Specifications
Hydraulic Truck Crane

HTC-850
50-Ton (45.36 metric ton)

General dimensions

<table>
<thead>
<tr>
<th>Description</th>
<th>Feet</th>
<th>Meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tailswing of counterweight</td>
<td>13' 8-5/8&quot;</td>
<td>4.18</td>
</tr>
<tr>
<td>Ground clearance — Standard tires</td>
<td>8-1/2&quot;</td>
<td>.22</td>
</tr>
<tr>
<td>Ground clearance — Optional tires</td>
<td>9&quot;</td>
<td>.23</td>
</tr>
<tr>
<td>Turning radius — Standard tires</td>
<td>49' 0&quot;</td>
<td>14.93</td>
</tr>
<tr>
<td>Turning radius — (wall to wall)</td>
<td>55' 7&quot;</td>
<td>16.94</td>
</tr>
</tbody>
</table>

Not to Scale
**Upperstructure**

**Boom**

Link-Belt patented design. 35' 0" — 85' 0" (10.67 m — 25.91 m) three-section boom with two power sections. Boom side plates have diamond shaped impressions for superior strength to weight ratio and are offset welded to carefully machined 100,000 p.s.i. (689.5 MPa) steel angle chords for maximum integrity and strength. Boom telescope sections are supported by wear shoes both vertically and horizontally.

**Load Moment Indicator** — Audio-visual warning system with anti-two block and function kickouts. Constant display of boom angle and angle, tip height, radius of load, machine configuration, allowed load, actual load and % of allowed load. Presettable alarms for maximum and minimum boom angles, maximum tip height and maximum boom length.

**Optional boom** — 35' 0" — 110' 0" (10.67 m — 33.53 m) four-section boom includes base section, two power sections, and manual fourth section. Fourth section is powered by manually activating a cylinder locking pin.

**Boom head** — Standard; Four 16-3/8" (0.42 m) root diameter head sheaves with five 16-3/8" (0.42 m) root diameter head sheaves available to handle up to 10 parts of 3/4" (19 mm) wire rope. Two removable wire rope guards and rope dead end lugs are provided on each side of the boom head.

**Auxiliary lifting sheave** — Optional; Single 16-3/8" (0.42 m) root diameter head sheave with removable wire rope guards, mounted to boom. For use with one or two parts of line off the optional auxiliary winch. Does not affect erection of jib or use of main head sheaves for multiple reeving.

**Boom elevation** — Two Link-Belt designed double-acting hydraulic boom hoist cylinders with integral holding valves. Hand or optional foot controls for boom elevation from -3' to 78'.

**Jib**

Optional — 25' 0" (7.62 m) stowable A-frame. Can be offset 5', 17.5', and 30'. Attaches to fly only.

**Cab and Controls**

Environmental cab; isolated from sound and vibration by rubber mounts. All tinted and tempered safety glass windows. For maximum visibility and ventilation, sliding right side and rear window and swing up roof window supported with two gas cylinders. Slide-by-door opens to 3' 0" (0.91 m) width. Six-way adjustable operator's seat. Control levers for swing, boom telescope, winch and boom hoist, with foot control for swing brake and optional boom hoist. Outtrigger controls, sight level bubble.

**Cab instrumentation** — Dash mounted gauges for hydraulic oil temperature, fuel, water temperature, and oil pressure.

**Swing**

Bi-directional hydraulic swing motor mounted to a two-stage planetary reducer for 360° continuous smooth swing at 2.45 r.p.m.

**Swing brake** — Standard; Foot operated, spring released disc brake mounted on the speed reducer.

**Swing lock** — Standard; 360° position pin-type controlled from the operator's cab. Two position house lock for travel and pick and carry modes.

**Counterweight** — Pinned to upperstructure frame. 9,000 lb. (4,082 kg) counterweight with single-winch system. 8,050 lb. (3,651 kg) counterweight with two-winch system. Optional counterweight removal system is available.

**Hydraulic System**

**Main pump** — Three-section gear-type pump. Combined pump capacity of 185 gpm (700 lpm). Powered by carrier engine (1:1 ratio) with pump disconnect. Pump disconnect is a jaw-type clutch engaged/disengaged from carrier cab. Maximum system operating pressure is 2,900 p.s.i. (203 kg/cm²). Hydraulic oil cooler is standard.

