Wind Conditions

Luffing Jib No. LJ11:500-501 on
Boom No. B65:505-500
with Mast No. M11:503

MLC300
VPC-MAX

General Information

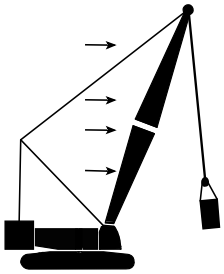
A. Judgment and experience of qualified operators, job planners, and supervisors must be used to compensate for affect of wind on lifted load, boom, and luffing jib by reducing ratings, reducing operating speeds, or a combination of both. Failing to observe this precaution can cause crane to tip or boom and luffing jib to collapse. Death or serious injury to personnel can result.

B. Wind speed (to include wind gusts) must be monitored by job planners and supervisors. *Be aware that wind speed at luffing jib point can be greater than wind speed at ground level. Also be aware that the larger the sail area of the load, the greater the wind's affect on the load.*

C. Wind adversely affects lifting capacity and stability as shown below. The result could be loss of control over the load and crane, even if the load is within the crane's capacity.

D. As a general rule, ratings and operating speeds must be reduced when: ***Wind causes load to swing forward past allowable operating radius or sideways past either boom hinge pin.***

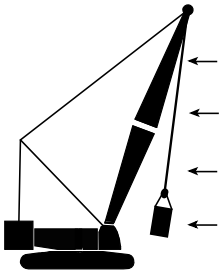
How Wind Affects a Crane



Forward stability is affected by wind on the rear of the boom and luffing jib. Wind applies a force to the boom, luffing jib, and load that adds to the crane's overturning moment. This action has the same effect as adding load to the hook.

The wind's affect on the rear of the load increases load radius. This condition can result in an overload hazard, possibly causing the crane to tip or the boom and luffing jib to collapse.

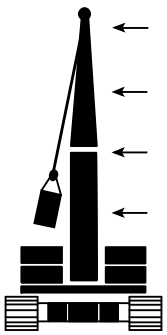
To avoid this hazard, reduce operating speeds and load (see appropriate table for maximum wind speed).



Backward stability is affected by wind on the front of the boom and luffing jib. This condition is especially dangerous when the boom and/or luffing jib is at or near the maximum angle when operating without load.

Wind forces on the front of the boom and luffing jib reduce the normal forward tipping effect of the boom and luffing jib. The crane can tip or the boom and luffing jib can collapse if this condition is not avoided.

The boom or luffing jib can buckle and collapse if the load contacts the boom or luffing jib.



Boom and luffing jib strength is affected the most when the wind acts on the side of the boom and luffing jib.

The wind's affect on the side of the load can cause the load to swing out past the boom hinge pin. This condition can result in excessive side load forces on the boom and luffing jib, possibly causing the crane to tip or the boom and luffing jib to collapse.

To avoid this hazard, reduce operating speeds and load (see appropriate table for maximum wind speed).

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In Service

Operation is permitted in steady winds or gusts up to the maximum wind speed given in the ***In Service*** portion of Tables 1 thru 6, provided the lifted load does not exceed capacity chart percentage.

Wind speed to be measured at luffing jib point elevation.

Refer to luffing jib capacity chart for specific backward stability conditions.

Out of Service

Operation is not permitted and ***Out of Service Conditions*** must be followed when wind speed exceeds maximum value listed in the ***In Service*** portion of Tables 1 thru 6 for given configuration.

Out of Service Conditions

Parking Position - Park crane (upper in-line with crawlers) with load blocks and weight ball on ground or secured and position boom at 83° and luffing jib at 55°.

Jack-Knifed Position - Lower boom and luffing jib until jib point is on ground and jib straps are slack following Luffing Jib Raising Procedure.

Ground Position - Lower boom and luffing jib onto blocking at ground level.

Mast

- **Above 22 m/s (50 mph) -**
  Haul in boom hoist wire rope just enough to tension mast straps. Do not raise boom off blocking. ***Wind can cause mast stops to collapse if this step is not performed.***
- **Above 34 m/s (75 mph) -**
  Lower mast onto blocking at ground level.

