

Luffing Jib Raising Procedure

**Fixed Jib No. 138 On Luffing Jib No. 139 On
Boom No. 78T With Heavy Lift Top**

Recommended boom, luffing jib and fixed jib raising and lowering procedure

Machine must be equipped with 95,400 Lb. (43 270 kg) crane counterweight and 25,000 Lb. (11 340 kg) front bumper counterweight for raising and lowering various boom, luffing jib and fixed jib combinations. Refer to fixed jib assembly **No. 179361** and luffing jib rigging assembly **No. 194151** for boom, luffing jib and fixed jib make-up of inserts, straps, pendants, backstays and miscellaneous parts, etc.

Two methods may be used to raise and lower boom, luffing jib and fixed jib combinations.

A. Layout Jack-Knife Method With Fixed Jib Attached

Raising:

Boom, luffing jib and fixed jib are assembled in layout, end to end, position. Raise fixed jib strut and attach pendants and backstays. Attach fixed jib stop to fixed jib butt and temporarily tie off to fixed jib strut. Boom, luffing jib and fixed jib must be inline over rear on outriggers prior to raising boom and luffing jib. Boom must be blocked on ground so minimum angle does not exceed 2 degrees below horizontal. 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 and fixed jib point wheels are allowed to roll on ground. (Fixed jib point wheel may be suspended off ground until luffing jib is raised.) 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. Tighten luffing jib suspension with luffing jib hoist. Boom and luffing jib are then raised together using boom hoist while fixed jib point wheel rolls on ground. Continue raising until fixed jib suspension tightens. Attach fixed jib stop to luffing jib top. Boom, luffing jib and fixed jib are then raised together using boom hoist until boom reaches desired boom operating angle. Fixed jib radius must be within capacity chart before swinging over side of machine.

Lowering:

Position boom at 75 degrees with boom and luffing jib and fixed 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 fixed jib point wheel contacts ground. Remove fixed jib stop from luffing jib top and temporarily tie off to fixed jib strut. Lower boom as fixed jib point wheel rolls on ground. Lower boom until luffing jib point wheels contact ground. Continue to lower boom while luffing jib and fixed jib 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 and unpin luffing jib stop pendants. Rotate luffing jib stop struts forward and lower boom and luffing jib to ground. Boom must be blocked on ground so minimum angle does not exceed 2 degrees below horizontal.

Luffing Jib Raising Procedure

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**Fixed Jib No. 138 On Luffing Jib No. 139 On
Boom No. 78T With Heavy Lift Top**

B. Layout Jack-Knife Method With Fixed Jib Attached Before Luffing Jib Lift-Off

Raising:

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. Boom must be blocked on ground so minimum angle does not exceed 2 degrees below horizontal. Attach fixed jib backstay pendants to luffing jib insert and place on ground. 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. Tighten luffing jib suspension with luffing jib hoist. Attach fully assembled fixed jib to luffing jib. Attach fixed jib backstays to fixed jib strut. Attach fixed jib stop to fixed jib butt and temporarily tie off to fixed jib strut. Boom and luffing jib are raised together using boom hoist while fixed jib point wheel rolls on ground. Continue raising until fixed jib suspension tightens. Attach fixed jib stop to luffing jib top. Boom, luffing jib and fixed jib are then raised together using boom hoist until boom reaches desired boom operating angle. Fixed jib radius must be within capacity chart before swinging over side of machine.

Lowering:

Position boom at 75 degrees with boom and luffing jib and fixed 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 fixed jib point wheel contacts ground. Remove fixed jib stop from luffing jib top and temporarily tie off to fixed jib strut. Lower boom as fixed jib point wheel rolls on ground. Lower boom until luffing jib point wheels contact ground. Remove fixed jib from luffing jib. Lower boom while luffing jib rolls 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 and unpin luffing jib stop pendants. Rotate luffing jib stop struts forward and lower boom and luffing jib to ground. Boom must be blocked on ground so minimum angle does not exceed 2 degrees below horizontal.

Boom, luffing jib and fixed jib combinations in table require layout 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 luffing jib strut to be removed allowing for only one load hoist lead line up luffing jib.

Maximum Boom, Luffing Jib And Fixed Jib Lengths Lifted Unassisted Over Rear On Outriggers Using Layout Jack-Knife Method						
Boom Length		Luffing Jib No. 139		Fixed Jib No. 138		Boom To Luffing Jib Angle
Feet	Meters	Feet	Meters	Feet	Meters	Degrees
140	42.7	140 - 170	42.7 - 51.8	30 - 60	9.1 - 18.3	90
160	48.8	140 - 170	42.7 - 51.8	30 - 60	9.1 - 18.3	60
*170	51.8	140 - 170	42.7 - 51.8	30 - 60	9.1 - 18.3	60
*180	54.9	140 - 170	42.7 - 51.8	30 - 60	9.1 - 18.3	60
Load blocks, hook and weight ball on ground until boom, luffing jib and fixed jib are erected.						