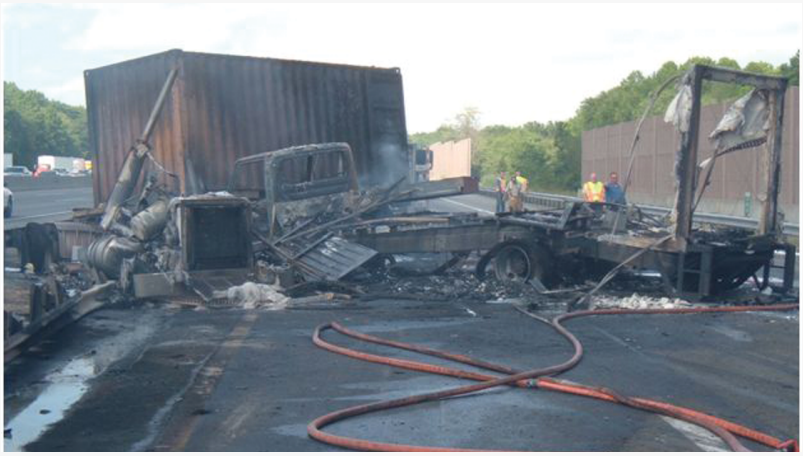
Firexo: Perfect for increasing Fire Safety around the globe and on the road

Fire extinguishers are an essential requirement for ALL public or commercial vehicles including HGV's, Vans and any Commercial Vehicles



The result of a Large Vehicle fire not being caught early enough can be devastating!

AMERSHAM, BUCKINGHAMSHIRE, UNITED KINGDOM, June 25, 2021 /EINPresswire.com/ -- Firexo - bringing simplicity to Fire Safety!

Fire extinguishers are an essential requirement for any public or commercial vehicles including HGVs. Even as a private motorist, having an extinguisher available can prevent a fire taking hold and limit damage as long as you can get to it out quickly enough and use while it is safe to do so. Historically foam and powder extinguishers have been most recommended for petrol, diesel, and even electric vehicles due to their ability to extinguish class B (flammable liquid) fires.

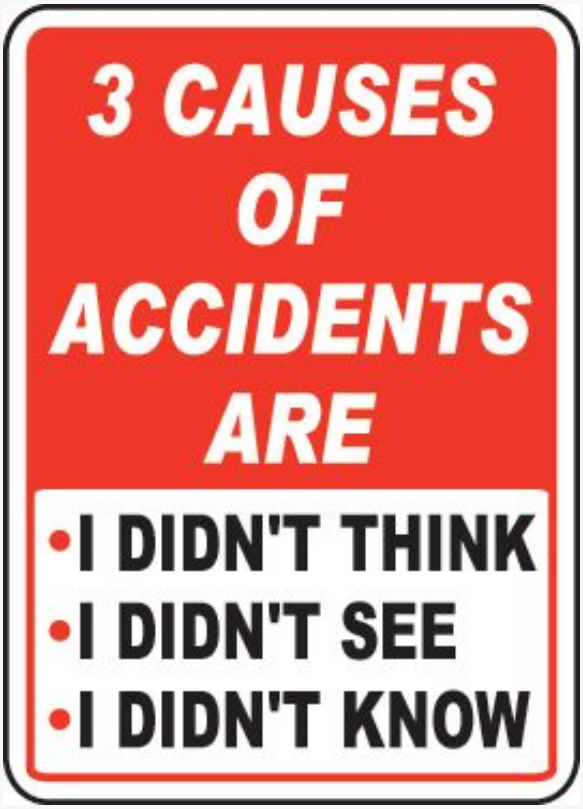
> “Commercial vehicle fires significantly compound the risks that firefighters face at passenger vehicles. From increased and varied fuel loads to limitations with accessibility.”
>
> *Michael Daley*

As a duty of care, many companies are now installing fire extinguishers across their fleets, and even though not a mandatory legal requirement, in a risk assessment it may be deemed as necessary depending on the use of the vehicle. Firexo provides an all-in-one solution to prevent confusion at the point of a fire emergency anywhere and at any time. Having to choose the correct extinguishing option is removed with this remarkable innovation. The use of powder impairs vision as well as being more harmful to the environment and nigh on impossible to clean up.
visit: www.firexo.com

HGVs, Vans and all Commercial Vehicles

HGVs used for the distribution of dangerous goods are required to carry extinguishers with a

minimum dry powder content based on their vehicle weight, to comply with all ADR and CDG regulations, e.g. A vehicle weighing between 3.5 tonnes and 7.5 tonnes, would need to carry 6kg of Powder in the vehicle or they can be secured to the exterior of the vehicle using a secure storage box. They also need to carry a minimum 2kg powder extinguisher to be stored safely in its cab – totalling 8kg as their legal requirement.



