(926)
14.00 R25 Tires in lieu	-(1,349)	-(899)	-(2,249)

Reflects weight with superstructure facing forward.

\* Auxiliary hoist is considered as part of the counterweight. Please see page 11 for counterweight build-up.

# Working range



42 - 167 ft.  
(12.8 - 51 m)



36 - 112 ft.  
(11 - 34 m)

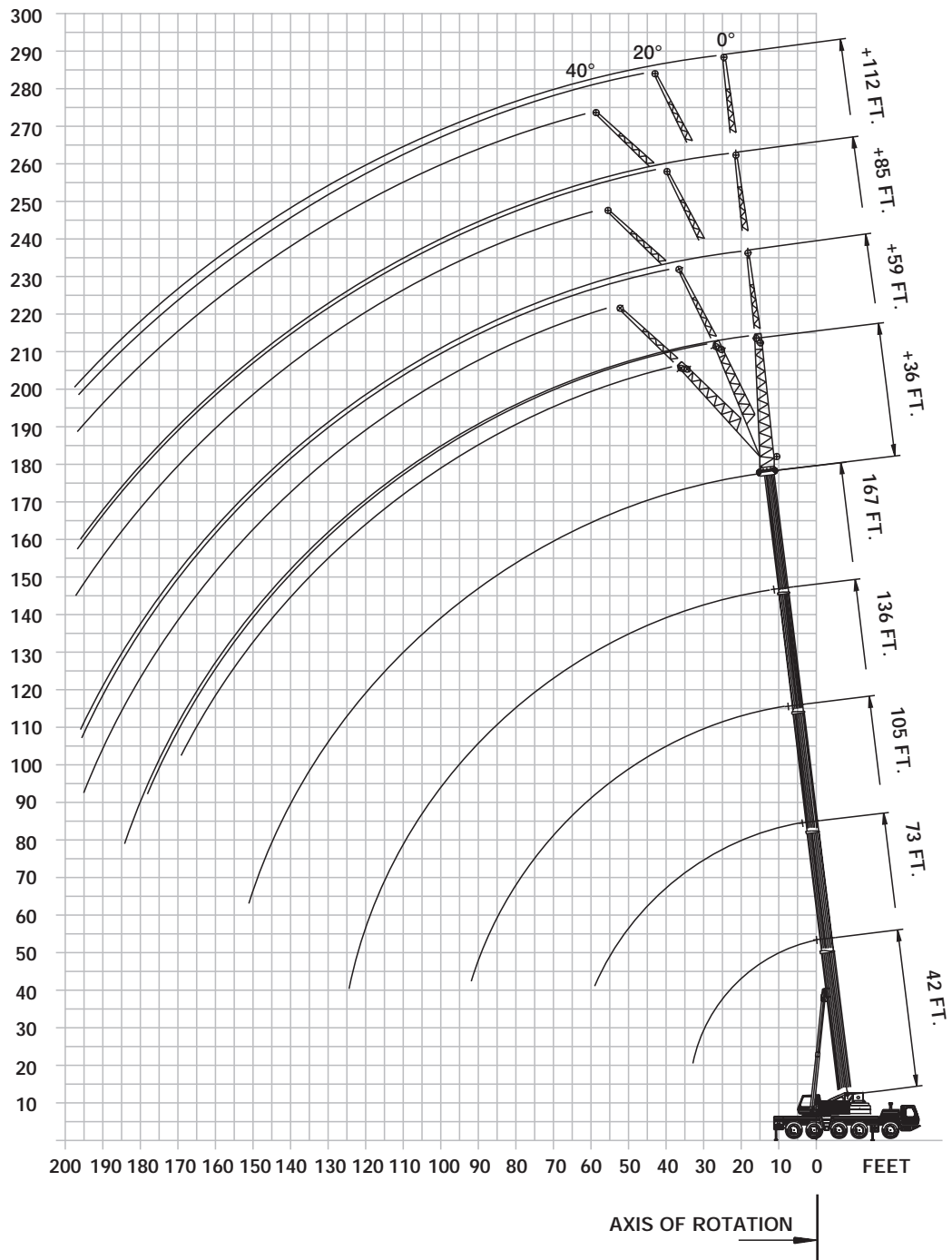


100%



360°

FEET



 42 - 167 ft.  
 (12.8 - 51.0 m)

 68,300 lbs.  
 (31 Tonnes)

