

In recent years, the fire service has placed increased emphasis on the ability of hydraulic cutters to sever the advanced steels being built into the structural components of vehicles. These construction designs increase crashworthiness and protect occupants in a variety of collisions; however, they also pose new challenges to rescuers.

Responders may arrive at a motor-vehicle collision where a patient is entrapped almost entirely within a roll cage. Additionally, rescue tools may not be able to make a substantial opening in the immediate area of the patient. Typical evolutions such as Bravo post removals and roof removals may be virtually impossible with the hydraulic, electrical and pneumatic tools that have been sufficient for many years.

Some departments' answer to advanced steel: purchasing new-age cutters that boast cutting forces in excess of 200,000 lbs. Unfortunately, many departments can't afford newer cutters or systems given other priorities and budget constraints. Although tools purchased just 2 or 3 years ago may not be able to meet the demands posed by high-strength steel, many department administrations simply can't justify the redundant expenditure. Some departments may have to rely on outlying companies that utilize combination tools until a more dedicated rescue vehicle can arrive on scene. A review of various manufacturers' combination tools, however, shows a maximum cutting force of 120,000 lbs.—far less than the forces required to handle high-strength steel.

Automobile manufacturers are increasingly implementing ultra-high-strength steels in vehicle structures to help protect occupants, meet government requirements and reduce vehicle weight. General Motors (GM) uses ultra-high-strength steels in specific sections of its vehicles beginning with the 2009 model year.

To help first responders plan crash extrication methods, GM provides identification of the vehicles, models, vehicle zones and specific parts that use ultra-high-strength steels through its training website at www.gmstc.com.

