Maximum Allowable Travel Specifications

MLC650

Boom No. B40:680-681-682
with 7,6 m (24.9 ft) Extended Upper Boom Point

Jobsite Travel

MLC650 SERIES 1 must be equipped with 200 000 kg (440,900 lb) VPC (Variable Position Counterweight); MLC650 SERIES 2 must be equipped with 300 000 kg (661,300 lb) VPC. Refer to Wind Conditions chart for maximum wind speed for various boom lengths and capacity charts for maximum boom lengths lifted unassisted. Travel slowly and smoothly to avoid shock loading boom and rigging. **Warning: Maintain adequate clearance between boom and load blocks, hooks, or weight ball while traveling.** *The boom can buckle and collapse if load blocks, hooks or weight ball contact the boom.*

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 - <u>Without</u> Boom Angle Adjustment on Grade

A. Load blocks, hooks, weight ball, slings, hoist lines, etc., may be suspended beneath points or tied off to machine. Total combined suspended weight beneath points must not exceed 14 050 kg (31,000 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. Side-to-side grade must not exceed 2 percent (1.1 degrees) measured at boom hinge pins.

C. Refer to Tables 2 and 3 for boom angle, boom length, and direction for various grades.

Before traveling onto grade:

- Position machine **on a level surface** with grade in any direction not to exceed 1 percent (0.5 degrees).
- Unlock the VPC.
- **Adjust boom** within boom angle range shown in table.
- Lock the VPC.

VPC must be locked before traveling onto grade. **Do not adjust 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. ***Warning:*** Refer to Section 3 of the Operator Manual for setting of VPC Lockout Key Switch prior to traveling onto grade. *Crane could tip.*

F. ***Warning:*** Travel prohibited for boom angle range not shown in Tables 2 and 3. *Crane could tip.*

Maximum Allowable Travel Specifications

MLC650

Boom No. B40:680-681-682
with 7,6 m (24.9 ft) Extended Upper Boom Point

3. Machine Travel Without Load - <u>With</u> Boom Angle Adjustment on Grade

A. Load blocks, hooks, weight ball, slings, hoist lines, etc., may be suspended beneath points or tied off to machine. Total combined suspended weight beneath points must not exceed 14 050 kg (31,000 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. Side-to-side grade must not exceed 2 percent (1.1 degrees) measured at boom hinge pins.

C. Refer to Tables 4 and 5 for boom angle, boom length, and direction for various grades.

Before traveling onto grade:

- Position machine **on a level surface** with grade in any direction not to exceed 1 percent (0.5 degrees).
- Unlock the VPC.
- **Adjust boom** within boom angle range shown in table.
- Lock the VPC in the optimized travel position.

VPC must be locked in the optimized travel position before traveling onto grade. **Adjust boom** to remain within boom angle range shown in table **while traveling on 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. ***Warning:*** Refer to Folio F2327 for setting VPC into optimized travel position. *Crane could tip.*

F. ***Warning:*** Travel prohibited for boom angle range not shown in Tables 4 and 5. *Crane could tip.*

Table 1

Percent Grade Vs. Angle In Degrees	
Percent Grade	Angle
5	2.9
10	5.7
15	8.5
20	11.3
25	14.0
30	16.7

Maximum Allowable Travel Specifications

MLC650

Boom No. B40:680-681-682
with 7,6 m (24.9 ft) Extended Upper Boom Point

Table 2a - Without Boom Angle Adjustment: SERIES 1

MACHINE TRAVEL WITHOUT LOAD							
Boom Length		Boom Angle Range in Degrees					
		Percent Grade					
Meters	Feet	5%	10%	15%	20%	25%	30%
BOOM FACING DOWNHILL							
44,0	144.4	42 - 75	44 - 75	47 - 75	50 - 75	50 - 75	52 - 75
50,0	164.0	40 - 75	42 - 75	44 - 75	47 - 75	50 - 75	52 - 75
56,0	183.7	41 - 75	44 - 75	44 - 75	47 - 75	50 - 75	52 - 75
62,0	203.4	41 - 75	43 - 75	45 - 75	47 - 75	51 - 75	62 - 75
68,0	223.1	41 - 75	45 - 75	50 - 75	55 - 75	60 - 75	74 - 75
74,0	242.8	46 - 75	51 - 75	55 - 75	60 - 75	66 - 75	—
77,0	252.6	50 - 75	55 - 75	60 - 75	64 - 75	72 - 75	—
80,0	262.5	53 - 75	57 - 75	62 - 75	66 - 75	—	—
83,0	272.3	54 - 75	59 - 75	63 - 75	67 - 75	—	—
86,0	282.2	57 - 75	60 - 75	65 - 75	69 - 75	—	—
89,0	292.0	59 - 75	64 - 75	68 - 75	72 - 75	—	—

