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
Fixed Jib No. 79A
Hanging Counterweight

18000 With 21000 MAX-ER

Meets ANSI B30.5 Requirements Similar to AS1418.1 and AS1418.5

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 hanging counterweight as specified. Refer to operators manual for maximum wind speed for various boom lengths. Refer to capacity charts for maximum boom lengths lifted unassisted.

1. Machine Swing and Travel With Load and With Hanging Counterweight

a. Travel with crane upperworks in-line with crawlers. Grade in any direction must not exceed 1 percent (0.5 degrees).

b. 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, jib and rigging.

c. Refer to Operator's Manual for maximum wind speed for various boom lengths.

d. Minimum capacity to raise hanging counterweight free of ground support is required for swing and travel. Machine can swing and travel in normal manner with load between minimum and rated capacity.

e. Do not allow hanging counterweight to contact ground while swinging and traveling.

2. Machine Swing and Travel Without Load and With Hanging Counterweight

a. Load blocks and/or hook and weight balls may be suspended beneath boom and jib points or tied off to machine. Total combined suspended weight beneath boom and jib points must not exceed 40,000 Lbs. (18 140 kg).

b. **Travel with crane upperworks in-line to crawlers**. Do not exceed 1 percent (0.5 degrees) grade at boom hinge pins when cutting (turning on grade). Return to in-line position for continuation of travel. Grade in direction of travel should not exceed 5 percent (3 degrees) with hanging counterweight attached and 20 percent (11.3 degrees) with 0 Lb. (0 kg) hanging counterweight; side-to-side grade must not exceed 1 percent (0.5 degrees).

c. Travel surface must be firm, level and uniformly supporting. Adjust boom within boom angle range shown in table with machine in a level position. Travel may be limited depending upon ground conditions.

d. Boom angles listed permit hanging counterweight to be free of ground support to allow machine to swing and travel. Hanging counterweight must be clear of ground before swinging or traveling machine. Do not allow hanging counterweight to contact ground while swinging or traveling. Where no angle is shown, operation is not intended or approved.

e. Refer to tables on pages 2 and 3 for boom angle and boom length for various grades. Adjust boom within boom angle range shown in tables with machine in a level position before traveling onto grade. Do not change boom angle after crane has been traveled onto grade. Boom angle is angle between horizontal and centerline of boom butt and inserts. Refer to table below for grade vs. angle when traveling.

f. Tables 1 and 2 on page 2 do not include jib; tables 3 and 4 on page 3 include all jib lengths and offset angles.

g. ***Warning:*** Change in grade must not exceed 2 percent (1.1 degrees) in 59 Ft. (18m).

h. ***Warning:*** Travel prohibited for boom angle range not shown in tables on pages 2 and 3. *Crane could tip.*

Percent Grade vs. Angle in Degrees	
Percent Grade	Angle
1	0.5
5	3.0
10	5.7
20	11.3

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Meets ANSI B30.5 Requirements Similar to AS1418.1 and AS1418.5

Table 1: Boom No. 55 or 55A, 0 Lb. (0 kg) Hanging Counterweight

MACHINE TRAVEL WITHOUT LOAD				
0 Lb. (0 kg) **Hanging Counterweight**				
Boom Length		**Boom Angle Range in Degrees**		
		Percent Grade		
Feet	Meters	0 - 1%	2 - 10%	11 - 20%
BOOM FACING DOWNHILL OR UPHILL				
140	42,7	30 - 72	30 - 66	30 - 50
160	48,8	30 - 72	30 - 66	30 - 55
180	54,9	30 - 72	30 - 66	30 - 60
200	61,0	30 - 72	30 - 66	40 - 60
220	67,1	30 - 72	35 - 66	50 - 60
240	73,2	35 - 72	45 - 66	—
260	79,2	45 - 72	55 - 66	—
280	85,3	50 - 72	60 - 66	—
300	91,4	55 - 72	—	—
320	97,5	60 - 72	—	—
340	103,6	60 - 72	—	—

Table 2: Boom No. 55 or 55A, Hanging Counterweight at 59 Ft. (18m) Position

MACHINE SWING AND TRAVEL WITHOUT LOAD				
Hanging Counterweight at 59 Ft. (18m) **Position** — 0-5% Grade				
Boom Length		Boom Angle Range In Degrees		
Feet	Meters	247,800 Lb. (112 400 kg) Hanging Counterweight	467,800 Lb. (212 190 kg) Hanging Counterweight	599,800 Lb. (272 060 kg) Hanging Counterweight
BOOM FACING DOWNHILL OR UPHILL				
280	85,3	30 - 40	—	—
300	91,4	30 - 40	—	—
320	97,5	30 - 45	—	—
340	103,6	35 - 50	—	—
360	109,7	45 - 55	—	—
380	115,8	50 - 55	30 - 35	—
400	121,9	50 - 60	30 - 40	—
420	128,0	—	40 - 45	30 - 35
440	134,1	—	45 - 50	30 - 40
Refer to capacity chart for minimum capacities to swing and travel.				

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Fixed Jib No. 79A
Hanging Counterweight

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Table 3: Boom No. 55 or 55A, Fixed Jib No. 79A, 0 Lb. (0 kg) Hanging Counterweight

MACHINE TRAVEL WITHOUT LOAD			
0 Lb. (0 kg) **Hanging Counterweight**			
Boom Length (including all jib lengths and jib offsets)		**Boom Angle Range in Degrees**	
		Percent Grade	
Feet	Meters	0 - 1%	2 - 10%
BOOM FACING DOWNHILL OR UPHILL			
140	42,7	45 - 72	55 - 66
160	48,8	55 - 72	60 - 66
180	54,9	60 - 72	65 - 66
200	61,0	60 - 72	—
220	67,1	60 - 72	—

Table 4: Boom No. 55 or 55A, Fixed Jib No. 79A, Hanging Counterweight at 59 Ft. (18m) Position

MACHINE SWING AND TRAVEL WITHOUT LOAD				
Hanging Counterweight at 59 Ft. (18m) **Position** — 0-5% Grade				
Boom Length (including all jib lengths and jib offsets)		Boom Angle Range In Degrees		
Feet	Meters	247,800 Lb. (112 400 kg) Hanging Counterweight	467,800 Lb. (212 190 kg) Hanging Counterweight	599,800 Lb. (272 060 kg) Hanging Counterweight
BOOM FACING DOWNHILL OR UPHILL				
220	67,1	40 - 45	—	—
240	73,2	40 - 50	—	—
260	79,2	40 - 55	—	—
280	85,3	40 - 60	40 - 45	—
300	91,4	—	40 - 45	—
320	97,5	—	40 - 50	40 - 45
340	103,6	—	40 - 50	40 - 45
Refer to capacity chart for minimum capacities to swing and travel.				