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Aurora, IL 60504

RICHARD A. MINK, MSME, P.E.
STAFF CONSULTANT

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Mr. Mink is a Staff Consultant in the Automotive Practice Group at ESi. His work focuses on vehicle accident investigation, analysis, and reconstruction. He holds a Master of Science degree in Mechanical Engineering from Purdue University and a Bachelor of Science degree in Mechanical Engineering from The University of Toledo.

Before joining ESi, he was employed as a mechanical engineer by Navistar, Inc., where he conducted numerous tests and analyses pertaining to the performance, strength, or durability of various heavy truck systems and components; including cab structure, seating, and occupant restraint systems. Later, while working in Navistar's Product Integrity Group, he investigated numerous heavy truck accidents and fires, and provided technical consultation and testimony in numerous product liability litigation matters.

Mr. Mink is a licensed Professional Engineer (P.E.) in Indiana and an SAE-certified accident reconstructionist. He also holds a Class A Commercial Driver's License in Indiana, with endorsements for tank vehicles, double/triple trailers, passenger transport, and school buses.

Areas of Specialization

Vehicle Crash Investigation, Analysis, and Reconstruction
Event Data Recorder Imaging and Data Analysis for Heavy and Light Vehicles
Commercial Vehicle Rollovers
Commercial Vehicle Cab Structure, Seats, Occupant Restraints, Steps, and Grab Handles
Commercial Vehicle Fire Origin and Cause Determination

Education

M.S., Mechanical Engineering; Purdue University, West Lafayette, Indiana
B.S., Mechanical Engineering, Cum Laude; The University of Toledo, Toledo, Ohio

Registered Professional Engineer (P.E.)

State of Indiana……License No. PE10201218

June 2019

Positions Held

Engineering Systems Inc.–Aurora, Illinois

Staff Consultant, 2014–Present

Brach Engineering, LLC–Granger, Indiana

Consulting Engineer, 2012–2014

Navistar, Inc.–Fort Wayne, Indiana

Mechanical Engineer, 1995–2012

Purdue University–West Lafayette, Indiana

Graduate Student, 1993–1995

United States Navy–San Diego, California

Naval Flight Officer, 1987–1993

Publications and Presentations

Manuel, E.J., **Mink, R.**, and Kruger, D., "Videogrammetry in Vehicle Crash Reconstruction with a Moving Video Camera," SAE Technical Paper 2018-01-0532, 2018, doi:10.4271/2018-01-0532.

Brach, R., Brach, R., and **Mink, R.,** "Nonlinear Optimization in Vehicular Crash Reconstruction," SAE Int. J. Trans. Safety 3(1):2015, doi:10.4271/2015-01-1433.

Professional Activities

SAE International (SAE)
National Society of Professional Engineers (NSPE)
Pi Tau Sigma (International Mechanical Engineering Honor Society)

Continuing Education, Courses Completed

Applying Automotive EDR Data to Traffic Crash Reconstruction, SAE, 2019

Applied Vehicle Dynamics Course, Precision Auto Research, 2018

Pedestrian/Bicycle Crash Investigation–Level I, University of North Florida, 2018

Human Factors in Traffic Crash Reconstruction, University of North Florida, 2017

Vehicle Dynamics for Passenger Cars and Light Trucks, SAE, 2017

Fundamentals of Heavy Truck Dynamics, SAE, 2017

Reconstruction and Analysis of Rollover Crashes of Light Vehicles, SAE, 2016

Reconstruction and Analysis of Motorcycle Crashes, SAE, 2016

Crash Data Retrieval (CDR)–Data Analyst, Northwestern University, 2016

Vehicle Crash Reconstruction Methods, SAE, 2015

Crash Data Retrieval (CDR)–Technician Level 1, Collision Safety Institute, 2014

Accessing and Interpreting Heavy Vehicle Event Data Recorders, SAE, 2014

Commercial Vehicle Air Brake Systems Training, Bendix Spicer Foundation Brake, LLC, 2013

Traffic Accident Investigation 7–Commercial Vehicle, Michigan State University, 2012

Hands-On Vehicle Fire/Arson Investigation, Public Agency Training Council, 2011

Fire Investigation and Product Liability Litigation, University of Wisconsin, 2008

Fire/Arson Investigation, IVY Tech Community College, 2007

Vehicle Frontal Crash Occupant Safety and CAE, SAE, 2007

Modern Investigation Techniques, IAAI, Ohio Chapter, 2007

Commercial Vehicle Braking Systems, SAE, 2005

Design FMEA Participant Workshop, Eastern Michigan University, 2005

Mechanics of Heavy-Duty Truck Systems, University of Michigan, 2004

Traffic Accident Reconstruction I, Northwestern University, 2003

CVSA Inspection Familiarization, Commercial Vehicle Safety Alliance, 2002

Heavy Vehicle Rollover TOPTEC: Prevention, Analysis and Reconstruction, SAE, 2000

Injuries, Anatomy, Biomechanics & Federal Regulation, SAE, 2000

Patents

Hybrid Electric Vehicle Battery Box and Supports, U.S. Patent 6,547,020

Seat Belt Anchor and Method of Installation in a Mobile Vehicle, U.S. Patent 6,158,774