

## William E. Dickinson, P.E.

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### Professional Competencies:

Mechanical Engineer who investigates:

- Vehicle and tractor trailer accidents
- Workplace accidents
- Product defects and failures
- Slips, trips and falls (indoor and outdoor)
- Vehicle component failures (brakes, restraints, etc.)

Product Design Engineer with expertise in:

- Mechanical design and project management
- Design of test fixtures for mechanical, electro-mechanical and optical components

Experience Summary

- Accident Reconstructionist for over 30 years
- Engineering Branch Manager for large Defense Contractor
- Mechanical Engineer for Automotive, Bushing & Bearing companies

### Employment History:

#### **Wolf Technical Services, Inc., Indianapolis, IN**

Mechanical Engineer, Accident Reconstructionist and Investigator  
(1990 to Present)

Mr. Dickinson is a mechanical engineer working with Wolf Technical Services to provide our customers with technical investigations, analysis, research, design, development and testing. Mr. Dickinson provides an in-depth analysis of various situations such as product failures, vehicle collisions, industrial accidents, restraint system failures, and the safety of walking/driving surfaces using the principles of engineering and the laws of physics.

Mr. Dickinson analyzes and reconstructs vehicle collisions involving passenger cars, tractor-trailers, dump trucks, agricultural vehicles, and recreational vehicles. He provides a comprehensive analysis of vehicle collisions to identify causation and contributing factors including the role of the driver(s), the vehicle(s), roadway and environment. He specializes in new technologies such as imaging and interpreting data from Event Data Recorders (EDRs) as well as GPS systems found in many passenger vehicles and large trucks.



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In addition, he simulates collisions using Engineering Dynamic Corporation's HVE (Human Vehicle Environment) simulation software, a commercially available state-of-the-art, three-dimensional, physics-based analysis tool. He provides analysis of speeds, timing, pre-impact motion, collision dynamics and post-impact motion in accidents involving automobiles, tractor-trailers, bicycles and pedestrians.

Using his mechanical engineering education as well as his design and testing experience, he also investigates and analyzes mechanical system failures, component failures and industrial accidents. He has significant experience analyzing incidents involving restraint systems such as those used by hunters and construction workers. Mr. Dickinson uses the latest technology including slip test meters and computer simulation as well as standards and codes to investigate and analyze slip/trip/fall incidents and evaluate walking surfaces (both indoor and outdoor).

Mr. Dickinson participated with others of the Wolf team working with the U.S. Air Force in the development of an energy attenuating restraint system designed to minimize injuries to mobile aircrews. As a follow up, he helped develop a smaller electronic restraint system for the U.S. Navy to be used in place of the "gunner's belt". He also worked on an energy absorbing troop seating system designed to minimize injuries to seated troops in the event of a crash or hard landing by compensating for the weight of the occupant and providing the appropriate amount of travel. He has also contributed his engineering expertise to Wolf's work with the U.S. Marine Corp on the research and development of a semi-active seat damping technology for the U.S. Marine Corp's Expeditionary Fighting Vehicle (EFV).

### **Naval Avionics Center, Indianapolis, Indiana**

Engineering Branch Manager (1989 to 1990)

Management of engineers, technicians, and logistics management specialist in the development and support of electrical, mechanical, and optical systems used by the United States Military.

### **Naval Avionics Center, Indianapolis, Indiana**

Mechanical Engineer (1981 to 1989)

Application of mechanical engineering, electro-mechanical engineering (control systems), physics, optics, lasers, pneumatics, heat transfer, thermodynamics and other related technologies in the design, development and manufacturing of mechanical, electro-mechanical and optical test equipment used for acceptance testing of military components and systems.



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### **Chevrolet Truck Body Plant, Indianapolis, Indiana**

Mechanical Engineer, Co-operative Education Student (1979 to 1981)

Application of mechanical and structural engineering in the installation of presses and automation used in stamping General Motors truck body panels. Assisting senior level engineers with structural steel and concrete design to support the presses and modification of the plant wide scrap conveyor system to facilitate the installation of new press lines.

