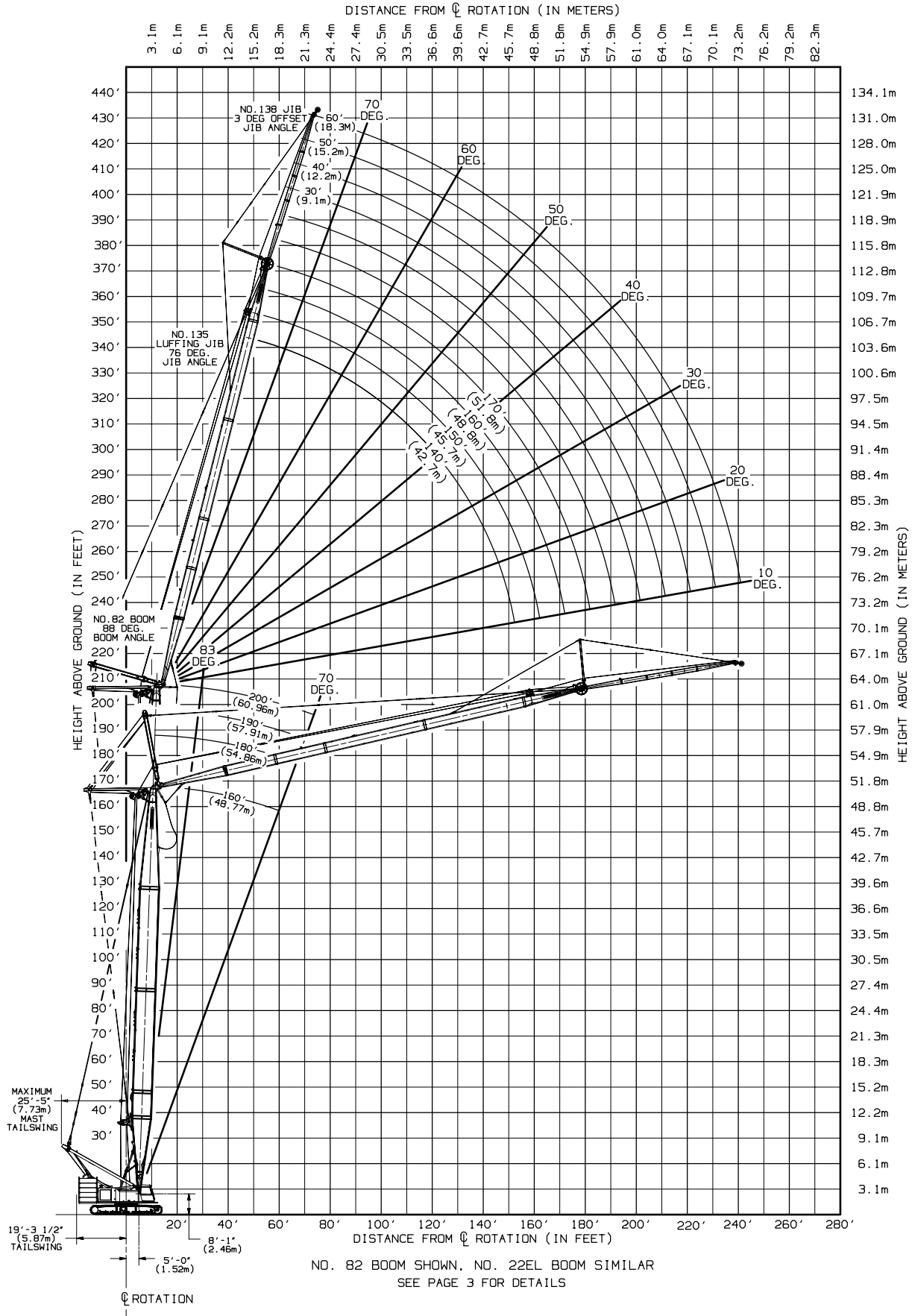
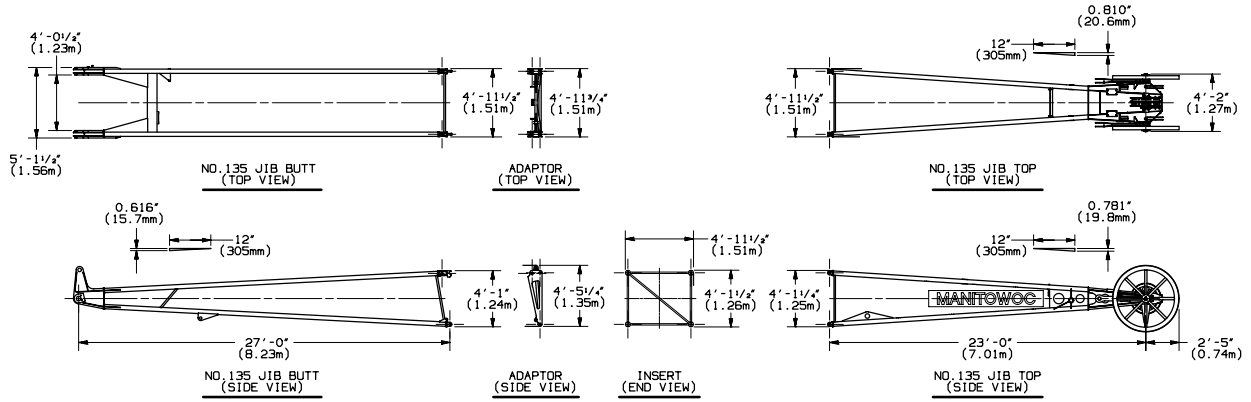


