

# Technical Data

## Specifications & Capacities

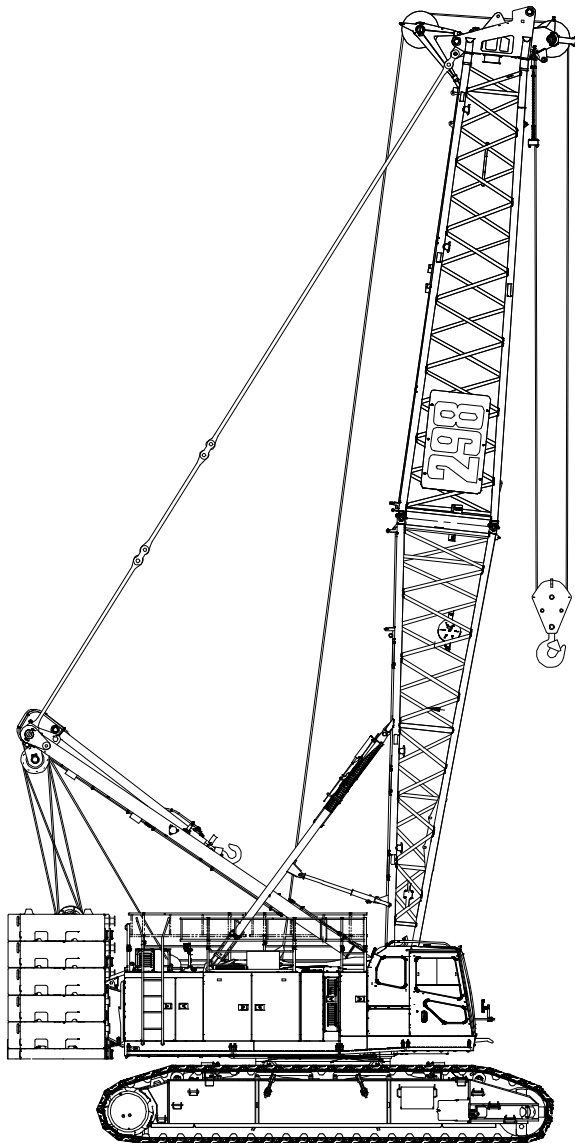
# 298

HYLAB

SERIES **2**

### HSL Crawler Crane

250 Ton (226.80 metric ton)



CAUTION: This material is supplied for reference use only. Operator must refer to in-cab Crane Rating Manual and Operator's Manual to determine allowable crane lifting capacities and assembly and operating procedures.



# Table Of Contents

<b>Upper Structure</b> .....	<b>1</b>
Frame .....	1
Engine .....	1
Hydraulic System .....	1
Load Hoist Drums .....	1
Optional Front—Mounted Third Hoist Drum .....	1
Boom Hoist Drum .....	2
Boom Hoist System .....	2
Swing System .....	2
Counterweight .....	2
Operator Cab .....	2
Rated Capacity Limiter System .....	2
Machinery Cab .....	2
Catwalks .....	2
<b>Lower Structure</b> .....	<b>3</b>
Carbody .....	3
Side Frames .....	3
Travel and Steering .....	3
Jack System .....	3
<b>Attachment and Options</b> .....	<b>3</b>
Conventional Tube Boom .....	3
Tube Jib .....	3
Auxiliary Tip Extension .....	3
<b>Dimensions</b> .....	<b>4</b>
Base Crane .....	6
Side Frames .....	6
Upper Counterweights .....	7
Lower Counterweights .....	7
Boom/Luffing Boom .....	8
Jib/Luffing Fixed Jib .....	10
Luffing Jib Extensions .....	12
Hook Balls .....	13
Hook Blocks .....	13
Assembly Diagram .....	15
<b>Working Weights</b> .....	<b>15</b>
<b>Transport Weights</b> .....	<b>16</b>
<b>Transport Drawings</b> .....	<b>17</b>
<b>Load Hoist Performance</b> .....	<b>20</b>
<b>Working Areas</b> .....	<b>21</b>
<b>Attachments</b> .....	<b>22</b>
<b>Main Boom Make—up</b> .....	<b>23</b>
<b>Main Boom Working Range Diagram</b> .....	<b>24</b>
<b>Main Boom Load Chart</b> .....	<b>25</b>

<b>Jib Attachment Make–up</b> .....	<b>27</b>
<b>Jib Attachment Working Range Diagram</b> .....	<b>28</b>
<b>Jib Attachment Load Charts</b> .....	<b>29</b>
<b>Luffing Attachment</b> .....	<b>32</b>
Luffing Boom Make–up .....	32
Luffing Jib Make–up .....	32

# Upper Structure

## Frame

All welded steel frame with precision machined surfaces for mating parts.

### Turntable Bearing

- Inner race with internal swing gear is bolted to lower frame.
- Outer race is bolted to upper frame.

## Engine

### Engine

Full pressure lubrication, oil filter, air cleaner, hour meter, throttle, and electric control shutdown.

Specification	Cummins QSL9	
Emissions Compliance Level:	Tier 4f/ Stage IV <sup>(1)</sup>	Tier 3/ Stage IIIA <sup>(2)</sup>
Numbers of Cylinders	6	6
Cycle	4	4
Bore & Stroke: inch (mm)	4.49 x 5.69 (114 x 145)	4.49 x 5.69 (114 x 145)
Piston Displacement: in <sup>3</sup> (L)	543 (8.90)	543 (8.90)
Max. Brake Horsepower: hp (kW)	320 (239) @ 1,800 rpm	325 (242) @ 1,800 rpm
Peak Torque: ft lb (Nm)	1,050 (1 424) @ 1,500 rpm	1,050 (1 424) @ 1,500 rpm
Electric/starting systems: volts	12/12	12/12
Alternator: amps	160	160
Crankcase Capacity: qt (L)	24 (22.7)	24 (22.7)
<ul style="list-style-type: none"> <li>• Water/fuel separator w/ heater and water in fuel (WIF) sensor</li> <li>• 120-volt block heater</li> <li>• Grid heater – 200 amp</li> <li>• <sup>(1)</sup> Can only be sold and/or operated where Tier 4f and Stage IV off-high way emission standards are accepted.</li> <li>• <sup>(2)</sup> Can only be sold and/or operated where Tier 3 and Stage IIIA off-high way emission standards are accepted.</li> </ul>		

### Fuel Tank

Equipped with fuel sight level gauges, flame arrester, and self-closing cap with locking eye for padlock.

## Hydraulic System

### Hydraulic Pumps

The pump arrangement is designed to provide hydraulically powered functions allowing positive, precise control with independent or simultaneous operation of all crane functions.

- Two variable displacement pumps operating at 4,553 psi (320kg/cm<sup>2</sup>) and 74 gal/min (280L/min) powers load hoist drums, boom hoist drum, optional third drum, self assembly cylinder, and travel.
- One variable displacement pump operating at 4,623 psi (325kg/cm<sup>2</sup>) and 42.3 gal/min (160L/min) powers the swing motors, live mast flip, and counterweight removal.
- One fixed displacement gear type pump operating at 2,987 psi (210kg/cm<sup>2</sup>) and 15.8 gal/min (59.8L/min) powers the lower jacks, counterweight pinning, side frame pinning, and hoist brake cooling (optional).
- One fixed displacement gear type pump operating at 1,427 psi (100kg/cm<sup>2</sup>) and 11.7 gal/min (44L/min) powers the oil cooler fan.

### Hydraulic Reservoir

119 gal (450L), equipped with sight level gauge. Diffusers built in for deaeration.

### Filtration

Ten micron, full flow, line filter in the control circuit. All oil is filtered prior to entering the reservoir.

### Counterbalance Valves

All hoist motors are equipped with counterbalance valves to provide positive load lowering and prevent accidental load drop if the hydraulic pressure is suddenly lost.

## Load Hoist Drums

Each drum contains an axial piston, variable speed hydraulic motor with individual automatic winch motor brakes.

- Power up/down operation modes
- Optional wet-type free-fall brake system
- Automatic brake mode (spring applied, hydraulically released, wet type brake)
- Drum lagging grooved for wire rope
- Drum pawl controlled manually
- Electronic drum rotation indicators
- Mounted on anti-friction bearings
- 24.57 in (0.62m) root diameter
- 41.34 in (1.05m) flange diameter
- 35.30 in (0.90m) width

The optional free-fall operation mode is designed to prevent load lowering even if the free-fall switch is accidentally activated.

The automatic brake mode meets all OSHA requirements for personnel handling.

## Optional Front-Mounted Third Hoist Drum

The hydraulic winch is mounted in the boom base section and is used in conjunction with a fleeting sheave and three sheave assembly to run the wire rope over the boom top section.

- Power up/down operation mode
- Automatic brake mode (spring applied, hydraulically released)
- Smooth drum
- Electronic drum rotation indicator
- Mounted on anti-friction bearings

## Boom Hoist Drum

Contains a pilot controlled, bi-directional, axial piston motor and a planetary gear reduction unit to provide positive control under all load conditions.

- Spring applied, hydraulically released, disc type brake controlled automatically
- Drum pawl controlled automatically
- Mounted on anti-friction bearings
- 26.10 in (0.66m) root diameter
- 38.58 in (0.98m) flange diameter
- 10.37 in (0.26m) width

## Boom Hoist System

Designed to lift off maximum boom or maximum boom plus jib and maximum luffing attachment unassisted. Operates up to a maximum boom angle of 82°. Boom hoist limit system limits maximum boom angle operation.

- 20-part reeving with 22mm wire rope
- Bridle assembly
- 25 ft (7.62m) Live mast
- Hydraulic tubular boom backstops
- Sheaves contain sealed anti-friction bearings
- Boom speed from 10°–70° is 69 seconds with no load. Speed was determined using 100 ft (30.48m) of tube boom.

## Swing System

Pilot controlled bi-directional axial piston motors and planetary gear reduction units to provide positive control under all load conditions.

- Spring applied, hydraulically released, 360° multi-plate brake
- Free swing mode when lever is in neutral position
- Four position positive house lock
- Two-speed swing
- Audio/Visual swing alarm
- Maximum swing speed is 1.7 rpm

## Counterweight

Consists of an eleven-piece design that can be easily lowered to the ground using the removal cylinders.

- “ABCDE” total upper counterweight is 160,000 lb (72 576kg)
- Two carbody counterweights – 30,000 lb (13 608kg) each

Total combined counterweight, “ABCDE” plus carbody counterweights is 220,000 lb (99 792kg).

## Operator Cab

Fully enclosed modular steel compartment is independently mounted and padded to protect against vibration and noise.

- All tinted/tempered safety glass
- Folding hinge entry door and sliding front glass window
- 19,000 BTU hot water heater
- 18,600 BTU air conditioner
- Door and window locks
- Circulating fan
- Sun visor
- Cloth seat
- Defroster
- Windshield wipers and washer
- Dry chemical fire extinguisher
- Engine instrumentation panel (voltmeter, engine oil pressure, engine water temperature, fuel level, hydraulic oil temperature, hour meter, and service monitor system)
- Electronic drum rotation indicators for front and rear hoist drums
- Six way adjustable seat
- Hand and foot throttle
- Fully adjustable single axis controls
- Swing lever with swing brake and horn located on handle
- Bubble type level
- Ergonomic gauge layout
- Controls shut off lever
- Control stand is adjustable for operator comfort.

## Rated Capacity Limiter System

The HSL rated capacity limiter system is a boom hoist load cell system. This system provides the operator with useful geometrical data, to include:

- Main Boom Length
- Main Boom Angle
- Jib Length
- Jib Angle
- Operating Mode
- Load Radius
- Boom Tip Height
- Audible Alarm
- Pre-Warning Light
- Overload Light
- Load On Hook
- Function kick-outs including over load
- Operator settable stops (ramped stops)
- Anti-Two Block Indicator
- Boom hoist dead end load cell (no liners)

## Machinery Cab

Hinged doors (three on right side, four on left side) for machinery access. Equipped with rooftop access ladder and skid resistant finish on roof.

## Catwalks

Standard on right and left sides. Catwalks are removable for reduced travel width.

# Lower Structure

## Carbody

### Lower Frame

All welded construction frame with precision machined surfaces for turntable bearing and rotating joint.

- 9 ft 10 in (3.00m) overall length
- 14 ft 9 in (4.48m) overall width

## Side Frames

### Side Frames

All welded, precision machined, hook and pinned, steel frames.

- 19 ft 3 in (5.87m) gauge
- 27 ft 9 in (8.46m) overall length
- 48 in (1.22m) wide track shoes
- Sealed (oil filled) drive planetaries
- Compact travel drives
- Automatic hydraulic track adjustment system – optional

### Track Rollers

- Eleven sealed (oil filled) track rollers per side frame
- Heat treated, mounted on oil filled anti-friction bearings

### Tracks

Heat treated, self-cleaning, multiple hinged track shoes joined by one-piece full floating pins; 55 shoes per side frame

### Take Up Idlers

Cast steel, heat treated, self-cleaning, mounted on aluminum/bronze bushings. Lubricated through idler shaft.

- **Track Tension Adjustment** – Idler wheel adjusted by means of hydraulic cylinder and hand pump. Idler wheel shaft held in position with shims after adjustment is made.

## Travel and Steering

### Travel and Steering

Each side frame contains a pilot controlled, bi-directional, axial piston motor and a planetary gear reduction unit to provide positive control under all load conditions.

- Individual control provides smooth, precise maneuverability including full counter-rotation.
- Spring applied, hydraulically released disc type brake controlled automatically
- Maximum travel speed is 0.75 mph (1.21km/h).
- Designed to 30% gradeability

## Jack System

System contains four hydraulic cylinders individually pinned on swing out beams.

- Individual controls are mounted on carbody.
- Minimum height of carbody when resting on pontoons is 17.4 in (0.44m).
- Maximum height of carbody when resting on pontoons is 45 in (1.14m).

# Attachment and Options

## Conventional Tube Boom 60–290 ft (18.29–88.39m)

### Basic Boom

60 ft (18.29m) two-piece design that utilizes a 30 ft (9.14m) base section and a 30 ft (9.14m) top section with in-line connecting pins on 80 in (2.03m) wide and 68 in (1.73m) deep centers.

- Boom foot on 53.17 in (1.35m) centers
- Lugs on base section for self assembly
- Self assembly cylinder
- Idler sheave assembly on top section
- Permanent skid pads mounted on top section to protect head machinery
- Six, 23 in, (0.58m) root diameter polyamide sheaves mounted on sealed anti-friction bearings
- Tip extension, fixed jib and luffing jib connecting lugs on top section
- Mechanical boom angle indicator

### Tube Boom Extensions

The following table provides the lengths available and the suggested quantity to obtain maximum boom in 10 ft (3.05m) in-

crements. Midpoint pendant connections are required at 140 ft (42.67m) for boom lengths of 250 ft (76.20m) and greater.

Tube Boom Extensions		Quantity For Max Boom
ft	m	
10	3.05	1
20	6.10	1
30	9.14	3
40	12.19	3

- Polyamide wear blocks on top of each extension
- Maximum tip height of 294 ft 9.3 in (89.85m)
- Boom connecting pins storage on each extension

## Tube Jib 30–90 ft (9.14–27.43m)

### Basic Tube Jib

30 ft (9.14m) two-piece design that utilizes a 15 ft (4.57m) base section and a

15 ft (4.57m) top section with in-line connecting pins on 30 in (0.76m) wide and 36 in (0.91m) deep centers.

