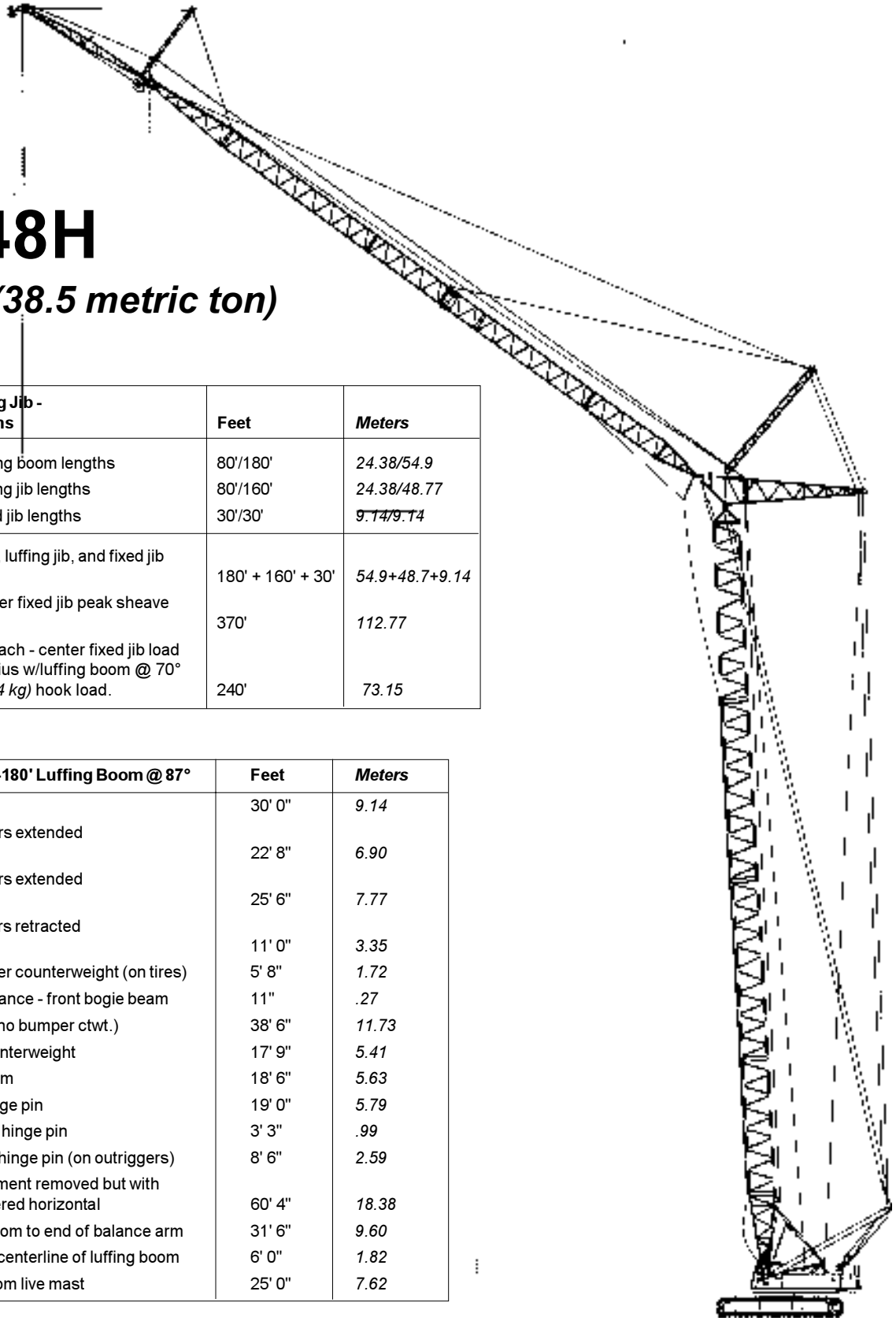
Specifications

Lattice Boom Truck Crane With Luffing Attachment



HC-248H

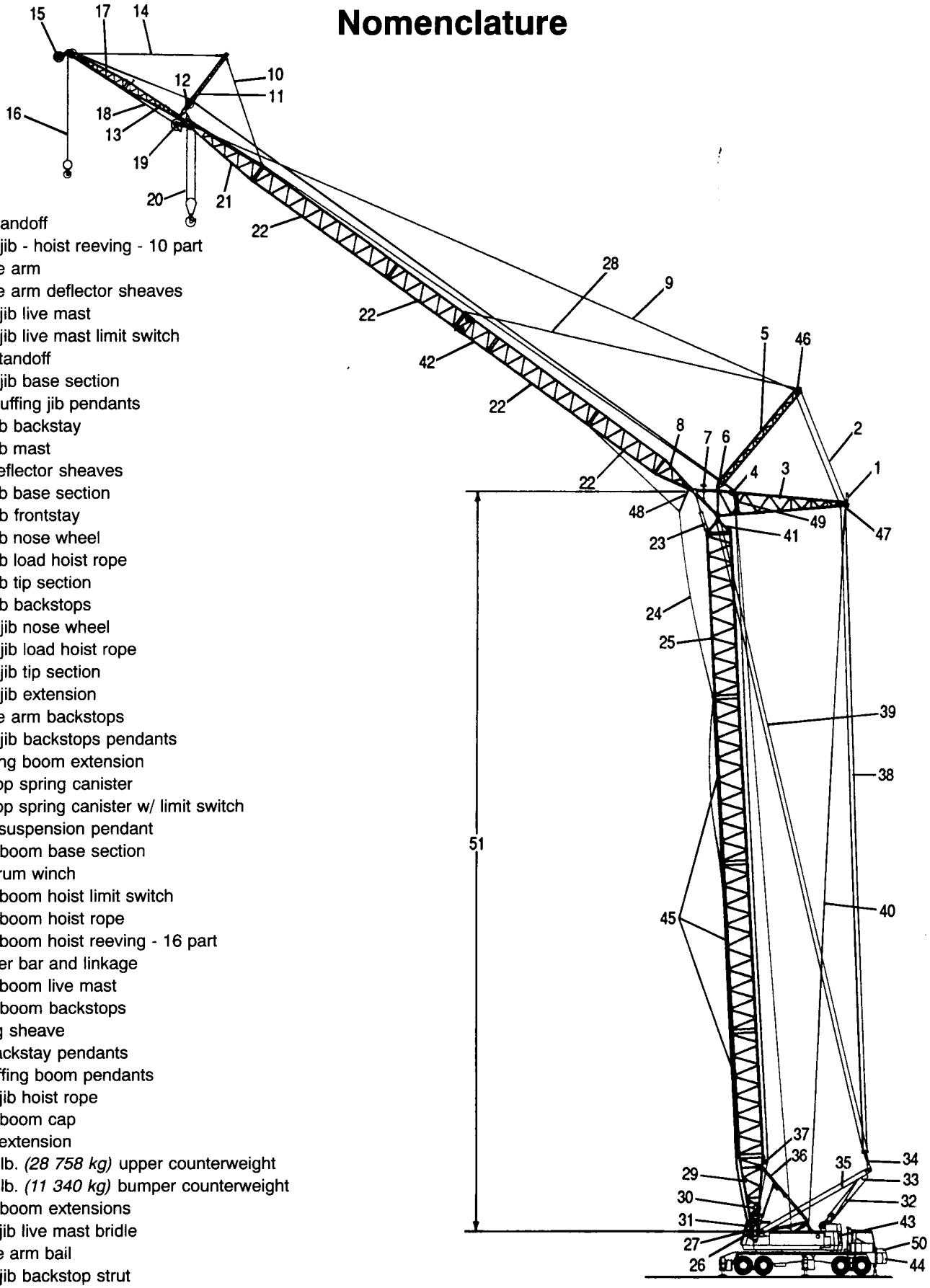
42.5 -Ton *(38.5 metric ton)*

Luffing Boom - Luffing Jib - Fixed Jib Combinations	**Feet**	***Meters***
Basic & maximum luffing boom lengths	80'/180'	*24.38/54.9*
Basic & maximum luffing jib lengths	80'/160'	*24.38/48.77*
Basic & maximum fixed jib lengths	30'/30'	*9.14/9.14*
Maximum luffing boom, luffing jib, and fixed jib combination lengths	180' + 160' + 30'	*54.9+48.7+9.14*
Maximum height - center fixed jib peak sheave @ 75' *(22.86 m)* radius	370'	*112.77*
Maximum horizontal reach - center fixed jib load hook @ max. chart radius w/luffing boom @ 70° offset - 5,300 lb. *(2 404 kg)* hook load.	240'	*73.15*

