



21000

MAX-ER

Swing and Travel Specifications

Boom No. 80 With 140 Ft. (42.7m) Mast No. 81
494,700 Lb. (224 390 kg) Crane Counterweight
200,000 Lb. (90 720 kg) Carbody Counterweight
Wheeled Counterweight

Jobsite Travel

21000 MAX-ER must be equipped with 494,700 Lb. (224 390 kg) crane counterweight and 200,000 Lb. (90 720 kg) carbody counterweight; and 0 Lb. (0 kg), 244,000 Lb. (110 680 kg), 420,000 Lb. (190 510 kg), 596,000 Lb. (270 340 kg), 772,000 Lb. (350 170 kg), 948,000 Lb. (430 010 kg) or 1,124,000 Lb. (590 840 kg) wheeled counterweight.

1. MACHINE SWING AND TRAVEL WITH LOAD AND WHEELED COUNTERWEIGHT

- A. **Narrow crawler arrangement** (30 Ft. 0 in. [9.1m]) **travel allowed only with upperworks centered over front or rear of lowerworks** (no swing) **with outrigger jacks retracted or outriggers removed**. Wide crawler arrangement (47 Ft. 6 in. [14.5m]) travel allowed with 360 degree rating. 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 and rigging.
- C. Travel with crane upperworks in-line or at 90 degrees to crawlers. Grade in any direction must not exceed 1 percent (0.5 degrees).
- D. **Warning:** For travel with crane upperworks in-line to crawlers, swing brake and swing lock must be free (released).

Travel with crane upperworks 90 degrees to crawlers is allowed only with wide crawler arrangement
Wheeled counterweight must be in the air, free of ground support. Swing brake and swing lock must be set.
- E. Refer to operators manual for maximum wind speed for various boom lengths.
- F. Machine can swing and travel in normal manner when wheeled counterweight assembly is free of ground support.
- G. Counterweight wheels must be properly positioned before swinging or traveling machine when wheeled counterweight is contacting ground. See operation guide for instructions.



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2. MACHINE SWING AND TRAVEL WITHOUT LOAD AND WITH WHEELED COUNTERWEIGHT

- A. Load blocks and/or hook and weight balls may be suspended beneath lower and upper boom point. Total combined suspended weight beneath lower and upper boom points must not exceed 70,000 Lbs. (31 750 kg) thru 300 Ft. (91.4m) boom and 50,000 Lbs. (22 680 kg) on 320 Ft. (97.5m) thru 380 Ft. (115.8m) boom.
- B. **Travel with crane upperworks in-line to crawlers.** Do not exceed 1 percent (0.5 degrees) grade at boom hinge pins when cutting (steering on grade) or swinging.
- C. **Warning:** Swing brake and swing lock must be free (released).
- D. Machine to travel on a firm and uniformly supporting surface. Travel may be limited depending upon ground conditions.
- E. 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.
- F. **Warning:** Change in grade must not exceed 2 percent (1.1 degrees) in 72 Ft. (21.9m).
- G. Refer to operators manual for maximum wind speed with various boom lengths.
- H. Counterweight wheels must be properly positioned before swinging or traveling machine when wheeled counterweight is contacting ground.
- I. **Warning:** Travel prohibited for boom lengths not shown in tables on pages 3 thru 7. *Crane could tip.*

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

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Machine Travel Without Load - Boom Facing Downhill				
0 Lb. (0 kg) Wheeled Counterweight				
Boom Length		Boom Angle Range In Degrees		
		Percent Grade		
Feet	Meters	0 - 1%	2 - 10%	11 - 20%
140	42.7	30 - 72	30 - 72	30 - 72
160	48.8	30 - 72	30 - 72	30 - 72
180	54.9	30 - 72	30 - 72	30 - 72
200	61.0	30 - 72	30 - 72	30 - 72
220	67.1	30 - 72	30 - 72	45 - 72
240	73.2	30 - 72	40 - 72	55 - 72
260	79.2	40 - 72	50 - 72	60 - 72
280	85.3	45 - 72	55 - 72	65 - 72
300	91.4	50 - 72	60 - 72	67 - 72
320	97.5	50 - 72	60 - 72	*
340	103.6	50 - 72	65 - 72	*
360	109.7	55 - 72	67 - 72	*
* Boom must face uphill				

