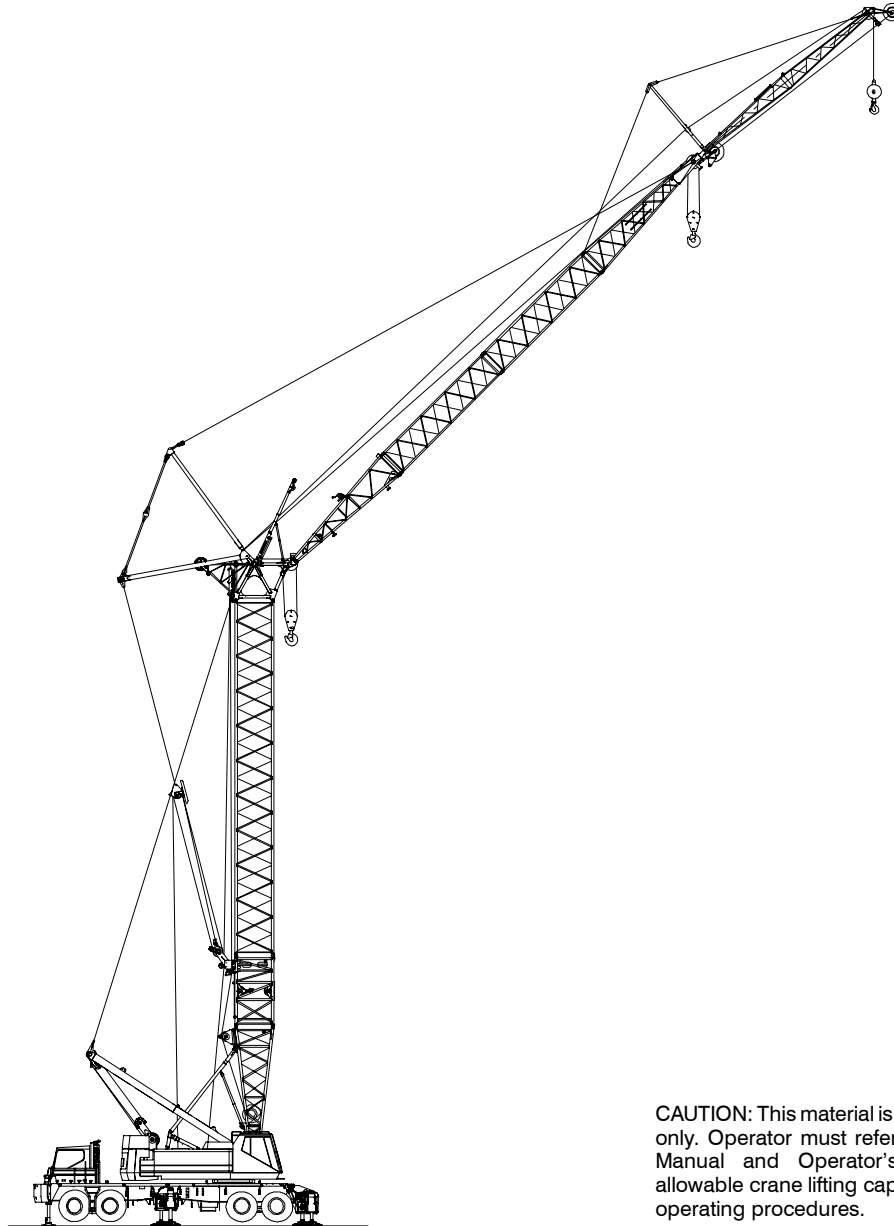


Technical Data

Specifications & Luffing Attachment
Capacities

HC-238H II

Truck Crane
150 Ton (136.08 metric ton)



CAUTION: This material is supplied for reference use only. Operator must refer to in-cab Crane Rating Manual and Operator's Manual to determine allowable crane lifting capacities and assembly and operating procedures.

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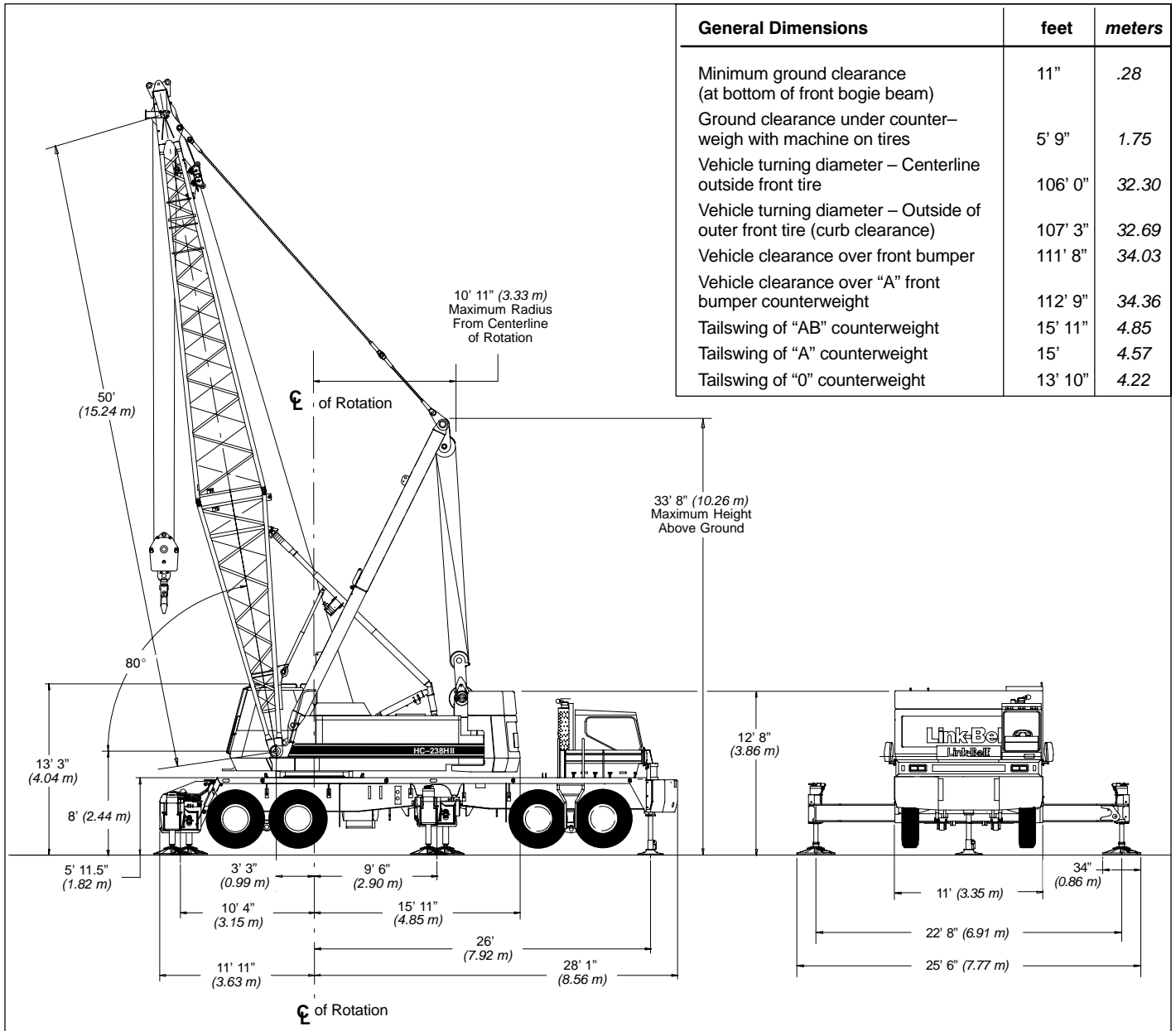
Specifications

Lattice Boom Truck Crane

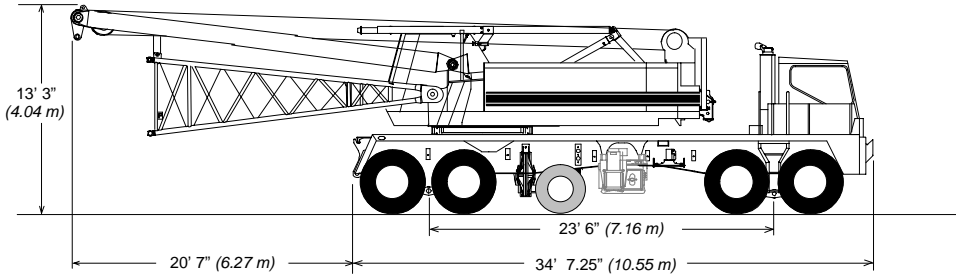
HC-238H II

150-ton (136.08 metric ton)

HYLAB Series

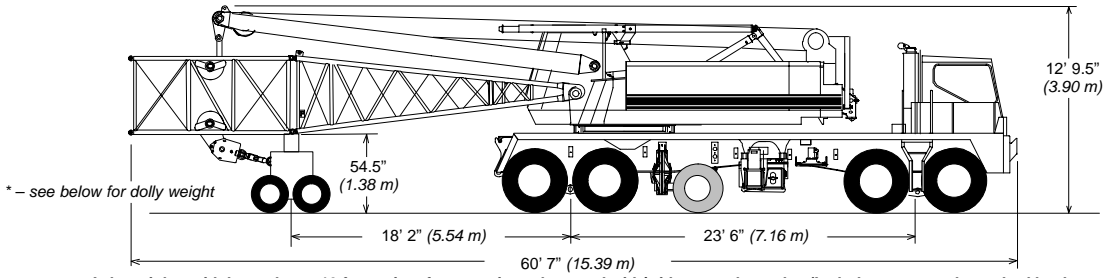


HC-238H II Machine Transport Weights and Dimensions – approximate



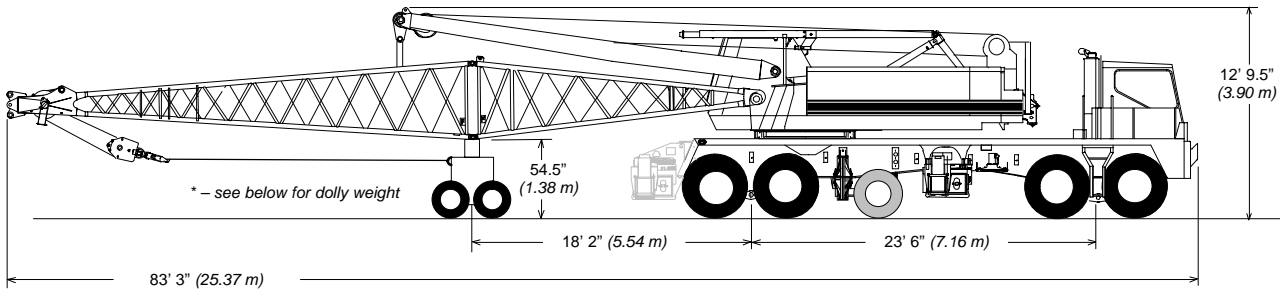
Axle weights with boom base, with/without front outrigger box and with/without pusher axle. (Includes ropes and standard backstops)

	GVW	Front	Rear	Pusher
With front O/R box and with pusher axle	99,789 (45 264)	31,699 (14 378)	48,090 (21 813)	20,000 (9 072)
With front O/R box and without pusher axle	97,539 (44 243)	37,098 (16 827)	60,441 (27 416)	not applicable
Without front O/R box and with pusher axle	90,741 (41 159)	26,504 (12 022)	44,237 (20 066)	20,000 (9 072)
Without front O/R box and without pusher axle	88,491 (40 139)	31,902 (14 471)	56,589 (25 668)	not applicable



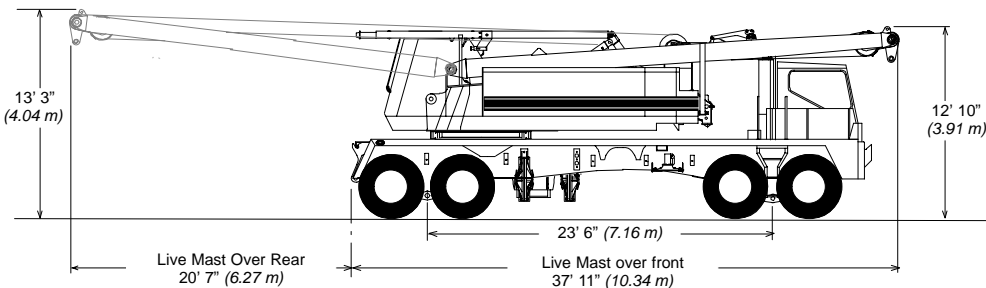
Axle weights with boom base, 10 ft. section, front outrigger box, and with/without pusher axle. (Includes ropes and standard backstops)

	GVW	Front	Rear	Pusher	Dolly
With pusher axle	108,044 (49 008)	35,923 (16 294)	40,644 (18 436)	20,000 (9 072)	11,476 (5 205)
Without pusher axle	105,794 (47 987)	41,322 (18 743)	52,996 (24 039)	not applicable	11,476 (5 205)



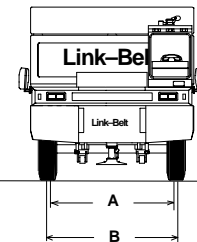
Axle weights with basic boom, with/without pusher axle, front O/R box and with/without rear O/R box. (Includes ropes and standard backstops)

	GVW	Front	Rear	Pusher	Dolly
With rear O/R box and pusher axle	120,388 (54 607)	33,134 (15 029)	48,623 (22 055)	20,000 (9 072)	18,630 (8 450)
Without rear O/R box and with pusher axle	110,434 (50 092)	35,845 (16 259)	35,959 (16 311)	20,000 (9 072)	18,630 (8 450)
Without rear O/R box and without pusher axle	108,184 (49 071)	41,244 (18 708)	48,310 (21 913)	not applicable	18,630 (8 450)



Axle weights Live Mast, without pusher axle and without front or rear O/R box. (Includes ropes and standard backstops)

