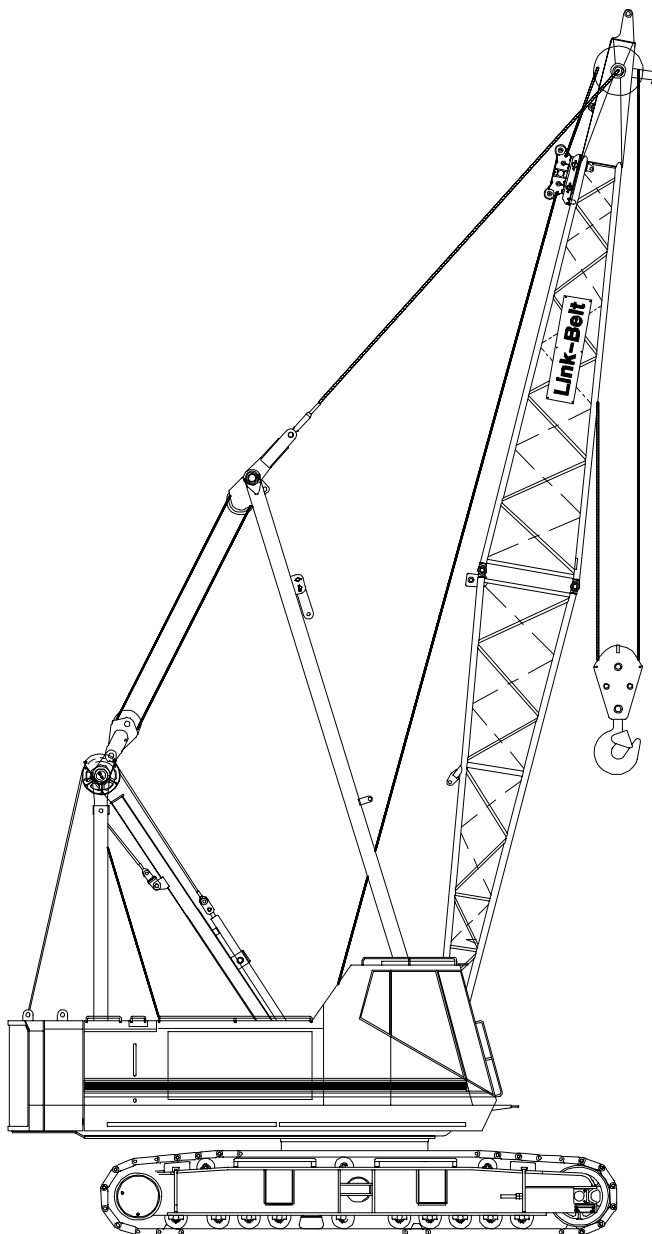


Technical Data

Specifications & **Angle** Boom Capacities

LS-208H II

Crawler Crane
80 Ton (72.57 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.

Table Of Contents

	Pages
Specifications	1-8
Angle Boom Capacities	1-12
Angle Boom + Jib Capacities	1-20

