

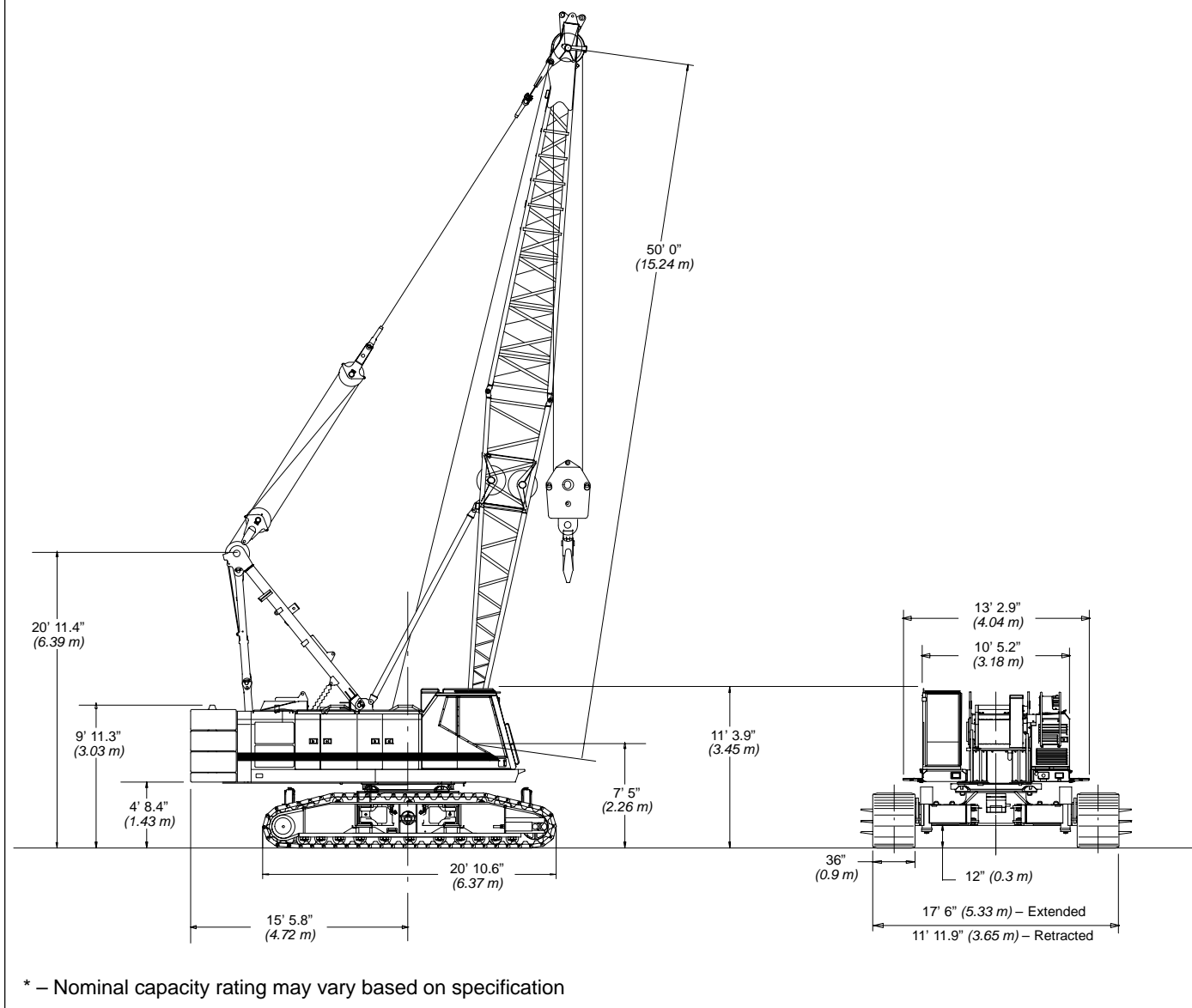
Specifications

Lattice Boom Crawler Crane

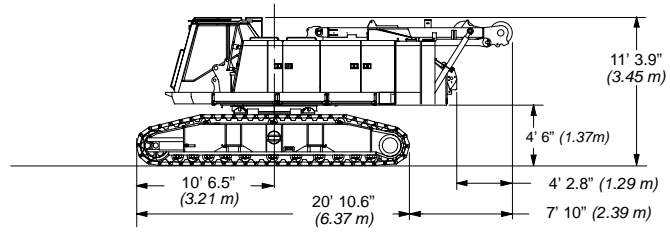
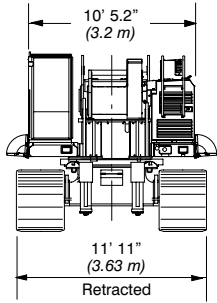
LS-308H II 110-ton* (100 metric ton)

