



# Maximum Allowable Travel Specifications

## 999 SERIES 1, 2, 3

**Boom No. 22E With Open Throat Top**  
**Jib No. 123 With 12 Ft. 6 in. (3 810 mm) Strut**

### Jobsite Travel

999 SERIES 1 must be equipped with 149,600 Lb. (67 860 kg) counterweight; 999 SERIES 2 must be equipped with 184,600 Lb. (83 730 kg) crane counterweight and 44,000 Lb. (19 960 kg) carbody counterweight; and 999 SERIES 3 must be equipped with 219,600 Lb. (99 610 kg) crane counterweight and 80,000 Lb. (36 290 kg) carbody counterweight. Refer to Operator's Manual for maximum wind speed for various boom and jib lengths and capacity chart for maximum boom and jib lengths lifted unassisted.

#### 1. Machine Travel With Load

- 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, jib and rigging.

#### 2. Machine Travel Without Load

- A. Load blocks and/or hook and weight balls may be suspended beneath lower and upper boom points, jib point, or tied off to machine. Total combined suspended weight beneath lower and upper boom points must not exceed 7,500 Lbs. (3 400 kg). Total suspended weight beneath jib point must not exceed 2,000 Lbs. (910 kg).
- B. Machine to travel on a firm and uniformly supporting surface. Travel allowed with 360 degree swing up to 1 percent grade; crane upperworks must be in-line with crawlers and grade when grade exceeds 1 percent. Grade in direction of travel should not exceed 30 percent (16.7 degrees); side-to-side grade must not exceed 2 percent (1.1 degrees) measured at boom hinge pins.
- C. Refer to tables on pages 2 thru 5 for boom angle, boom length and direction for various grades. Adjust boom within boom angle range shown in table 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.
- D. Do not exceed 2 percent (1.1 degrees) side-to-side grade at boom hinge pins when cutting (turning on grade).
- E. Boom lengths shown in tables on pages 2 and 3 do not include jib. Boom lengths shown in tables on pages 4 and 5 include all jib lengths and offset angles.
- F. **Warning:** Travel prohibited for boom lengths not shown in tables on pages 2 thru 5. *Crane could tip.*

Percent Grade Vs. Angle In Degrees	
Percent Grade	Angle
1	0.5
10	5.7
20	11.3
30	16.7



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Machine Travel Without Load - Boom Facing Downhill							
Boom Angle Range in Degrees	Boom Length (not including jib)						Boom Angle Range in Degrees
	999 SERIES 1		999 SERIES 2		999 SERIES 3		
	Feet	Meters	Feet	Meters	Feet	Meters	
<b>0 - 1% Percent Grade</b>							
30 - 72	70 - 180	21.3 - 54.9	70 - 210	21.3 - 64.0	70 - 230	21.3 - 70.1	30 - 72
40 - 72	190	57.9	220	67.0	240 - 250	73.2 - 76.2	40 - 72
50 - 72	200 - 220	61.0 - 67.0	230 - 250	70.1 - 76.2	260 - 280	79.2 - 85.3	50 - 72
60 - 72	230 - 260	70.1 - 79.2	260 - 290	79.2 - 88.4	290	88.4	60 - 72
<b>2 - 10% Percent Grade</b>							
30 - 72	70 - 170	21.3 - 51.8	70 - 190	21.3 - 57.9	70 - 210	21.3 - 64.0	30 - 72
40 - 72	180	54.9	200 - 210	61.0 - 64.0	220 - 230	67.0 - 70.1	40 - 72
50 - 72	190 - 200	57.9 - 61.0	220 - 230	67.0 - 70.1	240 - 250	73.2 - 76.2	50 - 72
60 - 72	210 - 230	64.0 - 70.1	240 - 270	73.2 - 82.3	260 - 290	79.2 - 88.4	60 - 72
65 - 72	240 - 260	73.2 - 79.2	280 - 290	85.3 - 88.4			65 - 72
<b>11 - 20% Percent Grade</b>							
30 - 72	70 - 150	21.3 - 45.7	70 - 180	21.3 - 54.9	70 - 200	21.3 - 61.0	30 - 72
40 - 72	160 - 170	48.8 - 51.8	190	57.9	210	64.0	40 - 72
50 - 72	180	54.9	200 - 210	61.0 - 64.0	220 - 230	67.0 - 70.1	50 - 72
60 - 72	190 - 210	57.9 - 64.0	220 - 240	67.0 - 73.2	240 - 260	73.2 - 79.2	60 - 72
65 - 72	220 - 230	67.0 - 70.1	250 - 260	76.2 - 79.2	270 - 280	82.3 - 85.3	65 - 72
<b>21 - 30% Percent Grade</b>							
30 - 72	70 - 140	21.3 - 42.7	70 - 170	21.3 - 51.8	70 - 180	21.3 - 54.9	30 - 72
40 - 72	150	45.7	180	54.9	190	57.9	40 - 72
50 - 72	160 - 170	48.8 - 51.8	190	57.9	200 - 210	61.0 - 64.0	50 - 72
60 - 72	180 - 190	54.9 - 57.9	200 - 220	61.0 - 67.0	220 - 230	67.0 - 70.1	60 - 72
65 - 72	200	61.0	230	70.1	240	73.2	65 - 72



