

## **EDUCATION**

- 2005                    **Master of Science in Mechanical Engineering**  
University of North Carolina at Charlotte, Charlotte, North Carolina
- 1999                    **Bachelor of Science in Engineering Technology**  
University of North Carolina at Charlotte, Charlotte, North Carolina
- 1993                    **Associate of Applied Science in Mechanical Engineering Technology**  
Gaston College, Dallas, North Carolina

## **EXPERIENCE**

- March 2007  
to Present            **Engineering Design and Testing Corp./EDT Engineers, P.C.**  
**Charlotte, North Carolina**
- Consulting Engineer*  
Specialized consulting in the reconstruction of vehicle collisions involving automobiles and heavy vehicles, the mechanical evaluation of hydraulic and pneumatic braking systems, and the analysis of occupant dynamics. Analyses include collision investigation, acceleration and deceleration of vehicles, failure analysis of vehicle components, analysis of collision speed, and motion analysis of vehicles and occupants. Experience in recovery and interpretation of data from a vehicle's event data recorder.
- In addition, experience includes testing and evaluation of mechanical equipment, analysis of machinery, and evaluation of HVAC equipment including scope of damage and cost estimates for repairs. Specialized consulting of damage including fire origin and cause.
- May 1977  
to March 2007      **Gibson Machine Company**  
**Dallas, North Carolina**
- Director of Engineering (May 2003-March 2007)*  
Description Experience in maintaining and improving manufacturing processes. Responsibilities included design of fixtures for machining, grinding and welding operations. Developed technical drawings for these designs. Duties included purchasing and testing prototype tooling. Performed time studies of existing machining process. Coordinated routing process to improve material flow through facility.
- Plant Engineer (June 1993 – May 2003)*  
Experienced in machine tool purchase and installation projects. Assisted repair technicians in the maintenance of machine tool drive and positioning systems. Assembled custom machinery for the corrugated paper industry. Worked with customer's engineering department on revisions, drawings and repairs for new and existing machines. Developed safety program to comply with OSHA guidelines and requirements. Obtained certification as instructor for forklift operator training program.
- CNC Machinist (May 1981 – June 1993)*  
Operated computer numerically controlled (CNC) machining centers. Manufactured drive-train and suspension components for trucks, buses and transportation industry.

*Machine Operator (May 1977 to May 1981)*

Operated manual and numerically controlled lathes, drill presses and milling machines. Experienced in reading micrometers, calipers and related inspection gages. Performed inspection of machined parts using coordinate measuring machines.

### **REGISTRATIONS and CERTIFICATIONS**

Registered Professional Engineer in Georgia (#036486)

Registered Professional Engineer in Louisiana (#45429)

Registered Professional Engineer in New Hampshire (#15714)

Registered Professional Engineer in North Carolina (#032010)

Registered Professional Engineer in South Carolina (#34414)

Registered Professional Engineer in Tennessee (#00112222)

Registered Professional Engineer in Virginia (#0402044128)

Registered Professional Engineer in West Virginia (#18619)

National Council of Examiners for Engineering and Surveying Record (#17-115-06)

NAFI Certified Fire and Explosion Investigator (CFEI#18342-10130)

NAFI Certified Vehicle Fire Investigator (CFEI#18342-10130V)

### **PROFESSIONAL ORGANIZATIONS**

American Society of Mechanical Engineers (ASME) American Society for Materials (ASM International)

International Association of Arson Investigators (IAAI)

National Association of Fire Investigators (NAFI)

National Association of Professional Accident Reconstruction Specialists (NAPARS)

National Fire Protection Association (NFPA)

Society of Automotive Engineers (SAE)

Society of Manufacturing Engineers (SME)

### **CONTINUING EDUCATION**

*"NFPA 25-Inspection Testing and Maintenance of Water Based Fire Protection Systems,"* National Fire Protection Association

*"NFPA 654 - Standard for the Prevention of Fire and Dust Explosions,"* National Fire Protection Association

*"Advanced Crash Reconstruction Utilizing Human Factors Research,"* Northwestern University Center for Public Safety

*"Air Brake Systems Training Program,"* Bendix

*"Basics of Fire and Fire Science,"* National Fire Protection Association

*"Commercial Vehicle Braking Systems,"* SAE International

*"Confined Space Training,"* South Carolina Chapter of the National Safety Council

*"Event Data Recorder Use in Traffic Crash Reconstruction,"* Ruth Consulting

*"Fire Investigator Safety, Hazard and Risk Assessment,"* International Association of Fire Investigators

*"Human Factors and Driver Response – An Overview of the State of the Art,"* authored by John R. Liechty, P.E.,  
Engineering Design & Testing Corp. Birmingham Office

*"Introduction to Brake Control Systems,"* SAE International

*"Investigation of Gas and Electrical Appliance Fires,"* Western Michigan University Professional Development,  
Fire Findings

*"Metallurgy for the Non-Metallurgist,"* ASM International

*"National Fire, Arson, & Explosion Investigation Training Program,"* National Association of Fire Investigators

*"Principles of Failure Analysis,"* ASM International

*"Technical Study of Sofa Super Store Fire,"* International Association of Arson Investigators

*"Traffic Accident Reconstruction I,"* Northwestern University, Evanston, Illinois

*"Vehicle Dynamics for Passenger Cars and Light Duty Trucks,"* SAE International

*"Vehicle Fire, Arson and Explosion Investigation Science and Technology,"* National Association of Fire  
Investigators