Link-Belt CONSTRUCTION EQUIPMENT

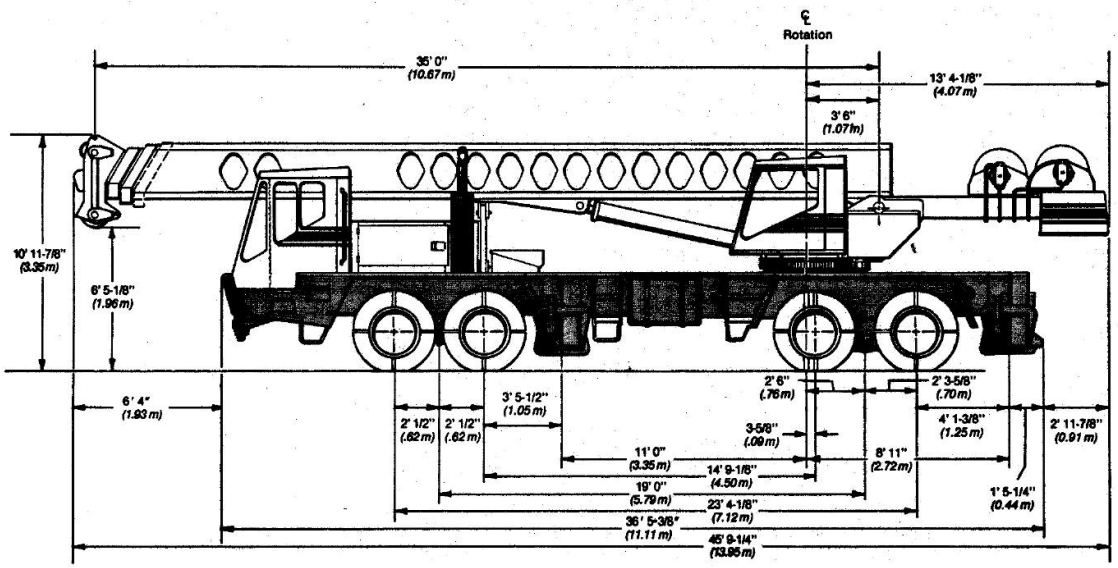
Specifications

Hydraulic Truck Crane

GENERAL INFORMATION ONLY

HTC-850

50-Ton (*45.36 metric ton*)



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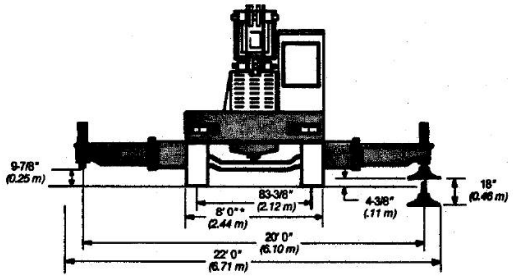


Not to Scale

General dimensions	feet	*meters*
Tailswing of counterweight	13' 8-5/8"	*4.18*
Ground clearance — Standard tires	8-1/2"	*.22*
Ground clearance — Optional tires	9"	*.23*
Turning radius — Standard tires	49' 0"	*14.93*
Turning radius — (wall to wall) (outside front bumper)	55' 7"	*16.94*

Litho in U.S.A 1/92

#5175 (supersedes #5117)

GENERAL INFORMATION ONLY

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 length 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 power pinned by manually activating a cylinder locking system.

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°.

Fly

Optional — 33' 0" *(10.06 m)* stowable one-piece lattice type.

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. Outrigger 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 deareation.

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.

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 XZA transport type radials.

Optional Rear – 12R20 XZY lug type radials

Brakes

Full air on all wheels. Air dryer is ndard.

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.

Link-Belt
CONSTRUCTION EQUIPMENT

Travel Speeds and Gradeability ①

Engine	Maximum Speed		Maximum Gradeability at peak engine torque
	Mph	*Km/h*	
Cummins 6CTA 8.3	50.43	*81.16*	44.1%

① 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.

Engine	Cummins 6CTA 8.3
Cylinders / cycle	6 / 4
Bore	4.5" *(0.11 m)*
Stroke	5.32" *(0.14 m)*
Displacement	504.5 cu. in. *(8 267 cm³)*
Gross engine power	234 h.p. @ 2200 rpm
Peak torque	640 ft. lbs. *(867.72 J)*
Electric system	12 volt negative ground
Fuel capacity	100 gallons *(378.5 L)*
Alternator	80 amps
Crankcase capacity	23.7 quarts *(22.43 L)*
Air compressor	13.2 c.f.m. *(0.37 m³/min)*