Table 2b - Without Boom Angle Adjustment: SERIES 1

MACHINE TRAVEL WITHOUT LOAD							
Boom Length		Boom Angle Range in Degrees					
		Percent Grade					
Meters	Feet	5%	10%	15%	20%	25%	30%
BOOM FACING UPHILL							
44,0	144.4	40 - 72	40 - 69	40 - 66	40 - 63	—	—
50,0	164.0	40 - 72	40 - 69	40 - 66	40 - 55	—	—
56,0	183.7	40 - 72	40 - 69	40 - 66	40 - 42	—	—
62,0	203.4	40 - 72	40 - 69	40 - 66	40 - 48	40 - 42	—
68,0	223.1	40 - 72	40 - 69	40 - 66	40 - 53	40 - 49	40 - 46
74,0	242.8	41 - 72	41 - 69	41 - 62	41 - 57	41 - 53	41 - 48
77,0	252.6	45 - 72	45 - 69	45 - 63	45 - 58	45 - 54	45 - 50
80,0	262.5	47 - 72	47 - 69	47 - 64	47 - 59	47 - 56	47 - 52
83,0	272.3	51 - 72	51 - 69	51 - 65	51 - 61	51 - 57	51 - 53
86,0	282.2	52 - 72	52 - 69	52 - 66	52 - 62	52 - 58	52 - 55
89,0	292.0	55 - 72	55 - 69	55 - 66	55 - 63	55 - 59	55 - 56

Maximum Allowable Travel Specifications

MLC650

Boom No. B40:680-681-682
with 7,6 m (24.9 ft) Extended Upper Boom Point

Table 3a - <u>Without</u> Boom Angle Adjustment: SERIES 2

MACHINE TRAVEL WITHOUT LOAD							
Boom Length		Boom Angle Range in Degrees					
		Percent Grade					
Meters	Feet	5%	10%	15%	20%	25%	30%
BOOM FACING DOWNHILL							
44,0	144.4	42 - 75	44 - 75	47 - 75	50 - 75	50 - 75	52 - 75
50,0	164.0	40 - 75	42 - 75	44 - 75	47 - 75	50 - 75	52 - 75
56,0	183.7	41 - 75	44 - 75	44 - 75	47 - 75	50 - 75	52 - 75
62,0	203.4	41 - 75	43 - 75	45 - 75	47 - 75	50 - 75	52 - 75
68,0	223.1	41 - 75	43 - 75	45 - 75	47 - 75	50 - 75	53 - 75
74,0	242.8	40 - 75	41 - 75	43 - 75	47 - 75	50 - 75	67 - 75
77,0	252.6	40 - 75	42 - 75	45 - 75	48 - 75	54 - 75	74 - 75
80,0	262.5	40 - 75	41 - 75	44 - 75	49 - 75	60 - 75	—
83,0	272.3	40 - 75	44 - 75	46 - 75	52 - 75	62 - 75	—
86,0	282.2	40 - 75	44 - 75	50 - 75	55 - 75	67 - 75	—
89,0	292.0	45 - 75	50 - 75	54 - 75	59 - 75	72 - 75	—
92,0	301.8	48 - 75	52 - 75	57 - 75	61 - 75	—	—
95,0	311.7	49 - 75	54 - 75	58 - 75	63 - 75	—	—
98,0	321.5	52 - 75	56 - 75	60 - 75	65 - 75	—	—
101,0	331.4	52 - 75	57 - 75	61 - 75	66 - 75	—	—
104,0	341.2	55 - 75	59 - 75	63 - 75	68 - 75	—	—
107,0	351.0	56 - 75	60 - 75	65 - 75	70 - 75	—	—
110,0	360.9	58 - 75	62 - 75	66 - 75	73 - 75	—	—