 100%  
 24'7" Spread

 360°

Feet	Pounds (thousands)										
	42*	42	58	73	89	105	120	136	152	167	
8	240.0										
9	228.0										
10	211.0	220.0	192.0	139.0							
15	168.0	168.0	161.0	139.0	121.0	90.0					
20	138.0	138.0	134.0	129.0	121.0	90.0	63.0	47.0			
25	114.0	114.0	114.0	110.0	108.0	88.0	63.0	47.0	35.8		
30	88.0	88.0	98.0	95.0	94.0	80.0	60.0	47.0	35.8	29.6	
35			81.0	80.0	82.0	73.0	55.0	46.0	35.8	29.6	
40			67.0	67.0	66.0	66.0	49.0	43.6	35.6	29.6	
45			57.0	56.0	55.0	57.0	44.0	40.6	35.2	29.6	
50				47.0	49.0	48.0	40.4	36.6	33.0	29.0	
55				40.8	42.6	41.8	36.8	33.4	30.6	28.4	
60					37.2	36.4	34.0	30.8	28.6	26.8	
65					32.8	32.0	31.0	28.2	26.4	25.0	
70					29.2	28.4	29.0	25.8	24.2	23.4	
75					26.0	25.2	26.6	23.8	22.4	21.8	
80						23.0	23.8	21.6	21.0	20.4	
85						21.8	21.4	20.2	19.6	18.8	
90						20.2	19.4	18.8	17.8	17.4	
95							17.4	17.8	16.0	15.8	
100							15.8	16.4	14.6	14.6	
105								15.0	14.0	13.8	
110								13.6	13.4	12.6	
115								12.4	12.4	11.4	
120								11.2	11.2	10.4	
125									10.2	9.4	
130									9.4	8.4	
135									8.6	7.6	
140										6.8	
145										6.0	
150										5.4	

\* Over rear only.  
 Lifting capacities greater than 210,000 lbs require additional equipment.  
 Note: Above chart is available with reduced outriggers.

 42 - 167 ft.  
 (12.8 - 51.0 m)

 24,200 lbs.  
 (11 Tonnes)


 100%  
 24'7" Spread

 360°

Feet	Pounds (thousands)										
	42*	42	58	73	89	105	120	136	152	167	
8	240.0										
9	228.0										
10	211.0	220.0	192.0	139.0							
15	168.0	168.0	161.0	139.0	121.0	90.0					
20	138.0	132.0	126.0	114.0	107.0	90.0	63.0	47.0			
25	93.0	93.0	93.0	87.0	83.0	77.0	63.0	47.0	35.8		
30	65.0	65.0	69.0	67.0	66.0	61.0	56.0	47.0	35.8	29.6	
35			53.0	55.0	53.0	49.0	49.0	44.0	35.8	29.6	
40			42.2	43.6	43.6	41.0	41.2	38.8	35.6	29.6	
45			34.4	35.8	35.8	37.4	34.8	33.4	30.0	29.6	
50				30.2	30.0	31.4	29.6	29.4	28.2	25.8	
55				25.4	27.2	26.8	26.0	25.8	24.4	22.2	
60					23.2	22.8	23.4	22.4	21.2	19.2	
65					20.0	20.0	20.2	19.6	18.6	16.6	
70					17.2	17.4	17.6	16.8	16.2	14.4	
75					15.0	15.0	15.2	14.6	14.2	12.6	
80						13.0	13.4	12.6	12.4	11.0	
85						11.4	11.6	11.0	10.6	9.4	
90						10.0	10.2	9.6	9.2	8.2	
95							8.8	8.2	8.0	7.0	
100							7.8	7.2	6.8	5.8	
105								6.2	5.8	4.8	
110								5.2	5.0	4.0	
115								4.4	4.2	3.2	
120								3.6	3.4	2.4	
125									2.8		
130									2.0		

\* Over rear only.  
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 42 - 167 ft.  
 (12.8 - 51.0 m)
  52,900 lbs.  
 (24 Tonnes)
  100%  
 24'7" Spread
  360°

Feet	Pounds (thousands)									
	42*	42	58	73	89	105	120	136	152	167
8	240.0									
9	228.0									
10	211.0	220.0	192.0	139.0						
15	168.0	168.0	161.0	139.0	121.0	90.0				
20	138.0	138.0	134.0	129.0	121.0	90.0	63.0	47.0		
25	114.0	114.0	114.0	110.0	108.0	88.0	63.0	47.0	35.8	
30	88.0	88.0	92.0	89.0	87.0	80.0	60.0	47.0	35.8	29.6
35			72.0	73.0	71.0	70.0	55.0	46.0	35.8	29.6
40			59.0	59.0	59.0	59.0	49.0	43.6	35.6	29.6
45			49.0	48.0	51.0	50.0	44.0	40.6	35.2	29.6
50				42.8	42.8	41.8	40.4	36.6	33.0	29.0
55				36.8	36.8	36.0	35.6	33.4	30.6	28.4
60					32.0	31.2	32.6	30.4	28.6	26.8
65					28.0	27.4	28.6	26.4	26.4	25.0
70					24.8	25.8	25.4	24.4	23.8	23.4
75					21.8	23.4	22.4	22.0	21.0	21.8
80						21.0	20.0	20.6	19.6	19.6
85						18.8	17.8	18.4	18.4	17.4
90						16.8	16.6	16.6	16.6	15.6
95							15.6	14.8	14.8	13.8
100							14.2	13.4	13.4	12.4
105								12.4	12.0	11.0
110								11.2	10.8	9.8
115								10.0	9.8	8.8
120								9.0	8.8	7.8
125									7.8	7.0
130									7.0	6.2
135									6.4	5.4
140										4.6
145										4.0
150										3.4

\* Over rear only.  
 Lifting capacities greater than 210,000 lbs require additional equipment.  
 Note: Above chart is available with reduced outriggers.