This page intentionally left blank

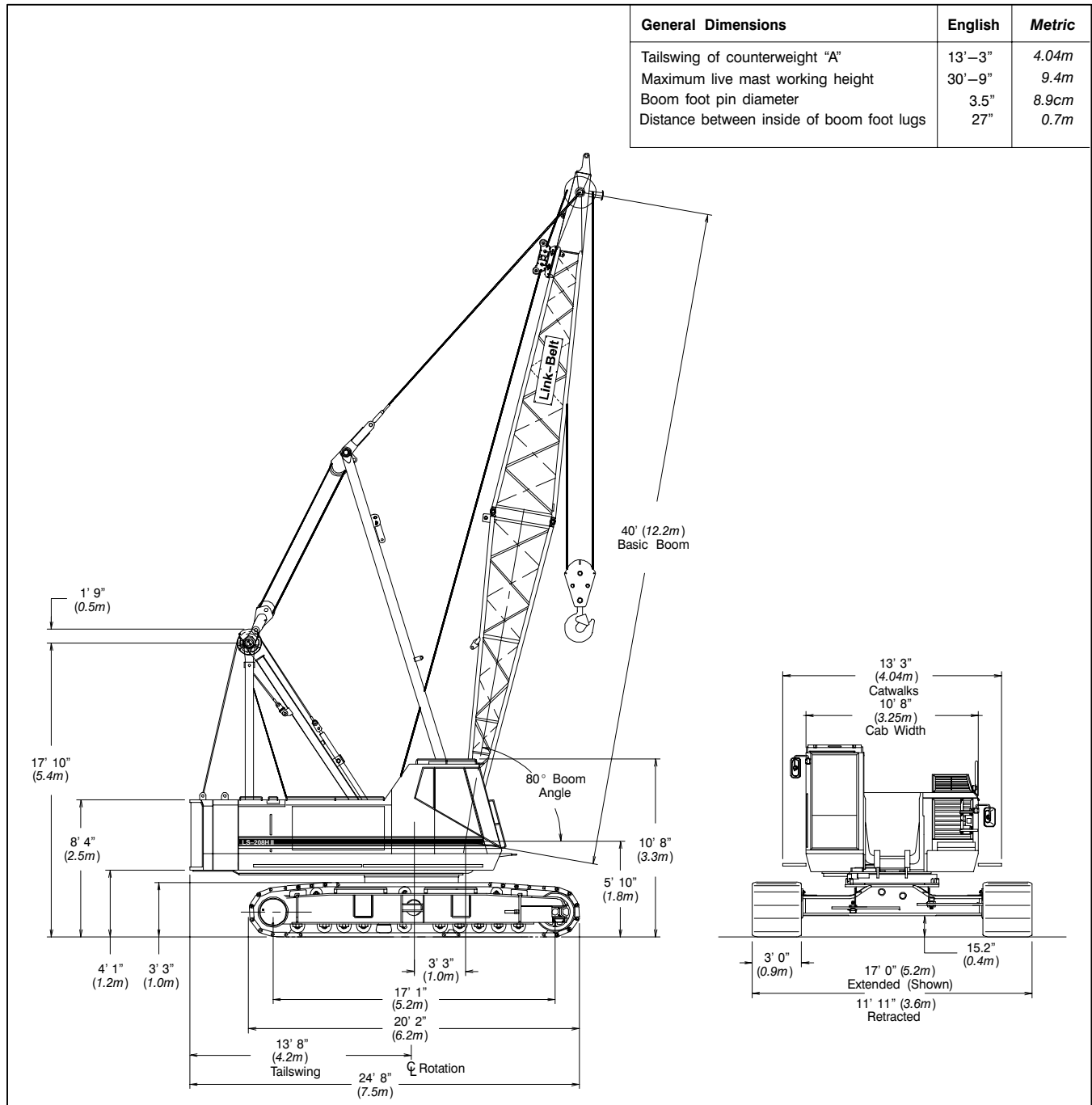
Specifications

Lattice Boom Crawler Crane

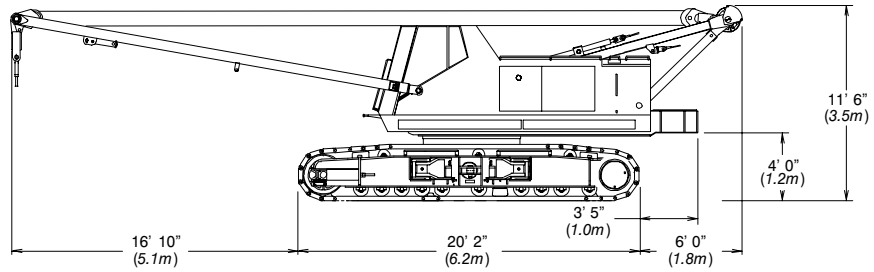
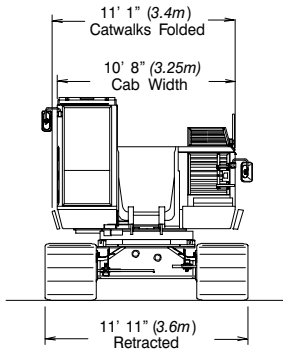
LS-208H II 80-ton (72.57 metric ton)