General Dimensions-180' Luffing Boom @ 87°	**Feet**	***Meters***
Luffing boom live mast	30' 0"	*9.14*
Overall width, outriggers extended (centerline jacks)	22' 8"	*6.90*
Overall width, outriggers extended (over floats)	25' 6"	*7.77*
Overall width, outriggers retracted (no floats)	11' 0"	*3.35*
Ground clearance under counterweight (on tires)	5' 8"	*1.72*
Minimum ground clearance - front bogie beam	11"	*.27*
Overall carrier length (no bumper ctwt.)	38' 6"	*11.73*
Tailswing of "ABC" counterweight	17' 9"	*5.41*
Tailswing of balance arm	18' 6"	*5.63*
Radius of luffing jib hinge pin	19' 0"	*5.79*
Radius of luffing boom hinge pin	3' 3"	*.99*
Height of luffing boom hinge pin (on outriggers)	8' 6"	*2.59*
Overall length - attachment removed but with luffing boom mast lowered horizontal	60' 4"	*18.38*
Centerline of luffing boom to end of balance arm	31' 6"	*9.60*
Luffing jib hinge pin to centerline of luffing boom	6' 0"	*1.82*
Tail swing of luffing boom live mast	25' 0"	*7.62*

Not to Scale

Nomenclature



1. Rear standoff
2. Luffing jib - hoist reeving - 10 part
3. Balance arm
4. Balance arm deflector sheaves
5. Luffing jib live mast
6. Luffing jib live mast limit switch
7. Front standoff
8. Luffing jib base section
9. Single luffing jib pendants
10. Fixed jib backstay
11. Fixed jib mast
12. Mast deflector sheaves
13. Fixed jib base section
14. Fixed jib frontstay
15. Fixed jib nose wheel
16. Fixed jib load hoist rope
17. Fixed jib tip section
18. Fixed jib backstops
19. Luffing jib nose wheel
20. Luffing jib load hoist rope
21. Luffing jib tip section
22. Luffing jib extension
23. Balance arm backstops
24. Luffing jib backstops pendants
25. 40' luffing boom extension
26. Backstop spring canister
27. Backstop spring canister w/ limit switch
28. Midfall suspension pendant
29. Luffing boom base section
30. Third drum winch
31. Luffing boom hoist limit switch
32. Luffing boom hoist rope
33. Luffing boom hoist reeving - 16 part
34. Spreader bar and linkage
35. Luffing boom live mast
36. Luffing boom backstops
37. Fleeting sheave
38. Dual backstay pendants
39. Dual luffing boom pendants
40. Luffing jib hoist rope
41. Luffing boom cap
42. Midfall extension
43. 63,400 lb. *(28 758 kg)* upper counterweight
44. 25,000 lb. *(11 340 kg)* bumper counterweight
45. Luffing boom extensions
46. Luffing jib live mast bridle
47. Balance arm bail
48. Luffing jib backstop strut
49. Tensiometer (2)
50. 10,000 lb. *(4 536 kg)* auxiliary bumper ctwt.
51. Luffing boom length

General Specifications

Luffing Boom

Tubular; 80" *(2.03 m)* wide, 68" *(1.72 m)* deep at connections. Alloy steel round tubular chords 4.0 *(.10 m)* outside diameter.

Luffing Boom Base Section

20' *(6.09 m)* long. Luffing boom feet on 55" *(1.39 m)* centers. Hydraulic powered luffing boom foot pin removal system standard.

Luffing Boom Extensions

Available in 10' *(3.04 m)*, 20' *(6.08 m)*, 30' *(9.14 m)* and 40' *(12.19 m)* lengths with appropriate length pendants.

Luffing Boom Connections

In-line pin connections

Luffing Boom Cap

4' 0" *(1.21 m)* long; tubular construction, pin connected to the top luffing boom extension.

Balance Arm

Provides an offset luffing jib connection to allow for a full 165° of luffing jib angle variation from erection to minimum radius operating position. Transfers the resultant of the luffing jib foot thrust to the luffing boom centerline so that all four chords are loaded equally. Tubular construction, front chords span 6' 0" *(1.82 m)* from luffing boom centerline and rear chords span 30' 0" *(9.14 m)* from luffing boom centerline to the luffing jib hoist bail shaft.

Luffing Boom Stops

Dual lever type, spring cushioned. Adjustable levers pin to luffing boom base section; backstops anchor to the upper revolving frame. Required for all luffing boom lengths.

