Manitowoc Cranes, Inc.

Manitowoc, Wisconsin 54220 U.S.A.

## Swing and Travel Specifications Boom No. 55 or No. 55A with 140 Ft. (42.7m) Mast No. 56 Luffing Jib No. 79A Wheeled Counterweight



#### Jobsite Travel

18000 With 21000 MAX-ER must be equipped with 492,000 Lb. (223 170 kg) crane counterweight, 320,000 Lb. (145 150 kg) carbody counterweight and 0 Lb. (0 kg), 464,000 Lb. (210 470 kg) or 860,000 Lb. (390 090 kg) wheeled counterweight. Refer to operators manual for maximum wind speed for various boom and luffing jib lengths. Refer to luffing jib raising procedure for maximum boom and luffing jib lengths lifted unassisted.

#### 1. Machine Swing and Travel With Load and Wheeled Counterweight

- A. Grade in any direction must not exceed <sup>1</sup>/<sub>2</sub> in. in 10 Ft. (13 mm in 3m).
- B. Warning: For travel with crane upperworks in-line to crawlers, swing brake and swing lock must be free (released).

For travel with crane upperworks 90 degrees to crawlers, wheeled counterweight **must be in the air**, free of ground support. Swing brake and swing lock must be free (released).

- C. Travel surface must be firm, level and uniformly supporting. Capacity charts are based on static conditions; therefore judgment must be used to allow for dynamic effects of traveling with load. Carry load as close to ground as possible. Stabilize load with taglines. Travel slowly and smoothly to avoid shock loading boom, luffing jib and rigging.
- D. Machine can swing and travel in normal manner when wheeled counterweight assembly is free of ground support or removed.
- E. Counterweight wheels must be properly positioned before swinging or traveling machine when wheeled counterweight is contacting ground. See operators manual for instructions.

### 2. Machine Swing and Travel Without Load and With 0 Lb. (0 kg) Wheeled Counterweight

- A. Position **boom to 83 degree boom angle** (plus or minus 1 degree) and position **luffing jib at 50 to 60 degrees** above horizontal. **Grade in direction of travel must not exceed 3 percent** (1.7 degrees).
- B. Load blocks and/or hook and weight balls may be suspended beneath boom and luffing jib points or tied off to machine. Total combined suspended weight beneath boom and luffing jib points must not exceed 27,000 Lb. (12 250 kg).
- C. Machine to travel on a firm and uniformly supporting surface. Travel allowed with 360 degree swing up to 1 percent (0.5 degrees) grade; crane upperworks must be in-line with crawlers and grade when grade exceeds 1 percent. Side-to-side grade must not exceed 1 percent (0.5 degrees) measured at boom hinge pins.
- D. Refer to table on page 2 for grade vs. angle when traveling. When traveling on **uphill grade**, **lower boom** the corresponding degrees for grade to be traveled. When traveling on **downhill grade**, **raise boom** the corresponding degrees for grade to be traveled.
- E. Do not exceed 1 percent (0.5 degrees) side-to-side grade at boom hinge pins when cutting (turning on grade).

# Swing and Travel Specifications

Boom No. 55 or No. 55A with 140 Ft. (42.7m) Mast No. 56 Luffing Jib No. 79A Wheeled Counterweight

- 3. Machine Swing and Travel Without Load and With 464,000 Lb. (210 470 kg) or 860,000 Lb. (390 090 kg) Wheeled Counterweight
  - A. Position boom to 75 degree boom angle (plus or minus 1 degree) and position luffing jib at 45 to 50 degrees above horizontal. Grade in direction of travel must not exceed 8 percent (4.5 degrees).
  - B. Load blocks and/or hook and weight balls may be suspended beneath boom and luffing jib points or tied off to machine. Total combined suspended weight beneath boom and luffing jib points must not exceed 27,000 Lb. (12 250 kg).

18000 With

21000 MAX-ER

- C. Travel with crane upperworks in-line to crawlers. Do not exceed 1 percent (0.5 degrees) side-to-side grade measured at boom hinge pins when cutting (turning on grade) or swinging.
- D. Warning: Swing brake and swing lock must be free (released).
- E. Machine to travel on a firm and uniformly supporting surface. Travel may be limited depending upon ground conditions.
- F. Refer to table below for grade vs. angle when traveling. When traveling on uphill grade, lower boom the corresponding degrees for grade to be traveled. When traveling on **downhill grade**, raise boom the corresponding degrees for grade to be traveled. Side-to-side grade must not exceed 1 percent (0.5 degrees) measured at boom hinge pins.
- G. Warning: Change in grade must not exceed 2 percent (1.1 degrees) in 59 Ft. (18m).
- H. Counterweight wheels must be properly positioned before swinging or traveling machine when wheeled counterweight is contacting ground. See operators manual for instructions.

Percent Grade vs. Angle In Degrees	
Percent Grade	Angle
1	0.5
3	1.7
5	3.0
8	4.5