

training to ensure fire fighters can perform effectively and safely on the fireground. To ensure these high standards are met, it's imperative that we provide everyone with continued hands-on training because if we don't know how to properly extinguish a structure fire, who does?

## Fire dynamics

Fire training must not only continue throughout a fire fighter's career, but it must also include up-to-date innovations and/or techniques as they are introduced into the fire service. We all know how the fire service embraces change but with continuing research done by NIST and UL, Instructors should explain in detail how these scientific details improve on old techniques or methods.

Fire dynamics is one good example of how a teaching technique has evolved through the years. Just as there have been new ways to improve fire equipment, there have been new approaches to understanding fire behavior. Many years ago, we believed and taught that there were three phases, or stages, of fire: incipient, free-burning and smoldering. Through further research and development, however, we've learned that there are actually four phases



Roof Operations


—ignition, growth, fully-developed and decay—which instructors now teach to recruits.

Basic fire behavior is the foundation of all fire training and should be taught to every fire fighter in a department at least once a year, just as the department would require cardiopulmonary resuscitation (CPR) recertification. This instruction should include a review of the relationship between heat, fuel, oxygen and the sustaining uninhibited chemical chain reaction that makes up the fire tetrahedron, for an easy comparison take a look at your everyday wood stove and the flow of air through it. Review fire-flow formulas to ensure a safe fireground and introduction of any new developments that have been discovered to assist in the safety of fire fighters.



## Why is live fire training necessary?

Well if you have been outside your department lately the hot topics are situational awareness and recognition primed decision making, I call this filling the Rolodex with information for later.

"Situation awareness (SA) involves being aware of what is happening in the vicinity, in order to understand how information, events, and one's own actions will impact goals and objectives, both immediately and in the near future. One with an adept sense of situation awareness generally has a high degree of knowledge with respect to inputs and outputs of a system, i.e. an innate "feel" for situations, people, and events that play out due to variables the subject can control. Lacking or inadequate situation awareness has been identified as one of the primary factors



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