GENERAL INFORMATION ONLY

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)* ¾" *(19mm)* wire rope, 8x4, 8' *(2.44m)* carrier with Cummins 6CTA 8.3 diesel engine, front bumper outrigger, Roadranger transmission, full fuel and hydraulics.	G.V.W.①		Upper facing front				Upper facing rear			
			Front axle		Rear axle		Front axle		Rear axle	
	lbs.	*kg*	lbs.	*kg*	lbs.	*kg*	lbs.	*kg*	lbs.	*kg*
	62,248	*28 230*	31,633	*14 345*	30,615	*13 885*	14,672	*6 653*	47,576	*21 577*
35'–110' *(10.67m - 33.53m)* 4-section boom	1,952	*885*	1,655	*750*	297	*135*	-1,141	*-517*	3,093	*1 403*
Counterweight for single winch	9,000	*4 082*	-4,416	*-2 003*	13,416	*6 084*	6,785	*3 077*	2,215	*1 005*
Counterweight for two winches	8,050	*3 651*	-3,950	*-1 791*	12,000	*5 442*	6,069	*2 752*	1,981	*899*
Freefall main winch with 600' *(182.88 m)* rope	442	*200*	-128	*-58*	570	*259*	243	*110*	199	*90*
Power up/down aux. winch with 465' *(141.73 m)* rope	1,758	*797*	-529	*-240*	2,287	*1 037*	991	*450*	767	*348*
Freefall aux. winch with 465' *(141.73 m)* rope	2,200	*998*	-591	*-268*	2,791	*1 266*	1,170	*530*	1,030	*467*
33' *(10.06 m)* lattice fly, stowed	1,040	*472*	918	*416*	122	*55*	-644	*-292*	1,684	*764*
25' (7.62 m) A-frame jib, stowed	1,128	*512*	759	*344*	369	*167*	-462	*-210*	1,590	*721*
Hook block at bumper	1,070	*485*	1,657	*751*	-587	*-266*	—	—	—	—
Headache ball at bumper	325	*147*	537	*244*	-212	*-96*	—	—	—	—
Auxiliary lifting sheave	150	*68*	284	*129*	-134	*-61*	-245	*-111*	395	*179*
Fly and jib stowage brackets	230	*104*	188	*85*	42	*19*	-127	*-58*	357	*162*
18.0 X 22.5 front tires and rims	136	*62*	136	*62*	—	—	—	—	—	—
12.0 X 20.0 rear tires with rims and wheels	413	*187*	—	—	413	*187*	—	—	—	—
Counterweight removal system	120	*54*	-55	*-25*	175	*79*	86	*39*	34	*15*

① Adjust gross vehicle weight & axle loading according to component weight.
Note: All weights are ± 3%.

Maximum Front Axle Load Table

Tire	Maximum Axle Load @ 50 mph *(80.45 km/h)**
16.5 X 22.5 H	39,500 lbs. *(17 917 kg)*
18.0 X 22.5 H	40,000 lbs. *(18 142 kg)*

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

We are constantly improving our products and therefore reserve the right to change designs and specifications.

Link-Belt Construction Equipment Company Lexington, Kentucky

A unit of Sumitomo Construction Machinery Co., Ltd.