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## 999 SERIES 1, 2, 3

Boom No. 22E With Open Throat Top

Machine Travel Without Load - Boom Facing Uphill							
Boom Angle Range in Degrees	Boom Length (not including jib)						Boom Angle Range in Degrees
	999 SERIES 1		999 SERIES 2		999 SERIES 3		
	Feet	Meters	Feet	Meters	Feet	Meters	
<b>0 - 1% Percent Grade</b>							
30 - 72	70 - 180	21.3 - 54.9	70 - 210	21.3 - 64.0	70 - 230	21.3 - 70.1	30 - 72
40 - 72	190	57.9	220	67.0	240 - 250	73.2 - 76.2	40 - 72
50 - 72	200 - 220	61.0 - 67.0	230 - 250	70.1 - 76.2	260 - 280	79.2 - 85.3	50 - 72
60 - 72	230 - 260	70.1 - 79.2	260 - 290	79.2 - 88.4	290	88.4	60 - 72
<b>2 - 10% Percent Grade</b>							
30 - 60	70	21.3	70 - 80	21.3 - 24.4	70	21.3	30 - 60
30 - 66	80 - 180	24.4 - 54.9	90 - 210	27.4 - 64.0	80 - 250	24.4 - 76.2	30 - 66
40 - 66	190	57.9	220	67.0	260 - 280	79.2 - 85.3	40 - 66
50 - 66	200 - 220	61.0 - 67.0	230 - 250	70.1 - 76.2	290	88.4	50 - 66
60 - 66	230 - 260	70.1 - 79.2	260 - 290	79.2 - 88.4			60 - 66
<b>11 - 20% Percent Grade</b>							
30 - 35	—	—	70	21.3	70	21.3	30 - 35
30 - 40	70	21.3	80	24.4	80	24.4	30 - 40
30 - 50	80 - 100	24.4 - 30.5	90 - 100	27.4 - 30.5	90 - 100	27.4 - 30.5	30 - 50
30 - 60	110 - 180	33.5 - 54.9	110 - 210	33.5 - 64.0	110 - 250	33.5 - 76.2	30 - 60
40 - 60	190	57.9	220	67.0	260 - 290	79.2 - 88.4	40 - 60
50 - 60	200 - 220	61.0 - 67.0	230 - 250	70.1 - 76.2			50 - 60
55 - 60	230 - 240	70.1 - 73.2	260 - 280	79.2 - 85.3			55 - 60
<b>21 - 30% Percent Grade</b>							
30 - 35	80	24.4	90	27.4	—	—	30 - 35
30 - 40	90 - 130	27.4 - 39.6	100 - 130	30.5 - 39.6	100 - 140	30.5 - 42.7	30 - 40
30 - 55	140 - 180	42.7 - 54.9	140 - 210	42.7 - 64.0	150 - 280	45.7 - 85.3	30 - 55
40 - 55	190	57.9	220	67.0			40 - 55
50 - 55	200 - 220	61.0 - 67.0	230 - 250	70.1 - 76.2			50 - 55



