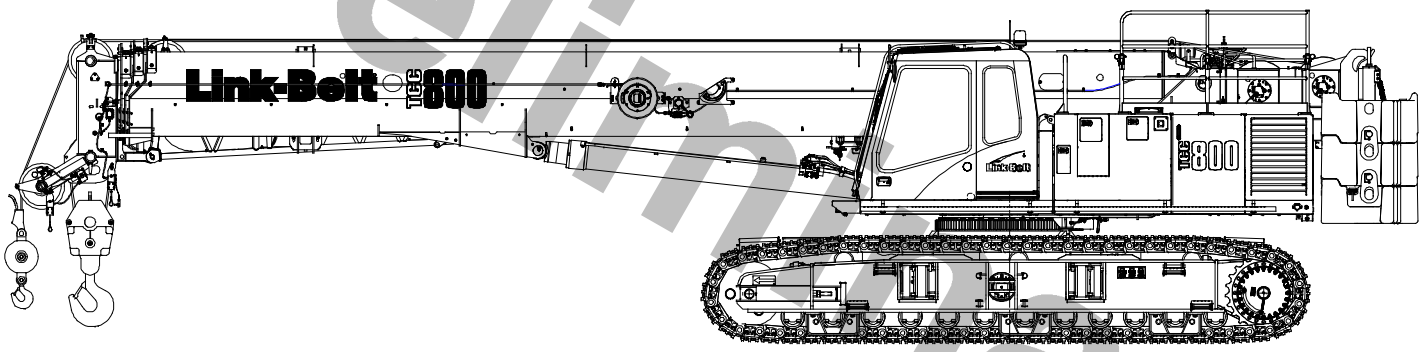
Technical Data

Specifications & Capacities

TCC 800

Telescopic Crawler Crane

80 Ton *(75 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

Upper Structure

Frame

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

Turntable Bearing

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

Engine

Engine

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

Specification	Cummins QSB 6.7
Emissions Compliance Level:	Stage V(1)
Numbers of Cylinders	6
Cycle	4
Bore & Stroke: inch (*mm*)	4.21 x 4.88 (*107 x 124*)
Piston Displacement: in^3 (*L*)	408 (*6.7*)
Max. Brake Horsepower: hp (*kW*)	232 (*173*) @ 2,000 rpm
Peak Torque: ft lb (*Nm*)	700 (*949*) @ 1,500 rpm
Electric/starting systems: volts	24
Alternator: amps	140
Crankcase Capacity: qt (*L*)	18.5 (*17.5*)

- Water/fuel separator w/ heater and water in fuel (WIF) sensor
- 120- volt block heater
- Grid heater - 112 amp
- Mechanically driven, variable speed, engine controlled.
- (1) Can only be sold and/or operated where Stage V/Tier4F- highway emission standards are accepted.

Fuel Tank

One 80 gal *(303L)* capacity fuel tank.

Hydraulic System

Hydraulic Pumps

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

- Two variable displacement pumps provide independent control for hoist drums, boom hoist, boom extend, and right & left travel.
- Three gear type pumps are used for the swing, engine cooling fan, and hydraulic oil cooling fan.

Hydraulic Reservoir

150 gal capacity equipped with sight level gauge. Diffusers built in for deaeration.

Filtration

One 5 micron, full flow return line filter. Accessible for easy filter replacement.

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

Main and Auxiliary Winches

- Axial piston, (2- speed) motor driven through planetary reduction unit for positive control under all load conditions.
- Grooved lagging
- Power up/down mode of operation
- Hoist drum cable follower
- Drum rotation indicator
- Drum diameter: 16 in (*40.6cm*)
- Rope length:
  - Main: 670 ft (*204.2m*)
  - Auxiliary: 500 ft (*152.4m*) or 670 ft (*204.2m*)
- Maximum rope storage: 670 ft (*204.2m*)
- Terminator style socket and wedge

Drum Wrap indicator

- First layer indicator
- 3rd wrap with function kick- out
- Visually and audibly warns the operator when the wire rope is on the first/bottom layer and when the wire rope is down to the last three wraps (optional)

Swing System

Motor/Planetary - Bi- directional hydraulic swing motor mounted to a planetary reducer for 360° continuous smooth swing at 1.7 rpm

Swing Park Brake - 360°, electric over hydraulic, (spring applied/hydraulic released) multi- disc brake in planetary reducer. Operated by a switch in the operator's cab.

Swing Brake - 360°, foot operated, electric over hydraulic proportional metering value with multi disc hold feature.

House Lock - Two- position swing lock (boom over front or rear) operated from the operator's cab.

Counterweight

Consists of a five piece design.

- One "A" counterweight, 14,000 lb *(6350kg)*
- One "B" counterweight, 12,250 lb *(5557kg)*
- One "C" counterweight, 12,250 lb *(5,557kg)*
- Two "A" carbody counterweights, 3,000 lb *(1 361kg)* each

Operator's Cab

Fully enclosed modular steel compartment is independently mounted and padded to protect against vibration and noise. Tilting Cab 0- 20°.

- All tinted/tempered safety glass
- Sliding entry door and front and rear window
- Swing up roof window
- Door and window locks
- Hot water heater
- Air conditioner
- Sun visor
- Cloth seat
- Front windshield and top hatch wipers and washers
- Dry chemical fire extinguisher
- Audible drum rotation indicators for main and auxiliary hoist drums
- Six way adjustable seat
- Foot throttle
- Single axis controls
- Optional joystick controls
- Bubble type level
- Controls shut off lever
- AM/FM Radio
- Travel pedals
- Monitor for rear view, winch view, and right side cameras
- Amber strobe light on top of cab

Rated Capacity Limiter System

Link- Belt Pulse 2.0 - The Link- Belt in- house designed, total crane operating system that utilizes the 10" true color touch screen display as a readout and operator interface for the following systems:

- Engine instrumentation panel (tachometer, voltmeter, engine oil pressure, engine water temperature, fuel level, hydraulic oil temperature, hydraulic circuit pressure, hour meter, and service monitor system)
- Crane configuration
- Boom length
- Boom head height
- Allowed load and % of allowed load
- Data logging
- Boom angle
- Radius of load
- Actual load
- Operator settable alarms (include):
  - Maximum and minimum boom angles
  - Maximum tip height
  - Maximum boom length
  - Swing left/right positions
  - Operator defined area (imaginary plane)
  - Wind speed
  - Track position sensing
  - Drum rotation direction indication
  - Third wrap indication
  - Diagnostics
- Internal bar graph indicator

Telematics - Cellular- based data logging and monitoring system that provides:

- Location and operational settings
- Routine maintenance
- Crane and engine monitoring
- Diagnostic and fault codes

Machinery House

- Hinged doors (five on right side, three on left side) for machinery access.
- Sound pad insulation for noise control
- Textured paint

Crane Access

- Fall arrest anchors
- Hand rails
- Slip resistant paint on walking surfaces
- Standard on right and left sides. Catwalks fold up and pin for reduced travel width.

