**Car Fires**

**FIRE CONTROL OPERATIONS**

The minimum level of protection for firefighters is full protective clothing breathing air from their SCBA. The minimum size of hose line is the 1-1/2" hand line.

Class A foam should be considered the primary extinguishing agent for any fire involving Class A materials. Attacks being mounted on automobile fires not involving flammable / combustible liquids should utilize Class A foam solution with the initial and subsequent hose streams.

Class A foam will not suppress flammable vapors. Caution should be used when making attacks on fires that could involve flammable/combustible liquids (vehicle fires, fuel spills). Class A foam should not be applied to water reactive materials. Additionally Class A foam should not be mixed with Class B foam, as the concentrates will become gelatinous and clog most foam systems.

**APPARATUS PLACEMENT**

Apparatus should be placed upwind and uphill of the incident if possible. This is to afford protection from hazardous liquids and vapors and reduces smoke in the work area.

Consideration must be given to using the apparatus as a barrier, to shield the incident scene from traffic hazards. Warning lights should be left operating, in conjunction with the use of traffic cones where needed. The use of flares by fire and police should be used with caution; consider the potential for flammable liquids and vapors.

Additional consideration should be given to positioning the apparatus at an angle to better allow the removal of any hose from the pre-connected cross-lay compartments.

**WATER SUPPLY**

If the water carried on the responding apparatus will not be sufficient, early considerations must be given to additional water supply sources. A supply line or other engines / tankers may be required.

**FIRE ATTACK PRIORITIES**

Where patients are trapped in the vehicle, first water should be applied to protect the patients and permit rescue.

When rescue is not a factor, first water should be applied for several seconds to extinguish fire or cool down the area around any fuel tanks or fuel systems. This is especially important if the fuel tanks are LPG or LNG.

At least one member of the attack team should have forcible entry tools in his/her possession to provide prompt, and safe entry into the vehicle.

**HAZARDS AND SAFETY CONSIDERATIONS**

* 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. A safety officer should be assigned on working vehicle fires to monitor traffic and other potential hazards.
* 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 potential 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 causing battery acid to leak out.
* 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.
* Most 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. Vehicles powered by natural gas or propane create 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.