



TRUCK CRANE 90 TONS

LINK-BELT HTC-8690

BOOM LENGTHS:
38 TO 140 FT

JIB LENGTHS:
35 TO 90 FT

JIB OFFSETS:
2 - 15 - 30 - 45



NOTES:

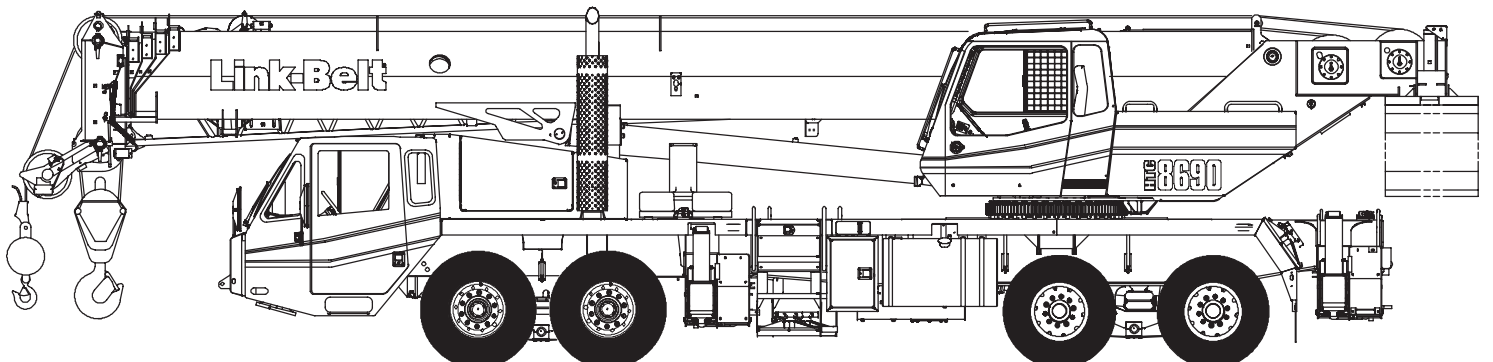
Technical Data

Specifications & Capacities

LT8690

Telescopic Boom Truck Crane

90 ton (81.6 metric ton)



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Boom, Attachments, and Upper Structure

■ Boom

Design - Five section, formed construction of extra high tensile steel consisting of one base section and four telescoping sections. The two plate design of each section has multiple longitudinal bends for superior strength. Each telescoping section extends independently by means of one double-acting, single stage hydraulic cylinder with integrated holding valves.

Boom

- 38-140 ft (11.6-42.7m) five section boom
- Integral boom dolly connection
- Five boom extend modes (EM1 through EM5), controlled from the operator's cab, provide superior capacities by varying the extension of the telescoping sections:
 - EM1 extends to 140.0 ft (42.7m)
 - EM2 extends to 127.3 ft (38.8m)
 - EM3 extends to 115.8 ft (35.3m)
 - EM4 extends to 102.0 ft (31.1m)
 - EM5 extends to 76.5 ft (23.3m)
- Mechanical boom angle indicator
- Maximum tip height for each extend mode is:
 - EM1 is 148 ft (45.1m)
 - EM2 is 135 ft (41.1m)
 - EM3 is 124 ft (37.8m)
 - EM4 is 110 ft (33.5m)
 - EM5 is 84 ft (25.6m)

Boom Wear Pads

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

Boom Elevation

- One double acting hydraulic cylinder with integral holding valve
- Boom elevation: -3° to 80°

Auxiliary Lifting Sheave - Optional

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

Hook Blocks and Balls - Optional

- 40 ton (36.3mt) 4 sheave quick-reeve hook block with safety latch
- 60 ton (54.4mt) 4 sheave quick-reeve hook block with safety latch
- 90 ton (81.6mt) 6 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 - Optional

- 35 ft (10.7m) one piece lattice fly, stowable, offsettable to 2°, 15°, 30°, and 45°. Maximum tip height is 182 ft (55.5m).
- 35 ft-58 ft (10.7-17.7m) two piece bi-fold lattice fly, stowable, offsettable to 2°, 15°, 30°, and 45°. Maximum tip height is 205 ft (62.5m).

Fly Extensions - Optional

- One 16 ft (4.9m) lattice extension, equipped with two 16.5 in (41.9cm) root diameter nylon sheaves, to be mounted between the boom head and fly options. Maximum tip height is 221 ft (67.4m).
- Two 16 ft (4.9m) lattice extensions, one equipped with two 16.5 in (41.9cm) root diameter nylon sheaves, to be mounted between the boom head and fly options. Maximum tip height is 237 ft (72.2m). Minimum of 14,500 lb (6 577.1kg) of counterweight required.



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■ Upper Operator's Cab and Controls

Environmental Cab - Fully enclosed, one person cab of galvalume steel structure with acoustical insulation.

Equipped with:

- Tinted and tempered glass windows
- Extra-large fixed front window with windshield wiper and washer
- Swing up roof window with windshield wiper
- Sliding left side door with large fixed window
- Sliding rear and right side windows for ventilation
- Six way adjustable, cushioned seat with seat belt and storage compartment
- Diesel fired warm-water heater with air ducts for front windshield defroster and cab floor - optional
- Defroster fan for the front window
- Bubble level
- Circulating fan
- Adjustable sun visor
- LED Dome light
- Cup holder
- Fire extinguisher
- Left side viewing mirror
- Pull-out cabwalk
- Two position travel swing lock
- AM/FM Radio

Air Conditioning - Optional - Integral with cab heating system utilizing the same ventilation outlets

Armrest Controls - Two dual axis hydraulic joystick controllers or optional single axis hydraulic controllers for:

- Cab heater and A/C controls
- Swing
- Boom hoist
- Main rear winch
- Auxiliary front winch - optional
- Drum rotation indication
- Drum rotation indicator activation switch
- Swing park brake switch
- Winch high/low speed and disable switch(es)
- Counterweight handling switch
- Warning horn button

Outrigger Controls - Hand held control box with umbilical cord gives the operator the freedom to view operation while setting the outriggers.

Foot Controls

- Boom telescope
- Swing brake
- Engine throttle

Right Front Console -

- Engine ignition
- Engine throttle lock
- Pump enable
- Function disable
- Front windshield wiper and washer
- Cab floodlights
- Warning horn
- Console dimmer switch

Controls and indicators for:

- Bubble level
- 12 volt power connection
- Emergency engine shutdown
- Air conditioning - optional
- Boom floodlight - optional
- Rotating beacon or strobe light - optional
- Third wrap selector switch - optional

Camera Display - Located on dash console

- Displays right side of upper
- Displays main and auxiliary winches

Cab Instrumentation - Ergonomically positioned LCD display, CANBUS instrumentation for crane operation including:

- Tachometer
- Engine water temperature
- Fuel level
- Hydraulic oil temperature
- Stop engine
- Check engine
- Regeneration disabled light (EPA 2010 engine only)
- DPF regeneration light (EPA 2010 engine only)
- DPF regeneration inhibit switch (EPA 2010 engine only)
- DPF regeneration initiate switch (EPA 2010 engine only)
- High exhaust temperature light (EPA 2010 engine only)
- Engine oil pressure
- Swing park brake light
- Battery voltage
- Fuel rate (gal/hr)
- Engine load
- Engine Diagnostics

Link-Belt Pulse - The Link-Belt in-house designed, total crane operating system that utilizes the display as a readout and operator interface for the following systems:

- **Rated capacity limiter** - LCD graphic audio - visual warning system integrated into the dash with anti - two block and function limiter. Operating data includes:
 - Crane configuration
 - Boom length and angle
 - Boom head height
 - Allowed load and % of allowed load
 - RCL light bar
 - Boom angle
 - Radius of load
 - Actual load
 - Wind speed
 - Unit Conversion
 - Multiple language capabilities
 - Highlighted unit of measurement on working screen
 - Active pin/latch status
 - Telescope operation displayed in real time
 - Counterweight installation/removal
 - Third wrap indicator
 - Diagnostics
- **Operator settable alarms (include):**
 - Maximum and minimum boom angles
 - Maximum tip height
 - Maximum boom length
 - Swing left/right positions
 - Operator defined area (imaginary plane)
- **Telematics** - Cellular-based data logging and monitoring system that provides:
 - Location and operational settings
 - Routine Maintenance
 - Crane and engine monitoring
 - Diagnostic and fault codes
- **Extend control module (ECM)**
 - Controls the extend modes
 - Diagnostics



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Integrated Third Wrap Indicator - Optional - Link-Belt Pulse color display 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.

