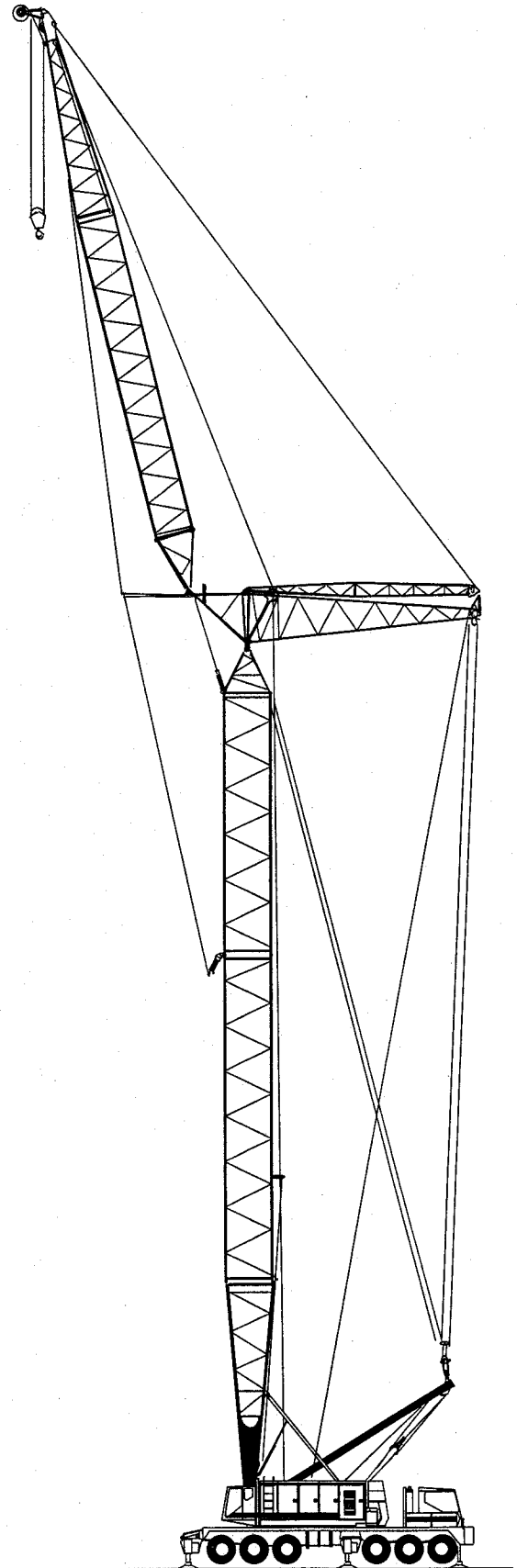


Specifications

Hydraulic Lattice Boom Truck Crane
With Luffing Attachment

HC-278H

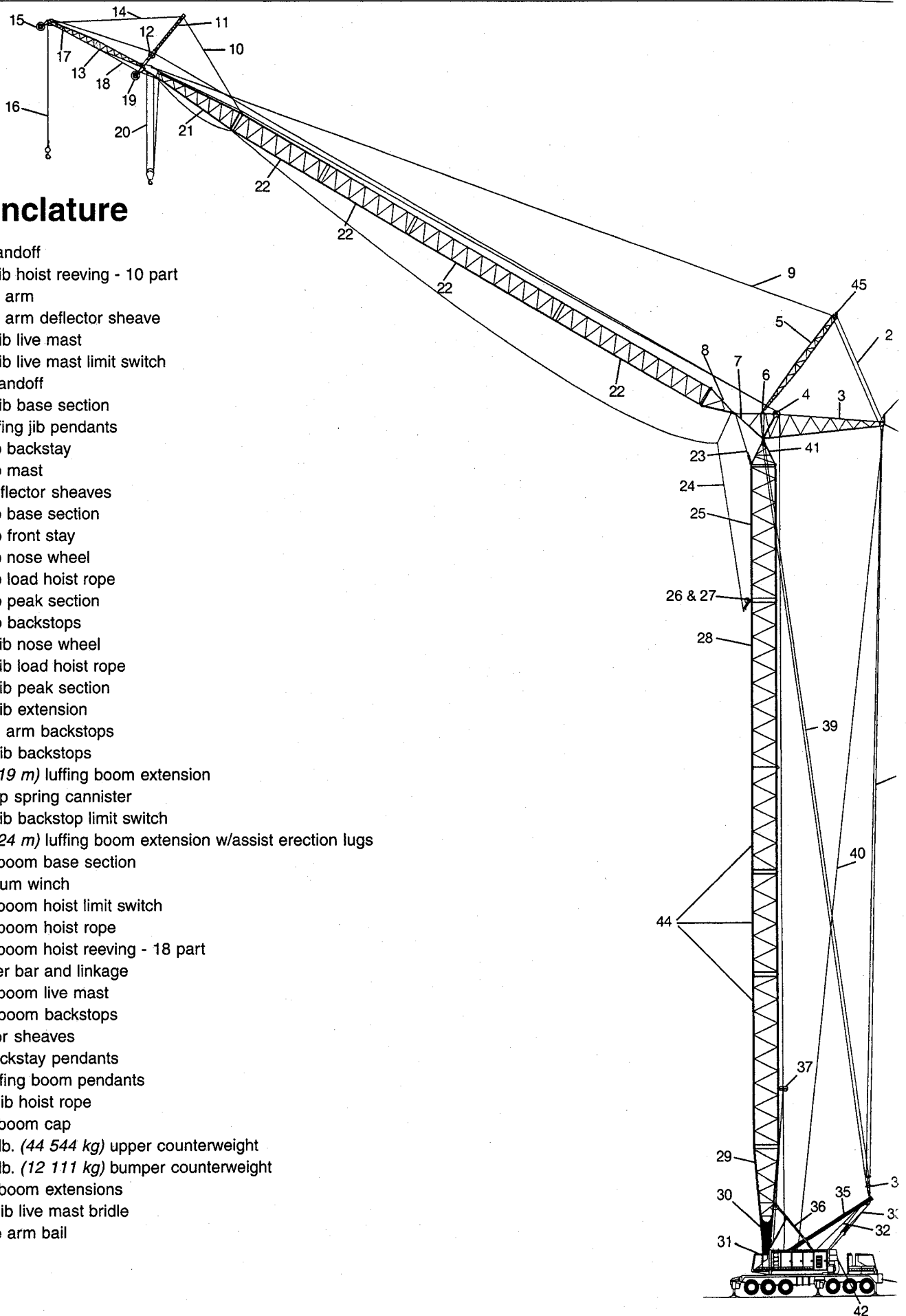
42.5-Ton (38.58 metric ton)



Not to Scale

Luffing Boom - Luffing Jib - Fixed Jib Combinations	Feet	Meters
Basic & maximum luffing boom lengths	140'/250'	42.67/76.20
Basic & maximum luffing jib lengths	100'/200'	30.48/60.96
Basic & maximum fixed jib lengths	30'/30'	9.14/9.14
Maximum luffing boom and luffing jib combination lengths; assist erected	250' + 200'	76.20 + 60.96
Maximum height - center luffing jib head sheave @ 80° (24.38 m) radius	446'	135.9
Maximum horizontal reach - center luffing jib load hook @ max. chart radius w/luffing boom @ 85° offset	233'	71.02
Maximum luffing boom, luffing jib, and fixed jib combination lengths; assist erected	250' + 200' + 30'	76.20 + 60.96 + 9.14
Maximum height - center fixed jib peak sheave @ 80° (24.38 m) radius	477'	145.39
Maximum horizontal reach - center fixed jib load hook @ max. chart radius w/ luffing boom @ 85° offset	263'	80.16
Maximum luffing boom, luffing jib, and fixed jib combination lengths; non-assist erected	200' + 200' + 30'	60.96 + 60.96 + 9.14
