WIND CONDITIONS

Model 888 RINGER® Attachment

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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.

GENERAL

Wind adversely affects lifting capacity and stability as shown in Figure 1. The result could be loss of control over the load and crane, even if the load is within the crane's capacity.

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.

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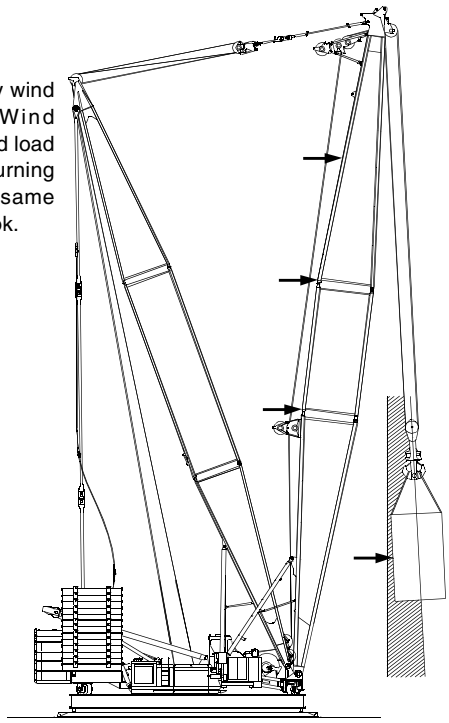
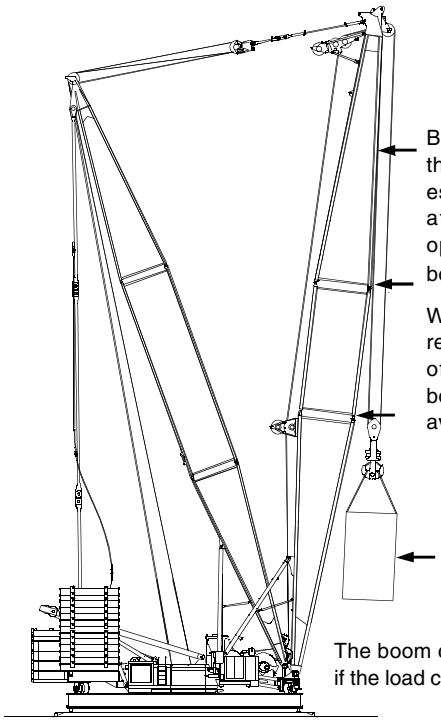
Forward stability is affected by wind on the rear of the boom. Wind applies a force to the boom and load that adds to the crane's overturning moment. This action has the same effect as adding load to the hook.



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 to collapse.

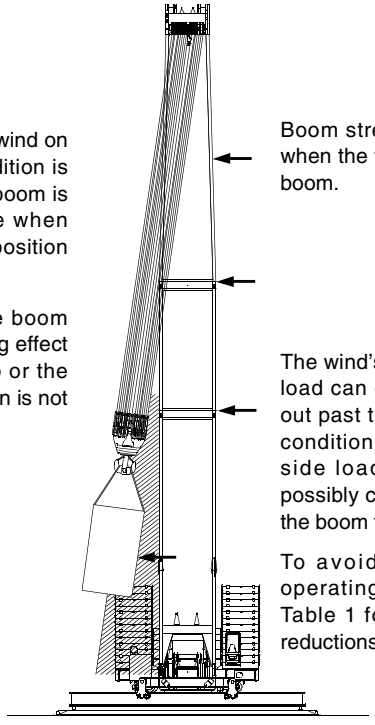
To avoid this hazard, reduce operating speeds and load (see tables for recommended rating reductions).



Backward stability is affected by wind on the front of the boom. This condition is especially dangerous when the boom is at or near the maximum angle when operating without load. Do not position boom higher than 70°.

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

The boom can buckle and collapse if the load contacts the boom.



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

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, possibly causing the crane to tip or the boom to collapse.

To avoid this hazard, reduce operating speeds and load (see Table 1 for recommended rating reductions).

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FIGURE 1

RATING REDUCTIONS/OPERATION NOT PERMITTED

#67B Boom Only

Operation Permitted

Operation is permitted in steady winds or wind gusts up to the maximum speed given in Table 1, provided ratings are reduced the specified amount.

Table 1
Rating Reductions for Various Wind Speeds and Wind Gusts

Boom Length – ft (m)		125-275 (38.1-83.8)	300-425 (91.4-129.5)
Maximum Wind Speed		**Percent Rating Reduction**	
mph	m/s		
15	7	0	0
20	9	0	0
25	11	0	10
30	13	0	20
35	16	10	30
Above 35 mph (16 m/s)		**OPERATION NOT PERMITTED**	

Wind speed to be measure at or above boom point elevation.

Operation Not Permitted

Operation is not permitted in the areas indicated in Table 1. Observe the following options:

Boom

- ***35 mph (16 m/s)*** —

  Park crane with load blocks and weight balls on ground or secured and position boom no higher than 70°.

- ***50 mph (22 m/s) and above*** —

  Lower boom onto blocking at ground level.

Mast

- ***50 mph (22 m/s) and above*** —

  Haul in boom hoist wire rope only enough to tension mast straps. Do not raise boom off blocking. *Wind against front of mast can cause mast and mast stop tubes to collapse if this step is not performed.*

- ***Above 75 mph (34 m/s)*** —

  Lower mast onto blocking at ground level. *Boom must be removed to allow mast to be fully lowered onto blocking.*

#49A-44 Luffing Jib on #67B Boom

Operation Permitted

Operation is permitted in steady winds or wind gusts up to the maximum speed given in Table 2, provided ratings are reduced the specified amount.