Optional

- External RCL Bar Graph Indicator
- Diesel fired coolant heater
- Intake air shut off
- Wireless remote control
- Amber strobe light
- Upper flood light with remote
- BM flood light with remote
- Upper centralized grease bank
- Airport lighting

Lower Structure

Carbody

Lower Frame

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

Side Frames

Side Frames

All welded, precision machined, steel frames can be hydraulically extended and retracted with hydraulic cylinders mounted in the lower frame.

- 14 ft *(4.27m)* extended gauge
- 11 ft 11 in *(3.63m)* intermediate gauge
- 8 ft 5 in *(2.57m)* retracted gauge
- 21 ft 1 in *(6.41m)* overall length
- 36 in *(0.91m)* wide track shoes
- Sealed (oil filled) idler and drive planetaries
- Compact travel drives
- Hydraulic self adjusting tracks

Track Rollers

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

Tracks

Heat treated, self- cleaning grouser shoes and heat treated track pins with dirt seals. 62 track shoes per side.

Optional Clamp- On Rubber Pads

Optional 36” (914mm) Polyurethane Clamp on Track Pads clamp over the top of the 3 bar grouser track shoes for improved ground bearing and hard surface protection.

- Optional flat or “street” pad

Take Up Idlers

Cast steel, heat treated, self- cleaning, mounted on sealed tapered roller bearings

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.

- 2- speed travel
- Individual control provides smooth, precise maneuverability including full counter- rotation.
- Spring applied, hydraulically released multiple wet- disc type brake controlled automatically
- Maximum travel speed is 2.2 mph *(3.5km/h)*.
- Designed to 40% gradeability

Tool Boxes

Two heavy duty steel design tool boxes built into the carbody counterweights.

Boom

Design

Four section, formed construction of extra high tensile steel consisting of one base section and three telescoping sections. Two plate design of each section has multiple longitudinal bends for superior strength. The first telescoping section extends independently by means of one double- acting, single stage hydraulic cylinder with integrated holding valves. The second and third telescoping sections extend proportionally by means of one double- acting, single stage cylinder with integrated holding valves and cables.

Boom

- 38.6- 120.1 ft (*11.8m*) four section boom
- Three boom extend modes (EM1, EM2, and EM3), controlled from the operator's cab, provide superior capacities by varying the extension of the telescoping sections:
  - EM1 extends to 120.1 ft (*36.6m*)
  - EM2 extends to 120.1 ft (*36.6m*)
  - EM3 extends to 65.8 ft (*20.0m*)
- Mechanical boom angle indicator
- Maximum tip height for each extend mode is:
  - EM1 Mode is 127 ft (*38.7m*)
  - EM2 Mode is 127 ft (*38.7m*)
  - EM3 Mode is 73.4 ft (*22.4m*)

Boom Wear Pads

- Wear pads with Teflon inserts that self- lubricate the boom sections
- Top and bottom wear pads are universal for all boom sections

Boom Head

- Five 16.5 in (*41.9cm*) root diameter nylon sheaves to handle up to ten parts of line
- Easily removable wire rope guards
- Rope dead end lugs on each side of the boom head
- Boom head is designed for quick- reeve of the hook block
- Wind Speed Indicator

Boom Elevation

- One single acting hydraulic cylinder with integral holding valve
- Boom elevation: - 3° to 80°
- Aircraft warning light & flag (optional)

Auxiliary Lifting Sheave

- Single 16.5 in (*41.9m*) root diameter nylon sheave
- Easily removable wire rope guard
- Does not affect erection of the fly or use of the main head sheaves

Optional Equipment

Hook Blocks And Balls

- 27 ton (*24.5mt*) 1 sheave quick- reeve hook block with safety latch
- 60 ton (*54.4mt*) 3 sheave quick- reeve hook block with safety latch
- 88 ton (*79.8mt*) 5 sheave quick- reeve hook block with safety latch
- 8.5 ton (*7.7mt*) swivel and non- swivel hook balls with safety latch
- 10 ton (*9.1mt*) swivel and non- swivel hook balls with safety latch

Fly & Attachments

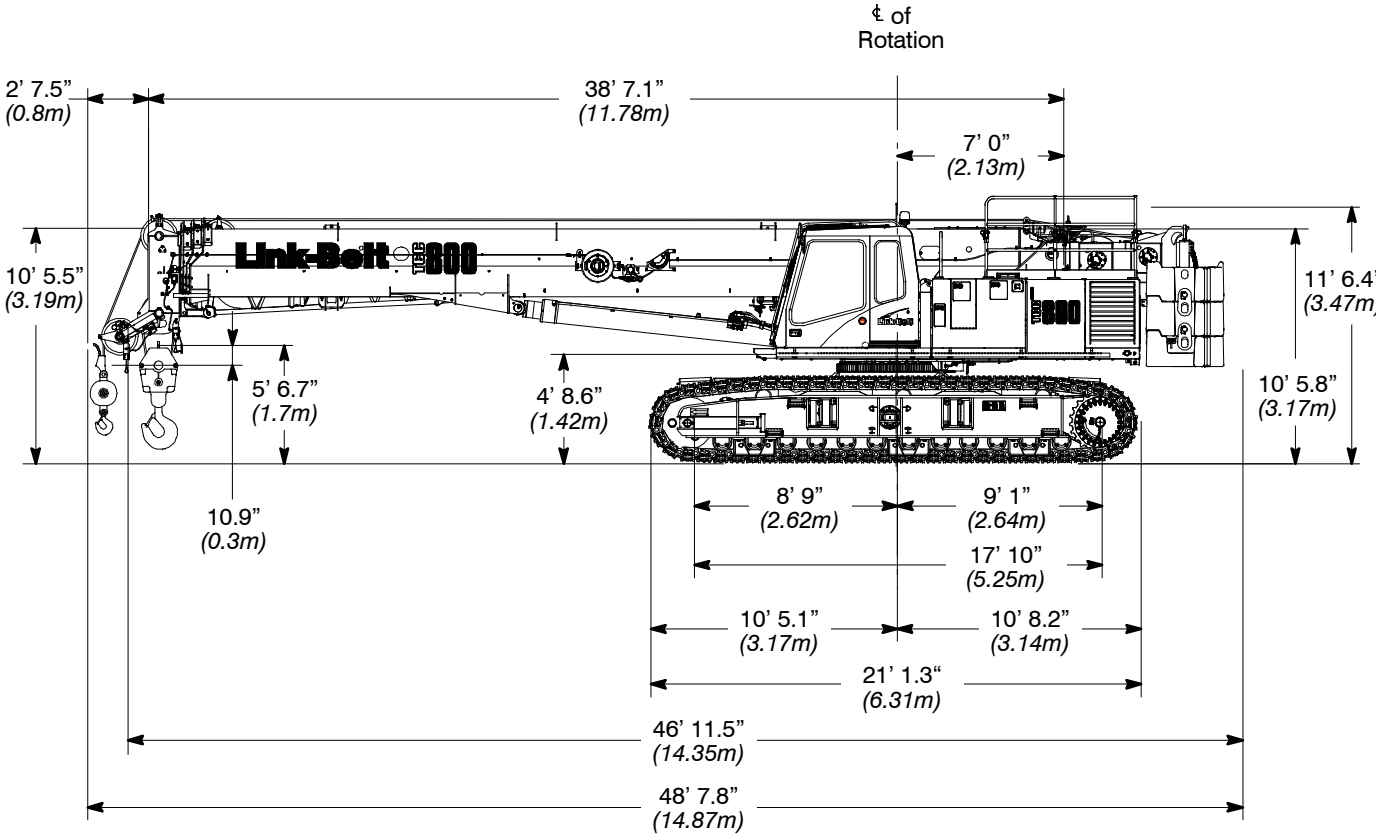
- 35 ft (*10.7m*) one piece lattice fly, stowable, offsettable to 0°, 15°, 30°, and 45°. Maximum tip height is 155.1 ft.
- 35- 58 ft (*10.7- 17.7m*) two piece bi- fold lattice fly, stowable, offsettable to 0°, 15°, 30°, and 45°. Maximum tip height is 178.1 ft.

