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## Report of the Week

The 35' Ladder Raise Gone Wrong.  
10/1/2009

**Report Number: 09-355**

Report Date: 04/04/2009 17:07

### Synopsis

FFs injured while raising 35' ladder.

### Demographics

Department type: Training Academy

Job or rank: Training Officer

Department shift: Straight days (8 hour)

Age: 43 - 51

Years of fire service experience: 27 - 30

Region: FEMA Region III

Service Area: Suburban

### Event Information

Event type: Training activities: formal training classes, in-station drills, multi-company drills, etc.

Event date and time: 04/04/2009 11:00

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?

- Individual Action
- Situational Awareness
- Training Issue
- Equipment

What do you believe is the loss potential?

- Property damage
- Lost time injury
- Life threatening injury
- Minor injury

### Event Description

While training new firefighters in the raising and extension of a 35'- 3-section ladder, there was a series of events that cause the ladder to fall causing minor injuries to two students.

During the raising, student "A" was hoisting the halyard when he pulled the halyard on more of an angle than straight down. At the same time, student "B", who was bracing the ladder, was not prepared for the torsional force created by this angular pulling. The ladder was extended approximately 30' so the slight imbalance at the base was multiplied at the tip and the center of gravity quickly shifted to a point where the ladder began to tip towards the building.

Students "B" and "C" were footing the ladder and were not able to control the fall. I as the instructor, attempted to assist them in a controlled fall of the ladder with minimal success. This was further complicated by the fact that student "A" let go of the halyard causing the ladder to retract in addition to falling. This caused the ladder to miss the overhang of the building that we were trying to reach and fall completely to the ground. During the collapse, student "B" and student "C" each received minor injuries that did not require transport.

### **Lessons Learned**

This reaffirmed my knowledge that larger ground ladders take a lot of training, practice, and situational awareness to safely raise. While many training manuals suggest that only 2 or 3 firefighters are needed for this evolution, it is most safely accomplished with 5. That would be 4 to form a stable base and one to extend the ladder.

### **Discussion Questions**

Ladder raising is a combination of strength and skill. The best way to achieve perfection is to practice raising the ladder multiple times under the watchful eye of an experienced instructor. During those early, first harrowing raise attempts, the instructor(s) assist with the effort until the rookies learn how to balance their weight and adjust their body position to balance the ladder. As proficiency is achieved, the instructor begins to move to a more observational style; and eventually the instructor only needs to provide minimal fine tuning as the ladder raising team achieves success. However, only the slightest change in a hand position, foot position, or angle can send the tip of the ladder into a different plane. Once you have read the entire account of 09-355 and the related reports, consider the following:

1. What are the benchmark(s) you use to establish when a group of firefighter trainees is ready to raise a ladder on their own?
2. How many firefighters does your department call for to raise a 35' ladder?
3. What resource does your department refer to for its basic firefighting skills manual?
4. When did you last throw a 35' ladder?
5. Would you characterize this near miss as avoidable or unavoidable? Explain your answer to your colleagues.

### **Related Reports**

05-507

06-262

07-1042

08-239

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.