

FIREHOUSE®

Weekly Drill

DRILL #57: VEHICLE FIRES

Introduction

One of the more common fires that we respond to is the vehicle fire. While common, vehicle fires are still very dangerous. I'm amazed that when I ask firefighters to name the worst type of fire to fight (other than a hazardous materials incident), very few respond with the vehicle fire. I hope to have each firefighter rethink their response and recognize the vehicle fire as one of the worst.

For this drill, I will be focusing on passenger vehicles and light trucks. However, I want to remind you that there are a large number of over-the-road trucks that carry large quantities of freight. Some of the materials are general use products, but there are many trucks rolling down the interstates carrying a significant amount of hazardous materials. Pay close attention to these vehicles and look for any Department of Transportation (DOT) placards that can help identify the materials on board.

Like dumpster fires (which are also among the worst to fight) vehicle fires release a great deal of toxic smoke making it mandatory that we wear full personal protection equipment (PPE) and self-contained breathing apparatus (SCBA). When I say wear SCBA, I'm not just recommending it be strapped to our back with the face piece attached to the harness strap. I am strongly advising each firefighter to be breathing the air from the cylinder to protect their lungs against some of the most toxic smoke found at any fire.

One of the first things we need to be considering is that of establishing a safety zone. A good rule of thumb is a safety zone of 50 feet in all directions. Some of the things we need to keep in mind are the possibility of a fuel spill and catastrophic failure of the fuel tank, exploding shock absorbers and bumpers, airbags and the pressurized cylinders that are used in hoods and trunks. Additionally, many people store a variety of items in their trunks.

Traffic control is another immediate area of concern. When possible have the street closed to all traffic to protect the safety of the firefighters. On a highway, we need to block the lane in which the vehicle is burning and any subsequent lanes that might be needed to operate in. Positioning the fire apparatus to block the traffic lines is a good idea, along with the placement of traffic cones. Request law enforcement for traffic control right away!



You might not be able to gain access to the interior of the vehicle right away to shut the vehicle off and make sure that the shift lever for the transmission is in Park. In these situations, chocking the wheels is strongly advised to keep the vehicle from rolling.

Alternative-Fuel Vehicles

Another concern with today's vehicles is the alternative fuels being used to operate them. Some more common alternative fuels used are compressed natural gas (CNG) and liquefied propane gas (LPG). One major issue is that of cooling the storage cylinders for these fuels to keep them from exploding. Another thing to keep in mind with these two fuels are their physical properties. CNG, when released, is lighter than air and will quickly dissipate in the atmosphere. On the other hand, LPG is heavier and is going to travel along the ground seeking low levels.

In addition to these alternative-fuel vehicles, more and more hybrid cars are finding their way into the marketplace and onto our streets. The major safety issue with this type of vehicle is the high-voltage electrical systems, delivering more than 400 volts of power. The power supply system is easily identified by the bright orange cables. *Do not cut into these wires for any reason!* As a matter of fact, try at all costs to avoid *any* contact with these wires when operating on a hybrid vehicle. Hybrid vehicles are designed to interrupt power from this high-voltage system when a short circuit occurs, the ignition key is turned off or when the low-voltage battery has been disconnected.

—Prepared by Russell Merrick