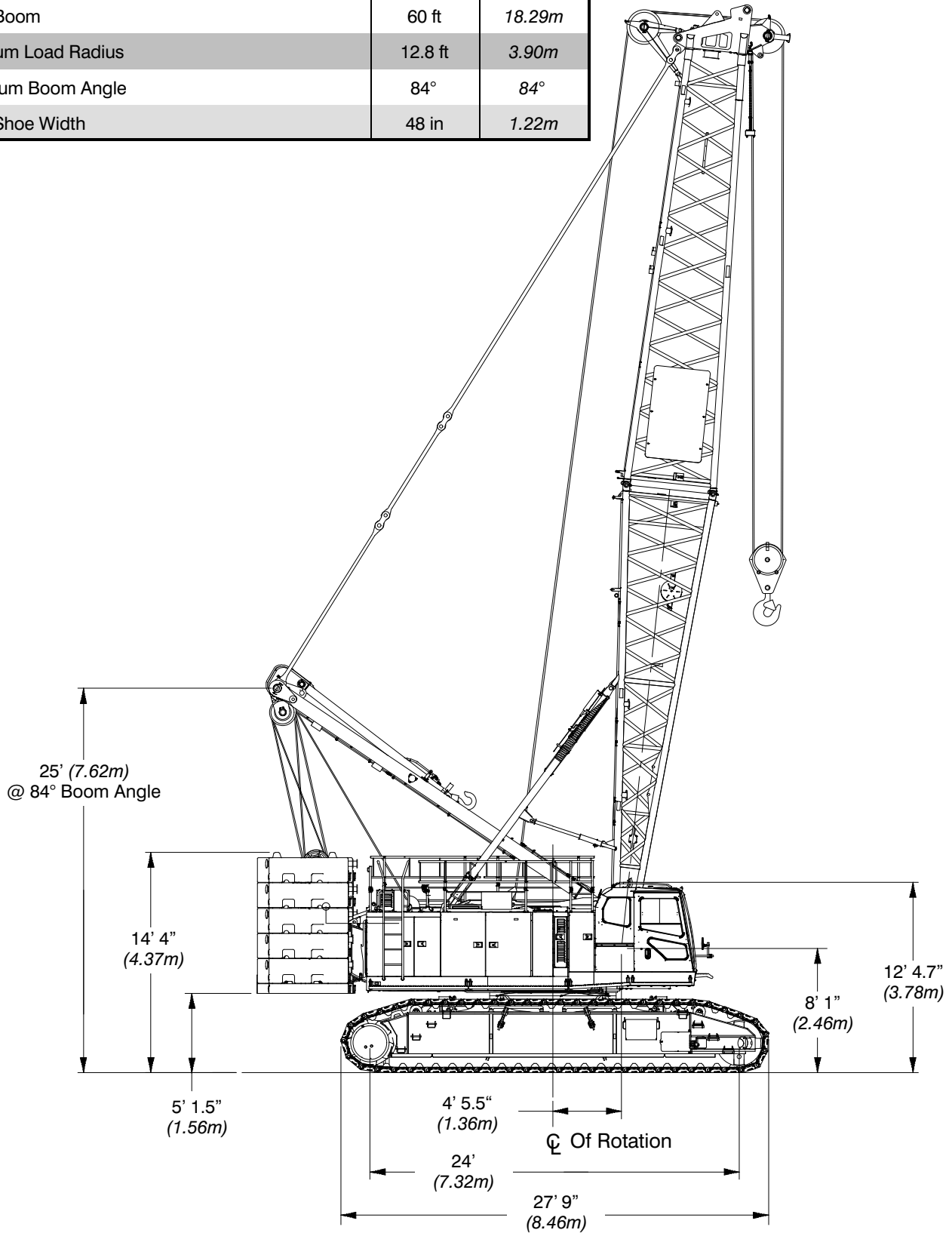
- 2.25 in (5.72cm) diameter chords
- One 21 in (53.34m) root diameter steel sheave mounted on sealed anti-friction bearings
- 10 ft (3.0m) jib extension.
- 20 ft (6.10m) jib extensions provide jib lengths of 30 ft (9.14m), 50 ft (15.24m), 70 ft (21.34m), and 90 ft (27.43m).
- Jib offset angles at 10°, 20°, and 30°
- The maximum tip height of boom + jib [250 ft + 90 ft (76.2 + 27.43m)] is 342ft 3.2 in (104.32m).

## Auxiliary Tip Extension

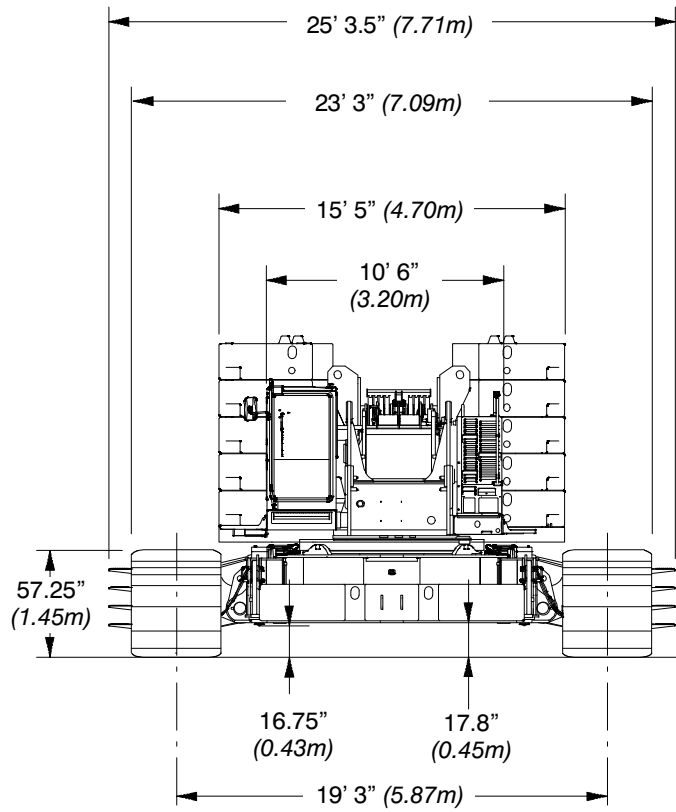
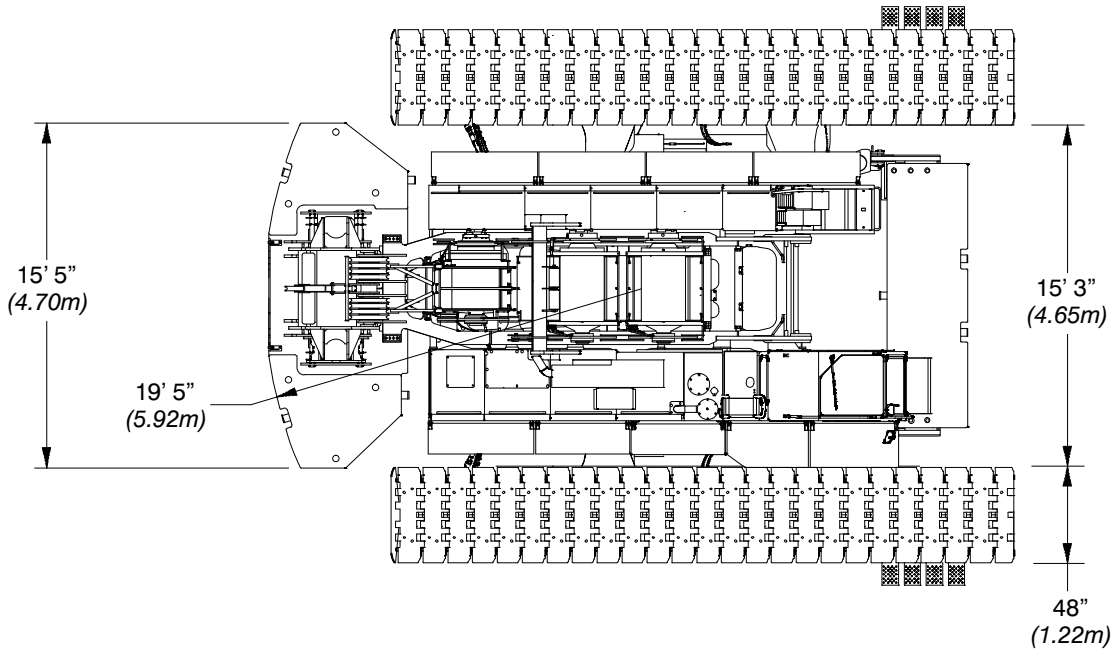
Designed to use in place of jib to provide clearance between working hoist lines. The extension is equipped with one nylon 23 in (0.58m) root diameter sheaves mounted on sealed anti-friction bearings. Maximum capacity is 25 Ton (22.68mt).

# Dimensions

General Dimensions	English	Metric
Basic Boom	60 ft	18.29m
Minimum Load Radius	12.8 ft	3.90m
Maximum Boom Angle	84°	84°
Track Shoe Width	48 in	1.22m





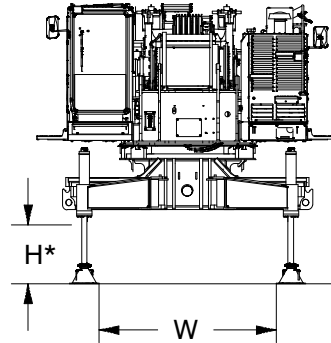
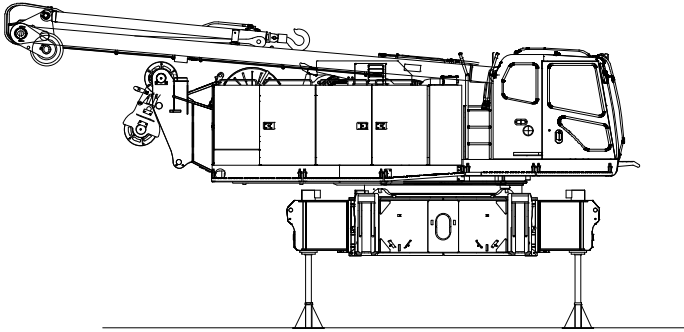


# Base Crane

## Base Crane 1

Width 10 ft 2.25 in (3.10m)  
 Height\* 45 in (1.14m)  
 Weight 89,440 lb (40 569kg)

\* Maximum ground clearance on pontoons



# Side Frames

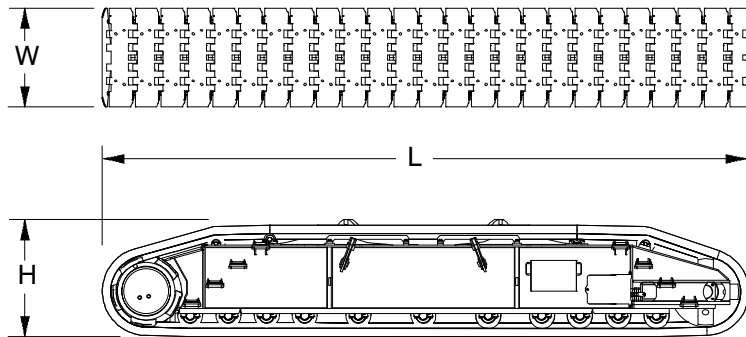
## Side Frames 2

Standard 48" (1.22m) Shoes

Length 27 ft 9 in (8.46m)  
 Width 48 in (1.22m)  
 Height 57.25 in (1.45m)  
 Weight 41,490 lb (18 820kg)

Optional 60" (1.52m) Shoes

Length 27 ft 9 in (8.46m)  
 Width 60 in (1.52m)  
 Height 57.25 in (1.45m)  
 Weight 43,211 lb (19 601kg)

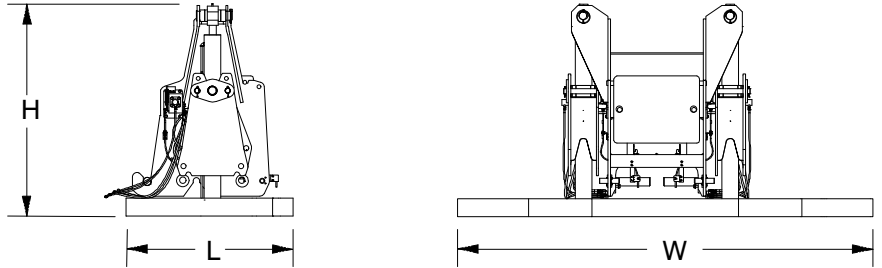


Number inside black circle "1" = # of components

# Upper Counterweights

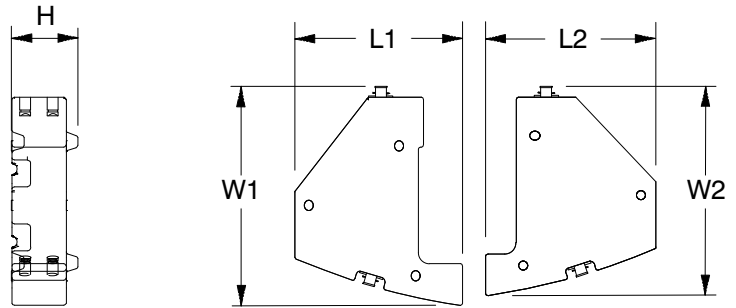
## “A” Base Counterweight ①

Length	6 ft 2.50 in	(1.89m)
Width	15 ft 5 in	(4.70m)
Height	7 ft 2.75 in	(2.20m)
Weight	36,000 lb	(16 330kg)



## “A”, “B”, “C”, “D”, & “E”, Wing Counterweights ⑤

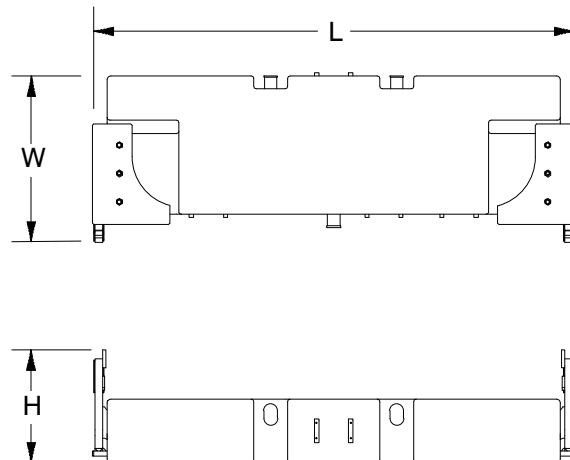
Length 1	60 in	(1.52m)
Length 2	61 in	(1.55m)
Width 1	74.25 in	(1.89m)
Width 2	71 in	(1.80m)
Height	23.50 in	(0.60m)
Weight:		
Left Side	12,800 lb	(5 806kg)
Right Side	12,000 lb	(5 443kg)



# Lower Counterweights

## Carbody Counterweights ②

Length	12 ft 5.75 in	(3.80m)
Width	43.25 in	(1.10m)
Height	35.25 in	(0.90m)
Weight	30,000 lb	(13 608kg)

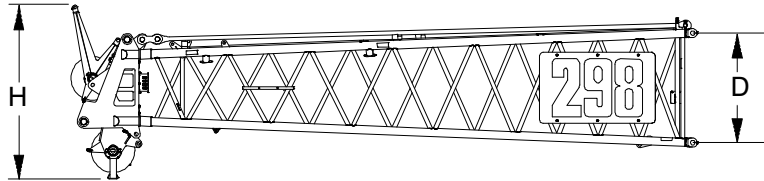
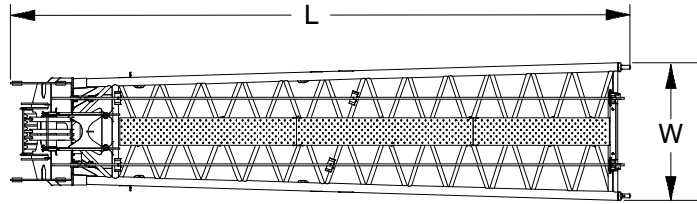


Number inside black circle “①” = # of components

# Boom/Luffing Boom

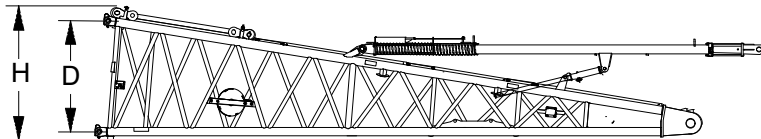
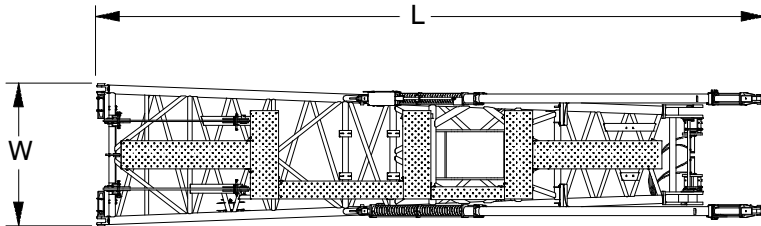
## 30 ft (9.14m) Boom Top Section ①

Length	32 ft 0.9 in	(9.78m)
Width	85.25 in	(2.17m)
Deep	68 in	(1.73m)
Height	108 in	(2.74m)
Weight	9,699 lb	(4 399kg)



## 30 ft (9.14m) Boom Base Section ①

Length	34 ft 1 in	(10.39m)
Width	86.6 in	(2.2m)
Deep	68 in	(1.73m)
Height	82.1 in	(2.09m)
Weight	8,341 lb	(3 783kg)



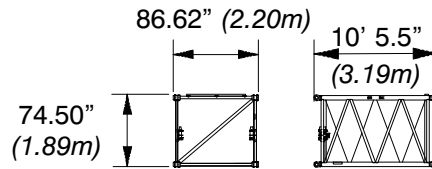
Number inside black circle "①" = # of components

## 68 in (1.73m) x 80 in (2.03m) Boom/Luffing Boom Extensions

### 10 ft (3.05m) Extension

Weight†: 1,611 lb (730kg)

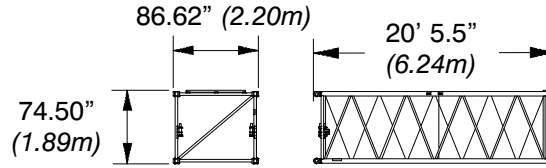
† Weight includes pins and pendants.