Table 2
Rating Reductions for Various Wind Speeds and Wind Gusts

Luffing Jib Length ft (m)		100-160 (30.5-48.8)			180-240 (54.9-73.2)			260-320 (79.2-97.5)		
Boom Length ft (m)		125-175 (38.1-53.3)	200-250 (61.0-76.2)	275-325 (83.8-99.1)	125-175 (38.1-53.3)	200-250 (61.0-76.2)	275-325 (83.8-99.1)	125-175 (38.1-53.3)	200-250 (61.0-76.2)	275-325 (83.8-99.1)
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	0	30	0	10	
25	11	0	0	0	0	30		60		
30	13	0	0	20	40					
35	16	0	10							
Above 35 mph (16 m/s)		**OPERATION NOT PERMITTED**								

Wind speed to be measure at or above boom point elevation.

For #49A-44 luffing jib on #67B boom in steady winds or gusts above 15 mph (7 m/s) at front of boom, do not operate jib higher than 60° with loads less than 38,000 lb (17 237 kg). Boom and jib could be blown over backwards if this precaution is not observed. Refer to luffing jib capacity chart for specific backward stability conditions.

Operation Not Permitted

Operation is not permitted in the areas indicated in Table 2. Observe the following options:

Boom 100-160 ft (30.5-48.8 m) Jib Length

- ***Up to 50 mph (22 m/s) —***

  Park crane with load blocks and weight balls on ground or secured and position boom at 75° and luffing jib at 45°.

- ***50 mph (22 m/s) and Above —***

  Lower boom and luffing jib onto blocking at ground level.

Boom 180-240 ft (54.9-73.2 m) Jib Length

- ***Up to 40 mph (18 m/s) —***

  Park crane with load blocks and weight balls on ground or secured and position boom at 75° and luffing jib at 60°.

- ***40 mph (18 m/s) and Above —***

  Lower boom and luffing jib onto blocking at ground level.

Boom with 260-280 ft (79.2-85.3 m) Jib Length

- ***Up to 35 mph (16 m/s) —***

  Park crane with load blocks and weight balls on ground or secured and position boom at 75° and luffing jib at 60°.

- ***35 mph (16 m/s) and Above —***

  Lower boom and luffing jib onto blocking at ground level.

Boom with 300-320 ft (91.4-97.5 m) Jib Length

- ***Up to 30 mph (13 m/s) —***

  Park crane with load blocks and weight balls on ground or secured and position boom at 75° and luffing jib at 60°.

- ***30 mph (13 m/s) and Above —***

  Lower boom and luffing jib onto blocking at ground level.

Mast

- ***50 mph (22 m/s) and above —***

  Haul in boom hoist wire rope only enough to tension mast straps. Do not raise boom off blocking. *Wind against front of mast can cause mast and mast stop tubes to collapse if this step is not performed.*

- ***Above 75 mph (34 m/s) —***

  Lower mast onto blocking at ground level. *Boom and jib must be removed to allow mast to be fully lowered onto blocking.*

#22EL Fixed Jib on #67B Boom

Operation Permitted

Operation is permitted in steady winds or wind gusts up to the maximum speed given in Table 3, provided ratings are reduced the specified amount.

Table 3
Rating Reductions for Various Wind Speeds and Wind Gusts

Luffing Jib Length ft (m)		70-160 (21.3-48.8)			180-240 (54.9-73.2)			260-300 (79.2-91.4)		
Boom Length ft (m)		125-175 (38.1-53.3)	200-275 (61.0-83.8)	300-375 (91.4-114.3)	125-175 (38.1-53.3)	200-275 (61.0-83.8)	300-350 (91.4-106.7)	125-175 (38.1-53.3)	200-275 (61.0-83.8)	300 (91.4)
Maximum Wind Speed		**Percent Rating Reduction**								
mph	m/s									
10	4	0	0	0	0	0	0	0	0	0
15	7	0	0	0	0	10	10	10	10	10
20	9	0	0	0	10	10	10	20	30	30
25	11	0	10	20	20	20	20	30	40	50
30	13	10	10	30	20	30	40	50	60	
35	16	10	20	50	30	40				
Above 35 mph (16 m/s)		**OPERATION NOT PERMITTED**								

Wind speed to be measure at or above boom point elevation.

For #22EL fixed jib on #67B boom in steady winds or gusts above 20 mph (9 m/s) at front of boom, do not operate jib higher than 60° with loads less than 40,000 lb (18 144 kg). Boom and jib could be blown over backwards if this precaution is not observed. Refer to fixed jib capacity chart for specific backward stability conditions.

Operation Not Permitted

Operation is not permitted in the areas indicated in Table 3. Observe the following options:

Boom

- ***Up to 50 mph (22 m/s) —***

  Park crane with load blocks and weight balls on ground or secured and position boom at 40°.

- ***50 mph (18 m/s) and Above —***

  Lower boom and luffing jib onto blocking at ground level.

Mast

- ***50 mph (22 m/s) and above —***

  Haul in boom hoist wire rope only enough to tension mast straps. Do not raise boom off blocking. *Wind against front of mast can cause mast and mast stop tubes to collapse if this step is not performed.*

- ***Above 75 mph (34 m/s) —***

  Lower mast onto blocking at ground level. *Boom and jib must be removed to allow mast to be fully lowered onto blocking.*