



GEORGE W. HICKS, PE
"CURRICULUM VITAE"

QUALIFICATIONS

Registered Professional Engineer (Michigan, Ohio & Pennsylvania) with a degree in mechanical engineering. Diplomate of the American Board of Forensic Engineering & Technology. ACTAR Accredited Traffic Accident Reconstructionist. Listed in Who's Who in Science & Engineering (1994-95 & 1998-99). Past accredited as an instructor of an OSHA safety course. Experience has been in the automotive and mechanical engineering fields since 1976. Involved in project management, analyzing solutions to technical problems, component and vehicle testing, product development, manufacturing process analysis and special equipment design. Emphasis has been on safety, product liability, accident investigation, product defect analysis.

EDUCATION

UNIVERSITY OF MICHIGAN 1972 - 1977
(Bachelor of Science - Mechanical Engineering)

JACKSON COMMUNITY COLLEGE (Pre-Engineering) 1969 - 1972

MICHIGAN TECHNOLOGICAL UNIVERSITY 1966 - 1967
(Civil Engineering Curriculum)

PROFESSIONAL EXPERIENCE

PRINCIPAL CONSULTANT & OWNER conducting engineering and technical investigations of failures and analysis of mechanical functions. Evaluations conducted on vehicles, machinery & equipment. Accident reconstruction conducted, computer analysis (EDCRASH, EDSMAC & EDSVS) utilized as needed. Safety & OSHA inspections of equipment & tool accidents conducted. Reviewing, compiling & editing of patents, standards & technical information are services provided. Fire investigations have been conducted on vehicles, equipment & heating appliances. Engineering after checks or analysis of problems with handicapped vehicle modifications (MI, OH, IN & PA) have been conducted. Testing and demonstrations of motor vehicles, components and devices are conducted and evaluated.

Ingenium Engineering Services, Petersburg & Rochester Hills (1990-2001), MI 1990 - Present

PROJECT MANAGER responsible for engineering and analysis of automotive sunroof systems. Direct design, testing & validation, interact with manufacturing, quality control and suppliers to produce a product for the original vehicle manufacturers.

Webasto Sunroofs, Rochester Hills, MI 1990 - 1991

STAFF CONSULTANT responsible for the implementation and management of engineering projects. These

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projects range from automotive crash tests & vehicle handling analysis to failure analysis of mechanical devices. Specialized tests have included trailer towing analysis, seat strength, headlight intensity, acoustic analysis, temperature evaluations, impact sled tests, and instrumented vehicle testing. Mechanical projects have included evaluation of power tool & lawn mower accidents and plumbing systems failures. Vehicle, equipment and site inspections have been conducted for accident reconstruction purposes. After-checks conducted on adaptive devices for modified rehabilitation vehicles.

Packer Engineering-Troy, Troy, MI

1986 - 1990

FORENSIC ENGINEER advising staff attorneys on technical matters involving vehicle dynamics and accident reconstruction analysis. Performed research and testing in areas of vehicle dynamics & handling, trailer towing, mechanics of tires, and vehicle impact dynamics. Managed logistics of moving vehicles, equipment, and people to remote test sites for demonstrations & testing.

Joscelyn & Treat, Ann Arbor, MI

1984 - 1986

CONSULTANT TO THE FOLLOWING COMPANIES:

1984 - 1986

Backplane Technology - designed and fabricated an automatic gantry hoist for an acid dipped circuit board process line.

Shackson Associates - conducted an engineering economics analysis on the manufacture of an instantaneous hot water heater.

M. L. Stump Construction - designed heating & air conditioning system for a small office building.

S.B.I.R. Proposal - submitted a cooling system hose quick disconnect coupler research proposal to D.O.D.

MANAGER OF TECHNICAL SERVICES implementing, managing and monitoring budget on engineering projects and research of product litigation matters. Designed and supervised fabrication of test equipment and test fixtures. Instrumented and conducted vehicle and component test programs to evaluate products regarding safety and defect analysis. Testing programs included vehicle rollover, measurement of vehicle characteristics (static & dynamic), impact testing, vehicle handling & component evaluations (laboratory & vehicle). Submitted research proposal (NSF) to continue investigating vehicle reactions during furrow trip on road side shoulder material.