### 20 ft (6.10m) Extension

Weight†: 2,646 lb (1 206kg)

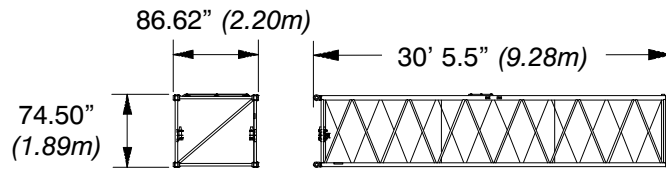
† Weight includes pins and pendants.



### 30 ft (9.14m) Extension

Weight†: 3,730 lb (1 691kg)

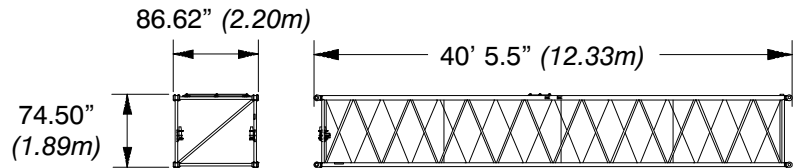
† Weight includes pins and pendants.



### 40 ft (12.19m) Extension

Weight†: 4,834 lb (2 192kg)

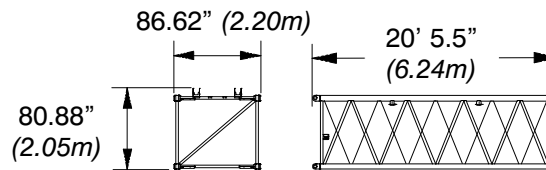
† Weight includes pins and pendants.



### 20 ft (6.10m) HD Extension

Weight†: 3,036 lb (1 377kg)

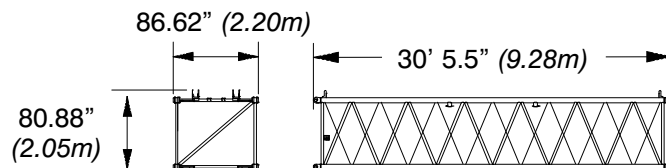
† Weight includes pins and pendants.



### 30 ft (9.14m) HD Extension

Weight†: 4,306 lb (1 953kg)

† Weight includes pins and pendants.



Number inside black circle "①" = # of components

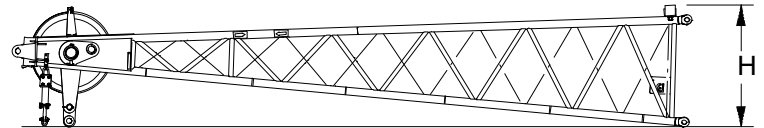
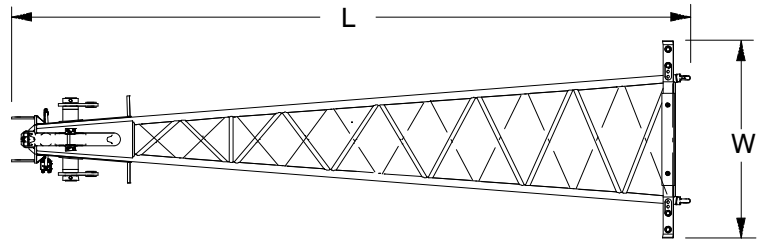
# Jib/Luffing Fixed Jib

## 15 ft (4.57m) Jib

### Top Section\* ①

Length	16 ft 7 in	(5.05m)
Width	57.8 in	(1.47m)
Height	35.62 in	(0.9m)
Weight†	828 lb	(376kg)

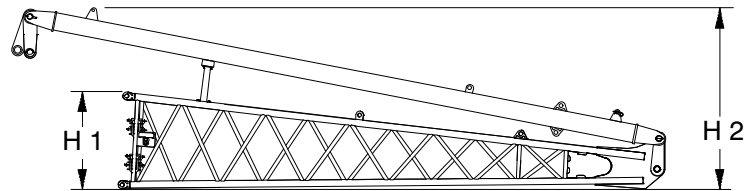
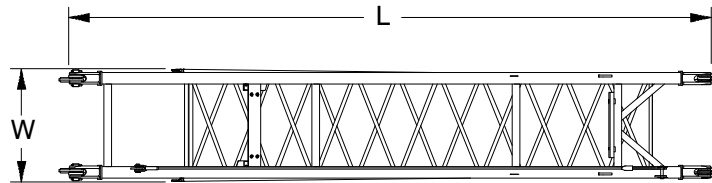
† Weight includes hardware.



## 15 ft (4.57m) Jib Base & Strut Section\* ①

Length	18 ft 2.7 in	(5.56m)
Width	38.2 in	(0.97m)
Height 1	32.66 in	(0.83m)
Height 2	61.1 in	(1.55m)
Weight†	2,288lb	(1 038kg)

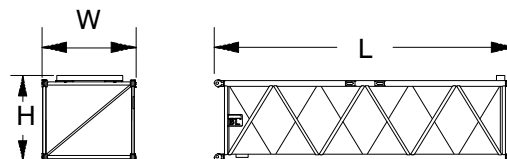
† Weight includes pins, basic frontstay & backstay pendants, and hardware.



## 10 ft (3.05m) Jib Extension\* ①

Length	10 ft 3 in	(3.12m)
Width	38 in	(0.97m)
Height	34.50 in	(0.88m)
Weight†	363 lb	(165kg)

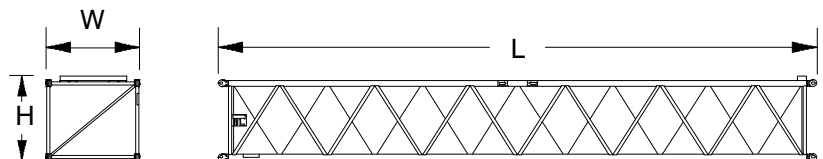
† Weights includes pins, pendants, and hardware.



## 20 ft (6.10m) Jib Extension\* ①

Length	20 ft 3 in	(6.17m)
Width	38 in	(0.97m)
Height	34.50 in	(0.88m)
Weight†	592 lb	(269kg)

† Weights includes pins, pendants, and hardware.

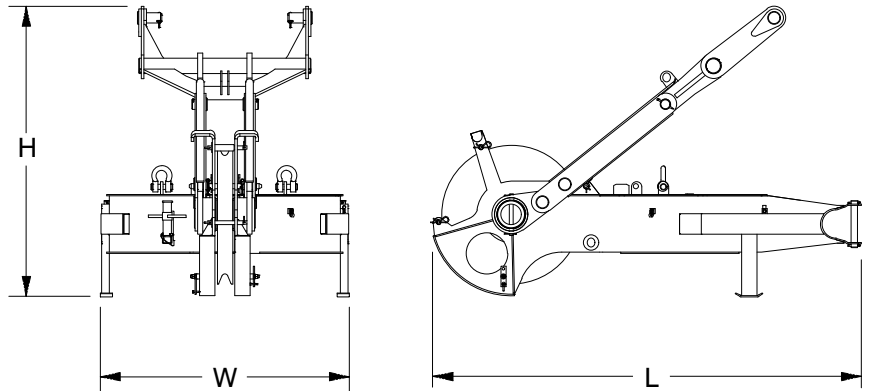


Number inside black circle "①" = # of components

\* – Optional equipment

**Auxiliary Tip Extension\* ①**

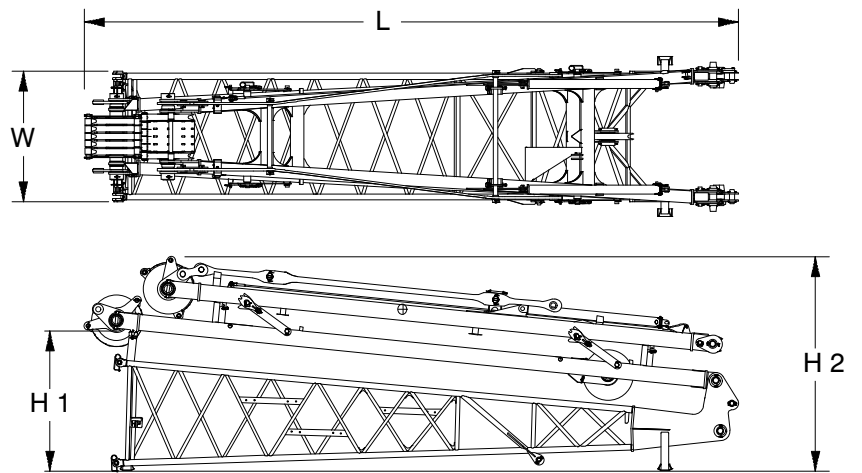
Length	83.2 in	(2.11m)
Width	48.25 in	(1.23m)
Height	56.45 in	(1.43m)
Weight	961 lb	(436kg)



**Luffing Jib Transport Configuration\* ①**

Length	27 ft 1.1 in	(8.26m)
Width	64.92 in	(1.65m)
Height 1	69.11 in	(1.76m)
Height 2	106.51 in	(2.71m)
Weight†	10,047 lb	(4 722kg)

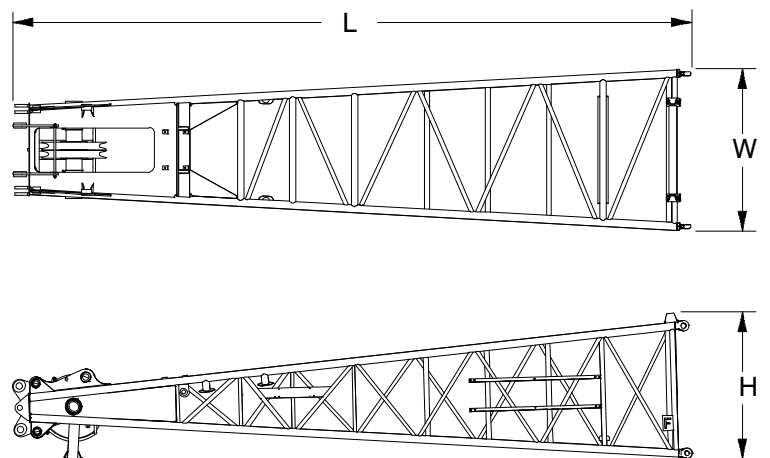
† Weight includes pins, basic frontstay & backstay pendants, and hardware.



**20 ft (6.10m) Luffing Jib Top Section\* ①**

Length	22 ft 1 in	(6.73m)
Width	63.12 in	(1.6m)
Height	57.06 in	(4.76m)
Weight†	1,981 lb	(899kg)

† Weight includes pendants and hardware.



Number inside black circle “①” = # of components  
 \* – Optional equipment

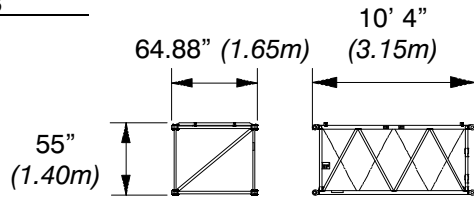
# Luffing Jib Extensions

60 in (1.52m) x 50 in (1.27m)

## Extensions With Pendants

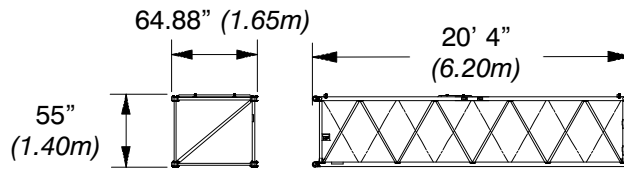
### 10 ft (3.05m) Extension

Weight: 858 lb (389kg)



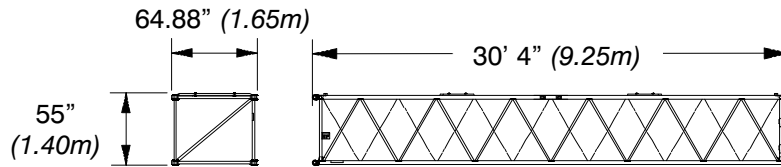
### 20 ft (6.10m) Extension

Weight: 1,376 lb (624kg)



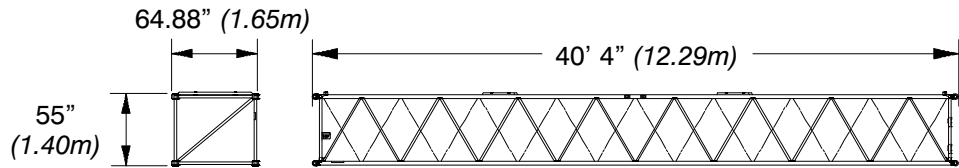
### 30 ft (9.14m) Extension

Weight: 1,895 lb (860kg)



### 40 ft (12.19m) Extension

Weight: 2,409 lb (1 093kg)



Number inside black circle "1" = # of components

\* – Optional equipment

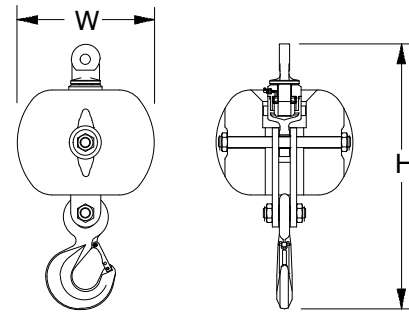


# Hook Balls

## 20 Ton (18.1mt) Swivel Hook Ball\*

### Hook Ball\* ①

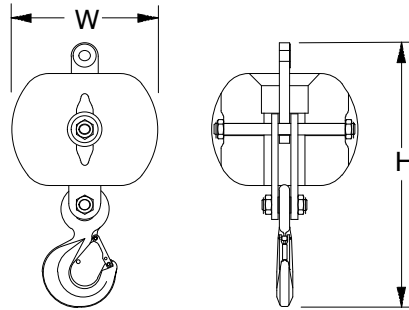
Width	21.75 in	(0.55m)
Height	41.75 in	(1.06m)
Weight	1,255 lb	(569kg)



## 20 Ton (18.1mt) Non-Swivel Hook Ball\*

### Hook Ball\* ①

Width	21.75 in	(0.55m)
Height	39 in	(0.99m)
Weight	1,211 lb	(549kg)

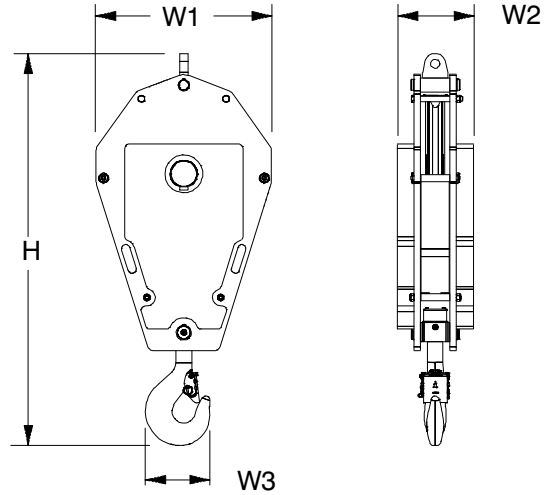


# Hook Blocks

## 40 Ton (36.3mt)

### 1–Sheave Hook Block\* ①

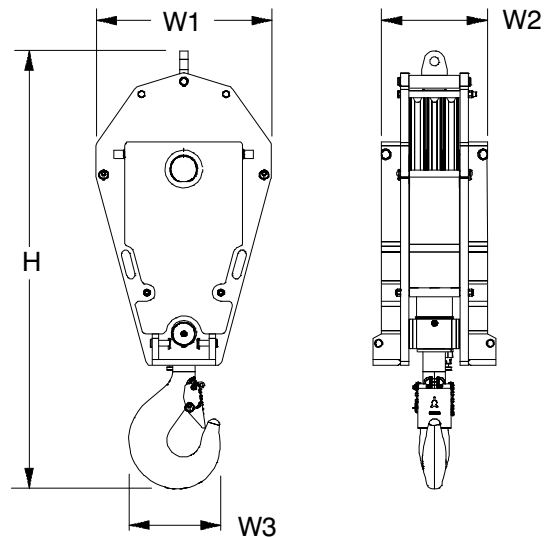
Width1	32.69 in	(0.83m)
Width2	14.19 in	(0.36m)
Width3	12.0 in	(0.30m)
Height	72.63 in	(1.84m)
Weight	2,274 lb	(1 031kg)



## 90 Ton (81.6mt)

### 3–Sheave Hook Block\* ①

Width1	32.69 in	(0.83m)
Width2	19.75 in	(0.50m)
Width3	17.0 in	(0.43m)
Height	82.06 in	(2.08m)
Weight	3,611 lb	(1 031kg)