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Machine Travel Without Load - Boom Facing Downhill							
Boom Angle Range in Degrees	Boom Length (including all jib lengths and offset angles)						Boom Angle Range in Degrees
	999 SERIES 1		999 SERIES 2		999 SERIES 3		
	Feet	Meters	Feet	Meters	Feet	Meters	
<b>0 - 1% Percent Grade</b>							
40 - 72	90 - 160	27.4 - 48.8	90 - 180	27.4 - 54.9	90 - 230	27.4 - 70.1	40 - 72
50 - 72	170 - 190	51.8 - 57.9	190 - 220	57.9 - 67.0	240 - 260	73.2 - 79.2	50 - 72
55 - 72	200 - 210	61.0 - 64.0	230 - 240	70.1 - 73.2	270	82.3	55 - 72
60 - 72	220 - 230	67.0 - 70.1	250 - 270	76.2 - 82.3			60 - 72
<b>2 - 10% Percent Grade</b>							
40 - 72	90 - 140	27.4 - 42.7	90 - 180	27.4 - 54.9	90 - 200	27.4 - 61.0	40 - 72
50 - 72	150 - 170	45.7 - 51.8	190 - 200	57.9 - 61.0	210 - 230	64.0 - 70.1	50 - 72
55 - 72	180	54.9	210	64.0	240 - 250	73.2 - 76.2	55 - 72
60 - 72	190 - 200	57.9 - 61.0	220 - 230	67.0 - 70.1	260 - 270	79.2 - 82.3	60 - 72
65 - 72	210 - 220	64.0 - 67.0	240 - 250	73.2 - 76.2			65 - 72
<b>11 - 20% Percent Grade</b>							
40 - 72	90 - 130	27.4 - 39.6	90 - 160	27.4 - 48.8	90 - 180	27.4 - 54.9	40 - 72
50 - 72	140 - 150	42.7 - 45.7	170	51.8	190 - 200	57.9 - 61.0	50 - 72
55 - 72	160	48.8	180	54.9	210 - 220	64.0 - 67.0	55 - 72
60 - 72	170	51.8	190 - 200	57.9 - 61.0	230	70.1	60 - 72
65 - 72	180	54.9	210 - 220	64.0 - 67.0	240 - 250	73.2 - 76.2	65 - 72
<b>21 - 30% Percent Grade</b>							
40 - 72	90 - 120	27.4 - 36.6	90 - 140	27.4 - 42.7	90 - 170	27.4 - 51.8	40 - 72
50 - 72	130	39.6	150	45.7	180	54.9	50 - 72
55 - 72	140	42.7	160	48.8	190	57.9	55 - 72
60 - 72	150	45.7	170 - 180	51.8 - 54.9	200	61.0	60 - 72
65 - 72	160	48.8	190	57.9	210 - 220	64.0 - 67.0	65 - 72



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Boom Angle Range in Degrees	Boom Length (including all jib lengths and offset angles)						Boom Angle Range in Degrees
	999 SERIES 1		999 SERIES 2		999 SERIES 3		
	Feet	Meters	Feet	Meters	Feet	Meters	
<b>0 - 1% Percent Grade</b>							
40 - 72	90 - 160	27.4 - 48.8	90 - 180	27.4 - 54.9	90 - 230	27.4 - 70.1	40 - 72
50 - 72	170 - 190	51.8 - 57.9	190 - 220	57.9 - 67.0	240 - 260	73.2 - 79.2	50 - 72
55 - 72	200 - 210	61.0 - 64.0	230 - 240	70.1 - 73.2	270	82.3	55 - 72
60 - 72	220 - 230	67.0 - 70.1	250 - 270	76.2 - 82.3			60 - 72
<b>2 - 10% Percent Grade</b>							
40 - 66	90 - 160	27.4 - 48.8	90 - 190	27.4 - 57.9	90 - 250	27.4 - 76.2	40 - 66
50 - 66	170 - 190	51.8 - 57.9	200 - 220	61.0 - 67.0	260 - 270	79.2 - 82.3	50 - 66
60 - 66	200 - 230	61.0 - 70.1	230 - 270	70.1 - 82.3			60 - 66
<b>11 - 20% Percent Grade</b>							
40 - 50	—	—	90	27.4	90 - 110	27.4 - 33.5	40 - 50
40 - 60	90 - 160	27.4 - 48.8	100 - 190	30.5 - 57.9	120 - 270	36.6 - 82.3	40 - 60
50 - 60	170 - 190	51.8 - 57.9	200 - 220	61.0 - 67.0			50 - 60
55 - 60	200 - 210	61.0 - 64.0	230 - 240	70.1 - 73.2			55 - 60
<b>21 - 30% Percent Grade</b>							
40 - 45	90	27.4	100	30.5	120	36.6	40 - 45
40 - 50	100	30.5	110 - 120	33.5 - 36.6	130 - 140	39.6 - 42.7	40 - 50
40 - 55	110 - 160	33.5 - 48.8	130 - 190	39.6 - 57.9	150 - 270	45.7 - 82.3	40 - 55
45 - 55	170	51.8	200	61.0			45 - 55
50 - 55	180 - 190	54.9 - 57.9	210 - 220	64.0 - 67.0			50 - 55