Machine Travel Without Load - Boom Facing Uphill				
0 Lb. (0 kg) Wheeled Counterweight				
Boom Length		Boom Angle Range In Degrees		
		Percent Grade		
Feet	Meters	0 - 1%	2 - 10%	11 - 20%
140	42.7	30 - 72	30 - 65	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	30 - 60
220	67.1	30 - 72	30 - 66	30 - 60
240	73.2	30 - 72	30 - 66	30 - 60
260	79.2	40 - 72	30 - 66	30 - 60
280	85.3	45 - 72	40 - 66	30 - 60
300	91.4	50 - 72	45 - 66	35 - 60
320	97.5	50 - 72	45 - 66	35 - 60
340	103.6	50 - 72	45 - 66	35 - 60
360	109.7	55 - 72	50 - 66	40 - 60



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200,000 Lb. (90 720 kg) Carbody Counterweight
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MACHINE TRAVEL WITHOUT LOAD - BOOM FACING DOWNHILL							
Boom Angle Range in Degrees	Boom Length						Boom Angle Range in Degrees
	59 Ft. (18m) Position						
	244,000 Lb. (110 680 kg) Counterweight		420,000 Lb. (190 510 kg) Counterweight		596,000 Lb. (270 340 kg) Counterweight		
	Feet	Meters	Feet	Meters	Feet	Meters	
0 - 1% Grade							
30 - 60	140	42.7	140	42.7	140	42.7	30 - 60
30 - 72	160 - 280	48.8 - 85.3	160 - 320	48.8 - 97.5	160 - 360	48.8 - 109.7	30 - 72
40 - 72	300 - 320	91.4 - 97.5	340 - 360	103.6 - 109.7	380	115.8	40 - 72
50 - 72	340 - 360	103.6 - 109.7	380	115.8	—	—	50 - 72
60 - 72	380	115.8	—	—	—	—	60 - 72
2 - 5% Grade							
30 - 60	—	—	—	—	—	—	30 - 60
30 - 72	140 - 260	42.7 - 79.2	140 - 320	42.7 - 97.5	140 - 360	42.7 - 109.7	30 - 72
40 - 72	280	85.3	340	103.6	380	115.8	40 - 72
50 - 72	300 - 320	91.4 - 97.5	360 - 380	109.7 - 115.8	—	—	50 - 72
60 - 72	340 - 380	103.6 - 115.8	—	—	—	—	60 - 72
6 - 8% Grade							
30 - 60	—	—	—	—	—	—	30 - 60
30 - 72	140 - 260	42.7 - 79.2	140 - 300	42.7 - 91.4	140 - 340	42.7 - 103.6	30 - 72
40 - 72	280	85.3	320	97.5	360 - 380	109.7 - 115.8	40 - 72
50 - 72	300 - 320	91.4 - 97.5	340 - 360	103.6 - 109.7	—	—	50 - 72
60 - 72	340 - 380	103.6 - 115.8	380	115.8	—	—	60 - 72
Boom Angle Range in Degrees	Boom Length						Boom Angle Range in Degrees
	59 Ft. (18m) Position						
	772,000 Lb. (350 170 kg) Counterweight		948,000 Lb. (430 010 kg) Counterweight		1,124,000 Lb. (509 840 kg) Counterweight		
	Feet	Meters	Feet	Meters	Feet	Meters	
0 - 1% Grade							
30 - 60	140	42.7	140	42.7	140	42.7	30 - 60
30 - 72	160 - 380	48.8 - 115.8	160 - 380	48.8 - 115.8	160 - 380	48.8 - 115.8	30 - 72
2 - 5% Grade							
30 - 60	—	—	—	—	—	—	30 - 60
30 - 72	140 - 380	42.7 - 115.8	140 - 380	42.7 - 115.8	140 - 380	42.7 - 115.8	30 - 72
6 - 8% Grade							
30 - 60	—	—	—	—	—	—	30 - 60
30 - 72	140 - 380	42.7 - 115.8	140 - 380	42.7 - 115.8	140 - 380	42.7 - 115.8	30 - 72

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494,700 Lb. (224 390 kg) Crane Counterweight
200,000 Lb. (90 720 kg) Carbody Counterweight
Wheeled Counterweight

