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Lattice Boom Crawler Mounted Crane

HI 150C

Superstructure specifications

Boom 68A	General purpose, optimized for straight boom or boom and fixed jib operations, consisting of basic 50 ft. (15.2m) boom (25 ft. [7.6m] base, 25 ft. [7.6m] point). Open throat point section is equipped with six sheaves mounted on heavy duty roller bearings, offset for improved throat clearance, 22 in. (559mm) pitch diameter. Boom extension are -10 ft. (3m), 20 ft. (6.1m) and 40 ft. (12.2m) in length. Maximum boom length is 280 ft. (85.3m). Overall boom cross section dimensions are 68 in. (1727mm) deep by 76 in. (1930mm) wide. May be fitted with 32A fixed jib.	Load Moment & Anti-Two Block System	Standard load moment and anti-two block system with audio-visual warning and control lever lockout. These systems provide electronic display of boom angle, length, radius, tip height, relative load moment, maximum permissible load, load indication and warning of impending two-block conditions.
Boom 76A	More versatile, larger and heavier than 68A boom, may be fitted with 32A fixed jib or 46A luffing jib assembly. 76A basic 50 ft. (15.2m) boom consists of two piece 25 ft. (7.6m) base and 25 ft. (7.6m) point section. Boom point section is equipped with six sheaves mounted on heavy duty roller bearings, offset for improved throat clearance, 22 in. (559mm) pitch diameter. Maximum boom length is 250 ft. (76.2m). Boom extensions are 10 ft. (3m), 20 ft. (6.1m) and 40 ft. (12.2m) in length. Overall boom cross section is 76 in. (1930mm) deep by 89 in. (2261mm) wide. Wind speed monitor with audible warning.	Cab	Full vision, steel fabricated with acoustical lining and tinted safety glass throughout. Sliding left side door, sliding right side window for ventilation. Hinged skylight with electric wiper. Full engine instrumentation with fuel gauge and audio/visual warning system for all important machine functions. Fabric seat with short stroke levers at arm rest positions. Seat tilts back 10 degrees for increased high boom angle visibility.
Mast Assembly	27 ft. (8.2m) Live Mast equipped with 23 in. (584mm) pitch diameter roller bearing sheaves. Can be used as auxiliary lifting boom with standard component handling equipment, for self erection of machine counterweights, boom componentry and crawler assemblies.	Engine	Caterpillar 3406 B, in-line 6 cylinder, 4 cycle, turbocharged, 893 cu. in. (14.6 liter), 310 HP (231 kw) @ 2100 RPM, 287 HP (214 kw) (SAE NET) @ 2100 RPM.
32A Fixed Jib	Maximum length is 90 ft. (27.4m) variable in 20 ft. (6.1m) increments to basic 30 ft. (9.1m) length consisting of 15 ft. (4.6m) base and 15 ft. (4.6m) point section. This jib may be mounted on the 68A boom and the 76A boom utilizing an adaptor assembly. Jib overall cross section is 32 in. (813mm) deep by 38 in. (965mm) wide.	Optional Engine	Detroit Diesel 6V-92TA, V-6, 2 cycle, turbocharged and after cooled, 552 cu. in. (9.0 liter), 345 HP (257 kw) @ 2100 RPM, 330 HP (246 kw) (SAE NET) @ 2100 RPM.
46A Luffing Jib (For 76A Boom Only)	Four piece 80 ft. (24.4m) basic jib consisting of 20 ft. (6.1m) base, two 20 ft. (6.1m) jib extensions and 20 ft. (6.1m) tip section. Maximum jib length is 160 ft. (48.8m). Cross section dimensions are 46 in. (1168mm) deep and 59 in. (1499mm) wide. Includes electronic wind speed indication.	Fuel Tank Capacity	85 gallons (322 L)
Boom Hoist System	Hydraulic driven dual drum with standard ratchets and pawls, enclosed multi-disc wet brake spring set hydraulically released. Drums utilize 1 in. (25.4mm) wire rope and have a pitch diameter of 23 in. (584mm). 10 part reeving standard, optional 12 part reeving necessary for 46A luffing jib operation. Gantry and mast utilize 23 in. (584mm) pitch diameter sheaves with anti-friction bearings. Automatic boom hoist kickout at 81 degrees.	Swing	Ball bearing swing circle with 360° continuous rotation. Planetary glide swing with static holding multi-disc wet brake actuated with brake hold button on control lever and/or switch operated parking brake. Rotation is stopped by back plugging swing controller. Plunger type, 2 position, mechanical house lock. Maximum speed: 2.5 rpm.
		Counterweights	Three piece totaling 95,000 lbs. (43,092 kg). Counterweight "A" equals 17,500 lbs. (7,938 kg), counterweight "B" equals 36,000 lbs. (16,330 kg) and counterweight "C" equals 41,500 lbs. (18,825 kg). Counterweights hook on for quick and easy handling.