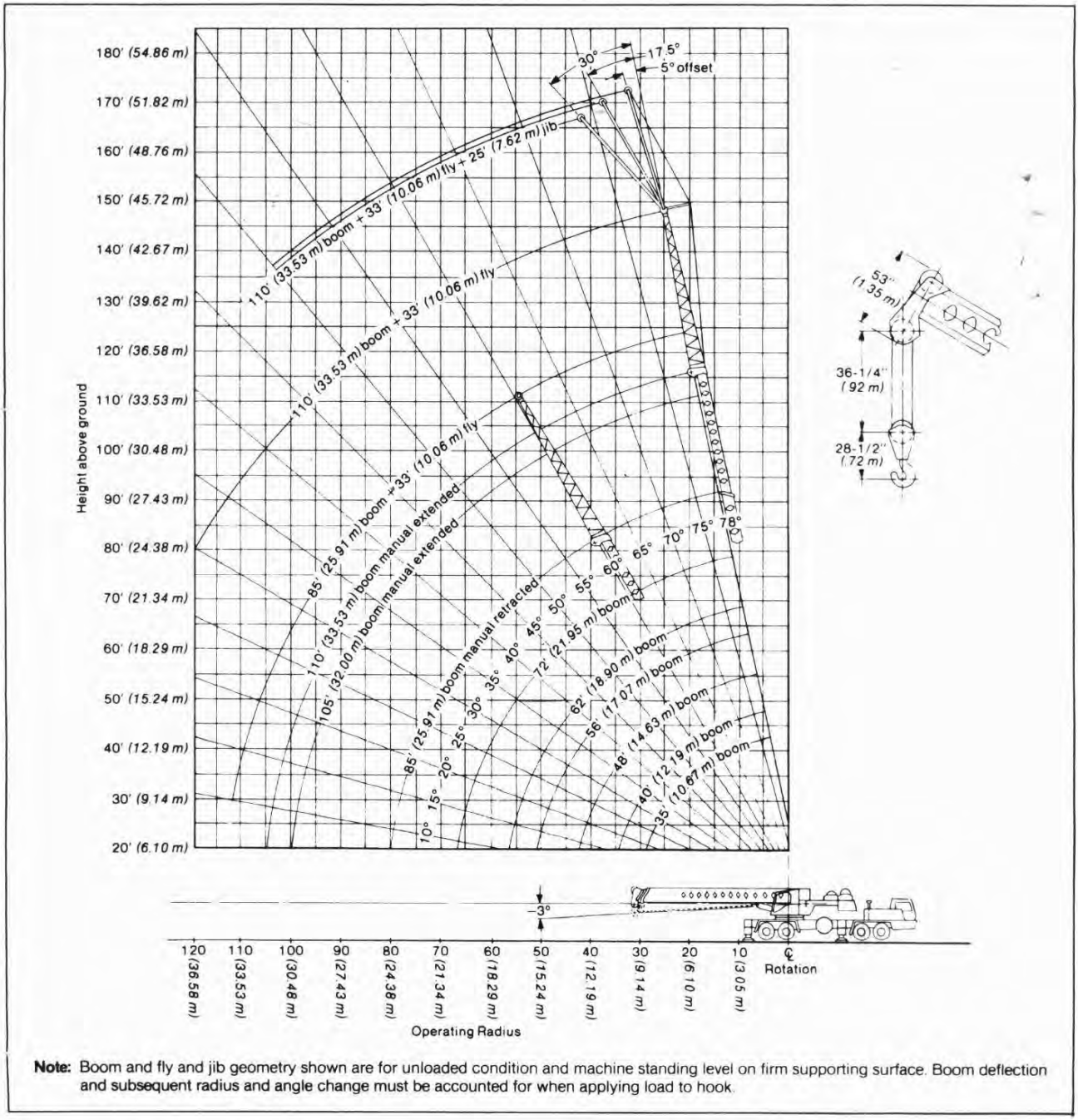
Link-Belt
CONSTRUCTION EQUIPMENT

Lifting Capacities
Hydraulic Crane

PCSA Class 10-154

HTC-850 50-ton *(45.36 metric ton)*

4-section boom



Note: Boom and fly and jib geometry shown are for unloaded condition and machine standing level on firm supporting surface. Boom deflection and subsequent radius and angle change must be accounted for when applying load to hook.

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CAUTION: This material is supplied for reference only. Operator MUST refer to in-cab capacity plate to determine allowable machine lifting capacities and operating procedures.