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MACHINE TRAVEL WITHOUT LOAD - BOOM FACING UPHILL							
Boom Angle Range in Degrees	Boom Length						Boom Angle Range in Degrees
	59 Ft. (18m) Position						
	244,000 Lb. (110 680 kg) Counterweight		420,000 Lb. (190 510 kg) Counterweight		596,000 Lb. (270 340 kg) Counterweight		
	Feet	Meters	Feet	Meters	Feet	Meters	
0 - 1% Grade							
30 - 60	140	42.7	140	42.7	140	42.7	30 - 60
30 - 72	160 - 280	48.8 - 85.3	160 - 320	48.8 - 97.5	160 - 360	48.8 - 109.7	30 - 72
40 - 72	300 - 320	91.4 - 97.5	340 - 360	103.6 - 109.7	380	115.8	40 - 72
50 - 72	340 - 360	103.6 - 109.7	380	115.8	—	—	50 - 72
60 - 72	380	115.8	—	—	—	—	60 - 72
2 - 5% Grade							
30 - 60	160 - 180	48.8 - 54.9	160 - 180	48.8 - 54.9	160 - 180	48.8 - 54.9	30 - 60
30 - 72	200 - 280	61.0 - 85.3	200 - 340	61.0 - 103.6	200 - 380	61.0 - 115.8	30 - 72
40 - 72	300 - 320	91.4 - 97.5	360 - 380	109.7 - 115.8	—	—	40 - 72
50 - 72	340 - 380	103.6 - 115.8	—	—	—	—	50 - 72
60 - 72	—	—	—	—	—	—	60 - 72
6 - 8% Grade							
30 - 60	200 - 240	61.0 - 73.2	200 - 240	61.0 - 73.2	200 - 240	61.0 - 73.2	30 - 60
30 - 72	260 - 300	79.2 - 91.4	260 - 340	79.2 - 103.6	260 - 380	79.2 - 115.8	30 - 72
40 - 72	320 - 340	97.5 - 103.6	360 - 380	109.7 - 115.8	—	—	40 - 72
50 - 72	360 - 380	109.7 - 115.8	—	—	—	—	50 - 72
60 - 72	—	—	—	—	—	—	60 - 72
Boom Angle Range in Degrees	Boom Length						Boom Angle Range in Degrees
	59 Ft. (18m) Position						
	772,000 Lb. (350 170 kg) Counterweight		948,000 Lb. (430 010 kg) Counterweight		1,124,000 Lb. (509 840 kg) Counterweight		
	Feet	Meters	Feet	Meters	Feet	Meters	
0 - 1% Grade							
30 - 60	140	42.7	140	42.7	140	42.7	30 - 60
30 - 72	160 - 380	48.8 - 115.8	160 - 380	48.8 - 115.8	160 - 380	48.8 - 115.8	30 - 72
2 - 5% Grade							
30 - 60	160 - 180	48.8 - 54.9	160 - 180	48.8 - 54.9	160 - 180	48.8 - 54.9	30 - 60
30 - 72	200 - 380	61.0 - 115.8	200 - 380	61.0 - 115.8	200 - 380	61.0 - 115.8	30 - 72
6 - 8% Grade							
30 - 60	200 - 240	61.0 - 73.2	200 - 240	61.0 - 73.2	200 - 240	61.0 - 73.2	30 - 60
30 - 72	260 - 380	79.2 - 115.8	260 - 380	79.2 - 115.8	260 - 380	79.2 - 115.8	30 - 72



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MACHINE TRAVEL WITHOUT LOAD - BOOM FACING DOWNHILL							
Boom Angle Range in Degrees	Boom Length						Boom Angle Range in Degrees
	72 Ft. (22m) Position						
	244,000 Lb. (110 680 kg) Counterweight		420,000 Lb. (190 510 kg) Counterweight		596,000 Lb. (270 340 kg) Counterweight		
	Feet	Meters	Feet	Meters	Feet	Meters	
0 - 1% Grade							
30 - 60	140	42.7	140	42.7	140	42.7	30 - 60
30 - 72	160 - 280	48.8 - 85.3	160 - 340	48.8 - 103.6	160 - 380	48.8 - 115.8	30 - 72
40 - 72	300 - 320	91.4 - 97.5	360 - 380	109.7 - 115.8	—	—	40 - 72
50 - 72	340 - 360	103.6 - 109.7	—	—	—	—	50 - 72
60 - 72	380	115.8	—	—	—	—	60 - 72
2 - 5% Grade							
30 - 60	—	—	—	—	—	—	30 - 60
30 - 72	140 - 280	42.7 - 85.3	140 - 340	42.7 - 103.6	140 - 380	42.7 - 115.8	30 - 72
40 - 72	300 - 320	91.4 - 97.5	360	109.7	—	—	40 - 72
50 - 72	340	103.6	380	115.8	—	—	50 - 72
60 - 72	360 - 380	109.7 - 115.8	—	—	—	—	60 - 72
6 - 8% Grade							
30 - 60	—	—	—	—	—	—	30 - 60
30 - 72	140 - 260	42.7 - 79.2	140 - 320	42.7 - 97.5	140 - 380	42.7 - 115.8	30 - 72
40 - 72	280 - 300	85.3 - 91.4	340 - 360	103.6 - 109.7	—	—	40 - 72
50 - 72	320 - 340	97.5 - 103.6	380	115.8	—	—	50 - 72
60 - 72	360 - 380	109.7 - 115.8	—	—	—	—	60 - 72
Boom Angle Range in Degrees	Boom Length						Boom Angle Range in Degrees
	72 Ft. (22m) Position						
	772,000 Lb. (350 170 kg) Counterweight		948,000 Lb. (430 010 kg) Counterweight		1,124,000 Lb. (509 840 kg) Counterweight		
	Feet	Meters	Feet	Meters	Feet	Meters	
0 - 1% Grade							
30 - 60	140	42.7	140	42.7	140	42.7	30 - 60
30 - 72	160 - 380	48.8 - 115.8	160 - 380	48.8 - 115.8	160 - 380	48.8 - 115.8	30 - 72
2 - 5% Grade							
30 - 60	—	—	—	—	—	—	30 - 60
30 - 72	140 - 380	42.7 - 115.8	140 - 380	42.7 - 115.8	140 - 380	42.7 - 115.8	30 - 72
6 - 8% Grade							
30 - 60	—	—	—	—	—	—	30 - 60
30 - 72	140 - 380	42.7 - 115.8	140 - 380	42.7 - 115.8	140 - 380	42.7 - 115.8	40 - 72