Superstructure specifications (continued)

HYDRAULIC SYSTEM

Pumps	Six main pumps, one for each function: front hoist, rear hoist, boom hoist, swing, left hand propel and right hand propel. All main pumps are variable displacement axial piston type. Pumps driven by common gearbox with disconnect clutch.
Controls	Short stroke low pressure hydraulic controllers stroke pumps to determine direction and speed of each function.
Filtration	100% 7 micron filtration of charge and control pressure circuits.
Reservoir	75 gallon (284 liter) capacity with internal diffusers and magnets. Electric fill pump with spin-on filter cartridge provided.
Oil Cooler	Remote mounted with thermostatically controlled hydraulic motor powered fan. High oil temperature warning light provided in operator's cab.

HOIST SPECIFICATIONS

	Power up and down 2 speed operation standard with ratchet and pawl. Automatic hoist brake feature with free fall to 10,000 lbs. (4,535 kg) capacity on foot operated caliper brake pedals. Electronic hoist drum rotation indicators.
MAKE/MODEL	Front and Rear Hoists Grove HO60-29
Drum Dimensions	21 in. (533mm) diameter 29 in. (737mm) length 35 in. (889mm) flange diameter

Line Pull and Line Speed Combinations (4th Layer)

Based on Maximum Permissible Single Line Pull of 29,500 lbs. (13,381 kg) for 1 in. (25.4mm) Diameter Wire Rope - Main Hoist Drums only.

Low Speed Mode			
Single Line Pull		Speed	
Pounds	Kilograms	FPM	m/min.
29,500	13,381	185	56.4
25,000	11,340	220	67.1
20,000	9,072	240	73.1
15,000	6,804	250	76.2
10,000	4,536	255	77.7
5,000	2,268	260	79.2
1,000	454	260	79.2
High Speed Mode			
Single Line Pull		Speed	
Pounds	Kilograms	FPM	m/min.
15,000	6,804	320	97.5
12,500	5,670	390	118.9
10,000	4,536	455	138.7
7,500	3,402	485	147.8
5,000	2,268	500	152.4
2,500	1,134	515	157.0
1,000	454	520	158.5

Maximum Permissible Line Pull Based On

1 in dia. (25.4mm) 6x25 w/3.5:1 F.O.S.
29,500 lbs. (13,381 kg)
1 in. dia. (25.4mm) 18x19 w/5:1 F.O.S.
22,760 lbs. (10,324 kg)
25mm dia. (0.984 in.)
34x7 w/5:1 F.O.S.
12325 kg. (27170 lbs.)