HYLAB Series

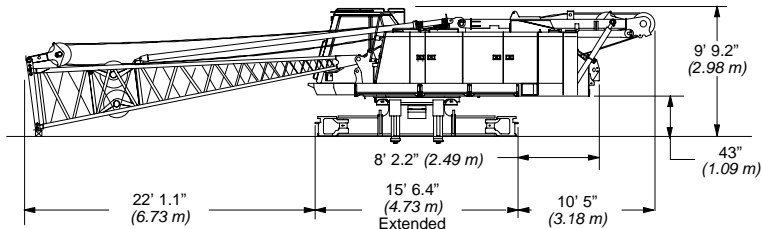
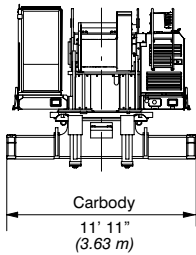
General Dimensions	English	Metric
Tailswing of upper frame with counterweight	15' 11.7"	4.87 m
Boom foot pin diameter	3.94"	10.0 cm



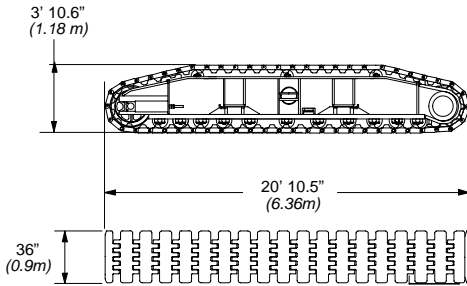
LS-308H II Transportation Weights – approximate



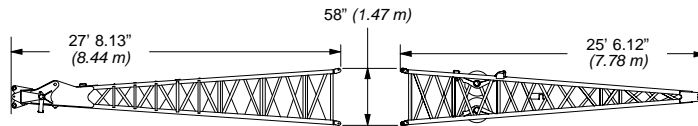
Transport Weight
Rope on both drums, Treadmembers Backstops, Catwalks and full tank of fuel
118,329 lbs. (53 673 kg)



Upper & Carbody Shipping Weight
Rope on both drums, backstops, catwalks, and full tank of fuel
85,158 lbs. (38 627 kg)

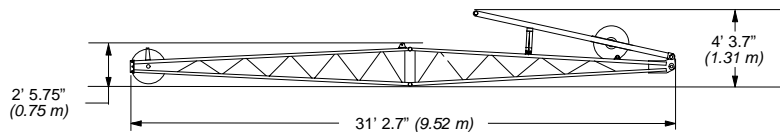


Tread Members w/36" (0.9 m) Shoes
23,543 lbs. (10 679 kg) – each

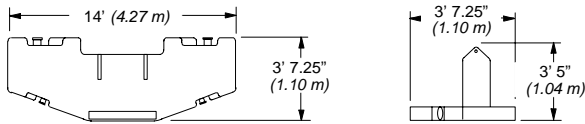


25' (7.62 m) Angle Boom Top Section
Angle: 5,057 lbs. (2 294 kg)

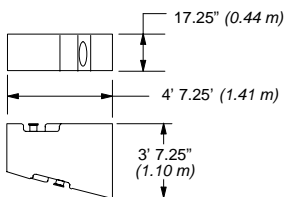
25' (7.62 m) Angle Boom Base Section
Plate Base : 5,528 lbs. (2 507 kg)
Lattice Base : 4,660 lbs. (2 114 kg)



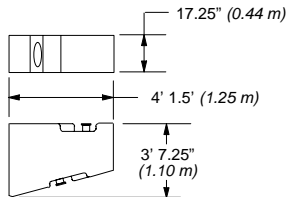
30' (9.1 m) Basic Jib Assembly-
Tube: 1,676 lbs. (760 kg)



Upper Counterweight
Base Slab: 10,143 lbs. (4 601 kg)



Left Wing Counterweight
6,836 lbs. (3 101 kg)



