Luffing Jib Raising Procedure

14000

Luffing Jib No. 135 on Boom No. 76

Recommended boom and luffing jib raising and lowering procedure:

14000 SERIES 1 must be equipped with 127,000 lb (57 610 kg) crane counterweight and 0 lb (0 kg) carbody counterweight. 14000 SERIES 2 must be equipped with 168,000 lb (76 200 kg) crane counterweight and 53,000 lb (24 040 kg) carbody counterweight. 14000 SERIES 3 must be equipped with 178,000 lb (80 740 kg) crane counterweight and 70,500 lb (31 980 kg) carbody counterweight. Refer to luffing jib rigging assembly **No. A18387** for boom and luffing jib make-up of inserts, pendants, struts, strut raising and lowering procedure, jib stop setup and operation and miscellaneous parts, etc. Refer to Operator's Manual for setup and installation.

Three methods may be used to raise and lower boom and luffing jib combinations, depending on length:

A. Layout In-Line Method

Boom and luffing jib are assembled in layout, end-to-end, position. Slowly raise boom until luffing jib stop strut is just clear of ground. Attach luffing jib stop pendants and unpin luffing jib stop inner strut from retracted position. Slowly raise boom until luffing jib stop strut is fully extended and pins engaged (approximately 168 degree boom-to-luffing jib angle). Tighten luffing jib suspension with luffing jib hoist. Boom and luffing jib can then be raised simultaneously using only the boom hoist. Reverse this procedure when lowering boom and luffing jib.

Boom and luffing jib combinations in following tables may be raised and lowered using layout in-line method.

WITH OR WITHOUT BOOM CATWALKS					
14000 SERIES 1 **Maximum Boom and Luffing Jib Lengths Lifted Unassisted** **Using In-Line Method**					
Boom Length		**Over End of Blocked Crawlers**		**Over Side of Crawlers**	
		Luffing Jib No. 135		Luffing Jib No. 135	
Feet	Meters	Feet	Meters	Feet	Meters
65.6	20,0	70.0 - 170.0	21,3 - 51,8	70.0 - 170.0	21,3 - 51,8
75.5	23,0	70.0 - 170.0	21,3 - 51,8	70.0 - 170.0	21,3 - 51,8
85.3	26,0	70.0 - 170.0	21,3 - 51,8	70.0 - 150.0	21,3 - 45,7
95.1	29,0	70.0 - 170.0	21,3 - 51,8	70.0 - 130.0	21,3 - 39,6
105.0	32,0	70.0 - 150.0	21,3 - 45,7	70.0 - 110.0	21,3 - 33,5
114.8	35,0	70.0 - 120.0	21,3 - 36,6	70.0 - 80.0	21,3 - 24,4
124.7	38,0	70.0 - 90.0	21,3 - 27,4	—	—
134.5	41,0	70.0	21,3	—	—
Load blocks, hook and weight ball on ground until boom and luffing jib are erected.					

Luffing Jib Raising Procedure

14000

Luffing Jib No. 135 on Boom No. 76

WITH OR WITHOUT BOOM CATWALKS					
14000 SERIES 2 and SERIES 3 **Maximum Boom and Luffing Jib Lengths Lifted Unassisted** **Using In-Line Method**					
Boom Length		**Over End of Blocked Crawlers**		**Over Side of Crawlers**	
		Luffing Jib No. 135		Luffing Jib No. 135	
Feet	Meters	Feet	Meters	Feet	Meters
65.6	20,0	70.0 - 170.0	21,3 - 51,8	70.0 - 170.0	21,3 - 51,8
75.5	23,0	70.0 - 170.0	21,3 - 51,8	70.0 - 170.0	21,3 - 51,8
85.3	26,0	70.0 - 170.0	21,3 - 51,8	70.0 - 170.0	21,3 - 51,8
95.1	29,0	70.0 - 170.0	21,3 - 51,8	70.0 - 170.0	21,3 - 51,8
105.1	32,0	70.0 - 170.0	21,3 - 51,8	70.0 - 170.0	21,3 - 51,8
114.8	35,0	70.0 - 170.0	21,3 - 51,8	70.0 - 160.0	21,3 - 48,8
124.7	38,0	70.0 - 170.0	21,3 - 51,8	70.0 - 130.0	21,3 - 39,6
134.5	41,0	70.0 - 150.0	21,3 - 45,7	70.0 - 110.0	21,3 - 33,5
144.4	44,0	70.0 - 140.0 (a)	21,3 - 42,7	70.0 - 90.0	21,3 - 27,4
154.2	47,0	70.0 - 110.0	21,3 - 33,5	—	—
164.0	50,0	70.0 - 90.0	21,3 - 27,4	—	—
Load blocks, hook and weight ball on ground until boom and luffing jib are erected. (a) When equipped with boom catwalks, this combination of boom and luffing jib length cannot be raised using In-Line method.					

Luffing Jib Raising Procedure 14000

Luffing Jib No. 135 on Boom No. 76

B. Layout Jack-Knife Method:
(Longer boom and luffing jib combinations must be raised and lowered using this method)

Caution: Anytime luffing jib point rollers are in contact with ground during raising or lowering procedure, disengage swing lock and release swing brake.