Integrated Third Wrap Function Kickout - Optional - Link-Belt Pulse color display visually and audibly warns the operator when the wire rope is on the first/bottom layer and provides a function kickout when the wire rope is down to the last three wraps.

Internal RCL Light Bar - Visually informs the operator when crane is approaching maximum load capacity with a series of green, yellow, and red lights.

External RCL Light Bar - Optional - Visually informs the ground crew when crane is approaching maximum load capacity with a series of green, yellow, and red lights.

■ Swing

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 mounted on the speed reducer. Operated by a switch from the operator's cab.

Swing Brake - 360°, foot operated, hydraulic applied disc brake mounted to the speed reducer.

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

360° Positive Swing Lock - Optional - Meets New York City requirement.

■ Electrical

Swing Alarm - Audio warning device signals when the upper is swinging.

Lights

- Two LED working lights on front of the cab
- One LED working light on top of the cab - optional
- One amber strobe beacon on top of the cab - optional
- Boom floodlight - Single - optional
- Boom floodlight - Dual - optional
- Boom floodlight - High intensity remote controlled - optional

■ Load Hoist System

Load Hoist Performance

Main (Rear) and Auxiliary (Front)					Winches - 3/4 in (19mm) Rope					
Layer	Maximum Line Pull		Normal Line Speed		High Line Speed		Layer		Total	
	lb	kN	ft/min	m/min	ft/min	m/min	ft	m	ft	m
1	16,880	75.09	179	54.6	356	108.5	114	34.7	114	34.7
2	15,519	69.03	195	59.4	387	118.0	124	37.8	238	72.5
3	14,362	63.89	211	64.3	418	127.4	134	40.8	372	113.4
4	13,365	59.45	226	68.9	449	136.9	144	43.9	516	157.3
5	12,497	55.59	242	73.8	480	146.3	154	46.9	670	204.2
6	---	---	---	---	---	---	164	50.0	834	254.2

Wire Rope Application		Diameter		Type	Maximum Permissible Load	
		in	mm		lb	kN
Main (Rear) Winch	Standard	3/4	19	18x19 rotation resistant - right regular lay (Type RB)	12,920	57.47
	Optional	3/4	19	36x7 rotation resistant - right regular lay (Type ZB)	15,600	69.39
Auxiliary (Front) Winch	Standard	3/4	19	18x19 rotation resistant - right regular lay (Type RB)	12,920	57.47
	Optional	3/4	19	36x7 rotation resistant - right regular lay (Type ZB)	15,600	69.39

2M Main and Optional Auxiliary Winches

- Axial piston, full and half displacement (2-speed) motors driven through planetary reduction unit for positive control under all load conditions.
- Grooved lagging
- Power up/down mode of operation
- Hoist drum cable follower - optional
- Drum rotation indicator
- Drum diameter: 16 in (40.6cm)
- Rope length:
 - Main: 730 ft (222.5m)
 - Auxiliary: 600 ft (182.9m) or 730 ft (222.5m)
- Maximum rope storage: 834 ft (254.2m)

- Terminator style socket and wedge



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■ Hydraulic System

All circuits of the hydraulic system are pressure compensated.

Counterbalance Valves - All hoist motors, boom extend cylinders, and boom hoist cylinders are equipped with counterbalance valves to provide load lowering and to prevent accidental load drop if hydraulic power is suddenly reduced.

Hydraulic Oil Cooler — One carrier mounted cooler removes heat from the hydraulic oil. The cooler is mounted in left side access ladder.

Boom Hoist Float Valves (Optional) - For transporting the boom over the rear of the crane with a boom dolly. Allows hydraulic oil within the boom hoist cylinder to flow between piston side and case side, allowing the boom to float while on the boom dolly.

Swing Brake Release - For transporting the boom over the rear of the crane with a boom dolly. Holds the 360° swing park brake in the released position allowing free rotation of the upper structure.

■ Counterweight

Standard - Total of 11,500 lb (5 216kg) of total counterweight consisting of three, hydraulically removable counterweights. Assembled and disassembled by hydraulic cylinders controlled from the operator's cab with capacities for:

- 0 lb (0kg) counterweight
- 2,500 lb (1 134.0kg) counterweight
- 5,500 lb (2 494.8kg) counterweight
- 8,500 lb (3 855.5kg) counterweight
- 11,500 lb (5 216.3kg) counterweight

Optional - 15,000 lb (6 803.9kg) in addition to standard counterweight for a total of 26,500 lb (12 020.2kg) with additional capacities for:

- 14,500 lb (6 577.1kg) counterweight
- 20,500 lb (9 298.6kg) counterweight
- 23,500 lb (10 659.4kg) counterweight
- 26,500 lb (12 020.2kg) counterweight

Optional - 21,000 lb (9 525.4kg) in addition to standard counterweight for a total of 32,500 lb (14 741.8kg) with additional capacities for:

- 14,500 lb (6 577.1kg) counterweight
- 17,500 lb (7 937.9kg) counterweight
- 20,500 lb (9 298.6kg) counterweight
- 23,500 lb (10 659.4kg) counterweight
- 26,500 lb (12 020.2kg) counterweight
- 29,500 lb (13 381.0kg) counterweight
- 32,500 lb (14 741.8kg) counterweight

Optional - 28,000 lb (12 700.6kg) in addition to standard counterweight for a total of 39,500 lb (17 916.9kg) with additional capacities for:

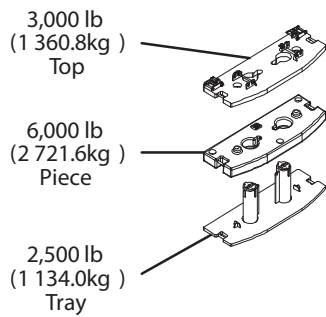
- 14,500 lb (6 577.1kg) counterweight
- 17,500 lb (7 937.9kg) counterweight
- 20,500 lb (9 298.6kg) counterweight
- 23,500 lb (10 659.4kg) counterweight
- 26,500 lb (12 020.2kg) counterweight
- 29,500 lb (13 381.0kg) counterweight
- 32,500 lb (14 741.8kg) counterweight
- 39,500 lb (17 916.9kg) counterweight*

Low speed jobsite travel is offered for these optional counterweight configurations and a boom dolly or boom trailer may be required for on-highway travel.