Maximum height - center fixed jib head sheave @ 75° (22.86 m) radius	428'	130.45
Maximum horizontal reach - center fixed jib load hook @ max. chart radius w/luffing boom @ 85° offset	259'	78.94

General Dimensions - 90° Luffing Boom	Feet	Meters
Luffing boom live mast	35' 0"	10.66
Overall height, top of turntable bearing	5' 5"	1.65
Ground clearance under counterweight	5' 5"	1.65
Minimum ground clearance	9"	.22
Overall height - live mast vertical	44' 5"	13.53
Overall truck length	43' 7"	13.28
Tailswing of counterweight (at corners)	18' 9"	5.72
Tailswing of balance arm and luffing boom live mast	32' 10"	10.00
Overall width of counterweight	11' 10"	3.60
Radius of luffing jib hinge pin	11' 2"	3.40
Radius of luffing boom hinge pin	3' 2"	.96
Height of luffing boom hinge pin (on outriggers)	8' 0"	2.44
Overall length - attachment removed but with luffing boom mast lowered horizontal	68' 6"	20.87
Height of luffing jib foot pin (140' - 42.67m - luffing boom)	148' 0"	45.11
Centerline of luffing boom to end of balance arm	36' 0"	10.97
Luffing jib hinge pin to centerline of luffing boom	8' 0"	2.44



