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

European Standards

Recommended boom and luffing jib raising and lowering procedure

777 SERIES 1 must be equipped with 47 630 kg (105,000 Lb.) crane counterweight and 777 SERIES 2 must be equipped with 64 410 kg (142,000 Lb.) crane counterweight and 19 960 kg (44,000 Lb.) 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 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.

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	
Meters	Feet	Meters	Feet
21.3	70	21.3 - 51.8	70 - 170
24.4	80	21.3 - 45.7	70 - 150
27.4	90	21.3 - 39.6	70 - 130
30.5	100	21.3 - 33.5	70 - 110
33.5	110	21.3 - 27.4	70 - 90
36.6	120	21.3	70

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	
Meters	Feet	Meters	Feet
21.3	70	21.3 - 51.8	70 - 170
24.4	80	21.3 - 51.8	70 - 170
27.4	90	21.3 - 51.8	70 - 170
30.5	100	21.3 - 51.8	70 - 170
33.5	110	21.3 - 45.7	70 - 150
36.6	120	21.3 - 39.6	70 - 130
39.6	130	21.3 - 36.6	70 - 120
42.7	140	21.3 - 27.4	70 - 90
45.7	150	21.3	70

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

European Standards

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 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 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 3.0m (10 Ft.) insert, and one sheave in jib strut to be removed allowing for only one load hoist lead line up luffing 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
Meters	Feet	Meters	Feet	Degrees
24.4	80	48.8 - 51.8	160 - 170	90
27.4	90	42.7 - 51.8	140 - 170	90
30.5	100	36.6 -51.8	120 - 170	90
33.5	110	30.5 - 51.8	100 - 170	90
36.6	120	24.4 - 51.8	80 - 170	90
39.6	130	21.3 - 51.8	70 - 170	60
42.7	140	21.3 - 45.7	70 - 150	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
Meters	Feet	Meters	Feet	Degrees
33.5	110	48.8 - 51.8	160 - 170	90
36.6	120	42.7 - 51.8	140 - 170	90
39.6	130	39.6. - 51.8	130 - 170	90
42.7	140	30.5 - 51.8	100 - 170	90
45.7	150	27.4 - 51.8	80 - 170	90
48.8	160	21.3 - 51.8	70 - 170	60
*51.8	170	21.3 - 51.8	70 - 170	60

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