

STANISLAUS CONSOLIDATED FIRE PROTECTION DISTRICT
POLICIES & PROCEDURES

ARTICLE: C-57
SECTION: Operations Division
DATE: August 18, 2008
SUPERSEDES: NEW
TITLE: Handling of Motor Vehicle Fires

PURPOSE

The purpose of this procedure is to identify operational tactics for the safe handling of motor vehicle fires, as well as provide for the safety of district personnel during such operations.

FIRE CONTROL OPERATIONS

The minimum level of protection for fire fighting personnel is full structural protective clothing as well as SCBA when engaged in active fire fighting. Company Officers shall have the same protective clothing donned in order to directly supervise firefighting personnel.

The minimum size of hose line that will be utilized during active fire fighting is 1-1/2". For vehicles that have been burned out completely before arrival, but require some mop-up a 1" reel line may be utilized.

APPARATUS PLACEMENT

Apparatus should be placed upwind and uphill of the incident when 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 shall be left operating while the apparatus and personnel are committed to the scene for visible recognition and safety. The use of traffic flares by fire and police personnel shall be utilized with caution due to the potential for flammable liquids, vapors, and fire hazards created by dry vegetation.

Additional consideration should be given to positioning the apparatus at an angle to better allow the removal of any hose from pre-connect cross-lay compartments. Roadways and highways should be kept open and free flowing if at all possible. If this is not possible apparatus shall be placed between the incident and on-coming traffic to provide a safe barrier for firefighters operating at the scene. If for any reason the flow of traffic is interrupted or ultimately stopped, the law enforcement agency having jurisdiction shall be notified immediately, ex. CHP or County Sheriff.

All efforts shall be made to open the lanes of traffic as soon as possible.

WATER SUPPLY

If the water carried on the responding apparatus will not be sufficient, early considerations shall be given to requesting additional water supply sources if one cannot be secured. A supply line or other engines/tenders may be required. Ladder companies may be used as an improvised standpipe at incidents on elevated overpasses or parking garages if access is an issue.

FIRE ATTACK

A working fire involving the motor vehicle shall require a safe and appropriate fire attack. Fire attack should be implemented from the uninvolved side first towards the involved portion of the vehicle to reduce further damage if at all possible. Fire attacks shall be implemented from the safest side of the vehicle when at all possible to reduce any potential fire hazards from Energy Absorbing Bumpers, spring loaded hood/trunk openers, or rear fuel tanks.

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 the fire and cool down the area around any fuel tanks or fuel systems. This is especially important if the fuel tanks are Liquidified Petroleum Gas (LPG) or Liquid Natural Gas (LNG).

At least one member of the firefighting attack team must have a forcible entry tool in his/her possession to provide prompt and safe entry into the vehicle. As, well as to prop open disabled hoods and trunk areas.

HAZARDS AND SAFETY CONSIDERATIONS

- Liquid Petroleum Gas (LPG) and Liquid Natural Gas (LNG) are becoming common place as fuel for vehicles. Pressure release devices can create a lengthy “blow torch” effect, or should the pressure relief device fail, a BLEVE may occur. Vehicles may not be marked to identify this hazard. If there is flame impingement on a visible LPG/LNG storage tank, take action to control the fire and cool the tank.
- If vapors escaping from the storage tank relief valve have ignited, allow the LPG/LNG to burn while protecting exposures and cooling the tank. Flow of gas through piping can be controlled by shutting off the valve at the storage tank if they are not compromised.
- Energy Absorbing Bumpers, consist of gas and fluid filled cylinders that, when heated during a fire, will develop high pressures which may result in the sudden release of the bumper assembly. This could result in serious injury to anyone in its path. Bumper assemblies have been known to travel 25 feet.
- Batteries-Explosion hazard due to the presence of hydrogen vapors. Avoid contact with battery acid. When the situation is stable, disconnect battery cables (ground cable first).
- Combustible Metals-Some vehicles have various parts made of combustible metals, such as engine blocks, heads, wheels, etc. When these metals are burning, attempts to extinguish them with water will usually add to the intensity of the fire. Large quantities of water, however, will cool down the metal below its ignition temperature. After some

- Trunk/Rear Hatch/Engine Hoods-Hold open devices from the manufacturer may employ, along or in any combination with any of the following: springs, gas cylinders, extension arms, etc. When gas cylinders are exposed to heat, failure or rupture of these devices should be expected. Excessive pressure may develop in lift arm assemblies causing a trunk, hatch or hood to fly open with excessive force when the latch mechanism is release. To ensure personnel safety, be sure to allow sufficient clearance when releasing latches.
- Fires involving the trunk/cargo area should be approached with extreme caution. Contents may include toxic, flammable or other hazardous materials. Expect the worst!!
- Fuel Tanks-maybe constructed of plastic or sheet metal. A rupture or burn-through may occur with these tanks causing a rapid flash fire of fuel. Do not remove gas caps, as the tank may have become pressurized. Do not direct hose streams into the tank, as it will cause pressurization of the tank, with a possible result of burning fuel spewing from the tank fill opening.
- Use caution when opening doors or breaking windows. Use appropriate approaches and safety concerns must be considered. Have a charged hose line ready before making entry.
- Vehicle Stability-Tires or split rims exposed to fire may explode, causing the vehicle to drop suddenly. Expect exploding rim parts or tire debris to be expelled outward from the sides. Approach from the front or rear of the vehicle for maximum protection if this is a concern. Some larger vehicles, such as buses, employ an air suspension system. When these systems are exposed to heat or flame, they may fail, causing the vehicle to suddenly drop several inches.

FIRE INVESTIGATION

It shall be the responsibility of the company officer to initiate a primary fire cause and origin if at all possible. If the primary cause cannot be readily acquired through initial observations by the company officer a county fire investigator shall be called if there is evidence of arson.

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Approved By: _____

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