HYLAB Series

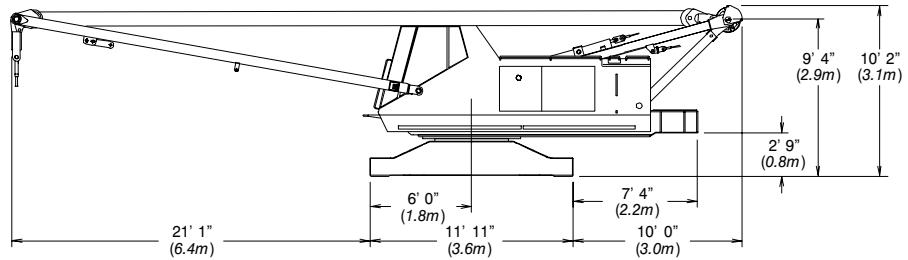
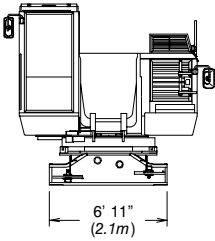
General Dimensions	English	Metric
Tailswing of counterweight "A"	13'-3"	4.04m
Maximum live mast working height	30'-9"	9.4m
Boom foot pin diameter	3.5"	8.9cm
Distance between inside of boom foot lugs	27"	0.7m



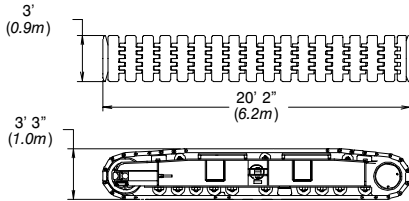
LS-208H II Machine Transport Weights – approximate



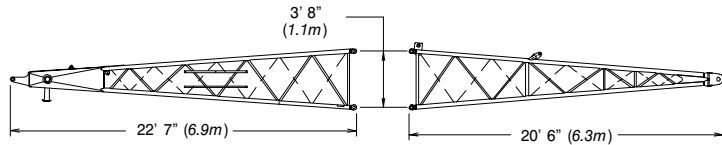
Transport Weight
Rope on both drums, Backstops, Catwalks, and 1/3 tank of fuel
92,094 lbs. (41 773kg)



Upper & Carbody Shipping Weight
Rope on both drums, Backstops, Catwalks, and 1/3 tank of fuel
55,334 lbs. (25 099kg)

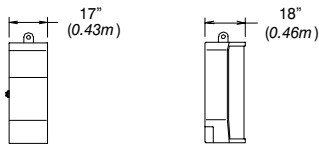


Tread Members w/ 36" (0.9m) Shoes
18,380 lbs. (8 837kg)

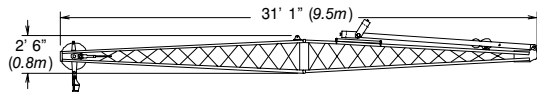
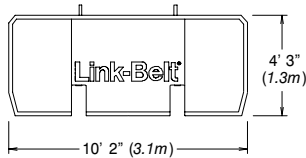


20' (6.1m) Top Section
Tube: 2,700 lbs. (1 225kg)
Angle: 3,195 lbs. (1 449kg)

20' (6.1m) Base Section
Tube: 1,790 lbs. (812kg)
Angle: 2,853 lbs. (1 294kg)



"A" Upper Counterweight 19,600 lbs. (8 890kg)
"B" Upper Counterweight 20,100 lbs. (9 117kg)



30' (9.1m) Basic Jib Assembly
Tube: 1,683 lbs. (763kg)



Front Mounted Third Drum w/o Rope
1,345 lbs. (610kg)

LS-208H II Transportation Weights – approximate

Base Machine: Rigid Boom Backstops, 27 Gallons (102.2L) of Fuel, Catwalks (front and right side), 24' (7.3m) Live Mast, Bridle & Spreader Bar, 14-Part Boom Hoist Reeving, 610' (186 m) of Type 'DB' Front Hoist Rope, 540' (165m) of Type 'RB' Rear Hoist Rope and Auxiliary Lifting Bail.