Shackson Associates, Ann Arbor, MI

1982 - 1984

MECHANICAL ENGINEER consulting on projects involving safety, product liability, accident investigation, product defect analysis and test evaluation for transportation vehicles & mobile equipment.

Polytechnic, Lincolnwood, IL

1981 - 1982

SENIOR ENGINEER consulting to management in manufacturing process areas. Analyze plastic manufacturing (pellet & powder) and material handling process. Recommended automated plastic powder material handling system to improve productivity.

Alexander Proudfoot Company, Chicago, IL

1981

PRODUCT DEVELOPMENT ENGINEER developed advanced cooling systems through computer simulation and wind tunnel tests. Conducted cooling tests on component heat exchanger's.

Chrysler Corporation, Highland Park, MI 1981

BODY DEVELOPMENT ENGINEER in Truck Department. Investigated problems, conducted tests and followed components in; weather-seals, glass, body sealing, body trim, seats, seat belts, interior noise, sun roofs and body hardware mechanisms. Developed a weatherseal that corrected a leak & installation problem, resulted in a major cost savings on parts and labor. Had design criteria input responsibilities for body components.

Chrysler Corporation, Chelsea, MI 1977 - 1980

TEST AND DEVELOPMENT ENGINEER accomplished build up of truck emission fleet with test and production components to satisfactorily pass government specifications. Follow vehicle performance on durability and certification testing cycles.

Chrysler Corporation, Chelsea, MI 1976 - 1977

RELATED EXPERIENCE

Proving Ground Test Driver & Mechanic (8 years)
Assistant to Proving Ground Surveyor
Draftsman, Electrical Substations
Machine Operator (Chucker & automatic screw machine)

AFFILIATIONS (date joined)

American College of Forensic Examiners (ACFE), 1998
American Society of Mechanical Engineers (ASME), 1978
Association of Driver Educators for the Disabled (ADED), 1993
Michigan Association of Traffic Accident Investigators (MATAI), 1993
National Fire Protection Association (NFPA), 1995
National Mobility Equipment Dealers Association (NMEDA), 1992
National Society of Professional Engineers (NSPE), 1990
Society of Automotive Engineers (SAE), 1977

RELATED STUDIES

Injuries, Anatomy, Biomechanics & Federal Regulation (SAE Seminar) - September 2011
Side Impact Occupant Safety & CAE (SAE Seminar) - August 2011
Hydraulic Brake Systems for Passenger Cars & Light Trucks (SAE Seminar) - December 2010
Accident Reconstruction Fall Training Conference (MATAI)- October 2010
Accident Reconstruction, Simulated Accident Crash Test (MATAI)- May 2010
National Mobility Equipment Dealers Association Conference (Reno, NV) 2010
Accident Reconstruction Fall Training Conference (MATAI)- October 2009
Accident Reconstruction, High Speed Crash Test (MATAI)- May 2009
National Mobility Equipment Dealers Association Conference (Daytona Beach, FL) 2009