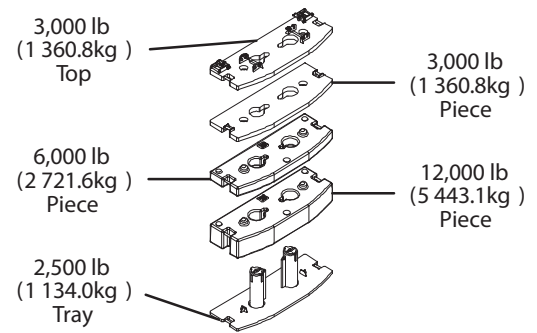
* Overall width of the crane increases to 11 ft (3.4m) for this counterweight configuration



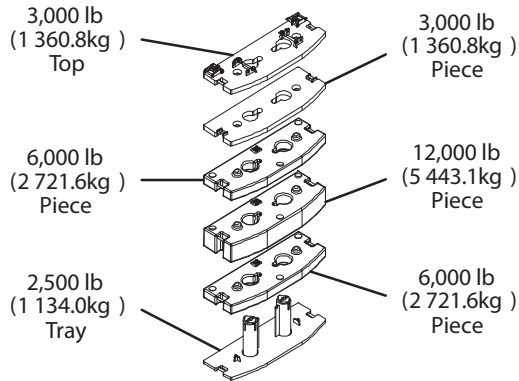
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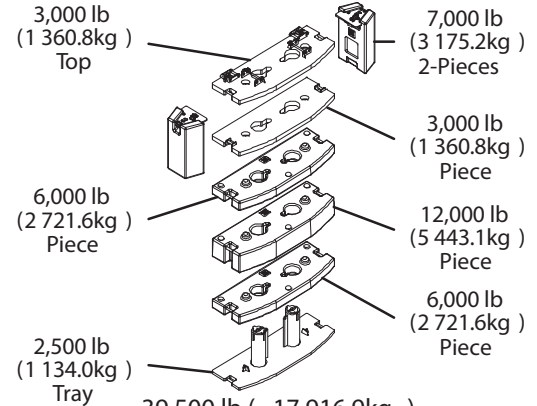
11,500 lb (5 216.3kg)



26,500 lb (12 020.2kg)



32,500 lb (14 741.8kg)



39,500 lb (17 916.9kg)

Counterweight Packages		11,500 lb (5 216.3kg) - Standard			26,500 (12 020.2kg) - Optional				
					32,500 (14 741.8kg) - Optional				
					39,500 (17 916.9kg) - Optional				
Counterweight Modules		2,500 lb (1 134.0kg) Tray	6,000 lb (2 721.6kg) Piece	3,000 lb (1 360.8kg) Top	3,000 lb (1 360.8kg) Piece	12,000 lb (5 443.1kg) Piece	6,000 lb (2 721.6kg) Piece	7,000 lb (3 175.2kg) 2-Pieces	
Counterweight Usage Configurations	0 lb (0kg)								
	2,500 lb (1 134.0kg)	X							
	5,500 lb (2 494.8kg)	X		X					
	8,500 lb (3 855.5kg)	X	X						
	11,500 lb (5 216.3kg)	X	X	X					
	14,500 lb (6 577.1kg)	X	X	X	X				
	17,500 lb (7 937.9kg)	X	X	X			X		
	20,500 lb (9 298.6kg)	X	X	X	X		X		
	23,500 lb (10 659.4kg)	X	X	X		X			
	26,500 (12 020.2kg)	X	X	X	X	X			
	29,500 lb (13 381.0kg)	X	X	X		X	X		
	32,500 (14 741.8kg)	X	X	X	X	X	X		
	39,500 (17 916.9kg)	X	X	X	X	X	X	X	

Carrier

General

- 8 ft 6 in (2.6 m) wide
- 23 ft 10 in (7.26m) wheelbase (centerline of first axle to centerline of fourth axle)
- Frame — Box—type, torsion resistant, welded construction made of high tensile steel. Equipped with front and rear towing and tie-down lugs, tow connections, and access ladders.

Outriggers

Boxes — Two double box, front and rear welded to the carrier frame

Beams and Jacks — Four dual stage beams with Confined Area Lifting Capacities (CALC) provide selectable outrigger extensions of full, intermediate, and retracted positions. Jacks with integral check valves, hydraulically controlled from the operator's cab and on both sides of carrier. A fifth front bumper outrigger with integral check valves is hydraulically controlled from the operator's cab and at the front bumper of carrier.

Pontoons

- Main — Four lightweight, stow'n go, 23.5" x 27.25" (59.7 x 69.2cm) hexagonal steel pontoons with a contact area of 485 in² (3 129cm²) can be stored for road travel in either the storage racks on the carrier or under the outrigger boxes
- Front Bumper — One, lightweight, self-storing, 16" (40.6cm) diameter steel pontoon with a contact area of 201 in² (1 296cm²)

Jack Reaction

- Main — 106,000 lb (471.5kN) force and 218 psi (1 503kPa) ground bearing pressure
- Front Bumper — 51,000 lb (226.9kN) force and 254 psi (1 751kPa) ground bearing pressure

Steering and Axles

- Sheppard full integral master gear/slave gear steering system provides hydraulic assisted steering with mechanical link between steering wheel and wheels
- Drive — 8 x 4 for on/off-highway travel
- Axle 1 & 2 — Tandem steered, non-driven
- Axle 3 & 4 — Tandem non-steered, driven with reduction: 5.38 to 1
- Inter-Axle Differential Lock — Traction adding device that locks axle 3 with axle 4. Operated by a switch from the carrier cab.

Suspension

Front — Raydan Air Link walking beam air suspension

Rear — Raydan Air Link walking beam air suspension

- Axle Lift System - Optional — Improves rear tire ground clearance when the crane is up on outriggers. The rear tandem axles are raised and lowered with a switch in the carrier cab. The axle lift system can be controlled with a switch on both sides of the carrier.

Tires and Wheels

Front — Four (single) 445/65R22.5 tires on aluminum disc wheels

Rear — Eight (dual) 12R22.5 tires on aluminum disc wheels

- Spare tires and wheels - optional
- Tire inflation kit - optional

Brakes

Service — Full air anti-lock (ABS) brakes on all wheel ends. Dual circuit compressed air system with air dryer.

Parking/Emergency — Spring loaded type, acting on 3rd and 4th axles automatically apply when air pressure drops below 40 psi (275.8kPa) in both circuits.

Electrical

Battery — Three batteries provide 12 volt starting and operation

Lights

- Front lighting includes two main daytime running/headlights, two high beam lights, two parking/directional indicators, and three cab marker lights.
- Side lighting includes three parking/directional indicators per side.
- Rear lighting includes two parking/directional indicators, two parking/brake lights, two reverse lights, three marker lights, and a license plate light.
- Other equipment includes hazard/warning system, cab light, instrument panel light, and signal horn.
- One amber strobe beacon on top of the cab

Engine

Specification	Cummins ISX12	Cummins QSX15
Emissions Compliance Level:	EPA 2013 (1)	Tier 3/ Stage IIIA (2)
Maximum Allowable Sulfur Content of Fuel (PPM):	15	5000
Numbers of cylinders:	6	6
Cycle:	4	4
Bore and Stroke: inch (mm)	5.11 x 5.91 (130x150)	5.39 x 6.65 (137x169)
Piston Displacement: in ³ (L)	729 (11.9)	915 (15.0)
Max. Brake Horsepower: hp (kW)	450 (336) @ 1,800 rpm 414 (309) @ 2,100 rpm	480 (358.8) @ 1,800 rpm 450 (336) @ 2,100 rpm
Peak Torque: ft lb (Nm)	1,550 (2 102) @ 1,200 rpm	1,550 (2 102) @ 1,400 rpm
Alternator: volts - amps	12 - 145	12 - 135
Crankcase Capacity: qt (L)	48 (45.4)	48.0 (45.4)

- Cruise control
- Cummins ISX12 Three stage engine compression brake
- Thermostatically controlled, hydraulically driven radiator fan
- 120 volt engine block heater - ISX
- Ether injection system - optional on ISX
- Grid heater starting aid standard on QSX and ISX
- 220 volt engine block heater - QSX15
- Engine equipped with on-board diagnostics - ISX
- Cummins QSX15 Two stage compression brake
- (1) Can only be sold and/or operated where EPA2013 on-highway emission standards are accepted.
- (2) Can only be sold and/or operated where Tier 3/Stage IIIA off-highway emission standards are accepted.