Raising:

Boom and luffing jib are assembled in layout, end-to-end, position. Slowly raise boom until luffing jib stop strut is just clear of ground. Attach luffing jib stop pendants and unpin luffing jib stop inner strut from retracted position. Slowly raise boom until luffing jib stop strut is fully extended and pins engaged (approximately 168 degree boom-to-luffing jib angle). Boom is then raised while luffing jib point wheels are allowed to roll on ground. Tension should be applied to luffing jib hoist to keep luffing jib strut off luffing jib during boom raising. Boom up until boom-to-luffing jib angle reaches value specified in table below or vertical, whichever occurs first. Tighten luffing jib suspension with luffing jib hoist. Boom and luffing jib are then raised together using boom hoist until boom reaches desired boom operating angle. Luffing jib radius must be within capacity chart before swinging over side of machine when raising over end of blocked crawlers.

Lowering:

Position boom at 85 degrees prior to lowering luffing jib. Lower luffing jib until boom-to-luffing jib angle reaches value specified in table below. Lower boom until luffing jib point wheels contact ground. If luffing jib is hanging vertical, raise luffing jib a few degrees forward of vertical. Continue to lower boom while luffing jib wheels roll along ground. Keep enough tension on luffing jib hoist to keep luffing jib strut off luffing jib. Stop lowering boom when luffing jib stop pendants start to go into tension (approximately 168 degree boom-to-luffing jib angle). Disengage luffing jib stop strut pins and lower boom to retract luffing jib stop inner strut. Pin strut in retracted position.

Luffing Jib Raising Procedure 14000

Luffing Jib No. 135 on Boom No. 76

Boom and luffing jib combinations in following tables require layout jack-knifing to a specified boom-to-luffing jib angle for raising and lowering.

WITH OR WITHOUT BOOM CATWALKS

14000 SERIES 1

Maximum Boom and Luffing Jib Lengths Lifted Unassisted Using Jack-Knife Method

Boom Length		Over End of Blocked Crawlers			Over Side of Crawlers		
		Luffing Jib No. 135		Boom to Luffing Jib Angle	Luffing Jib No. 135		Boom to Luffing Jib Angle
Feet	Meters	Feet	Meters	Degrees	Feet	Meters	Degrees
85.3	26,0	—	—	—	160.0 - 170.0	48,8 - 51,8	90
95.1	29,0	—	—	—	140.0 - 170.0	42,7 - 51,8	90
105.0	32,0	160.0 - 170.0	48,8 - 51,8	90	120.0 - 170.0	36,6 - 51,8	90
114.8	35,0	130.0 - 170.0	39,6 - 51,8	90	90.0 - 170.0	27,4 - 51,8	90
124.7	38,0	100.0 - 170.0	30,5 - 51,8	90	70.0 - 170.0	21,3 - 51,8	90
134.5	41,0	80.0 - 170.0	24,4 - 51,8	90	70.0 - 150.0 (c)	21,3 - 45,7	60
144.4	44,0	70.0 - 150.0	21,3 - 45,7	90	—	—	—
		160.0 - 170.0	48,8 - 51,8	60	—	—	—
(a) 154.2	47,0	70.0 - 170.0	21,3 - 51,8	60	—	—	—
(b)(c) 164.0	50,0	70.0 - 110.0	21,3 - 33,5	60	—	—	—

Load blocks, hook and weight ball on ground until boom and luffing jib are erected.
(a) Requires lower boom point to be removed.
(b) Requires lower boom point and wire rope guide assembly No. 177364 to be removed.
(c) When equipped with boom catwalks, lowerworks jacking cylinders must be attached to 164.0 ft boom or 150.0 ft luffing jib on 134.5 ft boom over side of crawlers.

WITH OR WITHOUT BOOM CATWALKS

14000 SERIES 2 and SERIES 3

Maximum Boom and Luffing Jib Lengths Lifted Unassisted Using Jack-Knife Method

Boom Length		Over End of Blocked Crawlers			Over Side of Crawlers		
		Luffing Jib No. 135		Boom to Luffing Jib Angle	Luffing Jib No. 135		Boom to Luffing Jib Angle
Feet	Meters	Feet	Meters	Degrees	Feet	Meters	Degrees
114.8	35,0	—	—	—	170.0	51,8	90
124.7	38,0	—	—	—	140.0 - 170.0	42,7 - 51,8	90
134.5	41,0	160.0 - 170.0	48,8 - 51,8	90	120.0 - 170.0	36,6 - 51,8	90
144.4	44,0	150.0 - 170.0	45,7 - 51,8	90	100.0 - 170.0	30,5 - 51,8	90
154.2	47,0	120.0 - 170.0	36,6 - 51,8	90	70.0 - 170.0	21,3 - 51,8	90
164.0	50,0	100.0 - 170.0	30,0 - 51,8	90	70.0 - 170.0	21,3 - 51,8	60
173.9	53,0	70.0 - 170.0	21,3 - 51,8	90	—	—	—
183.7	56,0	70.0 - 170.0	21,3 - 51,8	60	—	—	—
(a)(b) 193.6	59,0	70.0 - 170.0	21,3 - 51,8	60	—	—	—

Load blocks, hook and weight ball on ground until boom and luffing jib are erected.
(a) Requires lower boom point to be removed.
(b) When equipped with boom catwalks, this boom length requires wire rope guide assembly No. 177364 to be removed and lowerworks jacking cylinders must be attached.