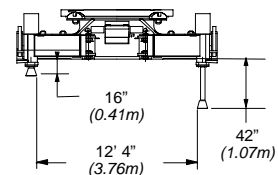
Right Wing Counterweight
6,615 lbs. (3 001 kg)

Third Drum without rope
955 lbs. (433 kg)



Rear mount, Fourth Drum kit (without rope)
3,796 lbs. (1 722 kg)

Carbody Jack minimum and maximum heights
16, 992 lbs. (7 707 kg)



LS-308H II Transportation Weights – approximate

Base Machine: Rigid Boom Backstops, 132 Gallons (500 L) of fuel, Catwalks (right and left side), 25' (6.1 m) Base Section, Bridle and Bail Bar, Boom Hoist Reeving, 700' (213.36 m) of type 'DB' Front Hoist Rope, 700' (213.36 m) of type 'RB' Rear Hoist Rope.

Item Description	Gross Weight		Transport Loads				Notes and Load Summary
	lb.	kg.	#1	#2	#3	#4	
Base Machine	85,158	38 627	1				Numbers in the load columns to the left represent quantities. Estimated transport assumes the load out consist of 160' (48.77 m) of tube boom + 75' (22.86m) of jib with full counterweight. Support loads were targeted at 45,000 lb (20 412kg), 8'-6" (2.6m) wide, 48' (14.6m) long, and 13'-6" (4.1m) high using a drop deck trailer. This may vary depending on state laws, empty truck/trailer weights, and style of trailer. Estimated weights vary by +/- 2%. Estimated Total Load of #1 85,158 lbs. (38 627 kg) Estimated Total Load of #2 44,130 lbs. (20 017 kg) Estimated Total Load of #3 43,925 lbs. (19 924 kg) Estimated Total Load of #4 31,375 lbs. (14 232 kg)
Add "A" Counterweight (base ctwt., 1 left wing and 1 right wing)	23,668	10 736				1	
Add Left Wing "B" Counterweights	6,836	3 101		2			
Add Right Wing "B" Counterweights	6,615	3 001			2		
Remove Lattice Base	-4,660	-2 114					
Add Treadmembers	23,543	10 679		1	1		
Add Hydraulic Third Drum w/o rope	955	433					
Add 3rd Drum Wire Rope 0.75" x 550' Type 'DB'	572	259				1	
Add 25' (7.62 m) Angle boom Top Section	4,988	2 263					
Add Three-sheave assembly to top section	284	129					
Add Three-sheave Idler A/C	284	129					
Add 10' (3.05 m) Angle Extension w/pins & pendants	1,600	726				1	
Add 20' (6.1 m) Angle Extension w/pins & pendants	2,650	1,202		1	1		
Add 30' (9.1 m) Angle Extension w/pins & pendants	3,625	1,644		1	1		
Add Tagline Winder w/rope	966	438					
Add Fairleader	1,213	550					
Add Pile Driving Adapter	198	90					
Add 15' (4.57 m) Tubular Jib Peak Assembly	557	253			1		
Add 15' (4.57 m) Tubular Jib Base and Strut Assembly	1,119	508				1	
Add 15' (4.57m) Tubular Jib Extension	320	145		2	1		
Add 5' (1.5m) Auxiliary Tip Extension	665	301					
Add Fourth Drum	3,796	1 722					
Add 20-ton (18.14 mt) Hook Ball – Swivel or Non Swivel	1,253	568					
Add 75-ton (68.04 mt) 2-Sheave Hook Block	2,200	998					
Add 110-ton (100 mt) 3-Sheave Hook Block	2,385	1 082					
Remove Front Hoist Rope 1.12" x 700' Type 'DB'	-1,638	-743					
Remove Jib Wire Rope 1.12" X 700' Type 'RB'	-1,750	-794					
Remove 25' (7.62 m) Angle Base Section (Assy. complete)	-4,370	-1 982					
Remove 50 gallons (189.3L) of Fuel	-362	-164					

LS-308H II Machine Working Weight

Option	Description	Gross Weight lbs. (kg)	Ground Bearing Pressure psi (kg/cm ²)
1	Base Machine equipped with 50' (15.24 m) of angle boom, "A" counterweight, 700' (213 m) front hoist rope, 700' (198m) rear hoist rope, 110-ton (99.8mt) hook block, 132 gallons (500.4 L) of fuel, and 200 lbs. (90.7kg) operator.	158,800 (72 030)	10.26 (0.72)
2	Option #1 plus "B" counterweight and 110' (33.53 m) of boom extensions to obtain 160' (48.77 m) of main boom.	199,425 (90 457)	12.88 (0.91)
3	Option #2 plus 75' (22.86 m) of jib and 20-ton (18.14 mt) hook ball – subtract 20' (6.1 m) of boom extension and to obtain maximum 140' + 75' (42.7 + 22.9 m) of main boom + jib.	200,340 (90 872)	12.94 (0.91)

Notes:
 1. Ground bearing pressure is based on the total weight distributed evenly over the track contact area.
 2. Total contact area for 36" (0.91m) track shoes is 16,012 in² (1 126 cm²).