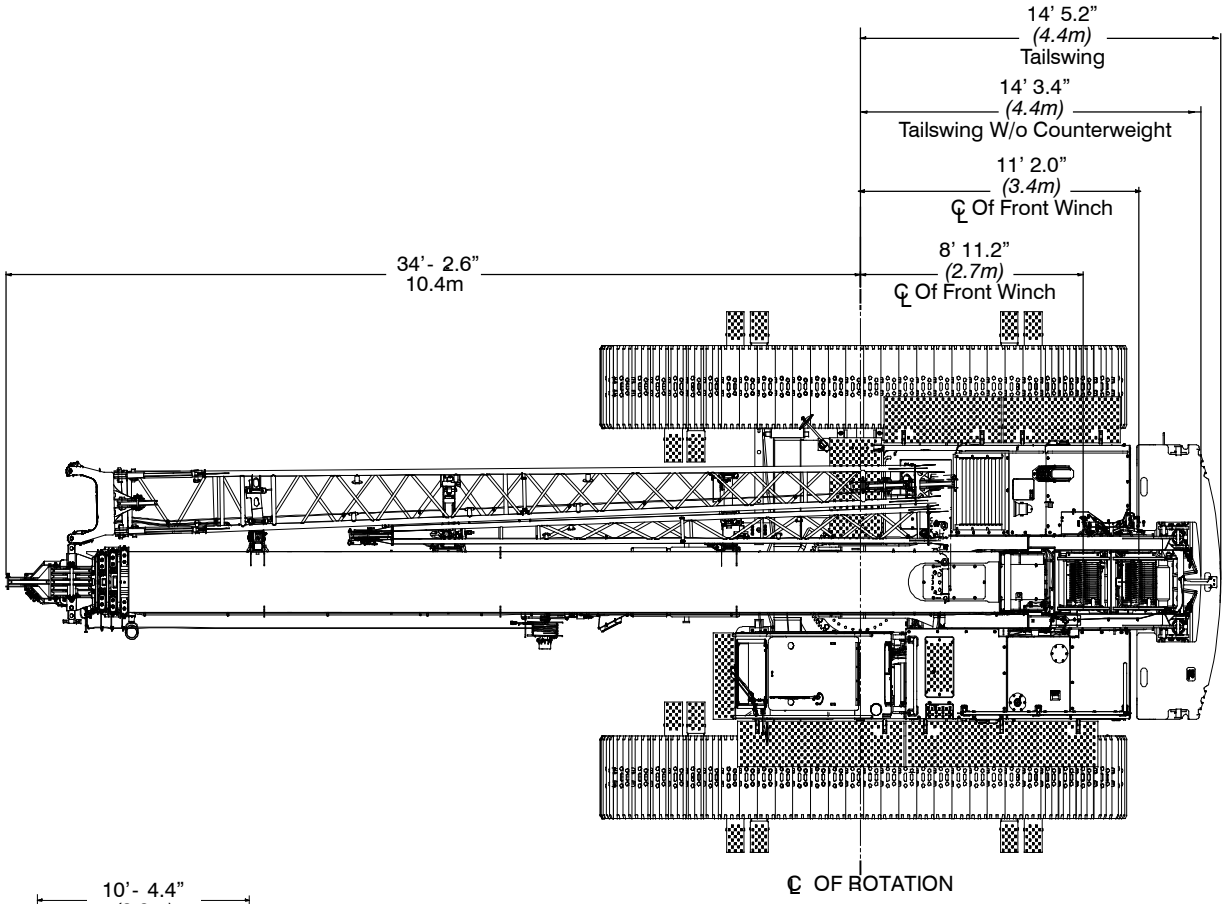
Work Platform

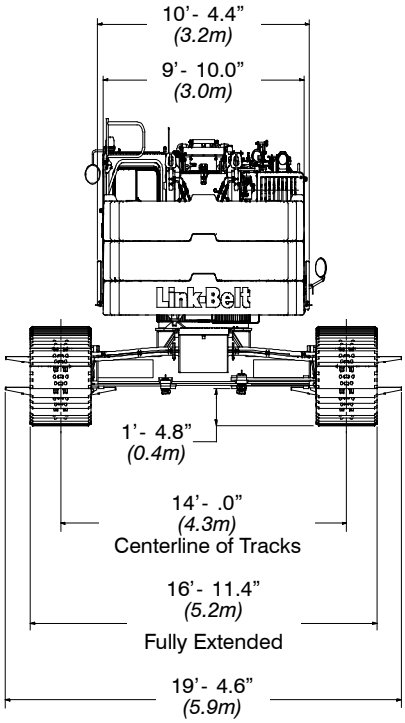
- Boom mounted work platform under design.