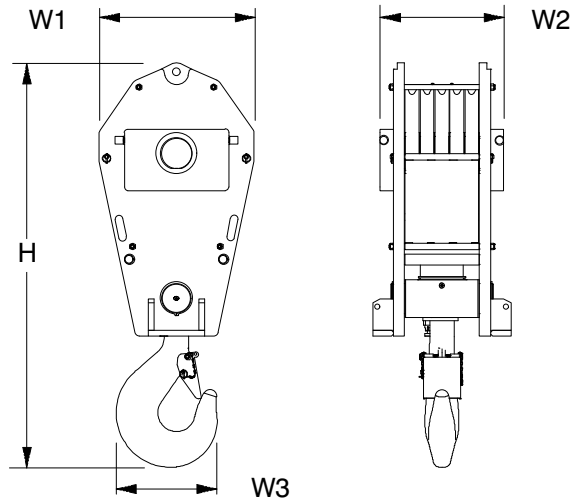


Number inside black circle “①” = # of components  
 \* – Optional equipment

**165 Ton (150mt)**

**5–Sheave Hook Block\* ①**

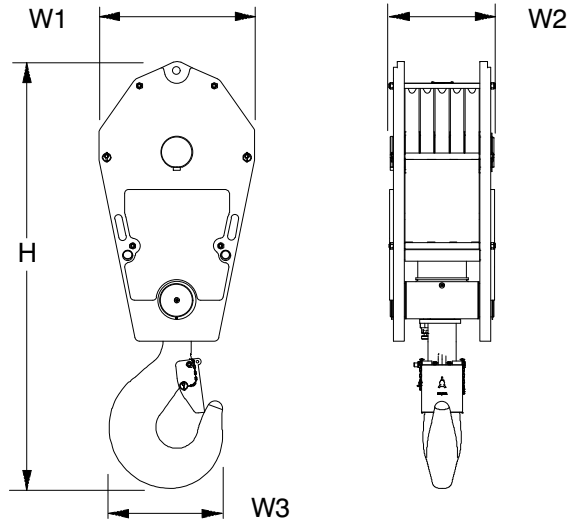
Width1	32.69 in	(0.83m)
Width2	26.06 in	(0.66m)
Width3	21.33 in	(0.54m)
Height	85.44 in	(2.17m)
Weight	4,542 lb	(2 060kg)



**200 Ton (181.4mt)**

**5–Sheave Hook Block\* ①**

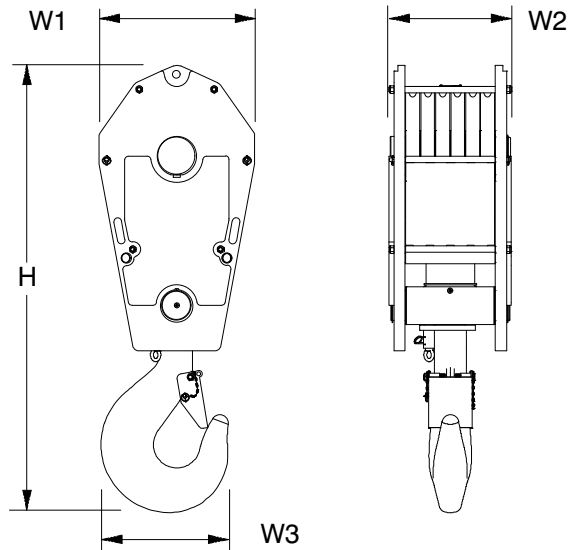
Width1	32.69 in	(0.83m)
Width2	22.13 in	(0.56m)
Width3	23.9 in	(0.61m)
Height	89.75 in	(2.28m)
Weight	4,645 lb	(2 107kg)



**250 Ton (226.8mt)**

**6–Sheave Hook Block\* ①**

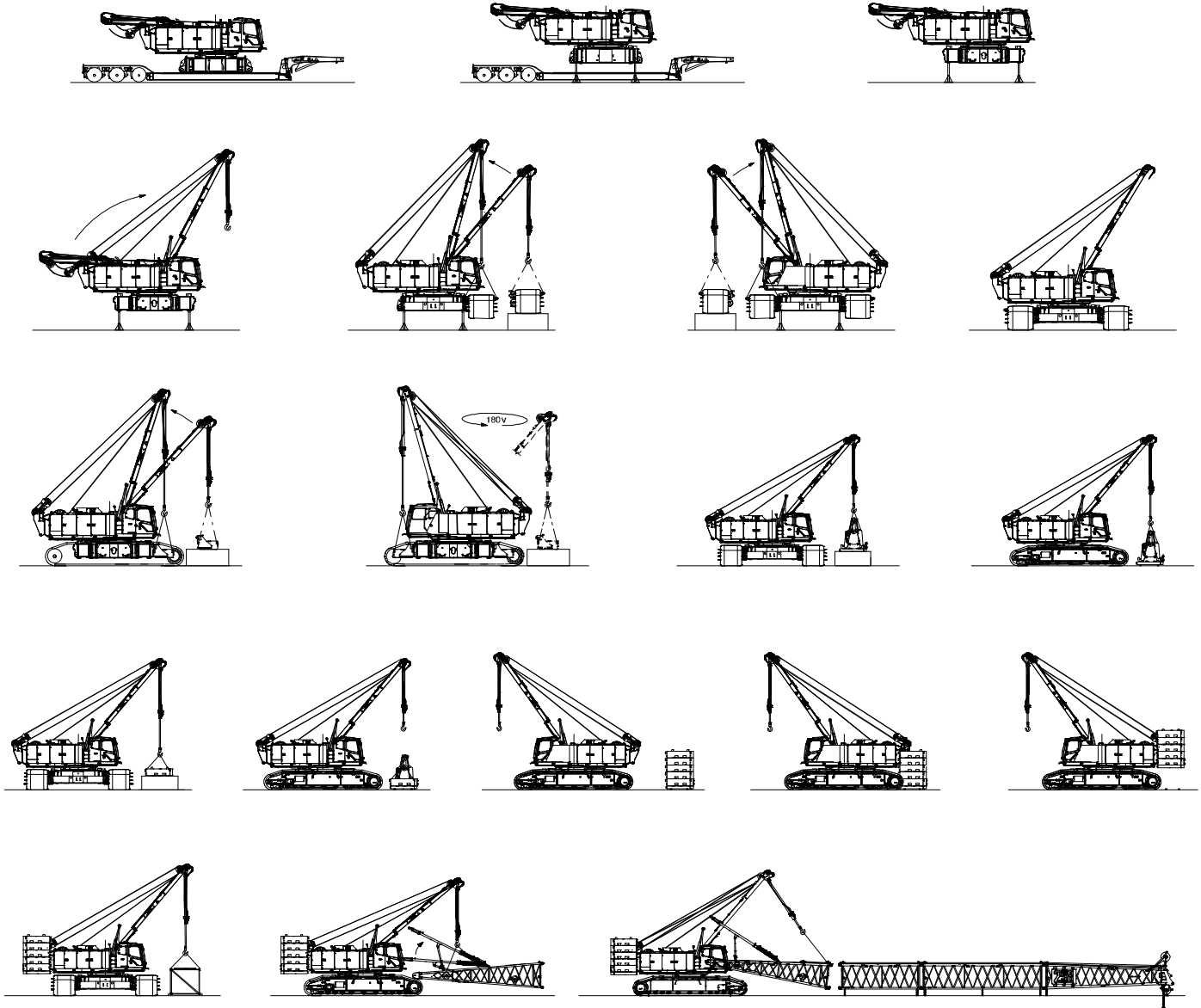
Width1	32.69 in	(0.83m)
Width2	25.06 in	(0.64m)
Width3	26.8 in	(0.68m)
Height	94.16 in	(2.39m)
Weight	5,660 lb	(2 567kg)



Number inside black circle “①” = # of components

\* – Optional equipment

# Assembly Diagram



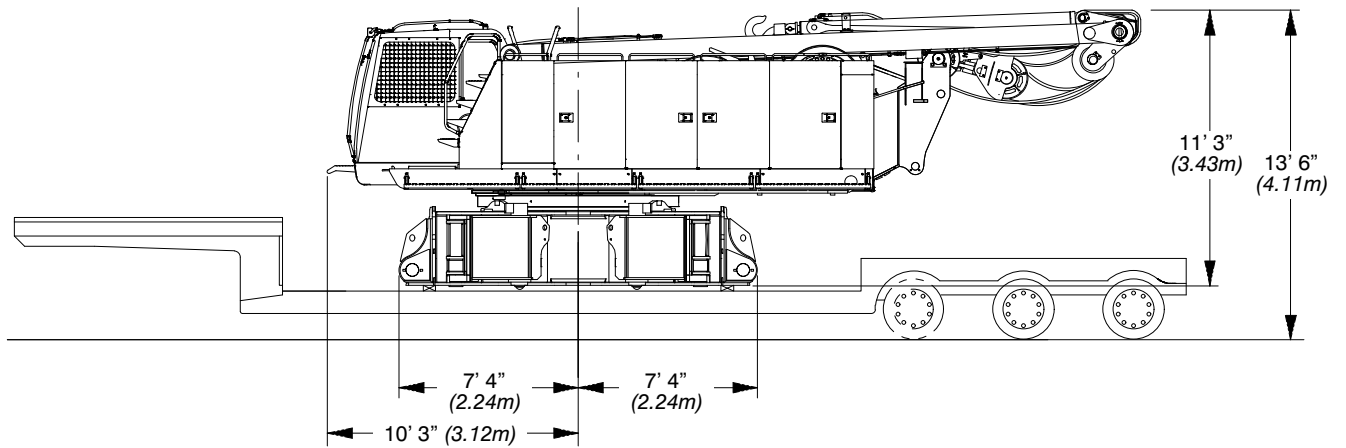
# Working Weights

Based on basic crane including Cummins QSL9 diesel engine, turntable bearing, live mast, 12 part boom hoist reeving, backstops, counterweight, crawler lower with 48 in (1.22m) wide track shoes, sealed track rollers, and catwalks, plus the following:		Ctwt "AB+A"	Ctwt "ABC+A"	Ctwt "ABCDE" + "A"
		lb (kg)	lb (kg)	lb (kg)
Lifting crane — includes 60 ft (18.29m) basic boom, self assembly cylinder, 1,350 ft (411.48m) of type ZB main hoist rope, 975 ft (297.18m) of type ZB auxiliary hoist rope, 250 ton (226.8mt) hook block, and basic pendants.		342,138 (155 191)	366,938 (166 440)	416,538 (188 938)
Ground Bearing Pressure	psi	10.7	11.4	13.0
	kg/cm <sup>2</sup>	0.75	0.8	0.91

# Transport Weights

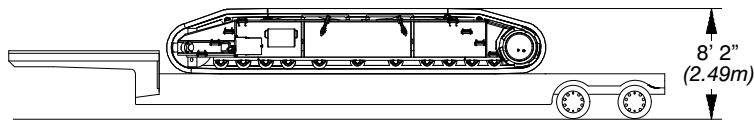
Item Description	Gross Weight		Transport Loads											
	lb	(kg)	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
Base crane	89,440	40 569	1											
Add Side Frame w/ 48" (1.22m) Shoes – Two required	41,490	18 820		1	1									
Add Base Cwt	36,000	16 330										1		
Add Cwt Biscuit (Left) – Five required	12,800	5 806						1	1	2	1			
Add Cwt Biscuit (Right) – Five required	12,000	5 443						1	1	1	2			
Add Lower Cwt – Two Required	30,000	13 608				1	1							
Add 30 ft (9.14m) Base Section w/ Backstops & Boom Foot Pins	8,341	3 783						1						
Add 10 ft (3.05m) Extension w/ Pendants – Two Required	1,611	730				1								1
Add 20 ft (6.10m) Extension w/ Pendants	2,646	1 200									1			
Add 30 ft (9.14m) Extension w/ Pendants – One required	3,730	1 691									1			
Add 40 ft (12.19m) Extension w/ Pendants – Three required	4,834	2 192				1	1			1				
Add 20 ft (6.10m) Extension w/ Pendants – Three required	3,036	1 377												1
Add 30 ft (9.14m) Extension w/ Pendants – Three required	4,306	1 953											1	
Add 30 ft (9.14m) Top Section	9,699	4 399							1					
Add 15 ft (4.58m) Jib Base & Strut	2,288	1 038										1		
Add 20 ft (6.10m) Jib Extension w/ Pendants & Pins – Three required	593	268										1	2	
Add 15 ft (4.6m) Jib Peak Section	828	375										1		
Add 250 Ton (226.80mt) Hook Block	5,660	2 568							1					
Add 20 Ton (18.14mt) Hook Ball w/o Swivel	1,214	550							1					
Approximate Total Shipping Weight	lb		89,440	41,490	41,490	36,445	34,834	33,141	41,373	42,434	43,176	39,709	5,492	4,647
	kg		40 569	18 820	18 820	16 531	15 692	15 033	18 767	19 248	19 248	18 012	2 491	2 108

# Transport Drawings



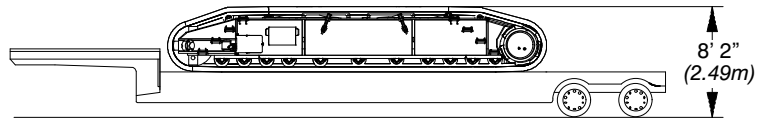
**LOAD #1 – 89,440 lb (40 569kg)**

Base crane



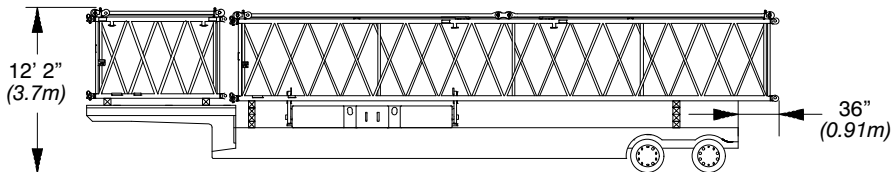
**LOAD #2 – 41,490 lb (18 820kg)**

Side frame w/ 48" (1.22m) shoes



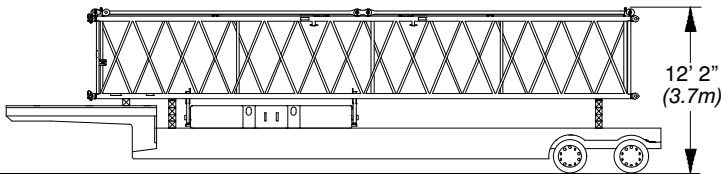
**LOAD #3 – 41,490 lb (18 820kg)**

Side frame w/ 48" (1.22m) shoes



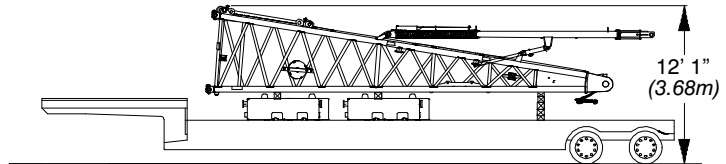
**LOAD #4 – 36,445 lb (16 532kg)**

Lower counterweight, 40 ft (12.19m) boom extension,  
and 10 ft (3.05m) boom extension



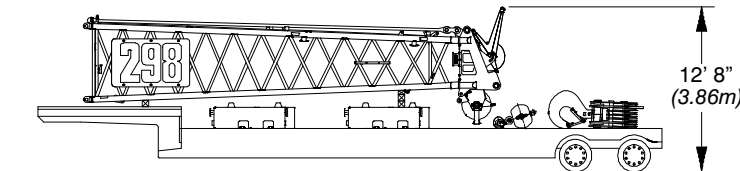
**LOAD #5 – 34,834 lb (15 800kg)**

Lower counterweight and 40 ft (12.19m) boom extension



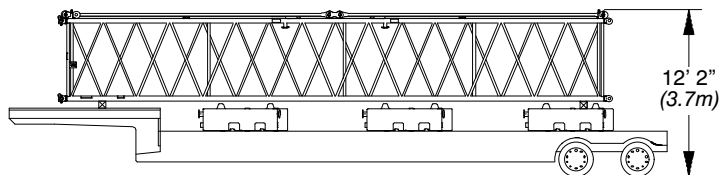
**LOAD #6 – 32,341 lb (14 670kg)**

30 ft (9.14m) base section with backstops and boom foot pins, one 12,800 lb (5 806kg) counterweight, and one 12,000 lb (5 443kg) counterweight



