Specifications
Telescopic Boom Truck Crane

HTC–8650 50–ton (45.36 metric tons)

General Dimensions

<table>
<thead>
<tr>
<th>Description</th>
<th>Feet</th>
<th>Meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turning radius – wall to wall</td>
<td>45' 10&quot;</td>
<td>13.97</td>
</tr>
<tr>
<td>Turning radius – curb to curb</td>
<td>38' 10&quot;</td>
<td>11.84</td>
</tr>
<tr>
<td>Ground clearance</td>
<td>13' 25&quot;</td>
<td>3.40</td>
</tr>
<tr>
<td>Tailswing</td>
<td>13' 25&quot;</td>
<td>4.20</td>
</tr>
</tbody>
</table>

Deck Height: 4' 7" (1.40 m)

Ground Level With Crane On Outriggers

TC of Rotation

Tailswing with counterweight 13' 25" (4.20 m)
5' 6" (1.67 m)

6' 2.56" (1.96 m)

11' 5.38" (3.49 m)

4.5" (0.11 m)

26' 9.5" (8.11 m)

39' 6" (11.99 m)

17" (0.43 m)

Not To Scale

Litho in U.S.A. 8/01

#5321 (Supersedes #5310)
Upper Structure

■ Boom

Patented Design
- Boom side plates have diamond shaped impressions for superior strength to weight ratio and 100,000 p.s.i. (695.5 MPa) steel angle chords for lateral stiffness.
- Boom telescope sections are supported by top, bottom and adjustable side wear shoes to prevent metal to metal contact.

Boom
- 35.5’ – 110’ (10.82 – 33.53 m) four–section full–power boom
- Two mode boom extension
- The basic mode is the full power, synchronized mode of telescoping all sections proportionally to 110’ (33.53 m).
- The exclusive ‘A–max’ mode (or mode ‘A’) extends only the inner mid section to 60.3’ (18.38 m) offering increased capacities for in–close, maximum capacity picks.
- Mechanical Boom Angle Indicator

Boom Head
- Four 16.5’ (4.2 m) root diameter nylon sheaves to handle up to eight parts of wire rope.
- Easily removable wire rope guards
- Rope dead end lugs provided on each side of boom head.
- Boom head designed for quick reeve of hook block.
- Fifth head sheave is optional

Boom Elevation
- Two Link–Belt designed hydraulic cylinders with holding valves and bushings in each end.
- Hand control for controlling boom elevation from –3° to +78°.

Optional Auxiliary Lifting Sheave
- Single 16.5’ (4.2 m) root diameter nylon sheave with removable wire rope guard, mounted to boom.
- Use with one or two parts of line off the optional front winch.
- Does not affect erection of fly or use of main head sheaves for multiple reeving.

Optional
- 40–ton (38.3 mt) quick–reeve hook block
- 60–ton (54.43 mt) quick–reeve hook block
- 70–ton (63.30 mt) quick–reeve hook block
- 8.5–ton (7.71 mt) hook ball
- Boom floodlight

■ Fly

Optional
- 34’ (10.36 m) one–piece lattice fly, stowable, offsettable to 2°, 20° and 40°
- 34–56’ (10.36 – 17.07 m) two–piece (bi–fold) lattice fly, stowable, offsettable to 2°, 20° and 40°