Item Description	Gross Weight		Transport Loads			Notes and Load Summary
	lb.	kg.	Load #1	Load #2	Load #3	
Base Machine	92,094	41 773	1			<p>Numbers in the load columns to the left represent quantities.</p> <p>Estimated transport load assumes the load out consist of 150' (45.7m) of angle boom + 60' (18.3m) of jib with full counterweight.</p> <p>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.</p> <p>Estimated weights vary by +/- 2%.</p> <p>Estimated Total Load of #1 92,094 lbs. (41 773kg).</p> <p>Estimated Total Load of #2 29,641 lbs. (13 445kg).</p> <p>Estimated Total Load of #3 29,504 lbs (13 383kg).</p>
Add "A" Counterweight	19,600	8 890		1		
Add "B" Counterweight	20,100	9 117			1	
Add Hydraulic Third Drum w/o rope	1,345	610				
Add 20' (6.1m) Tube Base Section	1,790	812				
Add 20' (6.1m) Tube Top Section	2,700	1 225				
Add 10' (3.05m) Tubular Extension w/pins & pendants	677	307				
Add 20' (6.1m) Tubular Extension w/pins & pendants	1076	488				
Add 30' (9.1m) Tubular Extension w/pins & pendants	1,481	672				
Add 20' (6.1m) Angle Base Section	2,853	1 294		1		
Add 20' (6.1m) Angle Top Section with 4 Lifting Sheaves	3,195	1 449		1		
Add 20' (6.1m) Angle Top Section with 3 Lifting Sheaves	3,642	1 652				
Add 20' (6.1m) Angle Top Section with 2 Lifting Sheaves	3,475	1 576				
Add 10' (3.05m) Angular Extension w/pins & pendants	992	450			1	
Add 20' (6.1m) Angular Extension w/pins & pendants	1,625	737			2	
Add 30' (9.1m) Angular Extension w/pins & pendants	2,264	1 027			2	
Add Bridle & Spreader Bar Only (No Live Mast)	756	343				
Add Tagline Winder	650	295				
Add Fairleader	500	227				
Add PAT DS-350	100	45				
Add 30' (9.1m) Tubular Jib	1,683	763		1		
Add 15' (4.6m) Tubular Jib Extension	317	144			2	
Add 5' (1.5m) Auxiliary Tip Extension	730	331				
Add Holding Rope – 1" X 190' Type 'DB'	334	152				
Add Closing Rope – 1" X 240' Type 'DB'	422	192				
Add Inhaul Rope – 1" X 105' Type 'M'	185	84				
Add Jib Wire Rope – 1" X 700' Type 'DB'	1,295	587				
Add 3rd Drum Wire Rope 0.63" X 385' Type 'ZB'	312	141				
Add 3rd Drum Wire Rope 0.63" X 385' Type 'WB'	296	134				
Add Auxiliary Lifting Bail	191	87				
Add 15-ton (13.6m) Hook Ball – Non Swivel	750	340		1		
Add 15-ton (13.6m) Hook Ball – Swivel	760	345				
Add 80-ton (72.6m) 4 Sheave Hook Block	1,560	708		1		
Remove Front Hoist Rope 1" X 610' Type 'DB'	-1,147	-520				
Remove Jib Wire Rope 1" X 540' Type 'RB'	-1,080	-490				
Remove 24' (7.3m) Live Mast with Bridle & Spreader Bar	-2,356	-1 069				
Add 50 gallons (189.3L) of Fuel	362	164				

Machine Working Weight

Option	Description	Gross Weight lbs. (kg)	Ground Bearing Pressure psi (kg/cm ²)
1	Base Machine equipped with 40' (12.2m) of tubular boom, live mast, "A" counterweight, 610' (186m) front hoist rope, 540' (164.6m) rear hoist rope, 80-ton (72.6m) hook block, 77 gallons (291.4L) of fuel, and 200 lbs. (90.7kg) operator.	117,291 (53 202)	7.48 (0.52)
2	Option #1 plus "B" counterweight, midpoint pendants, and 150' (45.7m) of boom extensions to obtain 190' (57.91m) of main boom.	145,355 (65 932)	9.26 (0.65)
3	Option #2 plus 60' (18.3m) of jib and 15-ton (13.6m) hookball – subtract 20' (6.1m) of boom extension and midpoint pendants to obtain maximum 170' + 60' (51.82 + 18.29m) of main boom + jib.	147,060 (66 705)	9.37 (0.66)
4	Base Machine equipped with 40' (12.2m) of angle boom, live mast, "A" counterweight, 610' (186m) front hoist rope, 540' (165m) rear hoist rope, 80-ton (72.6m) hook block, 77 gallons (291.4L) of fuel, and 200 lbs. (90.7kg) operator.	118,849 (53 909)	7.58 (0.53)
5	Option #4 plus "B" counterweight and 110' (33.5m) of boom extensions to obtain 150' (45.7m) of main boom.	147,719 (67 004)	9.42 (0.66)
6	Option #5 plus 60' (18.3m) of jib and 15-ton (13.6m) hookball to obtain maximum 150' + 60' (45.7 + 18.3m) of main boom + jib.	150,787 (68 396)	9.61 (0.67)