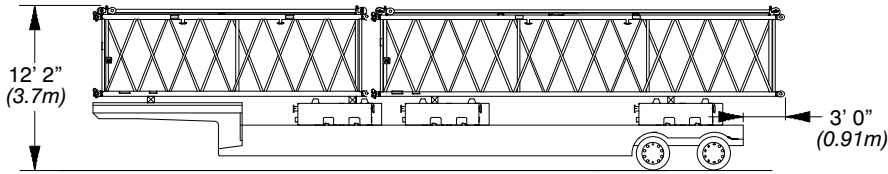
**LOAD #7 – 42,997 lb (19 503kg)**

30 ft (9.14m) top section, one 12,800 lb (5 806kg) counterweight, one 12,000 lb (5 443kg) counterweight, 20 ton (18.14mt) hook ball, and 250 ton (226.80mt) hook block



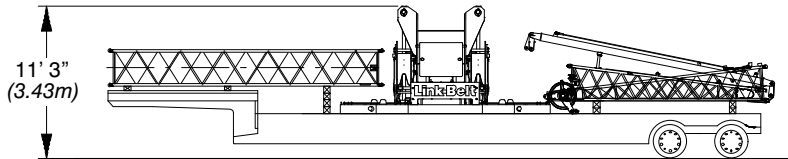
**LOAD #8 – 43,234 lb (19 611kg)**

Two 12,800 lb (5 806kg) counterweights, one 12,000 lb (5 443kg) counterweight, and 40 ft (12.19m) boom extension



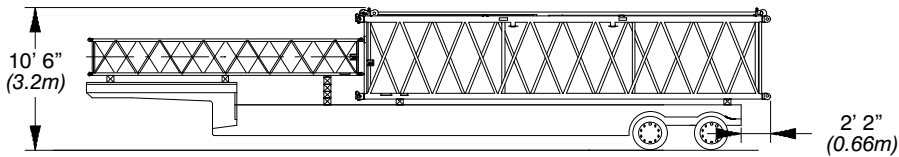
**LOAD #9 – 44,776 lb (20 310kg)**

One 12,800 lb (5 806kg) counterweight, two 12,000 lb (5 443kg) counterweights, 20 ft (6.10m) boom extension, and 30 ft (9.14m) boom extension



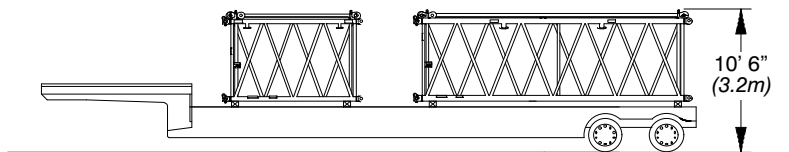
**LOAD #10 – 39,797 lb (18 052kg)**

36,000 lb (16 330kg) base counterweight, 20 ft (6.10m) jib extension, 15 ft (4.57m) jib base and strut, and 15 ft (4.57m) jib peak



**LOAD #11 – 5,492 lb (2 491kg)**

30 ft (9.14m) boom extension and two 20 ft (6.10m) jib extensions



**LOAD #12 – 4,647 lb (2 108kg)**

20 ft (9.14m) boom extension and one 10 ft (4.57m) boom extension

# Load Hoist Performance

## Front & Rear Drums – 28mm Wire Rope

Wire Rope Layer	Maximum Line Pull		No Load Line Speed		Full Load Line Speed		Pitch Diameter		Layer		Total	
	lb	kg	ft/min	m/min	ft/min	m/min	in	mm	ft	m	ft	m
1	53,306	24 179	372.6	113.6	202.1	61.6	24.6	624.0	192.9	58.8	192.9	58.8
2	49,523	22 463	401.0	122.2	217.6	66.3	26.4	671.7	207.8	63.3	400.6	122.1
3	46,242	20 975	429.5	130.9	233.0	71.0	28.3	719.3	222.4	67.8	623.1	189.9
4	43,368	19 671	458.0	139.6	248.5	75.7	30.2	767.0	237.2	72.3	860.2	262.2
5	40,831	18 521	486.5	148.3	263.9	80.4	32.1	814.6	251.9	76.8	1,112.1	339.0
6	38,574	17 497	514.9	156.9	279.3	85.1	33.9	862.3	266.6	81.3	1,378.8	420.2
7	36,554	16 580	543.4	165.6	294.8	89.8	35.8	910.0	281.4	85.8	1,660.1	506.0

## Boom Hoist Drums – 22mm Wire Rope

Wire Rope Layer	Maximum Line Pull		No Load Line Speed		Full Load Line Speed		Pitch Diameter		Layer		Total	
	lb	kg	ft/min	m/min	ft/min	m/min	in	mm	ft	m	ft	m
1	100,940	45 785	107.3	32.7	54.6	16.6	26.1	663.0	150.3	45.8	150.3	45.8
2	94,551	42 887	114.5	34.9	58.3	17.8	27.6	701.1	159.0	48.5	309.3	94.3
3	88,923	40 334	121.8	37.1	61.9	18.9	29.1	739.3	167.7	51.1	477.0	145.4
4	83,927	38 068	129.0	39.3	65.6	20.0	30.6	777.4	176.2	53.7	653.2	199.1
5	79,462	36 043	136.3	41.5	69.3	21.1	32.1	815.6	185.0	56.4	838.2	255.5
6	75,449	34 223	143.5	43.8	73.0	22.3	33.6	853.7	193.6	59.0	1,031.8	314.5
7	71,821	32 578	150.8	46.0	76.7	23.4	35.1	891.9	202.2	61.6	1,234.0	376.1

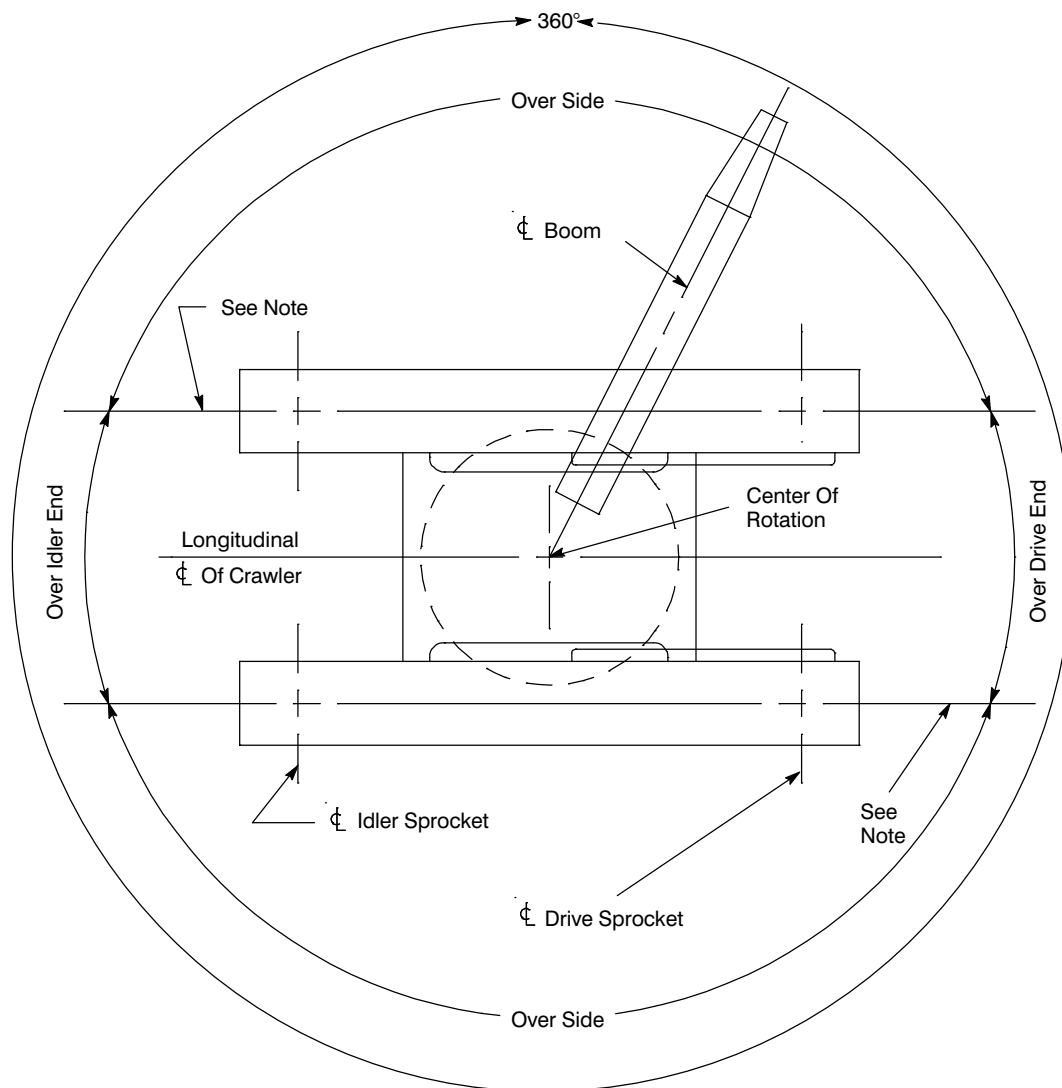
## Third Hoist Drum – 1.0 in (25.4mm) Wire Rope

Wire Rope Layer	Maximum Line Pull		No Load Line Speed		Full Load Line Speed		Pitch Diameter		Layer		Total	
	lb	kg	ft/min	m/min	ft/min	m/min	in	mm	ft	m	ft	m
1	29,090	13 195	271	82.6	230	70.1	21	533.4	131	39.9	131	39.9
2	26,560	12 048	297	90.5	251	76.5	23	584.2	143	43.6	274	83.5
3	24,440	11 086	322	98.1	273	83.2	25	635.0	156	47.5	430	131.1
4	22,630	10 265	348	106.1	295	89.9	27	685.8	168	51.2	598	182.3
5	21,070	9 557	374	114.0	317	96.6	29	736.6	181	55.2	779	237.4
6	---	---	---	---	---	---	---	---	193	58.8	972	296.3

Wire Rope Application	Diameter		Type	Max. Permissible Load		Wire Rope Descriptions
	in	mm		lb	kg	
Front Hoist	---	28	ZB	33,900	15 377	34 X 7 Non-Rotating, E.I.P.S., Right Regular or Right Lang Lay
Rear Hoist	---	28	ZB	33,900	15 377	34 X 7 Non-Rotating, E.I.P.S., Right Regular or Right Lang Lay
Boom Hoist	---	22	FC	28,400	12 882	6 x 25 (6 x19 Class) – Swaged – Preformed – I.W.R.C – Right Lay – Regular Lay Compacted Strands
Third Drum	1.0	25.4	ZB	27,920	12 664	34 X 7 Non-Rotating, E.I.P.S., Right Regular or Right Lang Lay