Transmission

Automated — ZF AS-TRONIC (no clutch pedal) manual transmission with 12 forward gears and 2 reverse gears.



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Carrier Speeds and Gradeability

ZF Astronic			Governed Speed				Gradeability (@ Peak Torque Except Creep @ Idle)	
			EPA 2013		Tier 3/Stage IIIA			
Gear	Ratio	mph	km/h	mph	km/h	% Grade		
						EPA 2013	Tier 3/ Stage IIIA	
12th	0.78	62.9	101.2	62.8	101.1	3.1	2.1	
11th	1.00	48.9	78.7	48.9	78.7	3.9	3.3	
10th	1.27	38.6	62.1	38.6	62.1	5.0	4.6	
9th	1.63	30.0	48.3	30.0	48.3	6.4	6.2	
8th	2.10	23.3	37.5	23.3	37.4	8.3	8.3	
7th	2.70	18.1	29.1	18.1	29.1	10.6	10.9	
6th	3.55	13.8	22.2	13.8	22.1	14.0	14.6	
5th	4.57	10.7	17.2	10.7	17.2	17.9	19.0	
4th	5.78	8.5	13.7	8.5	13.6	22.7	24.3	
3rd	7.44	6.6	10.6	6.6	10.6	29.2	31.4	
2nd	9.59	5.1	8.2	5.1	8.2	37.7	40.7	
1st	12.33	4.0	6.4	4.0	6.4	48.4	52.4	
Reverse 1	11.41	4.3	6.9	4.3	6.9	44.9	48.5	
Reverse 2	8.88	5.5	8.9	5.5	8.9	34.9	37.6	
Creep @ idle	2nd	9.59	1.7	2.7	1.7	19.5	28.8	
	1st	12.33	1.3	2.1	1.3	25.0	37.2	
	Reverse 1	11.41	1.4	2.3	1.4	23.2	34.4	
	Reverse 2	8.88	1.8	3.0	1.8	18.0	26.6	

Based on a gross vehicle weight of 95,000 lb (43 091.3kg)

Fuel Tank

One 95 gal (359.6L) capacity tank

Hydraulic System

All functions are hydraulically powered allowing positive, precise control with independent or simultaneous operation of all functions.

Main Pumps

- Three fixed displacement gear pumps with automatic disconnect for the main and auxiliary winches, swing, boom hoist, control circuit, and telescope for use when pick & carry switch is in travel mode.
- One fixed displacement gear pump for steering and the front bumper outrigger
- Two fixed displacement gear pumps for engine cooling fan and main outriggers. These pumps also provide flow to the winches and boom hoist for "pick & carry" mode. Operated by a switch in the carrier cab.
- Combined pump capacity of 188 gpm (711.7Lpm)

Hydraulic Reservoir - 144 gal (545.1L) capacity equipped with sight level gauge. Diffusers built in for deaeration.

Filtration - One 10 micron, full flow, return line filter. All oil is filtered prior to return to reservoir. Accessible for easy filter replacement.

Pump Drive

All pumps are mechanically driven by the diesel engine. Main and auxiliary winches, swing, boom hoist, control circuit, and telescope pumps are mounted to an automatic pump disconnect on the rear of the transmission to aid in cold weather starting as well as to reduce pump wear while traveling.



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■ Lower Cab and Controls

Environmental Cab - Fully enclosed, one person cab of composite structure with acoustical insulation. Equipped with:

- Tinted and tempered glass windows
- Roll down left side window for ventilation
- Right side window
- Windshield wiper and washer
- Six way adjustable and air suspended driver's seat with seat belt
- Two adjustable rear view mirrors
- Engine dependent warm-water heater with air ducts for windshield defroster and cab floor
- Adjustable sun visor
- LED Dome light
- 12 volt connection
- Fire extinguisher

Air Conditioning — Integral with cab heating system utilizing the same ventilation outlets

Overhead Console - Located above the sun visor

- Document storage unit
- AM/FM Radio
- 12 volt accessory jack (switched)
- 12 volt accessory jack (unswitched)
- Strobe beacon switch

Camera Display - Located on dash console

- Displays right side of machine
- Displays rear view

Cab Instrumentation - Ergonomically positioned analog instrumentation for driving including:

- Speedometer with odometer, hourmeter, trip odometer, and clock
- Front and rear air pressure with warning indicator
- Engine coolant temperature with warning indicator
- Engine oil pressure with warning indicator
- Voltage indicator with warning indicator
- Fuel level
- Tachometer
- Diesel emission fluid with warning indicator (EPA 2013 engine only)

Right Side Console - Controls and indicators for:

- Transmission gear shifting
- Transmission digital readout
- Cruise controls
- Engine compression brake controls

Dash Mounted Controls For:

- Carrier lights
- Carrier/upper throttle control
- Engine cooling fan override
- Cab heater/air conditioning
- Console dimmer switch
- Anti-lock brake diagnostic switch
- Diesel particulate filter switch (EPA 2013 engine only)
- Park brake
- Pick & carry switch
- Inter-axle differential lock switch
- Engine ignition
- Rear axle lift system switch - optional

Dash Mounted Indicator For:

- Check, stop, and service engine
- Turn signal indication
- Park brake
- Cruise activation
- High beam headlights
- Check anti-lock brake system
- Check anti-lock trailer brake system
- Diesel particulate filter indication (EPA 2013 engine only)
- High exhaust temperature indication (EPA 2013 engine only)
- Regeneration inhibit (EPA 2013 engine only)
- Malfunction indicator lamp (EPA 2013 engine only)

Steering Column Controls For:

- Warning horn
- Turn indicators
- High beam headlights
- Steering wheel adjustments
- Intermittent windshield wiper and washer
- Hazard lights

Foot Controls For:

- Carrier service brakes
- Engine throttle

■ Additional Equipment

Standard:

- Aluminum full deck fenders with mud flaps
- Left and right bubble levels
- Air hose connection ports
- Clearance flags

Optional:

- Pneumatic and electrical quick disconnect connectors mounted on the rear for trailer or boom dolly brakes and lights
- Left side aluminum storage box
- Rear mounted pintle hook