Notes:

- Ground bearing pressure is based on the total weight distributed evenly over the track contact area.
- Total contact area for 36" (0.91m) track shoes is 15,689 in² (101,219cm²).

Attachment Options

■ 40' – 190' (12.2 – 57.9m) Tube Boom

Basic Tube Boom – 40' (12.2m) two-piece design that utilizes a 20' (6.1m) base section and a 20' (6.1m) open throat top section with in-line connecting pins on 54" (1.4m) wide and 44" (1.1m) deep centers.

- Boom feet on 50" (1.3m) centers
- 3" (76.2mm) diameter chords
- Lugs on base section to attach carrying links
- Skywalk platform
- Deflector roller on top section
- Permanent skid pads mounted on top section to protect head machinery
- Rigid sheave guards
- Five 18" (0.5m) root diameter steel sheaves mounted on sealed anti-friction bearings
- Mechanical boom angle indicator

Optional – Handling system that mounts in the boom base to allow loading/unloading of a counterweight or a boom section onto transport trailers.

Tube 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 required at 80' (24.4m) for the 190' (57.9 m) boom length.

Tube Boom Extensions	Suggested Quantity for Max. Boom
10' (3.05m)	1
20' (6.10m)	1
30' (9.14m)	4

- Deflector roller on top of each section
- Appropriate length pendants
- Maximum tube boom tip height of 193' (58.8m)

■ 40' – 150' (12.2 – 45.7m) Angle Boom

Basic Angle Boom – 40' (12.2m) two-piece design that utilizes a 20' (6.1m) base section and a 20' (6.1m) open throat top section with in-line connecting pins. Boom extensions are 48" (1.2m) wide and 48" (1.2m) deep at outside dimensions of angles.

- Boom feet on 50" (1.3m) centers
- 4" X 4" X 0.38" (101.6 x 101.6 x 9.5mm) angle chords
- Lugs on base section to attach carrying links
- Skywalk platform
- Deflector roller on top section
- Permanent skid pads mounted on top section to protect head machinery
- Rigid sheave guards
- Four 18" (0.5m) root diameter steel sheaves mounted on sealed anti-friction bearings
- Mechanical boom angle indicator

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

- Deflector roller on top of each section
- Appropriate length pendants
- Maximum angle boom tip height of 154' (46.9m)

■ 30' – 60' (9.1– 18.3m) Tube Jib

Basic Tube Jib – 30' (9.14m) two-piece design that utilizes a 15' (4.6m) base section and a 15' (4.6m) top section with in-line connecting pins on 32" (0.8m) wide and 24" (0.6m) deep centers.

- 2" (50.8mm) diameter tubular chords
- One 18.5" (0.46m) root diameter steel sheave mounted on sealed anti-friction bearings.
- 15' (4.6m) jib extensions provide jib lengths at 45' (13.76m) and 60' (18.3m)
- Jib offset angles at 5, 15 and 25 degrees
- Maximum tip height of boom + jib is 233' (71.02m) using the tube boom and 214' (65.23m) using the angle boom

■ Auxiliary 5' (1.5m) Tip Extension

Designed to use instead of a jib to provide clearance between working hoist lines. The extension is equipped with a single 15.25" (0.4m) root diameter steel sheave mounted on sealed anti-friction bearings. Maximum capacity is 9-ton (8.2mt).

■ 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. Automatically limits maximum boom angle operation.