Be aware and be prepared!

An interesting article by Michael Daley for FIREHOUSE can be seen below; providing great insight using his knowledge and expertise as a lieutenant and training officer with the Monroe Township, NJ, Fire District No. 3, and is an instructor with the Middlesex County Fire Academy:

All commercial vehicles (whatever their size), not transporting dangerous goods have been recommended to carry dry powder extinguishers over the years and are legally required to store at least one portable fire extinguisher in their cab, with a minimum 2kg capacity of dry powder suitable for tackling class A (solid combustibles such as wood), B (flammable liquid) and C (flammable gas) fires using a transport bracket to keep it securely positioned.

No matter what the product, odds are very good that it got to the shelves at the store via a commercial vehicle. In fact, national statistics show that nearly 70% of commercial freight activity involves transport by truck. With this much activity, so comes the increased potential of serious accidents and fires involving these vehicles. Nationwide, fatal fires with trucks make up more than 17% of all fatal highway fire incidents, a frequency that is six times greater than that of other motor vehicles (see Photo 1). Handling these fires can be difficult, but focusing on the basics of compartment fire behavior can help in handling these incidents.

These commercial vehicles can be broken down by class. There are eight classes, based upon gross vehicle weight rating (GVWR) of the vehicle. For our use, it is easier to keep them broken into three broad categories:

Light Duty: Commercial vehicles weighing between 6,000 – 14,000 pounds GVWR

Medium Duty: Commercial vehicles weighing between 14,001 – 26,000 pounds GVWR

Heavy Duty: Commercial vehicles weighing over 26,001 pounds GVWR (see Photo 2)

There are very little similarities between each truck, as many of them are custom-built for usage as ordered. But there are common inherent hazards that are important to deal with when facing a fire within one of these vehicles. We will look closely at each of these based upon the systems they interact with.

Vehicle Hazards

One of the primary hazards rescuers will encounter will be the electrical systems that power the vehicles. The most common system will be the 12-volt system, but it will look much different than the automobile 12-volt system. Commercial vehicles will utilize multiple batteries to provide enough power to turn the engine over and provide voltage for the rest of the vehicle. Batteries will be wired either in Series or Parallel. Series wiring involves sending a path of current through each battery in a single direction. In this case, disconnecting the negative post closest to the frame will break the loop and shut down the electrical system. Parallel wiring involves sending paths of current through each battery concurrently. In this case, the rescuer must disconnect all of the negative connections to power down the system (see Photo 3).

The primary fuel source for these types of vehicles will be diesel fuel, but many other types are still in service. Diesel fuel has four properties that make it popular for use: it is combustible, and provides a more efficient “burn” in the cylinder when it is atomized; it removes heat from the fuel system components; it acts as lubrication for fuel injection parts; and the viscosity of the fuel limits gelling, aiding in flow in colder weather, as long as water can be kept from contaminating the fuel system. Next to the fuel tank in newer vehicles is the Diesel Emission Fluid Tank (DEF Fluid). This material is a water-based Urea solution that is injected into the exhaust as it moves through the engine, where it vaporizes and decomposes to form Ammonia and Carbon Dioxide, reducing emissions from the vehicle (see Photo 4). While this fluid is reported to be non-flammable, it has proven to be corrosive to some metals. Fuel/fluid fires and releases should be treated as a volatile mix of flammables and corrosives and should be treated accordingly.

Liquid fuel loads for these vehicles do not only sit in saddle tanks on the sides of the vehicle; based upon application, there may be other powered components on the vehicle. For example, tractor trailers that haul perishable goods carry them in refrigerated trailers, or “Reefer Units,” so to speak. It is important to note the debate over flammability of the refrigerant used in these systems: mainly R134A (see Photo 5). This has replaced R-12 as the primary refrigerant in motor vehicles. The properties of concern to this material include Hydrogen Fluoride and Carbonyl Halides when it is heated. However, it is generally considered to be “non-flammable.” That being said, some studies have proven that the potential for combustibility will increase when dealing with elevated temperatures (fire, for example). So do not be surprised when a hostile event results from this material being exposed within the fire.