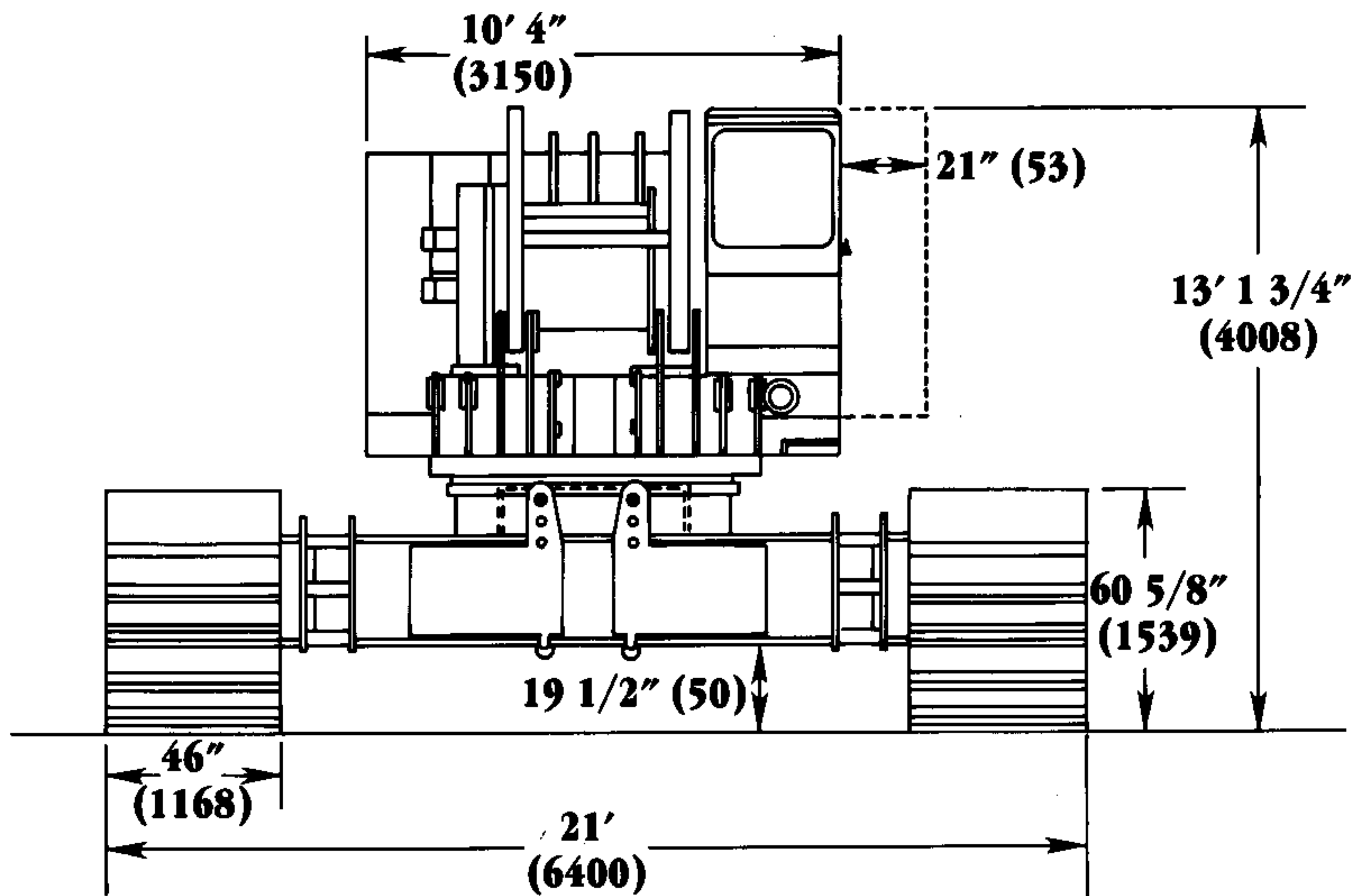
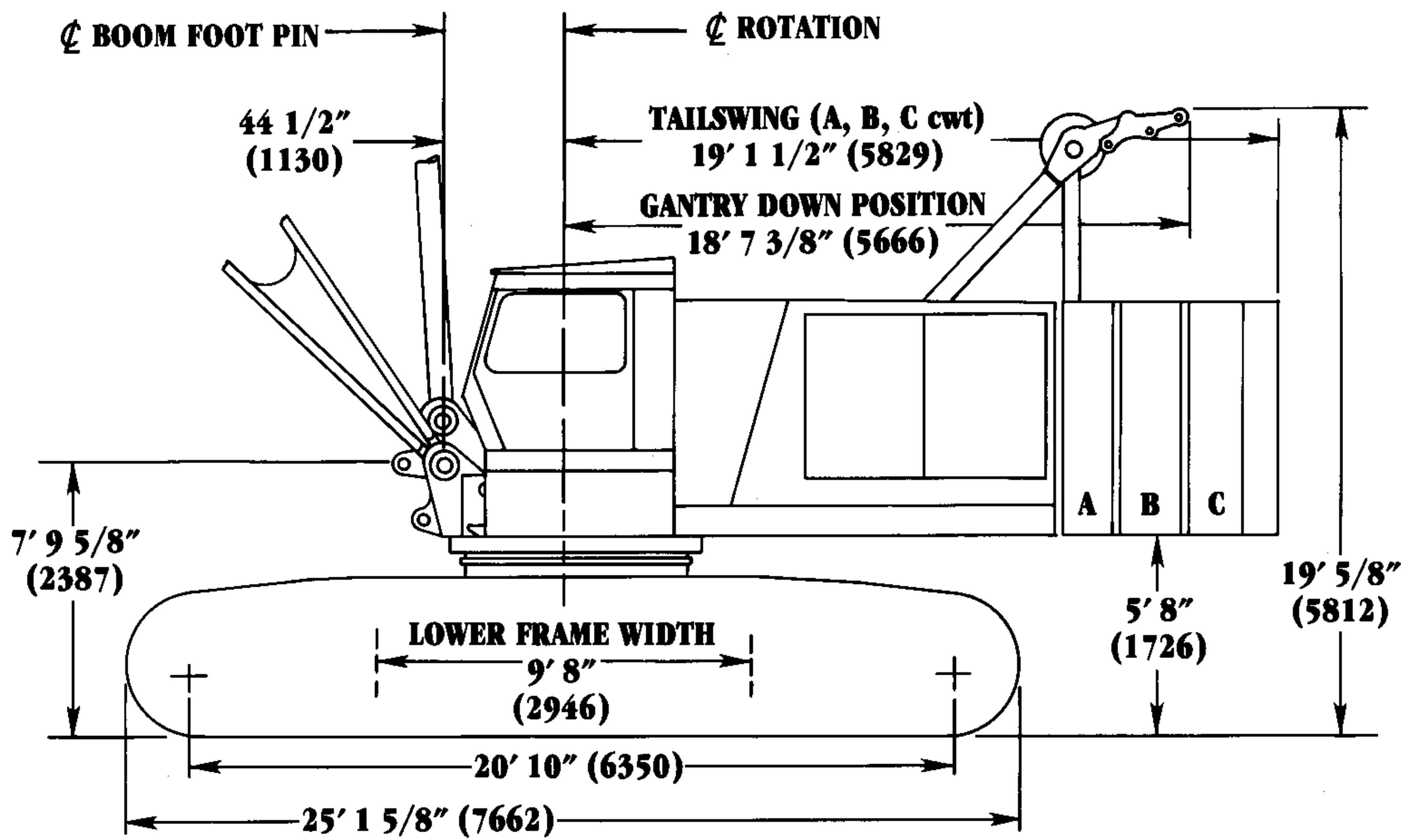
Rope Stowage	Usable - 1,190 ft. (363m) Stowable - 1,440 ft. (439m)
Third Hoist	Luffing jib hoist, power up and down, 2 speed operation standard with ratchet and pawl, enclosed multi-disc wet brake, spring set hydraulically released. Drum utilizes 3/4 in. (19mm) dia. wire rope. Stowable capacity - 790 ft. (241m). Recommended length - 680 ft. (207m), required for luffing jib.