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Axle Loads

Base crane with full tank of fuel and no counterweight		Gross Vehicle Weight (¹)		Front Axles		Rear Axles	
		lb	kg	lb	kg	lb	kg
	EPA 2013	79,416	36 022	35,420	16 066	43,996	19 956
	Tier 3/Stage IIIA	79,262	35 953	35,374	16 045	43,887	19 907
Driver in carrier cab		250	113	315	143	-65	-29
Rear pintle hook		13	6	-6	-3	19	8
Pneumatic and electrical connectors for trailer or boom dolly		11	5	-4	-2	15	7
Carrier aluminum storage box		59	27	28	13	31	14
Air ride lift system - rear axles		58	26	0	0	58	26
Ether injection		5	3	4	2	1	1
Hoist drum follower - main		69	31	-35	-16	104	47
Auxiliary winch with 600 ft (182.9m) of 3/4" (19mm) type "RB" rope		735	333	-240	-109	975	442
Hoist drum follower - auxiliary		69	31	-21	-10	90	41
Substitute 600 ft (182.9m) of rope with 730 ft (222.5m) of rope - auxiliary		163	74	-54	-24	217	98
Remove 730 ft (222.5m) of rope from rear (main) winch		-931	-422	373	169	-1,304	-591
Remove 600 ft (182.9m) of rope from front (auxiliary) winch		-768	-348	252	114	-1,020	-463
360° mechanical swing lock		140	64	21	9	119	54
2,500 lb (1 134.0kg) counterweight tray on upper		2,544	1 154	-1,255	-569	3,799	1 723
3,000 lb (1 360.8kg) counterweight on upper		2,981	1 352	-1,471	-667	4,452	2 019
6,000 lb (2 721.6kg) counterweight on upper		6,000	2 722	-2,961	-1 343	8,961	4 065
6,000 lb (2 721.6kg) counterweight on upper		6,000	2 722	-2,961	-1 343	8,961	4 065
12,000 lb (5 443.1kg) counterweight on upper		12,050	5 466	-5,947	-2 697	17,997	8 163
3,000 lb (1 360.8kg) top counterweight on upper		3,009	1 365	-1,485	-674	4,494	2 038
Floodlight to the front of boom base section		7	3	6	3	1	1
Fly mounting brackets to boom base section for fly options		176	80	136	62	40	18
35 ft (10.7m) offsettable, one-piece lattice fly - stowed		1,591	722	1,539	698	52	24
35-58 ft (10.7-17.7m) offsettable, two-piece (bi-fold) lattice fly - stowed		2,263	1 026	1,886	855	377	171
Auxiliary lifting sheave		110	50	200	91	-90	-41
40 ton (36.3mt) 4-sheave hook block at front bumper		900	408	1,570	712	-670	-304
60 ton (54.4mt) 4-sheave hook block at front bumper		1,109	503	1,935	878	-826	-375
100 ton (90.7mt) 6-sheave hook block at front bumper		1,554	705	2,711	1 230	-1,157	-525
8.5 ton (7.7mt) hook ball at front bumper		360	163	628	285	-268	-122
10 ton (9.1mt) hook ball at front bumper		580	263	1,012	459	-432	-196

Counterweight Load Transfer	Front Axles		Rear Axles	
	lb	kg	lb	kg
Transfer 2,500 lb (1 134.0kg) counterweight tray to carrier deck	3,194	1 449	-3,194	-1 449
Transfer 3,000 lb (1 360.8kg) counterweight to carrier deck	3,742	1 697	-3,742	-1 697
Transfer 6,000 lb (2 721.6kg) counterweight to carrier deck	7,532	3 416	-7,532	-3 416
Transfer 6,000 lb (2 721.6kg) counterweight to carrier deck	7,532	3 416	-7,532	-3 416
Transfer 12,000 lb (5 443.1kg) counterweight to carrier deck	15,128	6 862	-15,128	-6 862
Transfer 3,000 lb (1 360.8kg) top counterweight to carrier deck	3,778	1 714	-3,778	-1 714

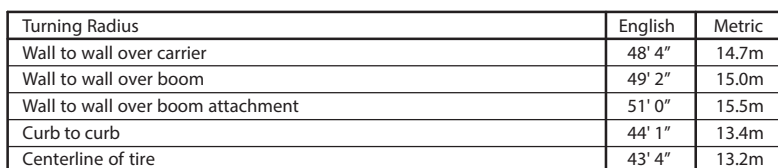
Axle	Maximum Load @ 65 mph (105km/h)
Front	46,400 lb (21 047kg) - aluminum disc wheels with 445/65R22.5 tires
Rear	52,000 lb (23 587kg) - aluminum disc wheels with 12R22.5 tires

(¹) Adjust gross vehicle weight and axle loading according to component weight. All weights are ±3%.



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EPA 2013

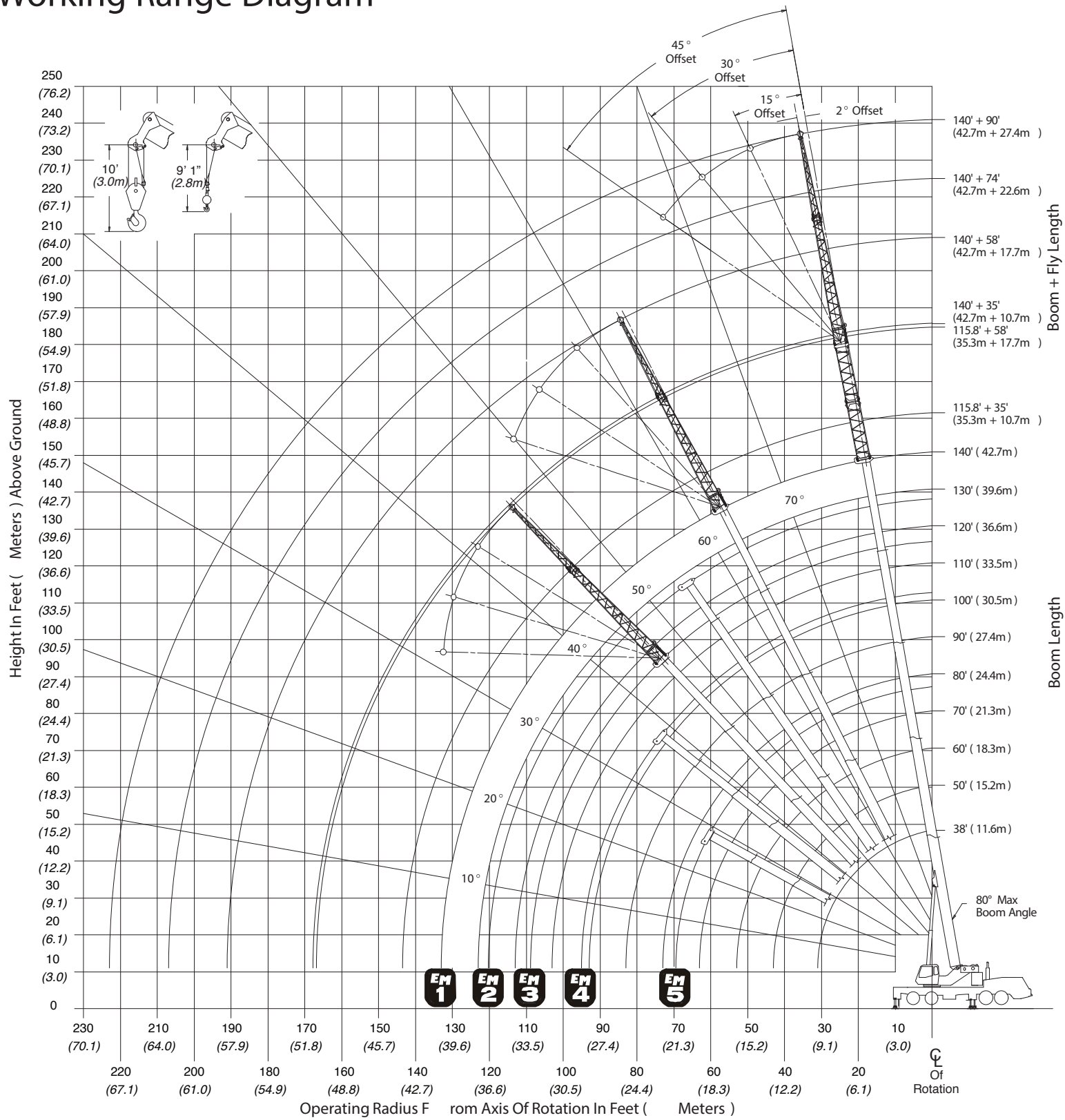


Tail Swing	English	Metric
With counterweight	13' 9"	4.2m
Without counterweight	13' 1"	4.0m