 42 - 167 ft.  
 (12.8 - 51.0 m)
  24,200 lbs.  
 (11 Tonnes)
  100%  
 24'7" Spread
  360°

Feet	Pounds (thousands)									
	42*	42	58	73	89	105	120	136	152	167
8	240.0									
9	228.0									
10	211.0	220.0	192.0	139.0						
15	168.0	168.0	161.0	139.0	121.0	90.0				
20	138.0	132.0	126.0	114.0	107.0	90.0	63.0	47.0		
25	93.0	93.0	93.0	87.0	83.0	77.0	63.0	47.0	35.8	
30	65.0	65.0	69.0	67.0	66.0	61.0	56.0	47.0	35.8	29.6
35			53.0	55.0	53.0	49.0	49.0	44.0	35.8	29.6
40			42.2	43.6	43.6	41.0	41.2	38.8	35.6	29.6
45			34.4	35.8	35.8	37.4	34.8	33.4	30.0	29.6
50				30.2	30.0	31.4	29.6	29.4	28.2	25.8
55				25.4	27.2	26.8	26.0	25.8	24.4	22.2
60					23.2	22.8	23.4	22.4	21.2	19.2
65					20.0	20.0	20.2	19.6	18.6	16.6
70					17.2	17.4	17.6	16.8	16.2	14.4
75					15.0	15.0	15.2	14.6	14.2	12.6
80						13.0	13.4	12.6	12.4	11.0
85						11.4	11.6	11.0	10.6	9.4
90						10.0	10.2	9.6	9.2	8.2
95							8.8	8.2	8.0	7.0
100							7.8	7.2	6.8	5.8
105								6.2	5.8	4.8
110								5.2	5.0	4.0
115								4.4	4.2	3.2
120								3.6	3.4	2.4
125									2.8	
130									2.0	

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 42 - 167 ft.  
 (12.8 - 51.0 m)
  44,000 lbs.  
 (20 Tonnes)
  100%  
 24'7" Spread
  360°

Feet	Pounds (thousands)									
	42*	42	58	73	89	105	120	136	152	167
8	240.0									
9	228.0									
10	211.0	220.0	192.0	139.0						
15	168.0	168.0	161.0	139.0	121.0	90.0				
20	138.0	138.0	134.0	129.0	121.0	90.0	63.0	44.0		
25	114.0	111.0	112.0	105.0	101.0	88.0	63.0	44.0	35.8	
30	83.0	83.0	86.0	85.0	79.0	78.0	60.0	43.4	35.8	29.6
35			66.0	67.0	66.0	64.0	55.0	39.8	35.8	29.6
40			54.0	53.0	56.0	53.0	49.0	39.0	35.6	29.6
45			45.0	46.0	46.0	45.0	42.4	36.4	35.2	29.6
50				38.8	38.8	37.8	36.4	33.0	33.0	29.0
55				33.2	33.2	32.4	33.8	30.2	30.6	28.4
60					28.8	29.8	29.4	28.2	27.0	26.8
65					25.2	26.6	25.8	25.2	24.4	24.4
70					22.4	23.6	22.6	23.2	22.4	21.8
75					21.2	20.8	20.0	20.6	20.4	19.4
80						18.6	18.8	18.2	18.2	17.2
85						16.6	17.0	16.4	16.2	15.2
90							14.8	15.4	14.8	14.4
95								13.8	13.2	12.8
100								12.4	11.8	11.6
105									10.6	10.2
110									9.4	9.2
115									8.4	8.2
120									7.4	7.2
125										6.4
130										5.6
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140										4.0
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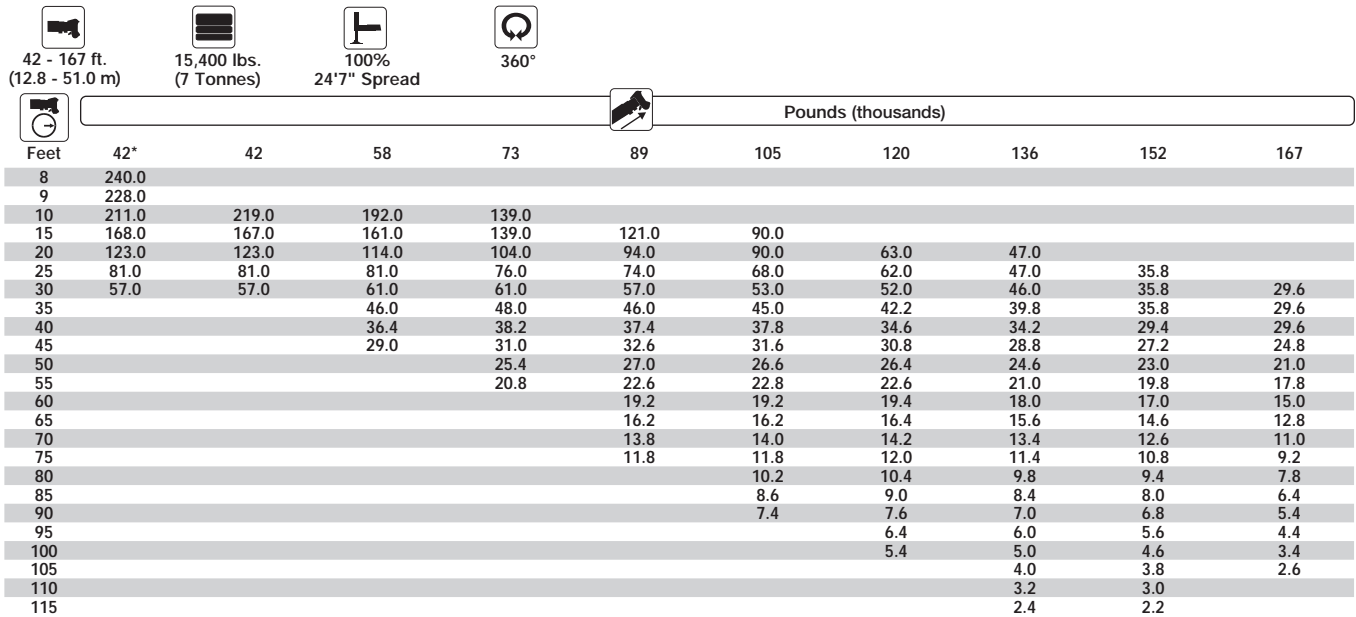
 42 - 167 ft.  
 (12.8 - 51.0 m)
  24,200 lbs.  
 (11 Tonnes)
  100%  
 24'7" Spread
  360°