Nomenclature

1. Rear standoff
2. Luffing jib hoist reeving - 10 part
3. Balance arm
4. Balance arm deflector sheave
5. Luffing jib live mast
6. Luffing jib live mast limit switch
7. Front standoff
8. Luffing jib base section
9. Dual luffing jib pendants
10. Fixed jib backstay
11. Fixed jib mast
12. Mast deflector sheaves
13. Fixed jib base section
14. Fixed jib front stay
15. Fixed jib nose wheel
16. Fixed jib load hoist rope
17. Fixed jib peak section
18. Fixed jib backstops
19. Luffing jib nose wheel
20. Luffing jib load hoist rope
21. Luffing jib peak section
22. Luffing jib extension
23. Balance arm backstops
24. Luffing jib backstops
25. 40' (12.19 m) luffing boom extension
26. Backstop spring cannister
27. Luffing jib backstop limit switch
28. 50' (15.24 m) luffing boom extension w/assist erection lugs
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 - 18 part
34. Spreader bar and linkage
35. Luffing boom live mast
36. Luffing boom backstops
37. Deflector sheaves
38. Dual backstay pendants
39. Dual luffing boom pendants
40. Luffing jib hoist rope
41. Luffing boom cap
42. 98,200 lb. (44 544 kg) upper counterweight
43. 26,700 lb. (12 111 kg) bumper counterweight
44. Luffing boom extensions
45. Luffing jib live mast bridle
46. Balance arm bail

Specifications

■ Luffing Boom

Tubular; 100" (2.54 m) wide, 85" (2.16 m) deep at connections. Alloy steel round tubular chords 5-1/4" (.13 m) outside diameter.

■ Luffing Boom Base Section

35' (10.67 m) long. Luffing boom feet on 66" (1.67 m) centers. Hydraulic powered luffing boom foot pin removal system standard.

■ Luffing Boom Extensions

Available in 20' (6.10 m), 30' (9.14 m), 40' (12.19 m) and 50' (15.24 m) lengths with appropriate length pendants.

■ Luffing Boom Connections

In-line pin connections.

■ Luffing Boom Cap

7' 6" (2.29 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 8' 0" (2.44 m) from luffing boom centerline and rear chords span 35' 0" (10.67 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 bridle contains nine 15" (.38 m) root dia. sheaves (18-part reeving) and two 15" (.38 m) root dia. auxiliary load hoist sheaves which enable the mast to be used as an auxiliary boom for machine assembly and disassembly.

■ Luffing Boom Live Mast

Welded plate/tube construction 35' 0" (10.67 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

Prevent the balance arm from angling past a line perpendicular to the centerline of the luffing boom during erection.

■ Wire Rope

See chart on page 4.

■ Basic Luffing Boom

140' (42.67 m) long; contains one 35' 0" (10.67 m) base section, one 40' 0" (12.19 m) extension, one 50' 0" (15.24 m) extension, 7' 6" (2.29 m) tapered luffing boom cap and 7' 6" (2.29 m) balance arm. (Includes bail, live mast, hoist bridle and live mast stops.)

■ Maximum Luffing Boom

No assist luffing boom erection; 200' (60.96 m) luffing boom for use with maximum 200' (60.96 m) luffing jib and 30' (9.14 m) fixed jib.

Assist luffing boom erection; 250' (76.20 m) luffing boom for use with maximum 200' (60.96 m) luffing jib and 30' (9.14 m) fixed jib.

■ Luffing Jib

Tubular; basic luffing jib 100' (30.48 m) long; 80" (2.03 m) wide, 68" (1.72 m) deep at connections. Alloy steel round tubular chords 4-1/4" (.10 m) outside diameter.

■ Luffing Jib Base Section

10' 0" (3.04 m) long; 100" (2.54 m) wide at luffing jib foot. 68" (1.72 m) deep and 80" (2.03 m) wide at pin connections.

■ Luffing Jib Extensions

Available in 10' (3.05 m), 20' (6.10 m), 30' (9.14 m), 40' (12.19 m) and 50' (15.24 m) lengths with appropriate length pendants. (Standard luffing jib extensions.)

■ Luffing Jib Connections

In-line pin connections.