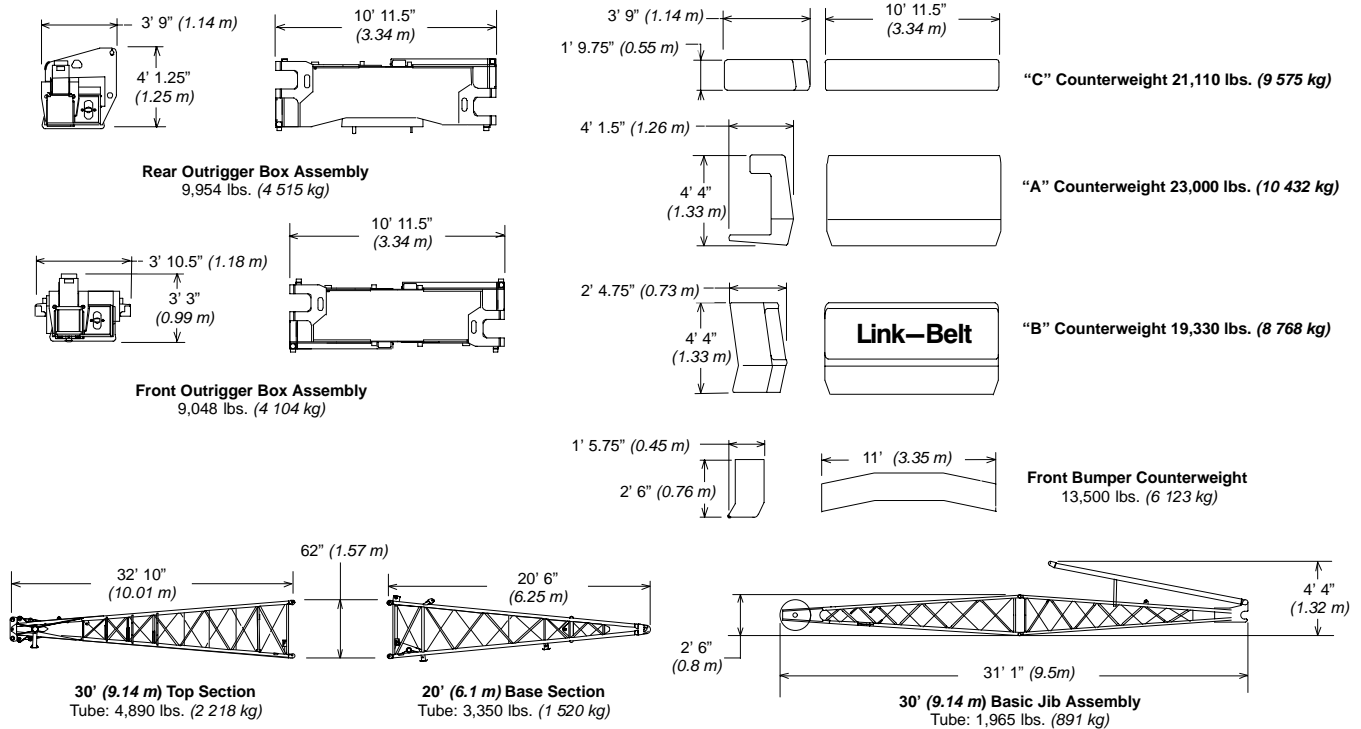
	GVW	Front	Rear
Live mast over front	85,334 (38 707)	38,520 (17 472)	46,814 (21 234)
Live mast over rear	85,334 (38 707)	33,054 (14 993)	52,280 (23 714)



A – 8' 4.25" (2.55 m) Track (rear)
B – 8' 9" (2.67 m) Track (front)

* – Dolly weight = 5,000 lbs. (2 268 kg) — Dolly weights vary. Refer to manufacturers weight when determining axle loads.

HC-238H II Machine Transport Weights and Dimensions –approximate



HC-238H II Transportation Weights – approximate

Base Machine: 85 gallons (321 L) of carrier fuel, 12-part boom hoist reeving, rigid boom backstops, auxiliary lifting bail, 950' (290 m) front hoist rope, 600' (182.88 m) rear hoist rope and 77 gallons (291 L) of upper fuel

Item Description	Gross Weight		Transport Loads								Notes and Load Summary
	lbs.	kg.	#1	#2	#3	#4	#5	#6	#7	#8	
Base Machine	85,080	38 592	1								<p>Numbers in the load columns to the left represent quantities.</p> <p>Estimated transport assumes the load out consist of 260' (79.25 m) of tube boom + 75' (22.86m) of jib with full counterweight.</p> <p>Support loads were targeted at 45,000 lb (20 412 kg), 8' 6" (2.6 m) wide, 48' (14.6 m) long, and 13' 6" (4.1 m) high using a drop deck trailer. This may vary depending on state laws, empty truck/trailer weights, and style of trailer.</p> <p>Estimated weights vary by +/- 2%.</p> <p>Estimated Total Load of #1 85,080 lbs. (38 592 kg).</p> <p>Estimated Total Load of #2 42,656 lbs. (19 348 kg).</p> <p>Estimated Total Load of #3 44,964 lbs. (20 395 kg).</p> <p>Estimated Total Load of #4 24,351 lbs. (11 045 kg).</p> <p>Estimated Total Load of #5 3,241 lbs. (1 470 kg).</p> <p>Estimated Total Load of #6 3,241 lbs. (1 470 kg).</p> <p>Estimated Total Load of #7 3,241 lbs. (1 470 kg).</p> <p>Estimated Total Load of #8 8,049 lbs. (3 651 kg).</p>
Add Front outrigger box with manual pins	9,048	4 101		1							
Add Hydraulic pins to front outrigger box	647	293									
Add Rear outrigger box with hydraulic pins	9,954	4 515		1							
Add "A" bumper counterweight	13,500	6 123		1							
Add Main outrigger floats	660	299		1							
Add Front outrigger float	80	36		1							
Add "A" counterweight	23,000	10 433			1						
Add "B" counterweight	19,330	8 768			1						
Add "C" counterweight	21,110	9 575				1					
Add Upper Catwalk – Left Side	154	70									
Add 20' (6.10 m) Boom base section	3,350	1 520								1	
Add 30' (9.14 m) Boom top section	4,890	2 218		1							
Add 10' (3.05 m) Boom extension	973	441									
Add 10' (3.05 m) Boom extension with lifting sheaves	2,607	1 183									
Add 10' (3.05 m) Boom extension – luffer ready	3,162	1 434								1	
Add 20' (6.10 m) Boom extension	1,537	697								1	
Add 30' (9.14 m) Boom extension	2,115	959									
Add 40' (12.19 m) Boom extension	2,678	1 215									
Add 50' (15.24 m) Boom extension	3,241	1 470				1	1	1	1		
Add Auxiliary tip extension	640	290									
Add Hydraulic third drum to boom base section	0	0									
Add Third drum fleeting sheave for luffer to boom base section	176	80									
Add Third drum 3–sheave assembly to boom top section	381	173									
Add Third drum controls for free spooling	100	45									
Add 30' (9.14 m) Tubular Jib	1,683	763			1						
Add 15' (4.57 m) Tubular Jib Extension	317	144			3						
Add Basic luffing attachment	10,567	4 793									
Add Luffing jib top with nose wheel	2,851	1 293									
Add 10' (3.05 m) luffing jib extension	688	312									

HC-238H II Transportation Weights – approximate (continued)

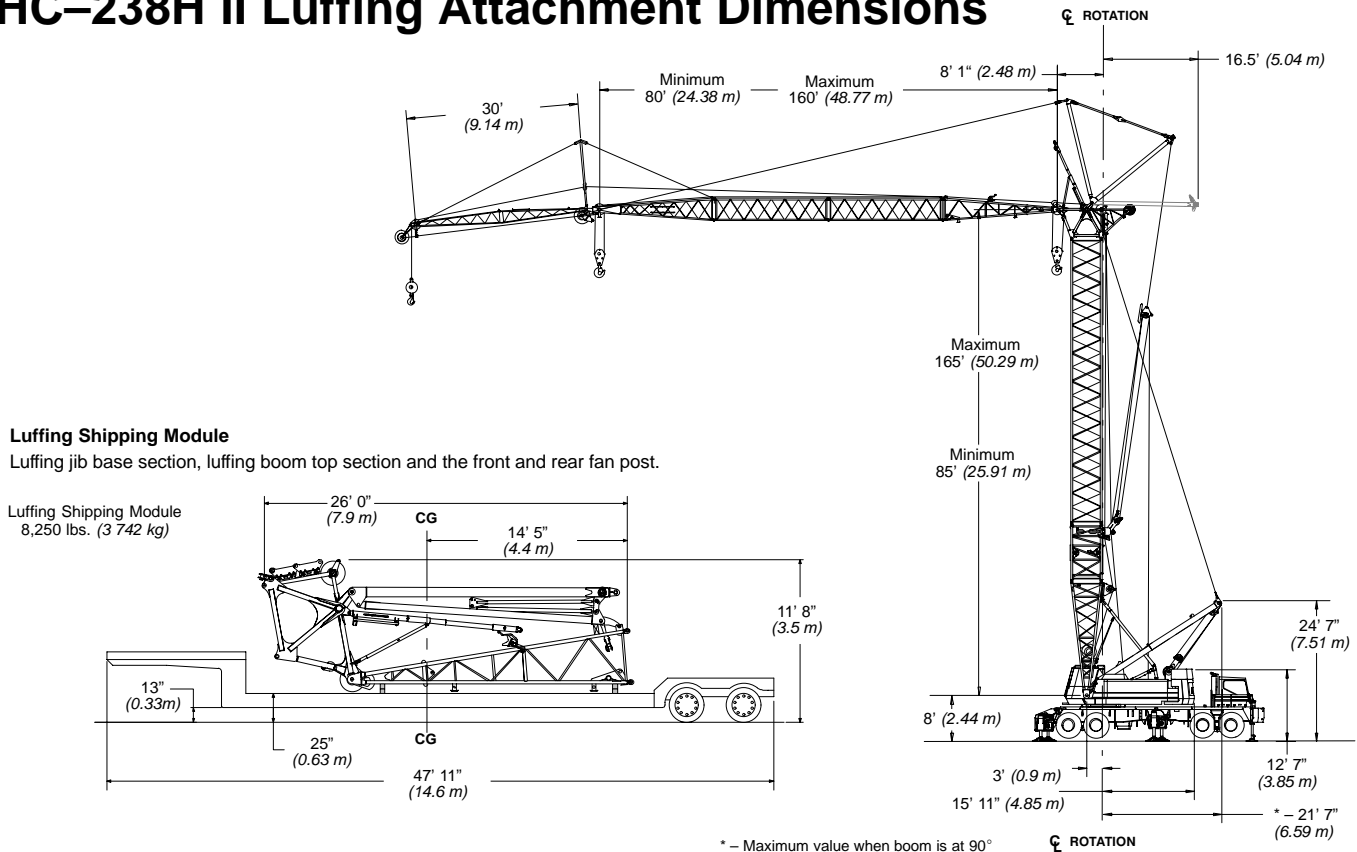
Item Description	Gross Weight		Transport Loads							
	lbs.	kg.	#1	#2	#3	#4	#5	#6	#7	#8
Add 20' (6.10 m) luffing jib extension	1,197	543								
Add 30' (9.14 m) luffing jib extension	1,518	689								
30' (9.14 m) luffing fixed jib conversion	280	127								
Add Hammerhead top section	4,950	2 245								
Add 0.88" x 465' (22 mm x 142 m) Type 'DB' jib wire rope	628	285								
Add 0.88" x 600' (22 mm x 183 m) Type 'RB' jib wire rope	900	408								
Add 0.88" x 805' (22 mm x 245 m) Type 'DB' jib wire rope	1,070	485								
Add 0.88" x 745' (22 mm x 227 m) Type 'RB' 3rd drum rope	1,117	507								
Add 15-ton (13.6 mt) Hook Ball – Non-swivel	750	340								
Add 15-ton (13.6 mt) Hook Ball – Swivel	760	345		1						
Add 25-ton (22.7 mt) two sheave Hook Block	1,164	528		1						
Add 60-ton (54.4 mt) two sheave Hook Block	1,650	747								
Add 140-ton (127 mt) six sheave Hook Block	2,600	1 179		1						
Remove Auxiliary Lifting Bail	-410	-186								
Remove Front hoist rope 0.88" x 950' (22 mm x 290m) of type 'DB'	-1,350	-612								

Refer to page three for
Transportation Weights
Notes and Load Summary.