Luffing Boom Hoist Bridle

The 16 part conventional boom hoist becomes the luffing boom hoist with no re-reeving required.

Luffing Boom Live Mast

Welded plate/tube construction 30' 0" *(9.14 m)* long, required for all luffing boom/luffing jib lengths; supports luffing jib hoist bridle. (Same live mast as on standard crane.)

Balance Arm Stops

Spring canisters with links that position the balance arm centerline approximately perpendicular to the luffing boom.

Wire Rope

See chart on page 4.

Basic Luffing Boom

80' *(24.38 m)* long; contains one 20' 0" *(6.09 m)* base section, one 10' 0" *(3.04 m)*, one 40' 0" *(12.19 m)* extension, 4' 0" *(1.21 m)* tapered luffing boom cap and 6' 0" *(1.82 m)* balance arm. (Includes live mast, 10-part bridle and bail machinery, spreader bar and luffing jib backstop system.

Maximum Luffing Boom

No assist luffing boom erection; 180' *(54.9 m)* luffing boom for use with maximum 160' *(48.76 m)* luffing jib and 30' *(9.14 m)* fixed jib.

Luffing Jib - 218A/218H Conventional Boom

Tubular; basic luffing jib 80' *(24.38 m)* long; 60" *(1.52 m)* wide, 50" *(1.27 m)* deep at connections. Alloy steel round tubular chords 3.0" *(.07 m)* outside diameter.

Luffing Jib Base Section

10' 0" *(3.04 m)* long; 80" *(2.03 m)* wide at luffing jib foot. 50" *(1.27 m)* deep and 60" *(1.52 m)* wide at pin connections.

Luffing Jib Extensions - .220" *(5.59 mm)* Wall

Available in 10' *(3.04 m)*, 20' *(6.10 m)*, 30' *(9.14 m)* and 40' *(12.19 m)* lengths with appropriate length pendants. (218A/218H extensions)

Luffing Jib Extensions - .259" Wall

Available in 20' *(6.10 m)* and 30' *(9.14 m)* lengths with appropriate length pendants. (218A/218H extensions)

Luffing Jib Connections

In-line pin connections.

Top Section - Luffing Jib

Open throat, 20' *(6.09 m)* long. (218A/218H top section)

Luffing Jib Live Mast

30' *(9.14 m)* long, required for all luffing jib/fixed jib lengths.

Luffing Jib Point Machinery

Five 21" *(.53 m)* root diameter sheaves. Sheaves mounted on anti-friction bearings.

Deflector Rollers

Deflect load hoist wire rope off luffing boom/luffing jib. Steel rollers mounted on anti-friction pillow block bearings.

Luffing Jib Backstop System

3/4" *(19 mm)* wire rope type "N" pendants. Contains spring canisters and a limit switch to prevent luffing jib from exceeding maximum operating angle.

Luffing Jib Hoist

1" *(25 mm)* type "N" luffing jib hoist line runs from the rear drum to the balance arm bail. Ten part reeving hoists luffing jib from -75° to 0° during erection and from 0° to 75° during operation.

Luffing Jib Hoist Limiting Device

One of the luffing jib backstop canisters is equipped with a luffing jib hoist limit switch used to avoid hoisting above minimum radius. Brakes apply automatically.

Drum Rotation Indicators

Standard for front drum (load hoist) and rear drum (luffing jib hoist).

Luffing Jib Lengths

Luffing jib lengths from 80' *(24.38 m)* to 160' *(48.77 m)* may be used on all luffing boom lengths from 80' *(24.38 m)* to 180' *(54.86 m)* with luffing boom angles at 87°, 85°, 80°, 75° and 70° angles.

Luffing Jib Nose Wheels

Pin-connected to end of luffing jib top section; support luffing jib peak on ground during luffing boom and luffing jib erection.

Luffing Boom And Luffing Jib Angle Indicators

Electronic type standard. Read out unit conveniently located in crane operator's cab.

Capacities

Available for luffing boom angles of 87°, 85°, 80°, 75°, and 70°.

Fixed Jib

Tubular; basic two-piece 30' *(9.14 m)* long; 32" *(.81 m)* wide; 24" *(.51 m)* deep at connections. Alloy steel round tubular chords 2-1/4" *(57 mm)* outside diameter. (Same jib as used on conventional 248H boom.)