Dimensions
Base Crane

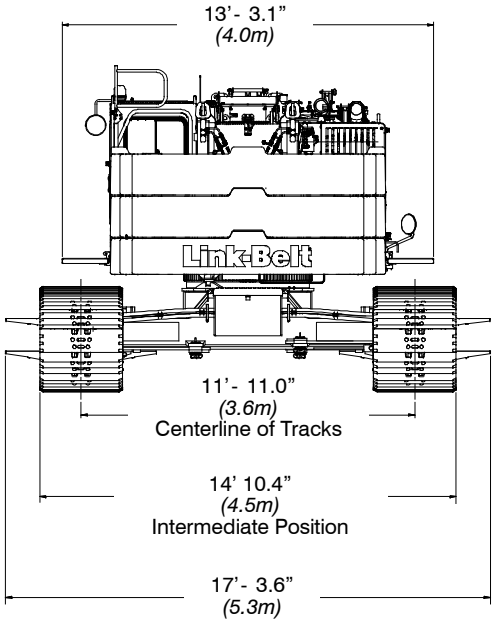
General Dimensions	English	*Metric*
Basic Boom	38.6- 120.1 ft	*11.7- 36.6m*
Minimum Load Radius	9 ft	*2.7m*
Maximum Boom Angle	80°	*80°*
Track Shoe Width	36 in	*0.91m*



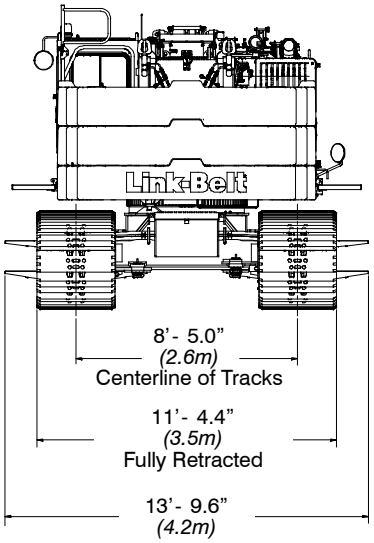




Extended Gauge



Intermediate Gauge

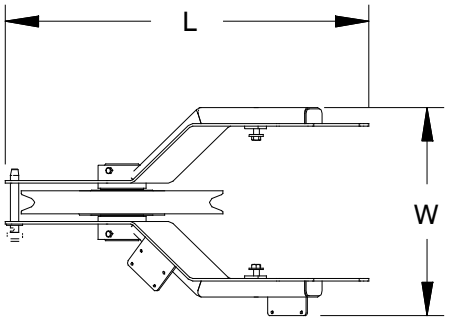


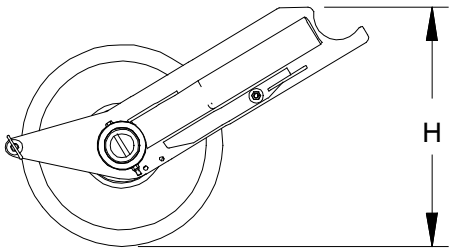
Retracted Gauge

Auxiliary Lifting Sheave

Auxiliary Lifting Sheave ❶

Length	34.4 in	*(0.87m)*
Width	19.59 in	*(0.50m)*
Height	22.53 in	*(0.57m)*
Weight	96 lb	*(44kg)*

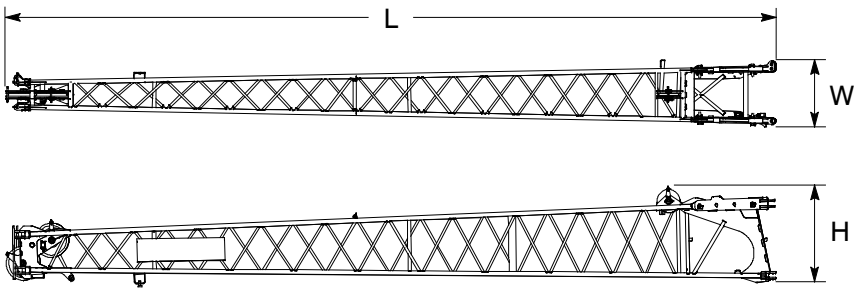




Fly

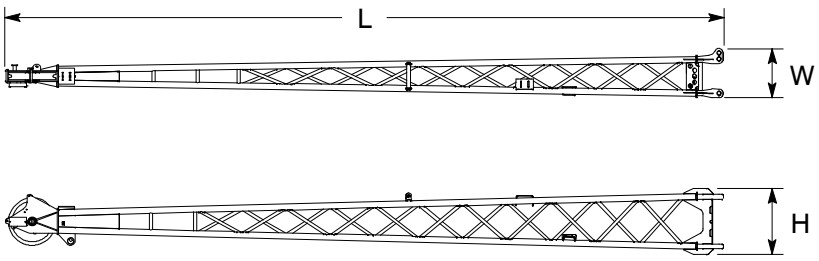
35 ft *(10.7m)* One Piece Lattice Fly (Base Fly) ❶

Length	35.7 ft	*(10.88m)*
Width	35.5 in	*(0.90m)*
Height	53 in	*(1.35m)*
Weight	2,026 lb	*(919kg)*



23 ft *(7.01m)* Lattice Fly Tip (Addition To Base Fly For 35- 58 ft *(10.7- 17.7m)* Bi- fold Fly) ❶

Length	24 ft	*(7.32m)*
Width	19 in	*(0.48m)*
Height	26 in	*(0.66m)*
Weight	610 lb	*(277kg)*

