## Specifications
Lattice Boom Crawler Crane With Luffing Attachment

**LS-248H 11**
42.5 -Ton (38.5 metric ton)

### Luffing Boom - Luffing Jib - Fixed Jib Combinations

<table>
<thead>
<tr>
<th></th>
<th>Feet</th>
<th>Meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic &amp; maximum luffing boom lengths</td>
<td>80/190′</td>
<td>24.38/57.91</td>
</tr>
<tr>
<td>Basic &amp; maximum luffing jib lengths</td>
<td>80/160′</td>
<td>24.38/48.77</td>
</tr>
<tr>
<td>Basic &amp; maximum fixed jib lengths</td>
<td>30/30′</td>
<td>9.14/9.14</td>
</tr>
<tr>
<td>Maximum luffing boom, luffing jib, and fixed jib combination lengths</td>
<td>190′ + 160′ + 30′</td>
<td>57.91+48.77+9.14</td>
</tr>
<tr>
<td>Maximum height - center fixed jib peak sheave @ 75′ (22.86 m) radius</td>
<td>380′</td>
<td>115.82</td>
</tr>
<tr>
<td>Maximum horizontal reach - center fixed jib load hook @ max. chart radius w/luffing boom @ 70° offset - 5,400 lb. (2,449 kg) hook load.</td>
<td>250′</td>
<td>76.2</td>
</tr>
</tbody>
</table>

### General Dimensions - 190' Luffing Boom @ 87°

<table>
<thead>
<tr>
<th></th>
<th>Feet</th>
<th>Meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luffing boom live mast</td>
<td>30′ 0″</td>
<td>9.14</td>
</tr>
<tr>
<td>Ground clearance under counterweight</td>
<td>5′ 3″</td>
<td>1.60</td>
</tr>
<tr>
<td>Minimum ground clearance</td>
<td>1′ 9″</td>
<td>.33</td>
</tr>
<tr>
<td>Tailswing of &quot;ABC&quot; counterweight</td>
<td>18′ 11″</td>
<td>5.77</td>
</tr>
<tr>
<td>Tailswing of balance arm</td>
<td>18′ 0″</td>
<td>5.49</td>
</tr>
<tr>
<td>Radius of luffing jib hinge pin</td>
<td>19′ 6″</td>
<td>5.94</td>
</tr>
<tr>
<td>Radius of luffing boom hinge pin</td>
<td>3′ 3″</td>
<td>.99</td>
</tr>
<tr>
<td>Height of luffing boom hinge pin</td>
<td>7′ 6″</td>
<td>2.29</td>
</tr>
<tr>
<td>Overall length - attachment removed but with luffing boom mast lowered horizontal</td>
<td>53′ 0″</td>
<td>16.15</td>
</tr>
<tr>
<td>Centerline of luffing boom to end of balance arm</td>
<td>31′ 6″</td>
<td>9.60</td>
</tr>
<tr>
<td>Luffing jib hinge pin to centerline of luffing boom</td>
<td>6′ 0″</td>
<td>1.82</td>
</tr>
<tr>
<td>Tail swing of luffing boom live mast</td>
<td>25′ 0″</td>
<td>7.62</td>
</tr>
</tbody>
</table>
Nomenclature

1. Luffing jib load hoist rope
2. Luffing jib nose wheel
3. Fixed jib base section
4. Fixed jib backstays
5. Fixed jib tip section
6. Fixed jib/midfall load hoist rope
7. Fixed jib nose wheel
8. Fixed jib front stay
9. Fixed jib mast
10. Mast deflector sheaves
11. Fixed jib backstay
12. Luffing jib tip section
13. Luffing jib extension
14. Midfall extension
15. 30' (9.14 m) "H" wall extension
16. 20' (6.10 m) "H" wall extension
17. Midfall suspension pendant
18. Luffing jib base section
19. Single luffing jib pendants
20. Front stayoff
21. Luffing jib live mast limit switch
22. Luffing jib live mast
23. Luffing jib live mast bridle
24. Balance arm
25. Luffing jib hoist reeving - 10 part
26. Rear stayoff
27. Balance arm ball
28. Dual luffing boom pendants
29. Luffing jib hoist rope
30. Dual backstay pendants
31. Fleetling sheave
32. Luffing boom backstays
33. Luffing boom live mast
34. Spreader bar and linkage
35. Luffing boom hoist reeving - 16 part
36. Luffing boom hoist rope
37. "ABC" upper counterweight
38. Luffing boom hoist limit switch
39. Backstop canister
40. Backstop canister w/limit switch
41. Third drum winch
42. Luffing boom base section
43. Luffing boom extensions
44. Luffing boom length*

*Luffing boom length consists of the luffing boom base section, at least 50' (15.24 m) of luffing boom extensions, the 4' (1.22 m) luffing boom cap and the 6' (1.83 m) that is measured from the luffing boom cap pin to the luffing jib foot pin on the balance arm.

45. 40' (12.19 m) luffing boom extension
46. Luffing jib backstop pendants
47. Balance arm backstays
48. Luffing jib backstop strut
49. Balance arm deflector sheaves
50. Tensiometers (2)
51. 4' (1.22 m) luffing boom cap
52. Auxiliary lower counterweight
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' (1.69 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 pins.