Base Section - Fixed Jib

15' 0" *(4.57 m)* long.

Jib Connections

General Specifications (con't)

[illegible]line pin connections.

Tip section - Fixed Jib

15' 0" *(4.57 m)* long; equipped with single 21" *(.53 m)* root diameter sheave, [illegible]ounted on anti-friction bearings.

Jib Adapter

Connects to the fixed jib lower section and the luffing jib upper section. Allows the fixed jib to pivot 90° to the luffing jib for [illegible]ection purposes.

Jib Mast

17' 10" *(5.43 m)* long. Single jib load hoist rope (whipline) deflector sheave, 21" *(.53 m)* root diameter, mounted on anti-friction bearings. Two stayline equalizer sheaves [illegible]ount at end of mast.

Fixed Jib Stops

[illegible]re rope type; pin to fixed jib peak and to axle of luffing jib nose wheel.

Jib Staylines

Front and back staylines attach jib head shaft and luffing jib tip section to the jib mast respectively. Connections at the jib [illegible]ast employ equalizing sheaves for both stays.

Fixed Jib Lengths And Offset [illegible]ngles

30' *(9.14 m)* only; 5° offset only.

Fixed Jib Nose Wheel

Pin connected to jib peak; supports jib [illegible]ak on ground during luffing boom/luffing jib/fixed jib erection.

3rd Drum Winch

Optional; used in conjunction with 30' *(9.14 m)* fixed jib as a whipline function. Bolts in the luffing boom base section, 8' 0" *(2.44 m)* from the luffing boom foot pin. The winch drive consists of a variable displacement bent axis piston motor with an integral multi-disk brake and planetary. This drum is grooved for 1" *(25.4 mm)* rope.

Hydraulic power to the winch is supplied by a separate pump.

Quick disconnects at the outside of the machinery house allow the winch to be transported in the luffing boom lower section.

The hydraulic circuit contains a holding valve, which when coupled with the winch multi-disk brake will prevent load droop when initiating a hoist function. A ratchet-pawl system is not available.

Wire Rope and Rope Drum Data

Wire Rope: size and type

Wire rope application	Size: diameter		Type
	inches	*mm*	
Luffing boom hoist	1	*25*	LB
Luffing jib hoist	1	*25*	N
Main load hoist	1	*25*	N
Jib load hoist (1-part)	1	*25*	RB
Jib load hoist (2-part)	1	*25*	N
Luffing boom pendants (dual)	1	*25*	N
Backstay pendants (dual)	1	*25*	N
Luffing jib pendants (dual)	1-3/8	*35*	N
Jib front stay line	7/8	*22*	N
Jib back stay line	3/4	*19*	N
Luffing jib backstop pendants	3/4	*19*	N
Fixed jib backstop pendants	1/2	*13*	N
Midfall suspension pendants	3/4	*19*	N

Wire Rope: types available

- Type "N" - 6 x 25 (6 x 19 class) filler wire, extra improved plow steel, preformed, independent wire rope center, right lay, regular lay.
- Type "RB" - 19 x 19 rotation resistant.
- Type "LB" - 6 x 25 (6 x 19 class)

Drum Functions

Description	Lift Crane Function	Luffing Attachment Function
Front drum	Main load line	Main load line or whip line
Rear drum	Whip line	Luffing jib hoist
Boom hoist drum	Boom hoist	Luffing boom hoist
3rd drum	n/a	Whip line