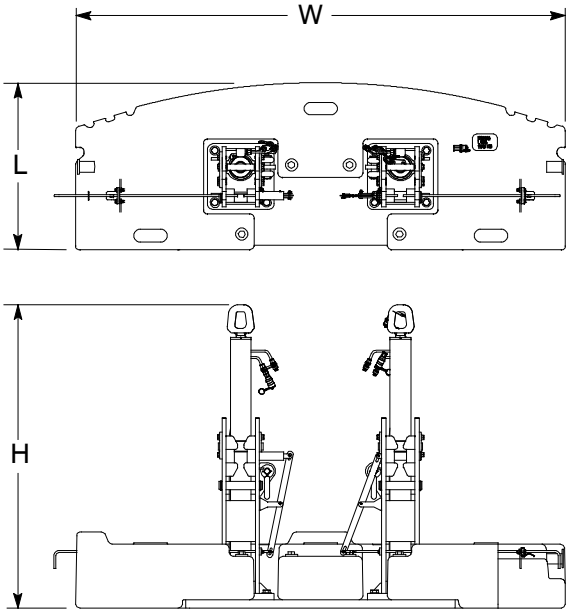


Number inside black circle "❶" = # of components
* - Optional equipment

Counterweights

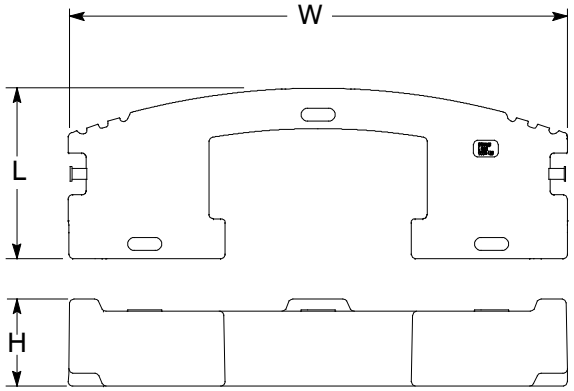
"A" Counterweight ❶

Length	40.34 in	*(1.02m)*
Width	9 ft 10 in	*(3.00m)*
Height	6 ft 1.1 in	*(1.86m)*
Weight	14,000 lb	*(6 350kg)*



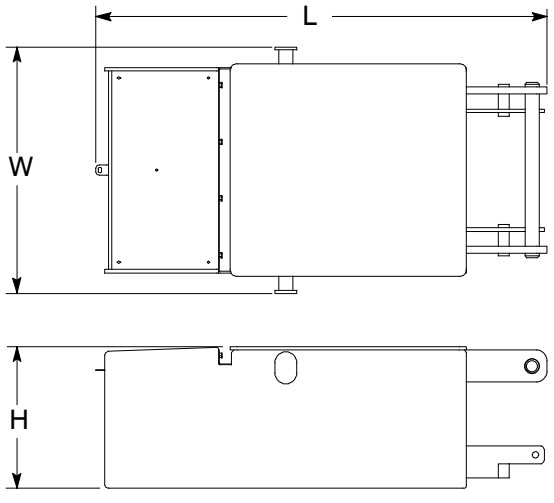
"B" & "C" Counterweights ❷

Length	40.3 in	*(1.02m)*
Width	9 ft 10 in	*(3.00m)*
Height	20.61 in	*(0.52m)*
Weight	12,250 lb	*(5 556kg)*



"A" Carbody Counterweights ❷

Length	63.62 in	*(1.62m)*
Width	34.75 in	*(0.88m)*
Height	20 in	*(0.51m)*
Weight	3,000 lb	*(1 361kg)*

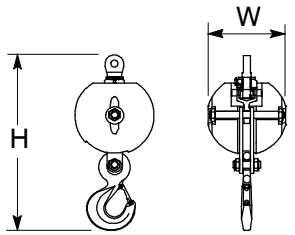


Number inside black circle "❶" = # of components
* - Optional equipment

Hook Balls

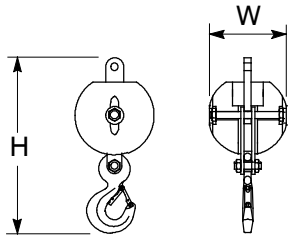
8.0 Ton *(7.3mt)* Swivel Hook Ball* ❶

Width	13.54 in	*(0.37m)*
Height	28.63 in	*(0.73m)*
Weight	320 lb	*(145kg)*



8.5 Ton *(7.7mt)* Non- Swivel Hook Ball* ❶

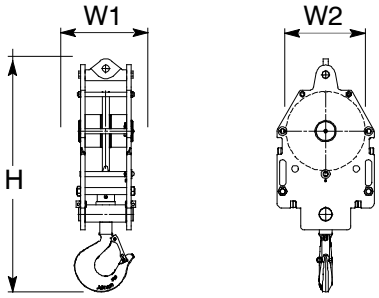
Width	13.53 in	*(0.37m)*
Height	27.03 in	*(0.69m)*
Weight	359 lb	*(162.8kg)*



Hook Blocks

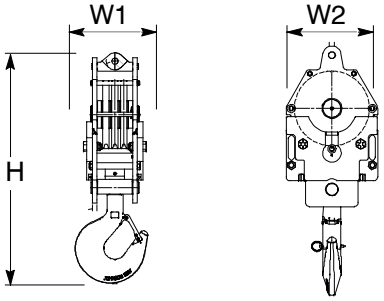
27.5 Ton *(25mt)* 1- Sheave Hook Block* ❶

Width	13.46 in	*(0.34m)*
Height	52.87 in	*(1.34m)*
Weight	800 lb	*(362.9kg)*



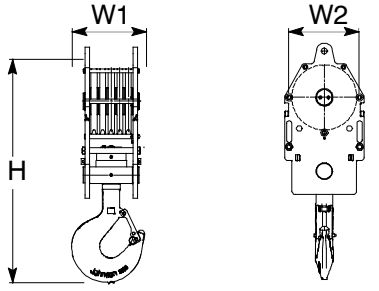
60 Ton *(54.5mt)* 3- Sheave Hook Block* ❶

