



# APPARATUS "SKIING"

BY FRANK C. MONTAGNA

It is mid-January, and it is cold. It is not a good night for a run to the east side of town. The alarm is for a reported condominium fire at an address on Murphies Hill. You do not know why they named it Murphies Hill, but you do know it is the steepest hill in your district.

The four-story condominiums at that location each have a front balcony. Recently, your company, an aerial platform, had responded to several fires in these buildings; and as you carefully navigate the snow-covered streets, you pray that tonight won't be another. Your prayers are *not* answered.

## THE DILEMMA

Rounding the corner at the top of Murphies Hill, you can see flames blowing out

of the third-floor window of a building located halfway down the hill. Your unit is first in. Your officer transmits the signal for a working fire. The pumper is right behind you.

Concerned about the road conditions, you reduce your speed as you start down the hill. It is steep and slippery. You apply the brake in front of the fire building; but even at the reduced speed, the aerial platform apparatus slides a few feet past the point where you expected to stop. It doesn't cause a problem, though; you can still raise your platform and ladder the building.

Your officer and the rest of the truck firefighters go about their tasks as the engine company stretches a line from the hydrant behind you. After you set the stabilizers, you transfer hydraulic power to the boom—all the time watching the front of the building for trapped occupants. Just as you ascend to the pedestal, a frightened woman holding an infant appears on the fourth-floor balcony. The fire is venting out the windows below them; and each time the wind shifts in their direction, they are engulfed in hot, acrid smoke. You call for assistance on the portable radio; in response, the firefighter assigned to vent from the exterior returns to the apparatus and climbs up into the platform.

You raise, rotate, and extend the boom, bringing it toward the panicking woman. Each time you execute a move with the

boom, the entire apparatus lurches slightly forward. The apparatus is slipping on the snow and ice in the street. As the platform approaches the balcony, the firefighter in the platform takes control of it and brings it into position for the rescue. After rescuing the woman and her child, he quickly rotates the boom away from the building and out of harm's way. As he does this, the apparatus lurches forward and then continues to slowly inch down the hill. You can't believe it. You're sliding down the hill. What can you do to stop? Leaving the pedestal, you climb up into the cab and step on the brake. That doesn't help; the stabilizers have lifted the wheels from the ground. What can you do? You're starting to pick up speed.

Suddenly, you feel an impact on the right side of the cab. The apparatus has stopped moving. The second engine's pump operator, seeing your dilemma, nosed his apparatus against yours and ended the slide. You're relieved and return to your position on the pedestal. The occupants of the basket got a little more of a ride than they had bargained for, but no one was hurt.

## ANALYSIS

After the fire, you discuss the incident with your officer. He explains the following: Aerial platforms have operational limits, and one of them is the degree of slope on which they can safely operate—from about four to 15 degrees, depending on the apparatus. A

■ **FRANK C. MONTAGNA**, a 23-year veteran of the fire service, is a battalion chief with the City of New York (NY) Fire Department. He has been an instructor at the FDNY Probationary Firefighters School, the officer in command of the FDNY Chauffeur Training School, and an adjunct lecturer at John Jay College in New York City. He is a member of the FDNY Fire Chief's Association. Montagna has a bachelor's degree in fire science and currently is lecturing on firefighting-related topics for the New Jersey State Safety Council.

four-degree slope (front to rear) is an increase of four feet in height for each hundred feet of sloping road. The slope of Murphies Hill is way above the operational limit.

You had operated successfully on that hill before. Why did you slide this time?

Following are some of the reasons my officer gave for the aerial's sliding this time:

- The part of the hill on which you were operating this time is steeper than the parts on which you had previously operated.
- The immediate and obvious reason was the presence of the snow and ice. Stabiliz-

ers are flat pads, not unlike skis. The snow and hill create a ski slope. The lurching of the boom provided the push to start the aerial down the slope. Stabilizer pads have little traction on this slippery surface; as a result, the apparatus started to slide. Once it started, its weight and the slope of the hill acted to increase your speed. Unless something intervenes, you are in for the ride of your life. In this instance, the second pumper was in the right position; and the pump operator was a fast thinker—and an even faster actor.

#### PREVENTION TIPS

What can be done to prevent this from happening?

- Know your district. If there is a steep hill, can you operate safely on it?
- Know and follow the apparatus manufacturer's guidelines.
- When operating on snow or ice, put sand or ash under the stabilizer pads. This will increase traction and retard the tendency to slip.
- Use the large stabilizer support plates supplied by the manufacturer. They increase the surface contact area and, in conjunction with the sand or ash, act to increase traction.
- Make all boom movements as smoothly as possible. Operating the boom from the pedestal instead of from the platform allows for a smoother operation, which will decrease the tendency of the apparatus to lurch when starting or stopping the platform.
- Don't shut down your master stream suddenly or suddenly change its direction. Suddenly shutting down the stream will cause the platform to lurch forward, possibly providing the push needed to start you sliding. A sudden change in the direction of the stream will cause the platform to be pushed in the opposite direction of the stream.

#### SKIING ALSO POSSIBLE ON LEVEL GROUND

You say you have no hills in your district and that you won't have to worry about this problem. That is not necessarily true. I know of one apparatus skiing incident that occurred on level ground. The truck was set up in the center of a level street, with the boom raised perpendicular to the apparatus. After the job was completed, the apparatus operator tried to raise the stabilizers. That's when the fun began. The street had a slight crown, to allow for water runoff. As the boom was operated, the apparatus slipped several inches down the crown, and the stabilizer ended up underneath a parked car. To bed these stabilizers, they had to be raised up in an arc until they rested against the apparatus. This could not be done, since a car was now sitting over one of the pads and in its path of travel. The problem was solved by getting all the firefighters together and having them bounce the car back a few inches, clearing the path of travel, thus allowing the stabilizer to be raised.

Another hill you might miss in a survey of your level district is the slope of a bridge or ramp. Conceivably, you may want to set up on a bridge or a ramp; but at such a time, you must consider the limitations. If the ground is snow-covered, follow the precautions mentioned in this article. ■

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