Third Drum Winch Performance

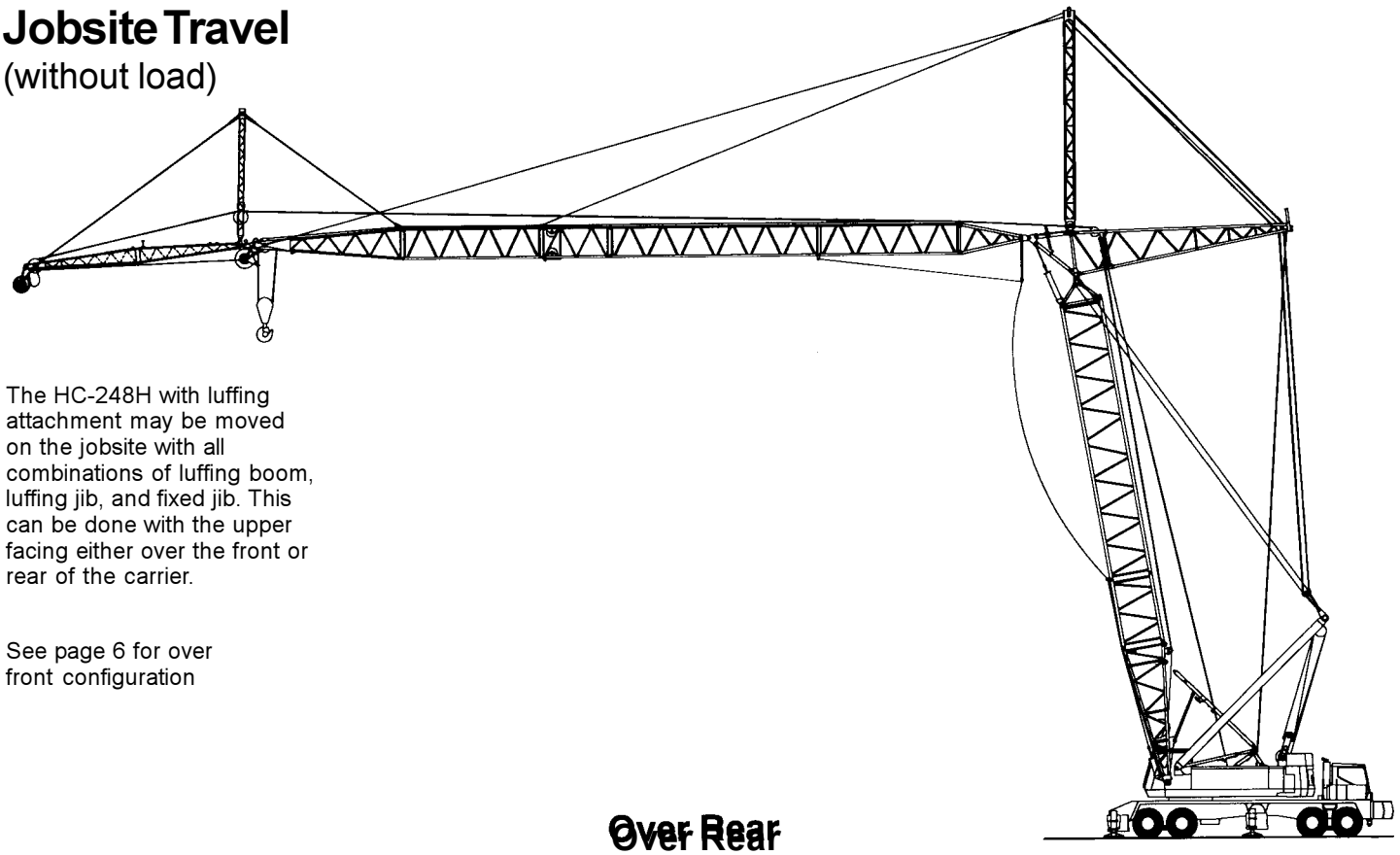
Line speed and pull

High Speed						
1.0" *(25.4 mm)* Dia. Rope	Maximum Line Pull		No Load Line Speed		Full Load Line Speed	
Layer	lbs.	*Kg*	fpm	*m/min*	fpm	*m/min*
1	9,030	*4 090*	460	*140*	220	*67*
2	8,200	*3 720*	510	*155*	250	*76*
3	7,500	*3 400*	560	*170*	270	*82*
4	6,920	*3 130*	610	*185*	290	*88*
5	6,420	*2 910*	650	*200*	320	*97*
6	5,990	*2 715*	700	*215*	340	*104*

Low Speed						
1.0" *(25.4 mm)* Dia. Rope	Maximum Line Pull		No Load Line Speed		Full Load Line Speed	
Layer	lbs.	*Kg*	fpm	*m/min*	fpm	*m/min*
1	19,470	*8 830*	260	*79*	85	*26*
2	17,680	*8 020*	290	*88*	95	*29*
3	16,190	*7 340*	320	*97*	105	*32*
4	14,930	*6 770*	340	*105*	110	*33*
5	13,850	*6 280*	370	*110*	120	*36*
6	12,910	*5 860*	400	*120*	130	*39*

Jobsite Travel

(without load)



