

Preventing Garage Fires with Proper Vehicle Storage



Vehicles stored in garages are one of the leading causes of ignition of garage fires. The source of ignition on vehicles can result from multiple different channels including, but not limited to: electrical, exhaust, and other maintenance problems. Familiarizing yourself with the guidelines provided in this document may help reduce your exposure to garage and vehicle fires.

Electrical

As the manufacturing of machinery continues to evolve, vehicles rely more and more on the electrical and computer systems to operate correctly. Because of this, electrical wiring on vehicles is more prevalent than ever. It is important to understand how to identify and remove electrical hazards that are known to cause fires. The following bullets are a few guidelines to consider to help reduce electrical hazards.

- Inspect and maintain batteries to ensure tight connections and adequate battery condition. Poor battery condition and the corrosion of batteries due to salt and brine from winter road maintenance are hazards that may lead to ignition.
- Perform any and all maintenance in correspondence to the manufacturer's guidelines. Previously used practices, such as splicing of the electrical system, are no longer an acceptable practice due to the sensitivity of modern electrical systems.
- Inspect the electrical system frequently, looking for areas such as chafed or loose wiring, and make any necessary repairs. Loose, corroded, or chafed electrical wires or grounds can cause arcing which creates a significant ignition hazard.
- Avoid spraying high pressure streams directly on electrical connections and electrical boxes. Pressure washing vehicles, especially in areas around the electrical systems, can cause water to enter connections, causing corrosion which can lead to arcing.
- Ensure that systems are wired and connected per the manufacturer's requirements. Inadequate or failure to fuse systems wired directly to the battery can cause overheating and failure of the electrical system.
- Consider installing a master disconnect so power can be shut down when the vehicle is not in use.

Exhaust

As emissions standards put more pressure on manufacturers to reduce their environmental footprint, unique challenges have arisen with the heat generated from the emissions and exhaust systems on modern vehicles. Temperatures of exhaust, which have always been high, have skyrocketed with the introduction of Tier IV motors. Diesel has also become significantly more hazardous since the introduction of Ultra Low Sulfur Diesel. Following the guidelines provided below may help reduce the risk of exhaust systems igniting a fire.

- Avoid running vehicles in one place with the exhaust aimed at a single point for an extended period of time to help reduce the likelihood of igniting a fire. If unable to avoid running the vehicle in one spot, remove any combustible materials such as leaves on the ground, and add protection to a wood ceiling in the garage to help reduce the exposure.
- Ensure that all new exhaust components meet the original equipment manufacturer's requirements and installation recommendations.
- Remove ignition sources, such as cigarettes and open flames, before working with the fueling system.
- Clean up fuel spills when they occur.

Additional Guidance

- Remove fuels, oils, and additional combustible materials that are exposed to high heat areas, such as a truck's turbo and exhaust system.
- Inspect fuel lines for areas of chafing that, if broken, would result in a spray fire.
- Use proper hot work procedures when maintenance requires welding, grinding, cutting, etc.
- Inspect and replace wiring used to plug in pre-heaters when chafing and cracks are noted.
- Maintain 10ft of separation between vehicles whenever possible.

By familiarizing yourself and your employees with the hazards associated with vehicle storage in and around your garage, you may significantly reduce the exposure to a fire in your garage and your vehicles.

For more information regarding proper vehicle storage or preventing garage fires, please contact Acadia's Virtual Loss Control Team at 207-874-5701 or virtualc@acadia-ins.com.

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