

Emergency response to incidents involving hybrids & electric cars

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Response to vehicle related incidents today can be bewildering. From motive power concerns, vehicle safety systems to the simple fact of the way the vehicle is constructed and what it is constructed from can pose many concerns and potential hazards to the emergency responder. Vehicle related incidents can range from a motor vehicle crash to a vehicle fire to a simple medical emergency in vehicle. All of these incidents involve the interaction of emergency services and the need to proactively to take charge and secure the vehicle in order

to mitigate the incident. Alternative fueled vehicles add to the existing complexity of the incident. While hybrids have been in general production since the late 90's there is a great deal of "mis or dis" information on these vehicles. The latest evolution of hybrids, both plug-in hybrids and all electric vehicles have added to this confusion. While these vehicles indeed have an advanced drive train and other advanced components most of these vehicles if not nearly all can be managed in the same way a "conventional" drive train vehicle is. All of these vehicles are equipped with various supplemental safety systems (SRS), enhanced structural reinforcements and advances in vehicle construction to crumple, absorb and re-direct the energy of the crash away from the occupants as much as possible. The best weapon the emergency responder can wield today, following good current information on vehicles is power isolation. This is a two step process, first step being to shut the vehicle off and securing the ignition key and placing it in their apparatus. The second step would be locating the primary 12v battery and disconnecting both the positive and negative cables.

Now while the above is a start to manage a motor vehicle crash or a medical emergency in a vehicle, a fire in vehicle today is another story. In ALL vehicles today, be it conventional or alternative fueled drive train carries a significant fire load. Plastics, combustibile alloys and components such as gas struts are present in every vehicle however hybrids and all electric vehicles carry even more combustibile alloys, composites and a very large high voltage battery pack consisting of Nickel metal Hydride, NiCad or even Lith-Ion battery cells. The combination of ALL these components creates a difficult problem for the firefighter. These changes involve not only tactical considerations on scene but even suppression agents to effectively mitigate such an incident. As time progresses, vehicles will continue to change thus emergency responders need to keep their collective fingers on the "pulse" of the technology on the street.