Feet	Pounds (thousands)									
	42*	42	58	73	89	105	120	136	152	167
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10	211.0	220.0	192.0	139.0						
15	168.0	168.0	161.0	139.0	121.0	90.0				
20	138.0	132.0	126.0	114.0	107.0	90.0	63.0	47.0		
25	93.0	93.0	93.0	87.0	83.0	77.0	63.0	47.0	35.8	
30	65.0	65.0	69.0	67.0	66.0	61.0	56.0	47.0	35.8	29.6
35			53.0	55.0	53.0	49.0	49.0	44.0	35.8	29.6
40			42.2	43.6	43.6	41.0	41.2	38.8	35.6	29.6
45			34.4	35.8	35.8	37.4	34.8	33.4	30.0	29.6
50				30.2	30.0	31.4	29.6	29.4	28.2	25.8
55				25.4	27.2	26.8	26.0	25.8	24.4	22.2
60					23.2	22.8	23.4	22.4	21.2	19.2
65					20.0	20.0	20.2	19.6	18.6	16.6
70					17.2	17.4	17.6	16.8	16.2	14.4
75					15.0	15.0	15.2	14.6	14.2	12.6
80						13.0	13.4	12.6	12.4	11.0
85						11.4	11.6	11.0	10.6	9.4
90							10.0	10.2	9.6	8.2
95								8.8	8.2	7.0
100								7.8	7.2	5.8
105									6.2	5.8
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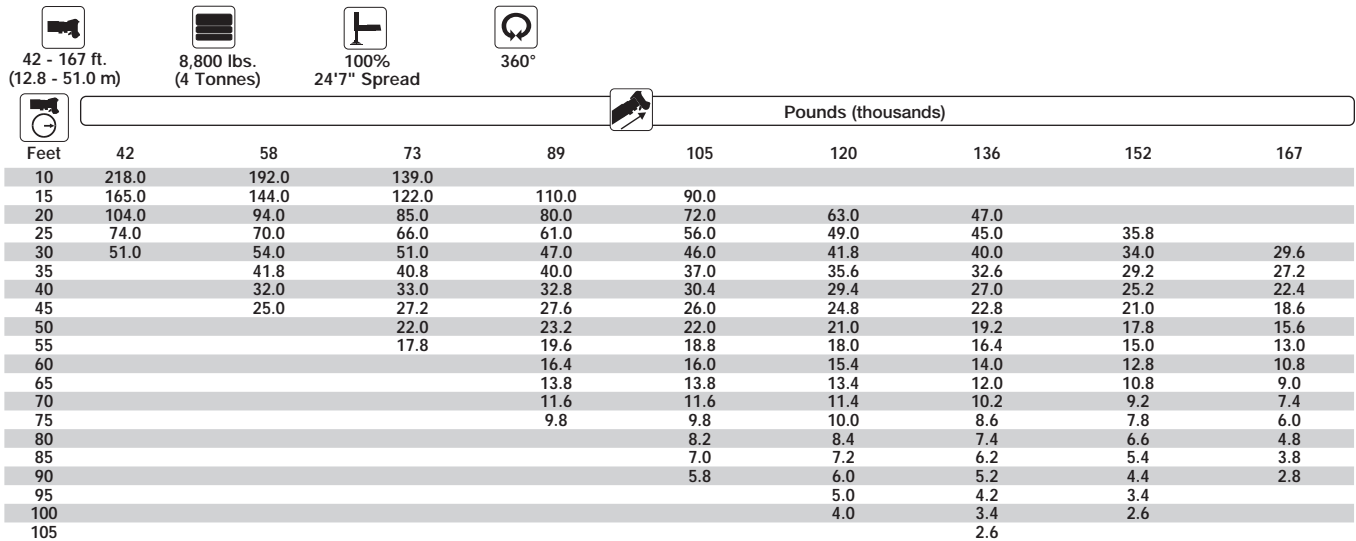
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 Note: Above chart is available with reduced outriggers.