Overall Width	English	Metric
With up to 32,500 lb (14 741.8kg) counterweight	8' 6"	2.6m
With 39,500 lb (17 916.9kg) counterweight	11' 0"	3.4m



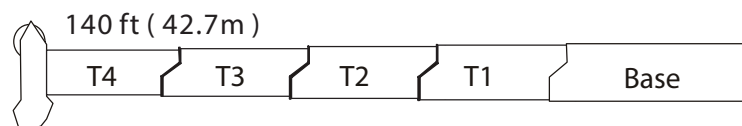
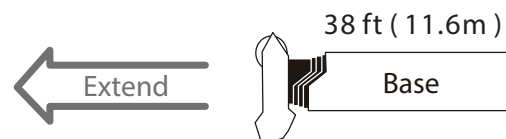
Working Range Diagram



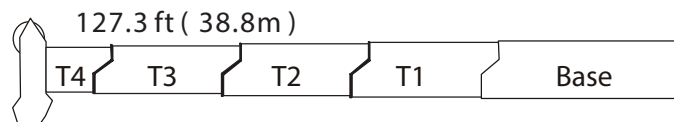
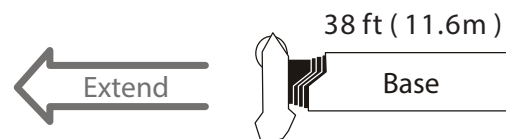
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Boom Extend Modes

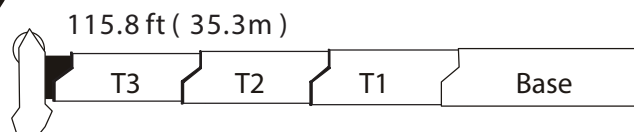
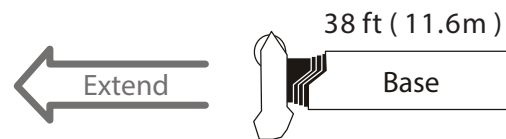
Boom Length		Section Length			
ft	m	T4	T3	T2	T1
50	15.2	50%			
60	18.3	91%			
70	21.3	100%	31%		
80	24.4	100%	71%		
90	27.4	100%	100%	11%	
100	30.5	100%	100%	49%	
110	33.5	100%	100%	88%	
120	36.6	100%	100%	100%	25%
130	39.6	100%	100%	100%	63%
140	42.7	100%	100%	100%	100%



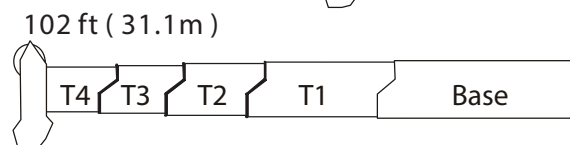
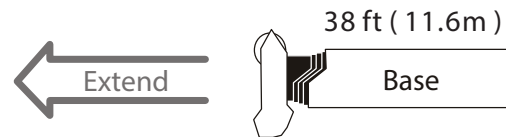
Boom Length		Section Length			
ft	m	T4	T3	T2	T1
50	15.2	48%	2%		
60	18.3	48%	42%		
70	21.3	48%	82%		
80	24.4	48%	100%	21%	
90	27.4	48%	100%	60%	
100	30.5	48%	100%	98%	
110	33.5	48%	100%	100%	35%
120	36.6	48%	100%	100%	73%
127.3	38.8	48%	100%	100%	100%



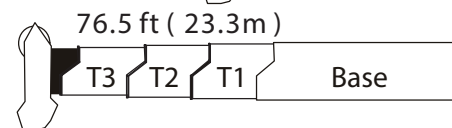
Boom Length		Section Length			
ft	m	T4	T3	T2	T1
50	15.2	0%	48%		
60	18.3	0%	88%		
70	21.3	0%	100%	27%	
80	24.4	0%	100%	65%	
90	27.4	0%	100%	100%	4%
100	30.5	0%	100%	100%	41%
115.8	35.3	0%	100%	100%	100%



Boom Length		Section Length			
ft	m	T4	T3	T2	T1
50	15.2	48%	2%		
60	18.3	48%	42%		
70	21.3	48%	51%	30%	
80	24.4	48%	51%	50%	18%
90	27.4	48%	51%	50%	55%
102	31.1	48%	51%	50%	100%



Boom Length		Section Length			
ft	m	T4	T3	T2	T1
50.7	15.5	0%	51%		
63.7	19.4	0%	51%	50%	
76.5	23.3	0%	51%	50%	48%



Main Boom Lift Capacity Charts - Optional

32,500 lb Counterweight - Fully Extended Outriggers - 360° Rotation

(All Capacities Are Listed In Pounds)

Radius (ft)	Boom Length (ft)											Radius (ft)
	38	50	60	70	76.5/80	90	100	110	120	130	140	
7	180,000*											7
8	173,500*											8
9	164,400*											9
10	156,000*	146,700*	117,900	89,700								10
12	141,800*	133,700*	108,800	85,000	85,100**							12
15	119,300	118,100	106,500	78,800	78,400**	57,700						15
20	87,600	89,800	90,200	70,300	76,500**	56,200	49,100	42,500				20
25	68,000	70,300	70,800	63,600	70,300**	55,300	45,800	42,500	33,700	29,700		25
30	54,700	57,100	57,600	58,100	58,700	54,500	45,200	38,300	31,200	29,400	24,400	30
35		47,500	49,100	49,400	49,200	48,800	42,500	35,500	30,900	29,100	24,100	35
40		40,500	41,600	41,800	41,600	41,100	38,200	33,400	30,600	28,800	24,000	40
45			34,600	34,900	34,600	34,200	33,700	30,300	29,900	28,600	23,800	45
50			29,300	29,600	29,400	28,900	28,800	27,900	27,800	26,800	23,700	50
55				25,500	25,300	26,000	24,800	24,700	25,300	24,800	23,600	55
60				22,500	22,400	22,800	21,500	22,300	22,000	21,900	22,100	60
65					20,000	20,100	20,000	19,600	19,300	20,000	19,600	65
70					17,700	17,800	17,800	17,700	18,100	17,700	17,400	70
75						15,800	16,500	16,500	16,200	15,800	15,500	75
80						14,200	14,900	14,800	14,500	14,100	13,800	80
85							13,500	13,400	13,100	12,700	12,500	85
90							12,200	12,200	11,900	11,600	11,300	90
95								11,100	10,800	10,500	10,200	95
100								10,100	9,800	9,500	9,200	100
105									8,900	8,600	8,300	105
110									8,100	7,800	7,500	110
115										7,100	6,800	115
120										6,400	6,100	120
125											5,500	125
130											5,000	130