Width	13.46 in	*(0.34m)*
Height	58.16 in	*(1.48m)*
Weight	1,150 lb	*(521.6kg)*



90 Ton *(82mt)* 5- Sheave Hook Block* ❶

Width	17.40 in	*(0.44m)*
Height	60.62 in	*(1.54m)*
Weight	1,750 lb	*(793.8kg)*

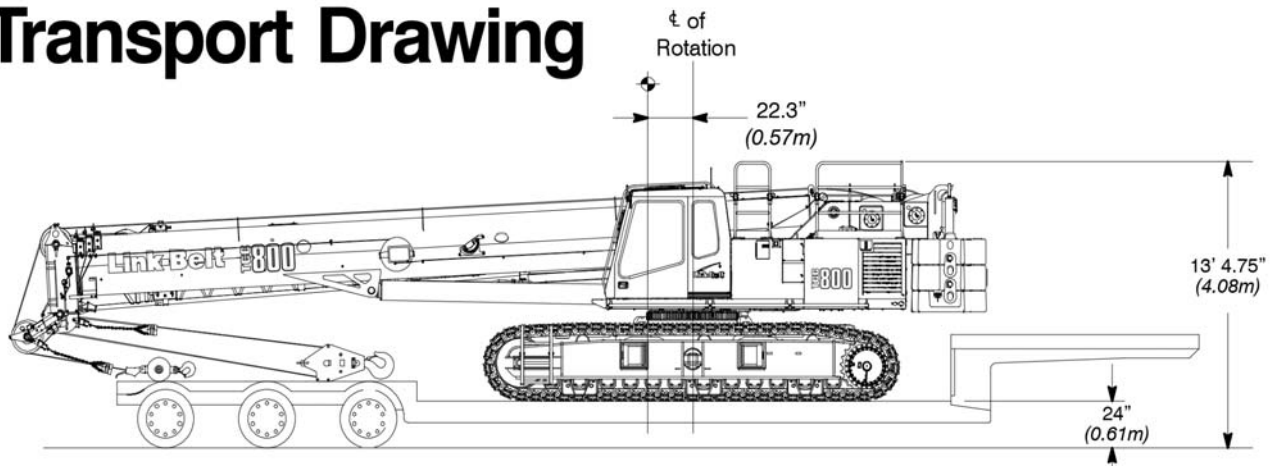


Number inside black circle "❶" = # of components
* - Optional equipment

Working Weights

Option	Description	Gross Weight lb *(kg)*	Ground Bearing Pressure (on soft ground) psi *(kg/cm²)*
1	Base crane, "ABC + A" counterweight, 2 piece carbody counterweight, 670 ft *(204.2m)* type "KC" main wire rope, 500 ft *(152.4m)* type "KC" auxiliary wire rope, 35- 58 ft fly, 60 ton *(54.43mt)* 4 sheave hook block, 8.5 ton *(7.71mt)* hook ball, and a 250 lb *(90.7kg)* operator.	145,182 *(65.853kg)*	*TBD*
Notes:	Ground bearing pressure is based on the total weight distributed evenly over the track contact area.		

Transport Drawing



Transport Weight - 99,500 lb *(45 132kg)*

Base crane, 670 ft *(204.2m)* type "KC" main wire rope, 500 ft *(152.44m)* type "KC" auxiliary wire rope, 35- 58 ft (10.7- 17.7m) fly, 60 ton *(54.43mt)* 3 sheave hook block, and 8.5 ton *(7.71mt)* hook ball

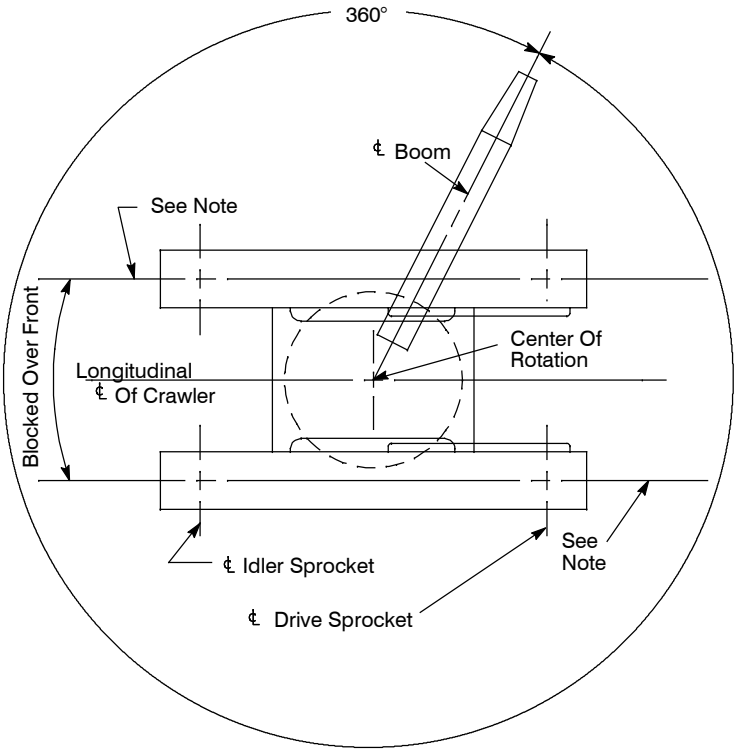
Load Hoist Performance

Main (Rear) and Auxiliary (Front) Winches - 3/4 in (*19mm*) Rope

	Maximum Line Pull		Normal Line Speed		High Line Speed		Layer		Total	
Layer	lb	*kg*	ft/min	*m/min*	ft/min	*m/min*	ft	*m*	ft	*m*
1	18,392	*8 342.2*	207	*63.1*	332	*101.3*	115	*35.1*	115	35.1
2	16,909	*7 669.6*	225	*68.6*	361	*110.2*	125	*38.1*	240	38.1
3	15,647	*7 097.3*	243	*74.2*	391	*119.1*	135	*41.2*	375	41.2
4	14,561	*6 604.6*	261	*79.7*	420	*127.9*	145	*44.3*	521	44.3
5	13,615	*6 175.8*	280	*85.2*	449	*136.8*	155	*47.4*	676	47.4
6	- - -	- - -	- - -	- - -	- - -	- - -	165	*50.4*	841	50.4

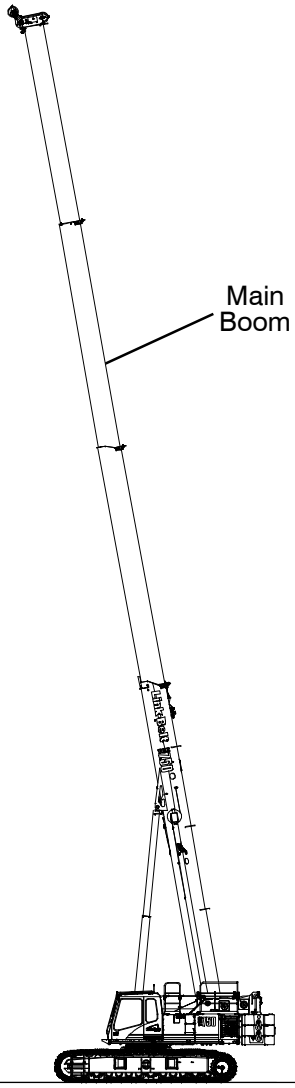
Wire Rope Application		Diameter		Type	Maximum Permissible Load	
		in	*mm*		lb	*kg*
Main & Auxiliary Winches	Standard	3/4	*19*	37x7 galvanized rotation resistant - right regular lay or right lang lay (Type KC)	16,000	*7 257.9*
	Optional	3/4	*19*	34x7 rotation resistant - right regular lay or right lang lay (Type YB)	16,000	*7 257.5*
	Optional	3/4	*19*	35x7 rotation resistant - right regular lay or right lang lay (Type CC)	17,160	*7 738.6*