#6070

HTC-850 Lifting Capacities

8′ *(2.44 m)* carrier

35′-110′ *(10.67-33.53 m)* 4-section boom

Refer to **Operating Instructions** page 4

Capacities On Outriggers① Manual Section Retracted

Load radius	35′ *(10.67 m)*		40′ *(12.19 m)*		48′ *(14.63 m)*		56′ *(17.07 m)*		62′ *(18.90 m)*		72′ *(21.95 m)*		85′ *(25.91 m)*		77′ *(23.47 m)* boom With 33′ *(10.06 m)* Fly			85′ *(25.91 m)* boom With 33′ *(10.06 m)* Fly		
	Side	Rear	Side	Rear	Side	Rear	Side	Rear	Side	Rear	Side	Rear	Side	Rear	110′ *(33.52 m)*②			118′ *(35.96 m)*②		
															Angle	Side	Rear	Angle	Side	Rear
10′ *3.05 m*	100,000 *45 360*	100,000 *45 360*	72,100 *32 705*	72,100 *32 705*	70,800 *32 115*	70,800 *32 115*	68,000 *30 845*	68,000 *30 845*												
12′ *3.66 m*	92,200 *41 822*	92,200 *41 822*	71,800 *32 568*	71,800 *32 568*	70,800 *32 115*	70,800 *32 115*	68,000 *30 845*	68,000 *30 845*	67,200 *30 482*	67,200 *30 482*					See Note ①			See Note ①		
15′ *4.57 m*	73,100 *33 158*	73,100 *33 158*	68,700 *31 162*	68,700 *31 162*	63,300 *28 713*	63,300 *28 713*	63,300 *28 713*	63,300 *28 713*	58,800 *26 672*	58,800 *26 672*	50,000 *22 680*	50,000 *22 680*								
20′ *6.10 m*	53,300 *24 177*	53,300 *24 177*	53,000 *24 041*	53,000 *24 041*	53,000 *24 041*	53,000 *24 041*	53,000 *24 041*	53,000 *24 041*	48,500 *22 000*	48,500 *22 000*	42,100 *19 097*	42,100 *19 097*	36,200 *16 420*	36,200 *16 420*						
25′ *7.62 m*	37,600 *17 055*	42,000 *19 051*	37,600 *17 055*	42,000 *19 051*	37,600 *17 055*	42,000 *19 051*	37,600 *17 055*	42,000 *19 051*	37,600 *17 055*	41,000 *18 598*	36,300 *16 466*	36,300 *16 466*	30,000 *13 608*	30,000 *13 608*	77.0	22,200 *10 070*	22,200 *10 070*	77.0	18,500 *8 392*	18,500 *8 392*
30′ *9.14 m*			27,000 *12 247*	31,600 *14 334*	27,000 *12 247*	31,600 *14 334*	27,000 *12 247*	31,600 *14 334*	27,000 *12 247*	31,600 *14 334*	27,000 *12 247*	31,500 *14 288*	24,700 *11 204*	24,700 *11 204*	75.0	22,200 *10 070*	22,200 *10 070*	75.0	17,500 *7 938*	17,500 *7 938*
35′ *10.67 m*					20,100 *9 117*	24,400 *11 068*	20,100 *9 117*	24,400 *11 068*	20,100 *9 117*	24,400 *11 068*	20,100 *9 117*	24,400 *11 068*	20,100 *9 117*	22,100 *10 025*	72.0	20,200 *9 163*	20,200 *9 163*	73.0	15,500 *7 031*	15,500 *7 031*
40′ *12.19 m*					15,400 *6 985*	19,500 *8 845*	15,400 *6 985*	19,500 *8 845*	15,400 *6 985*	19,500 *8 845*	15,400 *6 985*	19,500 *8 845*	15,400 *6 985*	18,900 *8 573*	69.0	17,700 *8 029*	18,900 *8 573*	71.0	13,900 *6 305*	13,900 *6 305*
45′ *13.72 m*							12,200 *5 534*	15,600 *7 076*	12,200 *5 534*	15,600 *7 076*	12,200 *5 534*	15,600 *7 076*	12,200 *5 534*	15,600 *7 076*	67.0	14,400 *6 532*	17,300 *7 847*	68.0	12,400 *5 625*	12,400 *5 625*
50′ *15.24 m*							9,700 *4 400*	12,800 *5 806*	9,700 *4 400*	12,800 *5 806*	9,700 *4 400*	12,800 *5 806*	9,700 *4 400*	12,800 *5 806*	64.0	11,900 *5 398*	15,000 *6 804*	65.0	10,900 *4 944*	10,900 *4 944*
55′ *16.76 m*									7,800 *3 538*	10,700 *4 854*	7,800 *3 538*	10,700 *4 854*	7,800 *3 538*	10,700 *4 854*	61.0	9,900 *4 491*	12,800 *5 806*	63.0	9,600 *4 355*	9,600 *4 355*
60′ *18.29 m*											6,300 *2 858*	8,800 *3 992*	6,300 *2 858*	8,800 *3 992*	57.0	8,300 *3 765*	10,900 *4 944*	60.0	8,100 *3 674*	8,600 *3 901*
65′ *19.81 m*											5,000 *2 268*	7,500 *3 402*	5,000 *2 268*	7,500 *3 402*	54.0	7,000 *3 175*	9,400 *4 264*	57.0	6,800 *3 084*	7,700 *3 493*
70′ *21.34 m*													4,000 *1 814*	6,300 *2 858*	50.0	5,900 *2 676*	8,100 *3 674*	54.0	5,700 *2 586*	6,900 *3 130*
80′ *24.38 m*													2,200 *998*	4,300 *1 950*	43.0	4,200 *1 905*	6,100 *2 767*	47.0	3,900 *1 769*	5,600 *2 540*
90′ *27.43 m*															34.0	2,800 *1 270*	4,600 *2 087*	40.0	2,600 *1 179*	4,400 *1 996*
100′ *30.48 m*															22.0	1,800 *816*	3,500 *1 588*	31.0	1,600 *726*	3,300 *1 497*

Note: For 360 capacities, use the over side capacities with the bumper outrigger set in proper working position.

① Boom sections must be extended equal distances.
② Intermediate capacities for boom plus fly are permissible; See Operating Instructions Number 16.