Attachment Options

■ 50'–160' Angle Boom (15.24 – 48.77 m)

Basic Angle Boom – 50' (15.24 m) two-piece design that utilizes a 25' (7.62 m) base section and a 25' (7.62 m) top section with in-line connecting pins. Boom extensions are 60" (1.52 m) wide and 54" (1.37 m) deep at outside dimensions of angles.

- Boom feet on 47.25" (1.20 m) centers
- 4" X 4" X 0.5" (101.6 x 101.6 x 12.7 mm) angle chords
- Lugs on base section to attach carrying links
- Skywalk platform
- Deflector roller on top section
- Rigid sheave guards
- Tip extension and jib connecting lugs on top section
- Mechanical boom angle indicator
- Three 24.75" (0.63 m) root diameter lift sheaves mounted on sealed anti-friction bearings with rope guards.
- Quick-align bridle guide for pinning bridle to boom base.

Optional

- 25' (7.62 m) Dragline Base Section

Optional Head Machinery –

- Two 24.75" (0.63 m) root diameter lift sheaves mounted on sealed anti-friction bearings with three-piece rope guide rollers. For clamshell operations.
 - Two 24.75" (0.63 m) root diameter lift sheaves and one 24.75" (0.63 m) root diameter wide mouth dragline sheave mounted on sealed anti-friction bearings with two-piece rope guide rollers. For lift crane and/or dragline operation.

- One 24.75" (0.63 m) root diameter wide mouth drag sheave with two-piece rope guide rollers. For dragline operation.

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

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

- Appropriate length pendants
- Maximum angle boom tip height of 166' (50.6 m)

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

Basic Tube 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" (50.8 mm) diameter tubular chords
- One 20.62" (0.52 m) root diameter steel sheave mounted on sealed anti-friction bearings.
- 15' (4.6 m) jib extensions provide jib lengths at 45' (13.76m), 60' (18.3m) and 75' (22.86m) for angle boom.
- Jib offset angles at 10 and 30 degrees
- Maximum tip height angle boom + jib is 220' (67.1 m).

■ Auxiliary Tip Extension

Designed to use in place of jib to provide 5' (1.5 m) clearance between working hoist lines. The extension is equipped with two nylon 21" (0.53 m) root diameter sheaves mounted on sealed anti-friction bearings. Maximum capacity is 9-ton (8.16 mt).

■ Boom Hoist System

Designed to lift off maximum boom or maximum boom plus jib unassisted. Operates up to a maximum boom angle of 82 degrees. Boom hoist limit system limits maximum boom angle operation.

- Retractable gantry frame
- Pin-on bail frame
- Ten-part reeving with 3/4" (19mm) wire rope
- Bridle assembly
- Two 1.5" (38.1 mm) pendants
- Tubular boom backstops (telescopic type)
- Sheaves contain sealed anti-friction bearings
- Boom speed from 10°–70° is 62 seconds with no load. Speed was determined using 110' (33.53 m) of angle boom.

Revolving Upper Structure

■ Frame

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

■ Engine

Mitsubishi 6D24-TL 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 5.91 (130 x 150)
Piston displacement – in ³ (cm ³)	729 (11 945)
Engine rpm at full load speed	2,000
Hi-idle rpm	2,000
Full load speed – hp. (kw)	332 (247.6)
Peak torque – ft. lb. (joule)	918 (1 245)
Peak torque – rpm	1,400
Electrical system	24 volt
Batteries	2–12 volt

Approximate fuel consumption	Gal./hr (L/hr)
100% H.P.	16 (60.56)
75% H.P.	12 (45.42)
50% H.P.	8 (30.28)
25% H.P.	4 (15.14)

■ Hydraulic System Specifications

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

- "Power Load" with horsepower control provides onboard computer monitoring of hydraulic pump demands, allowing maximum speed under load when pumps are operated independently.