■ Cab and Controls

Environmental Ultra–Cab™
- Laminated fibrous composite material: isolated from sound with acoustical fabric insulation.
- Windows are tinted and tempered safety glass
- Sliding rear and right side windows and swing–up roof window for maximum visibility and ventilation.
- Slide–by–door openers to 3’ (0.91 m) width.
- Six–way adjustable seat, with seat belt, for maximum operator comfort.
- Hand held outrigger controls and sight level bubble located in cab.
- Top hatch window wiper
- Audible swing alarm
- Fire extinguisher
- Sun screen
- Electric windshield wiper
- Windshield washer
- Cab work lights
- Pull–out Cabwalk™
- Foot controls for:
  - Hydraulic controls (joystick type) for:
    - Swing
    - Optional auxiliary winch
    - Boom telescope
    - Swing brake
    - Engine throttle
    - Laminated fibrous composite material; insulated.
    - Operating data available includes:
      - Machine configuration.
      - Boom length
      - Head height
      - Allowed load
      - % of allowed load
      - Presettable alarms include:
        - Maximum and minimum boom angles
        - Maximum tip height
        - Maximum boom length
        - Swing left/right positions
        - Operator defined area alarm is standard
        - Anti–two block weight designed for quick reeve of hookblock
  - Optional
    - RCL light bar
    - Air conditioning
    - Microguard 434 Graphic audio–visual warning system built into dash with anti–two block and function limiters.
  - Operating data available includes:
    - Machine configuration.
    - Boom length
    - Head height
    - Allowed load
    - % of allowed load
    - Presettable alarms include:
      - Maximum and minimum boom angles
      - Maximum tip height
      - Maximum boom length
      - Swing left/right positions
      - Operator defined area alarm is standard
      - Anti–two block weight designed for quick reeve of hookblock
  - Optional
    - Internal RCL light bar: Visually informs operator when crane is approaching maximum load capacity with a series of three lights; green, yellow and red.
  - External RCL light bar: Visually informs ground crew when crane is approaching maximum load capacity kickouts and presettable alarms with a series of three lights; green, yellow and red.

■ Swing

- Bi–directional hydraulic swing motor mounted to a planetary reducer for 360° continuous smooth swing at 2.2 r.p.m.
- Swing park brake – 360°, electric over hydraulic (spring applied, hydraulic released) multi–disc brake mounted on the speed reducer. Operated by toggle switch in overhead control console.
- Swing brake – 360°, foot operated, hydraulic applied disc brake mounted on the speed reducer.
- Swing lock – Standard; two position travel lock (pin device) operated from the operator’s cab.

■ Counterweight

- Standard – Bolted to upper structure frame. 11,000 lbs. (4 990 kg) three piece design. Consist of one 5,000 lbs. (2 688 kg) piece bolted to upper structure and two 3,000 lbs. (1 361 kg) pieces pinned to standard counterweight.
- Two counterweight sections can be hydraulically lowered on, and pinned to carrier deck to balance axle loadings for travel.
- Optional
  - 360° swing lock. Meets New York City requirements
  - 6,000 lbs. (2 722 kg) counterweight

■ Hydraulic System

Main Pump
- One gear pump with a total of four sections.
- Combined pump capacity of 176 gpm (686 lpm)
- Powered by carrier engine with pump disconnect
- Rocker switch controlled, air applied pump disconnect engaged / disengaged from carrier cab.
- Maximum system operating pressure is 3,000 psi (20 685 kPa).
- O–ring face seals technology used throughout with hydraulic oil cooler standard.

Pilot Pressure / Counterweight Removal Pump
- Pressure compensated piston pump powered by carrier engine. Max pump operating pressure is 1,500 psi (10 342 kPa).

Steering / Fifth Outrigger Pump
- Single gear type pump, 8 gpm (30 lpm). Powered by carrier engine through front gear housing.
- Maximum pump operating pressure is 2,000 psi (13 790 kPa).

Reservoir
- 169 gallon (639.7 L) capacity. One diffuser for deaeration.
Filtration
- One 10–micron filter located inside hydraulic reservoir.
- Accessible for easy replacement

Control valves
- Six separate pilot operated control valves allow simultaneous operation of all crane functions.

Load Hoist System
Standard
- 2M main winch with grooved lagging

Optional
- Two–speed motor and automatic brake
- Power up/down mode of operation
- Bi–directional gear–type hydraulic motor driven through planetary reduction unit for positive control under all load conditions.
- Asynchronous parallel double crossover grooved drums minimize rope harmonic motion.
- Pressure compensated winch circuit provides balanced oil flow to both winches for smooth, simultaneous operation.
- Rotation resistant wire rope
- Drum rotation indicators

Line Pulls and Speeds
- Maximum available line pull 16,407 lbs. (7442 kg) and maximum line speed of 463 f.p.m. (141 m/min) on 16" (0.41 m) root diameter grooved drum.