■ Top Section

Open throat, 30' (9.14 m) long. (Standard luffing jib top section, modified to accept nose wheel.)

■ Luffing Jib Live Mast

35' (10.67 m) long, required for all luffing jib/fixed jib lengths.

■ Luffing Jib Point Machinery

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

■ Luffing Jib Sheave Guards

Tubular upper guard, steel rod lower guard.

■ 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 max. 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 -90° to 0° during erection and from 0° to 73° during operation.

■ Luffing Jib Hoist Limiting Device

The balance arm 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 100' (30.48 m) to 200' (60.96 m) may be used on all luffing boom lengths from 140' (42.67 m) to 250' (76.20 m) with luffing boom at 85° or 90° 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. Dual 8.35 x 15 (12-ply) rating tires.

■ Luffing Boom And Luffing Jib Angle Indicators

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

■ 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 m) outside diameter. (Same jib as used on standard boom.)

Load Hoisting Performance

Line speed and pull

Rope layer	Third Drum - 1" (25 mm) wire rope - No Load							
	Low speed				High speed			
	Line Pull		Line Speed		Line Pull		Line Speed	
	lb.	kg	fpm	m/min	lb.	kg	fpm	m/min
1	0	0	218	66.4	0	0	440	134.1
2	0	0	237	72.2	0	0	479	146.0
3	0	0	256	78.0	0	0	517	157.6
4	0	0	275	83.8	0	0	556	169.5
5	0	0	294	89.6	0	0	595	181.4

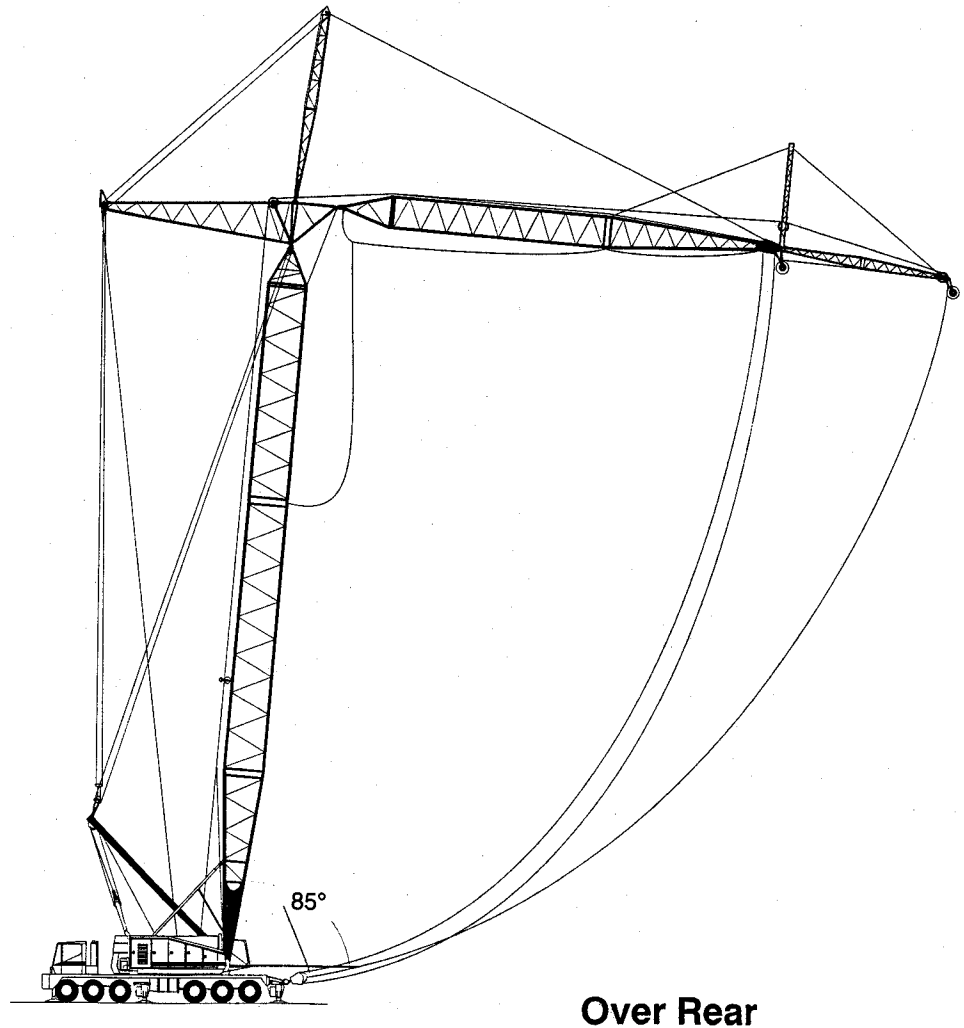
Rope layer	Third Drum - 1" (25 mm) wire rope - With Full Load							
	Low speed				High speed			
	Line Pull		Line Speed		Line Pull		Line Speed	
	lb.	kg	fpm	m/min	lb.	kg	fpm	m/min
1	23,600	10 714	184	56.1	9,700	4 404	368	112.2
2	21,700	9 852	200	61.0	8,900	4 041	401	122.2
3	20,100	9 125	217	66.1	8,300	3 768	433	132.0
4	18,700	8 490	233	71.0	7,700	3 496	466	142.0
5	17,500	7 945	249	75.9	7,200	3 269	498	151.8