Working Areas

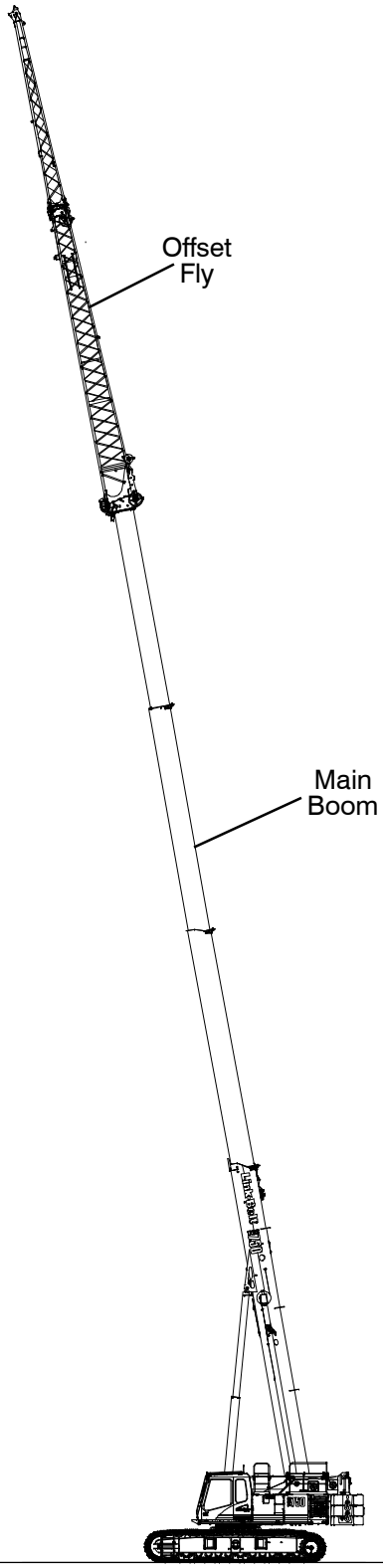


Note: These Lines Determine The Limiting Position Of Any Load For Operation Within Working Areas Indicated.