Optional
- 2M auxiliary winch with two–speed motor, automatic brake, and winch function lock–out. Power up/down modes.
- Third wrap indicators

Carrier
Type
- 8' 6" (2.59 m) wide, 231" (5.87 m) wheelbase. 8 x 4 drive – standard.

Frame
- 100,000 p.s.i. (689.5 MPa) steel, double walled construction with integral 100,000 p.s.i. steel outrigger boxes.

Optional
- Carrier mounted storage boxes
- Pintle hook
- Electric and air connections for trailers and boom dollies

Axles
Front
- Single, 83.72" (2.13 m) track

Rear
- Tandem, 72.8" (1.85 m) track, 6.17 to 1.0 ratio with interaxle differential with lockout.

Suspension
Front axle
- Leaf spring suspension

Rear axle
- Air–ride, bogie beam type, suspension.

Wheels
Standard
- Hub piloted steel disc

Optional
- Hub piloted aluminum disc
- Spare tire and wheel assemblies

Tires
Standard Front
- 425/65R22.5 (Load range "L") single tubeless radials

Standard Rear
- 12R22.5 (Load range "H") dual tubeless radials

Optional
- 445/65R22.5 (Load Range "L") Single tubeless radials front 12R22.5 (Load range "H") dual tubeless radials rear – mounted on steel disc wheels front/rear.

Brakes
Service
- Full air brakes on all wheel ends with automatic slack adjusters. Dual circuit with modulated emergency brakes.
- Front – 16.5 x 6 S–Cam brakes
- Rear – 16.5 x 7 S–Cam brakes
- Hub piloted aluminum disc
- Spare tire and wheel assemblies

Outriggers
- Three position operation capability.
- Four hydraulic, telescoping beam and jack outriggers.
- Vertical jack cylinders equipped with integral holding valve.
- Beams extend to 20' 6" (6.25 m) centerline–to–centerline and retract to within 8' 6" (2.59 m) overall width.
- Equipped with stowable, lightweight 24" (0.61 m) diameter aluminum floats.
- Standard fifth outrigger, 14 3/4" (0.37 m) self storing steel pad is operable from ground or operator’s cab.
- Hand–held controls and sight level bubble located in operators cab and on carrier deck.

Confined Area Lifting Capacities (CALC ™) System
- The crane is operational in one of the three outriggers positions and operational in confined areas in two positions (intermediate and full retraction).

Steering
- Sheppard rack and pinion design

Transmission
Standard
- Eaton RTO 11909ALL; 11 speeds forward, 3 reverse with Series 50 engine.

Optional
- Eaton RTO–14909ALL; 11 speeds forward, 3 reverse with Series 60 engine.

Electrical
- Two 12–volt batteries provide 12–volt starting, 130–amp alternator
- 2,800 cold cranking amps available
- 12–volt operating system

Lights
- Four dual beam sealed headlights
- Front, side, and rear directional signals
- Stop, tail and license plate lights
- Rear and side clearance lights
- Hazard warning lights

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Line Pulls and Speeds
- Maximum available line pull 16,407 lbs. (7442 kg) and maximum line speed of 463 f.p.m. (141 m/min) on 16" (0.41 m) root diameter grooved drum.