Jobsite Travel

(without load)

The HC-278H 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. Consult Operator's Manual for proper attachment angles.

See page 6 for over front configuration.



Load Hoisting Performance

Line speed and pull

Rope layer	Third Drum - 1" (25 mm) wire rope - No Load							
	Low speed				High speed			
	Line Pull		Line Speed		Line Pull		Line Speed	
	lb.	kg	fpm	m/min	lb.	kg	fpm	m/min
1	0	0	218	66.4	0	0	440	134.1
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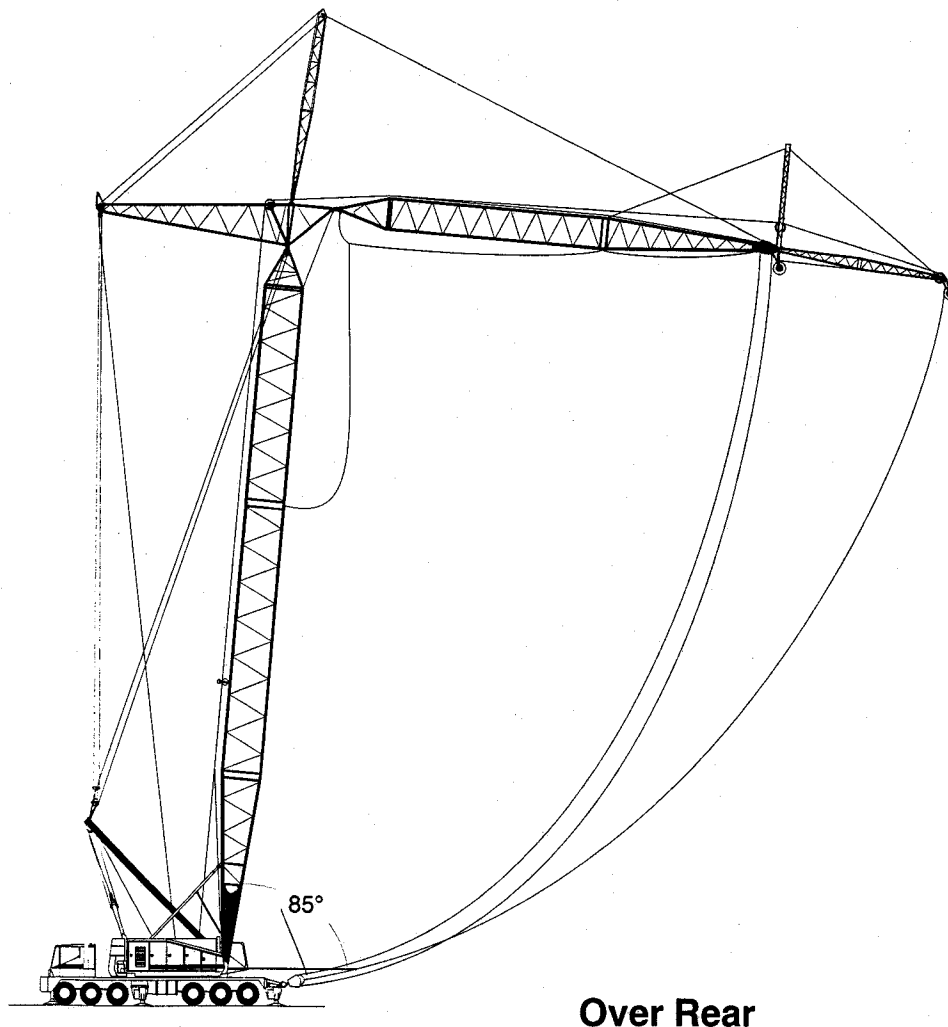
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	Low speed				High speed			
	Line Pull		Line Speed		Line Pull		Line Speed	
	lb.	kg	fpm	m/min	lb.	kg	fpm	m/min
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Jobsite Travel

(without load)

The HC-278H 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. Consult Operator's Manual for proper attachment angles.