Crawler specifications

Lower Frame	Fabricated from high strength alloy steel with machined surface for turntable bearing mounting. Equipped with Grove hydraulic swivel for propel circuit hydraulic power transmission.
Jacking System	Standard equipment permits upperstructure with lower frame to be jacked up 46 in. (1168mm) off ground facilitating self-loading. Jacks also provide adequate stability for machine to offload and install crawler side frame assemblies and counterweights enabling machine to erect itself without auxiliary cranes.
Crawler Side Frames	Fabricated from high strength alloy steel with integral quick attach pin and wedge system for quick, crawler removal/installation.
Crawler Drive System	Independent hydraulic drive for each track. Each crawler is powered by its own variable displacement pump through a closed loop hydraulic system to a torque sensitive piston motor. The piston motor provides torque to the crawler planetary drive gear box through a spring set/hydraulically released multiple disc wet brake. The track drive sprocket is powered directly by the gear box output shaft. Speeds are infinitely variable from 0 to 1.5 mph (2.4 kph).
Drive Sprocket And Idler	Crawler tractor type. Self-cleaning, designed for low maintenance and long life.
Lower Track Rollers	Single flange lifetime lubricated, 13 per side frame.
Track Chain	Crawler tractor type, tensioned and adjusted by grease cylinder.
Track Pads	46 in. (1168mm) wide high strength cast steel pads standard.
Track Counterweights	Two 18,000 lbs. (8,165 kg) "T" counterweights utilized for additional machine stability. One counterweight attaches quickly to each track frame assembly with a quick pin latch design.

