

# Maximum Allowable Travel Specifications

## MLC650 VPC-MAX

Jib No. 148 on  
 Boom No. B60:680  
 with Mast No. M10:684 or Mast No. M11:684  
 VPC-MAX at 18,3 m (60.0 ft) Position

### Jobsite Travel

MLC650 VPC-MAX SERIES 1 must be equipped with 200 000 kg (440,900 lb) VPC (Variable Position Counterweight); MLC650 VPC-MAX SERIES 2 must be equipped with 300 000 kg (661,300 lb) VPC; MLC650 VPC-MAX Series 3 must be equipped with 400 000 kg (881,800 lb) VPC. Refer to Wind Conditions chart for maximum wind speed for various boom and jib lengths. Refer to capacity charts for maximum boom and jib lengths lifted unassisted. Travel slowly and smoothly to avoid shock loading boom, jib, and rigging.

### 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.

### 2. Machine Travel Without Load

- A. Load blocks, hooks, weight ball, slings, hoist lines, etc., may be suspended beneath boom or jib points, or tied off to machine. Total combined suspended weight beneath boom point must not exceed 26 500 kg (58,500 lb). Total suspended weight beneath jib point must not exceed 2 950 kg (6,500 lb).
- B. 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 (0.5 degrees). Side-to-side grade must not exceed 2 percent (1.1 degrees) measured at boom hinge pins.
- C. Refer to Tables 2 thru 4 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 1 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 2 thru 4 include all jib lengths and offset angles.
- F. **Caution:** Change in grade must not exceed 3 percent (1.7 degrees) in 10,7 m (35 ft). *Damage could occur.*
- G. **Warning:** Travel prohibited for boom angle range not shown in Tables 2 thru 4. *Crane could tip.*
- H. **Warning:** 18,3 m (60.0 ft) counterweight position must be selected before traveling on grade greater than 1 percent (0.5 degrees). *Crane could tip.*

**Table 1**

Percent Grade Vs. Angle In Degrees	
Percent Grade	Angle
5	2.9
7	4.0
10	5.7
15	8.5

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Table 2a: Boom B60:680 with Jib No. 148, SERIES 1

MACHINE TRAVEL WITHOUT LOAD				
Boom Length (including all jib lengths and offsets)		Boom Angle Range in Degrees		
		Maximum Percent Grade		
Meters	Feet	5%	10%	15%
BOOM FACING DOWNHILL				
44,0	144.4	33 - 72	36 - 72	39 - 72
50,0	164.0	33 - 72	36 - 72	39 - 72
56,0	183.7	33 - 72	36 - 72	39 - 72
62,0	203.4	33 - 72	36 - 72	39 - 72
68,0	223.1	33 - 72	36 - 72	39 - 72
74,0	242.8	33 - 72	36 - 72	39 - 72
80,0	262.5	40 - 72	45 - 72	50 - 72
86,0	282.2	45 - 72	50 - 72	55 - 72
92,0	301.8	50 - 72	55 - 72	60 - 72
98,0	321.5	55 - 72	60 - 72	65 - 72
104,0	341.2	60 - 72	65 - 72	70 - 72

Table 2b: Boom B60:680 with Jib No. 148, SERIES 1

MACHINE TRAVEL WITHOUT LOAD			
Boom Length (including all jib lengths and offsets)		Boom Angle Range in Degrees	
		Maximum Percent Grade	
Meters	Feet	5%	10%
BOOM FACING UPHILL			
44,0	144.4	30 - 70	30 - 67
50,0	164.0	30 - 70	30 - 67
56,0	183.7	30 - 70	30 - 67
62,0	203.4	30 - 70	30 - 67
68,0	223.1	30 - 70	30 - 67
74,0	242.8	30 - 70	30 - 67
80,0	262.5	35 - 70	35 - 67
86,0	282.2	40 - 70	40 - 67
92,0	301.8	45 - 70	45 - 67
98,0	321.5	50 - 70	50 - 67
104,0	341.2	55 - 70	55 - 67

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Table 3a: Boom B60:680 with Jib No. 148, SERIES 2

