



Loss Control Department
Technical Information Paper Series

Truck Bed Liners and Filling Portable Gasoline Containers Safely

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Truck Bed Liners and Filling Portable Gasoline Containers Safely

A man is filling a small gasoline container at a service station. The gasoline container is placed in the back of a truck bed equipped with a plastic liner. During refueling, the gasoline ignites spontaneously, severely burning the individual.

A 3-year-old waits in the front seat of a pickup truck while his dad fills gas cans in the bed of the truck. Suddenly, the back of the truck is in flames. Desperate to get his child, the father tips the gas cans over, burning his hands and further spreading the flames. The father sustained second degree burns on his hands and forearms. He is now fine, as is his son. The truck has been repaired. The gas station was closed for several weeks but now has new pumps.

More than two dozen similar unfortunate incidents have been repeated in recent years. What caused these fires? What happened to make this routine chore a disaster? How can similar fires be prevented?

An unusual number of fires have occurred during the filling of portable gasoline containers when the containers are in the back of pick-up trucks that are equipped with plastic bed liners. Incidents of this nature have occurred with both metal and plastic portable containers, such as those used to refuel lawn mowers, snow blowers, chain saws, and all terrain vehicles (ATVs).

A Widespread Problem

This problem came to the attention of the Petroleum Equipment Institute (PEI) when the Connecticut State Fire Marshal's Office asked PEI to collect information on similar incidents. PEI received multiple reports of first hand incidents from across the country.

The U.S. National Highway Traffic Safety Administration (NHTSA) reports there have been at least 24 fires of this type, in many cases causing serious injuries and extensive property damage. *The common factor to these incidents is that the pick-up trucks were all equipped with plastic bed liners.*

How Does the Bed Liner Cause a Problem?

A *bed liner* is a polyvinyl plastic lining that fits inside the bed of a pick-up truck to protect the vehicle's surface from wear and tear. The bed liner provides excellent insulation, preventing static electricity from bleeding off the gasoline container, to the truck body, through the truck tires, and off to the ground.

A static charge can accumulate on the gasoline container in either of two ways. First, as the vehicle travels from one place to another, a charge can accumulate from the friction of the can sliding on the pickup bed. Second, when fuel is dispensed into a portable container, static electricity is generated by the flow of fuel through the hose, or by the free fall of fuel into the container.

The bed liner isolates the portable container from the metal body of the pickup truck (through which the static charge would normally be dissipated) thus allowing the charge to build and the container to hold the charge. When the fuel nozzle touches the container, a spark can occur, igniting accumulated gasoline vapors, and causing a fire or explosion.

Be Cautious With Other Vehicles, Too

Most of the fires involved pick-up trucks that had plastic bed liners. However, reports also describe fires that resulted while portable gasoline containers were being filled in trunks or passenger compartments of vehicles, where carpeting acted as an insulator.

To Ensure Your Safety

Dispense fuel only into an approved portable container. Place it on the ground a safe distance away from the vehicle, other customers, and traffic. Do not fill a portable container while it is inside a vehicle, in a vehicle's trunk, in a pick-up bed, or on any other surface other than the ground. This includes pick-up trucks, sports utility trucks, vans, marine crafts, and others. Follow other guidelines listed in the accompanying box.

Guidelines To Use When Dispensing Fuel Into Portable Gasoline Containers

- Dispense fuel only into an approved portable container.
- Remove the approved container from the vehicle and place it on the ground a safe distance away from the vehicle, other customers, and traffic.
- Do not fill a portable container while it is inside a vehicle, in a vehicle's trunk, in a pick-up bed, or on any other surface other than the ground. This includes pick-up trucks, sports utility trucks, vans, marine crafts, and others.
- Bring the fill nozzle in contact with the inside of the fill opening *before* operating the nozzle. Maintain contact until the filling operation is complete.
- Never use the latch-open device, equipped on some dispensing nozzles, to fill a portable container.
- Don't smoke while pumping gasoline.

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References and Further Reading

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