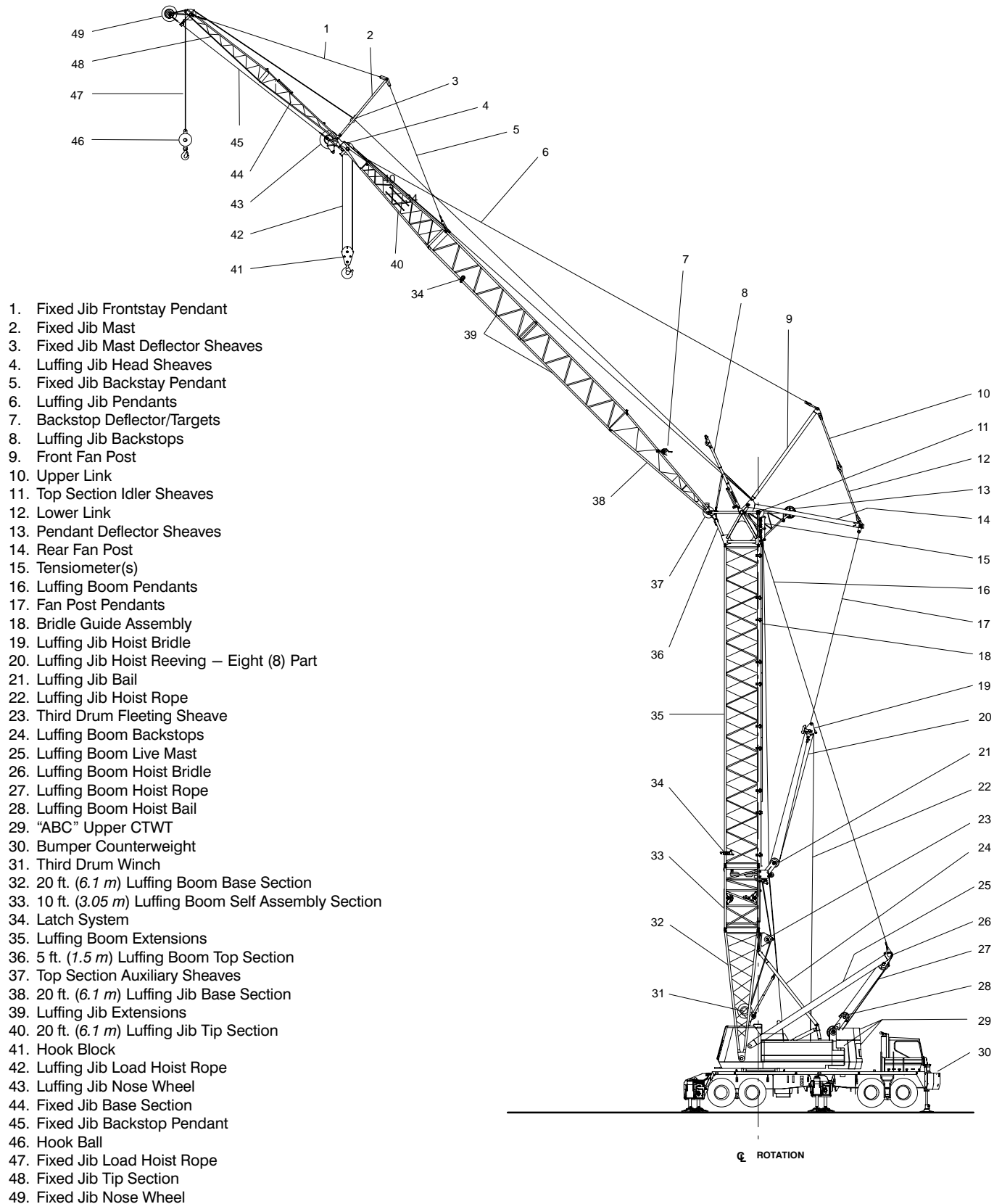
HC-238H II Machine Working Weights

Option	Description	Gross Weight lbs. (kg)	Maximum Ground Bearing Pressure psi (kg/cm ²)
1	Base Machine equipped with 50' (15.24 m) of tube boom, live mast, "ABC" counterweight, 950' (290 m) front hoist rope, 600' (182.88 m) rear hoist rope, 140-ton (127 mt) hook block, 77 gallons (291.4 L) of fuel, 85 gallons (321.76 L) of carrier fuel, front and rear outrigger boxes with floats and fifth outrigger float, and 200 lbs. (90.7 kg) operator.	183,875 (83 404)	177 (12.44)
2	Option #1 plus "A" bumper counterweight and 210' (64.01 m) of boom extensions to obtain 260' (79.25 m) of main boom.	211,723 (96 306)	92 (6.47)
3	Option #2 plus 75' (22.86 m) of tubular jib and 15-ton (13.6 mt) hook ball – subtract 30' (9.14 m) of boom extension to obtain maximum 230' + 75' (70.1 + 22.9 m) of main boom + jib.	212,597 (96 432)	115 (8.09)
4	Option #1 plus "A" bumper counterweight, 140' (42.67 m) of boom extensions, luffing boom top, 160' (48.77 m) luffing jib, and 15-ton (13.6 mt) hook ball. Remove 30' (9.14 m) open throat top.	222,126 (100 756)	112 (7.87)
5	Base Machine equipped with 35' (10.67 m) of Hammerhead boom, live mast, "ABC" upper counterweight and "A" bumper counterweight, 950' (290 m) front hoist rope, 600' (182.88 m) rear hoist rope, 140-ton (127 mt) hook block, 77 gallons (291.4 L) of fuel, 85 gallons (321.76 L) of carrier fuel, front and rear outrigger boxes with floats and fifth outrigger float, and 200 lbs. (90.7 kg) operator.	197,435 (89 555)	172 (12.09)

HC-238H II Luffing Attachment Dimensions



HC-238H II Luffing Attachment Nomenclature



Attachment Options

■ 50' – 260' (15.24 – 79.25 m) Open Throat Boom

Basic Boom – 50' (15.24 m) two-piece design that utilizes a 20' (6.10 m) base section and a 30' (9.14 m) open throat top section with in-line connecting pins. Boom extensions are 70" (1.78 m) wide and 62" (1.57 m) deep centers.

- 135-ton (122.47 mt) maximum capacity
- Boom feet on 55" (1.40 m) centers
- 4" (0.10 m) "HX" diameter chords
- Top section includes mounting lugs for all optional attachments.
- Lugs on base section to attach carrying links.
- Skywalk platform
- Base section has mounting lugs for optional third hoist drum.
- Permanent skid pads mounted on top section to protect head machinery
- Six, 20.5" (0.52 m) root diameter steel sheaves mounted on sealed anti-friction bearings
- Mechanical boom angle indicator
- Deflector roller on top section
- Quick reeve boom top

Boom Extensions – The following table provides the lengths available and the suggested quantity to obtain maximum boom in 10' (3.05 m) increments. Midpoint pendant connections are required at 110' (33.53 m) for boom lengths of 250' (76.2 m) and 260' (79.25 m).

Boom Extensions	Suggested Quantity for Max. Boom
10' (3.05 m) With or without lifting sheaves	1
20' (6.10 m)	1
30' (9.14 m)	0
40' (12.19 m)	2
50' (15.24 m)	2

- Deflector roller on top of each section
- Appropriate length pendants
- Maximum boom tip height of 264' (80.47 m)
- 10' (3.05 m) extensions with lifting sheaves is available for self assembly/disassembly.

■ 35' (10.67 m) Hammer Head Boom

Three-piece design that utilizes a 20' (6.10 m) base section, a 10' (3.05 m) transition extension and a 5' (1.5 m) head top section with in-line connection pins.

- 150-ton (136 mt) maximum capacity
- Maximum boom tip height of 42' (12.80 m)
- Boom feet on 55" (1.40 m) centers
- 4" (0.10 m) "HX" diameter chords
- Lugs on base section to attach carrying links
- Skywalk platform
- Deflector roller on top section
- Rigid sheave guards
- Seven, 20.62" (0.52 m) root diameter steel sheaves mounted on sealed anti-friction bearings
- Mechanical boom angle indicator

■ 30' – 75' (9.14 – 22.86 m) Fixed Jib

Basic Fixed Jib – 30' (9.14 m) two-piece design that utilizes a 15' (4.57 m) base section and a 15' (4.57 m) top section with in-line connecting pins on 32" (0.81 m) wide and 24" (0.61 m) deep centers.

- 2" (38.1 mm) "BK" diameter chords
- One 18.5" (0.47 m) root diameter steel sheave mounted on sealed anti-friction bearings.
- 15' (4.57 m) jib extensions provide jib lengths at 45' (13.72 m), 60' (18.29 m) and 75' (22.86 m).
- Jib offset angles at 5, 15 and 25 degrees
- Maximum tip height of open throat boom + fixed jib is 308' (93.87 m).

■ 80' – 160' (24.38 – 48.77 m) Luffing Jib

Basic Luffing Jib – 80' (24.38 m) five-piece design utilizes a 5' (1.52 m) luffing boom top section, 20' (6.10 m) base section, 10' (3.05 m) extension, 30' (9.14 m) extension, and 20' (6.10 m) top section with in-line connecting pins. Boom extensions are 44" (1.12 m) wide and 54" (1.37 m) deep at the centers.

- 27-ton (24.5 mt) maximum capacity
- Working lengths of 80' (24.38 m) to 160' (48.77 m).
- Top section includes mounting lugs for all attachment options
- Lugs on base section to attach fan-post transport links
- Two steel 18" (0.46 m) diameter luffing jib head sheaves
- Two polyamide 21.25" (0.54 m) diameter luffing boom auxiliary head sheaves
- Pin-on nose wheel
- Eight-part luffing jib hoist.
- 1.25" (31.75 mm) diameter type "N" pendants

Luffing Jib Extensions – The following table provides the lengths available and the suggested quantity to obtain the maximum luffing jib in 10' (3.05 m) increments. Midpoint pendants are not required.

Luffing Jib Extensions	Suggested Quantity for Max. Boom
10' (3.05 m)	0
20' (6.10 m)	1
30' (9.14 m)	2

Note: Extensions and pendants are common with the LS-138H, LS-138H II, LS-208H and LS-208H II.

- Deflector roller on top of each extension
- Appropriate length pendants
- Max. luffing jib tip height of 326' (99.36 m)

■ 30' (9.14 m) Fixed Jib

- Common fixed jib used on open throat boom.
- Maximum luffing jib plus fixed jib tip height of 347' (105.77 m)

■ 85' – 165' (25.91 – 50.29 m) Luffing Boom

- Common base and extensions as open throat boom
- 10' (3.05 m) luffing extension required for bail anchor
- Working angles of 90, 85, 80, 75, 70, and 65 degrees.
- Working lengths of 85' (25.91 m) to 165' (50.29 m)
- 1.38" (34.92 mm) diameter type "N" pendants; same as open throat boom.

Luffing Boom Extensions – The following table provides the lengths available and the suggested quantity to obtain the maximum luffing boom in 10' (3.05 m) increments. Midpoint pendants are not required.

Luffing Boom Extensions	Suggested Quantity for Max. Boom
10' (3.05 m) Luffer Ready	1
20' (6.10 m)	1
30' (9.14 m)	0
40' (12.19 m)	2
50' (15.24 m)	2

- Rear hoist drum becomes luffing jib hoist
- Optional third drum provides second working hoist line, if required.
- Designed for self-assembly
- Luffing jib hoist bridle and bail can remain reeved for machine transport
- Job site mobility with attachment
- Rolled out or rolled under erection methods
- Compact transport module.

■ Auxiliary 5' (1.5 m) Tip Extension

Designed to use instead of a jib to provide clearance between working hoist lines. The extension is equipped with two 18" (0.46 m) root diameter nylon sheaves mounted on sealed anti-friction bearings. Maximum capacity is 9-ton (8.16 m).

■ Boom Hoist System

Designed to lift off maximum boom or maximum boom plus jib unassisted. Operates up to a maximum boom angle of 80 degrees. Automatically limits maximum boom angle operation.

- Pin-on bail frame
- 12-part reeving with 7/8" (22.23 mm) type 'LB' wire rope
- Bridle assembly
- Two 1.38" (35.05 mm) pendants
- Tubular spring buffered boom backstops (rigid type) – standard
- Tubular spring buffered hydraulic boom backstops are optional to flip mast to rear of upper.
- Steel sheaves contain sealed anti-friction bearings.
- Boom speed from 0 to 82 degrees is 96 seconds with no load. Speed determined using 200' (60.96 m) of boom.

Revolving Upperstructure

■ Frame

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

■ Engine

Isuzu 4HK1 diesel engine with oil filter, oil cooler, air cleaner, fuel filter, water separator, hourmeter, tachometer, and electrical shutdown.	
Number of cylinders	4
Bore and stroke – in. (mm)	4.53 x 4.92 (115 x 125)
Piston displacement – in ³ (cm ³)	317 (5 195)
Engine rpm at full load speed	2,100
Hi-idle rpm	2,100
Full load speed – h.p. (kw)	199(148)
Peak torque – ft.-lb. (joule)	507 (688)
Peak torque – r.p.m.	1,500
Electrical system	24 volt
Batteries	2–12 volt
Approximate fuel consumption	
100% H.P.	10.42 (39.44)
75% H.P.	8.20 (31.04)
50% H.P.	6.06 (22.94)
25% H.P.	3.03 (11.50)

■ Hydraulic System Specifications

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

- Two variable displacement pumps operating at 4,000 psi (281 kg/cm²) and 64 gal/min (242 L/min) powers the load hoist drums, boom hoist drum and third drum.
- Two fixed displacement gear type pumps operating at 3,000 psi (210 kg/cm²) and 23 gal/min (87 L/min) powers the swing motors.
- One fixed displacement gear type pump operating at 1,200 psi (84.4 kg/cm²) and 8 gal/min (30 L/min) powers the pilot control system, clutches, brakes, pump controls and counterweight lifting cylinders.
- One fixed displacement gear type pump operating at 2,000 psi (141 kg/cm²) and 7 gal/min (26.5 L/min) powers the live mast rear storage cylinders.

Pump Control (“Fine Inching”) mode – Special pump setting, selectable from operator’s cab, that allows very slow movements of load hoist drums and boom hoist drum for precision work.

Hydraulic Reservoir – 42 gal. (159 L), equipped with sight level gauge. Diffusers built in for deaeration.

Filtration – One, 10 micron, full flow, line filter in the control circuit. All oil is filtered prior to entering the reservoir.

Counterbalance Valves – All hoist motors are equipped with counterbalance valves to provide positive load lowering and prevent accidental load drop if the hydraulic pressure is suddenly lost.

■ Load Hoist Drums

Each drum contains a pilot controlled, bi-directional, axial piston motor and a planetary gear reduction unit to provide positive control under all load conditions.

- Power up/down & free-fall operation modes
- Automatic brake mode (spring applied, hydraulically released, band type brake)
- 0.88” (22.22 mm) grooved lagging
- Drum pawl controlled manually
- Mechanical thumb thumper drum rotation indicators
- Mounted on anti-friction bearings
- 16.76” (0.43 m) root diameter
- 33.85” (0.86 m) flange diameter
- 23.15” (0.59 m) width

Note: The free-fall operational mode is designed to prevent load lowering even if the free-fall switch is accidentally activated. The automatic brake mode meets all OSHA requirements for personnel handling.

Drum Clutches – Speed-o-Matic™ power hydraulic two-shoe clutch design that uses a 26” (660 mm) diameter x 5.12” (130 mm) wide shoe that internally expands to provide load control. Swept area is 418 in² (2 697 cm²).

Drum Brakes – External contacting band type 38” (965 mm) diameter x 5” (127 mm) wide. Provides a swept area of 597 in² (3 851 cm²). Spring applied hydraulic release “automatic brake mode” or mechanical linkage foot control.

■ Optional Third Hoist Drum

The hydraulic winch is mounted in the boom base section in conjunction with a fleeting sheave and 3-sheave idler assembly to run the wire rope over the boom top section.

- Power up/down Automatic brake mode.
- Optional – Free-spooling capability for pile driving applications.
- Spring applied hydraulically released brakes.
- Grooved for 0.88” (22.22 mm) wire rope.
- 18.75” (0.47 m) root diameter.
- 27” (0.69 m) flange diameter.
- 24” (0.61 m) width.
- Mounted on anti-friction bearings.

■ Boom Hoist Drum

Contains a pilot controlled, bi-directional, axial piston motor and a planetary gear reduction unit to provide positive control under all load conditions.

- Spring applied, hydraulically released, disc type brake controlled automatically.
- Drum pawl controlled automatically.
- Mounted on anti-friction bearings.

- 0.88” (22.22 mm) grooved lagging
- 15” (0.38 m) root diameter.
- 30.71” (0.78 m) flange diameter.
- 12.04” (0.31 m) width.

■ Swing System

Pilot controlled bi-directional axial piston motors and planetary gear reduction unit provides positive control under all load conditions.