Optional
- 2M auxiliary winch with two–speed motor, automatic brake, and winch function lock–out. Power up/down modes.
- Third wrap indicators

Carrier Cab
- One–man cab of laminated fibrous composite material acoustical insulation with cloth covering. Equipped with:
  - Air–ride, six–way adjustable operator’s seat.
  - Four–way adjustable tilting and lockable steering wheel.
  - Door and windows locks
  - Left–hand and right–hand rear view mirrors.
  - Sliding right–hand and rear tinted windows.
  - Roll up/down left–hand tinted window.
  - Desiccant–type air dryer
  - Steps to upper, lower cab and rear carrier
  - 110–volt electric engine block heater
  - Back–up warning alarm
  - Tow hooks and shackles
  - Aluminum fenders with ground control outriggers.
  - Electric windshield wiper and washer
  - Travel lights
  - Fire extinguisher
  - 36,000 BTU heater
  - Dome light
  - Mud flaps

Optional
- Air conditioning
- Amber strobe light
- Rotating beacon

Cab instrumentation
- Illuminated instrument panel speedometer.
- Tachometer
- Hourmeter
- Fuel gauge
- Fuses
- Oil pressure gauge
- Odometer
- Turn signal indicator
- Voltmeter
- Water temperature gauge
- Front and rear air pressure gauges
- Audio/visual warning system
- Automotive type ignition
### Carrier Speeds

(Manual Transmission – Standard tires)

<table>
<thead>
<tr>
<th>Gear</th>
<th>High</th>
<th>Low</th>
<th>Deep Reduction LL2</th>
<th>Hi rev.</th>
<th>Lo rev.</th>
<th>Deep Reduction@ 700 rpm LL1</th>
<th>Deep reduction@ 700 rpm Low</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Speed</td>
<td></td>
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<tr>
<td>mph</td>
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<td>km/hr</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>3.19</td>
<td>2.77</td>
<td>3.79</td>
<td>5.23</td>
<td>7.41</td>
<td>16.30</td>
<td>11.85</td>
<td>26.08</td>
</tr>
<tr>
<td>34.024</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.30</td>
<td>11.85</td>
<td>26.08</td>
<td>3.43</td>
<td>13.03</td>
<td>20.85</td>
<td>26.08</td>
<td>20.85</td>
</tr>
</tbody>
</table>

### Engine

<table>
<thead>
<tr>
<th>Engine – standard</th>
<th>Detroit Diesel, Series 50 8.5 L</th>
<th>Engine – optional</th>
<th>Detroit Diesel, Series 60 12.7 L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinders – cycle</td>
<td>8 / 4</td>
<td>Cylinders – cycle</td>
<td>6 / 4</td>
</tr>
<tr>
<td>Bore</td>
<td>5.12” (0.13 m)</td>
<td>Bore</td>
<td>5.12” (0.13 m)</td>
</tr>
<tr>
<td>Stroke</td>
<td>6.30” (0.16 m)</td>
<td>Stroke</td>
<td>6.30” (0.16 m)</td>
</tr>
<tr>
<td>Displacement</td>
<td>519 cu. in. (8,506 cm³)</td>
<td>Displacement</td>
<td>778 cu. in. (12,751 cm³)</td>
</tr>
<tr>
<td>Maximum brake hp.</td>
<td>315 @ 1,800 rpm; 315 @ 2,100 rpm</td>
<td>Maximum brake hp.</td>
<td>365 @ 1,800 rpm; 350 @ 2,100 rpm</td>
</tr>
<tr>
<td>Peak torque</td>
<td>1,150 ft. lbs. (1,560 J) @ 1,200 rpm</td>
<td>Peak torque</td>
<td>1,350 ft. lbs. (1,831 J) @ 1,200 rpm</td>
</tr>
<tr>
<td>Electric system</td>
<td>12-volt neg. ground / 12-volt starting</td>
<td>Electric system</td>
<td>12-volt neg. ground / 12 volt starting</td>
</tr>
<tr>
<td>Fuel capacity</td>
<td>100 gallons (378.5 L)</td>
<td>Fuel capacity</td>
<td>100 gallons (378.5 L)</td>
</tr>
<tr>
<td>Alternator</td>
<td>12 volt, 130 amps</td>
<td>Alternator</td>
<td>12 volt, 130 amps</td>
</tr>
<tr>
<td>Crankcase capacity</td>
<td>22 qts. (21 L)</td>
<td>Crankcase capacity</td>
<td>32 qts. (30 L)</td>
</tr>
</tbody>
</table>