- **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 180° 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 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-reewing 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 ball machinery, spreader bar and luffing jib backstop system.

- **Maximum Luffing Boom**
  No assist luffing boom erection; 190' (57.91 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' (1.82 m) wide, 50' (1.52 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' (2.43 m) wide at luffing jib foot, 50' (1.52 m) deep and 60' (1.82 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). Required for first 50' (15.24 m) of luffing jib extensions.

- **Luffing Jib Connections**
  In-line pin connections

- **Top Section - Luffing Jib**
  Open throat, 20' (5.09 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" pendant. 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 ball. 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 180' (54.86 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°, 70°, and 65° 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°, 80°, 85°, 75°, and 70°.

- **Fixed Jib**
  Tubular; basic two-piece 30' (9.14 m) long; 32' (.91 m) wide; 24' (.71 m) deep at connections. Alloy steel round tubular chords 2-1/4" (57 mm) outside diameter. (Same jib as used on conventional LS-248H II boom.)

- **Base Section - Fixed Jib**
  15' 0" (4.57 m) long.

- **Jib Connections**
  In-line pin connections.
General Specifications (con't)

- **Tip section - Fixed Jib**
  16' 0" (4.57 m) long; equipped with single 21 1/2" (.53 m) root diameter sheave, mounted 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 erection purposes.

- **Jib Mast**
  17' 10" (5.43 m) long. Single jib load hoist rope (whipline) deflector sheave, 21 1/2" (.53 m) root diameter, mounted on anti-friction bearings. Two stayline equalizer sheaves mount at end of mast.

- **Fixed Jib Stops**
  Wire 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 mast employ equalizing sheaves for both stays.

- **Fixed Jib Lengths And Offset Angles**
  30' (9.14 m) only; 5° offset only.

- **Fixed Jib Nose Wheel**
  Pin connected to jib peak; supports jib peak 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

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

**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

<table>
<thead>
<tr>
<th>Description</th>
<th>Lift Crane Function</th>
<th>Luffing Attachment Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front drum</td>
<td>Main load line</td>
<td>Main load line or whip line</td>
</tr>
<tr>
<td>Rear drum</td>
<td>Whip line</td>
<td>Luffing jib hoist</td>
</tr>
<tr>
<td>Boom hoist drum</td>
<td>Boom hoist</td>
<td>Luffing boom hoist</td>
</tr>
<tr>
<td>3rd drum</td>
<td>n/a</td>
<td>Whip line</td>
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Third Drum Winch Performance

Line speed and pull

<table>
<thead>
<tr>
<th>Layer</th>
<th>1.0&quot; (25 mm) Dia. Rope</th>
<th>Maximum Line Pull</th>
<th>High Speed</th>
<th>No Load Line Speed</th>
<th>Full Load Line Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lbs.</td>
<td>kg</td>
<td>fpm</td>
<td>m/min</td>
<td>fpm</td>
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<tr>
<td>1</td>
<td>9,030</td>
<td>4,090</td>
<td>460</td>
<td>140</td>
<td>220</td>
</tr>
<tr>
<td>2</td>
<td>8,200</td>
<td>3,720</td>
<td>510</td>
<td>155</td>
<td>250</td>
</tr>
<tr>
<td>3</td>
<td>7,500</td>
<td>3,400</td>
<td>560</td>
<td>170</td>
<td>270</td>
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<tr>
<td>4</td>
<td>6,920</td>
<td>3,130</td>
<td>610</td>
<td>185</td>
<td>290</td>
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<tr>
<td>5</td>
<td>6,420</td>
<td>2,910</td>
<td>650</td>
<td>200</td>
<td>320</td>
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<tr>
<td>6</td>
<td>5,990</td>
<td>2,715</td>
<td>700</td>
<td>215</td>
<td>340</td>
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<table>
<thead>
<tr>
<th>Layer</th>
<th>1.0&quot; (25 mm) Dia. Rope</th>
<th>Maximum Line Pull</th>
<th>Low Speed</th>
<th>No Load Line Speed</th>
<th>Full Load Line Speed</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>lbs.</td>
<td>kg</td>
<td>fpm</td>
<td>m/min</td>
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<tr>
<td>1</td>
<td>19,470</td>
<td>8,830</td>
<td>260</td>
<td>79</td>
<td>85</td>
</tr>
<tr>
<td>2</td>
<td>17,680</td>
<td>8,020</td>
<td>290</td>
<td>88</td>
<td>95</td>
</tr>
<tr>
<td>3</td>
<td>16,190</td>
<td>7,340</td>
<td>320</td>
<td>97</td>
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<td>4</td>
<td>14,930</td>
<td>6,770</td>
<td>340</td>
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<tr>
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<td>13,850</td>
<td>6,280</td>
<td>370</td>
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<td>6</td>
<td>12,910</td>
<td>5,860</td>
<td>400</td>
<td>120</td>
<td>130</td>
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Jobsite Travel
(without load)

The LS-248H II with luffing attachment may be moved on the jobsite with all combinations of luffing boom, luffing jib, and fixed jib.

Set luffing boom at 80° and luffing jib at 0° to +60° for all travel conditions.

Over Front or Rear