Main Boom Capacities① On Tires

Load radius		Bias Tires				Radials Tires			
		Creep② over rear only		1 mph. *(1.61 kph)* over rear only		Creep② over rear only		1 mph. *(1.61 kph)* over rear only	
Feet	meters	Pounds	Kg	Pounds	Kg	Pounds	Kg	Pounds	Kg
10	*3.05*	34,800	*15 785*	22,000	*9,979*	26,800	*12,156*	21,600	*9,798*
12	*3.66*	32,400	*14 697*	20,500	*9 299*	25,000	*11,340*	20,100	*9,117*
15	*4.57*	29,100	*13 200*	18,400	*8 346*	22,500	*10,206*	18,100	*8,210*
20	*6.10*	18,900	*8 573*	14,800	*6 713*	18,300	*8,301*	14,600	*6,623*
25	*7.62*	13,200	*5 988*	11,900	*5,398*	12,800	*5,806*	11,700	*5,307*
30	*9.14*	9,400	*4 264*	9,200	*4 173*	9,100	*4,128*	9,100	*4,128*
35	*10.67*	6,900	*3 130*	6,800	*3 084*	6,600	*2,994*	6,600	*2,994*

Crane capacities on tires depend on tire capacity, condition of tires, and tire pressures.

Tires	Ply rating	Creep② Inflation	1.0 m.p.h. *(1.61 km/hr)* Inflation
11.0 x 20.0	14	100 p.s.i. *(6.90 Bars)*	100 p.s.i. *(6.90 Bars)*
12.0 x 20.0	14	100 p.s.i. *(6.90 Bars)*	90 p.s.i. *(6.21 Bars)*
16.5 x 22.5	16	100 p.s.i. *(6.90 Bars)*	90 p.s.i. *(6.21 Bars)*
18.0 x 22.5	16	95 p.s.i. *(6.55 Bars)*	85 p.s.i. *(5.86 Bars)*

① See Operating Instruction; Set-Up Number 4
② See Operating Instruction; Set-Up Number 3

Wire rope size and type

Wire rope application	Size and type used	Wire rope description
Main winch Auxiliary winch	3/4" *(19 mm)* diameter, Type "N" 3/4" *(19 mm)* diameter, Type "N"	Type "N" - 6 x 25 (6 x 19 class) filler wire, extra improved plow steel, preformed, independent wire rope core, right lay, regular lay.

Link-Belt CONSTRUCTION EQUIPMENT

HTC-850 Lifting Capacities

8′ (2.44 m) carrier

35′-110′ (10.67-33.53 m) 4-section boom

Refer to **Operating Instructions** page 4

Capacities On Outriggers **Manual Section Extended**

Load radius	105′ (32.00 m) ①③			110′ (33.53 m) ①			110′ (33.53 m) Boom With 33′ (10.06 m) Fly 143′ (43.58 m) ②		
	Angle	Side	Rear	Angle	Side	Rear	Angle	Side	Rear
	See Note ①			See Note ①			See Note ②		
25′ 7.62 m	77°	20,200 9 163	20,200 9 163	77°	19,000 8 618	19,000 8 618			
30′ 9.14 m	74°	20,200 9 163	20,200 9 163	75°	18,500 8 392	18,500 8 392			
35′ 10.67 m	72°	19,500 8 845	19,500 8 845	73°	17,900 8 119	17,900 8 119	77°	9,400 4 264	9,400 4 264
40′ 12.19 m	69°	17,200 7 802	18,000 8 165	70°	16,000 7 258	16,000 7 258	75°	9,400 4 264	9,400 4 264
45′ 13.72 m	66°	14,000 6 350	16,200 7 348	67°	13,900 6 305	14,100 6 396	73°	9,000 4 082	9,000 4 082
50′ 15.24 m	63°	11,400 5 171	14,600 6 623	64°	11,300 5 126	12,500 5 670	71°	8,400 3 810	8,400 3 810
55′ 16.76 m	60°	9,400 4 264	12,400 5 625	61°	9,400 4 264	11,100 5 035	69°	8,000 3 629	8,000 3 629
60′ 18.29 m	56°	7,900 3 583	10,500 4 763	58°	7,800 3 538	10,000 4 536	67°	7,300 3 311	7,300 3 311
65′ 19.81 m	53°	6,600 2 994	9,000 4 082	55°	6,500 2 948	8,900 4 037	65°	6,500 2 948	6,500 2 948
70′ 21.34 m	49°	5,500 2 495	7,800 3 538	51°	5,400 2 449	7,700 3 493	62°	5,700 2 586	5,700 2 586
80′ 24.38 m	40°	3,700 1 678	5,800 2 631	44°	3,600 1 633	5,700 2 586	57°	4,500 2 041	4,600 2 087
90′ 27.43 m	30°	2,400 1 089	4,300 1 950	35°	2,300 1 043	4,200 1 905	52°	3,200 1 452	3,600 1 633
100′ 30.48 m							47°	2,200 998	2,800 1 270
110′ 33.53 m							40°		2,100 953

Note: For 360° capacities, use the over side capacities with the bumper outrigger set in proper working position.

