



## Parachutes in Helicopters

BY BOBBY HALTON

**W**HEN YOU RECEIVE A safety briefing on a helicopter, the briefing starts with "When the helicopter crashes," not "if" it crashes, not "in case" it crashes, but when it crashes. Don't bother looking for a parachute, either, because there are no parachutes in helicopters. Other types of aircraft have parachutes because you can jump or be shot out of them when things go wrong without being cut into small pieces. The fall may kill you, but the odds are better than flying into the ground. So what's the point? The question today is, should we carry a parachute with us for "when the SCBA runs out of air"?

It used to be when new technology became available, we grabbed it up and then tried to manage its effects. Now we know we should first consider if it will help us do our work more effectively rather than at what risk. To avoid disasters, we have to understand the way the tool should fit into our current operating procedures. We have for far too long done just the opposite: We forced our procedures and practices to change to match the new tool's capabilities. The second question should always be, how much trouble can a firefighter find himself in when, not if, it fails? The current community of firefighters from the late 1970s to today is the first generation to fight fires in a sociotechnical environment. What sociotechnical means is that we are the first to have adapted high-risk technology in our efforts to do our work more effectively.

This effectiveness did not always make our work any safer, at least not for the firefighter. We are the first generation to rely on high-risk technology for our survival once inside our work environment. How we have adapted and how we are integrating technology may help explain why structural firefighting has not become less dangerous but is, in fact, far more dangerous than ever.

The National Fire Protection Association (NFPA) report on nonmedical deaths (firefighting deaths) statistically describes a 54-percent decline in working structure fires while the rate of firefighter fatalities remains steady. Despite having fewer fires, firefighters continue to lose their lives at structure fires, with the primary cause asphyxiation. This simply means firefighting has not become safer despite all our applications of technology.

We continue to push the limits of our survivability by introducing technologies that we never thoroughly understood how to integrate into our existing practices. We mistakenly believe that we can make firefighting safer through more high-risk technology without considering the consequences of their failure. So now a new tool, a new technology is being introduced that is basically a parachute for SCBAs; it is a double-edged sword. Its success depends on whether the fire is an "airplane-type" fire or a "helicopter-type" fire; either way, using this parachute is very risky business.

We have had experiences with new tools causing trouble for us when we tried to figure out how best to use them on the fireground. This time it must be different, and I am sure it will be. We have excellent SCBAs, but they plague us as a single point of failure. We work with them until we know there is only enough air to get out, and then we leave. It still amazes me that our SCBAs currently are rated by a standard based on mine workers. We struggle with insufficient knowledge of personal consumption rates; we confuse pressure and volume, especially where available air is concerned; and we are just getting it right with air management systems. Now we are being reintroduced to escape "air" filtration devices, parachutes for SCBAs. This is not a new concept, but we are witnessing some new application of the science of air filtration.

The history of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*, had some of its impetus from a tragic canister filter death in New York where a filter used in place of an SCBA was worn in a below-grade fire. The availability of air to filter is a condition for these negative-pressure devices to function. They do not cool the air and are not a substitute for good air management practices. The only reason to deploy one is if you are past your available air and it is your one last breath before you die. Their use must be restricted solely to Mayday situations with every other possible avenue of rescue and escape already engaged and functioning.

A tension will always exist within the fire service regarding safety and doing our jobs. The public demands that their lives be risk free. This is fine for accountants and computer technicians, but firefighting is inherently dangerous and risky. I know today's firefighters are highly skilled at doing the work; I believe we can manage this technology. It will take work, training, and supervision, but not to issue them because of potential abuse is just not a valid reason. Several departments have asked for variances from federal OSHA to continue testing these filters. I support this, and I also continue to encourage more research into pony cylinders and other positive-pressure solutions—all of this with full understanding that we must be conducting NFPA 1404, *Standard for Fire Service Respiratory Protection Training*, compliant operations.

Using a parachute is a big deal, a 50/50 chance, but if you were sending in your kid, wouldn't you want him to have one in his pocket?

*Bobby Halton*