Maximum Allowable Travel Specifications

MLC650

Boom No. B40:680-681-682
with 7,6 m (24.9 ft) Extended Upper Boom Point

Table 3b - <u>Without</u> Boom Angle Adjustment: SERIES 2

MACHINE TRAVEL WITHOUT LOAD							
Boom Length		Boom Angle Range in Degrees					
		Percent Grade					
Meters	Feet	5%	10%	15%	20%	25%	30%
BOOM FACING UPHILL							
44,0	144.4	40 - 72	40 - 69	40 - 66	—	—	—
50,0	164.0	40 - 72	40 - 69	40 - 66	—	—	—
56,0	183.7	40 - 72	40 - 69	40 - 66	—	—	—
62,0	203.4	40 - 72	40 - 69	40 - 66	—	—	—
68,0	223.1	40 - 72	40 - 69	40 - 66	—	—	—
74,0	242.8	40 - 72	40 - 69	40 - 61	—	—	—
77,0	252.6	40 - 72	40 - 69	40 - 55	40 - 43	—	—
80,0	262.5	40 - 72	40 - 69	40 - 50	40 - 45	—	—
83,0	272.3	40 - 72	40 - 69	40 - 52	40 - 47	40 - 42	—
86,0	282.2	40 - 72	40 - 69	40 - 55	40 - 50	40 - 45	—
89,0	292.0	40 - 72	40 - 69	40 - 57	40 - 52	40 - 48	40 - 44
92,0	301.8	43 - 72	43 - 69	43 - 58	43 - 54	43 - 49	43 - 45
95,0	311.7	45 - 72	45 - 69	45 - 59	45 - 55	45 - 51	45 - 46
98,0	321.5	47 - 72	47 - 69	47 - 60	47 - 55	47 - 56	47 - 48
101,0	331.4	49 - 72	49 - 69	49 - 61	49 - 57	49 - 52	—
104,0	341.2	51 - 72	51 - 69	51 - 62	51 - 58	51 - 54	—
107,0	351.0	53 - 72	53 - 69	53 - 63	53 - 59	53 - 54	—
110,0	360.9	55 - 72	55 - 69	55 - 64	55 - 60	55 - 56	—

Maximum Allowable Travel Specifications

MLC650

Boom No. B40:680-681-682
with 7,6 m (24.9 ft) Extended Upper Boom Point

Table 4a - With Boom Angle Adjustment: SERIES 1

MACHINE TRAVEL WITHOUT LOAD					
Boom Length		Boom Angle Range in Degrees			
		Percent Grade			
Meters	Feet	5%	10%	15%	20%
BOOM FACING DOWNHILL					
44,0	144.4	40 - 76	40 - 73	40 - 70	40 - 67
50,0	164.0	40 - 78	40 - 76	40 - 73	40 - 70
56,0	183.7	40 - 82	40 - 79	40 - 76	42 - 73
62,0	203.4	40 - 82	43 - 79	45 - 76	47 - 73
68,0	223.1	47 - 81	49 - 78	50 - 75	53 - 73
74,0	242.8	50 - 82	53 - 79	54 - 76	56 - 73
77,0	252.6	53 - 81	54 - 78	56 - 76	58 - 73
80,0	262.5	55 - 81	56 - 79	57 - 76	59 - 73
83,0	272.3	56 - 82	57 - 79	59 - 76	60 - 73
86,0	282.2	57 - 81	59 - 79	60 - 76	61 - 73
89,0	292.0	59 - 82	61 - 79	62 - 76	63 - 73

Table 4b - With Boom Angle Adjustment: SERIES 1

MACHINE TRAVEL WITHOUT LOAD					
Boom Length		Boom Angle Range in Degrees			
		Percent Grade			
Meters	Feet	5%	10%	15%	20%
BOOM FACING UPHILL					
44,0	144.4	43 - 79	46 - 79	49 - 79	51 - 79
50,0	164.0	43 - 81	46 - 81	49 - 81	51 - 78
56,0	183.7	43 - 85	46 - 84	49 - 81	51 - 79
62,0	203.4	43 - 85	46 - 83	49 - 81	51 - 78
68,0	223.1	45 - 84	46 - 83	49 - 80	51 - 79
74,0	242.8	49 - 84	49 - 82	49 - 80	51 - 79
77,0	252.6	52 - 84	52 - 82	52 - 81	52 - 79
80,0	262.5	54 - 84	54 - 82	54 - 81	54 - 79
83,0	272.3	55 - 84	55 - 82	55 - 81	55 - 80
86,0	282.2	57 - 84	57 - 82	57 - 81	57 - 80
89,0	292.0	58 - 84	58 - 83	58 - 82	58 - 81