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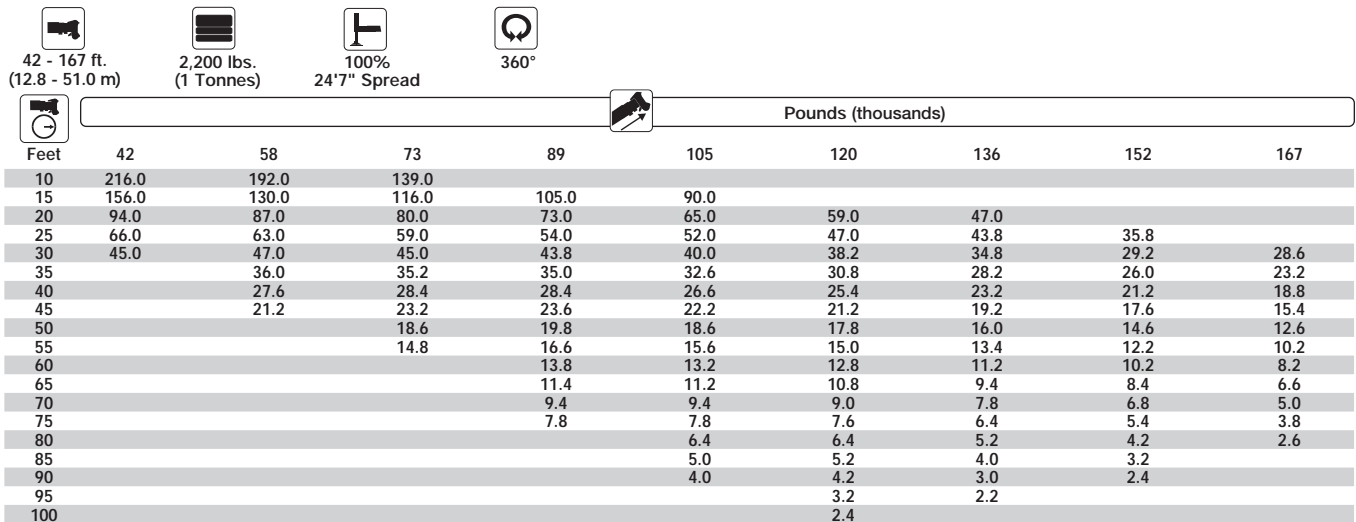




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167 ft.  
(51.0 m)



36-59-85-112 ft.  
(11-18-26-34 m)



68,300 lbs.  
(31 Tonnes)



100%  
24'7" Spread



360°

Feet	Pounds (thousands)											
	36 FT			59 FT			85 FT			112 FT		
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°
30	17.6											
35	17.6			11.4								
40	17.6			11.4			7.8			4.8		
45	17.6	18.0		11.4			7.8			4.8		
50	17.6	18.0		11.4			7.8			4.8		
55	17.6	18.0	15.8	11.4			7.8			4.8		
60	17.6	17.6	15.6	11.4	10.4		7.8			4.8		
65	17.6	17.2	15.2	11.4	10.4		7.8			4.8		
70	17.6	16.6	15.0	11.2	10.2		7.8	8.6		4.8	5.4	
75	17.2	15.8	14.6	11.2	10.2	8.8	7.8	8.6		4.8	5.4	
80	16.4	15.2	14.2	11.2	10.0	8.8	7.8	8.4	7.4	4.8	5.4	
85	15.4	14.4	13.8	11.0	10.0	8.6	7.8	8.4	7.4	4.8	5.4	
90	14.4	13.8	13.4	11.0	9.8	8.6	7.8	8.2	7.4	4.8	5.4	4.4
95	13.4	13.2	13.0	11.0	9.6	8.4	7.8	8.2	7.4	4.8	5.4	4.4
100	12.6	12.6	12.4	10.8	9.4	8.4	7.8	8.0	7.2	4.8	5.4	4.4
105	12.0	12.0	12.0	10.6	9.2	8.4	7.8	7.8	7.2	4.8	5.4	4.4
110	11.4	11.4	11.4	10.2	9.0	8.2	7.8	7.8	7.2	4.8	5.2	4.4
115	10.8	10.8	11.0	9.8	8.8	8.2	7.8	7.6	7.0	4.8	5.2	4.4
120	10.0	10.2	10.6	9.4	8.6	8.2	7.6	7.4	7.0	4.8	5.0	4.4
125	9.4	9.6	10.0	9.0	8.4	8.0	7.2	7.2	6.8	4.8	5.0	4.2
130	8.6	9.0	9.4	8.6	8.2	8.0	7.0	6.8	6.6	4.8	4.8	4.2
135	7.8	8.4	8.8	8.2	8.0	7.8	6.6	6.6	6.6	4.8	4.8	4.2
140	7.0	7.6	8.0	7.8	7.6	7.6	6.4	6.2	6.4	4.8	4.6	4.2
145	6.4	6.8	7.2	7.2	7.4	7.4	6.0	6.0	6.2	4.8	4.6	4.2
150	5.6	6.2	6.4	6.4	7.0	7.2	5.8	5.8	6.0	4.6	4.4	4.2
155	5.0	5.4	5.8	5.8	6.6	7.0	5.4	5.6	5.8	4.4	4.4	4.0
160	4.4	4.8		5.2	6.0	6.6	5.2	5.2	5.6	4.2	4.2	4.0
165	4.0	4.2		4.6	5.4	5.8	4.6	5.0	5.4	4.0	4.0	4.0
170	3.4	3.8		4.2	4.8	5.2	4.2	4.8	5.0	3.6	3.8	4.0
175	3.0	3.2		3.8	4.4	4.6	3.6	4.4	4.8	3.4	3.6	3.8
180	2.4	2.8		3.2	3.8		3.2	4.0	4.4	3.2	3.4	3.6
185	2.0			2.8	3.4		2.8	3.4	3.8	2.6	3.2	3.4
190	1.6			2.4	2.8		2.4	3.0	3.4	2.2	3.0	3.2
195				2.0	2.4		2.0	2.6	2.8	1.8	2.6	3.0
200				1.6	2.0		1.6	2.2	2.4	1.6	2.2	2.6
205					1.6			1.8			1.8	2.2
210												1.8



