

# Best practices to help reduce the risk of auto shop fires.

## Fires in Service Stations by Type<sup>1</sup>



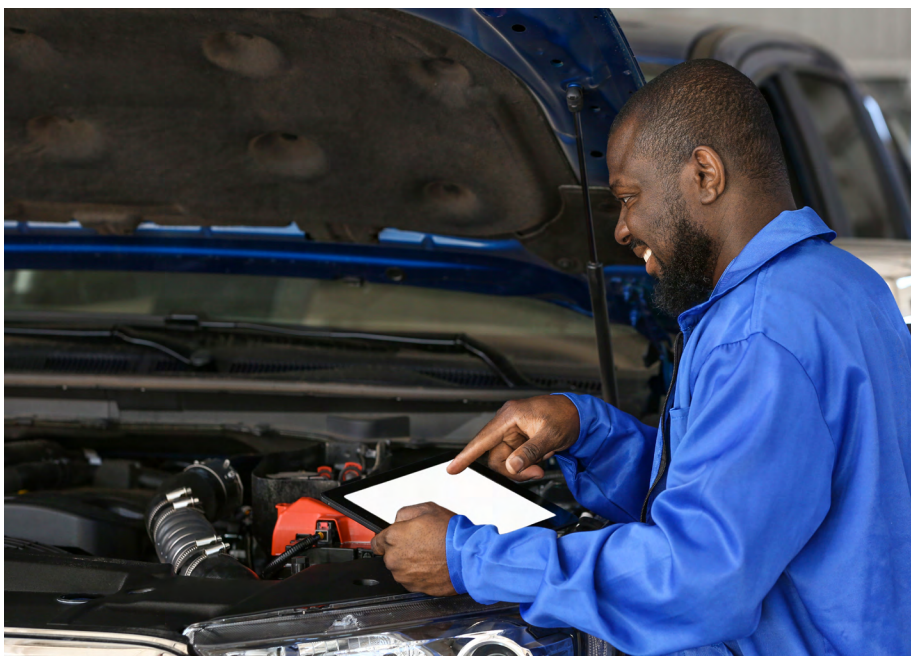
61% VEHICLE FIRES

12% STRUCTURE FIRES

15% OUTSIDE FIRES

12% OUTSIDE TRASH OR RUBBISH FIRES

The most common items first ignited in structure fires are flammable liquids and gases, piping or filter.



In a 2011 report, the National Fire Protection Association (NFPA) noted that in the period between 2004 and 2008, fires in U.S. gas and service stations caused \$20 million in damage. While structure fires accounted for only 12% of incidents, they caused 59% of direct property damage.<sup>1</sup> With these numbers in mind, evaluating your shop procedures and educating your employees about fire safety make good sense for you and the future of your business.

## Eliminating the major risk factors.

While a shop fire can start anywhere, you can help minimize the risk to your business by practicing fire-safe procedures for:

- Handling flammable and combustible liquids
- Removing gas tanks
- Maintaining electrical equipment
- Keeping the shop clean
- Developing a written fire prevention and evacuation plan

<sup>1</sup> *Fires at U.S. Service Stations*. National Fire Protection Association, 2011, <http://www.nfpa.org/research/reports-and-statistics/fires-by-property-type/business-and-mercantile/fires-at-us-service-stations>, (downloaded 2/28/16).



Clean drip pans daily to prevent the buildup of flammable liquids.

### Tips for handling flammable and combustible liquids.

One of the most important recommendations to help prevent fires is to store flammable and combustible liquids in accordance with NFPA 30: Flammable and Combustible Liquids Code, which requires you to keep liquids in covered, ventilated containers that are stored in a flammable liquids cabinet. In addition, you and your employees should:

- Bond and ground metal containers when transferring liquid from one container to another
- Clean drip pans daily to prevent the buildup of flammable liquids
- Clean up spills as soon as they occur, and store liquid-soaked rags in UL-listed containers with lids
- Promptly dispose of old oil, paint and waste liquids
- Conduct all paint mixing and spraying in mixing rooms and ventilated spray booths that comply with NFPA 33: Standard for Spray Application Using Flammable or Combustible Materials

(Note: For more safety tips on flammable liquids and waterborne spray finishing, ask your agent or Loss Control Services representative for copies of Nationwide® technical reference sheets on those topics.)

