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## Report of the Week

Should a firefighter be allowed on a moving aerial?  
12/3/09

**Report Number:** 09-0000495

**Report Date:** 05/16/2009 08:39

### Synopsis

Firefighter's feet caught between aerial sections.

### Demographics

Department type: Volunteer

Job or rank: Fire Fighter

Department shift: Respond from home

Age: 16 - 24

Years of fire service experience: 4 - 6

Region: FEMA Region II

Service Area: Rural

### Event Information

Event type: Fire emergency event: structure fire, vehicle fire, wildland fire, etc.

Event date and time: 05/15/2009 10:36

Hours into the shift:

Event participation: Involved in the event

Weather at time of event: Clear and Dry

Do you think this will happen again?

What were the contributing factors?

- Decision Making
- Human Error
- Communication
- Fatigue
- Training Issue

What do you believe is the loss potential?

- Lost time injury

### Event Description

We received a call at approximately 1036 hours to respond with our Quint to a neighboring district for a reported structure fire. I had arrived home at 0830 hours after working the night shift and only had two hours of sleep. We arrived on scene at the fire and our neighboring department had already initiated an interior attack. The building on fire was a two and a half story wood frame balloon construction home. It was determined that the fire had advanced from the first floor to the attic. Our initial assignment was to set up our aerial ladder and initiate vertical ventilation.

Once on the roof, the captain and I initiated cutting but fire had leaked from our inspection "Kerf-Cut" and we had to abandon our assignment. A controlled evacuation was ordered by the incident commander for the interior crews. My captain descended the aerial ladder with the tools we brought up while I remained at the tip of the aerial to direct the master stream. After defensively

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knocking down the fire utilizing a master stream, the incident commander ordered the stream to be shut down and an interior attack to be reinitiated. The decision was made to switch out the nozzle on the aerial from an automatic fog nozzle to a set of smooth bore stacked tips. I was still locked into the ladder with a belt.

The firefighter operating the ladder on the turntable swung the ladder towards the roadway and lowered it towards the ground so someone on the ground could switch out the nozzles. At this point, the ladder was almost fully retracted at about a negative 8 degree angle. The nozzle was still six or seven feet off of the ground. Once the ladder was lowered to the lowest position, the firefighter on the ground shouted to the firefighter at the turntable to extend the ladder and further lower the nozzle. At this time, I was prone on the ladder (because the attic had fire rolling out of it) awaiting the nozzle switch.

The incident commander decided to switch back to a defensive attack. I did not hear the order to extend the ladder and my feet were between the ladder rungs of two different fly sections. When the ladder was extended, both of my feet were caught between the rungs. Once I felt the ladder move, I screamed but my feet were immediately caught. I pulled my toes back as far as I could inside of my boots. The steel toes of my boots were being pulled downward towards the soles of my boots. When I screamed, the firefighter at the turntable immediately stopped extending the ladder. I shouted to retract the ladder a few inches. After the firefighter at the turntable figured out what was going on, the ladder was retracted and I withdrew my feet without injury.

### **Lessons Learned**

The obvious solution to this would have been for me to descend the ladder before it was lowered. Another option would have been for the firefighter at the turntable to have just given me control of the ladder at the tip to extend it. The last option would have been for me, at the tip of the aerial, to notice that the communication to extend the ladder came from someone on the ground. This would have enabled me to communicate with the aerial operator prior to it being moved.

### **Discussion Questions**

The weight of an aerial ladder is measured in tons, so the force needed to move any ladder can exceed 100psi. When you combine the weight and the force while having an unforgiving piece of machinery that does what the operator pulling the handles tells it to; this creates the ladder sections, hydraulics, and cables to have no concern for flesh and bone. Therefore, operators and users alike must adhere to best practices to avoid injury. Once you have read the entire account of 09-495 and the related reports below, consider the following:

1. Does your department permit members to "ride" aerial ladders while they are in motion?
2. If the answer to #1 is yes, will you continue to allow the practice to take place at your level after reading this account?
3. If the answer to #2 is yes, what will preclude this incident from happening to you and/or your crew?
4. Identify at least 3 factors that contributed to this incident occurring.
5. What would you recommend to your chain of command as actions to prevent a reoccurrence if you were the officer investigating this incident?

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**Related Reports**

05-499

06-063

07-922

08-500

Note: The questions posed by the reviewers are designed to generate discussion and thought in the name of promoting firefighter safety. They are not intended to pass judgment on the actions and performance of individuals in the reports.