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## WIND CONDITIONS

### MODEL 222

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### General

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

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#### WARNING



**TIPPING CRANE HAZARD!** Judgment and experience of qualified operators, job planners, and supervisors must be used to compensate for affect of wind on lifted load and boom by reducing ratings, reducing operating speeds, or a combination of both.

Failing to observe this precaution can cause crane to tip or boom and/or jib to collapse. Death or serious injury to personnel can result.

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Wind speed (to include wind gusts) must be monitored by job planners and supervisors.

*Beware that wind speed at the boom or jib point can be greater than wind speed at ground level. Also beware that the larger the sail area of the load, the greater the wind's affect on the load.*

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.**

## Manitowoc Recommendations

### Operation Permitted

Operation is permitted in steady winds or wind gusts up to 35 mph (16 m/s). However, ratings must be reduced the amount given in the following tables for the corresponding attachment.

**Table 1**

**Rating Reductions for Various Wind Speeds and Wind Gusts  
WHEN EQUIPPED WITH BOOM ONLY**

Boom Length ft (m)		40–120 (12.2–36.6)	130–200 (39.6–61.0)
Maximum Wind Speed		Percent Rating Reduction	
mph	m/s		
15	7	0	0
20	9	0	10
25	11	0	20
30	13	10	30
35	16	10	
Above 35 mph (16 m/s)		<b>OPERATION NOT PERMITTED</b>	

For operation in winds above 30 mph (13 m/s) with boom positioned above 75°, load block must weigh at least 1,500 lb (680 kg). *Boom may be blown over backwards if this precaution is not observed.*

**Table 2**

**Rating Reductions for Various Wind Speeds and Wind Gusts  
WHEN EQUIPPED WITH BOOM AND FIXED JIB**

Boom Length ft (m)		70–140 (21.3–42.7)		150–190 (45.7–57.9)	
Fixed Jib Length ft (m)		30–40 (9.1–12.2)	50–60 (15.2–18.3)	30–40 (9.1–12.2)	50–60 (15.2–18.3)
Maximum Wind Speed		Percent Rating Reduction			
mph	m/s				
11	5	0	0	0	0
15	7	0	20	20	30
20	9	0	20	30	40
25	11	0	20	50	60
30	13	0	30	50	
35	16	0	40		
Above 35 mph (16 m/s)		<b>OPERATION NOT PERMITTED</b>			

**Table 3**  
**Rating Reductions for Various Wind Speeds and Wind Gusts**  
 WHEN EQUIPPED WITH BOOM AND LUFFING JIB

Luffing Jib Length ft (m)		50–80 (15.2–24.4)			90–100 (27.4–30.5)			110–150 (33.5–45.7)		
Boom Length ft (m)		55–85 (16.8–25.9)	95–115 (29.0–35.1)	125–135 (38.1–44.2)	55–85 (16.8–25.9)	95–115 (29.0–35.1)	125–135 (38.1–44.2)	55–85 (16.8–25.9)	95–115 (29.0–35.1)	125 (38.1–44.2)
Maximum Wind Speed		Percent Rating Reduction								
mph	m/s									
15	7	0	0	0	0	0	0	0	0	0
20	9	0	0	0	0	10	20			
25	11	10	20	30	50	60				
30	13	50	60							
Above 30 mph (13 m/s)		OPERATION NOT PERMITTED								

For operation in winds above 15 mph (7 m/s) with luffing jib positioned above 60°, *luffing jib stops will be in tension and luffing jib may be blown over backwards.*

**Table 4**  
**Rating Reductions for Various Wind Speeds and Wind Gusts**  
 WHEN EQUIPPED WITH BOOM, LUFFING JIB, AND FIXED JIB

Total Combination ft (m)		245–255 (74.7–77.7)	265–285 (80.8–86.9)	295–315 (90.0–96.0)
Maximum Wind Speed		Percent Rating Reduction		
mph	m/s			
11	5	0	0	0
15	7	0	40	
20	9	60		
Above 20 mph (9 m/s)		OPERATION NOT PERMITTED		

## Operation Not Permitted

### Boom Only

- Up to 50 mph (22 m/s) —  
Park crane (upper in line with crawlers) and position boom at 70°.
- 50 mph (22 m/s) and Above —  
Lower boom onto blocking at ground level.

### Boom with Fixed Jib

- Up to 50 mph (22 m/s) —  
Park crane (upper in line with crawlers) and position boom at 60°.
- 50 mph (22 m/s) and Above —  
Lower boom and jib onto blocking at ground level.

### Boom with 50'-80' (15.2-24.4 m) Luffing Jib

- Up to 50 mph (22 m/s) —  
Park crane (upper in line with crawlers) and position boom at 80° and luffing jib at 55°.
- 50 mph (22 m/s) and above —  
Lower boom and jib onto blocking at ground level.

### Boom with 90'-100' (27.4-30.5 m) Luffing Jib

- Up to 40 mph (18 m/s) —  
Park crane (upper in line with crawlers) and position boom at 80° and luffing jib at 55°.
- 40 mph (18 m/s) and above —  
Lower boom and jib onto blocking at ground level.

### Boom with 110'-150' (33.5-45.7 m) Luffing Jib

- Up to 30 mph (13 m/s) —  
Park crane (upper in line with crawlers) and position boom at 80° and luffing jib at 55°.
- 30 mph (13 m/s) and above —  
Lower boom and jib onto blocking at ground level.

### Boom with Luffing Jib and Fixed Jib

- Up to 25 mph (11 m/s) —  
Park crane (upper in line with crawlers) and position boom at 88° and luffing jib at 70°.
- 25 mph (11 m/s) and above —  
Lower boom and jibs onto blocking at ground level.