



Quick skill Vehicle Fires (Part 2)

Tactical Approaches for Vehicle Fires

This Quick Skill identifies tactical approaches for fighting vehicle fires. Part One identified some of the potential hazards associated with vehicle fires.

Tactical Considerations for Vehicle Fires:

Responding

- If the vehicle is in the roadway or parking lot, or the vehicle fire is the result of a Signal-4, respond law enforcement for traffic control. Consider additional ALS unit.
- If the vehicle is known to be in a garage or driveway, consider requesting additional companies for a possible structure fire.
- Knowing the wind direction prior to arriving can determine the best method of approaching the scene.



Apparatus Placement

- As most modern vehicles are equipped with plastic fuel tanks and pressurized plastic fuel lines, positioning up-hill from a burning vehicle must be considered.
- Whenever possible, the apparatus should be parked up-wind from the vehicle.
- If the vehicle is on a highway or the shoulder of the road, the apparatus should position diagonally, blocking the lane the vehicle is in and at least the next adjacent lane, creating a “shadow” to shield the firefighters.
- On apparatus equipped with a side mounted pump panel, the apparatus should be positioned so the pump panel is located on the downstream side of the incident shielding the pump operator from traffic.

Size-Up

- Is the vehicle occupied?
- Are there any injured occupants that have already exited the vehicle?
- Spectators should be cleared from the immediate area, including the owner and occupants of the vehicle.
- How big is the fire? Can it be handled with a CO₂ or dry chemical extinguisher?
- If a hoseline is used, is tank water enough?
- How old is the vehicle? Cars built in 1968 do not have the same hazards as a vehicle built in 2010.
- What offensive firefighting strategy (see below) will be used?
- Are additional resources needed?
- Get a 360-degree view of the fire.
- Determine the vehicle’s fuel type (E85, propane, hydrogen, diesel, etc).



- Talk with the owner to determine any unusual contents in the vehicle.
- Where will the fuel go if there is a fuel tank rupture?
- Flow at least 125-gpm to achieve a fast knock down.
- Use foam to enhance extinguishment, promote cooling and conserve water.
- Fight vehicle fires safely and conservatively and wear full PPE and SCBA.

Front-End Fires:



From a safe distance away, position at a 45° angle on the unburned side and wash under the vehicle with a straight stream to darken any flames. Deflect the stream off the ground up into the engine compartment and cool the tire at the same time. The diagonal position protects firefighters from a flying front bumper and hood struts. Once the fire is knocked down, approach the vehicle at the same angle **from the rear of the fire area**, pushing the heat away from the unburned area.

Next, cool the door area and “A” post, making sure that they are safe to approach. Break the door glass and cool the “A” posts and dash to prevent fire spread and air bag deployment. Direct a stream under the rear edge of the hood to cool the compressed-gas struts. Put the adz of the halligan into the seam between the fender and hood and pull up creating about a 2” opening (or use the pike to lift the corner after driving it in to the hood). This allows the stream to be directed onto both the fire and the hood struts. In addition, it also reduces the chances of magnesium splattering out from the engine. After applying the stream, push the hood back down to allow the steam to smother the fire. Go around the **non-burning end** of the car and repeat the same steps on the other side. By first cooling the dash, the hood latch cable may be able to be used, reducing the time spent in front of the car. After the fire has sufficiently cooled, the K12 saw can be used to cut across the hood (done from the sides) to allow for overhaul.

Passenger Compartment Fires:



Using a straight stream, start by washing out under the car from a safe distance away. Deflecting water onto the undercarriage will prevent radiant heat from melting plastic fuel lines. If a window is open, knock down the fire while remaining a safe distance away. If the windows are closed, approach from the front of the driver’s side if possible. Cool the “A” post and drivers door. Break the door glass and retreat back to a safe distance and knockdown the fire. Once the fire

is knocked down, approach the vehicle from a 45° angle directing the stream through the open window and into the rear passenger corner, thoroughly cooling everything that can be reached without stepping in front of the door. Go around the car and approach from a 45° angle and break the rear passenger window. Direct the stream towards the driver’s front corner and cool everything that can be reached from this position. Then, cool the



left rear corner. Go back around to the driver's side and cool the passenger's front corner.

Rear-End Fires:

From a safe distance away, position at a 45° angle on the unburned side and wash under the vehicle with a straight stream to darken any flames. Deflect the stream off the ground to cool the fuel tank and tire before advancing. The diagonal position protects firefighters from a flying bumper and trunk/hatchback struts. Once the fire is knocked down, approach the vehicle at a 45° angle pushing the heat away from the unburned area. Direct the stream to cool the “C” and “D” posts and air bags. Next, using a hook or pike pole, tear out the rear dash to expose the speakers. After removing the speaker, direct the stream into this opening using steam to smother the fire. While the steam blankets the fire, re-check the underside of the vehicle for fire, and cool the tire again. As with *Front End* fires, insert a halligan in the seam between the trunk lid and the fender and pull up making a small gap. Direct the stream into this space and cool the trunk lid (or rear door lid) struts. Close the gap to let the steam smother the fire. **Never cross in front of the burning end; go around the non-burning end** of the car to the other side and cool the tire, trunk lid strut, and bumper strut on that side. Once the fire is knocked down, the trunk can be opened for overhaul (the K12 saw can be used as mentioned earlier). An option to pulling the speakers is to “hook” the top corner of the rear seat with a pike pole or hook and pull it out only enough to direct a stream into the trunk. Then push the seat back into position to allow the steam to extinguish the fire. ***Never place any part of your body in the vehicle until every part of that car has been completely cooled.***

Fully Involved Fires:

Whenever possible, position perpendicular to the “B” post from a safe distance away. Use a straight stream until the fire is completely knocked down. To stay out of the path of exploding struts, approach the vehicle at a 90° angle, in line with the “B” post. Cool the exterior of the doors and posts where inflators may be mounted. Thoroughly cool the complete interior of the car from this position. Once cooled, begin the same approach as for a front-end fire and the same approach for a rear-end fire to accomplish a full overhaul. ***Never place any part of your body in the vehicle until every part of that car has been completely cooled.*** During overhaul, air bags can deploy inflators can blow through roofs, and gas cylinders can explode.