Component Weights

	Pounds	Kgs
Complete operational crane with 50 ft. (15.2m)		
68A boom, Cat engine, 1,700 ft. (518.3m) of hoist rope	293,690	133,216
Complete crane same as above except 50 ft. (15.2m)		
76A boom, 12 part boom hoist	300,200	136,169
Upperstructure with DDA Engine	40,028	18,156
Add for Cat engine	800	363
Mast and boom hoist bridle (10 part)	3,830	1,737
Boom stop	732	332
Hoist rope front drum (1,000 ft. [304.9m])	1,850	839
Hoist rope rear drum (700 ft. [213.4m])	1,295	587
Boom hoist rope 550 ft. (167.6m)	1,100	499
Upper Sub Total	49,635	22,514
Crawler base with swivel and jacking system	24,145	10,952
Swing bearing with bolts	3,310	1,501
TOTAL	77,090	34,967
SIDE FRAME ASSEMBLY		
One side frame with 46 in. (1168mm) track shoes	39,050	17,713
"T" lower counterweight removable (2 @ 18,000 lbs. [8,165 kg] each)	36,000	16,329
UPPER COUNTERWEIGHT		
"C" Counterweight	41,500	18,824
"B" Counterweight	36,000	16,329
"A" Counterweight	17,500	7,938
68A Boom with pins & pendants		
25' (7.6m) boom base	3,184	1,444
25' (7.6m) boom point	4,126	1,872
Mast component handling equipment	190	86
Basic 68A boom total	7,500	3,402
10' (3.0m) boom extension	1,060	481
20' (6.1m) boom extension	1,730	785
40' (12.2m) boom	3,063	1,389
15' (4.6m) jib base, strut, and backstay	2,000	907
20' (6.1m) jib extension	705	320
15' (4.6m) jib point	1,013	459
76A Boom with pins & pendants		
15' (4.6m) boom base (w/o boom foot pins, w/LMI equip.)	4,340	1,969
10' (3.0m) base extension	1,790	812
25' (7.6m) boom point	6,610	2,998
Add for 12 pt. bridle (w/660' [201.2m] boom hoist rope)	412	187
Mast component handling equipment	190	86
Boom base comp. handling dev.	670	304
Basic 76A boom total	14,012	6,356
10' (3.0m) boom extension	1,362	618
20' (6.1m) boom extension	2,293	1,040
40' (12.2m) boom extension	3,826	1,735
46A Luffing Jib Components with pins & pendants		
20' (6.1m) jib base (with latches)	1,715	778
20' (6.1m) extension	1,135	515
40' (12.2m) extension	1,960	889
20' (6.1m) jib point w/roller	2,070	939
Rear strut	3,065	1,390
Front strut (w/LMI)	1,690	767
Control arm	450	204
Control link	230	104
Jib bridle	430	195
Jib bail	450	204
Rear strut stop	325	147
Front strut stop	110	50
Jib backstop strut	210	95
Miscellaneous Component Weights		
3rd hoist assembly with 680' (207m) rope	3,085	1,399
Hook Block Assembly:		
6 sheave, 150 ton (136 MT)	3,600	1,636
3 sheave, 90 ton (82 MT)	2,800	1,273
1 sheave, 30 ton (27 MT)	1,200	544
Hook and ball (non-swivel) assembly	1,200	544
Hook and ball (swivel) assembly	1,250	568



Constant improvement and changes in design may cause dimensions and specifications to vary without notice. Illustrations shown are for identification purposes only and may not include all standard equipment.

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