* Special Conditions Or Wire Rope Required

** 76.5 EM5 mode



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32,500 lb Counterweight - On Tires - Stationary - Boom Centered Over Rear

(All Capacities Are Listed In Pounds)

Radius (ft)	Boom Length (ft)							Radius (ft)
	38	50	60	70	80	90	100	
10	28,300							10
12	25,400	26,900						12
15	21,800	23,400	24,300					15
20	16,700	18,000	19,300	20,100				20
25	13,000	14,900	15,700	16,100	16,300			25
30	10,100	12,100	13,100	13,500	13,800	13,900	13,800	30
35		9,900	10,900	11,400	11,800	11,900	11,800	35
40		8,000	9,100	9,600	10,000	10,100	10,100	40
45			7,600	8,100	8,500	8,700	8,600	45
50			6,300	6,900	7,200	7,400	7,300	50
55				5,700	6,100	6,300	6,200	55
60				4,800	5,200	5,300	5,300	60
65					4,300	4,500	4,500	65
70					3,600	3,800	3,700	70
75						3,100	3,100	75
80						2,500	2,500	80
85							1,900	85
90							1,500	90

32,500 lb Counterweight - On Tires - Pick & Carry (1 mph) - Boom Centered Over Rear

(All Capacities Are Listed In Pounds)

Radius (ft)	Boom Length (ft)							Radius (ft)
	38	50	60	70	80	90	100	
10	18,200							10
12	16,000	17,500						12
15	13,200	14,800	15,600					15
20	9,500	11,300	12,200	12,700				20
25	6,700	8,600	9,600	10,000	10,400			25
30	4,400	6,500	7,500	8,000	8,300	8,500	8,500	30
35		4,700	5,800	6,300	6,700	6,900	6,800	35
40		3,300	4,400	5,000	5,300	5,500	5,500	40
45			3,300	3,900	4,200	4,400	4,400	45
50			2,300	2,800	3,200	3,400	3,300	50
55				2,000	2,400	2,600	2,500	55
60				1,300	1,700	1,900	1,800	60
65					1,100	1,200	1,200	65



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39,500 lb Counterweight - Fully Extended Outriggers - 360° Rotation

(All Capacities Are Listed In Pounds)

Radius (ft)	Boom Length (ft)											Radius (ft)
	38	50	60	70	76.5/80	90	100	110	120	130	140	
7	180,000*											7
8	173,500*											8
9	164,400*											9
10	156,000*	146,700*	117,900	89,700								10
12	141,800*	133,700*	108,800	85,000	85,100**							12
15	123,700	118,100	106,500	78,800	78,400**	57,700						15
20	91,300	93,500	93,800	70,300	76,500**	56,200	49,100	42,500				20
25	71,000	73,300	73,800	63,600	73,300**	55,300	45,800	42,500	33,700	29,700		25
30	57,200	59,600	60,100	58,100	61,100	54,500	45,200	38,300	31,200	29,400	24,400	30
35		49,700	50,300	51,400	51,200	50,900	42,500	35,500	30,900	29,100	24,100	35
40		42,200	43,700	44,000	43,800	43,400	38,200	33,400	30,600	28,800	24,000	40
45			37,900	38,200	38,100	37,700	34,600	30,300	29,900	28,600	23,800	45
50			32,400	32,700	32,500	32,000	31,500	27,900	27,800	26,800	23,700	50
55				28,200	28,000	27,600	27,300	25,600	25,800	24,800	23,600	55
60				24,600	24,500	24,100	24,100	23,600	24,200	23,000	22,100	60
65					21,500	22,300	21,100	21,400	21,600	21,300	20,600	65
70					19,700	19,900	18,700	19,500	19,100	19,200	19,200	70
75						17,700	17,500	17,400	17,000	17,700	17,400	75
80						16,000	16,000	15,600	15,900	15,900	15,600	80
85							14,600	14,600	14,800	14,400	14,100	85
90							13,800	13,700	13,400	13,000	12,700	90
95								12,500	12,300	11,900	11,600	95
100								11,500	11,200	10,900	10,600	100
105									10,200	9,900	9,600	105
110									9,400	9,000	8,800	110
115										8,300	8,000	115
120										7,500	7,300	120
125											6,600	125
130											6,000	130

* Special Conditions Or Wire Rope Required

** 76.5 EM5 mode



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32,500 lb Counterweight - Fully Extended Outriggers - 360° Rotation
(All Capacities Are Listed In Pounds)

140 ft Main Boom Length 2° Fly Offset					140 ft Main Boom Length 15° Fly Offset				
Radius (ft)	Fly Length (ft)				Radius (ft)	Fly Length (ft)			
	35	58	74	90		35	58	74	90
35	12,100				35				
40	12,100				40				
45	12,100	8,500			45	11,500			
50	12,100	8,400	6,600		50	11,400			
55	12,100	8,300	6,600	5,200	55	11,200			
60	12,100	8,100	6,600	5,200	60	11,000	7,200		
65	11,900	8,000	6,600	5,200	65	10,800	7,000	6,300	
70	11,700	7,800	6,600	5,200	70	10,600	6,800	6,000	4,800
75	11,500	7,700	6,600	5,100	75	10,400	6,700	5,700	4,500
80	11,300	7,500	6,400	4,800	80	10,200	6,500	5,400	4,200
85	11,000	7,300	6,000	4,500	85	10,000	6,300	5,100	4,000
90	10,500	7,100	5,700	4,200	90	9,700	6,200	4,900	3,700
95	10,100	6,900	5,400	4,000	95	9,400	6,000	4,600	3,500
100	9,700	6,700	5,100	3,700	100	9,000	5,900	4,400	3,300
105	8,800	6,500	4,900	3,500	105	8,700	5,700	4,200	3,100
110	8,000	6,300	4,700	3,300	110	8,400	5,600	4,100	3,000
115	7,300	6,000	4,500	3,200	115	7,600	5,500	3,900	2,800
120	6,600	5,800	4,300	3,000	120	6,900	5,300	3,700	2,700
125	6,000	5,600	4,100	2,800	125	6,300	5,100	3,600	2,500
130	5,500	5,300	3,900	2,700	130	5,700	4,900	3,500	2,400
135	5,000	5,200	3,800	2,500	135	5,200	4,700	3,300	2,300
140	4,500	4,900	3,600	2,400	140	4,700	4,600	3,200	2,200
145	4,100	4,400	3,500	2,300	145	4,200	4,400	3,100	2,100
150	3,700	4,000	3,400	2,200	150	3,800	4,300	3,000	2,000
155	3,300	3,700	3,200	2,100	155	3,400	4,000	2,900	1,900
160	2,900	3,300	3,100	2,000	160	3,000	3,600	2,900	1,800
165	2,500	2,900	2,700	1,900	165	2,600	3,200	2,800	1,700
170		2,600	2,400	1,800	170		2,800	2,700	1,600
175		2,300	2,100	1,800	175		2,500	2,300	1,600
180		2,000	1,800	1,700	180		2,100	2,000	1,500
185		1,700	1,500	1,400	185		1,800	1,700	1,500
190			1,200	1,200	190			1,400	1,400
195			1,000	900	195			1,100	1,100
200			800		200			800	900



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32,500 lb Counterweight - Fully Extended Outriggers - 360° Rotation
(All Capacities Are Listed In Pounds)