Wind Conditions

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Table 1

Boom Length m (ft)	54,0 (177.2)									
Jib Length m (ft)	24,0 (78.7)	30,0 (98.4)	36,0 (118.1)	42,0 (137.8)	48,0 (157.5)	54,0 (177.2)	60,0 (196.9)	66,0 (216.5)	72,0 (236.2)	78,0 (255.9)
Percent of Capacity Chart	**Maximum Permitted In Service Wind Speeds** m/s (mph)									
100	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)
90	11 (25)	11 (25)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)
80	14 (30)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)
70	14 (30)	14 (30)	14 (30)	14 (30)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)
60	16 (35)	16 (35)	14 (30)	14 (30)	14 (30)	14 (30)	11 (25)	11 (25)	11 (25)	11 (25)
Condition	**Maximum Permitted Out of Service Wind Speeds** m/s (mph)									
Parking Position	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	20 (45)	20 (45)	18 (40)	18 (40)
Jack-Knifed Position	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)
Ground Position	When maximum Parking Position wind speed is exceeded									

Wind Conditions

Luffing Jib No. LJ11:500-501 on Boom No. B65:505-500 with Mast No. M11:503

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Table 2

Boom Length m (ft)	60,0 (196.9)									
Jib Length m (ft)	24,0 (78.7)	30,0 (98.4)	36,0 (118.1)	42,0 (137.8)	48,0 (157.5)	54,0 (177.2)	60,0 (196.9)	66,0 (216.5)	72,0 (236.2)	78,0 (255.9)
Percent of Capacity Chart	**Maximum Permitted In Service Wind Speeds** m/s (mph)									
100	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	7 (15)	7 (15)
90	11 (25)	11 (25)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)
80	14 (30)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)
70	14 (30)	14 (30)	14 (30)	14 (30)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)
60	16 (35)	16 (35)	14 (30)	14 (30)	14 (30)	14 (30)	11 (25)	11 (25)	11 (25)	11 (25)
Condition	**Maximum Permitted Out of Service Wind Speeds** m/s (mph)									
Parking Position	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	20 (45)	20 (45)	18 (40)	18 (40)	18 (40)
Jack-Knifed Position	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)
Ground Position	When maximum Parking Position wind speed is exceeded									

Wind Conditions

Luffing Jib No. LJ11:500-501 on Boom No. B65:505-500 with Mast No. M11:503

Manitowoc®
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Table 3

Boom Length m (ft)	66,0 (216.5)										
Jib Length m (ft)	24,0 (78.7)	30,0 (98.4)	36,0 (118.1)	42,0 (137.8)	48,0 (157.5)	54,0 (177.2)	60,0 (196.9)	66,0 (216.5)	72,0 (236.2)	78,0 (255.9)	84,0 (275.6)
Percent of Capacity Chart	**Maximum Permitted In Service Wind Speeds** m/s (mph)										
100	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	7 (15)	7 (15)	7 (15)	7 (15)	7 (15)
90	11 (25)	11 (25)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)
80	14 (30)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)
70	14 (30)	14 (30)	14 (30)	14 (30)	11 (25)	11 (25)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)
60	16 (35)	16 (35)	14 (30)	14 (30)	14 (30)	14 (30)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)
Condition	**Maximum Permitted Out of Service Wind Speeds** m/s (mph)										
Parking Position	22 (50)	22 (50)	22 (50)	20 (45)	20 (45)	20 (45)	18 (40)	18 (40)	18 (40)	18 (40)	16 (35)
Jack-Knifed Position	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)
Ground Position	When maximum Parking Position wind speed is exceeded										

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Luffing Jib No. LJ11:500-501 on Boom No. B65:505-500 with Mast No. M11:503