- Spring applied, hydraulically released, 360 degree multi-plate brake
- Free swing mode when lever is in neutral position
- Two position positive house lock
- Audio/Visual swing alarms
- Maximum swing speed is 2.2 rpm

■ Upper Counterweight

Consist of a three piece design that can be easily lowered to the carrier deck.

- 23,000 lbs. (10 432 kg) “A” counterweight
- 19,330 lbs. (8 768 kg) “B” counterweight
- 21,110 lbs. (9 575 kg) “C” counterweight
- Total upper structure counterweight 63,440 (28 776 kg)

■ Operator’s Cab and Controls

Fully enclosed modular steel compartment is independently mounted and insulated to protect against vibration and noise.

- All tinted/tempered safety glass
- Sliding entry door and front window
- Swing up roof window with wiper
- Door and window locks
- Heater with circulating fan
- Sun visor
- Engine instrumentation panel (tachometer, voltmeter, engine oil pressure, engine water temperature, fuel level, hydraulic oil temperature, hour meter, and service monitor system)
- Mechanical drum rotation indicators for front and rear hoist drums
- Six-way adjustable seat
- Dry chemical fire extinguisher
- Hand and foot throttle
- Fully adjustable single axis arm chair controls
- Swing lever with swing brake and horn located on handle
- Bubble type level
- Ergonomic gauge layout
- Control shut off lever

(continued from page 7)

HC-238H II Load Hoist Performance

Available line speed and pull - based on Isuzu 4HK1 engine at 2,100 rpm full load speed. Line Pulls are not based on wire rope strength. See wire rope capacity chart for maximum permissible single part of line working loads.

Front Drum - 7/8" (22 mm) Rope												
Layer	Maximum Line Pull		No Load Line Speed		Full Load Line Speed		Pitch Diameter		Layer		Total	
	lb	kg	ft/min	m/min	ft/min	m/min	in	mm	ft	m	ft	m
1	35,292	16 008	249	76	76	23	17.6	442	111	33.8	111	33.8
2	32,084	14 553	274	84	83	25	19.1	493	122	37.1	233	70.9
3	29,410	13 340	299	91	91	28	20.7	526	133	40.5	365	111.4
4	27,148	12 314	324	99	99	30	22.2	564	144	43.8	509	155.3
5	25,209	11 435	349	106	106	32	23.7	602	155	47.2	664	202.4
6	23,528	10 672	374	114	114	35	25.2	641	166	50.5	830	253.0
7	22,058	10 006	399	122	121	37	26.7	678	177	53.9	1,007	306.9

Rear Drum - 7/8" (22 mm) Rope												
Layer	Maximum Line Pull		No Load Line Speed		Full Load Line Speed		Pitch Diameter		Layer		Total	
	lb	kg	ft/min	m/min	ft/min	m/min	in	mm	ft	m	ft	m
1	21,781	9 880	404	123	123	37	17.6	448	111	33.8	111	33.8
2	19,801	8 982	444	135	135	41	19.4	492	122	37.1	233	70.9
3	18,151	8 233	485	148	147	45	21.1	537	133	40.5	365	111.4
4	16,755	7 600	525	160	160	49	22.9	581	144	43.8	509	155.3
5	15,558	7 057	566	173	172	52	24.6	626	155	47.2	664	202.4
6	14,521	6 587	606	185	184	56	26.4	670	166	50.5	830	253.0
7	13,613	6 175	646	197	197	60	28.1	715	177	53.9	1,007	306.9

Boom Hoist Drum - 7/8" (22 mm) Rope												
Layer	Maximum Line Pull		No Load Line Speed		Full Load Line Speed		Pitch Diameter		Layer		Total	
	lb	kg	ft/min	m/min	ft/min	m/min	in	mm	ft	m	ft	m
1	38,496	17 462	119	36	77	23	15.88	403.2	51.8	15.8	51.8	15.8
2	34,647	15 716	132	40	86	26	17.63	447.7	57.1	17.4	108.9	33.2
3	31,497	14 287	145	44	94	29	19.38	429.1	62.3	19.0	171.2	53.2
4	28,872	13 096	158	48	103	31	21.13	536.6	67.2	20.5	238.5	72.7
5	26,651	12 089	171	52	111	34	22.88	581.0	72.5	22.1	310.9	94.8
6	24,748	11 226	185	56	120	37	24.63	625.5	77.4	23.6	388.4	118.4
7	23,098	10 477	198	60	129	39	26.38	669.9	82.7	25.2	471.3	143.7

Third Drum Capacity - 7/8" (22 mm) Rope												
Layer	Maximum Line Pull		No Load Line Speed		Full Load Line Speed		Pitch Diameter		Layer		Total	
	lb	kg	ft/min	m/min	ft/min	m/min	in	mm	ft	m	ft	m
1	19,640	8 909	252	77	193	59	19.6	498	128	39.01	128	39.01
2	18,032	8 179	275	84	210	64	21.4	544	139	42.37	267	81.38
3	16,668	7 560	297	91	228	69	23.1	587	151	46.02	418	127.41
4	15,495	7 029	320	98	245	75	24.9	632	162	49.38	580	176.78
5	14,477	6 567	342	104	262	80	26.6	675	173	52.73	753	229.51

Wire Rope Application	Size: Diameter		Type	Max. Permissible Load		Type "DB": 6 X 25 (6X19 Class) - filler wire - extra improved plow steel - preformed I.W.R.C. - right lay - regular lay Type "RB": 19 strand, compacted strand, rotation resistant - extra extra improved plow steel - preformed right lay - regular lay Type "LB": 6 strand, compacted strand, seale or Warrington seale - preformed, I.W.R.C. - right lay - regular lay.
	inch	mm		lbs.	kg	
Main hoist	7/8	22	DB	22,700	10 297	
Auxiliary hoist	7/8	22	RB	17,520	7 947	
Boom hoist	7/8	22	LB	25,000	11 340	
Boom pendants	1-3/8	35	N	n/a	n/a	
Jib pendants	3/4	19	N	n/a	n/a	

Revolving Upperstructure *(continued from page 7)*

■ Load Moment Indicator/Limiter

Standard Equipment: PAT DS-350G/1334 modular system that includes two line-riders, angle sensor, computer, graphics display, and anti two block equipment to provide the following information:

- Graphic representation of Machine Configuration
- Graphical step-by-step machine set-up
- Boom length & angle
- Jib length & angle
- Load on hook
- Rated load

- Load radius
- Tip height
- Anti-two block warning & function limiters operation mode
- Provides an audio/visual warning when the load on hook is within 90% of the cranes rated load.
- Provides an audio/visual warning and limits functions when the load on hook is at 100% of the cranes rated load.
- Operator settable alarms include maximum and minimum boom angle, maximum tip height, left and right swing, and range control (obstacle avoidance). These alarms provide an audio/visual warning only.

Note: Function limiters are activated for Anti-two block and overload conditions. These limiters are designed to prevent hoist up on front, rear and third hoist drums, and boom hoist down.

■ Additional Equipment – Standard

- 93" (2.36 m) outside diameter turn table bearing
- Front, and removable right catwalks.
- Left side catwalks are optional.
- 77 (usable) U.S. Gallons (291.5 L) fuel tank
- Upper lifting links
- Two 70-watt headlights

Carrier

■ Type

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

- 11' 0" (3.35 m) wide
- 23' 6" (7.16 m) wheel base.
- 8 x 4 drive.
- 100,000 psi (689.5 mPa) alloy steel, triple box construction.

■ Axles

Front

- Tubular tandem axles
- 105" (2.67 m) track with single wheels.
- Oil lubed wheel bearings with see through hubcaps.
- 43,660 lbs. (19 804 kg) maximum axle loading at 56 m.p.h. (90 km/hr)

Rear

- Tubular tandem axles
- 100.25" (2.56 m) track with dual wheels.
- Oil lubed wheel bearings with see through hubcaps.
- 9.14:1 ratio with interaxle differential lockout
- 85,840 lbs. (38 936 kg) maximum axle loading at 56 m.p.h. (90 km/hr)

Optional Pusher Axle

- Tubular single axles
- 97.75" (2.48 m) track with dual wheels.
- Oil lubed wheel bearings with see through hubcaps.
- 22,000 lbs. (9 979 kg) maximum axle loading at 56 m.p.h. (90 km/hr)
- Can be air lifted to provide 4.31" (109.5 mm) clearance to ground
- Air controlled

■ Suspension

Front – Air-ride system, 4-bag walking beam style, that deflates to solid mount for increased stability during job site travel.

Rear – Solid mount, bronze bushed equalizer beams with rubber bushed torque rods.

■ Wheels

Front – Hub mounted steel disc.

Rear – Integral with planetary hubs.

■ Tires

Standard – 385/95 R25 VHS tubeless radials.

- Three-star rating
- Static load – 16.6 width x 24.6 radius

■ Brakes

Service

- Full air brakes on all wheel ends. Dual circuit with modulated emergency brakes.

Front

- 16.5" x 6" (0.42 m x 0.15 m) S-Cam brakes.

Rear

- 20.25" x 7" (0.51 m x 0.18 m) S-Cam brakes.

Parking/Emergency

- One spring set, air released chamber per rear axle end. Emergency brakes apply automatically when air pressure drops below 60 psi (413.7 kPa) in both systems.

■ Steering

- Sheppard full integral, hydraulic power.
- Steering mounted on high sides of frame to minimize exposure to hazards.
- High speed, high power system to maximize maneuverability both on job and on the road.

■ Transmissions

Main

- Eaton RTO 14908LL with 8 progressive highway gears and 2 "super low" gears for 10 forward and 3 reverse speeds.

Auxiliary

- Spicer P-1241-C; used with manual transmission; midship mounted with 4-speed gearing; 2.31:1 first gear ratio.

■ Electrical

Four group 31 batteries provide 12-volt operating system and 12-volt starting with 1,600 cold cranking amps available. Charging is provided by a 130 amp alternator.

Lights

- Four dual, sealed beam headlights
- Front, side, and rear directional signals with 4-way hazard system
- Stop and tail lights
- Rear and side clearance lights
- Side turn indicators
- Lighted license plate bracket

■ Outriggers

The outrigger system is designed with five hydraulically controlled outriggers that provide an optimal 360-degree working area and simultaneous operation of steering and outriggers.

- The front and rear outriggers are a double-box design that allows all four telescoping beams and jacks to extend/retract independently.
- Hydraulic controls are located at each outrigger location with the bumper outrigger operated at the front bumper. The controls are designed to allow both front and rear jacks to be operated from the driver's side of carrier if necessary.
- Vertical jack cylinders are equipped with holding valves.
- Quick-attach self-aligning rear outrigger box with hydraulic pins.
- Quick attach self-aligning front outrigger box with manual pins. Hydraulic pins are optional.
- Front left outrigger jack will tilt to allow front box to roll under carrier frame for removal.
- 34" (0.86 m) diameter quick-release steel floats.
- 24" (0.61 m) diameter self-storing aluminum bumper float.

Jack Reactions

- Maximum 180,000 lbs. (81 648 kg) force and 198 psi (1 365 kPa) ground bearing pressure on main outriggers
- Maximum 41,000 lbs. (18 598 kg) force and 91 psi (627 kPa) ground bearing pressure on front bumper outrigger.

Carrier Engine Specifications

Detroit Diesel Series 60 – 12.7 Liter with oil filter, oil cooler, air cleaner, fuel filter, water separator, tachometer and electrical shutdown.	
Number of cylinders	6
Bore and stroke – in. (mm)	5.12" x 6.30" (130 x 160)
Piston displacement – cu. in (cm ³)	778 (12 751)
Hi-idle rpm	2,225
Max brake hp (kw)	430 (321) @ 2,100 r.p.m.
Peak torque – ft./lb. (joules)	1,450 (1 966) @ 1,200 r.p.m.
Batteries	4–12 volt
Approximate fuel consumption	Gal./hr. (L/hr)
100% HP	19.90 (75.33)
75% HP	14.93 (56.52)
50% HP	9.95 (37.66)
25% HP	4.98 (18.85)

Bumper Counterweight

Standard

- "A" counterweight – 13,500 lbs. (6 124 kg)

Carrier Cab

Fully enclosed, one person. Galvaneal steel construction, lined with vinyl covered acoustical insulation with sound reduction insulation and isolated from engine compartment.

Equipped with:

- Air ride seat with seat belt
- 2–speed, electric windshield wiper and washer
- Tilt/telescoping steering column
- Front and roof, fresh air vents
- Safety plate glass on front
- Sliding, tinted, rear and right side windows
- Roll down door window
- Door and window locks
- Diagnostic connectors for engine
- Fire extinguisher
- 19,800 BTU heater/defroster
- Rubber floor mat
- Horn
- Dome light
- Accessory plug/lighter

Cab Instrumentation – Tilt–out (for service access), illuminated, instrument panel includes:

- Speedometer
- Hourmeter
- Voltmeter
- Odometer
- Tachometer

- Stop and check engine warning lights
- Fuel gauge
- Engine oil pressure gauge
- Engine temperature gauge
- Front and rear air pressure gauges with low air pressure warning buzzer/light
- Cruise controls
- Engine fan override switch
- Heater and defroster controls
- Light controls
- Park brake switch and applied light
- Engine diagnostic switch

Additional Equipment

Standard:

- Towing shackles, front and rear.
- Aluminum, full deck fenders and ladders
- Outrigger controls located on outrigger boxes.
- Engine throttle–up control switch
- West Coast–type rear view mirrors with adjustable convex mirror
- Trailer electrical and air connectors
- 2–way reading bubble levels
- Back–up alarm
- Mud flaps
- Air dryer
- Lug wrench
- Tire inflation system
- Remote plug for block heater
- 85 gal. (321.76 L) fuel tank

Optional:

- Spare tires and rims

Carrier Speeds

Main–Eaton RTO 14908LL			Auxiliary–Spicer P–1241–C							
Gear		Ratio	4th (0.81)		3rd (1.00)		2nd (1.24)		1st (2.37)	
			mph	km/h	mph	km/h	mph	km/h	mph	km/h
High	8th	.74	58.4	94.2	47.4	76.3	38.2	61.5	20.0	32.2
	7th	1.00	43.2	69.5	35.1	56.5	28.3	45.5	14.8	23.8
	6th	1.36	31.8	51.2	25.8	41.5	20.8	33.5	10.9	17.5
	5th	1.83	23.6	38.0	19.2	30.9	15.5	24.9	8.1	13.0
Low	4th	2.53	17.1	27.5	13.9	22.4	11.2	18.0	5.9	9.5
	3rd	3.40	12.7	20.4	10.3	16.6	8.3	13.4	4.4	7.1
	2nd	4.63	9.3	15.0	7.6	12.2	6.1	9.8	3.2	5.1
	1st	6.24	6.9	11.1	5.6	9.0	4.5	7.2	2.4	3.9
	L	9.42	4.6	7.4	3.7	6.0	3.0	4.8	1.6	2.6
Deep Reduction	LL	14.56	3.0	4.8	2.4	3.9	1.9	3.1	1.0	1.6
Hi Rev. Lo Rev.	Rev.	2.89	15.0	24.1	12.1	19.5	9.8	15.8	5.1	8.2
	Rev.	9.85	4.4	7.1	3.6	5.8	2.9	4.7	1.5	2.4
Deep Reduction	Rev.	15.22	2.8	4.5	2.3	3.7	1.9	3.1	1.0	1.6
Deep Reduction @ 600 rpm	LL	14.56	0.85	1.4	0.7	1.2	.55	0.9	0.3	0.5
Deep Reduction @ 600 rpm	Rev.	15.22	0.8	1.3	0.65	1.1	0.5	0.8	0.3	0.5

■ Axle Loads

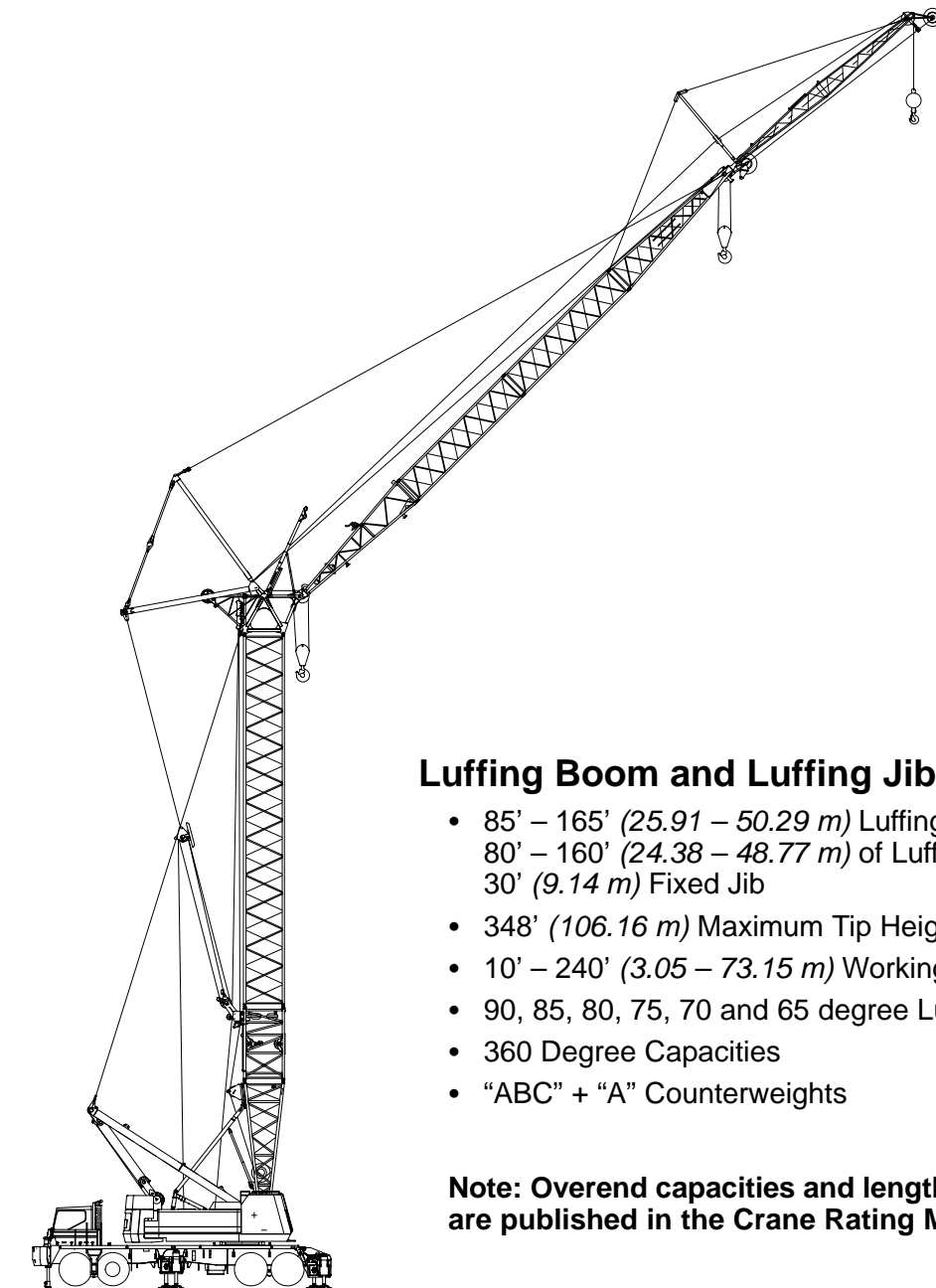
Base machine: Standard carrier with 85 gallons (321 L) of fuel and manual front outrigger pins. Standard revolving upperstructure with 77 gallons (291 L) of fuel, rigid backstops, mast, bridle, bail, and 950' (290 m) of front hoist rope.	Gross Vehicle Weight		Upper Facing Rear of Carrier				Upper Facing Front of Carrier			
			Front Axle		Rear Axle		Front Axle		Rear Axle	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
	85,080	38 592	32,012	14 974	52,068	23 618	25,582	11 604	59,498	26 988
Add Rear Outrigger Box w/ Hydraulic Pin Pullers	9,954	4 515	-2,711	-1 230	12,665	5 745	-2,711	-1 230	12,665	5 745
Add Front Outrigger Box w/ Manual Pins	9,049	4 104	5,195	2 357	3,853	1 748	5,195	2 357	3,853	1 748
Add Hydraulic Front Outrigger Pin Removal System	647	293	317	169	276	125	371	169	276	125
Add Main Outrigger Floats To Storage Racks	660	299	230	104	430	195	230	104	430	195
Add Bumper Outrigger Pontoon To Storage Rack	80	36	60	27	20	9	60	27	20	9
Add "A" Bumper Counterweight	13,500	6 123	16,420	7 448	-2,920	-1 325	16,420	7 448	-2,920	-1 325
Add Pusher Lift Axle (Maximum Boost)	2,250	1 021	-4,834	-2 193	-11,166	-5 065	-4,834	-2 193	-11,166	-5 065
Add Tag Axle (Customer Supplied)	7,000	3 175	7,234	3 281	-24,234	-10 993	7,234	3 281	-24,234	-10 993
Add Driver To Carrier Cab	220	100	245	111	-25	-11	245	111	-25	-11
Add Hydraulic Backstops	535	243	116	52	419	190	51	23	484	219
Flip Mast to rear of Upper	0	0	4,442	2 015	1,744	791	-2,505	-1 136	8,691	3 942
Add 465' (145 m) Type 'DB' Rear Hoist Rope	628	285	282	128	346	157	-86	-39	714	324
Add 600' (183 m) Type 'RB' Rear Hoist Rope	900	408	404	183	496	225	-124	-56	1,024	464
Add 800' (245 m) Type 'DB' Rear Hoist Rope	1,070	485	480	218	590	267	-147	-67	1217	552
Add "A" Upper Counterweight	22,730	10 310	16,932	7 680	6,068	2 752	-9,755	-4 425	32,755	14 858
Add "B" Upper Counterweight	19,200	8 709	12,280	5 570	7,050	3 198	-6,248	-2 834	25,578	11 602
Add "C" Upper Counterweight	27,070	12 279	15,805	7 169	5,305	2 406	-9,217	-4 181	30,327	13 756
Remove Wire Rope From Front Drum	-1,350	-612	-378	-171	-972	-441	-43	-20	-1,307	-593
Add 20' (6.10 m) Base Section	3,350	1 520	-1,222	-554	4,572	2 074				
Add 10' (3.05 m) Extension w/ Lifting Sheaves	2,607	1 183	-3,137	-1 423	5,744	2 606				
Add 10' (3.05 m) Luffer Ready Extension w/o Bail	3,162	1 434	-3,361	-1 524	6,523	2 959				
Add Luffing Jib Bail to the 10' Extension	1013	459	-1,248	-566	2,261	1 026				
Add Luffing Jib Bridle to the 10' Extension	517	235	-668	-303	1,185	537				
Add Third Drum, Wire Rope and Idler to Base Section	3,515	1 594	-698	-317	4,213	1 911				
Add Hookblock to 10' (3.05 m) Self-assembly Extension	2,000	907	-4,255	-1 930	6,255	2 837				
Add Single Axle Dolly w/ Base and Peak	15,392	6 982	1,507	684	-2,922	-1 325				
Add Single Axle Dolly w/ Base and 10' (3.05 m) Self Assy.	13,002	5 898	1,588	721	1,958	888				
Add Tandem Axle Dolly w/ Base and Peak	17,392	7 889	1,507	684	-2,922	-1 325				
Add Tandem Axle Dolly w/ Base and 10' (3.05 m) Self Assy.	15,002	6 805	1,588	721	1,958	888				
Add Hookblock to 10' (3.05 m) Self-assembly (w/ Dolly)	2,000	907	-29	-13	-937	-425				
Add Hookblock to Boom Peak (w/ Dolly)	2,000	907	-100	-45	-3,196	-1 450				

Axle	Maximum Allowable Load @ 65 mph (104 km/h)
Front Tandem	43,660 lb (19 804 kg)
Rear Tandem	85,840 lb (38 937 kg)
Pusher	20,000 lb (9 072 kg)

Lifting Capacities

Lattice Boom Truck Crane with Luffing Attachment

HC-238H II 27-ton (24.50 metric ton) HYLAB Series



Luffing Boom and Luffing Jib Capacities

- 85' – 165' (25.91 – 50.29 m) Luffing Boom with 80' – 160' (24.38 – 48.77 m) of Luffing Jib and 30' (9.14 m) Fixed Jib
- 348' (106.16 m) Maximum Tip Height
- 10' – 240' (3.05 – 73.15 m) Working radii
- 90, 85, 80, 75, 70 and 65 degree Luffing Boom angles
- 360 Degree Capacities
- "ABC" + "A" Counterweights

Note: Overend capacities and lengths in 10' increments are published in the Crane Rating Manual only.



WARNING

READ AND UNDERSTAND THE OPERATOR'S AND SAFETY MANUAL AND THE FOLLOWING INSTRUCTIONS AND CHART VALUES BEFORE OPERATING THE CRANE. OPERATION WHICH DOES NOT FOLLOW THESE INSTRUCTIONS MAY RESULT IN AN ACCIDENT.

OPERATING INSTRUCTIONS

GENERAL:

1. Rated lifting capacities in kips (1,000 pounds) as shown on lift charts pertain to this crane as originally manufactured and normally equipped. Modifications to the crane 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 crane must be in compliance with the information in the Operator's, Parts, and Safety Manuals supplied with this crane. If these manuals are missing, order replacements through the distributor.
3. The operator and other personnel associated with this crane shall read and fully understand the latest applicable American National Standards Institute (ANSI) safety standards for cranes.
4. All capacities listed in this book are in compliance with ASME/ANSI B30.5c-1991, SAE J987-April 1994, and SAE J765-October 1990.

SET UP:

1. For all operating conditions, the outrigger beams must be fully extended and all five (5) outrigger jacks must be extended so tires clear the ground and the crane is level.
2. During attachment liftoff and lowering, adequate blocking must be placed under the pontoons to adequately support the loading without settling, slipping, or collapsing.
3. Counterweights: All luffing attachment combinations require the maximum counterweight combination ("ABC" + "A").
4. Refer to the Operator's Manual for instructions pertaining to assembly, raising and lowering of the attachment.
5. The fixed jib has only one length (30 ft) and only one offset with respect to the luffing jib (5 degrees).

LUFFING ATTACHMENT OPERATION:

1. Capacities shown are in kips (1,000 pounds) and are not more than 75% of the tipping loads with the crane standing level on a firm supporting surface. A deduction must be made from these capacities for weight of hook block, hook ball, sling, grapple, load weighing device, etc.

Deduct 1.5 pounds for every foot of extra wire rope hoist line reeving. When lifting from the luffing jib with the fixed jib installed, reduce capacities by the values shown on the Capacity Deductions For Auxiliary Load Handling Equipment. See Operator's Manual for all limitations when raising or lowering the attachment.

2. Do not suspend more than one load at a time.
3. The crane capacities marked with an asterisk (*) are based on structural strength. The crane capacities in the non-asterisked areas are based on stability ratings.
4. For recommended reeving, parts of line, wire rope type, and wire rope inspection, see Operator's Manual and Parts Manual.
5. Load ratings are based on freely suspended loads and make no allowances for such factors as the effect of the wind on load, ground conditions, and operating speeds. The operator shall therefore reduce load ratings in order to take these conditions into account. Refer to the Wind Speed Restrictions for safe operation, travel and storage of the attachment.
6. The 26 ft luffing boom live mast must be used for all capacities shown.
7. The least stable rated condition is over the side.
8. See Lift Off charts for erecting and lowering the luffing attachment.
9. Do not operate at radii or boom lengths where the Crane Rating Manual lists no capacity. Do not use longer booms or jibs than those listed in the Crane Rating Manual. Any of the above can cause a tipping condition or boom and jib failure.
10. These capacities apply only to the crane as originally manufactured and normally equipped by Link-Belt Construction Equipment Company.
11. Refer to the enclosed charts for allowable attachment liftoff lengths and allowable attachment working lengths at the various luffing boom angles.
12. Do not travel with a load.