**Reservoir** — Link-Belt, 145 gallon (548.83 L) capacity. Diffusers for deaeration.

**Filtration** — One six-micron filter located inside the hydraulic reservoir.

**Control valves** — Six separate control valves allow simultaneous operation of all crane functions.

**Load Hoist System**

**Standard** — Model 2M main winch with two-speed motor and automatic brake; power up/power down mode of operation. Bi-directional gear type hydraulic motor.

**Optional** — Model 2M auxiliary winch with two-speed motor and automatic brake, power up/power down mode of operation. Bi-directional, gear-type hydraulic motor.

**Optional** — Model 3M winch with power up/power down, two-speed motor and exclusive controlled true gravity freefall. Available on main or both winches.

**Line pulls and speeds** — Maximum line pull is 15,870 lbs. (7,199 kg) and maximum line speed is 548 f.p.m. (167.03 m/min) on 17" (0.43 m) root diameter smooth drums.

**Upperstructure Equipment - Optional**

Boom hoist foot control, drum rotation indicators, propane heater, diesel heater, 60-ton (54.43 metric ton) hook block, 8-1/2 ton (7.72 metric ton) ball and swivel, roof window windshield wiper, flood lights, lifting lug package, hand throttle, air conditioning, windshield washer, amber rotating beacon, cab mounted spotlight, tachometer and engine monitoring system.
General Information Only

Carrier

- **Type**
  Link-Belt 8' 0" (2.44 m) wide, 228" (5.79 m) wheelbase.
  Standard — 8 x 4 drive

- **Frame**
  All-welded high strength alloy steel plate construction with box-type design and integral 100,000 p.s.i. (689.5 MPa) steel outrigger boxes.

- **Outriggers**
  Standard — Power hydraulic, double box, dual beam outriggers, front and rear. Vertical jack cylinders, each equipped with integral holding valve. Beams extend to 20' 0" (6.10 m) centerline-to-centerline and retract to within 8' 0" (2.44 m) overall width. Equipped with stowable, lightweight 24" (.61 m) diameter floats. Controls and sight level bubble located in upperstructure cab.

  Front bumper outrigger — Standard; Front center vertical jack mounted under bumper with 20" (.51 m) square lightweight float. Provides 360° lifting capacities.

- **Axles**
  Front — Tandem, 83.31" (2.12 m) track.
  Rear — Tandem, 71.8" (1.82 m) track, 6.83 to 1.0 ratio with interaxle differential lockout.

- **Suspension**
  Front — Spring suspension with torque rods.
  Rear — Solid mount 54" (1.37 m) bogie beam.

- **Wheels**
  Front — Cast, six-spoke.
  Rear — Cast, six-spoke.

- **Tires**
  **Standard Front** — 16.5 x 22.5 (16 PR) transport type tubeless.
  **Standard Rear** — 11.0 x 20.0 (14 PR) transport type with tube.
  **Optional Front** — 18.00 x 22.5 (16-PR) transport type tubeless.
  **Optional Rear** — 12.00 x 20.0 (14 PR) transport type with tube.
  **Optional Front** — 445/65R22.5 XZY lug type radials.
  **Optional Rear** — 12R20 XZY lug type radials.

- **Brakes**
  Full air on all wheels. Air dryer is standard.

- **Service**
  Front — 8 X 4 Cam-type 16-1/2" x 6" (.42 m x .15 m) shoe diameter.
  Rear — Cam-type 16-1/2" x 7" (.42 m x .18 m) shoe diameter.

- **Parking & emergency** — One spring set, air released chamber per rear axle end. Parking brake applied with valve mounted on carrier dash. Emergency brakes apply automatically when air pressure drops below 60 p.s.i. (4.14 Bars) in both systems.

- **Steering**
  Sheppard Steering, rack-and-pinion ign. Provides wall-to-wall turning ius of 55' 7" (16.94 m).

  **Clutch** — Lipe-Rollway 14" (0.36 m) diameter, spring loaded, double plate dry disc.

  **Universals** — Rockwell; easy service type.

- **Transmission**
  Standard — Fuller Roadranger RTO-6613; 13 speeds forward, 3 reverse.

