



Zachary C.R. Cathcart, P.E., ACTAR

Consultant

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Background

Mr. Zachary Cathcart holds a B.S. in Mechanical Engineering from the University of Texas at Dallas. Mr. Cathcart is a licensed professional engineer. He has extensive design experience in various transportation sectors, including aviation, motorcycles, and heavy trucks. Mr. Cathcart designed air and electric systems for heavy trucks while at Peterbilt. He was also the technical lead for battery electric vehicle powertrain integration on medium-duty vehicles. He has also designed foot controls for Harley-Davidson, passenger seats for commercial airlines, and hydraulic equipment for heavy machines at Caterpillar.

Mr. Cathcart's professional practice is focused on vehicle accident reconstruction, collision investigation (passenger cars and heavy trucks), commercial vehicle inspections, event data recorder (EDR) imaging and retrieval, seatbelt analysis, brake system examination, 3D scanning, hand measurements, acceleration and braking analysis, and vehicle dynamics evaluation. Mr. Cathcart also evaluates mechanical systems including brakes, steering, engine, transmission, etc.

Forensic Engagements

• Collision Reconstruction

- Smith County, Texas (2024), The driver of a Chevrolet Silverado claimed an unknown vehicle forced them off the road, causing them to strike a tree. It was determined that there had been no contact with another vehicle.

• Mechanical Evaluation

- Frisco, Texas (2024), Insured retrieved their Land Rover after being stolen; the engine found to be running improperly. Determined origin and cause of engine failure was due to sugar being placed in gas tank in sufficient quantity to clog the fuel lines.

Professional Experience

• Rimkus

2023 – Present

- Consultant

Conduct forensic investigations on traffic collisions, including reconstruction of accidents from vehicle damage as well as inspection of crash sites. Conduct forensic investigations of mechanical failure of vehicles, including analysis of repair failures and vehicle sabotage.

- **Peterbilt Motor Co.** **2019 – 2023**
 - Mechanical Engineer
Responsible for the design and testing of chassis air and electrical systems on Peterbilt and Kenworth medium-duty diesel vehicles.

Technical lead on battery electric vehicle electric powertrain integration. Led design, testing, and validation efforts to bring electric Peterbilt model 220 and Kenworth models K270/K370 to market.

- **B/E Aerospace** **2016 – 2019**
 - Mechanical Engineer
Responsible for the design and testing of main cabin seating in narrow-body jets, mainly Boeing 737 and Airbus A320.

Customized and implemented electronics packaging for in-flight entertainment. Ensured these changes would not compromise safety.

- **L&T Technology Services** **2014 – 2016**
 - Technical Consultant
Provided engineering services to multiple Fortune 500 companies, including Caterpillar, Harley-Davidson, and Whirlpool. Participated in numerous design activities to improve products.

Education and Certifications

- **Mechanical Engineering, B.S.:** University of Texas at Dallas (2014)
- **Licensed Professional Engineer:** Texas
- **Certified Traffic Crash Reconstructionist:** The Accreditation Commission for Traffic Accident Reconstruction
- **Certified Crash Data Retrieval (CDR) Technician**
- **Certified Drone Pilot**
- **Organization:** Society of Automotive Engineers

Continuing Education

- **University of North Florida Institute of Police Technology and Management:** At Scene Investigation Course (2023); Advanced Traffic Crash Course (2023); Bosch CDR Certification (2023)
- **Northwestern University Center for Public Safety:** Traffic Crash Reconstruction 1 and 2 (2024)
- **Texas Association of Accident Reconstruction Specialists:** Accident Reconstruction with Autonomous Vehicles and Advanced Driver Assistance Systems (2024)