



# Swing and Travel Specifications

## 16000 MAX-ER

Boom No. 58 HL with 98.4 ft (30,0 m) Mast No. 59A  
Hanging Counterweight

### Jobsite Travel

16000 MAX-ER must be equipped with 332,000 lb (150 590 kg) crane counterweight, 120,000 lb (54 430 kg) carbody counterweight and 0 lb (0 kg) thru 489,850 lb (222 190 kg) hanging counterweight. Refer to Wind Conditions chart for maximum wind speed for various boom lengths and capacity charts for maximum boom lengths lifted unassisted.

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

- A. Machine can swing and travel with 360 degree rating.
- B. Grade in any direction must not exceed 1 percent (0.5 degrees).
- 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 and rigging.
- 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 (when minimum capacities to swing and travel are not required)

- A. Load blocks and/or hook and weight balls may be suspended beneath boom points or tied off to machine. Total combined suspended weight beneath boom points must not exceed 25,000 lbs (11 340 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. Machine to travel on a firm and uniformly supporting surface. 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 1 thru 4 on pages 2 thru 5 for boom angle, boom length and direction 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. **Warning:** Change in grade must not exceed 2 percent (1.1 degrees) in 50 ft (15 m).
- G. **Warning:** Travel prohibited for boom angle range not shown in tables 1 thru 4 on pages 2 thru 5. *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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Table 1: Boom No. 58 HL, 0 lb (0 kg) Hanging Counterweight

MACHINE TRAVEL WITHOUT LOAD				
Boom Length (not including jib)		Boom Angle Range in Degrees		
		Percent Grade		
Feet	Meters	0 - 1%	2 - 10%	11 - 20%
BOOM FACING DOWNHILL OR UPHILL				
137.8	42,0	30 - 72	30 - 65	30 - 50
157.5	48,0	30 - 72	30 - 66	30 - 56
177.2	54,0	30 - 72	30 - 66	30 - 58
196.9	60,0	30 - 72	30 - 66	37 - 60
216.5	66,0	30 - 72	33 - 66	46 - 60
236.2	72,0	33 - 72	44 - 66	55 - 60
255.9	78,0	42 - 72	51 - 66	—
275.6	84,0	48 - 72	56 - 66	—
295.3	90,0	52 - 72	59 - 66	—
315.0	96,0	56 - 72	64 - 66	—



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Table 2: Boom No. 58 HL, Hanging Counterweight at 36.1 ft (11 m) Position

MACHINE TRAVEL WITHOUT LOAD			
Boom Length (not including jib)		Boom Angle Range in Degrees	
		137,850 lb (62 530 kg) Counterweight	313,850 lb (142 360 kg) Counterweight
Feet	Meters		
<b>BOOM FACING DOWNHILL OR UPHILL — 0 - 1% Grade</b>			
137.8	42,0	—	—
157.5	48,0	—	—
177.2	54,0	—	—
196.9	60,0	—	—
216.5	66,0	—	—
236.2	72,0	—	—
255.9	78,0	30 - 35	—
275.6	84,0	30 - 42	—
295.3	90,0	31 - 48	—
315.0	96,0	39 - 52	—
334.6	102,0	44 - 56	—
354.3	108,0	49 - 59	30 - 35
374.0	114,0	52 - 61	35 - 40
393.7	120,0	—	40 - 46
<b>BOOM FACING DOWNHILL OR UPHILL — 2 - 5% Grade</b>			
137.8	42,0	—	—
157.5	48,0	—	—
177.2	54,0	—	—
196.9	60,0	—	—
216.5	66,0	—	—
236.2	72,0	—	—
255.9	78,0	30 - 33	—
275.6	84,0	30 - 41	—
295.3	90,0	35 - 45	—
315.0	96,0	43 - 50	—
334.6	102,0	48 - 53	—
354.3	108,0	53 - 57	32 - 34
374.0	114,0	56 - 60	—
393.7	120,0	—	—



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Table 3: Boom No. 58 HL, Hanging Counterweight at 42.6 ft (13 m) Position

MACHINE TRAVEL WITHOUT LOAD			
Boom Length (not including jib)		Boom Angle Range in Degrees	
		137,850 lb (62 530 kg) Counterweight	313,850 lb (142 360 kg) Counterweight
Feet	Meters		
<b>BOOM FACING DOWNHILL OR UPHILL — 0 - 1% Grade</b>			
137.8	42,0	—	—
157.5	48,0	—	—
177.2	54,0	—	—
196.9	60,0	—	—
216.5	66,0	—	—
236.2	72,0	—	—
255.9	78,0	—	—
275.6	84,0	30 - 37	—
295.3	90,0	30 - 42	—
315.0	96,0	35 - 48	—
334.6	102,0	41 - 52	—
354.3	108,0	46 - 56	—
374.0	114,0	50 - 59	30 - 33
393.7	120,0	54 - 61	35 - 39
<b>BOOM FACING DOWNHILL OR UPHILL — 2 - 5% Grade</b>			
137.8	42,0	—	—
157.5	48,0	—	—
177.2	54,0	—	—
196.9	60,0	—	—
216.5	66,0	—	—
236.2	72,0	—	—
255.9	78,0	—	—
275.6	84,0	30 - 34	—
295.3	90,0	31 - 41	—
315.0	96,0	39 - 46	—
334.6	102,0	45 - 50	—
354.3	108,0	49 - 54	—
374.0	114,0	53 - 56	—
393.7	120,0	57 - 60	—



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Table 4: Boom No. 58 HL, Hanging Counterweight at 49.2 ft (15 m) Position

MACHINE TRAVEL WITHOUT LOAD			
Boom Length (not including jib)		Boom Angle Range in Degrees	
Feet	Meters	137,850 lb (62 530 kg) Counterweight	313,850 lb (142 360 kg) Counterweight
<b>BOOM FACING DOWNHILL OR UPHILL — 0 - 1% Grade</b>			
137.8	42,0	—	—
157.5	48,0	—	—
177.2	54,0	—	—
196.9	60,0	—	—
216.5	66,0	—	—
236.2	72,0	—	—
255.9	78,0	—	—
275.6	84,0	—	—
295.3	90,0	30 - 38	—
315.0	96,0	32 - 43	—
334.6	102,0	39 - 48	—
354.3	108,0	44 - 53	—
374.0	114,0	48 - 56	—
393.7	120,0	52 - 59	30 - 32
<b>BOOM FACING DOWNHILL OR UPHILL — 2 - 5% Grade</b>			
137.8	42,0	—	—
157.5	48,0	—	—
177.2	54,0	—	—
196.9	60,0	—	—
216.5	66,0	—	—
236.2	72,0	—	—
255.9	78,0	—	—
275.6	84,0	—	—
295.3	90,0	30 - 34	—
315.0	96,0	35 - 42	—
334.6	102,0	41 - 46	—
354.3	108,0	47 - 50	—
374.0	114,0	51 - 53	—
393.7	120,0	55 - 57	—