- When heavy loads are handled by one or more pumps simultaneously, "Power Load" prevents engine overload while still delivering maximum available power.
- When the unit is equipped with the optional auxiliary hydraulic circuit, "Power Load" control gives priority to the auxiliary hydraulics, allowing uninterrupted operation of the auxiliary hydraulic function while still allowing for multiple machine function.
- Two variable displacement pumps operating at 4,554 psi (320 kg/cm²) and 105 gal/min (397 L/min) powers load hoist drum, boom hoist drum, optional third drum, optional fourth drum, and travel.
- One fixed displacement gear type pump operating at 3,555 psi (250 kg/cm²) and 60 gal/min (227 L/min) powers the swing motors.

Revolving Upper Structure – (continued)

- One fixed displacement gear type pump operating at 3,270 psi (250 kg/cm²) and 16 gal/min (61 L/min) powers the jack cylinders, swing motors and counterweight removal.
- One fixed displacement gear type pump operating at 1,000 psi (70.3 kg/cm²) and 11 gal/min (42 L/min) powers the remote control valves.
- One fixed displacement gear type pump operating at 1,850 psi (130 kg/cm²) and 5.3 gal/min (39.7 L/min) operates the remote oil cooler fan.
- One fixed displacement gear type pump operating at 35 psi (2.46 kg/cm²) and 2.9 gal/min (10.9 L/min) supplies drive gear box cooling.

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

Hydraulic Reservoir – 108 gal (409 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.

Remote Oil Cooler – Oil cooler, located behind the operator’s cab, has a hydraulically driven thermostatically controlled fan to control oil temperature.

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.

Optional Hydraulic Circuit – The optional hydraulic power package offers additional hydraulic supply for various attachments controlled through a separate variable flow control valve. This system eliminates pump cavitation and contamination often found in use with hydraulic hammers and other auxiliary tools.

The flow from the number one main auxiliary pump goes through a variable flow control valve which is adjustable from the cab. Hydraulic fittings connect to a hydraulic manifold located at the boom foot. Return oil from the attachment is cooled by a separate remote hydraulic oil cooler, filtered by two separate filter systems, and stored in a separate hydraulic reservoir.

System includes:

Number One Main Auxiliary Circuit – open loop

- 98-gallon per minute maximum flow pump with operating pressure up to 4,623 psi, able to maintain 98 gpm.

- Bi-directional control valve with adjustable relief valve.
 - Remote control operation from operator’s cab with detent locks at 25%, 50%, 75%, and 100% flow.
 - Separate 51-gallon (194 L) capacity hydraulic reservoir.
 - Separate remote mounted full flow hydraulic oil cooler with hydraulic driven cooling fan, thermostatically controlled
 - Full flow 10 micron return line filter
 - Nefron filtration system (constant ultra-fine filtration of hydraulic system)
- Possible applications/uses:
- Hydraulic impact hammer (pile driving)
 - Hydraulic vibratory hammer (pile driving)
 - Various drills/augers
 - Hydraulic clamshell bucket (open close circuits)
 - Powering generator (magnet operation)

Number Two Auxiliary Pump Circuit – open loop

- Sixteen gpm at 3,270 maximum psi
- Three-section directional control valve (allows 3 separate remote hydraulic circuits)
- Possible applications/uses
 - Spotter circuits for pile driving
 - Hose reel operation

Number Three Auxiliary Pump Circuit – open loop

- 8.7 gallon per minute piston type pump
- 4,600 psi operating pressure
- Possible applications/uses
 - Hydraulic vibratory pile driving hammer/clamp circuit (for pile driving extraction)

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)
- 1.12” (28.4 mm) grooved lagging
- Drum pawl controlled manually
- Drum rotation indicators
- Mounted on anti-friction bearings
- 22” (0.56 m) root diameter
- 43.3” (1.10 m) flange diameter
- 27.1” (0.69 m) width

Note: The freefall operational mode is designed to prevent load lowering even if the freefall 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 37” (940mm) diameter X 5.5” (139.7 mm) wide shoe that internally expands to provide load control. Swept area is 638 in² (4 116cm²).

Optional Front Mounted Third Hoist Drum

The hydraulic winch is attached to the front of the upper frame and is used in conjunction with a fleeting sheave and 3-sheave idler assembly to run the wire rope over the boom top section.