Manitowoc®
MLC300 VPC-MAX

Table 4

Boom Length m (ft)	72,0 (236.2)										
Jib Length m (ft)	24,0 (78.7)	30,0 (98.4)	36,0 (118.1)	42,0 (137.8)	48,0 (157.5)	54,0 (177.2)	60,0 (196.9)	66,0 (216.5)	72,0 (236.2)	78,0 (255.9)	84,0 (275.6)
Percent of Capacity Chart	**Maximum Permitted In Service Wind Speeds** m/s (mph)										
100	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)	7 (15)	7 (15)	7 (15)	7 (15)	7 (15)
90	11 (25)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)	7 (15)	7 (15)	7 (15)	7 (15)
80	14 (30)	11 (25)	11 (25)	11 (25)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)
70	14 (30)	14 (30)	14 (30)	14 (30)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)
60	16 (35)	16 (35)	14 (30)	14 (30)	14 (30)	14 (30)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)
Condition	**Maximum Permitted Out of Service Wind Speeds** m/s (mph)										
Parking Position	22 (50)	22 (50)	20 (45)	20 (45)	18 (40)	18 (40)	18 (40)	18 (40)	18 (40)	18 (40)	16 (35)
Jack-Knifed Position	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)
Ground Position	When maximum Parking Position wind speed is exceeded										

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Luffing Jib No. LJ11:500-501 on Boom No. B65:505-500 with Mast No. M11:503

Manitowoc®
MLC300 VPC-MAX

Table 5

Boom Length m (ft)	78,0 (255.9)										
Jib Length m (ft)	24,0 (78.7)	30,0 (98.4)	36,0 (118.1)	42,0 (137.8)	48,0 (157.5)	54,0 (177.2)	60,0 (196.9)	66,0 (216.5)	72,0 (236.2)	78,0 (255.9)	84,0 (275.6)
Percent of Capacity Chart	**Maximum Permitted In Service Wind Speeds** m/s (mph)										
100	9 (20)	9 (20)	9 (20)	9 (20)	7 (15)	7 (15)	7 (15)	7 (15)	7 (15)	7 (15)	7 (15)
90	11 (25)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	7 (15)	7 (15)	7 (15)	7 (15)	7 (15)
80	14 (30)	11 (25)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)	7 (15)	7 (15)	7 (15)
70	14 (30)	14 (30)	14 (30)	14 (30)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)
60	16 (35)	16 (35)	14 (30)	14 (30)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)
Condition	**Maximum Permitted Out of Service Wind Speeds** m/s (mph)										
Parking Position	22 (50)	20 (45)	20 (45)	18 (40)	18 (40)	18 (40)	18 (40)	18 (40)	18 (40)	18 (40)	16 (35)
Jack-Knifed Position	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)
Ground Position	When maximum Parking Position wind speed is exceeded										

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Luffing Jib No. LJ11:500-501 on Boom No. B65:505-500 with Mast No. M11:503

Table 6

Boom Length m (ft)	84,0 (275.6)										
Jib Length m (ft)	24,0 (78.7)	30,0 (98.4)	36,0 (118.1)	42,0 (137.8)	48,0 (157.5)	54,0 (177.2)	60,0 (196.9)	66,0 (216.5)	72,0 (236.2)	78,0 (255.9)	84,0 (275.6)
Percent of Capacity Chart	**Maximum Permitted In Service Wind Speeds** m/s (mph)										
100	9 (20)	9 (20)	9 (20)	9 (20)	7 (15)	7 (15)	7 (15)	7 (15)	7 (15)	7 (15)	7 (15)
90	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)	7 (15)	7 (15)	7 (15)	7 (15)	7 (15)
80	14 (30)	11 (25)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	7 (15)	7 (15)	7 (15)	7 (15)
70	14 (30)	14 (30)	14 (30)	11 (25)	11 (25)	11 (25)	9 (20)	9 (20)	7 (15)	7 (15)	7 (15)
60	16 (35)	16 (35)	14 (30)	14 (30)	11 (25)	11 (25)	9 (20)	9 (20)	9 (20)	9 (20)	9 (20)
Condition	**Maximum Permitted Out of Service Wind Speeds** m/s (mph)										
Parking Position	20 (45)	20 (45)	20 (45)	18 (40)	18 (40)	18 (40)	18 (40)	18 (40)	18 (40)	16 (35)	16 (35)
Jack-Knifed Position	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)	22 (50)
Ground Position	When maximum Parking Position wind speed is exceeded										