

**15.13 Scope:**

This procedure is intended to provide guidelines for the extinguishment of vehicle fires. This procedure applies to automobiles, light duty trucks, medium trucks, tractor-trailers, campers, buses, trains, construction equipment, motorcycles and other on and off road vehicles. This policy does not apply to vehicles involved in hazardous materials accidents or to vehicle fires inside of structures.

**15.1301 Size-up:**

Upon arrival on the scene, the officer in charge shall size-up the situation informing the communication center of the vehicle type involved and the nature of the problem.

Special attention shall be made to identify any and all placards and/or labels that may provide essential information to the incident commander for the safety of all persons involved.

The Engine shall, if possible, be positioned uphill and upwind from the vehicle(s). The Engine shall be positioned approximately 100 feet from the vehicle.

**15.1302 Rescue:**

Vehicles shall be searched for the presence of persons with special attention paid to small children or infants. Any persons found shall be removed to a safe location and emergency medical personnel shall begin treatment if present.

**15.1303 Fire control:**

Fire control shall be made with an offensive attack using a 1-3/4 inch hand line or larger. The attack shall be made from the unburned side of the vehicle. Additional lines shall be used as required for the control of the fire or protection of exposures and personnel. Class A foam may be more effective for extinguishing vehicle fires than by using plain water. Burning fuel fires may require the use of Class B foam.

Depending on the vehicle involved, additional engines or tankers may be requested because of limited water supplies on highways or additional personnel. The Ladder or Rescue Company may be requested for the use of specialized equipment if necessary.

At least one hand line shall remain operational until the vehicle is removed from the scene or rendered safe for vehicles that cannot be moved immediately.

Batteries shall be disconnected and other possible ignition sources eliminated to prevent the ignition of flammable vapors or chemicals.

**15.1304 Overhaul:**

Caution shall be taken during overhaul procedures so that the origin and cause of the fire may be determined. If there is reason to believe that there may be victims located within the vehicle, extreme caution should be used to ensure that the victims' remains are not disturbed. Overhaul shall also be performed so that a rekindle of the fire will not occur.

## EMERGENCY OPERATIONS

Township of Cumru Fire Department  
Standard Operating Guidelines  
Section 15.13

## VEHICLE FIRES

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### 15.1305 Safety:

All personnel shall be in full protective clothing including self-contained breathing apparatus. Caution shall always be exercised because of the possibility of hazardous materials.

Firefighters shall avoid the front and rear bumpers of vehicles, as they have been known to explode and travel great distances.

Firefighters should be aware of possible drive shaft explosions. Drive shafts are more apt to explode when removed from the vehicle and in storage. The ends of the shafts appear to be the weakest points. The majority of the shafts open up (split) near the ends. An overturned vehicle is less susceptible due to less heat being generated under the shaft.

Be prepared for more than one explosion of a fuel tank. Firefighters may approach a vehicle, after an explosion has occurred, believing it to be safe. The first explosion may only cause a slight rupture of the tank. If the tank is still rapidly heated, a second explosion may result sometimes more violent than the first.

Hydraulic lines and reservoirs often explode when heated. Flaming hot oil may cause severe burns.

Hydraulic cylinders are now commonly used in vehicles. They are used for assisting and holding up tailgate and hood assemblies. These cylinders when heated can violently explode sending shrapnel great distances. Extreme caution should be used when the vehicle involved could potentially have these cylinders installed.

Vehicle batteries are also cause for concern. When heated, the caps may blow off. In some cases, the batteries may split open.

Vehicles equipped with airbags, air curtains, seat belt tensioners and other safety restraint system devices should be approached with caution. In most cases if the temperature of the fire exceeds 300F, the systems will self-destruct but caution must still be used.

Many new vehicle fuel tanks are constructed of plastic. They are susceptible to melting from the vehicle fire causing a further larger flash fire from the escaping fuel.

The hybrid and alternative fuel vehicles present a new challenge for firefighters. Identification of this type of vehicle is critical to safe fire ground operations. The high voltage batteries should be disconnected as soon as possible if they are accessible. A vehicle powered by natural gas or propane creates problems from the compressed gases and their containers. Isolate these fuels when safe to do so. Evacuation of the area may be necessary if the fire cannot be controlled in a reasonable amount of time.

Adequate law enforcement personnel must be present to control traffic hazards. Firefighters present that are not critical to the operation shall stay out of the roadway in a safe location. Firefighters not in SCBA shall don reflective safety vests when operating or assisting near the roadways.