Commercial vehicles utilize pneumatic controls for various devices on the truck. It can be used for climate control settings, wipers, split-shift transmissions, starting systems and suspension/cab ride systems. However, the primary function is the vehicle braking system. Air

will be necessary to both release and apply the brakes for the vehicle. There will be a dual air system in these vehicles; the Primary Air System is used for braking, and the Secondary Air System will run other functions on the truck. Keep in mind that if the primary system was to suffer a catastrophic failure (leak), the secondary system will provide enough air to control the braking system for about a minute. After about a minute, as the air exits the vehicle, the brakes will begin to apply by themselves. On the fire scene, all of these components are charged with compressed air and are potential explosion hazards (see Photo 6).

Vehicle Fire Response

First, upon receiving a dispatch to a fire that involves a large commercial vehicle, be sure that the right resources are responding as soon as possible. Many companies utilize an automatic aid system that will provide for notification and dispatch of multiple companies to the incident. Be sure to make contact with a response-capable heavy wrecker company; in the event of an under-ride or rollover incident involving passenger vehicles and commercial vehicles, a heavy duty wrecker with a rotating boom assembly would prove to be advantageous on the scene. Coordinate these resources with local law enforcement, as many police departments have these resources categorized and "on-standby" to respond to major roadways in your response area. Be sure to notify them immediately upon arrival if you think that their services might be needed.

There will be significant potential for an increased hazardous material release risk. Most times, when dealing with passenger vehicle fires, the fuel system will remain somewhat intact; there may be a leaking fuel line, but for the most part, it will be able to be controlled with minimal additional resources. Commercial trucks, however, pose a larger risk. Notwithstanding the materials that are being transported, most large tractor trailers can carry upwards of 300 gallons of fuel in dual saddle tanks directly under the cab (see Photo 7). Not only is this a potential explosive issue, but it may require your rescuers to work directly over the product when it is released onto the roadway.

Initial arriving units must be able to answer one major question: What is in the compartment? From local distributor deliveries, to nationwide long distance movers, the type and amount of fuel in a container can be staggering. These vehicles can have just about anything in their container, and can react surprisingly when they are heated (see Photo 8). The urge to treat these incidents as a "vehicle" fire must be resisted. A single company response to this "vehicle fire" is not efficient and puts crew members at significant risk; the first alarm should include two engine companies and a ladder company for adequate manpower and resources. Overhauling and removing the contents will be manpower-extensive; call for a lot of help early on.

Like any other compartment, coordinated ventilation and suppression need to be implemented. Ventilation from the top is the method of choice, but standing on top of a vehicle to cut a hole in the roof can be extremely hazardous; many vehicles do not have significant support in the roof area, and the amount of heat energy being generated into the roof will result in extreme exposure to the firefighters (Photo 9). For this reason, the vent point should be opened from an

elevated device, preferably a tower ladder. If one is not on the initial alarm, one should be added to the assignment whenever a commercial vehicle is involved in a fire. Once ventilation is underway, suppression forces must be at the ready. Making the attack can come from a few avenues; piercing nozzles have shown to be effective on some vehicles, depending on construction. Lighter materials will be easier to penetrate with these appliances. However, shipping containers and intermodal trailers can prove to be tough to cut for suppression (see Photo 10). Controlling the doors at the rear may be the best option. When operating from the door, control the door opening. Crack the door just enough to allow the stream to enter the upper areas of the compartment. Use of Class A Foam for this application can be a significant benefit in limiting time of extinguishment; remember, you are having this compartment fire in a roadway, not in a house. Once the initial knockdown is made, many times complete extinguishment will require a significant amount of overhaul. Get off the road as fast as you can, keeping traffic flowing and limiting the risk to your firefighters.

Conclusion

Vehicle fires pose considerable safety risks to responding units and firefighters, and commercial vehicle fires compound these risks significantly. Fuel loads, flammable and hazardous material exposure, coupled with limitations in accessibility and resource deployment can make these incidents very perilous (Photo 11). Identifying the materials that you are dealing with and bringing the right amount of resources to handle the problem early will help in mitigating the incident quickly and efficiently.

MICHAEL P. DALEY is a lieutenant and training officer with the Monroe Township, NJ, Fire District No. 3, and is an instructor with the Middlesex County Fire Academy, where he is responsible for rescue training curriculum development. Mike has an extensive background in fire service operations and holds degrees in business management and public safety administration. Mike serves as a rescue officer with the New Jersey Urban Search and Rescue Task Force 1 and is a managing member for Fire Service Performance Concepts, a consultant group that provides assistance and support to fire departments with their training programs and course development.

Karen Nunn
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