- Retractable gantry frame
- Pin-on bail frame
- 14-part reeving with 5/8" (14.7mm) type 'AC' wire rope
- Bridle assembly
- 24' (7.3m) live mast (optional for angle attachment)
- Two 1.25" (31.8mm) pendants
- Tubular boom backstops (rigid type)
- Sheaves contain sealed anti-friction bearings
- Boom speed from 10°–70° is 52 seconds with no load and 94 seconds with full load. Speed was determined using 100' (30.5m) of tube boom

Revolving Upperstructure

■ Frame

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

■ Engine

Mitsubishi 6D24-TEB with oil cooler, air cleaner, fuel filter, water separator, hour meter, 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 (11945)
Engine rpm at full load speed	2,000
Hi-idle rpm	2,200
Full load speed – horsepower (kw)	263 (196)
Peak torque – ft lb (joule)	746 (1011)
Peak torque – rpm	1,400
Electrical system	24 volt
Batteries	2–12 volt

■ 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 (281kg/cm²) and 64 gal/min (243L/min) powers load hoist drums, boom hoist drum, optional third drum, and travel.
- One fixed displacement gear type pump operating at 3,600 psi (250kg/cm²) and 31 gal/min (117L/min) powers the swing and treadmember retract cylinders.
- One fixed displacement gear type pump operating at 3,000 psi (210kg/cm²) and 35 gal/min (130L/min) powers the swing motor.
- One fixed displacement gear type pump operating at 1,200 psi (84.4kg/cm²) and 10.5 gal/min (39.7L/min) powers the pilot control system, clutches, brakes and pump controls.

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 – 79 gal (300L), 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)
- 1” (25.4mm) grooved lagging
- Drum pawl controlled manually
- Electronic drum rotation indicators
- Mounted on anti-friction bearings
- 18.70” (0.47m) root diameter
- 33.86” (0.86m) flange diameter
- 20.47” (0.52m) 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 26” (0.66m) diameter X 5” (127mm) wide shoe that internally expands to provide load control. Swept area is 408 in² (2 632cm²).

■ Optional Front Mounted Third Hoist Drum

The hydraulic winch is pinned 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
- 10.63” (0.27m) root diameter
- 20” (0.51m) flange diameter
- 13.5” (0.34m) 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
- 5/8” (15.88mm) grooved lagging
- Drum pawl controlled manually
- Mounted on anti-friction bearings
- 10.71” (0.27m) root diameter
- 23.62” (0.60m) flange diameter
- 10.23” (0.26m) width

■ Swing System

Mechanical linkage controls the dual 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
- Two position positive house lock
- Audio/Visual swing alarm
- Maximum swing speed is 3.0 rpm

■ Upper Counterweight

Consist of a two piece design that can be easily lowered to the ground using the gantry.

- 19,600 lbs. (8 890kg) “A” upper counterweight
- 20,100 lbs. (9 117kg) “B” upper counterweight can be added to maximize capacities

■ 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
- Air conditioner
- Sun visor
- Engine instrumentation panel (tachometer, voltmeter, engine oil pressure, engine water temperature, fuel level, hydraulic oil temperature, and service monitor system)
- Electronic drum rotation indicators
- Six way adjustable seat with seat belt
- Dry chemical fire extinguisher
- Hand and foot throttle
- Fully adjustable single axis control levers
- Swing lever with swing brake and horn located on handle
- Bubble type level

(continued on page 7)

LS-208H II Load Hoisting Performance

Available line speed and line pull – based on Mitsubishi 6D24-TEB 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" (25.4 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	43,394	19 683	184	56	92	28	19.7	500	96	29	96	29
2	39,395	17 869	203	62	101	31	21.7	551	105	32	201	61
3	36,070	16 361	221	67	111	34	23.7	602	115	35	316	96
4	33,263	15 088	240	73	120	36	25.7	653	125	38	441	134
5	30,862	13 999	259	79	129	39	27.7	703	135	41	576	176
6	28,784	13 056	277	84	138	42	29.7	754	144	44	720	219
7	26,968	12 232	296	90	148	45	31.7	805	154	47	875	267