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Luffing Jib No. 135 on Boom No. 76

C. Fold Under Jack-Knife Method:

Raising:

Boom and luffing jib are assembled in fold under position. Slowly raise boom; luffing jib point wheels will roll along ground. When luffing jib hinge pin is 30 Ft. (9.1m) off ground, connect luffing jib pendants. Move luffing jib top wire rope guide to working position. Tighten luffing jib suspension with luffing jib hoist. Slowly raise boom until luffing jib is vertical and luffing jib point wheels are clear of ground. Tighten luffing jib suspension with luffing jib hoist. Boom and luffing jib are then raised together using boom hoist until boom reaches desired boom operating range. Luffing jib radius must be within capacity chart before swinging over side of machine, when raising over end of blocked crawlers.

Lowering:

Position boom at 75 degrees prior to lowering luffing jib. Slowly lower luffing jib to vertical. Lower boom until luffing jib point wheels are just clear of ground. Slowly boom down and assist luffing jib point wheels in fold under direction. Boom down until luffing jib hinge pin is 30 Ft. (9.1m) off ground. Disconnect luffing jib pendants. Move luffing jib top wire rope guide to stowed position. Raise luffing jib strut with luffing jib hoist until luffing jib strut is in line with luffing jib. Lower boom and luffing jib to ground.

Boom and luffing jib combinations in following tables may be raised and lowered using fold under jack-knife method.

WITH OR WITHOUT BOOM CATWALKS

14000 SERIES 1
Maximum Boom and Luffing Jib Lengths Lifted Unassisted
Using Fold Under Jack-Knife Method

Boom Length		Over End of Blocked Crawlers		Over Side of Crawlers	
		Luffing Jib No. 135		Luffing Jib No. 135	
Feet	Meters	Feet	Meters	Feet	Meters
95.1	29,0	70.0	21,3	70.0	21,3
105.0	32,0	70.0 - 80.0	21,3 - 24,4	70.0 - 80.0	21,3 - 24,4
114.8	35,0	70.0 - 90.0	21,3 - 27,4	70.0 - 90.0	21,3 - 27,4
124.7	38,0	70.0 - 100.0	21,3 - 30,5	70.0 - 100.0	21,3 - 30,5
134.5	41,0	70.0 - 110.0	21,3 - 33,5	70.0 - 110.0	21,3 - 33,5
144.4	44,0	70.0 - 120.0	21,3 - 36,6	—	—
(a) 154.2	47,0	70.0 - 130.0	21,3 - 39,6	—	—

Load blocks, hook and weight ball on ground until boom and luffing jib are erected.
(a) Requires lower boom point to be removed.

Luffing Jib Raising Procedure

14000

Luffing Jib No. 135 on Boom No. 76

WITH OR WITHOUT BOOM CATWALKS					
14000 SERIES 2 and SERIES 3 **Maximum Boom and Luffing Jib Lengths Lifted Unassisted** **Using Fold Under Jack-Knife Method**					
Boom Length		**Over End of Blocked Crawlers**		**Over Side of Crawlers**	
		Luffing Jib No. 135		Luffing Jib No. 135	
Feet	Meters	Feet	Meters	Feet	Meters
95.1	29,0	70.0	21,3	70.0	21,3
105.0	32,0	70.0 - 80.0	21,3 - 24,4	70.0 - 80.0	21,3 - 24,4
114.8	35,0	70.0 - 90.0	21,3 - 27,4	70.0 - 90.0	21,3 - 27,4
124.7	38,0	70.0 - 100.0	21,3 - 30,5	70.0 - 100.0	21,3 - 30,5
134.5	41,0	70.0 - 110.0	21,3 - 33,5	70.0 - 110.0	21,3 - 33,5
144.4	44,0	70.0 - 120.0	21,3 - 36,6	70.0 - 120.0	21,3 - 36,6
154.2	47,0	70.0 - 130.0	21,3 - 39,6	70.0 - 130.0	21,3 - 39,6
164.0	50,0	70.0 - 140.0	21,3 - 42,7	70.0 - 140.0	21,3 - 42,7
173.9	53,0	70.0 - 150.0	21,3 - 45,7	—	—
183.7	56,0	70.0 - 160.0	21,3 - 48,8	—	—
(a)(b)193.6	59,0	70.0 - 170.0	21,3 - 51,8	—	—

Load blocks, hook and weight ball on ground until boom and luffing jib are erected.
(a) Requires lower boom point to be removed.
(b) When equipped with boom catwalks this boom length cannot be raised using Fold Under Jack-Knife method.

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