① Capacities for boom with manual section extended can be extended or retracted, but are based on boom angle only: See Operating Instructions Number 15.

② Capacities for boom plus fly can be extended or retracted, but are based on boom angle only. See Operating Instructions Number 17.

③ Capacities are shown for 4-section boom with manual extended and with boom retracted to 105′ (32.00 m)

Jib Capacities

33′ (10.06 m) **fly** plus **25′** (7.62 m) **jib**

Boom angle	Jib Offset 5°	17.5°	30°
78°	5,100 2 313	5,100 2 313	4,200 1 905
75°	5,100 2 313	5,100 2 313	4,000 1 814
70°	5,100 2 313	4,900 2 223	3,600 1 633
65°	4,500 2 041	4,100 1 860	3,400 1 542
60°	2,900 1 315	2,600 1 179	2,400 1 089
55°	1,800 816	1,600 726	1,500 680

Capacity Deductions for Auxiliary Load Handling Equipment

Aux. Head	200 lb. (91 kg)
Jib Stowed	600 lb. (272 kg)
Fly Stowed	700 lb. (318 kg)
Fly Erected	1700 lb. (771 kg)
Fly & Jib Stowed	1300 lb. (590 kg)
Fly & Jib Erected	4300 lb. (1951 kg)
Picking From 33 Ft. (10.66 m) Fly With	
Jib Erected	2000 lb. (907 kg)
Jib Stowed	600 lb. (272 kg)

Drum wire rope capacities

Wire rope layer	Main and auxiliary drum 17″ (0.43 m) root diameter smooth and grooved lagging 3/4″ (19 mm) wire rope: Rope per layer Feet	meters	Total wire rope Feet	meters
1	97	29.57	97	29.57
2	111	33.83	208	63.40
3	114	34.75	322	98.15
4	122	37.19	444	135.33
5	130	39.62	574	174.96
6	139	42.37	713	217.32
7	140	42.67	853	259.99

Line Speeds and Pulls

Layer	Speed	Main or auxiliary winch -17″ (0.43 m) drum: Line Speeds F.p.m.	m/min.	Available Line Pulls Lbs.	kgs.
First	Low	172	52.43	15,870	7 199
	High	364	110.95	7,520	3 411
Second	Low	187	57.00	14,630	6 636
	High	394	120.09	6,930	3 143
Third	Low	201	61.26	13,580	6 160
	High	425	129.54	6,430	2 917
Fourth	Low	216	65.84	12,660	5 743
	High	456	138.99	6,000	2 722
Fifth	Low	230	70.10	11,860	5 380
	High	487	148.44	5,620	2 549
Sixth	Low	245	74.68	11,160	5 062
	High	517	157.58	5,280	2 395
Seventh	Low	260	79.25	10,530	4 776
	High	548	167.03	4,990	2 264

Hydraulic Circuit Pressure Settings

Circuit	Function	Pressure
Main	Boom hoist	2,900 p.s.i. (200.0 Bars)
	Wire rope hoist	2,750 p.s.i. (189.66 Bars)
Secondary	Swing	1,500 p.s.i. (103.45 Bars) at port relief
	Inner-mid telescope	2,500 p.s.i. (172.41 Bars)
	Outer-mid telescope	2,500 p.s.i. (172.41 Bars)
	Outriggers	2,500 p.s.i. (172.41 Bars)
Charge Pump	Winch brake and clutch	1,500 p.s.i. (103.45 Bars)

Link-Belt
CONSTRUCTION EQUIPMENT

Warning and Operating Instructions HTC-850

General:

1. **Rated lifting capacities in pounds as shown on lift chart pertain to this machine as originally manufactured and normally equipped by Link-Belt Construction Equipment Company. Modifications to the machine or use of optional equipment other than that specified can result in a reduction of capacity.**
2. Construction equipment can be dangerous if improperly operated or maintained. Operation and maintenance of this machine must be in compliance with the information in the operator's, parts and safety manuals supplied with this machine. If these manuals are missing, order replacements through the distributor.
3. The operator and other personnel associated with this machine shall fully acquaint themselves with the latest applicable American National Standards Institute (ANSI) Safety Standards for cranes.
4. The maximum allowable lifting capacities are based on machine standing level on firm supporting surface.
5. All capacities are in pounds with metric equivalent in italic.