Over Rear

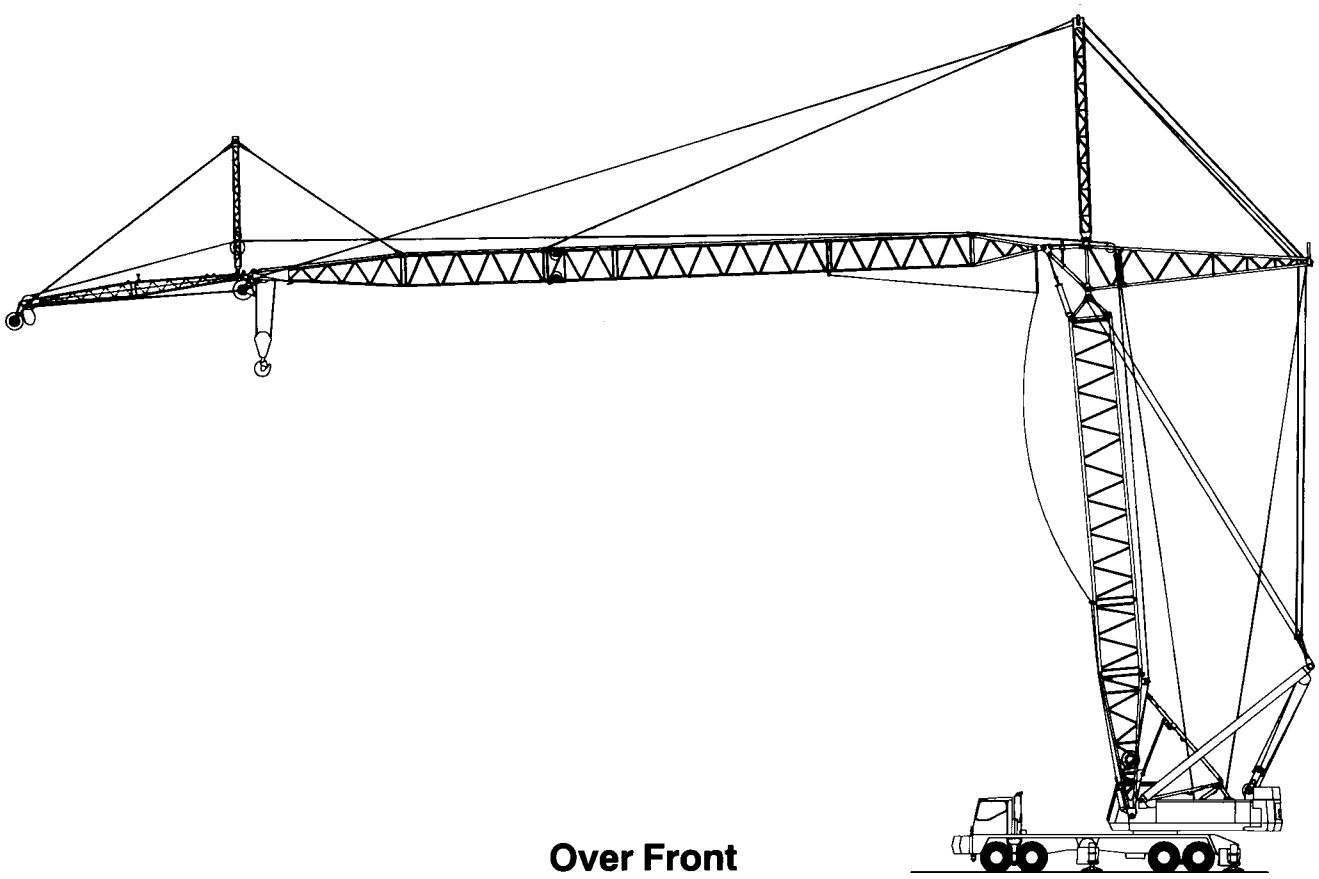
The HC-248H with luffing attachment may be moved on the jobsite with all combinations of luffing boom, luffing jib, and fixed jib. This can be done with the upper facing either over the front or rear of the carrier.

See page 6 for over front configuration

Jobsite Travel (without load) con't

The HC-248H with luffing attachment may be moved on the jobsite with all combinations of luffing boom, luffing jib, and fixed jib. This can be done with the upper facing either over the front or rear of the carrier.

See page 5 for over rear configuration.



Over Front

Link-Belt Construction Equipment Company
A unit of Sumitomo Construction Machinery Co., Ltd.