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MACHINE TRAVEL WITHOUT LOAD - BOOM FACING UPHILL							
Boom Angle Range in Degrees	Boom Length						Boom Angle Range in Degrees
	72 Ft. (22m) Position						
	244,000 Lb. (110 680 kg) Counterweight		420,000 Lb. (190 510 kg) Counterweight		596,000 Lb. (270 340 kg) Counterweight		
	Feet	Meters	Feet	Meters	Feet	Meters	
0 - 1% Grade							
30 - 60	140	42.7	140	42.7	140	42.7	30 - 60
30 - 72	160 - 280	48.8 - 85.3	160 - 340	48.8 - 103.6	160 - 380	48.8 - 115.8	30 - 72
40 - 72	300 - 320	91.4 - 97.5	360 - 380	109.7 - 115.8	—	—	40 - 72
50 - 72	340 - 360	103.6 - 109.7	—	—	—	—	50 - 72
60 - 72	380	115.8	—	—	—	—	60 - 72
2 - 5% Grade							
30 - 60	180 - 200	54.9 - 61.0	180 - 200	54.9 - 61.0	180 - 200	54.9 - 61.0	30 - 60
30 - 72	220 - 300	67.1 - 91.4	220 - 360	67.1 - 109.7	220 - 380	67.1 - 115.8	30 - 72
40 - 72	320 - 340	97.5 - 103.6	380	115.8	—	—	40 - 72
50 - 72	360 - 380	109.7 - 115.8	—	—	—	—	50 - 72
60 - 72	—	—	—	—	—	—	60 - 72
6 - 8% Grade							
30 - 60	220 - 260	67.1 - 79.2	220 - 260	67.1 - 79.2	220 - 260	67.1 - 79.2	30 - 60
30 - 72	280 - 320	85.3 - 97.5	280 - 360	85.3 - 109.7	280 - 380	85.3 - 115.8	30 - 72
40 - 72	340 - 360	103.6 - 109.7	380	115.8	—	—	40 - 72
50 - 72	380	115.8	—	—	—	—	50 - 72
60 - 72	—	—	—	—	—	—	60 - 72
Boom Angle Range in Degrees	Boom Length						Boom Angle Range in Degrees
	72 Ft. (22m) Position						
	772,000 Lb. (350 170 kg) Counterweight		948,000 Lb. (430 010 kg) Counterweight		1,124,000 Lb. (509 840 kg) Counterweight		
	Feet	Meters	Feet	Meters	Feet	Meters	
0 - 1% Grade							
30 - 60	140	42.7	140	42.7	140	42.7	30 - 60
30 - 72	160 - 380	48.8 - 115.8	160 - 380	48.8 - 115.8	160 - 380	48.8 - 115.8	30 - 72
2 - 5% Grade							
30 - 60	180 - 200	54.9 - 61.0	180 - 200	54.9 - 61.0	180 - 200	54.9 - 61.0	30 - 60
30 - 72	220 - 380	67.1 - 115.8	220 - 380	67.1 - 115.8	220 - 380	67.1 - 115.8	30 - 72
6 - 8% Grade							
30 - 60	220 - 260	67.1 - 79.2	220 - 260	67.1 - 79.2	220 - 260	67.1 - 79.2	30 - 60
30 - 72	280 - 380	85.3 - 115.8	280 - 380	85.3 - 115.8	280 - 380	85.3 - 115.8	30 - 72