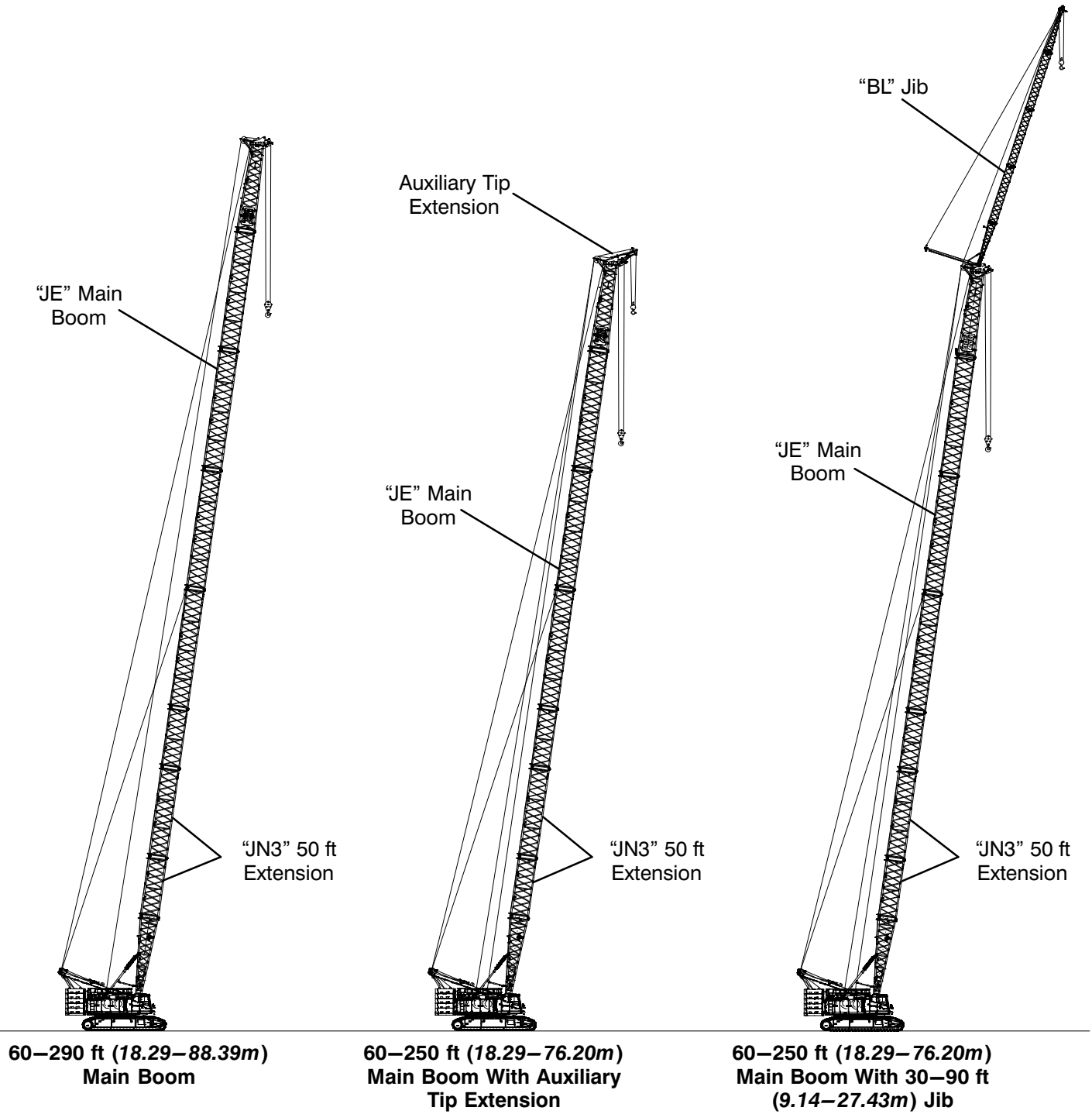


# Working Areas



**Note:** These Lines Determine The Limiting Position Of Any Load For Operation Within Working Areas Indicated.

# Attachments

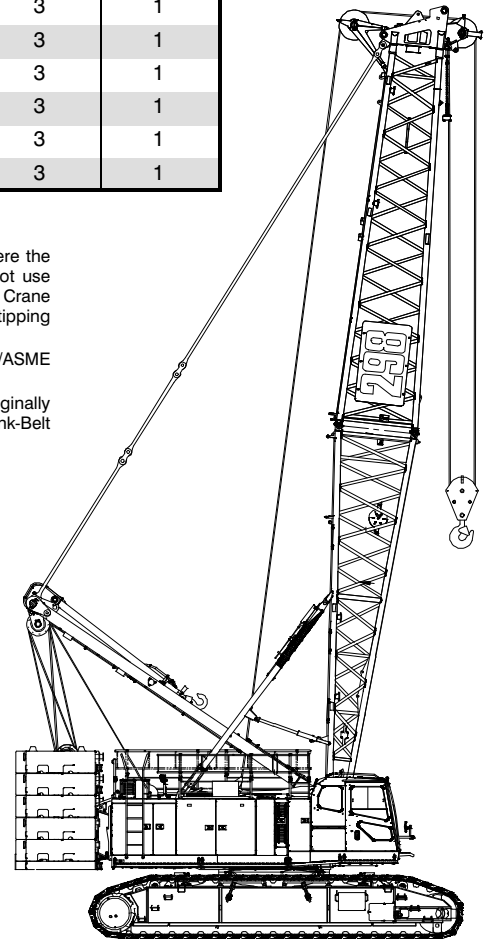


# Main Boom Make-up

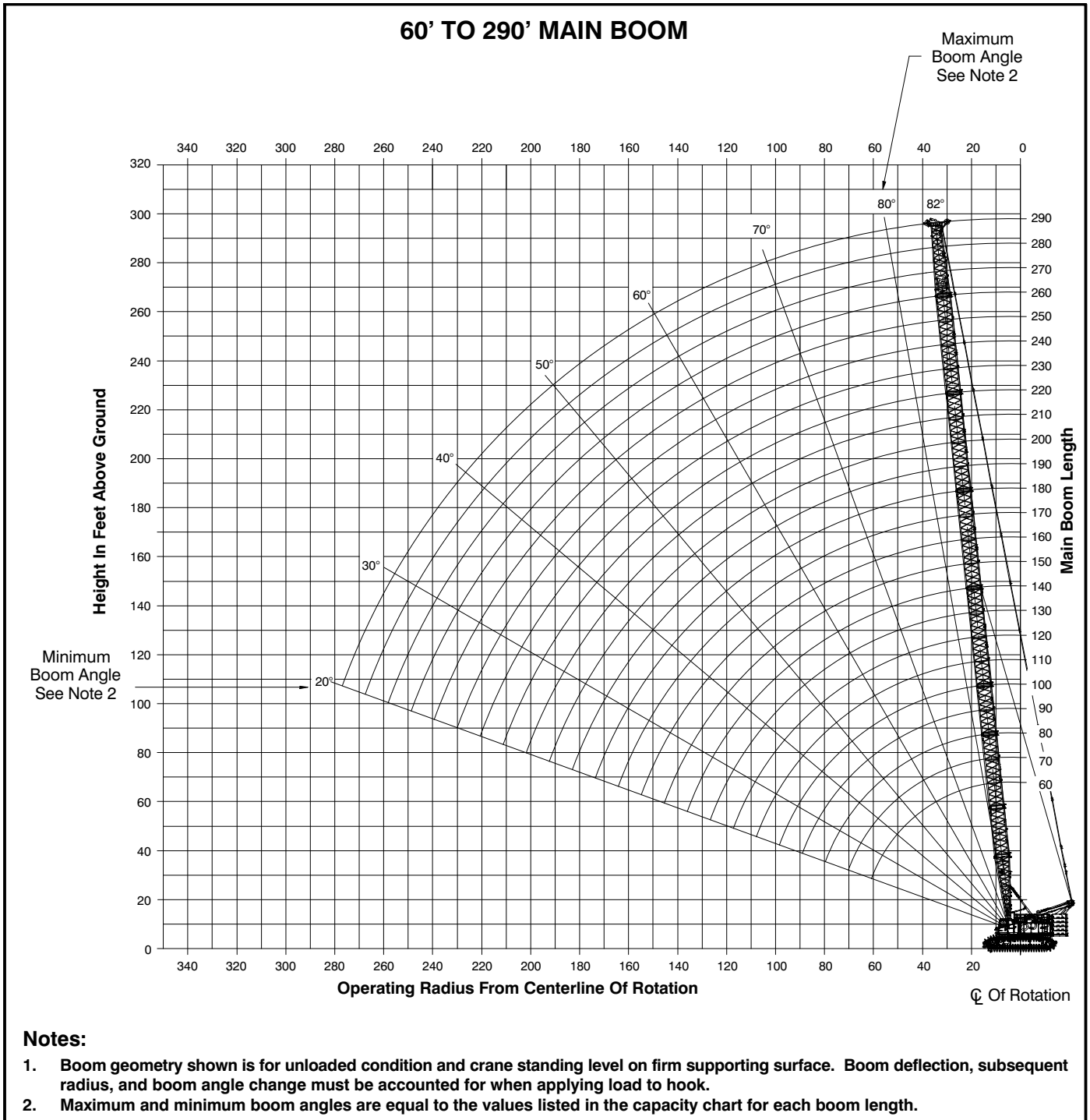
Boom Length ft (m)	Boom Extensions ft (m)							
	30 (9.14) Base	20 (6.10) HD 'JN3'	30 (9.14) HD 'JN3'	10 (3.05) Std. 'JE'	20 (6.10) Std. 'JE'	30 (9.14) Std. 'JE'	40 (12.19) Std. 'JE'	30 (9.14) Top
60 (18.29)	1							1
80 (24.38)	1	1						1
90 (27.43)	1		1					1
110 (33.53)	1	1	1					1
120 (36.58)	1	1	1	1				1
130 (39.62)	1	1	1		1			1
140 (42.67)	1	1	1			1		1
150 (45.72)	1	1	1				1	1
160 (48.77)	1	1	1	1			1	1
170 (51.82)	1	1	1		1		1	1
180 (54.86)	1	1	1			1	1	1
190 (57.91)	1	1	1				2	1
200 (60.96)	1	1	1	1			2	1
210 (64.01)	1	1	1		1		2	1
220 (67.06)	1	1	1			1	2	1
230 (70.10)	1	1	1				3	1
240 (73.15)	1	1	1	1			3	1
250 (76.20)	1	1	1		1		3	1
260 (79.25)	1	1	1	1	1		3	1
270 (82.30)	1	1	1		2		3	1
280 (85.34)	1	1	1		1	1	3	1
290 (88.39)	1	1	1	1	1	1	3	1

## Notes:

- Capacities shown are in kips/metric tons (1 kip = 1,000 lb / 1 metric ton = 0.45 kips) and are not more than 75% of the tipping loads with the crane standing level on firm supporting surface. A deduction must be made from these capacities for weight of hook block, hook ball, sling, grapple, load weighing device, etc. When using main hook while jib or tip extension is attached, reduce capacities by values shown in Crane Rating Manual. See Operator's Manual for all limitations when raising or lowering attachment.
- The capacities in the shaded areas are based on structural strength. The capacities in the non-shaded areas are based on stability ratings.
- For recommended reeving, parts of line, wire rope type, and wire rope inspection, see Wire Rope Capacity Chart, Operator's Manual, and Parts Manual.
- Load ratings are based on freely suspended loads and make no allowances for such factors as the effect of the wind, ground conditions, and operating speeds. The operator shall therefore reduce load ratings in order to take these conditions into account. Refer to the Crane Rating Manual for Wind Speed Restrictions.
- The 25 ft (7.62m) live mast must be used for all capacities listed.
- The least stable rated condition is over the side.
- Booms must be erected and lowered over the end for maximum stability.
- Main boom length must not exceed 290 ft (88.39m).
- Do not operate at radii and boom lengths where the Crane Rating Manual lists no capacity. Do not use longer booms or jibs than those listed in the Crane Rating Manual. Any of the above can cause a tipping condition, or boom and jib failure.
- These capacities are in compliance with ANSI/ASME B30.5 at date of manufacture.
- These capacities apply only to the crane as originally manufactured and normally equipped by Link-Belt Construction Equipment Company.



# Main Boom Working Range Diagram



# Main Boom Load Chart

Main Boom Lift Capacity Chart – 360° Rotation – ABCDE + A [160,000 + 60,000 lb (72 575 + 27 216kg)] Counterweight [All capacities are listed in kips (mt)]								
Load Radius ft (m)	Boom Length ft (m)							Load Radius ft (m)
	60 (18.3)	80 (24.4)	90 (27.4)	110 (33.5)	120 (36.6)	140 (42.7)	160 (48.8)	
14.0 (4.27)	500.0 (226.80)							14.0 (4.27)
15.0 (4.57)	458.0 (207.75)							15.0 (4.57)
16.0 (4.88)	431.4 (195.68)	427.6 (193.96)						16.0 (4.88)
17.0 (5.18)	407.7 (184.93)	405.4 (183.89)	401.9 (182.30)					17.0 (5.18)
18.0 (5.49)	386.4 (175.27)	384.4 (174.36)	383.2 (173.82)					18.0 (5.49)
19.0 (5.79)	367.2 (166.56)	365.2 (165.65)	364.1 (165.15)	358.2 (162.48)				19.0 (5.79)
20.0 (6.10)	349.7 (158.62)	347.8 (157.76)	346.8 (157.31)	344.4 (156.22)	339.8 (154.13)			20.0 (6.10)
25.0 (7.62)	282.1 (127.96)	280.7 (127.32)	279.9 (126.96)	278.1 (126.14)	277.2 (125.74)	275.5 (124.96)	269.4 (122.20)	25.0 (7.62)
30.0 (9.14)	235.8 (106.96)	231.5 (105.01)	229.3 (104.01)	225.4 (102.24)	223.8 (101.51)	220.9 (100.20)	218.2 (98.97)	30.0 (9.14)
35.0 (10.67)	188.1 (85.32)	187.9 (85.23)	187.7 (85.14)	186.6 (84.64)	185.2 (84.01)	182.5 (82.78)	180.1 (81.69)	35.0 (10.67)
40.0 (12.19)	155.4 (70.49)	155.2 (70.40)	155.0 (70.31)	154.4 (70.03)	154.1 (69.90)	153.6 (69.67)	153.0 (69.40)	40.0 (12.19)
50.0 (15.24)	114.3 (51.85)	114.1 (51.75)	113.9 (51.66)	113.2 (51.35)	112.9 (51.21)	112.3 (50.94)	111.7 (50.67)	50.0 (15.24)
60.0 (18.29)	89.3 (40.51)	89.2 (40.46)	89.0 (40.37)	88.3 (40.05)	88.0 (39.92)	87.3 (39.60)	86.6 (39.28)	60.0 (18.29)
70.0 (21.34)		72.2 (32.75)	72.5 (32.89)	71.9 (32.61)	71.6 (32.48)	70.9 (32.16)	70.2 (31.84)	70.0 (21.34)
80.0 (24.38)		60.7 (27.53)	60.6 (27.49)	59.9 (27.17)	59.6 (27.03)	59.0 (26.76)	58.2 (26.40)	80.0 (24.38)
90.0 (27.43)			51.5 (23.36)	51.0 (23.13)	50.7 (23.00)	50.0 (22.68)	49.2 (22.32)	90.0 (27.43)
100.0 (30.48)				44.0 (19.96)	43.7 (19.82)	43.0 (19.50)	42.6 (19.32)	100.0 (30.48)
110.0 (33.53)					38.2 (17.33)	37.7 (17.10)	37.0 (16.78)	110.0 (33.53)
120.0 (36.58)						33.0 (14.97)	32.4 (14.70)	120.0 (36.58)
130.0 (39.62)						29.2 (13.24)	28.5 (12.93)	130.0 (39.62)
140.0 (42.67)							25.2 (11.43)	140.0 (42.67)
150.0 (45.72)							22.4 (10.16)	150.0 (45.72)

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**Main Boom Lift Capacity Chart – 360° Rotation – ABCDE + A [160,000 + 60,000 lb (72 575 + 27 216kg)] Counterweight**  
**[All capacities are listed in kips (mt)]**

Load Radius ft (m)	Boom Length ft (m)							Load Radius ft (m)
	180 (54.9)	200 (61.0)	220 (67.1)	240 (73.2)	260 (79.2)	280 (85.3)	290 (88.4)	
30.0 (9.14)	203.1 (92.12)	159.8 (72.48)						30.0 (9.14)
35.0 (10.67)	177.9 (80.69)	157.8 (71.58)	125.8 (57.06)	102.2 (46.36)				35.0 (10.67)
40.0 (12.19)	151.2 (68.58)	149.2 (67.68)	122.6 (55.61)	100.9 (45.77)				40.0 (12.19)
50.0 (15.24)	111.0 (50.35)	110.3 (50.03)	109.5 (49.67)	98.3 (44.59)	84.2 (38.19)	74.0 (33.57)	68.1 (30.89)	50.0 (15.24)
60.0 (18.29)	85.8 (38.92)	85.0 (38.56)	84.8 (38.46)	84.0 (38.10)	78.8 (35.74)	69.3 (31.43)	63.7 (28.89)	60.0 (18.29)
70.0 (21.34)	69.5 (31.52)	68.7 (31.16)	67.9 (30.80)	67.1 (30.44)	66.4 (30.12)	62.7 (28.44)	57.2 (25.95)	70.0 (21.34)
80.0 (24.38)	57.5 (26.08)	56.6 (25.67)	55.8 (25.31)	55.0 (24.95)	54.2 (24.58)	53.4 (24.22)	51.3 (23.27)	80.0 (24.38)
90.0 (27.43)	48.4 (21.95)	47.6 (21.59)	46.8 (21.23)	45.9 (20.82)	45.1 (20.46)	44.2 (20.05)	43.8 (19.87)	90.0 (27.43)
100.0 (30.48)	41.8 (18.96)	41.0 (18.61)	40.2 (18.23)	39.4 (17.87)	38.6 (17.51)	37.8 (17.15)	37.4 (16.96)	100.0 (30.48)
110.0 (33.53)	36.2 (16.42)	35.4 (16.06)	34.6 (15.69)	33.7 (15.29)	32.9 (14.92)	32.1 (14.56)	31.7 (14.38)	110.0 (33.53)
120.0 (36.58)	31.6 (14.33)	30.8 (13.97)	30.0 (13.61)	29.1 (13.20)	28.3 (12.84)	27.4 (12.43)	27.0 (12.25)	120.0 (36.58)
130.0 (39.62)	27.7 (12.56)	26.9 (12.20)	26.1 (11.84)	25.2 (11.43)	24.4 (11.07)	23.5 (10.66)	23.1 (10.48)	130.0 (39.62)
140.0 (42.67)	24.5 (11.11)	23.7 (10.75)	22.8 (10.34)	22.0 (9.98)	21.1 (9.57)	20.2 (9.16)	19.8 (8.98)	140.0 (42.67)
150.0 (45.72)	21.7 (9.84)	20.9 (9.48)	20.0 (9.07)	18.8 (8.53)	18.3 (8.30)	17.4 (7.89)	17.0 (7.71)	150.0 (45.72)
160.0 (48.77)	19.3 (8.75)	18.4 (8.35)	17.4 (7.89)	16.1 (7.30)	15.8 (7.17)	15.0 (6.80)	14.5 (6.58)	160.0 (48.77)
170.0 (51.82)	17.0 (7.71)	16.1 (7.30)	14.9 (6.76)	13.6 (6.17)	13.7 (6.21)	12.8 (5.81)	12.4 (5.62)	170.0 (51.82)
180.0 (54.86)		13.8 (6.26)	12.7 (5.76)	11.5 (5.22)	11.8 (5.35)	10.9 (4.94)	10.5 (4.76)	180.0 (54.86)
190.0 (57.91)		11.7 (5.31)	10.7 (4.85)	9.5 (4.31)	10.1 (4.58)	9.2 (4.17)	8.8 (3.99)	190.0 (57.91)
200.0 (60.96)			8.9 (4.04)	7.8 (3.54)	8.6 (3.90)	7.7 (3.49)	7.3 (3.31)	200.0 (60.96)
210.0 (64.01)			7.2 (3.27)	6.2 (2.81)	7.3 (3.31)	6.4 (2.90)	5.9 (2.68)	210.0 (64.01)
220.0 (67.06)				4.7 (2.13)	6.1 (2.77)	5.2 (2.36)	4.7 (2.13)	220.0 (67.06)
230.0 (70.10)				3.3 (1.50)	5.0 (2.27)	4.1 (1.86)	3.6 (1.63)	230.0 (70.10)
240.0 (73.15)					3.9 (1.77)	3.0 (1.36)	2.6 (1.18)	240.0 (73.15)
250.0 (76.20)						2.1 (0.95)	1.7 (0.77)	250.0 (76.20)
260.0 (79.25)						1.3 (0.59)	0.8 (0.36)	260.0 (79.25)

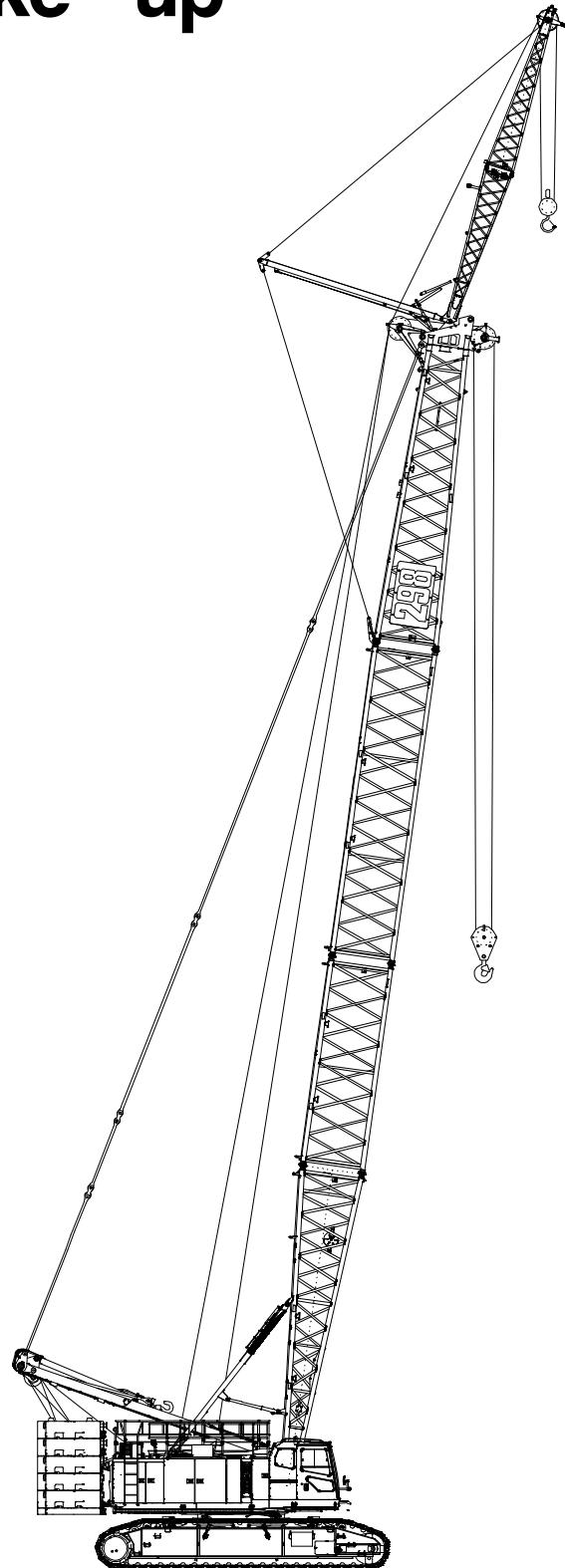
This material is supplied for reference use only. Operator must refer to in-cab Crane Rating Manual and Operator's Manual to determine allowable crane lifting capacities and assembly and operating procedures.