167 ft.  
(51.0 m)



36-59-85-112 ft.  
(11-18-26-34 m)



24,200 lbs.  
(11 Tonnes)



100%  
24'7" Spread



360°

Feet	Pounds (thousands)											
	36 FT			59 FT			85 FT			112 FT		
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°
30	17.6											
35	17.6			11.4								
40	17.6			11.4			7.8			4.8		
45	17.6	18.0		11.4			7.8			4.8		
50	17.6	18.0		11.4			7.8			4.8		
55	17.6	18.0	15.8	11.4			7.8			4.8		
60	17.6	17.6	15.6	11.4	10.4		7.8			4.8		
65	15.8	17.2	15.2	11.4	10.4		7.8			4.8		
70	13.8	15.4	15.0	11.2	10.2		7.8	8.6		4.8	5.4	
75	12.0	13.6	14.6	11.2	10.2	8.8	7.8	8.6		4.8	5.4	
80	10.4	11.8	13.2	11.0	10.0	8.8	7.8	8.4	7.4	4.8	5.4	
85	9.0	10.4	11.4	9.6	10.0	8.6	7.8	8.4	7.4	4.8	5.4	
90	7.8	9.0	10.0	8.4	9.8	8.6	7.8	8.2	7.4	4.8	5.4	4.4
95	6.6	7.8	8.8	7.2	9.2	8.4	7.0	8.2	7.4	4.8	5.4	4.4
100	5.6	6.8	7.6	6.4	8.2	8.4	6.0	7.8	7.2	4.8	5.4	4.4
105	4.8	5.8	6.6	5.4	7.2	8.4	5.2	7.0	7.2	4.8	5.4	4.4
110	4.0	4.8	5.6	4.6	6.2	7.6	4.4	6.0	7.2	4.0	5.2	4.4
115	3.2	4.0	4.8	3.8	5.4	6.6	3.6	5.2	6.4	3.2	4.8	4.4
120	2.4	3.2	3.8	3.2	4.6	5.8	3.0	4.4	5.6	2.6	4.2	4.4
125	1.8	2.6	3.2	2.6	3.8	5.0	2.4	3.8	4.8	2.0	3.4	4.2
130		2.0	2.4	2.0	3.2	4.2	1.8	3.0	4.2		2.8	4.0
135			1.8		2.6	3.4		2.4	3.4		2.2	3.2
140					2.0	2.8		1.8	2.8		1.6	2.6
145						2.2			2.2			2.0
150						1.6			1.6			1.6

THIS CHART IS ONLY A GUIDE AND SHOULD NOT BE USED TO OPERATE THE CRANE.  
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167 ft.  
(51.0 m)



36-59-85-112 ft.  
(11-18-26-34 m)



52,900 lbs.  
(24 Tonnes)