Rope Layer	Boom Hoist Drum – 5/8" (15.9mm) 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	18 623	8 447	209	63.8	108	33.0	11.3	288	44	13.3	44	13.3
2	16 761	7 603	233	70.9	120	36.3	12.6	320	48	14.8	92	28.1
3	15 237	6 912	256	78.0	132	40.3	13.9	352	53	16.2	145	44.3
4	13 967	6 336	279	85.1	144	44.0	15.1	384	58	17.7	203	62.0
5	12 893	5 848	302	92.2	156	47.6	16.4	416	63	19.2	266	81.2
6	11 972	5 430	326	99.3	168	51.3	17.6	448	68	20.7	334	101.9
7	11 174	5 068	349	106.4	180	55.0	18.9	480	73	22.2	407	124.0
8	10 476	4 752	372	113.5	192	58.6	20.2	512	77	23.6	484	147.7

Rope Layer	Front Mounted Third Drum – 5/8" (15.9mm) 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	15,041	6 822	157	48	143	44	11.25	286	57	17	57	17
2	13,537	6 140	175	53	159	48	12.50	318	64	20	121	37
3	12,307	5 582	192	59	175	53	13.75	349	71	22	192	59
4	11,282	5 117	210	64	191	58	15.00	381	77	23	269	82
5	10,414	4 724	228	69	207	63	16.25	413	83	25	352	107
6	9,671	4 387	245	75	223	68	17.50	445	90	27	442	135

Wire Rope Application	Diameter		Length		Type	Maximum Permissible Load	
	in	mm	ft	m		lb	kg
Boom Hoist	5/8	15.9	610	186	AC	14,500	6 577
Front Hoist	1	25.4	620	189	DB	29,500	13 380
Rear Hoist (Optional)	1	25.4	540	165	RB	22,700	10 297
Rear Hoist (Optional)	1	25.4	700	213	DB	29,500	13 380
Third Drum (Optional)	5/8	15.9	385	117	ZB	11,080	5 026
Third Drum (Optional)	5/8	15.9	385	117	WB	13,650	6 192

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
ZB	36 x 7 – Non-rotating – Extra Improved Plow Steel – Right Lay – Regular Lay – S.F.=5.1
WB	8 Strand – Regular Lay
AC	9 x 40 Strand, Post Formed, Swaged-Constructex – Crush Resistant

* – Use of swivel ball is not recommended.

Revolving Upperstructure (continued from page 5)

■ Load Indicator/ Rated Capacity Limiter

Standard Equipment – PAT EI-65 load indicator provides two lineriders, angle sensor, computer, display, and anti-two block equipment to provide the following information.

- Boom length & angle
- Jib length & angle
- Load on hook
- Load radius
- Tip height
- Anti-two block warning & function limiters
- Operation mode
- Operator settable alarms provide audio/visual warning

Optional Equipment – PAT DS-350 rated capacity limiter provides all the same equipment and features of the standard EI-65 in conjunction with the following features.

- 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.

Note: The DS-350 function limiters are activated for anti-two block and overload conditions. These limiters are designed to prevent hoist up on front and rear drums and boom down.

■ Additional Equipment – Standard

- 57.9" (1.5m) outside diameter turntable bearing
- Front, right, & left side removable catwalks
- 77 gal (291.5L) fuel tank (usable quantity)
- Machine lifting links

■ Additional Equipment – Optional

- Rud-o-matic® model 1248 tagline winder for angle boom (double barrel, spring wound, drum type)
- Rud-o-matic® model 648 tagline winder for tube boom
- 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.

- 8'-10.7" (2.7m) 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' (4.3m) extended gauge
- 8'-11" (2.7m) retracted gauge

- 20'-2" (6.2m) overall length
- 36" (0.9m) wide track shoes
- 11 sealed (oil filled) track rollers per treadmember
- Sealed (oil filled) idler and drive sprockets
- Compact travel drives
- Hydraulic self 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 1.0 mph (1.6km/h) in high speed and 0.6 mph (1km/h) in low speed
- Designed to 30% gradeability

The capacity portion of the Technical Data booklet
has been removed from this file.

Please contact your [distributor](#) for a copy of the capacities.

Link-Belt Construction Equipment Company Lexington, Kentucky www.linkbelt.com

®Link-Belt is a registered trademark. Copyright 2005. We are constantly improving our products and therefore reserve the right to change designs and specifications.