Maximum Allowable Travel Specifications

MLC650

Boom No. B40:680-681-682
with 7,6 m (24.9 ft) Extended Upper Boom Point

Table 5a - <u>With</u> Boom Angle Adjustment: SERIES 2

MACHINE TRAVEL WITHOUT LOAD					
Boom Length		Boom Angle Range in Degrees			
		Percent Grade			
Meters	Feet	5%	10%	15%	20%
BOOM FACING DOWNHILL					
44,0	144.4	40 - 76	40 - 73	40 - 70	40 - 67
50,0	164.0	40 - 78	40 - 76	40 - 73	40 - 70
56,0	183.7	40 - 82	40 - 79	40 - 76	40 - 73
62,0	203.4	40 - 82	40 - 79	40 - 76	40 - 73
68,0	223.1	40 - 81	40 - 78	40 - 75	43 - 73
74,0	242.8	40 - 82	42 - 79	45 - 76	47 - 73
77,0	252.6	42 - 81	45 - 78	46 - 76	50 - 73
80,0	262.5	44 - 81	47 - 79	49 - 76	51 - 73
83,0	272.3	46 - 82	48 - 79	50 - 76	52 - 73
86,0	282.2	48 - 81	50 - 79	51 - 76	54 - 73
89,0	292.0	50 - 82	52 - 79	54 - 76	55 - 73
92,0	301.8	52 - 81	53 - 78	55 - 76	57 - 73
95,0	311.7	53 - 81	54 - 79	56 - 76	57 - 73
98,0	321.5	54 - 82	56 - 79	57 - 76	59 - 73
101,0	331.4	55 - 81	56 - 79	58 - 76	59 - 73
104,0	341.2	56 - 82	58 - 79	59 - 76	61 - 73
107,0	351.0	58 - 82	59 - 79	60 - 76	61 - 73
110,0	360.9	59 - 81	60 - 79	61 - 76	63 - 73

Maximum Allowable Travel Specifications

MLC650

Boom No. B40:680-681-682
with 7,6 m (24.9 ft) Extended Upper Boom Point

Table 5b - With Boom Angle Adjustment: SERIES 2

MACHINE TRAVEL WITHOUT LOAD					
Boom Length		Boom Angle Range in Degrees			
		Percent Grade			
Meters	Feet	5%	10%	15%	20%
BOOM FACING UPHILL					
44,0	144.4	43 - 79	46 - 79	49 - 74	51 - 69
50,0	164.0	43 - 81	46 - 80	49 - 76	51 - 71
56,0	183.7	43 - 84	46 - 81	49 - 77	51 - 73
62,0	203.4	43 - 84	46 - 80	49 - 77	51 - 74
68,0	223.1	43 - 83	46 - 80	49 - 77	51 - 75
74,0	242.8	43 - 82	46 - 79	49 - 77	51 - 75
77,0	252.6	43 - 82	46 - 79	49 - 77	51 - 75
80,0	262.5	43 - 81	46 - 79	49 - 77	51 - 75
83,0	272.3	44 - 81	46 - 79	49 - 77	51 - 75
86,0	282.2	47 - 81	47 - 79	49 - 77	51 - 75
89,0	292.0	48 - 81	48 - 79	49 - 77	51 - 75
92,0	301.8	50 - 81	50 - 79	50 - 77	51 - 76
95,0	311.7	51 - 81	51 - 80	51 - 78	51 - 76
98,0	321.5	53 - 81	53 - 79	53 - 78	53 - 77
101,0	331.4	54 - 81	54 - 80	54 - 78	54 - 76
104,0	341.2	55 - 81	55 - 80	55 - 78	55 - 77
107,0	351.0	56 - 81	56 - 80	56 - 78	57 - 77
110,0	360.9	58 - 81	58 - 80	58 - 79	59 - 78