### Axle Loads

Base machine with standard 35.5’ – 110’ (10.82 – 33.53 m) four-section boom, 2M main winch with 2-speed hoisting and power up/down, 600’ (182.88 m), 3/4” (19 mm) wire rope, 8 x 4, 8.5” (2.59 m) carrier with Detroit Diesel Series 50 8.5 L engine, 100 gal. (378.5 L) fuel, steel fenders and 5,000 lb. (2268 kg.) counterweight.

**Counterweight:**
- Aluminum fenders with ground control outriggers: -268 –121
- Tow shackles – front and rear: 56 –25
- Carrier aluminum storage box: 57 –26
- Detroit Diesel Series 50 engine S/A with jake brake: 50 –23
- Detroit Diesel Series 60 engine S/A with jake brake: 459 –208
- Detroit axle: 83 –38
- Engine block heater – propane: 3 –1
- Air conditioning – Carrier cab: 124 –56
- Pintle hook: 25 –11
- Electrical and air electrical hook-ups for dolly or trailer: 7 –3
- Driver in carrier cab: 200 –91
- Cab heater assembly w/fuel (diesel): 49 –22
- Cab heater assembly (hydraulic): 129 –59
- Cab air conditioning: 264 –120
- Counterweight removal system: 176 –79
- One slab of counterweight on upper: 3,000 –1,361
- Two slabs of counterweight on upper: 6,000 –2,722
- Rear winch roller: 93 –42
- Winch with two speeds and 600’ (182.88 m) of wire rope: 712 –323
- Front winch roller: 93 –42
- Remove 600’ (182.88 m) of rope from rear winch: -660 –299
- Remove 600’ (182.88 m) of rope from front winch: -660 –299
- Boom float kit: 56 –25
- Add fly brackets to boom base section flies: 160 –73
- Add 34’ (10.36 m) offsettable winch (stowed): 1,478 –670
- Add 34’ – 56’ (10.36 – 17.07 m) offsettable winch (stowed): 2,134 –968
- Add floodlight to front of boom base section: 10 –5
- Add 40-ton (36.43 m) hookblock stowed behind bumper (4-sheaves): 720 –327
- Add 50-ton (45.36 m) hookblock stowed behind bumper (5-sheaves): 1,109 –503
- Add hookball to front bumper: 360 –163
- Add auxiliary arm with ATB switch to boomhead: 95 –43

**G.V.W.**

<table>
<thead>
<tr>
<th>lbs.</th>
<th>kg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>75,008</td>
<td>34,024</td>
</tr>
<tr>
<td>32,004</td>
<td>14,517</td>
</tr>
<tr>
<td>43,004</td>
<td>19,507</td>
</tr>
</tbody>
</table>

**Upper Facing Front**

<table>
<thead>
<tr>
<th>lbs.</th>
<th>kg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9,143</td>
<td>4,147</td>
</tr>
</tbody>
</table>

**Front Axle**

<table>
<thead>
<tr>
<th>lbs.</th>
<th>kg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7,902</td>
<td>3,951</td>
</tr>
<tr>
<td>3,951</td>
<td>1,792</td>
</tr>
</tbody>
</table>

**Rear Axle**

<table>
<thead>
<tr>
<th>lbs.</th>
<th>kg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7,902</td>
<td>3,951</td>
</tr>
<tr>
<td>3,951</td>
<td>1,792</td>
</tr>
</tbody>
</table>

**Axle**

<table>
<thead>
<tr>
<th>Max. Load @ 65 mph. (105 km/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
</tr>
<tr>
<td>Front</td>
</tr>
<tr>
<td>Rear</td>
</tr>
</tbody>
</table>

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**Note:** All weights are ±3%

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**Link-Belt Construction Equipment Company**

Lexington, Kentucky  | www.linkbelt.com

HTC-0860

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