- Free-spooling capability for pile driving applications
- 12.75” (0.32 m) root diameter
- 22.75” (0.58 m) flange diameter
- 17” (0.43 m) drum width
- Mounted on anti-friction bearings

Optional Rear Mounted Fourth Hoist Drum

The hydraulic winch is pinned to the rear of the upper frame as used in conjunction with the fleeting sheave and three-sheave idler sleeve to run the wire rope over the boom top section.

- 17.64” (0.45 m) root diameter
- 34.65” (0.88 m) flange diameter
- 13.41” (0.34 m) drum width
- Mounted on anti-friction bearings
- Grooved lagging for 7/8” (22 mm) wire rope
- Drum contains a bi-directional axial piston motor and a gear reduction unit to provide positive control under all load conditions.
- Power up/down and free fall operation modes.
- Automatic brake mode (spring applied hydraulically released band-type brake)
- Manual drum pawl control
- The free-fall mode 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.

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
- 0.75” (19 mm) grooved lagging
- Drum pawl controlled automatically
- Mounted on anti-friction bearings
- 19.84” (0.50 m) root diameter
- 33.86” (0.86 m) flange diameter
- 9.82” (0.25 m) width

■ Swing System

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

- Spring applied, hydraulically released, 360 degree multi-plate brake
- Free swing mode when lever is in neutral position
- Four position positive house lock
- Two-speed swing
- Audio/Visual swing alarm
- Maximum swing speed is 2.9 rpm

■ Counterweight

Removable, seven-piece design consisting of a base slab pinned in place with quick disconnect hydraulic cylinders and wing counterweights held in place with chain and ratchet tie-downs.

Two counterweight configuration options:

- "A" – 23,668 lbs. (10 736 kg) – Base plus a left and right wing counterweights, and tie-down chains, ratchets, and bolts.
- "AB" – 50,851 lbs. (23 066 kg) – Base plus six wing counterweights (three left and three right), and tie-down chains, ratchets, and bolts.

Counterweight components

- Base slab – 10,143 lbs. (4 601 kg)
- Left wing – 6,836 lbs. (3 101 kg) each
- Right wing – 6,615 lbs. (3 001 kg) each

■ 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
- 19,000 BTU heater with circulating fan
- 18,650 BTU air conditioner
- Sun visor
- Engine instrumentation panel (voltmeter, engine oil pressure, engine water temperature, fuel level, hydraulic oil temperature, hour meter and service monitor system)
- 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

■ Load Moment Limiter

The load moment limiter system is a boom hoist load cell system. This system provides the operator with useful geometrical data, to include:

- Main Boom Length
- Main Boom Angle
- Operating Mode
- Boom Tip Height
- Anti-Two Block Indicator
- Pre-Warning Light
- Overload Light
- Load On Hook
- Function kick-outs including over load
- Operator settable stops (ramped stops)
- Swing lever with swing brake and horn located on handle
- Bubble type level
- Ergonomic gauge layout
- Control shut off lever
- Jib Angle
- Jib Length
- Load Radius
- Audible Alarm

■ Additional Equipment – Standard

- 71.02" (1.80m) outside diameter turntable bearing
- Right and Left side removable catwalks
- 132 US Gallon (500 L) fuel tank (usable quantity)
- Machine lifting links

■ Additional Equipment – Optional

- Rud-o-matic® model #1848 tagline winder
- Full revolving type Fairleader with barrel, sheaves, and guide rollers.

Lower Structure

■ Lower Frame

All welded box construction frame with precision-machined surfaces for turntable bearing and rotating joint.

- 10'-8" (3.25m) overall width
- 11'-11" (3.6m) overall length

■ Treadmembers

All welded, precision-machined, steel frames can be hydraulically extended and retracted by a hydraulic cylinder mounted in the lower frame.

- 14'-6" (4.42m) extended gauge
- 9' (2.74m) retracted gauge
- 20'-11" (6.37m) overall length
- 36" (0.9m) wide track shoes
- 11 sealed (oil filled) track rollers per treadmember
- Sealed (oil filled) idler and drive planetaries
- Compact travel drives
- Hydraulic adjusting tracks

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

- Individual control provides smooth, precise maneuverability including full counter-rotation.
- Spring applied, hydraulically released disc type brake controlled automatically.
- Maximum travel speed is 1.13 mph (1.82km/h).
- Designed to 30% gradeability.

