

Luffing Jib Raising Procedure

777T

Luffing Jib No. 139 On Boom No. 78T With Heavy Lift Top

Recommended boom and luffing jib raising and lowering procedure

Machine must be equipped with 95,400 Lb. (43 270 kg) crane counterweight and with or without 25,000 Lb. (11 340 kg) front bumper counterweight for raising and lowering various boom and luffing jib combinations. Refer to luffing jib rigging assembly **No. 194151** for boom and luffing jib make-up of inserts, straps, pendants, and miscellaneous parts, etc.

Two 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. Boom and luffing jib must be inline over rear on outriggers prior to raising boom and luffing jib. Minimum boom angle blocked on ground must not exceed 2 degrees below horizontal. Slowly raise boom until jib stop strut is just clear of ground. Attach jib stop pendants and unpin jib stop inner strut from retracted position. Slowly raise boom until 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.

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

Maximum Boom And Luffing Jib Lengths Lifted Unassisted Over Rear On Outriggers Using Layout In-Line Method							
95,400 Lb. (43 270 kg) Crane Counterweight							
Boom Length		Without Front Bumper Counterweight		With 25,000 Lb. (11 340 kg) Front Bumper Counterweight		Boom Length	
		Luffing Jib No. 139					
Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
60	18.3	70 - 170	21.3 - 51.8	70 - 170	21.3 - 51.8	60	18.3
70	21.3	70 - 170	21.3 - 51.8	70 - 170	21.3 - 51.8	70	21.3
80	24.4	70 - 170	21.3 - 51.8	70 - 170	21.3 - 51.8	80	24.4
90	27.4	70 - 150	21.3 - 45.7	70 - 170	21.3 - 51.8	90	27.4
100	30.5	70 - 130	21.3 - 39.6	70 - 170	21.3 - 51.8	100	30.5
110	33.5	70 - 110	21.3 - 33.5	70 - 160	21.3 - 48.8	110	33.5
120	36.6	90	27.4	70 - 140	21.3 - 42.7	120	36.6
130	39.6	70	21.3	70 - 120	21.3 - 36.6	130	39.6
140	42.7			70 - 100	21.3 - 30.5	140	42.7
150	45.7			70	21.3	150	45.7
Load blocks, hook and weight ball on ground until boom and luffing jib are erected.							

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B. Layout Jack-Knife Method

Longer boom and luffing jib combinations must be raised and lowered using this method.

Boom and luffing jib are assembled in layout, end to end, position. Boom and luffing jib must be inline over rear on outriggers prior to raising boom and luffing jib. Minimum boom angle blocked on ground must not exceed 2 degrees below horizontal. Slowly raise boom until jib stop strut is just clear of ground. Attach jib stop pendants and unpin jib stop inner strut from retracted position. Slowly raise boom until jib stop strut is fully extended and pins engaged (approximately 168 degree boom to luffing jib angle). Boom is then raised while jib point wheels are allowed to roll on ground. Tension should be applied to luffing jib hoist to keep jib strut off luffing jib during boom raising. Boom up until boom to luffing jib angle reaches value specified in table 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.

Position boom at 75 degrees with boom and luffing jib inline over rear on outriggers prior to lowering luffing jib. Lower luffing jib until boom to luffing jib angle reaches value specified in table. 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 rolls along ground. Keep enough tension on luffing jib hoist to keep jib strut off luffing jib. Stop lowering boom when jib stop pendants start to go into tension (approximately 168 degree boom to luffing jib angle). Disengage jib stop strut pins and lower boom to retract jib stop inner strut. Pin strut in retracted position and unpin jib stop pendants. Rotate jib stop struts forward and lower boom and luffing jib to ground. Minimum boom angle blocked on ground must not exceed 2 degrees below horizontal.

The following boom and luffing jib combinations require jack knifing to a specified boom to luffing jib angle for raising and lowering. Boom lengths shown with asterisk (*) require lower boom point, auxiliary drum, wire rope guides in 17.5 Ft. (5.3m) insert, and one sheave in jib strut to be removed allowing for only one load hoist lead line up luffing jib.

Maximum Boom And Luffing Jib Lengths Lifted Unassisted Over Rear On Outriggers Using Layout Jack-Knife Method									
95,400 Lb. (43 270 kg) Crane Counterweight									
Boom Length		Without Front Bumper Counterweight			With 25,000 Lb. (11 340 kg) Front Bumper Counterweight			Boom Length	
		Luffing Jib No. 139		Boom to Luffing Jib Angle	Luffing Jib No. 139		Boom to Luffing Jib Angle		
Feet	Meters	Feet	Meters	Degrees	Feet	Meters	Degrees	Feet	Meters
90	27.4	160 - 170	48.8 - 51.8	90	—	—	—	90	27.4
100	30.5	140 - 170	42.7 - 51.8	90	—	—	—	100	30.5
110	33.5	120 - 170	36.6 - 51.8	90	170	51.8	90	110	33.5
120	36.6	100 - 170	30.5 - 51.8	90	150 - 170	45.7 - 51.8	90	120	36.6
130	39.6	80 - 170	24.4 - 51.8	90	130 - 170	39.6 - 51.8	90	130	39.6
140	42.7	70 - 170	21.3 - 51.8	90	110 - 170	33.5 - 51.8	90	140	42.7
150	45.7	70 - 170	21.3 - 51.8	60	80 - 170	24.4 - 51.8	90	150	45.7
160	48.8				70 - 170	21.3 - 51.8	90	160	48.8
*170	*51.8				70 - 170	21.3 - 51.8	60	*170	*51.8
*180	*54.9				70 - 170	21.3 - 51.8	60	*180	*54.9
Load blocks, hook and weight ball on ground until boom and luffing jib are erected.									