### Recommendations for draining gas and removing gasoline tanks.

Spilled fuel and leaking gasoline vapors can ignite during the repair or removal of fuel tanks, but NFPA 30A: Code for Motor Fuel Dispensing Facilities and Repair Garages can guide you in taking the precautions necessary to help reduce the risk of fire. Some important steps to remember include:

- Disconnect the battery before draining the gas or removing the tank
- Remove the tank in an adequately vented area that is isolated from activities and equipment that could ignite vapors
- Once the tank is removed, immediately place it outside the shop
- Whenever possible, drain or siphon gas outside the shop
- Use a Factory Mutual (FM)-approved device to drain gasoline from the tank

## Auto Shop Fire Safety

### Procedures for electrical safety.

Safety starts when electrical systems are installed and maintained according to NFPA 70: National Electric Code. Proper maintenance helps prevent the chance of a spark or an overheated tool igniting nearby flammable materials. Also, requiring your employees to properly clean and maintain all electric tools reduces the chance of fire. In addition:

- Have a licensed and insured electrician inspect all electrical systems every few years
- Keep all electrical panels accessible, free from dust, and well maintained; regularly verify that electrical systems are not in danger of overheating
- Inspect wires to help confirm that the insulation is tight and free of cuts and fraying
- Ground all electric tools and equipment
- Limit the use of extension cords; if you must use them, make sure they are grounded and in good condition

### Some practical advice for keeping the shop clean.

Good housekeeping should be a vital part of your fire prevention program. Accumulated scrap, trash, and oily and flammable materials can become a source of fuel for a fire. To minimize your exposure to fire, follow these basic housekeeping procedures:

- Keep equipment, raw materials and scrap out of aisles and doorways
- Arrange machinery and equipment so that all sides and top and bottom can be cleaned
- Do not let dust build up on beams, ceilings and hidden spaces, and clean the floors regularly to eliminate dust and oil
- Store excess parts, tires and infrequently used items in a clean, well-ordered stock room
- Do not store combustible materials in bays
- Separate metal, paper and oily rags, and put them in large non-combustible containers outside, away from the building; empty smaller trash containers daily
- Use non-flammable solvents for cleaning, and equip your vacuum with a static-reducing device
- At the end of the day, check any designated smoking areas for smoldering or smoking cigarette butts



Auto shop customers should not be allowed in the garage area unless escorted by an employee.

Questions? Contact  
Nationwide Loss Control  
Services: 1-866-808-2101  
or [LCS@nationwide.com](mailto:LCS@nationwide.com).

## Auto Shop Fire Safety

## An ounce of prevention.

You know the adage: *An ounce of prevention is worth a pound of cure.* Some of the best ways to help prevent damaging fires are to: write a fire detection plan, install a fire detection and alarm system, hang fire extinguishers in easily reached places in the shop and the office, and establish an evacuation plan.

### Fire detection planning

If you employ more than 10 people, OSHA requires you to have a written fire prevention plan as well as a fire evacuation plan.<sup>2</sup> OSHA standards also require proper exits, firefighting equipment and employee training to help prevent death or injuries that may result from a workplace fire.

### Fire detection and alarms

Fire alarm systems can alert first responders and reduce property damage. They should be installed, maintained and monitored by a central station alarm company. In addition, the system should be covered by a service contract and tested and inspected regularly.

### Fire extinguishers

To help keep a small fire from spreading, locate portable, appropriately sized fire extinguishers throughout your shop, especially outside of a flammable liquids storage room, hot work area, and spray paint booth or mixing room. Make sure all your employees know how to use the extinguishers, and ask your local fire department to inspect the extinguishers annually.

### Evacuation plan

Employees should know what to do during and after a fire. Remind employees that the first step in controlling a fire is to dial 911. Post numbers for the local authorities at every phone in the shop for easy reference, and ask employees to list them in their personal mobile phones, as well. Practice an evacuation plan with scheduled drills, and assign a meeting place far enough from the building to be safe from fire or a potential explosion.

<sup>2</sup> *Evacuation Plans and Procedures eTool.* Occupational Safety & Health Administration, United States Department of Labor, <https://www.osha.gov/SLTC/etools/evacuation/fire.html> (downloaded 2/28/16).



## An extra measure of Hot Work precaution.

Here's a convenient way to help confirm that employees doing hot work jobs are taking appropriate precautions. Use Hot Work Permit Forms, which are included in our kit, to alert everyone in your shop to best practices before, during and after the job. To start your own Hot Work Permit Logbook, contact your agent or Nationwide Loss Control Services.



Providing solutions to help our members manage risk.<sup>SM</sup>

For your risk management and safety needs, contact Nationwide Loss Control Services: 1-866-808-2101 or [LCS@nationwide.com](mailto:LCS@nationwide.com).