Set-Up:

1. The machine shall be leveled on a firm supporting surface. Depending on the nature of the supporting surface, it may be necessary to have structural supports under the outrigger floats or tires to spread the load to a larger bearing surface.
2. When making lifts on outriggers, outrigger beams must be fully extended with tires free of supporting surface.
3. Crane Capacities on tires depend on tire capacity, condition of tires, and tire pressure. On-tire picks require lifting from main boom head only on a smooth and level surface. Boom sections **must** be extended equally. Two conditions are available for pick and carry operations. The first condition is creep. Creep is motion for less than 200' *(60.9 m)* in a 30 minute period and not exceeding 1 m.p.h. *(1.61 km/hr)*. The second condition is 1 m.p.h. *(1.61 km/hr)*. This operation is restricted to 1 m.p.h. *(1.61 km/hr)* maximum speed. For each condition, creep and 1 m.p.h. *(1.61 km/hr)*, the boom must be centered over rear with swinglock engaged and the load must be restrained from swinging. Lifts with manual extended, fly or fly-jib combination erected are prohibited on tires.
4. When making lifts on rubber, tires must be inflated to the recommended pressure.
5. Over the front working area, as on the working area diagram, is restricted to a 35' *(10.67 m)* boom length, unless machine is equipped with a front bumper outrigger and the front bumper outrigger is set in proper working position.
6. Outriggers must be set before swinging boom to over side position as shown on working area diagram.
7. When installing or removing counterweight, use fully retracted boom only. Do not swing counterweight beyond a 25' *(7.62 m)* radius. Machine must be on outriggers during this operation.

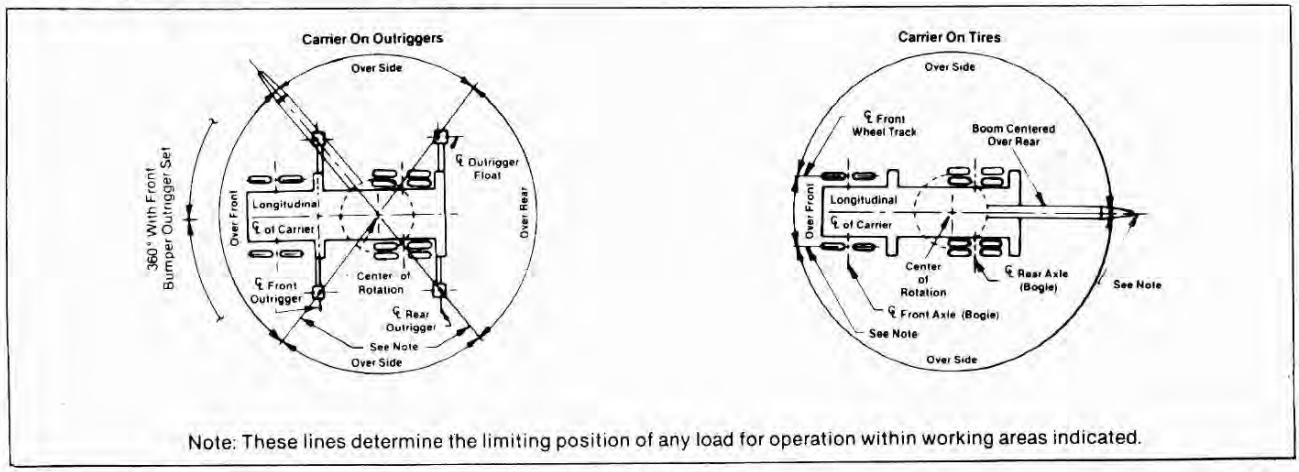
Operation:

