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

Luffing Jib Raising Procedure

Fixed Jib No. 140 On Luffing Jib No. 133 or No. 133A On Boom No. 44 With Heavy Lift Top

2250 SERIES 2
2250 SERIES 3

2250 SERIES 2 must be equipped with 209,200 Lb. (94 890 kg) crane counterweight and 60,000 Lb. (27 220 kg) carbody counterweight and 2250 SERIES 3 must be equipped with 249,200 Lb. (113 040 kg) crane counterweight and 120,000 Lb. (54 430 kg) carbody counterweight for raising and lowering various boom, luffing jib and fixed jib combinations. Refer to fixed jib assembly **No. 192320** or **No. 193022** and luffing jib rigging assembly **No. 192086** for boom, luffing jib and fixed jib make-up of inserts, straps, pendants, backstays and miscellaneous parts, etc. Refer to Jib Rigging Guide for No. 140 fixed jib in Operators Manual for detailed raising and lowering instructions.

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 front of blocked crawlers prior to raising boom and luffing jib. 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. 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 wheels roll 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 83 degree angle. Raise luffing jib to radius within capacity chart. Several combinations do not allow fixed jib to leave ground when boom reaches 83 degrees. When this occurs, fixed jib stop must be attached as suspension tightens after luffing jib is raised using luffing jib hoist. Then continue raising luffing jib to radius within capacity chart. Fixed jib radius must be within capacity chart before swinging over side of machine.

Lowering:

Position boom at 83 degrees with boom and luffing jib and fixed 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. If fixed jib point wheels contact ground prior to luffing jib reaching angle specified in table, remove fixed jib stop from luffing jib top and temporarily tie off to fixed jib strut at this time, and then continue to lower luffing jib until boom to luffing jib angle specified in table is reached. If fixed jib point wheels have not contacted ground, lower boom until fixed jib point wheels contact ground. Remove fixed jib stop from luffing jib top and temporarily tie off to fixed jib strut. Lower boom as fixed jib point wheels roll 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.

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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 front of blocked crawlers prior to raising boom and luffing jib. 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 wheels roll 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 83 degree angle. Raise luffing jib to radius within capacity chart. Several combinations do not allow fixed jib to leave ground when boom reaches 83 degrees. When this occurs, fixed jib stop must be attached as suspension tightens after luffing jib is raised using luffing jib hoist. Then continue raising luffing jib to radius within capacity chart. Fixed jib radius must be within capacity chart before swinging over side of machine.

Lowering:

Position boom at 83 degrees with boom and luffing jib and fixed 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. If fixed jib point wheels contact ground prior to luffing jib reaching angle specified in table, remove fixed jib stop from luffing jib top and temporarily tie off to fixed jib strut at this time, and then continue to lower luffing jib until boom to luffing jib angle specified in table is reached. If fixed jib point wheels have not contacted ground, lower boom until fixed jib point wheels contact ground. Remove fixed jib stop from luffing jib top and temporarily tie off to fixed jib strut. Lower boom as fixed jib point wheels roll 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.

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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 length shown with (a) requires only the middle three sheaves in lower boom point. All other sheaves must be removed from lower boom point.

When boom catwalks are attached, boom length shown with (b) requires lower boom point to be removed.

WITH OR WITHOUT BOOM CATWALKS						
Maximum Boom, Luffing Jib And Fixed Jib Lengths Lifted Unassisted Over Front Of Blocked Crawlers Using Layout Jack-Knife Method						
Boom Length		Luffing Jib No. 133 or No. 133A		Fixed Jib No. 140		Boom to Luffing Jib Angle
Feet	Meters	Feet	Meters	Feet	Meters	Degrees
2250 SERIES 2						
180	54.9	160 - 200	48.8 - 61.0	40 - 120	12.2 - 36.6	60
190	57.9	160 - 200	48.8 - 61.0	40 - 120	12.2 - 36.6	60
(a)(b) 200	61.0	160 - 200	48.8 - 61.0	40 - 120	12.2 - 36.6	60
2250 SERIES 3						
180	54.9	160 - 200	48.8 - 61.0	40 - 120	12.2 - 36.6	90
190	57.9	160 - 200	48.8 - 61.0	40 - 120	12.2 - 36.6	90
(a)(b) 200	61.0	160 - 200	48.8 - 61.0	40 - 120	12.2 - 36.6	60
Load blocks, hook and weight ball on ground until boom, luffing jib and fixed jib are erected.						