WIRE ROPE CAPACITY CHART

Parts of Line	7/8"			Notes
	Type DB	Type LB	Type RB	
1	22,700	25,020	17,520	Capacities shown are in pounds and working loads must not exceed the ratings on the capacity charts in the Crane Rating Manual. Study Operator's Manual for wire rope inspection procedures.
2	45,400	50,050	35,040	
3	68,100	75,080	52,560	
4	90,800	100,110	70,080	
5	113,500	125,140	87,600	
6	136,200	150,170	105,120	
7	158,900	175,200	122,640	
8	181,600	200,220	140,160	
9	204,300	225,250	157,680	
10	227,000	250,280	175,200	
11	249,700	275,310	192,720	
12	272,400	300,340	210,240	
13	295,100	325,370	227,760	
14	317,400	350,400	245,280	

LBCE Type	Description
DB	6 x 26 (6 x 19 Class) – Warrington Seale – Extra Improved Plow Steel – Preformed – Right Lay – Regular Lay – I.W.R.C.
RB	Rotation Resistant – 19 Strand, Compacted Strand – Extra Extra Improved Plow Steel – Preformed – Right Lay – Regular Lay
LB	6 Strand, Compacted Strand – Seale or Warrington Seale – Preformed – I.W.R.C. – Right Lay – Regular Lay

CAPACITY DEDUCTIONS FOR AUXILIARY LOAD HANDLING EQUIPMENT

Lifting From Luffing Jib With:	Weight (lb)
30 ft Fixed Jib Installed	4,000
15-ton hook ball on fixed jib	750
15-ton hook ball on auxiliary sheave	750
60-ton hook block on auxiliary sheave	1,700
Extra wire rope hoist line reeving	1.5 lbs/ft
Lifting From Auxiliary Sheave With:	Weight (lb)
15-Ton Hook Ball on Fixed Jib	750
15-Ton Hook Ball on Luffing Jib	750
60-Ton Hook Block on Luffing Jib	1,700
Pendant Deflector (w/o Luffing Jib)	500
Luffing Jib Backstops (w/o Luffing Jib)	750
80' Luffing Jib	16,500
90' Luffing Jib	17,700
100' Luffing Jib	19,000
110' Luffing Jib	20,400
120' Luffing Jib	21,800
130' Luffing Jib	23,200
140' Luffing Jib	24,700
150' Luffing Jib	26,300
160' Luffing Jib	27,900
80' Luffing Jib + 30' Fixed Jib	20,200
90' Luffing Jib + 30' Fixed Jib	21,700
100' Luffing Jib + 30' Fixed Jib	23,200
110' Luffing Jib + 30' Fixed Jib	24,700
120' Luffing Jib + 30' Fixed Jib	26,300
130' Luffing Jib + 30' Fixed Jib	28,000
140' Luffing Jib + 30' Fixed Jib	29,600
150' Luffing Jib + 30' Fixed Jib	31,400
Extra Wire Rope Hoist Line Reeving	1.5 lbs/ft

WIND SPEED RESTRICTIONS

1. Failure to follow these wind speed restrictions may result in structural failure of the luffing jib and/or luffing boom, which would cause property damage and/or bodily injury.
2. The effects of the wind force on the hook load are the responsibility of the user and are not taken into account. When hoisting any load in windy conditions, the load wind area and load controllability must be considered for safe crane operation.
3. Wind speed is to be determined at the luffing boom cap.

WIND SPEED CHART

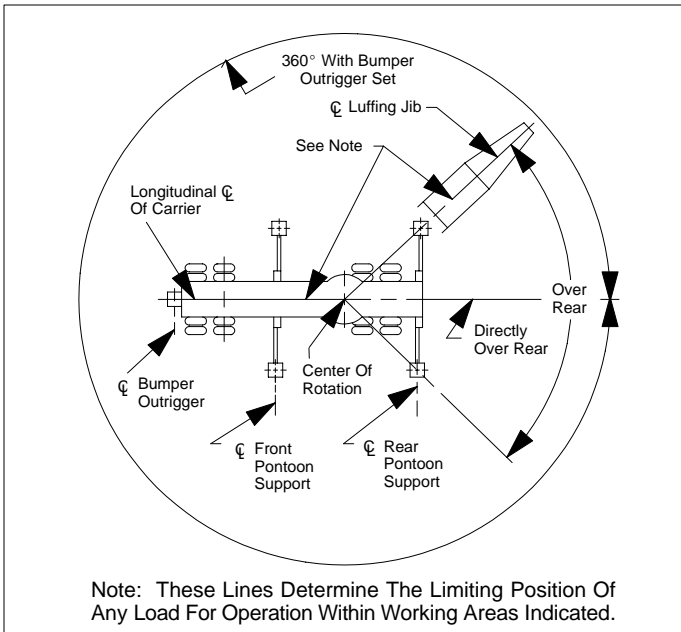
Luffing Boom Lengths: Luffing Jib Only Lengths: Luffing Jib + Fixed Jib Lengths:		85' to 145' 80' to 120' 80' + 30' or 90' + 30'
DESCRIPTION	ALLOWABLE WIND SPEED IN M.P.H.	
1. Normal Lifting Operation. (See Capacity Charts)	0-25	
2. Reduced Operation. Capacities must be reduced by 50%.	26-40	
3. No Operation. Store Attachment On Ground.	Over 40	
4. Job Site Travel Charts. (See Operator's Manual)	0-15	

Luffing Boom Lengths: Luffing Jib Only Lengths: Luffing Jib + Fixed Jib Lengths:		155' or 165' 130' to 160' 100' + 30' to 150' + 30'
DESCRIPTION	ALLOWABLE WIND SPEED IN M.P.H.	
1. Normal Lifting Operation. (See Capacity Charts)	0-25	
2. No Operation. Store Attachment.*	26-40	
3. No Operation. Store Attachment On Ground.	Over 40	
4. Job Site Travel Charts. (See Operator's Manual)	0-15	

* – The attachment must be stored in one of the following positions:

1. Lay the luffing boom and luffing jib on the ground.
2. Tie off luffing boom tip to an immovable object. For details and information on the tie-off procedure, see the Operator's Manual.

WORKING AREAS



AUXILIARY SHEAVES NOTES

1. Capacities are for a HC-238H II truck crane with ABC upper counterweight and "A" bumper counterweight.
2. Capacities are for working areas, as described on the Working Areas Chart found in the General Information section of the Crane Rating Manual and are based on the crane sitting level on a firm supporting surface.
3. Capacities are limited to an LBCE 62" x 70" tubular boom with a luffing boom top.
4. Four parts of line are required for maximum lift.
5. Capacities are for luffing boom lengths between 85 feet and 165 feet.
6. The least stable condition is over the side.
7. All capacities are in kips and are not more than 75% of the tipping loads. Those capacities followed by an asterisk are governed by factors other than those which would cause a tipping condition.
8. The appropriate deduction must be taken if any luffing jib or fixed jib components are installed. See the Capacity Deductions for Auxiliary Load Handling Equipment for more information.
9. If the luffing jib is installed, the minimum luffing boom angle is 65 degrees. The maximum boom angle is 80 degrees when using the auxiliary sheaves.
10. The luffing jib should be set to a 15 degree offset when using the auxiliary sheaves.
11. See Operator's Manual for more information.

ROLLED OUT LIFTOFF CAPABILITIES

Luffing Boom Length		Luffing Jib Length		Luffing Jib + Fixed Jib Length	
ft	m	ft	m	ft	m
85	25.9	80-160	24.4-48.8	80+30 - 150+30	24.4+9.1-45.7+9.1
95	29.0	80-160	24.4-48.8	80+30 - 150+30	24.4+9.1-45.7+9.1
105	32.0	80-160	24.4-48.8	80+30 - 150+30	24.4+9.1-45.7+9.1
115	35.1	80-160	24.4-48.8	80+30 - 150+30	24.4+9.1-45.7+9.1
125	38.1	80-160	24.4-48.8	80+30 - 150+30	24.4+9.1-45.7+9.1
135	41.1	80-160	24.4-48.8	80+30 - 150+30	24.4+9.1-45.7+9.1
*145	44.2	80-160	24.4-48.8	80+30 - 150+30	24.4+9.1-45.7+9.1
*155	47.2	80-160	24.4-48.8	80+30 - 150+30	24.4+9.1-45.7+9.1
*165	50.3	110-160	33.5-48.8	110+30 - 150+30	33.5+9.1-45.7+9.1

ROLLED UNDER LIFTOFF CAPABILITIES

LATCHED UNDER LIFTOFF CAPABILITIES

Luffing Boom Length		Luffing Jib Length		Luffing Boom Length		Luffing Jib Length	
ft	m	ft	m	ft	m	ft	m
95	29.0	80	24.4	95	29.0	80	24.4
105	32.0	80-90	24.4-27.4	105	32.0	80-90	24.4-27.4
115	35.1	80-100	24.4-30.5	115	35.1	80-100	24.4-30.5
125	38.1	80-110	24.4-33.5	125	38.1	80-110	24.4-33.5
135	41.1	80-120	24.4-36.6	*135	41.1	80-120	24.4-36.6
*145	44.2	80-130	24.4-39.6	*145	44.2	80-130	24.4-39.6
*155	47.2	80-140	24.4-42.7	*155	47.2	80-140	24.4-42.7
*165	50.3	110-150	33.5-45.7	—	—	—	—

WARNING

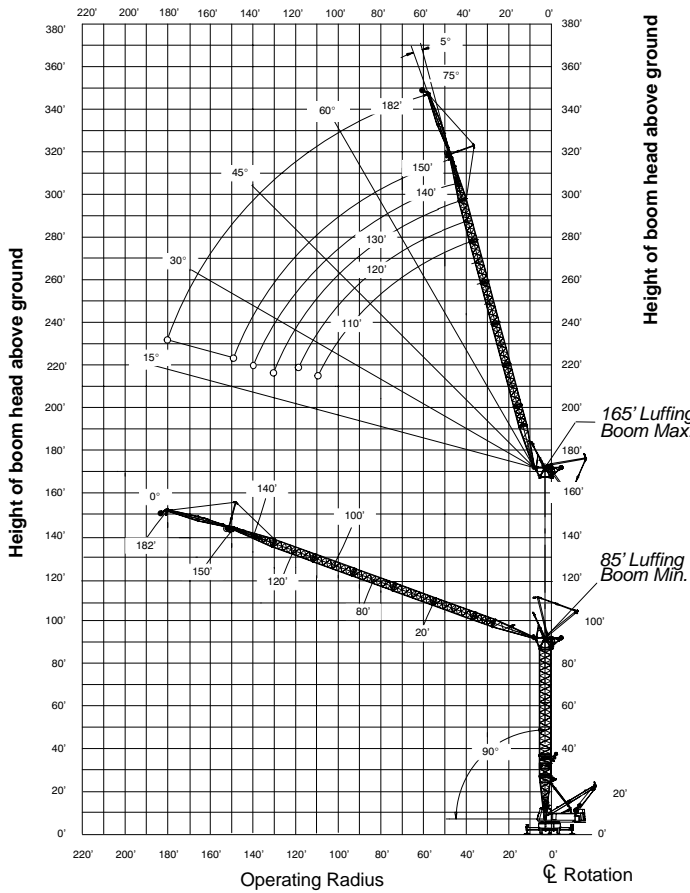
The luffing boom angle must be 75° when erecting or lowering the luffing jib. Crane damage can occur. See Operator's Manual for more information.

* - Erection must be done off the rear of the carrier. Counterweights "ABC" (63,440 lb.) + "A" (13,500 lb) bumper must be installed.

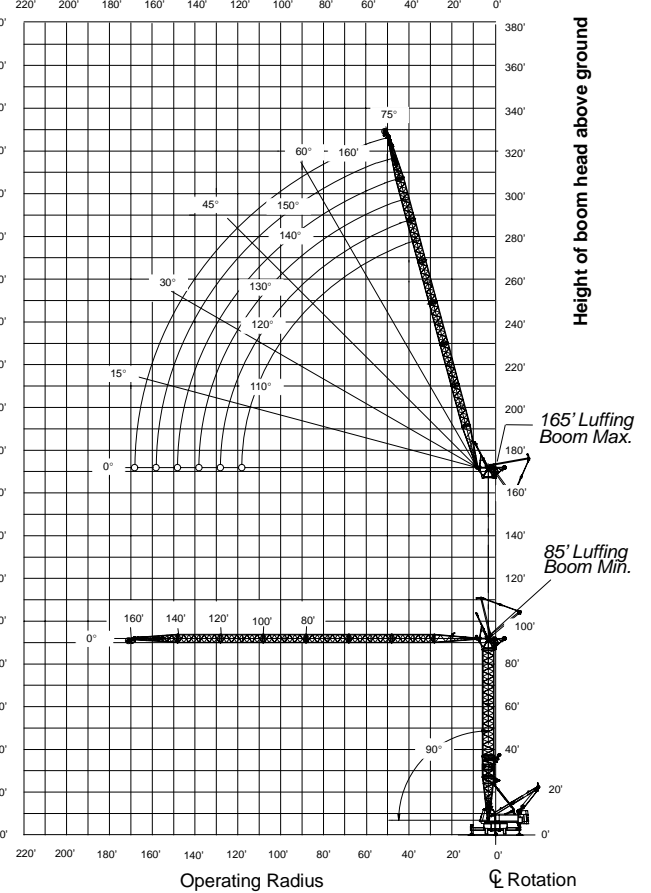
CRANE ASSEMBLY COMPONENT WEIGHTS

Component	Weight	
	lbs	kg
1. 20' Luffing Boom Base Section (w/o 3rd drum)	3,780	1 715
• 3rd Drum (w/o rope)	1,910	866
• 3rd Drum Rope (745' of 7/8" type "RB")	1,120	508
2. 10' Self Assembly Section	3,160	1 433
3. Luffing Boom Extensions (w/o luffing jib bail guide rails and pendants)	62 lbs/ft	92 kg/m
• Luffing Jib Bail Guide Rails (50' required)	25 lbs/ft	37 kg/m
• Luffing Boom Pendants	13 lbs/ft	19 kg/m
4. Luffing Jib Bail	1,010	458
5. Luffing Jib Bridle	460	209
6. Luffing Boom Cap	2,820	1 279
7. Pendant Deflector	500	227
8. Luffing Jib Backstops	750	340
9. Fan Post Assembly	2,530	1 148
10. Luffing Jib Base	1,510	685
11. Luffing Jib Extensions (w/o pendants)	44 lbs/ft	65 kg/m
• Luffing Jib Pendants	11 lbs/ft.	17 kg/m
12. Luffing Jib Peak (w/2 sheaves)	2,800	1 270
13. 30' Fixed Jib Assembly	1,740	789
14. Upper Counterweights		
• CTWT. "A"	23,000	10 433
• CTWT. "B"	19,330	8 768
• CTWT. "C"	21,110	12 098
• CTWT. "AB"	42,330	19 201
• CTWT. "ABC"	63,400	28 776
15. Bumper Counterweights		
• CTWT. "A"	13,500	6 124