140 ft Main Boom Length 30° Fly Offset					140 ft Main Boom Length 45° Fly Offset				
Radius (ft)	Fly Length (ft)				Radius (ft)	Fly Length (ft)			
	35	58	74	90		35	58	74	90
35					35				
40					40				
45					45				
50					50				
55	10,000				55				
60	9,800				60				
65	9,700				65	8,800			
70	9,500				70	8,800			
75	9,400	5,700	4,600		75	8,700			
80	9,200	5,600	4,400	3,600	80	8,600			
85	9,100	5,500	4,200	3,400	85	8,600	4,900	3,700	
90	9,000	5,400	4,100	3,200	90	8,500	4,900	3,500	2,900
95	8,800	5,300	3,900	3,000	95	8,400	4,800	3,400	2,700
100	8,500	5,200	3,700	2,900	100	8,200	4,800	3,300	2,600
105	8,200	5,100	3,600	2,700	105	8,000	4,700	3,200	2,400
110	8,000	5,000	3,500	2,600	110	7,800	4,700	3,100	2,300
115	7,700	4,900	3,300	2,400	115	7,600	4,700	3,000	2,200
120	7,200	4,800	3,200	2,300	120	7,400	4,600	2,900	2,100
125	6,500	4,700	3,100	2,200	125	6,700	4,500	2,800	2,000
130	5,900	4,500	3,000	2,100	130	6,000	4,400	2,700	1,900
135	5,400	4,400	2,900	2,000	135	5,400	4,300	2,700	1,800
140	4,800	4,300	2,800	1,900	140		4,200	2,600	1,800
145	4,400	4,200	2,800	1,800	145		4,100	2,600	1,700
150	3,900	4,100	2,700	1,700	150		4,000	2,500	1,600
155	3,500	4,000	2,600	1,700	155		4,000	2,500	1,600
160		3,800	2,600	1,600	160		3,900	2,500	1,500
165		3,400	2,500	1,500	165			2,500	1,500
170		3,000	2,500	1,500	170			2,500	1,400
175		2,600	2,500	1,400	175			2,500	1,400
180		2,200	2,200	1,400	180				1,400
185			1,800	1,400	185				1,400
190			1,500	1,300	190				1,400
195			1,200	1,300					
200				1,000					



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39,500 lb Counterweight - Fully Extended Outriggers - 360° Rotation
(All Capacities Are Listed In Pounds)

140 ft Main Boom Length 2° Fly Offset					140 ft Main Boom Length 15° Fly Offset				
Radius (ft)	Fly Length (ft)				Radius (ft)	Fly Length (ft)			
	35	58	74	90		35	58	74	90
35	12,100				35				
40	12,100				40				
45	12,100	8,500			45	11,500			
50	12,100	8,400	6,600		50	11,400			
55	12,100	8,300	6,600	5,200	55	11,200			
60	12,100	8,100	6,600	5,200	60	11,000	7,200		
65	11,900	8,000	6,600	5,200	65	10,800	7,000	6,300	
70	11,700	7,800	6,600	5,200	70	10,600	6,800	6,000	4,800
75	11,500	7,700	6,600	5,100	75	10,400	6,700	5,700	4,500
80	11,300	7,500	6,400	4,800	80	10,200	6,500	5,400	4,200
85	11,000	7,300	6,000	4,500	85	10,000	6,300	5,100	4,000
90	10,500	7,100	5,700	4,200	90	9,700	6,200	4,900	3,700
95	10,100	6,900	5,400	4,000	95	9,400	6,000	4,600	3,500
100	9,700	6,700	5,100	3,700	100	9,000	5,900	4,400	3,300
105	9,300	6,500	4,900	3,500	105	8,700	5,700	4,200	3,100
110	8,900	6,300	4,700	3,300	110	8,400	5,600	4,100	3,000
115	8,500	6,000	4,500	3,200	115	8,100	5,500	3,900	2,800
120	7,800	5,800	4,300	3,000	120	7,900	5,300	3,700	2,700
125	7,100	5,600	4,100	2,800	125	7,400	5,100	3,600	2,500
130	6,500	5,300	3,900	2,700	130	6,800	4,900	3,500	2,400
135	6,000	5,200	3,800	2,500	135	6,200	4,700	3,300	2,300
140	5,500	5,000	3,600	2,400	140	5,700	4,600	3,200	2,200
145	5,000	4,800	3,500	2,300	145	5,200	4,400	3,100	2,100
150	4,500	4,700	3,400	2,200	150	4,700	4,300	3,000	2,000
155	4,100	4,500	3,200	2,100	155	4,300	4,200	2,900	1,900
160	3,700	4,100	3,100	2,000	160	3,800	4,100	2,900	1,800
165	3,400	3,700	3,100	1,900	165	3,400	4,000	2,800	1,700
170		3,400	3,000	1,800	170		3,600	2,700	1,600
175		3,000	2,800	1,800	175		3,200	2,700	1,600
180		2,700	2,500	1,700	180		2,900	2,600	1,500
185		2,400	2,200	1,600	185		2,500	2,400	1,500
190			1,900	1,600	190			2,100	1,400
195			1,700	1,500	195			1,800	1,400
200			1,400	1,300	200			1,500	1,400
205				1,100	205				1,300
210				900	210				1,000
					215				800



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39,500 lb Counterweight - Fully Extended Outriggers - 360° Rotation
(All Capacities Are Listed In Pounds)

140 ft Main Boom Length 30° Fly Offset					140 ft Main Boom Length 45° Fly Offset				
Radius (ft)	Fly Length (ft)				Radius (ft)	Fly Length (ft)			
	35	58	74	90		35	58	74	90
35					35				
40					40				
45					45				
50					50				
55	10,000				55				
60	9,800				60				
65	9,700				65	8,800			
70	9,500				70	8,800			
75	9,400	5,700	4,600		75	8,700			
80	9,200	5,600	4,400	3,600	80	8,600			
85	9,100	5,500	4,200	3,400	85	8,600	4,900	3,700	
90	9,000	5,400	4,100	3,200	90	8,500	4,900	3,500	2,900
95	8,800	5,300	3,900	3,000	95	8,400	4,800	3,400	2,700
100	8,500	5,200	3,700	2,900	100	8,200	4,800	3,300	2,600
105	8,200	5,100	3,600	2,700	105	8,000	4,700	3,200	2,400
110	8,000	5,000	3,500	2,600	110	7,800	4,700	3,100	2,300
115	7,700	4,900	3,300	2,400	115	7,600	4,700	3,000	2,200
120	7,500	4,800	3,200	2,300	120	7,400	4,600	2,900	2,100
125	7,300	4,700	3,100	2,200	125	7,200	4,500	2,800	2,000
130	7,000	4,500	3,000	2,100	130	7,100	4,400	2,700	1,900
135	6,400	4,400	2,900	2,000	135	6,400	4,300	2,700	1,800
140	5,800	4,300	2,800	1,900	140		4,200	2,600	1,800
145	5,300	4,200	2,800	1,800	145		4,100	2,600	1,700
150	4,800	4,100	2,700	1,700	150		4,000	2,500	1,600
155	4,300	4,000	2,600	1,700	155		4,000	2,500	1,600
160		3,900	2,600	1,600	160		4,000	2,500	1,500
165		3,900	2,500	1,500	165		4,000	2,500	1,500
170		3,700	2,500	1,500	170			2,500	1,400
175		3,300	2,500	1,400	175			2,500	1,400
180		2,900	2,500	1,400	180				1,400
185			2,500	1,400	185				1,400
190			2,200	1,300	190				1,400
195			1,900	1,300					
200				1,300					
205				1,300					
210				1,100					



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