Attachments

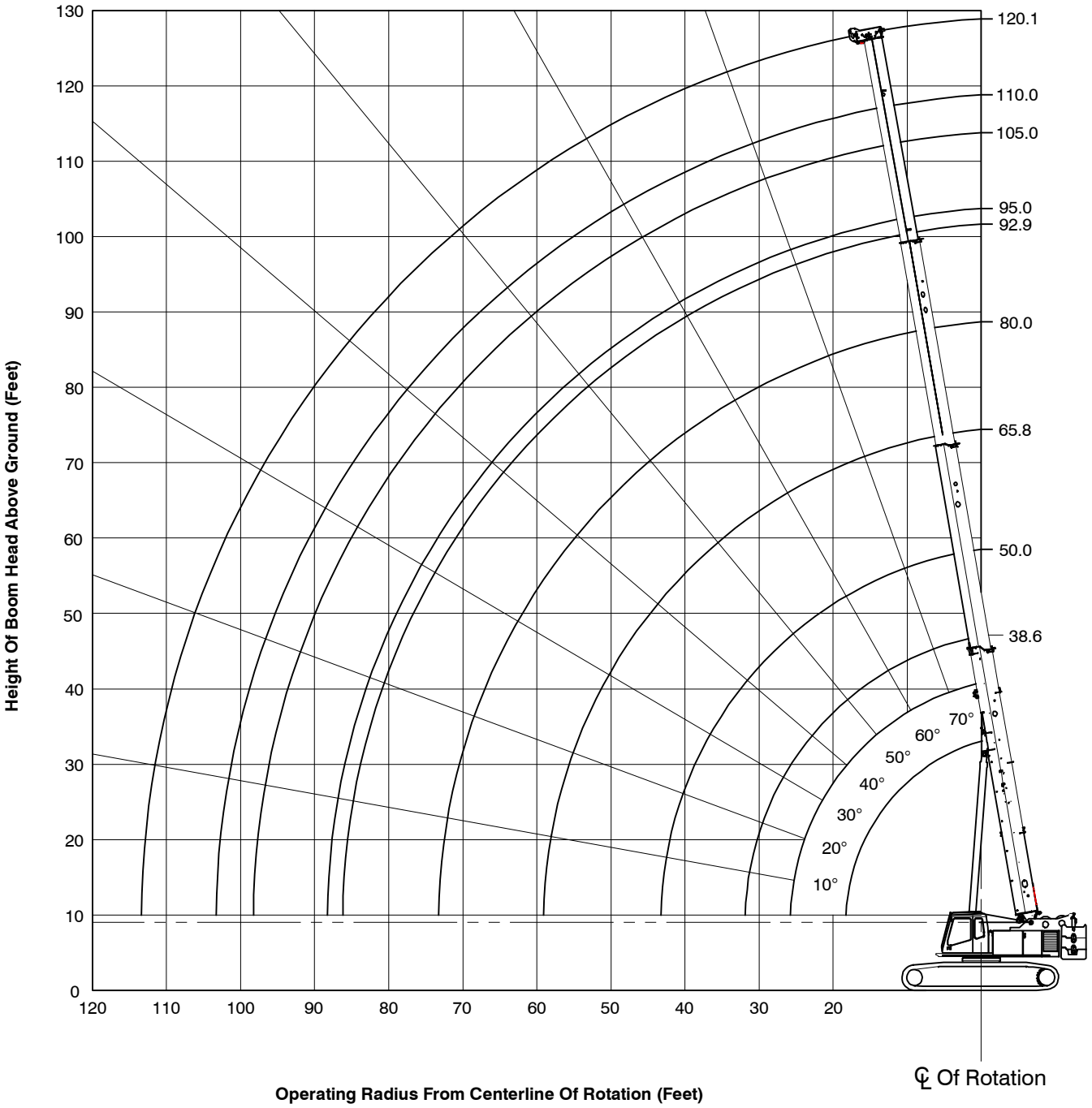


38.6- 120.1 ft *(11.8- 36.6m)*
Main Boom

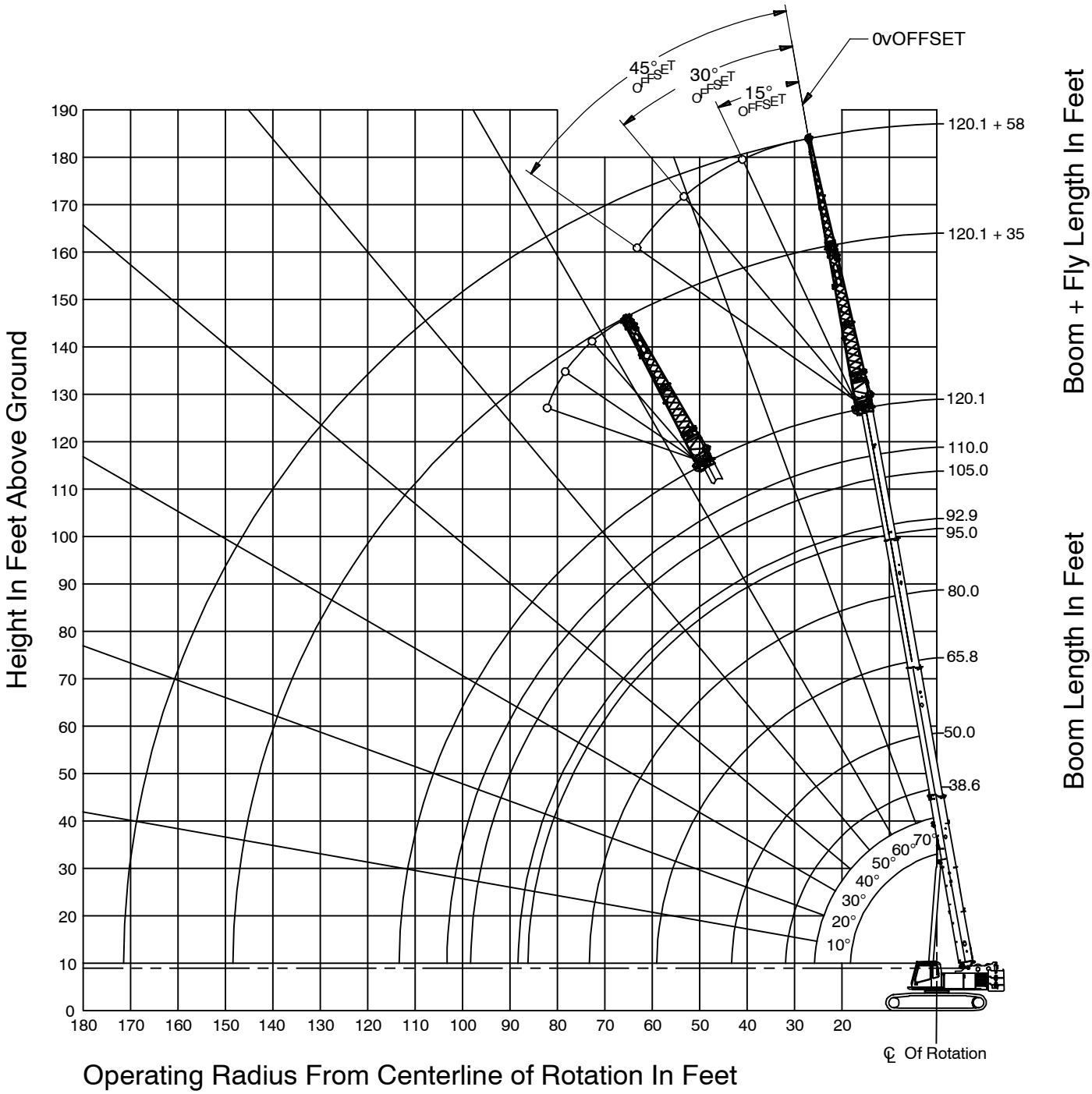


38.6- 120.1 ft *(11.8- 36.6m)* Main Boom
With 35- 58 ft *(10.7- 17.7m)* Offset Fly

Standard Mode - Extended Gauge



Main Boom + Fly Working Range Diagrams



Main Boom Load Charts

Main Boom Lift Capacity Chart
360° Rotation - Side Frames Extended Position
ABC+A [38,500, + 6,000 lb] Counterweight

[All capacities are listed in kips]

Load Radius	Boom Length ft							Load Radius
	38.6	45.0 - 50.0	65.0 - 65.8	80.0	92.9 - 95.0	110.0	120.1	
10.0	160.0	126.8	101.3					10.0
12.0	141.7	126.8	93.4	58.1				12.0
15.0	117.1	116.7	83.4	58.1	57.0			15.0
20.0	80.2	79.7	70.6	55.7	55.7	42.9		20.0
25.0	55.3	57.2	57.0	55.7	49.0	42.6	34.1	25.0
30.0	41.2	43.0	44.2	43.3	43.4	38.0	34.1	30.0
35.0		33.9	35.1	35.7	34.4	34.1	31.7	35.0
40.0		27.5	28.8	29.4	28.2	28.8	28.3	40.0
45.0		20.9	24.0	24.7	25.0	24.1	23.7	45.0
50.0			20.4	21.1	21.4	20.5	20.1	50.0
55.0			17.5	18.2	18.6	17.7	17.3	55.0
60.0				15.8	16.2	15.5	15.1	60.0
65.0				14.0	14.4	13.6	13.2	65.0
70.0				12.3	12.7	12.0	11.6	70.0
75.0					11.3	10.6	10.3	75.0
80.0					10.1	9.4	9.1	80.0
85.0					9.1	8.3	8.0	85.0
90.0						7.4	7.1	90.0
95.0						6.6	6.3	95.0
100.0						5.9	5.6	100.0
105.0							4.9	105.0
110.0							4.3	110.0

Main Boom Lift Capacity Chart
360° Rotation - Side Frames Extended Position
ABC+A [17 237 + 2 2722kg] Counterweight

[All capacities are listed in metric tons (t)]

Load Radius	Boom Length (m)							Load Radius
	11.76	13.72- 16.76	19.81- 20.04	24.38	28.33- 28.96	33.53	36.6	
2.5	75.0							2.5
3.0	71.8	57.5	27.4					3.0
3.5	66.0	57.5	43.3	28.6				3.5
4.0	60.9	57.5	40.6	28.6	24.9			4.0
4.5	54.0	53.8	38.2	27.8	25.9			4.5
5.0	48.4	48.2	36.0	26.4	25.9	18.8		5.0
6.0	37.4	37.2	32.3	25.3	25.5	19.5	15.4	6.0
7.0	28.9	28.8	28.3	25.3	23.4	19.5	15.4	7.0
8.0	23.2	24.1	24.5	24.1	21.6	18.8	15.4	8.0
9.0	19.2	20.0	20.6	20.1	20.0	17.4	15.4	9.0
10.0		17.0	17.6	17.2	17.2	16.3	15.0	10.0
12.0		12.8	13.4	13.7	13.1	13.4	13.2	12.0
14.0		9.2	10.6	10.9	11.0	10.6	10.4	14.0
16.0			8.6	8.9	9.1	8.7	8.5	16.0
18.0				7.4	7.6	7.2	7.1	18.0
20.0				6.3	6.4	6.1	5.9	20.0
22.0				5.3	5.5	5.2	5.0	22.0
24.0					4.7	4.4	4.3	24.0
26.0					4.1	3.8	3.6	26.0
28.0						3.2	3.1	28.0
30.0						2.8	2.6	30.0
32.0							2.3	32.0
34.0							1.9	34.0

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.

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