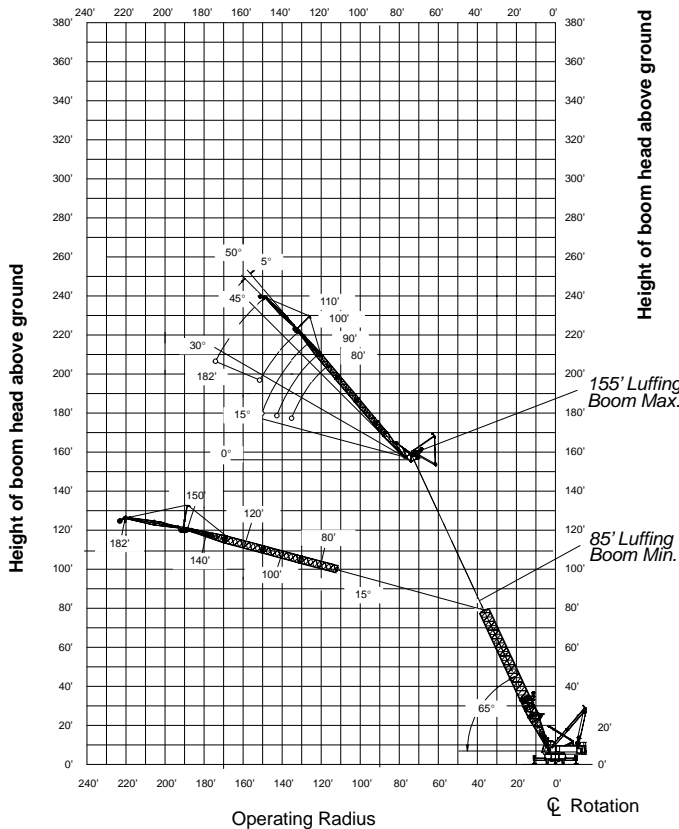
90° LUFFING BOOM ANGLE – 360° LUFFING JIB + FIXED JIB



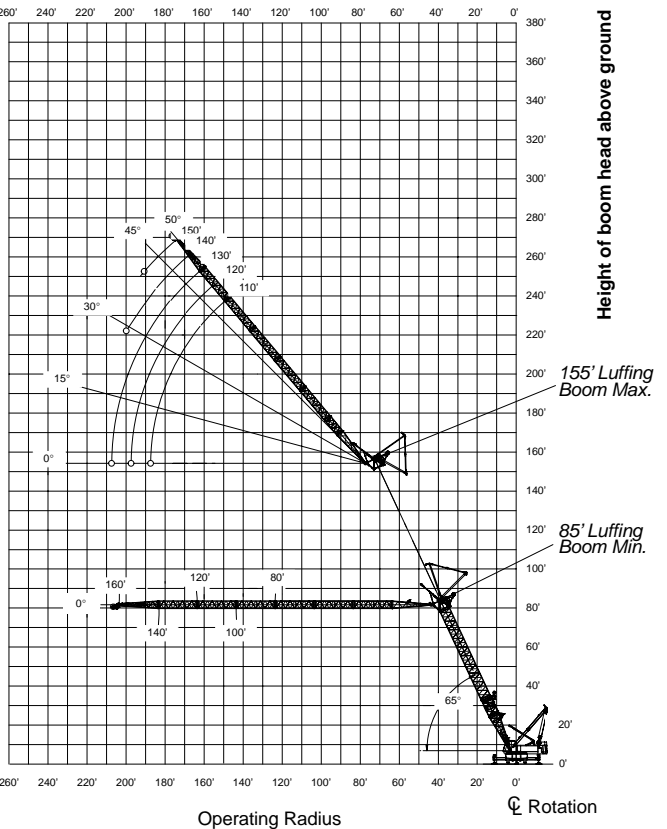
90° LUFFING BOOM ANGLE – 360° LUFFING JIB



65° LUFFING BOOM ANGLE – 360° LUFFING JIB + FIXED JIB



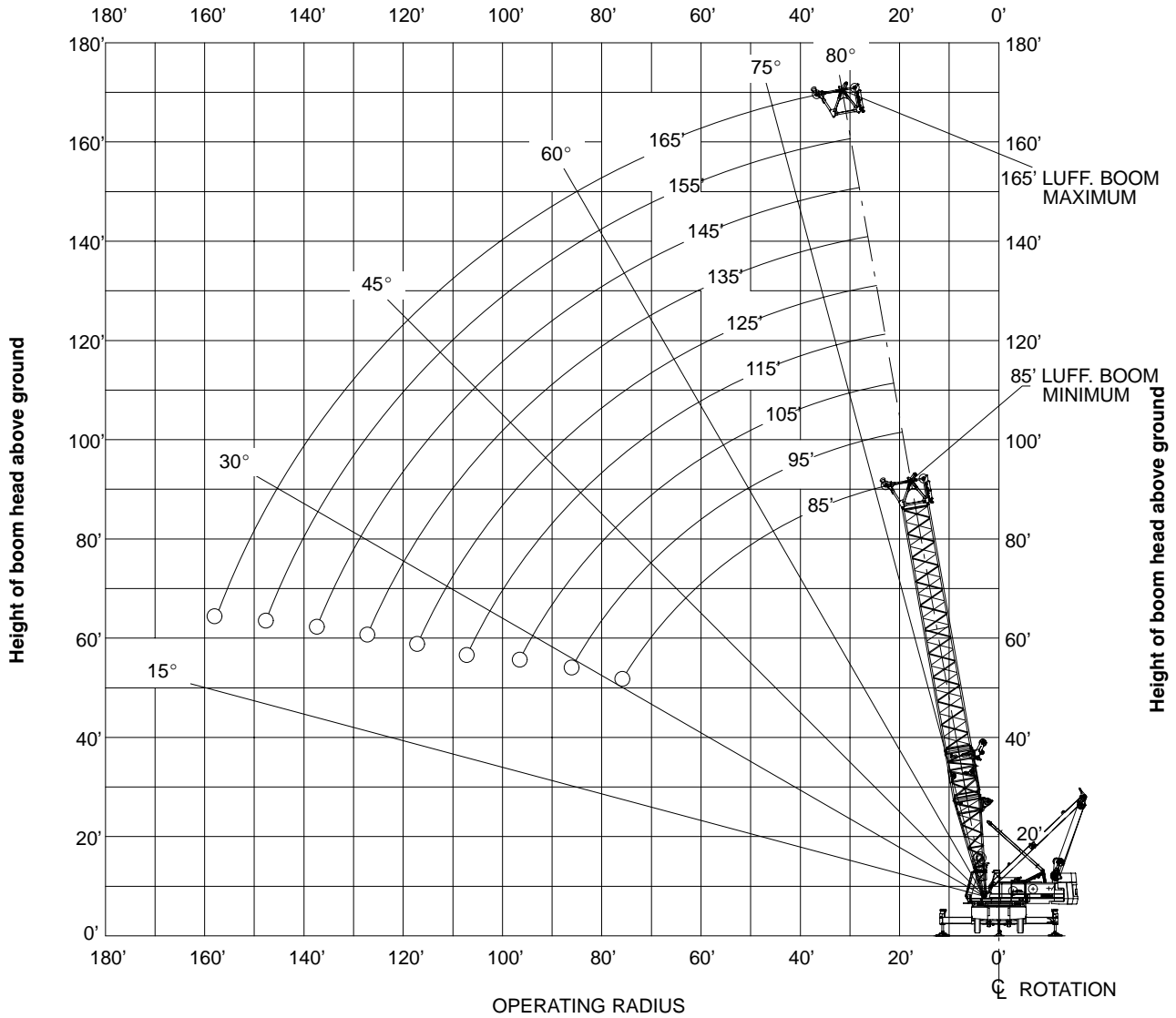
65° LUFFING BOOM ANGLE – 360° LUFFING JIB



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

WORKING RANGE DIAGRAM

AUXILIARY SHEAVES – 360°



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

HC-238H II 360 Degree Capacities												
62" x 70" Luffing Boom, 44" x 54" Luffing Jib, ABC + A Counterweight												
Luffing Boom Length (ft)	Luffing Jib Length (ft)	Load Radius (ft)	Luffing Boom Angle									
			90	85	80	75	70	65				
			Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)				
85	80	29	54.0	*								
85	80	30	52.9	*								
85	80	35	48.4	*								
85	80	40	43.9	*								
85	80	43			47.4	*						
85	80	50	38.6	*	41.5	*						
85	80	57				41.2	*					
85	80	60	35.1	*	36.5	*	39.3	*				
85	80	70	33.0	*	33.4	*	34.6	*	35.7			
85	80	80	26.8	*	31.6	*	31.2		30.0			
85	80	83								27.5		
85	80	88	15.7	*								
85	80	90			25.7	*	26.8		25.7	24.6		
85	80	95			17.9	*					22.1	
85	80	100					23.3		22.5	21.6	20.7	
85	80	103					20.2	*				
85	80	110							19.8	19.0	18.2	
85	80	117								17.5		
85	80	120									16.2	
85	80	124									15.5	
85	100	34	44.5	*								
85	100	35	43.8	*								
85	100	40	40.5	*								
85	100	50	34.9	*	38.4	*						
85	100	60	31.1	*	33.1	*						
85	100	65				33.6	*					
85	100	70	28.4	*	29.5	*	31.6	*				
85	100	80	26.4	*	27.0	*	28.1	*	29.5			
85	100	90	23.9	*	25.2	*	25.8	*	25.2			
85	100	94								22.7		
85	100	100	19.9	*	23.3	*	22.9		22.1	21.1		
85	100	108	11.7	*							18.2	
85	100	110			19.3	*	20.3		19.5	18.6	17.7	
85	100	115			13.5	*						
85	100	120					18.1		17.3	16.5	15.8	
85	100	123					15.3	*				
85	100	130							15.5	14.8	14.1	
85	100	137								13.7		
85	100	140									12.7	
85	100	144									12.2	
85	120	39	37.5	*								
85	120	40	37.1	*								
85	120	50	31.9	*								
85	120	57			31.8	*						
85	120	60	28.0	*	30.4	*						
85	120	70	25.3	*	26.8	*						

HC-238H II 360 Degree Capacities												
62" x 70" Luffing Boom, 44" x 54" Luffing Jib, ABC + A Counterweight												
Luffing Boom Length (ft)	Luffing Jib Length (ft)	Load Radius (ft)	Luffing Boom Angle									
			90	85	80	75	70	65				
			Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)				
85	120	73				27.6	*					
85	120	80	23.1	*	24.0	*	25.6	*				
85	120	90	21.1	*	21.6	*	22.4	*	24.5*			
85	120	100	20.1	*	20.2	*	20.6	*	21.5*			
85	120	106									19.1	
85	120	110	18.0	*	19.2	*	19.3	*	19.0		18.1	
85	120	120	14.7	*	17.7	*	17.7		16.9		16.0	
85	120	121										15.1
85	120	128	8.7	*								
85	120	130			14.4	*	15.8		15.1	14.3	13.6	
85	120	135			10.2	*						
85	120	140					13.9	*	13.6	12.9	12.2	
85	120	143					11.7	*				
85	120	150							12.3	11.7	11.0	
85	120	157								10.9		
85	120	160									10.0	
85	120	164									9.7	
85	140	44	31.4	*								
85	140	50	29.0	*								
85	140	60	25.4	*								
85	140	63			26.4	*						
85	140	70	22.1	*	24.3	*						
85	140	80	20.1	*	21.2	*						
85	140	82					22.1	*				
85	140	90	18.5	*	19.2	*	20.3	*				
85	140	100	17.3	*	17.7	*	18.4	*	19.5*			
85	140	110	16.3	*	16.5	*	17.0	*	17.8*			
85	140	117									16.1	
85	140	120	15.7	*	15.6	*	15.9	*	16.3*	15.6		
85	140	130	13.4	*	15.0	*	15.0	*	14.6	13.9		
85	140	133									12.6	
85	140	140	11.0	*	13.2	*	13.9		13.1	12.4	11.7	
85	140	148	6.3	*								
85	140	150			10.8	*	12.5		11.9	11.2	10.6	
85	140	155			7.6	*						
85	140	160					10.5	*	10.7	10.1	9.5	
85	140	163					8.9	*				
85	140	170							9.7*	9.2	8.6	
85	140	177								8.6		
85	140	180									7.9	
85	140	184									7.6	
85	160	49	26.1	*								
85	160	50	25.9	*								
85	160	60	22.2	*								
85	160	70	19.8	*	21.2	*						
85	160	80	17.9	*	19.1	*						

HC-238H II 360 Degree Capacities										
62" x 70" Luffing Boom, 44" x 54" Luffing Jib, ABC + A Counterweight										
Luffing Boom Length (ft)	Luffing Jib Length (ft)	Load Radius (ft)	Luffing Boom Angle							
			90	85	80	75	70	65		
			Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)		
125	140	180				8.2	7.4	6.6		
125	140	190					6.7	5.9		
125	140	191					6.6			
125	140	200							5.4	
125	160	49	23.3	*						
125	160	50	23.2	*						
125	160	60	20.3	*						
125	160	70	18.2	*						
125	160	74			19.5	*				
125	160	80	16.5	*	18.2	*				
125	160	90	15.1	*	16.5	*				
125	160	97			16.9	*				
125	160	100	14.0	*	15.0	*	16.5	*		
125	160	110	13.1	*	13.8	*	15.0	*		
125	160	120	12.3	*	12.9	*	13.7	*	14.7	
125	160	130	11.8	*	12.1	*	12.7	*	13.1	
125	160	140	11.4	*	11.5	*	11.9	*	11.7	
125	160	142						10.3		
125	160	150	9.9	*	11.0	*	11.3	*	10.5	9.4
125	160	160	8.1	*	10.4	*	10.4	9.4	8.5	
125	160	163								7.3
125	160	168	5.0	*						
125	160	170			8.6	*	9.4	8.5	7.6	6.7
125	160	179			6.1	*				
125	160	180				8.6	7.7	6.9	6.0	
125	160	190				6.8	*	7.0	6.2	5.4
125	160	200					6.4	5.6	4.9	
125	160	210						5.1	4.4	
125	160	211						5.0		
125	160	220							3.9	
145	80	29	43.9	*						
145	80	30	43.4	*						
145	80	35	41.4	*						
145	80	40	39.4	*						
145	80	48			39.7	*				
145	80	50	35.3	*	38.9	*				
145	80	60	31.9	*	34.9	*				
145	80	67				35.7	*			
145	80	70	29.0	*	31.6	*	34.6	*		
145	80	80	26.6	*	28.8	*	29.6			
145	80	85					25.1			
145	80	88	17.2	*						
145	80	90			26.4	*	25.4	23.4		
145	80	100			21.7	*	22.3	20.6		
145	80	101			19.5	*				
145	80	103						18.1		

