Manitowoc Cranes, Inc.
Manitowoc, Wisconsin 54220 U.S.A.

Luffing Jib Raising Procedure

Luffing Jib No. 139 On Boom No. 78

777 SERIES 1
777 SERIES 2

Recommended boom and luffing jib raising and lowering procedure

777 SERIES 1 must be equipped with 105,000 Lb. (47 630 kg) crane counterweight and 777 SERIES 2 must be equipped with 142,000 Lb. (64 410 kg) crane counterweight and 44,000 Lb. (19 960 kg) carbody counterweight for raising and lowering various boom and luffing jib combinations. Refer to luffing jib rigging assembly **No. 179420** for boom and luffing jib make-up of inserts, 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 front of blocked crawlers prior to raising boom and luffing jib. 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 isfully extended and pins engaged (approximately 168 degree boom to luffing jib angle). Tighten luffing jib suspensionwith 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.

777 SERIES 1

Maximum Boom And Luffing Jib Lengths Lifted Unassisted Over Front Of Blocked Crawlers Using Layout In-Line Method

Boom Length		Luffing Jib No. 139	
Feet	Meters	Feet	Meters
70	21.3	70 - 170	21.3 - 51.8
80	24.4	70 - 150	21.3 - 45.7
90	27.4	70 - 130	21.3 - 39.6
100	30.5	70 - 110	21.3 - 33.5
110	33.5	70 - 90	21.3 - 27.4
120	36.6	70	21.3

Load blocks, hook and weight ball on ground until boom and luffing jib are erected.

777 SERIES 2

Maximum Boom And Luffing Jib Lengths Lifted Unassisted Over Front Of Blocked Crawlers Using Layout In-Line Method

Boom Length		Luffing Jib No. 139	
Feet	Meters	Feet	Meters
70	21.3	70 - 170	21.3 - 51.8
80	24.4	70 - 170	21.3 - 51.8
90	27.4	70 - 170	21.3 - 51.8
100	30.5	70 - 170	21.3 - 51.8
110	33.5	70 - 150	21.3 - 45.7
120	36.6	70 - 130	21.3 - 39.6
130	39.6	70 - 120	21.3 - 36.6
140	42.7	70 - 90	21.3 - 27.4
150	45.7	70	21.3

Load blocks, hook and weight ball on ground until boom and luffing jib are erected.

Luffing Jib Raising Procedure

Luffing Jib No. 139 On Boom No. 78

777 SERIES 1
777 SERIES 2

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 front of blocked crawlers prior to raising boom and luffing jib. 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 isfully 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 front of blocked crawlers 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.

The following boom and luffing jib combinations require jack knifing to a specified boom to luffing jib angle for raising and lowering. Boom length shown with asterisk (*) requires lower boom point, auxiliary drum, wire rope guide in 10 Ft. insert, and one sheave in jib strut to be removed allowing for only one load hoist lead line up jib.

777 SERIES 1

Maximum Boom And Luffing Jib Lengths Lifted Unassisted Over Front Of Blocked Crawlers Using Layout Jack-Knife Method

Boom Length		Luffing Jib No. 139		Boom To Luffing Jib Angle
Feet	Meters	Feet	Meters	Degrees
80	24.4	160 - 170	48.8 - 51.8	90
90	27.4	140 - 170	42.7 - 51.8	90
100	30.5	120 - 170	36.6 -51.8	90
110	33.5	100 - 170	30.5 - 51.8	90
120	36.6	80 - 170	24.4 - 51.8	90
130	39.6	70 - 170	21.3 - 51.8	60
140	42.7	70 - 150	21.3 - 45.7	60

Load blocks, hook and weight ball on ground until boom and luffing jib are erected.

777 SERIES 2

Maximum Boom And Luffing Jib Lengths Lifted Unassisted Over Front Of Blocked Crawlers Using Layout Jack-Knife Method

Boom Length		Luffing Jib No. 139		Boom To Luffing Jib Angle
Feet	Meters	Feet	Meters	Degrees
110	33.5	160 - 170	48.8 - 51.8	90
120	36.6	140 - 170	42.7 - 51.8	90
130	39.6	130 - 170	39.6. - 51.8	90
140	42.7	100 - 170	30.5 - 51.8	90
150	45.7	80 - 170	27.4 - 51.8	90
160	48.8	70 - 170	21.3 - 51.8	60
170	51.8	70 - 170	21.3 - 51.8	60
*180	54.9	70 - 170	21.3 - 51.8	60

Load blocks, hook and weight ball on ground until boom and luffing jib are erected.