■ Carbody Jacks

System contains four hydraulic cylinders individually mounted on swing out beams.

- Individual controls are mounted on carbody.
- Minimum height of carbody when resting on pontoons is 16" (0.41m).
- Maximum height of carbody when resting on pontoons is 42" (1.07m).

LS-308H II Load Hoisting Performance

Available line speed and line pull – based on Mitsubishi 6D24-TL at 2,000 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.

Rope Layer	Front or Rear Drum – 1 1/8" (28.4 mm) Wire Rope											
	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	55,596	25 217	397	121	106	32	23.2	589	130.4	40	130	40
2	50,675	22 986	435	133	116	35	25.4	645	143.1	44	274	84
3	46,555	21 117	474	144	126	38	27.7	704	155.8	47	429	131
4	43,054	19 529	512	156	136	41	29.9	759	168.4	51	598	182
5	40,043	18 163	551	168	147	45	32.2	818	181.1	55	779	237
6	37,426	16 976	589	180	157	48	34.4	874	193.8	59	973	297
7	35,129	15 934	628	191	167	51	36.7	932	206.4	63	1,179	359
8	33,099	15 013	666	203	178	54	38.9	988	219.1	67	1,398	426

Rope Layer	Boom Hoist Drum – 3/4" (19 mm) Wire Rope											
	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	36,684	16 640	162	49.4	154	47	20.6	523	65	20	65	20
2	34,193	15 646	174	53	165	50	22.1	561	69	21	134	41
3	32,019	14 524	186	56.6	176	53	23.6	599	73	22	207	63
4	30,105	13 655	197	60.2	187	57	25.1	638	78	24	285	87
5	28,407	12 885	209	63.8	199	61	26.6	676	81	25	366	112
6	36,890	12 197	221	67.4	210	64	28.1	714	87	26	453	138
7	25,527	11 579	233	71	221	67	29.6	752	90	27	543	166
8	24,296	11 020	245	74.6	232	71	31.1	790	95	29	638	194

Rope Layer	Rear Mounted Fourth Drum – 7/8" (22.2 mm) Wire Rope											
	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	39,229	17 794	193	59	184	56	18.5	470	68	21	68	21
2	35,841	16 257	212	64.5	202	62	20.3	516	74	23	142	43
3	32,922	14 933	230	70.1	219	67	22.0	559	79	24	221	67
4	30,562	13 863	248	75.7	236	72	23.8	605	86	26	307	94
5	28,466	12 912	266	81.2	254	77	25.5	648	91	28	398	121
6	26,638	12 083	285	86.8	271	83	27.3	693	97	30	495	151
7	25,032	11 354	303	92.4	289	88	29.0	737	103	31	598	182
8	23,608	10 708	321	98	306	93	30.8	782	108	33	706	215

Rope Layer	Front Mounted Third Drum – 3/4" (19mm) Wire Rope											
	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	22,480	10 197	189	57.6	172	52.4	13.5	343	72	22	72	22
2	20,232	9 177	210	64.0	191	58.2	15	381	80	24	153	46
3	18,393	8 343	231	70.4	210	64.0	16.5	419	88	27	242	74
4	16,860	7 648	252	76.8	229	69.8	18	457	96	29	339	103
5	15,563	7 059	273	83.2	249	75.9	19.5	495	104	32	444	135
6	14,451	6 555	294	89.6	268	81.7	21	533	113	34	557	170

Wire Rope Application	Diameter		Length		Type	Maximum Permissible Load	
	in	mm	ft	m		lbs	kg
Main Hoist	1 1/8	28.4	700	213	DB	37,100	16 828
Auxilliary Hoist	1 1/8	28.4	700	213	RB	28,600	12 973
Boom Hoist	3/4	19	465	142	W	16,800	7 620
Third Drum	3/4	19	600	183	DB	16,800	7 620
Fourth Drum	7/8	22.35	465	142	DB	22,700	10 297

Rope 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	19 x 19 Rotation Resistant – Extra Improved Plow Steel – Preformed – Right Lay – Regular Lay – Swaged – SF=5.1
N	6 x 25 (6 x 19 Class) – filler wire, extra improved plow steel, preformed, independent wire rope center, right lay, alternate lay.
W	6 x 26 (6 x 19 Class) – extra improved plow steel, preformed, independent wire rope center, right lay, alternate lay