100%  
24'7" Spread



360°

Feet	Pounds (thousands)											
	36 FT			59 FT			85 FT			112 FT		
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°
30	17.6											
35	17.6			11.4								
40	17.6			11.4			7.8			4.8		
45	17.6	18.0		11.4			7.8			4.8		
50	17.6	18.0		11.4			7.8			4.8		
55	17.6	18.0	15.8	11.4			7.8			4.8		
60	17.6	17.6	15.6	11.4	10.4		7.8			4.8		
65	17.6	17.2	15.2	11.4	10.4		7.8			4.8		
70	17.6	16.6	15.0	11.2	10.2		7.8	8.6		4.8	5.4	
75	17.2	15.8	14.6	11.2	10.2	8.8	7.8	8.6		4.8	5.4	
80	16.4	15.2	14.2	11.2	10.0	8.8	7.8	8.4	7.4	4.8	5.4	
85	15.4	14.4	13.8	11.0	10.0	8.6	7.8	8.4	7.4	4.8	5.4	
90	14.4	13.8	13.4	11.0	9.8	8.6	7.8	8.2	7.4	4.8	5.4	4.4
95	13.4	13.2	13.0	11.0	9.6	8.4	7.8	8.2	7.4	4.8	5.4	4.4
100	12.6	12.6	12.4	10.8	9.4	8.4	7.8	8.0	7.2	4.8	5.4	4.4
105	12.0	12.0	12.0	10.6	9.2	8.4	7.8	7.8	7.2	4.8	5.4	4.4
110	11.2	11.0	11.4	10.2	9.0	8.2	7.8	7.8	7.2	4.8	5.2	4.4
115	9.0	9.8	10.6	9.8	8.8	8.2	7.8	7.6	7.0	4.8	5.2	4.4
120	8.0	8.8	9.4	8.8	8.6	8.2	7.6	7.4	7.0	4.8	5.0	4.4
125	7.2	8.0	8.4	8.0	8.4	8.0	7.2	7.2	6.8	4.8	5.0	4.2
130	6.4	7.0	7.6	7.2	8.2	8.0	7.0	6.8	6.6	4.8	4.8	4.2
135	5.6	6.2	6.6	6.4	7.6	7.8	6.4	6.6	6.6	4.8	4.8	4.2
140	5.0	5.6	5.8	5.8	6.8	7.6	5.8	6.2	6.4	4.8	4.6	4.2
145	4.2	4.8	5.2	5.0	6.0	6.8	5.0	6.0	6.2	4.8	4.6	4.2
150	3.6	4.2	4.4	4.4	5.4	6.0	4.4	5.6	6.0	4.2	4.4	4.2
155	3.2	3.6	3.8	4.0	4.8	5.4	3.4	4.8	5.6	3.8	4.4	4.0
160	2.6	3.0		3.4	4.2	4.8	3.0	4.4	5.0	3.2	4.2	4.0
165	2.2	2.6		3.0	3.6	4.2	2.4	3.8	4.4	2.8	3.6	4.0
170	1.8	2.0		2.4	3.2	3.6	2.0	3.2	3.8	2.2	3.2	3.8
175		1.6		2.0	2.6	3.0	1.6	2.8	3.2	1.8	2.8	3.4
180				1.6	2.2			2.4	2.8		2.2	2.8
185					1.8			1.8	2.2		1.8	2.4
190									1.8			2.0
195												1.6
200												
205												
210												



167 ft.  
(51.0 m)



36-59-85-112 ft.  
(11-18-26-34 m)



24,200 lbs.  
(11 Tonnes)



100%  
24'7" Spread



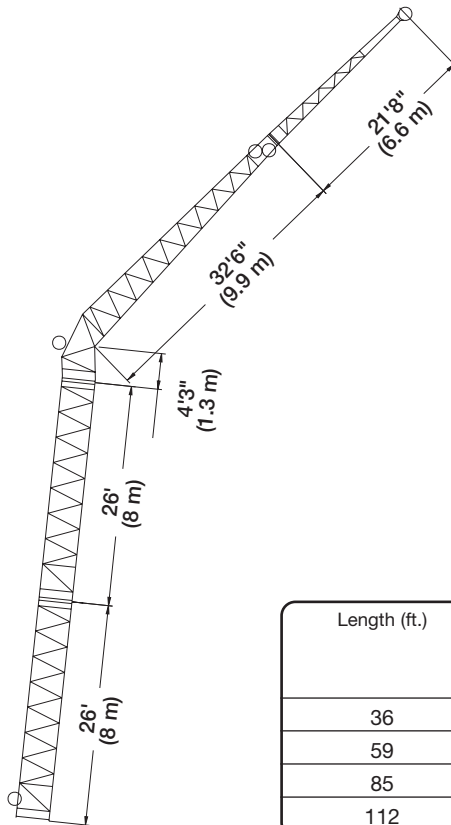
360°

Feet	Pounds (thousands)											
	36 FT			59 FT			85 FT			112 FT		
	0°	20°	40°	0°	20°	40°	0°	20°	40°	0°	20°	40°
30	17.6											
35	17.6			11.4								
40	17.6			11.4			7.8			4.8		
45	17.6	18.0		11.4			7.8			4.8		
50	17.6	18.0		11.4			7.8			4.8		
55	17.6	18.0	15.8	11.4			7.8			4.8		
60	17.6	17.6	15.6	11.4	10.4		7.8			4.8		
65	15.8	17.2	15.2	11.4	10.4		7.8			4.8		
70	13.8	15.4	15.0	11.2	10.2		7.8	8.6		4.8	5.4	
75	12.0	13.6	14.6	11.2	10.2	8.8	7.8	8.6		4.8	5.4	
80	10.4	11.8	13.2	11.0	10.0	8.8	7.8	8.4	7.4	4.8	5.4	
85	9.0	10.4	11.4	9.6	10.0	8.6	7.8	8.4	7.4	4.8	5.4	
90	7.8	9.0	10.0	8.4	9.8	8.6	7.8	8.2	7.4	4.8	5.4	4.4
95	6.6	7.8	8.8	7.2	9.2	8.4	7.0	8.2	7.4	4.8	5.4	4.4
100	5.6	6.8	7.6	6.4	8.2	8.4	6.0	7.8	7.2	4.8	5.4	4.4
105	4.8	5.8	6.6	5.4	7.2	8.4	5.2	7.0	7.2	4.8	5.4	4.4
110	4.0	4.8	5.6	4.6	6.2	7.6	4.4	6.0	7.2	4.0	5.2	4.4
115	3.2	4.0	4.8	3.8	5.4	6.6	3.6	5.2	6.4	3.2	4.8	4.4
120	2.4	3.2	3.8	3.2	4.6	5.8	3.0	4.4	5.6	2.6	4.2	4.4
125	1.8	2.6	3.2	2.6	3.8	5.0	2.4	3.8	4.8	2.0	3.4	4.2
130		2.0	2.4	2.0	3.2	4.2	1.8	3.0	4.2		2.8	4.0
135			1.8		2.6	3.4		2.4	3.4		2.2	3.2
140					2.0	2.8		1.8	2.8		1.6	2.6
145						2.2			2.2			2.0
150						1.6			1.6			1.6