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Accident Reconstruction Fall Training Conference (MATAI)- October 2008
Accident Reconstruction Spring Training Conference (MATAI)- May 2008
National Mobility Equipment Dealers Association Conference (Phoenix, AZ) 2008
Tire & Wheel Safety Issues (SAE Program) - December 2007
Accident Reconstruction Fall Training Conference (MATAI)- September 2007
Accident Reconstruction, Heavy Truck & Driver Investigation (MATAI) - May 2007
National Mobility Equipment Dealers Association Conference (Daytona Beach, FL) 2007
Accident Reconstruction, Crash Data Recorders (MATAI) - May 2006
National Mobility Equipment Dealers Association Conference (Long Beach, CA) 2006
Accident Reconstruction, Work Zone Safety (MATAI) - September 2005
National Mobility Equipment Dealers Association Conference (Daytona Beach, FL) 2005
Accident Reconstruction, Defensive Driving Program (MATAI) - October 2004
Accident Reconstruction Spring Training Conference (MATAI)- April 2004
National Mobility Equipment Dealers Association Conference (Dallas, TX) 2004
Accident Reconstruction Fall Training Conference (MATAI), 2003
National Mobility Equipment Dealers Association Conference (Daytona Beach, FL), 2003
Accident Reconstruction-School Bus-Related Accident and School Bus Safety (MATAI), 2003
Accident Reconstruction-Fall Training Conference (MATAI), 2002
National Mobility Equipment Dealers Association Conference (Albuquerque, NM), 2002
Accident Reconstruction - Evidence, Biomechanics & Lamp Examination (MATAI), 2001
Accident Reconstruction - Rollover Accidents (MATAI), 2001
National Mobility Equipment Dealers Association Conference (Daytona Beach, FL), 2001
World Reconstruction Exposition 2000 (TAARS), 2000
Motorcycle Accident Investigation (MATAI), 2000
National Mobility Equipment Dealers Association Conference (Reno, NV), 2000
Accident Reconstruction - Pedestrian Impacts (MATAI), 1999
Accident Reconstruction Topics (MATAI), 1998
Accident Reconstruction, State of the Art (IAARS), 1998, Boston, MA
Investigation of Gas & Electric Appliance Fires (Fire Findings), 1998
Low Speed Accidents & Air Bags (MATAI), 1997
Heavy Truck Safety (MATAI), November 1996
Investigation of Vehicle Fires (Lee Cole Associates), 1996, Washington D.C.
Train Accident Reconstruction, (MATAI), 1995
Motorcycle Accident Investigation (MATAI), 1995
Failure Prevention & Repair of Pressure Vessels (ASME), 1995
Heavy Vehicle Braking, Rollover & Safety (MATAI), 1994
Staged Accidents & Fraud (MATAI), 1994
Vehicle Rollovers TOPTEC (SAE), 1993
Accident Reconstruction II (NW Traffic Institute), 1993
Arson Investigation (NW Traffic Institute), 1992
REC Transportation I Conference (U of Virginia), 1991
Road Racing Tech Seminar (Preston Consulting), 1991
Team Oriented Problem Solving (Ford Motor Co.), 1990
Running a Small Business (Wayne State U), 1990
Voluntary Compliance in Safety & Health (OSHA Inst.), 1989
Mechanics of Heavy Duty Trucks (UMTRI), 1988
How to Supervise People (National Seminars), 1985
Effective Speaking & Human Relations (Dale Carnegie), 1984

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Competition Race Driving School (Skip Barber), 1983
Accident Reconstruction & Cause Analysis (U of WI), 1982
Robots in Machine Tending (SME), 1981
Solar Energy (Jackson Community College), 1981
Automotive Acoustics (Globe Industries), 1980

ARTICLES / SPEAKING TOPICS

“Modified Vehicle Crash Performance”, MATAI Conference, East Lansing, MI, October 2006

“Michigan Helmet Law”, Reference Points, Journal of MATAI, July 2005

“What to Look For - Vehicle Modification for Handicapped Occupants” MATAI Conference, East Lansing, MI, April 2004

“Modified Vehicle Inspections”, Topic at NMEDA Conference, Daytona Beach, FL, February 2001

"Anatomy of an Instrumented Generic Quadriplegic Evaluation Van", SAE 932880, October 1993.

"Quality, Why Have It, What Is It, & How To Achieve It", Topic at ADED Midwest Conference, Cleveland, OH, May 1992.

Edited, "Safety Belt Components Manual", 7 volumes, (internal distribution), 1992-94.

"Safety Standards & The Rehabilitation Vehicle", Detroit Legal News, June 19, 1991.

Edited, "Roll-Over Protective Structures (ROPS) Manual", (internal distribution), 1989.

LITIGATION EXPERIENCE

Litigation experience since 1981; 85% defense, 15% plaintiff.

Qualified as expert witness in Automotive Engineering, Mechanical Engineering and Traffic Accident Reconstructionist.

Testified at 18 trials in Michigan, Ohio, New Hampshire, California and Turks & Caicos Islands (BWI).