# Jib Attachment Make-up

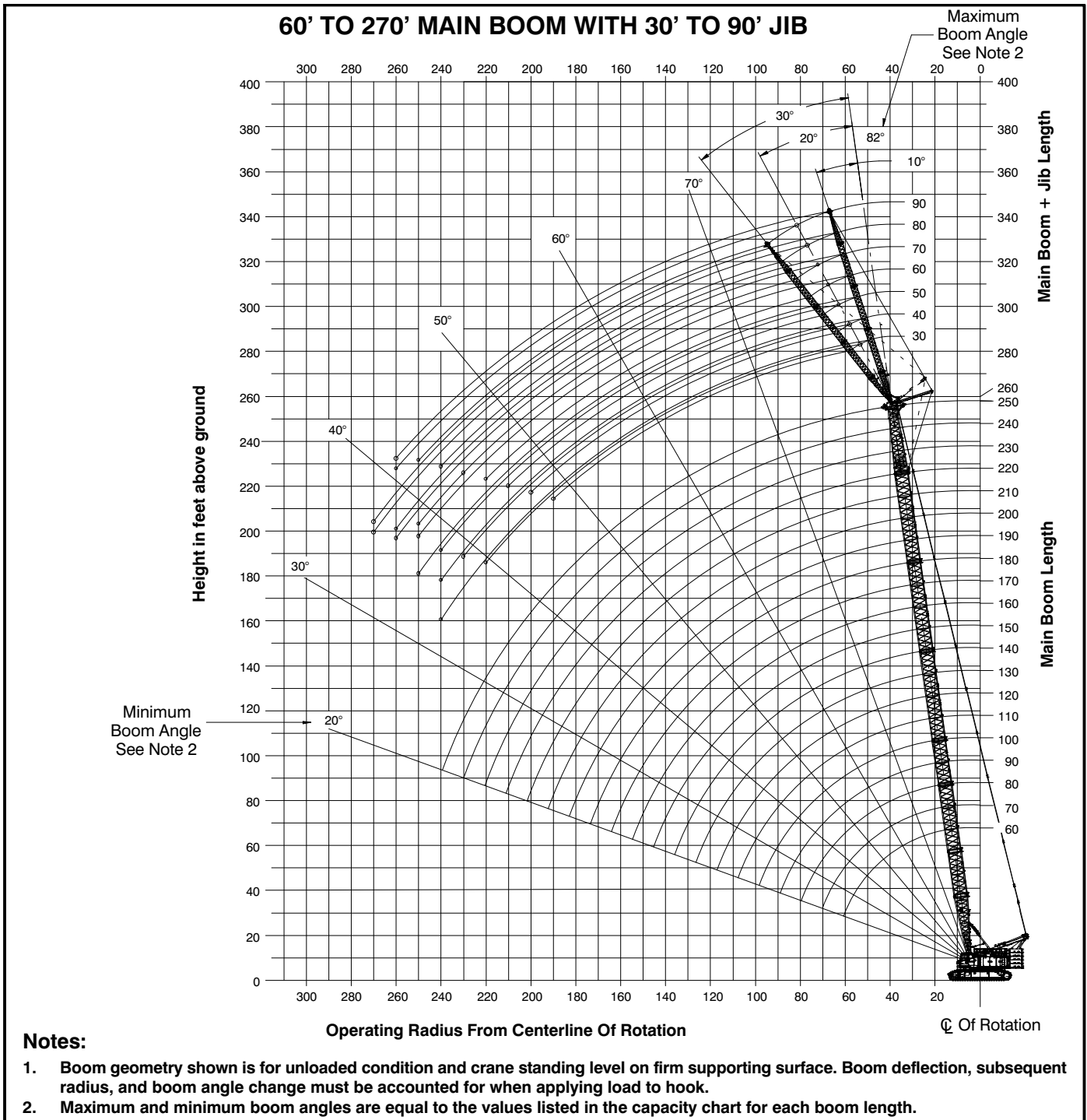
Jib Length ft (m)	Jib Extensions	
	10 ft (3.05m)	20 ft (6.10m)
30 (9.14)		
40 (12.19)	1	
50 (15.24)		1
60 (18.29)	1	1
70 (21.34)		2
80 (24.38)	1	2
90 (27.43)	2	2

## Notes:

- Capacities shown are in kips/metric tons (1 kip = 1,000 lb / 1 metric ton = 0.45 kips) and are not more than 75% of the tipping loads with the crane standing level on a firm supporting surface.
- A deduction must be made from these capacities for the weight of the main boom hook block or hook ball, jib hook block or hook ball, slings, grapples, load weighing devices, etc. When using main hook while jib is attached, reduce capacities by values shown in Crane Rating Manual. See Operator's Manual for all limitations when raising or lowering attachment.
- The capacities in the shaded areas are based on structural strength. The capacities in the non-shaded areas are based on stability ratings.
- Load ratings are based on freely suspended loads and make no allowances for such factors as the effect of the wind, ground conditions, and operating speeds. The operator shall therefore reduce load ratings in order to take these conditions into account. Refer to the Crane Rating Manual for Wind Speed Restrictions.
- These capacities are for "ABCDE+A" counterweight.
- These capacities are for 360° working areas.
- These capacities are for 30–90 ft (9.15–27.43m) jib lengths only.
- The jib cannot be used on boom lengths over 270 ft (82.30m).
- The least stable rated condition is over the side.
- These capacities are in compliance with ASME/ANSI B30.5 at date of manufacture.
- These capacities apply only to the crane as originally manufactured and normally equipped by Link-Belt Construction Equipment Company.



# Jib Attachment Working Range Diagram





# Jib Attachment Load Charts

<b>30 ft (9.25m) Offset Jib Length – 360° Rotation – ABCDE + A [160,000 + 60,000 lb (72 575 + 27 216kg)] Counterweight</b> [All capacities are listed in kips (m <sup>3</sup> )]																	
10° Offset						20° Offset					30° Offset						
Load Radius ft (m)	Main Boom Length ft (m)					Load Radius ft (m)	Main Boom Length ft (m)					Load Radius ft (m)	Main Boom Length ft (m)				
	60 (18.3)	120 (36.6)	180 (54.9)	240 (73.2)	270 (82.3)		110 (33.5)	120 (36.6)	180 (54.9)	240 (73.2)	270 (82.3)		110 (33.5)	120 (36.6)	180 (54.9)	240 (73.2)	270 (82.3)
25.0 (7.62)	73.5 (33.34)					25.0 (7.62)						25.0 (7.62)					
30.0 (9.14)	71.4 (32.39)	73.5 (33.34)				30.0 (9.14)	67.8 (30.75)					30.0 (9.14)					
35.0 (10.67)	69.6 (31.57)	72.4 (32.84)				35.0 (10.67)	66.5 (30.16)					35.0 (10.67)	48.2 (21.86)				
40.0 (12.19)	67.9 (30.80)	71.1 (32.25)	71.1 (32.25)			40.0 (12.19)	62.1 (28.17)	66.9 (30.35)				40.0 (12.19)	45.3 (20.55)	49.6 (22.50)			
50.0 (15.24)	65.3 (29.62)	68.9 (31.25)	69.4 (31.48)	66.4 (30.12)		50.0 (15.24)	54.2 (24.58)	65.1 (29.53)	65.3 (29.62)			50.0 (15.24)	38.0 (17.24)	46.0 (20.87)	48.7 (22.09)		
60.0 (18.29)	56.9 (25.81)	65.4 (29.66)	67.9 (30.80)	65.0 (29.48)	61.6 (27.94)	60.0 (18.29)	48.2 (21.86)	59.6 (27.03)	64.2 (29.12)	61.6 (27.94)	58.5 (26.54)	60.0 (18.29)	34.9 (15.83)	43.0 (19.50)	46.1 (20.91)	48.0 (21.77)	
70.0 (21.34)	49.8 (22.59)	60.4 (27.40)	66.5 (30.16)	63.8 (28.94)	59.8 (27.12)	70.0 (21.34)	43.8 (19.87)	55.0 (24.95)	62.1 (28.17)	60.6 (27.49)	56.1 (25.45)	70.0 (21.34)	32.6 (14.79)	40.5 (18.37)	43.9 (19.91)	46.1 (20.91)	46.9 (21.27)
80.0 (24.38)	44.5 (20.18)	51.4 (23.31)	57.9 (26.26)	55.4 (25.13)	54.2 (24.58)	80.0 (24.38)		51.1 (23.18)	58.4 (26.49)	56.4 (25.58)	54.0 (24.49)	80.0 (24.38)		35.8 (16.24)	42.0 (19.05)	44.3 (20.09)	45.2 (20.50)
90.0 (27.43)		44.5 (20.18)	48.9 (22.18)	46.3 (21.00)	45.1 (20.46)	90.0 (27.43)		47.9 (21.73)	49.5 (22.45)	47.1 (21.36)	46.0 (20.87)	90.0 (27.43)		34.2 (15.51)	37.4 (16.96)	42.8 (19.41)	43.7 (19.82)
100.0 (30.48)		38.8 (17.60)	41.9 (19.01)	39.2 (17.78)	38.5 (17.46)	100.0 (30.48)		44.7 (20.28)	42.4 (19.23)	39.9 (18.10)	38.8 (17.60)	100.0 (30.48)		32.9 (14.92)	36.1 (16.37)	40.6 (18.42)	39.5 (17.92)
110.0 (33.53)		34.5 (15.65)	36.6 (16.60)	34.0 (15.42)	32.8 (14.88)	110.0 (33.53)		39.1 (17.74)	37.0 (16.78)	34.6 (15.69)	33.5 (15.20)	110.0 (33.53)		31.8 (14.42)	34.9 (15.83)	35.2 (15.97)	34.2 (15.51)
120.0 (36.58)		30.7 (13.93)	32.0 (14.51)	29.4 (13.34)	28.1 (12.75)	120.0 (36.58)		34.6 (15.69)	32.3 (14.65)	29.9 (13.56)	28.7 (13.02)	120.0 (36.58)			32.7 (14.83)	30.4 (13.79)	29.3 (13.29)
130.0 (39.62)			28.1 (12.75)	25.4 (11.52)	24.2 (10.98)	130.0 (39.62)			28.4 (12.88)	26.0 (11.79)	24.8 (11.25)	130.0 (39.62)			28.7 (13.02)	26.4 (11.97)	25.3 (11.48)
140.0 (42.67)			24.9 (11.29)	21.7 (9.84)	20.9 (9.48)	140.0 (42.67)			25.1 (11.39)	22.3 (10.12)	21.4 (9.71)	140.0 (42.67)			25.4 (11.52)	22.8 (10.34)	21.9 (9.93)
150.0 (45.72)			22.1 (10.02)	18.6 (8.44)	18.1 (8.21)	150.0 (45.72)			22.3 (10.12)	19.0 (8.62)	18.5 (8.39)	150.0 (45.72)				19.5 (8.85)	18.9 (8.57)
160.0 (48.77)			19.7 (8.94)	15.8 (7.17)	15.3 (6.94)	160.0 (48.77)			19.8 (8.98)	16.2 (7.35)	15.8 (7.17)	160.0 (48.77)				16.6 (7.53)	16.3 (7.39)
170.0 (51.82)			17.3 (7.85)	13.4 (6.08)	12.8 (5.81)	170.0 (51.82)			17.4 (7.89)	13.7 (6.21)	13.3 (6.03)	170.0 (51.82)				14.1 (6.40)	13.7 (6.21)
180.0 (54.86)			15.0 (6.80)	11.3 (5.13)	10.6 (4.81)	180.0 (54.86)				11.5 (5.22)	11.1 (5.03)	180.0 (54.86)				11.8 (5.35)	11.4 (5.17)
190.0 (57.91)				9.4 (4.26)	8.7 (3.95)	190.0 (57.91)				9.6 (4.35)	9.1 (4.13)	190.0 (57.91)					9.4 (4.26)
200.0 (60.96)				7.6 (3.45)	7.0 (3.18)	200.0 (60.96)				7.8 (3.54)	7.3 (3.31)	200.0 (60.96)					7.6 (3.45)
210.0 (64.01)				6.1 (2.77)	5.4 (2.45)	210.0 (64.01)				6.2 (2.81)	5.7 (2.59)	210.0 (64.01)					
220.0 (67.06)				4.7 (2.13)	4.0 (1.81)	220.0 (67.06)					4.3 (1.95)	220.0 (67.06)					
230.0 (70.10)				3.3 (1.50)	2.7 (1.22)	230.0 (70.10)					2.9 (1.32)	230.0 (70.10)					
240.0 (73.15)				2.1 (0.95)		240.0 (73.15)						240.0 (73.15)					
250.0 (76.20)						250.0 (76.20)						250.0 (76.20)					
260.0 (79.25)						260.0 (79.25)						260.0 (79.25)					
270.0 (82.30)						270.0 (82.30)						270.0 (82.30)					