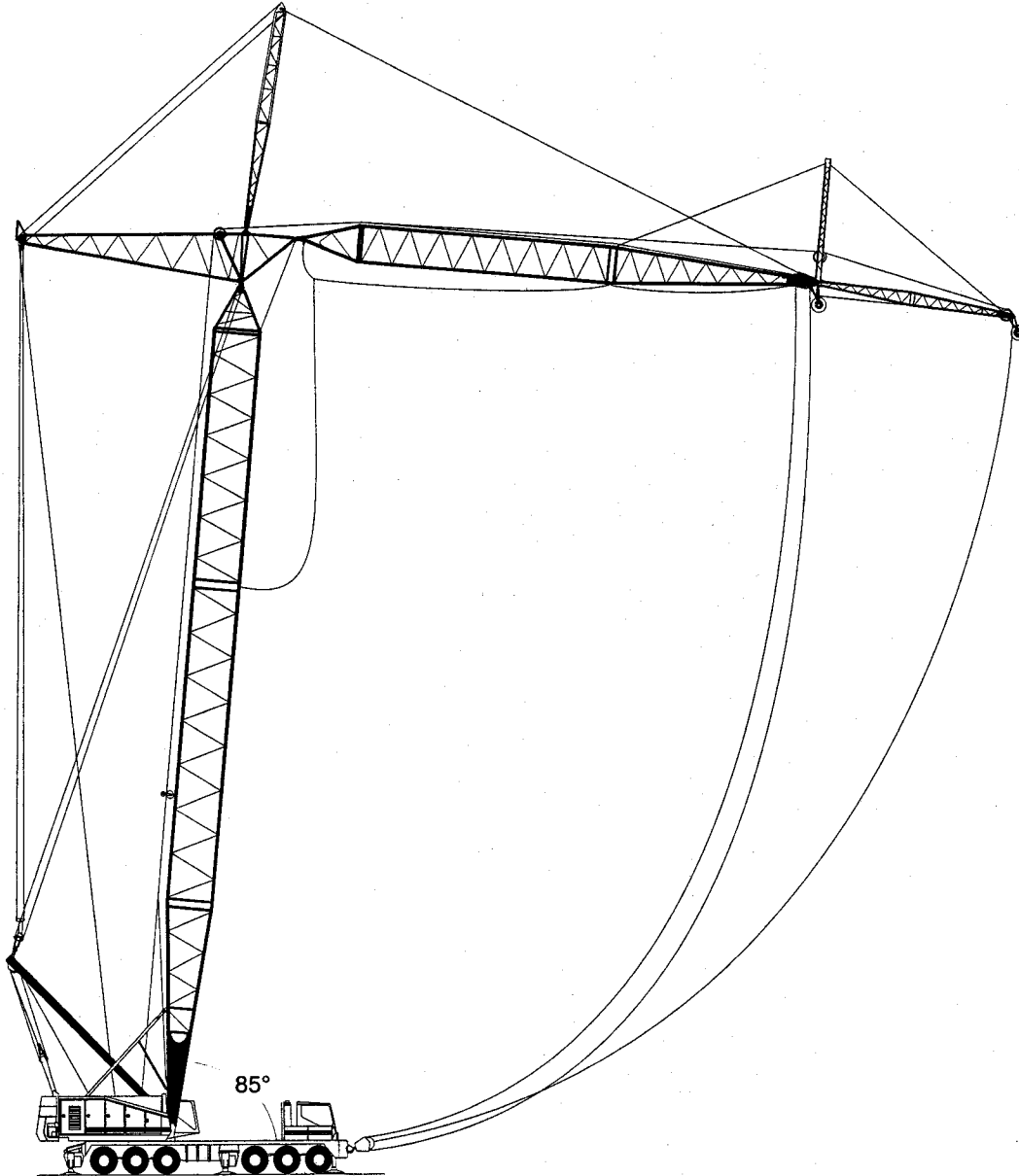
See page 6 for over front configuration.



Jobsite Travel (without load) con't

The HC-278H 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. Consult Operator's Manual for proper attachment angles.

See page 5 for over rear configuration.



Over Front