



VEHICLE FIRES & THERMAL EVENTS



Our experts work with clients to analyze and investigate vehicle fires and explosions in a wide variety of applications to uncover the circumstances, including component failures, human errors, and other causal factors leading up to and following incidents. We have worked with some of the largest automotive and recreational vehicle manufacturers in the world, and have deep knowledge in how different types of vehicles are designed, manufactured, and operated. Our nationwide multidisciplinary team allows us to deploy engineers/investigators to the site of any incident, domestic or international, within hours, to begin the process of data collection, evidence gathering and preservation.



Our vehicle fire investigation team is made up of Professional Engineers (P.E.), Certified Fire and Explosion Investigators (CFEI), Certified Vehicle Fire Investigators (CVFI), IAAI Certified Fire Investigators (CFI), and mechanics, who have specialized experience in determining the origin and cause of all types of fires and explosions. Our experts have specialized training in analyzing vehicle fires in addition to possessing substantial field experience. Our consultants have significant experience in other aspects of vehicle performance, fuel-fed vehicle fires, fuel system components, and alternative fuel systems (LPG, CNG, hybrid, etc.), as well as in-depth knowledge of the chemical properties of combustibles typically involved in vehicle fires.



We use the latest technology to document vehicles thoroughly and accurately through photography, videography, 3D imaging, and Small Unmanned Aerial Vehicles/UAVs (drones). ESi has fully equipped laboratories for conducting artifact examinations, burn testing and explosion analyses, and other specialized testing including computed tomography (CT) scanning. Analysis capabilities further include gas dispersion modeling, fire modeling, chemical analysis, and analysis through 3D computer modeling.



www.engsys.com

Contact ESi

To get in touch with the ESi Vehicle Fires Team, call Hernán Mercado-Corujo, P.E., CFEI, CVFI at 763-557-9090 or send an email to hmercado@engsys.com.



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FIRE SCIENCE

ESi's Fire Science Team has a wealth of experience evaluating issues related to ignition, fire growth, flame spread and material fire performance. Their expertise spans a variety of complementary engineering and scientific disciplines which are critical to properly evaluating fire dynamics and fire behavior, including fire protection engineering, mechanical engineering, material behavior, and thermodynamics.

FUEL GAS SYSTEMS

ESi has decades of experience evaluating fuel gas systems and their potential cause of fires and explosions. In addition to performing investigations involving fuel gas systems, our experts are actively involved in the development and maintenance of several standards related to the fuel gas industry. Our teams have the equipment and resources to perform pressure and leak tests of gas systems, gas sample collection for analytical testing and laboratory testing of gas system components.

PRODUCT FIRES

ESi has fully equipped laboratories for conducting artifact examinations, burn testing and explosion analyses, product testing, and other specialized testing including CT scanning. Analysis capabilities further include gas dispersion modeling, fire modeling, chemical analysis, and analysis through 3D computer modeling.

RESIDENTIAL

ESi's residential fire and explosion experts have experience investigating the origin and cause of fires and explosions, meet the qualifications of NFPA 1033 Standards for Professional Qualifications for Fire Investigators, and are certified by the International Association of Arson Investigators (IAAI), and the National Association of Fire Investigators (NAFI).



KEY INDUSTRIES

Recreational

- Motorcycles
- ATVs
- Snowmobiles
- Off-Road Vehicles
- Side-by-Sides

Marine

- Boats
- Personal Watercraft
- Cargo Ships

Passenger Vehicles

- Cars
- Vans
- Trucks
- Hybrid
- Electric
- Post-Collision, Fuel-Fed

Agricultural and Logging

- Combines
- Tractors
- Front-End Loaders
- Harvesters / Feller Bunchers

Industrial

- Forklifts
- Skid-Steer Loaders

Commercial

- Semi-Trailer Trucks
- Buses
- Trailers
- Travel Trailers

Heavy Equipment

- Cranes
- Diggers

Alternative Fuels

- Propane
- Fuel Cells
- Natural Gas (CNG)
- Ethanol
- Hydrogen

Batteries

Generator Sets



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