- **Electrical System**
  Two 12-volt batteries; 2,230 cold cranking amps available, 80 amp alternator.

  Lights — Four dual-beam sealed headlights, front and rear directional signals, stop and tail lights, four-way emergency flashers, back-up lights, front, rear and side clearance lights with integral reflectors and license plate light.

- **Carrier Cab**
  One-man cab. Acoustical insulation with vinyl covering. Equipped with electric windshield wiper and washer, horn, four-way adjustable seat with seat belt, dome and dash lights, cigar lighter, ashtray, 22,400 BTU capacity heater, defroster, door and window locks, fire extinguisher, LH/RH rear view mirrors, tilt/telescoping steering wheel and sliding LH/RH and rear tinted windows.

- **Cab instrumentation** — Standard; illuminated instrument panel with speedometer, odometer, tachometer, voltmeter, hourmeter, front and rear air pressure gauges, low air pressure light and warning buzzer, automotive-type ignition (common with upper), engine oil pressure gauge, water temperature gauge, fuel gauge, turn signal indicator, high beam light switch, adjustable defroster vents and circuit breakers.

- **Additional Equipment — Standard**
  Front and rear fenders, air dryer, back-up warning alarm, cab steps, access ladder to rear carrier deck with hand grab rails, front/rear tow loops, mud flaps, and skid-resistant finish on carrier deck.

- **Additional Equipment — Optional**
  Engine block heater, ether injection starting package, spare tire and rim assemblies, towing shackles and engine monitoring system.
**Travel Speeds and Gradeability**

<table>
<thead>
<tr>
<th>Engine</th>
<th>Maximum Speed</th>
<th>Maximum Gradeability at peak engine torque</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mph</td>
<td>Km/h</td>
</tr>
<tr>
<td>Cummins 6CTA 8.3</td>
<td>50.43</td>
<td>81.16</td>
</tr>
</tbody>
</table>

© Maximum speed based on full load r.p.m. Gradeability is based on peak torque of the engine and machine equipped with standard tires and G.V.W.

**Axle Loads**

Base machine includes 35'-85' (10.67m - 25.91m) three-section boom with four-sheave head machinery, main winch with two-speed hoisting and power up/down, 600' (182.88 m) 3/4" (19mm) wire rope, 8x4, 8x4 (2.44m) carrier with Cummins 6CTA 8.3 diesel engine, front bumper outrigger,

<table>
<thead>
<tr>
<th>G.V.W.©</th>
<th>Upper facing</th>
<th>Upper facing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Front axle</td>
<td>Rear axle</td>
</tr>
<tr>
<td></td>
<td>lbs.</td>
<td>kg.</td>
</tr>
<tr>
<td>62,248</td>
<td>28,230</td>
<td>31,633</td>
</tr>
</tbody>
</table>

- **55'-110' (10.67m - 33.53m) 4-section boom**
- **Counterweight for single winch**
- **Counterweight for two winches**
- **Freefall main winch with 600' (182.88 m) rope**
- **Power up/down aux. winch with 465' (141.73 m) rope**
- **Freefall aux. winch with 465' (141.73 m) rope**
- **33' (10.06 m) lattice fly, stowed**
- **25' (7.62 m) A-frame jib, stowed**
- **Hook block at bumper**
- **Headache ball at bumper**
- **Auxiliary lifting sheave**
- **Fly and jib stowage brackets**
- **18.0 X 22.5 front tires and rims**
- **12.0 X 20.0 rear tires with rims and wheels**
- **Counterweight removal system**

© Adjust gross vehicle weight & axle loading according to component weight.

Note: All weights are ± 3%.

**Maximum Front Axle Load Table**

<table>
<thead>
<tr>
<th>Tire</th>
<th>Maximum Axle Load @ 50 mph (80.45 km/h)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.5 X 22.5 H</td>
<td>39,500 lbs. (17 917 kg)</td>
</tr>
<tr>
<td>18.0 X 22.5 H</td>
<td>40,000 lbs. (18 142 kg)</td>
</tr>
</tbody>
</table>

* For speeds exceeding 50 mph (80.45 km/h) see Operator’s Manual.

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Link-Belt Construction Equipment Company  Lexington, Kentucky
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