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		167 ft. (51.0 m)			36-59 ft. (11-18 m)			15,400 lbs. (7 Tonnes)			100% 24'7" Spread			360°		
		Pounds (thousands)														
Feet	36 FT			40°			59 FT			40°						
	0°	20°		0°	20°		0°	20°		0°	20°					
30	17.6															
35	17.6															
40	17.6															
45	17.6															
50	17.6	18.0														
55	16.6	18.0														
60	14.2	16.2														
65	12.0	14.0														
70	10.2	12.0														
75	8.8	10.4														
80	7.4	8.8														
85	6.2	7.4														
90	5.0	6.4														
95	4.0	5.2														
100	3.2	4.2														
105	2.4	3.4														
110	1.6	2.6														
115		2.0														
120																
125																
130																
135																

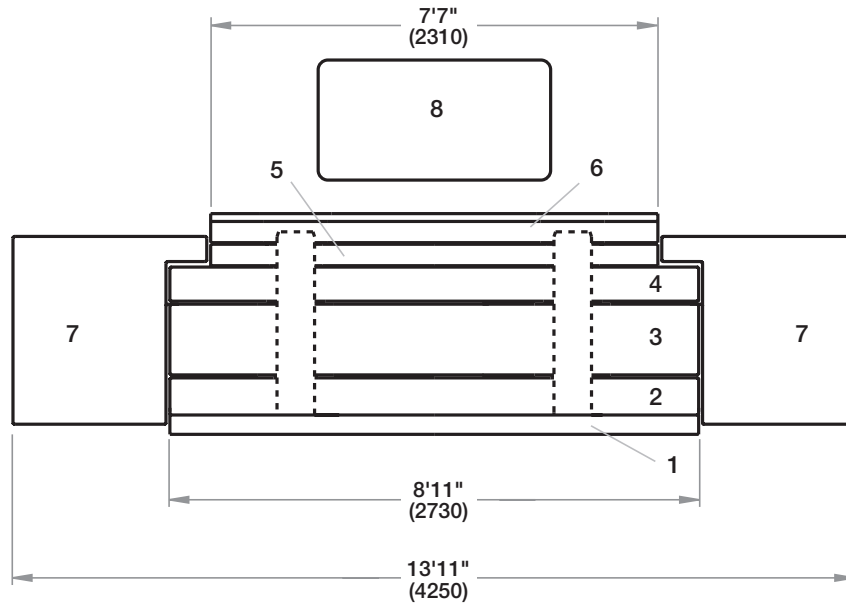
## Boom extension configurations




Length (ft.)	Intermediate section boom extension make-up			
	26' (8 m)	4'3" (1.3 m)	32'6" (9.9 m)	21'8" (6.6 m)
36	—	1x	1x	—
59	—	1x	1x	1x
85	1x	1x	1x	1x
112	2x	1x	1x	1x

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





# Counterweight configurations













- |                           |   |
|---------------------------|---|
| 1. 6,600 lbs. (3 Tonnes)  | 5. 4,400 lbs. (2 Tonnes)                        |
| 2. 8,800 lbs. (4 Tonnes)  | 6. 6,600 lbs. (3 Tonnes)                        |
| 3. 15,400 lbs. (7 Tonnes) | 7. 2 x 7,700 lbs. (3.5 Tonnes)                  |
| 4. 8,900 lbs. (4 Tonnes)  | 8. 2,200 lbs. (1 Tonne)<br>(or Auxiliary Hoist) |









	①	②	③	④	⑤	⑥	⑦ <sup>2 Pieces</sup>	⑧
2,200 lbs.								X
8,800 lbs.						X		X
15,400 lbs.	X					X		X
24,200 lbs.	X	X				X		X
44,000 lbs.	X	X	X		X	X		X
52,900 lbs.	X	X	X	X	X	X		X
68,300 lbs.	X	X	X	X	X	X	X	X

# Overview of standard duty charts

	42 – 167 m		360°																
	ft		Thousand lbs.	2.2	68.3	52.9	44	24.2	15.4	8.8	2.2	68.3	52.9	44	24.2	15.4	8.8	2.2	
42*					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
42					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
58					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
73					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
89					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
105					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
120					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
136					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
152					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
167					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

\* 0° over rear

	0°, 20°, 40° 36/59/85/112 ft		25.6 x 24.6 ft		360°														
	ft		ft		68,300 lbs.		52,900 lbs.		44,000 lbs.		24,200 lbs.		15,400 lbs.						
				36	59	85	112	36	59	85	112	36	59	85	112	36	59	85	112
105				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
120				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
136				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
152				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
167				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

	0°, 20°, 40° 36/59 ft		25.6 x 16.7 ft		360°														
	ft		ft		68,300 lbs.		52,900 lbs.		44,000 lbs.										
				36	59	36	59	36	59										
105				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
120				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
136				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
152				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
167				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•