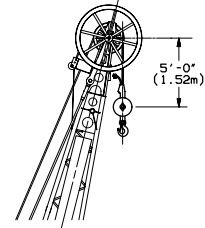
RANGE DIAGRAM 999 SERIES 1, SERIES 2, & SERIES 3 (#82 BOOM or #22EL BOOM & #135 LUFFING JIB)



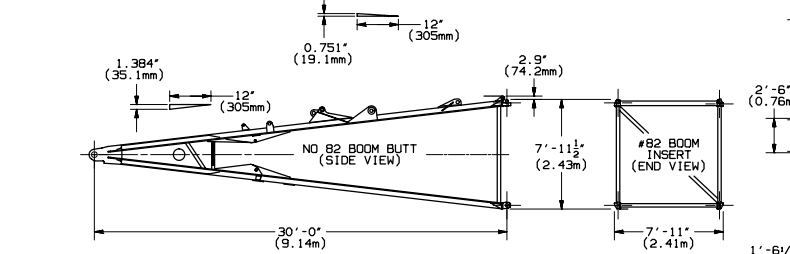
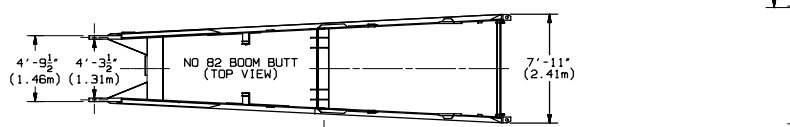
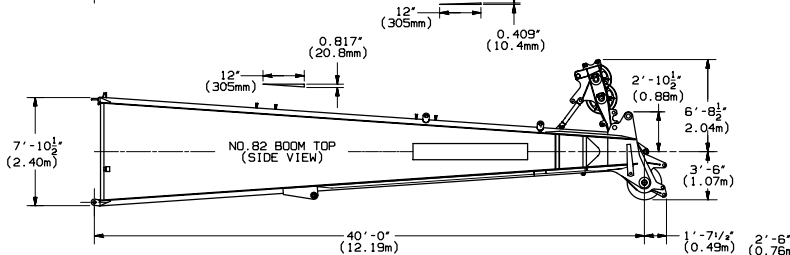
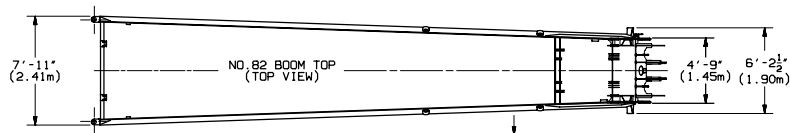
# MANITOWOC CRANES, INC.



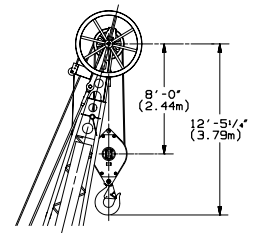
- NOTE 1: THIS DRAWING IS INTENDED ONLY AS A GUIDE TO ASSIST IN JOB PLANNING.
- NOTE 2: FOR PLANNING A LIFT, THIS DRAWING IS TO BE USED IN CONJUNCTION WITH APPROPRIATE CAPACITY CHARTS, RANGE CHART, WIRE ROPE SPECIFICATIONS, RIGGING DRAWING, AND OUTLINE DIMENSIONS.
- NOTE 3: FOR PLANNING LIFTS WHERE CLEARANCES ARE LIMITED AND ACCURACY IS DESIRED, A DETAILED LAYOUT SHOULD BE PREPARED.
- NOTE 4: WHEN EQUIPPED WITH BLOCK-UP LIMIT CONTROL, LOAD BLOCK TO BOOM POINT/JIB POINT MINIMUM DISTANCE MAY BE MORE THAN INDICATED. SEE OPERATOR'S MANUAL FOR "BLOCK-UP LIMIT CONTROL".
- NOTE 5: MAXIMUM BOOM ANGLE 88 DEGREES FOR NO. 82 BOOM OR NO. 22EL BOOM WITH NO. 135 LUFFING JIB. MAXIMUM JIB ANGLE 76 DEGREES FOR NO. 135 LUFFING JIB WITH 170 FT. BOOM AT 88 DEGREE BOOM ANGLE. SEE CAPACITY CHARTS FOR MAXIMUM LUFFING JIB ANGLES FOR SHORTER BOOM CONFIGURATIONS.
- NOTE 6: MAXIMUM BOOM AND BOOM AND JIB LENGTHS SHOWN ON SHEET 1 ARE FOR MACHINE EQUIPPED WITH SERIES 2 COUNTERWEIGHT. IN ALL CASES, REFER TO CRANE BOOM RIGGING OR CAPACITY CHART FOR MAXIMUM LENGTHS.



15 US TON (14 METRIC TON) SWIVEL HOOK & WEIGHT BALL TO JIB POINT MINIMUM DISTANCE NO. 135 JIB - SINGLE PART LINE



NO. 82 BOOM SHOWN, NO. 22EL BOOM SIMILAR



60 US TON (54.54 METRIC TON) BLOCK TO JIB POINT MINIMUM DISTANCE NO. 135 JIB - 4 PARTS OF LINE  
MINIMUM DISTANCE MEASUREMENTS FROM MANITOWOC LOAD BLOCK TO JIB POINT SHOWN ABOVE BASED ON 76 DEGREE JIB ANGLE AND PHYSICAL LIMITATIONS.