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<b>60 ft (18.50m) Offset Jib Length – 360° Rotation – ABCDE + A [160,000 + 60,000 lb (72 575 + 27 216kg)] Counterweight</b>																	
<b>[All capacities are listed in kips (mt)]</b>																	
10° Offset						20° Offset						30° Offset					
Load Radius ft (m)	Main Boom Length ft (m)					Load Radius ft (m)	Main Boom Length ft (m)					Load Radius ft (m)	Main Boom Length ft (m)				
	60 (18.50)	120 (37.01)	180 (55.51)	240 (74.02)	270 (83.27)		110 (33.5)	120 (36.6)	180 (54.9)	240 (73.2)	270 (82.3)		110 (33.5)	120 (36.6)	180 (54.9)	240 (73.2)	270 (82.3)
35.0 (10.67)	38.9 (17.64)					35.0 (10.67)						35.0 (10.67)					
40.0 (12.19)	37.7 (17.10)	43.2 (19.60)				40.0 (12.19)						40.0 (12.19)					
50.0 (15.24)	35.7 (16.19)	37.5 (17.01)	37.6 (17.06)			50.0 (15.24)	33.8 (15.33)	34.8 (15.79)				50.0 (15.24)	29.9 (13.56)				
60.0 (18.29)	33.8 (15.33)	36.1 (16.37)	36.6 (16.60)	35.7 (16.19)		60.0 (18.29)	32.1 (14.56)	33.7 (15.29)	33.9 (15.38)			60.0 (18.29)	27.1 (12.29)	29.1 (13.20)			
70.0 (21.34)	32.1 (14.56)	34.9 (15.83)	35.6 (16.15)	34.9 (15.83)	34.0 (15.42)	70.0 (21.34)	29.8 (13.52)	32.6 (14.79)	33.1 (15.01)	32.4 (14.70)		70.0 (21.34)	24.9 (11.29)	27.3 (12.38)	28.6 (12.97)		
80.0 (24.38)	29.6 (13.43)	33.8 (15.33)	34.7 (15.74)	34.2 (15.51)	33.3 (15.10)	80.0 (24.38)	26.9 (12.20)	31.6 (14.33)	32.4 (14.70)	31.8 (14.42)	31.1 (14.11)	80.0 (24.38)	23.0 (10.43)	25.7 (11.66)	27.3 (12.38)	28.3 (12.84)	28.7 (13.02)
90.0 (27.43)	26.6 (12.07)	32.6 (14.79)	33.9 (15.38)	33.5 (15.20)	32.6 (14.79)	90.0 (27.43)	24.6 (11.16)	30.5 (13.83)	31.7 (14.38)	31.3 (14.20)	30.5 (13.83)	90.0 (27.43)	21.6 (9.80)	24.4 (11.07)	26.2 (11.88)	27.3 (12.38)	27.7 (12.56)
100.0 (30.48)	24.2 (10.98)	31.6 (14.33)	33.1 (15.01)	32.8 (14.88)	32.0 (14.51)	100.0 (30.48)	22.7 (10.30)	28.4 (12.88)	31.0 (14.06)	30.7 (13.93)	30.0 (13.61)	100.0 (30.48)	20.4 (9.25)	23.3 (10.57)	25.1 (11.39)	26.4 (11.97)	26.8 (12.16)
110.0 (33.53)	22.2 (10.07)	30.2 (13.70)	32.4 (14.70)	32.2 (14.61)	31.3 (14.20)	110.0 (33.53)		26.7 (12.11)	30.4 (13.79)	30.2 (13.70)	29.5 (13.38)	110.0 (33.53)		22.3 (10.12)	24.2 (10.98)	25.5 (11.57)	26.0 (11.79)
120.0 (36.58)		28.1 (12.75)	31.7 (14.38)	30.9 (14.02)	29.7 (13.47)	120.0 (36.58)		25.2 (11.43)	29.2 (13.24)	29.8 (13.52)	29.0 (13.15)	120.0 (36.58)		21.4 (9.71)	23.3 (10.57)	24.7 (11.20)	25.3 (11.48)
130.0 (39.62)		26.3 (11.93)	29.5 (13.38)	26.9 (12.20)	25.7 (11.66)	130.0 (39.62)		23.9 (10.84)	27.8 (12.61)	28.0 (12.70)	26.9 (12.20)	130.0 (39.62)		20.7 (9.39)	22.6 (10.25)	24.0 (10.89)	24.5 (11.11)
140.0 (42.67)		24.7 (11.20)	26.2 (11.88)	23.5 (10.66)	22.3 (10.12)	140.0 (42.67)		22.7 (10.30)	26.5 (12.02)	24.5 (11.11)	23.4 (10.61)	140.0 (42.67)			21.9 (9.93)	23.3 (10.57)	23.9 (10.84)
150.0 (45.72)		23.3 (10.57)	23.4 (10.61)	20.3 (9.21)	19.5 (8.85)	150.0 (45.72)		21.8 (9.89)	23.9 (10.84)	21.3 (9.66)	20.4 (9.25)	150.0 (45.72)			21.3 (9.66)	22.3 (10.12)	21.3 (9.66)
160.0 (48.77)		22.1 (10.02)	20.9 (9.48)	17.5 (7.94)	116.9 (53.02)	160.0 (48.77)			21.4 (9.71)	18.4 (8.35)	17.8 (8.07)	160.0 (48.77)			20.7 (9.39)	19.3 (8.75)	18.6 (8.44)
170.0 (51.82)			18.8 (8.53)	15.1 (6.85)	14.4 (6.53)	170.0 (51.82)			19.2 (8.71)	15.9 (7.21)	15.4 (6.99)	170.0 (51.82)			19.6 (8.89)	16.7 (7.57)	16.3 (7.39)
180.0 (54.86)			16.9 (7.67)	12.9 (5.85)	12.2 (5.53)	180.0 (54.86)			17.2 (7.80)	13.6 (6.17)	13.1 (5.94)	180.0 (54.86)				14.3 (6.49)	13.9 (6.30)
190.0 (57.91)			14.9 (6.76)	11.0 (4.99)	10.2 (4.63)	190.0 (57.91)			15.3 (6.94)	11.6 (5.26)	11.1 (5.03)	190.0 (57.91)				12.3 (5.58)	11.8 (5.35)
200.0 (60.96)			13.1 (5.94)	9.2 (4.17)	8.5 (3.86)	200.0 (60.96)				9.8 (4.45)	9.3 (4.22)	200.0 (60.96)				10.4 (4.72)	9.9 (4.49)
210.0 (64.01)			11.4 (5.17)	7.7 (3.49)	6.9 (3.13)	210.0 (64.01)				8.2 (3.72)	7.6 (3.45)	210.0 (64.01)				8.7 (3.95)	8.2 (3.72)
220.0 (67.06)				6.2 (2.81)	5.4 (2.45)	220.0 (67.06)				6.7 (3.04)	6.1 (2.77)	220.0 (67.06)					6.6 (2.99)
230.0 (70.10)				4.9 (2.22)	4.1 (1.86)	230.0 (70.10)				5.3 (2.40)	4.7 (2.13)	230.0 (70.10)					5.2 (2.36)

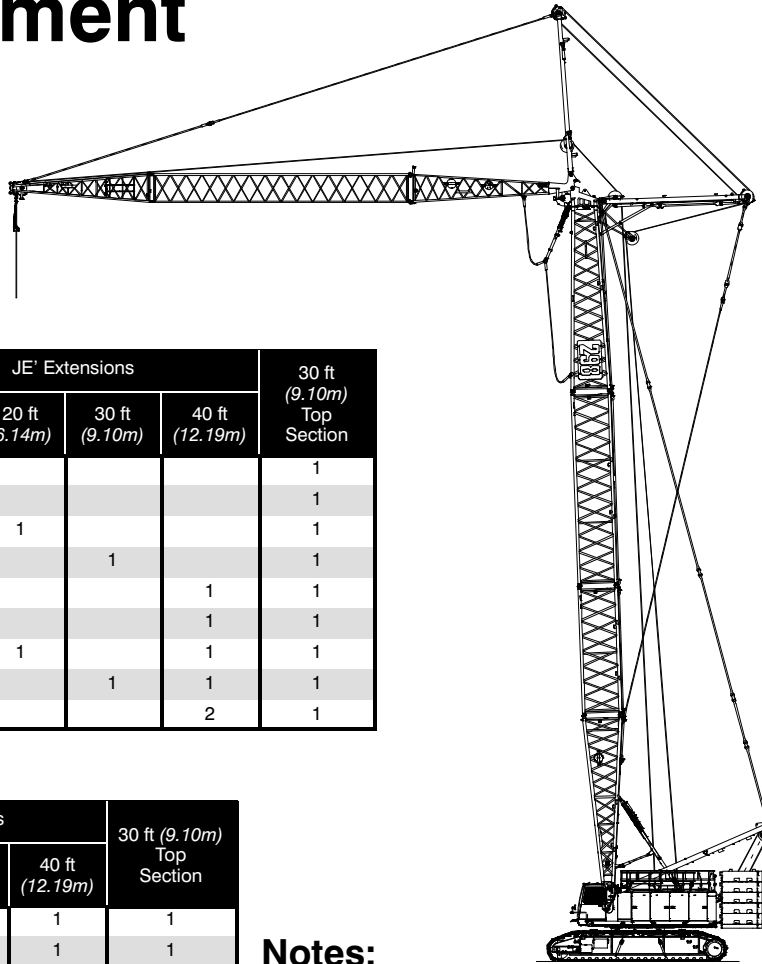
This material is supplied for reference use only. Operator must refer to in-cab Crane Rating Manual and Operator's Manual to determine allowable crane lifting capacities and assembly and operating procedures.

**90 ft (27.76m) Offset Jib Length – 360° Rotation – ABCDE + A [160,000 + 60,000 lb (72 575 + 27 216kg)] Counterweight  
[All capacities are listed in kips (mt)]**

		10° Offset					20° Offset					30° Offset					
Load Radius ft (m)	Main Boom Length ft (m)					Load Radius ft (m)	Main Boom Length ft (m)					Load Radius ft (m)	Main Boom Length ft (m)				
	60 (18.3)	120 (36.6)	180 (54.9)	240 (73.2)	270 (82.3)		110 (33.5)	120 (36.6)	180 (54.9)	240 (73.2)	270 (82.3)		110 (33.5)	120 (36.6)	180 (54.9)	240 (73.3)	270 (82.3)
50.0 (15.24)	23.5 (10.66)	24.5 (11.11)				50.0 (15.24)					50.0 (15.24)						
60.0 (18.29)	22.0 (9.98)	23.4 (10.61)	23.8 (10.80)			60.0 (18.29)	20.6 (9.34)				60.0 (18.29)						
70.0 (21.34)	20.7 (9.39)	22.3 (10.12)	23.0 (10.43)	22.8 (10.34)		70.0 (21.34)	19.4 (8.80)	20.3 (9.21)			70.0 (21.34)	18.3 (8.30)					
80.0 (24.38)	19.4 (8.80)	21.3 (9.66)	22.2 (10.07)	22.3 (10.12)	21.9 (9.93)	80.0 (24.38)	18.3 (8.30)	19.5 (8.85)	20.0 (9.07)		80.0 (24.38)	17.3 (7.85)	18.0 (8.16)				
90.0 (27.43)	18.3 (8.30)	20.4 (9.25)	21.4 (9.71)	21.6 (9.80)	21.5 (9.75)	90.0 (27.43)	17.3 (7.85)	18.7 (8.48)	19.4 (8.80)	19.5 (8.85)	19.3 (8.75)	90.0 (27.43)	16.5 (7.48)	17.3 (7.85)	17.6 (7.98)		
100.0 (30.48)	17.3 (7.85)	19.5 (8.85)	20.7 (9.39)	21.1 (9.57)	20.9 (9.48)	100.0 (30.48)	16.5 (7.48)	18.0 (8.16)	18.8 (8.53)	19.0 (8.62)	18.9 (8.57)	100.0 (30.48)	15.7 (7.12)	16.7 (7.57)	17.1 (7.76)	17.2 (7.80)	
110.0 (33.53)	16.4 (7.44)	18.7 (8.48)	20.0 (9.07)	20.5 (9.30)	20.4 (9.25)	110.0 (33.53)	15.7 (7.12)	17.3 (7.85)	18.2 (8.26)	18.5 (8.39)	18.4 (8.35)	110.0 (33.53)	15.0 (6.80)	16.2 (7.35)	16.7 (7.57)	16.8 (7.62)	
120.0 (36.58)	15.6 (7.08)	18.0 (8.16)	19.4 (8.80)	19.9 (9.03)	19.9 (9.03)	120.0 (36.58)	14.9 (6.76)	16.7 (7.57)	17.7 (8.03)	18.0 (8.16)	18.0 (8.16)	120.0 (36.58)	14.1 (6.40)	15.7 (7.12)	16.3 (7.39)	16.4 (7.44)	
130.0 (39.62)	14.7 (6.67)	17.3 (7.85)	18.8 (8.53)	19.4 (8.80)	19.4 (8.80)	130.0 (39.62)	14.0 (6.35)	16.2 (7.35)	17.2 (7.80)	17.6 (7.98)	17.6 (7.98)	130.0 (39.62)		15.2 (6.89)	15.9 (7.21)	16.1 (7.30)	
140.0 (42.67)	13.7 (6.21)	16.6 (7.53)	18.2 (8.26)	18.9 (8.57)	19.0 (8.62)	140.0 (42.67)		15.6 (7.08)	16.7 (7.57)	17.2 (7.80)	17.2 (7.80)	140.0 (42.67)		14.8 (6.71)	15.5 (7.03)	15.8 (7.17)	
150.0 (45.72)		16.1 (7.30)	17.7 (8.03)	18.5 (8.39)	18.5 (8.39)	150.0 (45.72)		15.2 (6.89)	16.3 (7.39)	16.8 (7.62)	16.8 (7.62)	150.0 (45.72)		14.2 (6.44)	15.2 (6.89)	15.5 (7.03)	
160.0 (48.77)		15.5 (7.03)	17.1 (7.76)	18.0 (8.16)	18.0 (8.16)	160.0 (48.77)		14.6 (6.62)	15.9 (7.21)	16.4 (7.44)	16.5 (7.48)	160.0 (48.77)		13.7 (6.21)	14.9 (6.76)	15.2 (6.89)	
170.0 (51.82)		15.0 (6.80)	16.6 (7.53)	16.3 (7.39)	15.7 (7.12)	170.0 (51.82)		14.0 (6.35)	15.5 (7.03)	16.1 (7.30)	16.2 (7.35)	170.0 (51.82)			14.6 (6.62)	14.9 (6.76)	
180.0 (54.86)		14.3 (6.49)	16.2 (7.35)	14.1 (6.40)	13.4 (6.08)	180.0 (54.86)		13.5 (6.12)	15.1 (6.85)	15.3 (6.94)	14.8 (6.71)	180.0 (54.86)			14.2 (6.44)	14.7 (6.67)	
190.0 (57.91)		13.7 (6.21)	15.8 (7.17)	12.2 (5.53)	11.4 (5.17)	190.0 (57.91)			14.8 (6.71)	13.3 (6.03)	12.7 (5.76)	190.0 (57.91)			13.8 (6.26)	14.3 (6.49)	
200.0 (60.96)			14.4 (6.53)	10.4 (4.72)	9.7 (4.40)	200.0 (60.96)			14.4 (6.53)	11.4 (5.17)	10.8 (4.90)	200.0 (60.96)			13.4 (6.08)	12.3 (5.58)	
210.0 (64.01)			12.7 (5.76)	8.9 (4.04)	8.1 (3.67)	210.0 (64.01)			13.3 (6.03)	9.8 (4.45)	9.1 (4.13)	210.0 (64.01)				10.6 (4.81)	
220.0 (67.06)			11.3 (5.13)	7.4 (3.36)	6.6 (2.99)	220.0 (67.06)			11.7 (5.31)	8.2 (3.72)	7.6 (3.45)	220.0 (67.06)				9.0 (4.08)	
230.0 (70.10)			9.9 (4.49)	6.1 (2.77)	5.3 (2.40)	230.0 (70.10)					6.2 (2.81)	230.0 (70.10)				7.5 (3.40)	

This material is supplied for reference use only. Operator must refer to in-cab Crane Rating Manual and Operator's Manual to determine allowable crane lifting capacities and assembly and operating procedures.

# Luffing Attachment



## Luffing Boom Make-up

Luffing Boom Length ft (m)	30 ft (9.10m) Base Section	JN3' Extensions		JE' Extensions				30 ft (9.10m) Top Section
		20 ft (6.14m)	30 ft (9.10m)	10 ft (3.05m)	20 ft (6.14m)	30 ft (9.10m)	40 ft (12.19m)	
110 (33.5m)	1	1	1					1
120 (36.6m)	1	1	1	1				1
130 (39.6m)	1	1	1		1			1
140 (42.7m)	1	1	1			1		1
150 (45.7m)	1	1	1				1	1
160 (48.8m)	1	1	1	1			1	1
170 (51.8m)	1	1	1		1		1	1
180 (54.9m)	1	1	1			1	1	1
190 (57.9m)	1	1	1				2	1

## Luffing Jib Make-up

Luffing Jib Length ft (m)	25 ft (7.62m) Jib Base Section	Luffing Jib Extensions				30 ft (9.10m) Top Section
		10 ft (3.05m)	20 ft (6.14m)	30 ft (9.10m)	40 ft (12.19m)	
85 (25.9m)	1				1	1
95 (28.9m)	1	1			1	1
105 (32.0m)	1		1		1	1
115 (35.1m)	1			1	1	1
125 (38.1m)	1				2	1
135 (41.1m)	1		1	1	1	1
145 (44.2m)	1		1		2	1
155 (47.2m)	1			1	2	1
165 (50.3m)	1		2		2	1
175 (53.3m)	1		1	1	2	1
185 (56.4m)	1	1	1	1	2	1
195 (59.4m)	1		2	1	2	1

### Notes:

1. Capacities shown are in kips/metric tons (1 kip = 1,000 lb / 1 metric ton = 0.45 kips) and are not more than 75% of the tipping loads with the crane standing level on a firm supporting surface. A deduction must be made from these capacities for the weight of the hook block, hook ball, sling, grapple, load weighing devices, etc. When lifting from the luffing jib with the fixed jib installed, reduce capacities by values shown in the Crane Rating Manual. See Operator's Manual for all limitations when raising or lowering attachment.
  2. The capacities in the shaded areas are based on structural strength. The capacities in the non-shaded areas are based on stability ratings.
  3. All luffing attachment combinations require the maximum counterweight combination "ABCDE".
  4. Load ratings are based on freely suspended loads and make no allowances for such factors as the effect of the wind on load, ground conditions, and operating speeds. The operator shall therefore reduce load ratings in order to take these conditions into account. Refer to the Crane Rating Manual for Wind Speed Restrictions.
  5. Refer to the Crane Rating Manual for allowable attachment liftoff lengths and allowable working lengths at the various luffing boom angles.
  6. The fixed jib has only one length [30 ft (9.14m)] and only one offset with respect to the luffing jib (5°).
  7. These capacities are in compliance with ANSI/ASME B30.5 at date of manufacture.
  8. These capacities apply only to the crane as originally manufactured and normally equipped by Link-Belt Construction Equipment Company.
- \* See Link-Belt® website, [www.linkbelt.com](http://www.linkbelt.com), for complete luffing attachment working range details and capacities including fixed jib and midfall.

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