MACHINE TRAVEL WITHOUT LOAD			
Boom Length (including all jib lengths and offsets)		Boom Angle Range in Degrees	
		Maximum Percent Grade	
Meters	Feet	5%	10%
BOOM FACING DOWNHILL			
44,0	144.4	33 - 72	36 - 72
50,0	164.0	33 - 72	36 - 72
56,0	183.7	33 - 72	36 - 72
62,0	203.4	33 - 72	36 - 72
68,0	223.1	33 - 72	36 - 72
74,0	242.8	33 - 72	36 - 72
80,0	262.5	33 - 72	36 - 72
86,0	282.2	33 - 72	36 - 72
92,0	301.8	35 - 72	40 - 72
98,0	321.5	35 - 72	40 - 72
104,0	341.2	40 - 72	45 - 72
110,0	360.9	50 - 72	50 - 72
116,0	380.6	50 - 72	55 - 72
122,0	400.3	55 - 72	60 - 72
128,0	419.9	60 - 72	60 - 72
134,0	439.6	60 - 72	65 - 72

Table 3b: Boom B60:680 with Jib No. 148, SERIES 2

MACHINE TRAVEL WITHOUT LOAD			
Boom Length (including all jib lengths and offsets)		Boom Angle Range in Degrees	
		Maximum Percent Grade	
Meters	Feet	5%	10%
BOOM FACING UPHILL			
44,0	144.4	30 - 70	30 - 67
50,0	164.0	30 - 70	30 - 67
56,0	183.7	30 - 70	30 - 67
62,0	203.4	30 - 70	30 - 67
68,0	223.1	30 - 70	30 - 67
74,0	242.8	30 - 70	30 - 67
80,0	262.5	30 - 70	30 - 67
86,0	282.2	35 - 70	35 - 67
92,0	301.8	35 - 70	40 - 67
98,0	321.5	40 - 70	40 - 67
104,0	341.2	40 - 70	45 - 67
110,0	360.9	45 - 70	45 - 67
116,0	380.6	45 - 70	45 - 67
122,0	400.3	50 - 70	50 - 67
128,0	419.9	55 - 70	55 - 67
134,0	439.6	55 - 70	55 - 67

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Table 4a: Boom B60:680 with Jib No. 148, SERIES 3

MACHINE TRAVEL WITHOUT LOAD		
Boom Length (including all jib lengths and offsets)		Boom Angle Range in Degrees
		Maximum Percent Grade
Meters	Feet	7%
BOOM FACING DOWNHILL		
44,0	144.4	33 - 72
50,0	164.0	33 - 72
56,0	183.7	33 - 72
62,0	203.4	33 - 72
68,0	223.1	33 - 72
74,0	242.8	33 - 72
80,0	262.5	33 - 72
86,0	282.2	33 - 72
92,0	301.8	35 - 72
98,0	321.5	40 - 72
104,0	341.2	45 - 72
110,0	360.9	45 - 72
116,0	380.6	45 - 72
122,0	400.3	45 - 72
128,0	419.9	45 - 72
134,0	439.6	50 - 72
140,0	459.3	55 - 72

Table 4b: Boom B60:680 with Jib No. 148, SERIES 3

MACHINE TRAVEL WITHOUT LOAD		
Boom Length (including all jib lengths and offsets)		Boom Angle Range in Degrees
		Maximum Percent Grade
Meters	Feet	7%
BOOM FACING UPHILL		
44,0	144.4	30 - 60
50,0	164.0	30 - 60
56,0	183.7	30 - 70
62,0	203.4	30 - 70
68,0	223.1	30 - 70
74,0	242.8	30 - 70
80,0	262.5	30 - 70
86,0	282.2	35 - 70
92,0	301.8	35 - 70
98,0	321.5	40 - 70
104,0	341.2	45 - 70
110,0	360.9	45 - 70
116,0	380.6	45 - 70
122,0	400.3	50 - 70
128,0	419.9	50 - 70
134,0	439.6	50 - 70
140,0	459.3	50 - 70