HC-238H II 360 Degree Capacities										
62" x 70" Luffing Boom, 44" x 54" Luffing Jib, ABC + A Counterweight										
Luffing Boom Length (ft)	Luffing Jib Length (ft)	Load Radius (ft)	Luffing Boom Angle							
			90	85	80	75	70	65		
			Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)		
145	120	126							12.7	
145	120	128	9.7	*						
145	120	130			15.6	*	14.9	13.5	12.1	
145	120	140			12.3	*	13.4	12.1	10.8	
145	120	141			11.2	*				
145	120	146								9.0
145	120	150					12.1	10.9	9.8	8.6
145	120	153					11.7			
145	120	160						9.9	8.8	7.8
145	120	165						9.4		
145	120	170							8.0	7.0
145	120	177							7.4	
145	120	180								6.3
145	120	189								5.8
145	140	44	25.1	*						
145	140	50	24.4	*						
145	140	60	21.7	*						
145	140	69			22.3	*				
145	140	70	19.5	*	22.0	*				
145	140	80	17.9	*	19.9	*				
145	140	90	16.6	*	18.0	*				
145	140	92				19.8	*			
145	140	100	15.5	*	16.6	*	18.4	*		
145	140	110	14.7	*	15.4	*	16.7	*		
145	140	115						15.4		
145	140	120	13.7	*	14.5	*	15.5	*	14.6	
145	140	130	12.8	*	13.7	*	14.4		13.0	
145	140	138								10.6
145	140	140	10.9	*	12.8	*	12.9	11.6	10.3	
145	140	148	7.2	*						
145	140	150			12.0	*	11.7	10.4	9.2	
145	140	159								7.3
145	140	160			9.3	*	10.6	9.4	8.3	7.2
145	140	161			8.5	*				
145	140	170					9.6	8.5	7.5	6.5
145	140	173					9.0	*		
145	140	180						7.7	6.8	5.8
145	140	185						7.3		
145	140	190							6.1	5.2
145	140	197							5.7	
145	140	200								4.7
145	140	209								4.3
145	160	49	19.0	*						
145	160	50	19.0	*						
145	160	60	18.1	*						

HC-238H II 360 Degree Capacities										
62" x 70" Luffing Boom, 44" x 54" Luffing Jib, ABC + A Counterweight										
Luffing Boom Length (ft)	Luffing Jib Length (ft)	Load Radius (ft)	Luffing Boom Angle							
			90	85	80	75	70	65		
			Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)		
145	160	70	17.1	*						
145	160	75			18.3	*				
145	160	80	15.6	*	17.6	*				
145	160	90	14.3	*	15.9	*				
145	160	100	13.3	*	14.4	*				
145	160	101				16.1	*			
145	160	110	12.4	*	13.3	*	14.8	*		
145	160	120	11.7	*	12.4	*	13.5	*		
145	160	125					13.1			
145	160	130	10.8	*	11.6	*	12.4	*	12.5	*
145	160	140	9.9	*	11.0	*	11.6	*	11.1	*
145	160	149						8.8		
145	160	150	9.2	*	10.4	*	10.9	*	9.9	8.7
145	160	160	8.1	*	9.7	*	10.1	*	8.9	7.8
145	160	168	5.2	*						
145	160	170			8.9	*	9.2		8.0	7.0
145	160	172								5.8
145	160	180			6.8	*	8.3		7.3	6.3
145	160	181			6.3	*				5.3
145	160	190					7.6	6.6	5.6	4.7
145	160	193					6.7	*		
145	160	200					6.0		5.1	4.2
145	160	205					5.7			
145	160	210						4.6		3.7
145	160	217						4.2		
145	160	220								3.3
145	160	229								3.0
165	110	37	29.0	*						
165	110	40	28.3	*						
165	110	50	25.7	*						
165	110	60	23.4	*	25.7	*				
165	110	70	21.3	*	23.5	*				
165	110	80	19.6	*	21.4	*				
165	110	83					23.0	*		
165	110	90	18.1	*	19.7	*	21.6	*		
165	110	100	16.8	*	18.2	*	19.9	*		
165	110	106					17.5			
165	110	110	15.8	*	17.0	*	18.5		16.6	
165	110	118	11.3	*						
165	110	120			15.8	*	16.4		14.7	
165	110	127								11.9
165	110	130			13.6	*	14.7		13.1	11.5
165	110	132			12.0	*				
165	110	140					13.2		11.8	10.3
165	110	147					11.3	*		
165	110	148								8.1
165	110	150					10.6		9.3	8.0

HC-238H II 360 Degree Capacities											
62" x 70" Luffing Boom, 44" x 54" Luffing Jib, ABC + A Counterweight											
Luffing Boom Length (ft)	Luffing Jib Length (ft)	Load Radius (ft)	Luffing Boom Angle								
			90	85	80	75	70	65			
			Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)			
165	110	160							9.6	8.4	7.1
165	110	161							9.5		
165	110	170								7.6	6.4
165	110	174								7.2	
165	110	180									5.8
165	110	187									5.4
165	120	39	26.0	*							
165	120	40	25.8	*							
165	120	50	24.0	*							
165	120	60	21.8	*							
165	120	63			23.3	*					
165	120	70	20.0	*	21.9	*					
165	120	80	18.4	*	20.1	*					
165	120	87					20.7	*			
165	120	90	17.0	*	18.6	*	20.3	*			
165	120	100	15.8	*	17.2	*	18.8	*			
165	120	110	14.7	*	15.9	*	17.4	*			
165	120	111							16.2		
165	120	120	13.8	*	14.8	*	16.2		14.4		
165	120	128	9.8	*							
165	120	130			13.9	*	14.5		12.8		
165	120	133								10.8	
165	120	140			11.9	*	13.0		11.5	10.0	
165	120	142			10.5	*					
165	120	150					11.8		10.4	9.0	
165	120	154									7.3
165	120	157					9.9	*			
165	120	160							9.4	8.1	6.9
165	120	170							8.5	7.3	6.2
165	120	171							8.4		
165	120	180								6.6	5.5
165	120	184								6.3	
165	120	190									5.0
165	120	197									4.6
165	140	44	19.9	*							
165	140	50	19.4	*							
165	140	60	18.4	*							
165	140	70	17.3	*	19.1	*					
165	140	80	16.1	*	17.7	*					
165	140	90	14.9	*	16.3	*					
165	140	96					17.0	*			
165	140	100	13.8	*	15.1	*	16.5	*			
165	140	110	12.7	*	14.0	*	15.3	*			
165	140	120	11.8	*	13.0	*	14.2	*			
165	140	121							13.7		
165	140	130	10.9	*	12.1	*	13.2	*	12.3		

HC-238H II 360 Degree Capacities - 30' Fixed Jib										
62" x 70" Luffing Boom, 44" x 54" Luffing Jib, 24" x 32" Fixed Jib, ABC + A Counterweight										
Luffing Boom Length (ft)	Luffing Jib Length (ft)	Load Radius (ft)	Luffin Boom Angle							
			90	85	80	75	70	65		
			Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)		
125	130	53	21.3	*						
125	130	60	19.6	*						
125	130	70	17.6	*						
125	130	77			18.2	*				
125	130	80	15.9	*	17.6	*				
125	130	90	14.5	*	15.9	*				
125	130	100	13.4	*	14.4	*				
125	130	101				15.8	*			
125	130	110	12.5	*	13.3	*	14.4	*		
125	130	120	11.8	*	12.3	*	13.2	*		
125	130	124					13.9	*		
125	130	130	11.2	*	11.6	*	12.2	*	13.0	
125	130	140	10.9	*	10.9	*	11.4	*	11.6	
125	130	146						9.7		
125	130	150	9.7	*	10.5	*	10.7	*	10.4	9.3
125	130	160	8.2	*	10.2	*	10.3	*	9.3	8.3
125	130	167								6.8
125	130	170			8.7	*	9.4	8.4	7.5	6.5
125	130	180			6.8	*	8.5	7.6	6.7	5.9
125	130	190					7.3	*	6.9	6.0
125	130	200						6.2	5.4	4.7
125	130	210							4.9	4.2
125	130	220								3.7
125	150	58	16.2	*						
125	150	60	16.1	*						
125	150	70	15.2	*						
125	150	80	13.7	*						
125	150	84			14.7	*				
125	150	90	12.4	*	13.8	*				
125	150	100	11.3	*	12.4	*				
125	150	109				12.6	*			
125	150	110	10.4	*	11.3	*	12.5	*		
125	150	120	9.7	*	10.4	*	11.3	*		
125	150	130	9.1	*	9.6	*	10.3	*		
125	150	134					10.9	*		
125	150	140	8.6	*	8.9	*	9.5	*	10.4	*
125	150	150	7.9	*	8.4	*	8.8	*	9.5	*
125	150	157							8.0	
125	150	160	6.7	*	8.0	*	8.3	*	8.7	7.7
125	150	170	4.7	*	7.4	*	7.8	*	7.9	6.9
125	150	179								5.3
125	150	180	2.5	*	5.4	*	7.5	*	7.1	6.2
125	150	190			3.1	*	6.0	*	6.4	5.5
125	150	190								4.7

HC-238H II 360 Degree Capacities - 30' Fixed Jib											
62" x 70" Luffing Boom, 44" x 54" Luffing Jib, 24" x 32" Fixed Jib, ABC + A Counterweight											
Luffing Boom Length (ft)	Luffing Jib Length (ft)	Load Radius (ft)	Luffin Boom Angle								
			90	85	80	75	70	65			
			Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)			
125	150	200				3.7	*	5.7		4.9	4.1
125	150	210						4.2	*	4.4	3.6
125	150	220								3.9	3.2
125	150	230								2.3	* 2.8
125	150	240									2.4
145	130	53	17.4	*							
145	130	60	16.9	*							
145	130	70	16.1	*							
145	130	79			16.9	*					
145	130	80	14.9	*	16.7	*					
145	130	90	13.7	*	15.3	*					
145	130	100	12.7	*	13.9	*					
145	130	104				14.9	*				
145	130	110	11.8	*	12.7	*	14.2	*			
145	130	120	11.0	*	11.8	*	12.9	*			
145	130	129						12.5			
145	130	130	10.0	*	11.1	*	11.9	*	12.3		
145	130	140	9.2	*	10.4	*	11.1	*	11.0		
145	130	150	8.4	*	9.8	*	10.4	*	9.8		
145	130	152								8.3	
145	130	160	7.9	*	9.1	*	9.9	*	8.8	7.6	
145	130	170			8.3	*	9.1		7.9	6.8	
145	130	175									5.3
145	130	180			7.1	*	8.2		7.1	6.1	5.0
145	130	190				7.4		6.4	5.4	4.5	
145	130	200						5.8	4.9	4.0	
145	130	210							4.4	3.5	
145	130	220								3.1	
145	130	230								2.7	
145	150	58	12.5	*							
145	150	60	12.4	*							
145	150	70	11.9	*							
145	150	80	11.3	*							
145	150	85			13.4	*					
145	150	90	10.6	*	13.0	*					
145	150	100	9.8	*	11.8	*					
145	150	110	9.0	*	10.7	*					
145	150	113				11.8	*				
145	150	120	8.2	*	9.8	*	11.0	*			
145	150	130	7.5	*	9.1	*	10.0	*			
145	150	139							10.2	*	
145	150	140	6.8	*	8.4	*	9.2	*	10.2	*	

HC-238H II 360 Degree Capacities - 30' Fixed Jib										
62" x 70" Luffing Boom, 44" x 54" Luffing Jib, 24" x 32" Fixed Jib, ABC + A Counterweight										
Luffing Boom Length (ft)	Luffing Jib Length (ft)	Load Radius (ft)	Luffin Boom Angle							
			90	85	80	75	70	65		
			Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)		
145	150	150	6.1	7.9	8.5	9.2				
145	150	160	5.6	7.5	7.9	8.2				
145	150	164					6.7			
145	150	170	4.7	6.9	7.5	7.4	6.2			
145	150	180	2.5	5.7	7.1	6.6	5.5			
145	150	188							4.0	
145	150	190		3.5	6.6	5.9	4.9	3.9		
145	150	200			4.4	5.3	4.3	3.4		
145	150	210			2.2	4.7	3.8	2.9		
145	150	220				3.1	3.4	2.5		
145	150	230					3.0	2.2		
165	130	53	13.2							
165	130	60	12.8							
165	130	70	12.2							
165	130	80	11.4	14.1						
165	130	90	10.6	13.1						
165	130	100	9.8	12.1						
165	130	108			12.5					
165	130	110	9.0	11.2	12.3					
165	130	120	8.2	10.3	11.4					
165	130	130	7.5	9.6	10.6					
165	130	134				10.1				
165	130	140	6.9	8.9	9.8	9.8				
165	130	150	6.3	8.3	9.1	9.2				
165	130	159					6.9			
165	130	160	6.0	7.7	8.5	8.2	6.8			
165	130	170		7.1	7.8	7.4	6.1			
165	130	180		6.3	7.0	6.6	5.4			
165	130	184						4.0		

HC-238H II 360 Degree Capacities - 30' Fixed Jib										
62" x 70" Luffing Boom, 44" x 54" Luffing Jib, 24" x 32" Fixed Jib, ABC + A Counterweight										
Luffing Boom Length (ft)	Luffing Jib Length (ft)	Load Radius (ft)	Luffin Boom Angle							
			90	85	80	75	70	65		
			Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)	Capacity (kips)		
165	130	190			6.2	6.0	4.8	3.7		
165	130	200				5.4	4.3	3.2		
165	130	210				4.8	3.8	2.8		
165	130	220					3.3	2.4		
165	130	230						2.0		
165	150	58	9.0							
165	150	60	8.9							
165	150	70	8.5							
165	150	80	8.1							
165	150	87		10.6						
165	150	90	7.5	10.5						
165	150	100	6.9	9.9						
165	150	110	6.3	9.2						
165	150	116			9.6					
165	150	120	5.7	8.5	9.4					
165	150	130	5.1	7.8	8.7					
165	150	140	4.6	7.2	8.0					
165	150	144				7.5				
165	150	150	4.1	6.5	7.5	7.3				
165	150	160	3.7	5.8	6.9	6.9				
165	150	170	3.3	5.2	6.4	6.5				
165	150	171					5.4			
165	150	180	2.5	4.6	5.9	6.0	4.8			
165	150	190		3.8	5.3	5.4	4.2			
165	150	196						2.8		
165	150	200			4.7	4.8	3.7	2.6		
165	150	210			3.0	4.3	3.2	2.2		
165	150	220				3.8	2.8			
165	150	230					2.4			
165	150	240					2.1			

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