### **American Bearing, Indianapolis, Indiana**

Mechanical Engineer, Co-operative Education Student (1977 to 1979)

Assisting senior level engineers in the Project Engineering Department with time studies, tooling storage development, tooling design for the manufacturing of precision half bearings and bushings, and research and development to improve the manufacturing of precision half bearings.

### **Education:**

Indiana Central University Center for Continuing Education and Management Development, Indianapolis, Indiana 1988  
Certificate in Management Development

Tri-State University, Angola, Indiana 1981  
Bachelor of Science in Mechanical Engineering  
Minor in Mathematics and Science

### **Professional Licenses, Current and Past Affiliations and Honors:**

Registered Professional Engineer in the States of Indiana, Ohio, Kentucky and Virginia  
Crash Data Retrieval (CDR) System Operator Certification  
Crash Data Retrieval (CDR) System Analyst Certification  
Detroit Diesel DDEC Reports Training for Engine Control Modules (ECM)  
Member of Society of Automotive Engineers (SAE)  
Member of Ohio Traffic Accident Reconstruction Association (OTARA)  
Member of the American Society of Mechanical Engineers (ASME)  
Naval Avionics Center – Outstanding Performance Awards, 1984 & 1985  
Naval Avionics Center – Sustained Superior Performance Award, 1988



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### Continuing Education:

- Diesel Engine Technology, SAE 2024
- Drones for Mapping Accident Reconstruction Sites, SAE 2023
- Accessing and Interpreting Heavy Vehicle Event Data Recorders (HVEDR), SAE 2022
- Materials Degradation in Mechanical Design: Wear, Corrosion, Fatigue and their Interactions, SAE 2022
- ASCE Basic Wind Loads, Vector Solutions 2022
- Corrosion Online Course, Process Engineering Consultants 2022
- Introduction to Brake Controls: ABS, TCS, and ESC, SAE 2021
- Fundamentals of Vehicle Dynamics, SAE 2020
- Accident Reconstruction, the Autonomous Vehicle & Advanced Driver Assistance Systems, SAE 2019
- Crash Data Group EDR Summit (20 hours) 2019
- Fundamentals of Signalized Intersections 2018
- FARO Laser Scanner Training Program (24 hours) 2017
- HVE Forum, Engineering Dynamics Corporation 2015
- Air and Foundation Brake Training, Bendix Spicer Foundation Brake LLC 2015
- Driver Distractions from Electronic Devices: Insights and Implications, SAE 2015
- Accessing and Interpreting Heavy Vehicle Event Data Recorders (HVEDR), SAE 2014
- Traffic Control Design Specialist, ATSSA 2014
- Crash Data Retrieval (CDR), System Operators Training, Crash Data Specialist LLC 2012
- Crash Data Retrieval (CDR), System Analysis and Applications Training, Crash Data Specialist LLC 2012
- SolidWorks Essentials: Parts and Assemblies, Computer Aided Technology Inc. 2011
- Forensic Photography I, Clearly Visible Presentations, LLC 2009
- HVE Forum, Engineering Dynamics Corporation 2007
- Advanced Insurance Fraud, National Society of Professional Insurance Investigators 2007
- Finite Element Analysis for Design Engineers, SAE 2007
- 8876 DDEC Reports, Detroit Diesel Technical Support Development 2006
- Crash Data Retrieval (CDR) Data Analyst, Collision Safety Institute 2006
- HVE Forum, Engineering Dynamics Corporation 2005
- Crash Data Retrieval (CDR) Data Analyst, Collision Safety Institute 2005
- Heavy Truck Rollover and Collision Avoidance TOPTEC, SAE 2003
- EDC Theoretical and Applied Vehicle Dynamics, Engineering Dynamics Corporation 2002
- Track Attack Racing School, Track Attack 2002
- HVE Forum, Engineering Dynamics Corporation 2002
- Land Development Desktop, Autodesk Inc. 2000
- HVE Forum, Engineering Dynamics Corporation 2000

### Patents:

US Patent No. 9,937,893 B2; Magnetically Actuated Personnel Restraint System

### Teaching Experience:

Engineering Dynamics HVE Simulation Software

Indiana Continuing Legal Education Forum (ICLEF) Trial Advocacy College