1. Rated lifting capacities at rated radius shall not be exceeded. Do not tip machine to determine allowable load. For concrete bucket operation, weight of bucket and load shall not exceed 80% of rated lifting capacity. For clamshell bucket operation, weight of bucket and bucket content is restricted to a maximum weight of 7,000 pounds *(3175 kg)* or 80% of rated lifting capacity which ever is less. For magnet operation weight of magnet and load is restricted to a maximum weight of 7,000 pounds *(3175 kg)* or 80% of rated lifting capacity which ever is less. For clamshell and magnet operation maximum boom length is restricted to 56 feet *(17.07 m)* and the boom angle is restricted to a minimum of 35°. Manual extended, fly or fly-jib combinations are prohibited for both clam and magnet operation.
2. The crane capacities shown on outriggers do not exceed 85% of the tipping loads and crane capacities shown on tires do not exceed 75% of the tipping loads as determined by SAE crane stability test code J-765a.
3. The crane capacities above the bold lines are based on structural strength or hydraulic limitations.
4. Rated lifting capacities include the weight of hook block, slings, bucket, magnet and auxiliary lifting devices. Their weights must be subtracted from the listed rated load to obtain the net load to be lifted.
   See also deductions for auxiliary head, fly and jib.
5. Rated lifting capacities are based on freely suspended loads. No attempt shall be made to move a load horizontally on the ground in any direction.
6. Rated lifting capacities are for lift crane service only.
7. Do not operate at radii or boom lengths where capacities are not listed. At these positions, the machine can overturn without any load on the hook.
8. The maximum loads which can be telescoped are not definable because of variation in loadings and crane maintenance, but it is permissible to attempt retraction and extension within the limits of the load rating chart.
9. When either boom length or radius or both are between values listed, the smallest load shown at either the next larger radius or boom length shall be used.
10. The user shall operate at reduced ratings to allow for adverse job conditions, such as: soft or uneven ground, out of level conditions, wind, side loads, pendulum action, jerking or sudden stopping of loads, hazardous conditions, experience of personnel, two machine lifts, traveling with loads, electrical wires, etc. Side load on boom, fly or jib is extremely dangerous.
11. When making lifts with auxiliary head machinery, the effective length of the boom increases by 2' *(.61 m)*. Effective length of boom is length shown on boom length indicator plus 2' *(.61 m)*.
12. Power sections must be extended equally.
13. The least stable rated working area on outriggers is over the side.
14. Rated lifting capacities are based on correct reeving. Deduction must be made for excessive reeving. Any reeving over minimum required (see wire rope strength plate) is considered excessive and must be accounted for. Use working range plate to estimate the extra feet of rope then deduct 1 lb *(.45 kg)* for each foot of wire rope before attempting to lift a load.
15. The rated loads for the manual extended are determined by boom angle only for boom lengths other than 105' *(32.00 m)* and 110' *(33.53 m)* as follows: For boom lengths less than 105' *(32.00 m)*, the rated loads are determined by boom angle only in the column headed by 105' *(32.00 m)*. For boom lengths between 105' *(32.00 m)* and 110' *(33.53 m)*, the rated loads are determined by boom angle only in the column headed by 110' *(33.53 m)*, manual extended. For angles not shown, use the next lower boom angle to determine allowable capacity.
16. The rated loads for the manual retracted with 33' *(10.06 m)* fly are determined by boom angle only for boom lengths other than 110' *(33.53 m)* and 118' *(35.97 m)* as follows: For boom lengths less than 110' *(33.53 m)* the rated loads are determined by boom angle only in the column headed by 110' *(33.53 m)*, manual retracted with fly. For boom lengths between 110' *(33.53 m)* and 118' *(35.97 m)*, the rated loads are determined by boom angle only in the column headed by 118' *(35.97 m)*. For angles not shown, use the next lower boom angle to determine allowable capacity.
17. For boom lengths with fly less than 143' *(43.59 m)* with manual extended, the rated loads are determined by boom angle only in the column headed by 143' *(43.59 m)*. For angles not shown, use the next lower boom angle to determine allowable capacity.
18. With front bumper outrigger set, use over side capacity values for 360° working area.
19. Do not lower 105' *(32.00 m)* boom length below 30°. Do not lower 110' *(33.53 m)* boom length below 35°. Do not lower 77' *(23.47 m)* boom with 33' *(10.06 m)* fly below 22°. Do not lower 85' *(25.91 m)* boom with 33' *(10.06 m)* fly below 31°. Do not lower 110' *(33.53 m)* boom with 33' *(10.06 m)* fly below 40°.
20. The 25' *(7.62 m)* jib capacities are based on main boom angle regardless of main boom length. For angles not shown use next lower boom angle to determine allowable capacity. Capacity values can be used to operate over rear or over side. Warning: Do not lower 25' *(7.62 m)* jib in working position below 55° unless boom is fully retracted.
21. The 35' *(10.67 m)* boom length capacities are based on boom fully retracted. If not fully retracted, do not exceed ratings for the 40' *(12.19 m)* boom length.

Definitions:

1. Load Radius: Horizontal distance from a projection of the axis of rotation to the supporting surface before loading to the center of the vertical hoist line or tackle with load applied.
2. Loaded Boom Angle: The angle between the boom base section and the horizontal after lifting the load at the rated radius. The boom angle, before loading, should be greater to account for deflections.
3. Working Area: Area measured in a circular arc about the center line of rotation as shown on the woking area diagram.
4. Freely Suspended Load: Load hanging free with no direct external force applied except by the hoist line.
5. Side Load: Horizontal side force applied to the lifted load either on the ground or in the air.

Working Areas HTC-850



Note: These lines determine the limiting position of any load for operation within working areas indicated.

We are constantly improving our products and therefore reserve the right to change designs and specifications.
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