

FIELD & TEST ENGINEERING, Inc.
ACCIDENT RECONSTRUCTION SPECIALISTS

4510 Pacific Coast Highway, Suite 200 • Long Beach, CA 90804

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11440 BERNARDO CT, SUITE 300 2900 ADAMS STREET 8275 SOUTH EASTERN AVENUE, SUITE 200 7362 REMCON CIRCLE
SAN DIEGO, CA 92127 RIVERSIDE, CALIFORNIA 92504 LAS VEGAS, NEVADA 89123 EL PASO, TEXAS 79912
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PH (800) 675-7667 – FAX (562) 494-7667

LEONARD LACAZE, P.E.

SPECIALIZING IN

***Accident Reconstruction & Analysis:**

Automobile (Including Vans, SUVs, etc), Truck/Tractor, Heavy Construction Vehicle, Motorcycle, Bicycle, & Pedestrian Crash Analysis, Including Determining Speed, Direction, Vehicle Paths Before and After Impact, Crush Energy, Change in Velocity, Pre and Post Collision Velocity Vectors, Conservation of Momentum, Collision Effect on Occupants, Occupant Interior Contact, Occupant Contact Forces, & Air Bag and Seat Belt Performance. Also Download, Interpret, & Analyze Crash Data Recorder Information to Correlate With Physical Crash Evidence.

***Failure Analysis:**

Analysis of Vehicle Component Failure Including Failure in the Engine, Automatic Transmission, Manual Transmission, Drive Line, Final Drive, Suspension, Steering Mechanism, Brakes, Wheel/Wheel Studs, Electrical System Overload, Body Hardware, Trailer Hitch, Trailer Dynamic Loading, Trailer Sway and Oscillation, Non Automotive Equipment, Pneumatic, & Hydraulic Controls Including All Components.

EDUCATION:

Master of Science, Engineering Management – University of La Verne – (1980)

Bachelor of Science, Mechanical Engineering – University of Texas at Arlington – (1965)

Society of Automotive Engineers:

- “Air Bag Development and Performance” - November 2005
- “Highway Vehicle Event Data Recorder Symposium” - June 2004
- “Accident Reconstruction: State of the Art” - December 1999
- “Commercial Vehicle Braking Systems: Air Brakes, ABS and Beyond” - November 1998
- “Air Bag Design and Performance” - August 1997
- “Stapp Car Conference – Air Bag Performance” - November 1995
- “Sensor Design for Automotive Air Bag Systems” - December 1994
- “The Air Bag in Modern Transportation” - May 1993
- “Anatomy, Injury, Testing and Regulation” - 1990
- “Restraint Technologies: Rear Seat Occupant Protection” - February 1987
- “Field Accidents: Data Collection, Analysis, Methodologies and Crash Injury Reconstruction” - February 1985

Association for the Advancement of Automotive Medicine:

- “Biomechanics of Impact Trauma” - January 1988

American Association for Automotive Medicine:

- “Abbreviated Injury Scale” - 1985

Ford Motor Company, Dearborn, MI

- “Fundamentals of Vehicle Design” (12 weeks) - Winter 1970

(And Many Others.....)

REGISTRATION:

Professional Engineer, California Number M29647

Professional Engineer, Michigan Number 20196

PATENTS:

Automotive Air Bag Crash Sensor System, U.S. Patent No. 3,848,695

Low Insertion Force Electrical Contact, U.S. Patent No. 4,293,181

Method of Manufacture of Electrical Contacts, U.S. Patent No. 4,345,373

Coupling Mechanism for Electrical Connectors, U.S. Patent No. 4,239,315

PROFESSIONAL EXPERIENCE:

Field & Test Engineering, Inc. – Accident Reconstruction Including Occupant Protection Analysis for Heavy Equipment, Truck, Automobile, Motorcycle, Bicycle, & Pedestrian Accidents. Mechanical Failure Analysis of Engines, Transmissions, Suspensions As Well As Steering, Braking, Hydraulic, Electrical, Air Bag & Other Vehicle Mechanical & Electromechanical Systems And Components. (Orig. May 2008)

Vollmer-Gray Engineering Laboratories - Accident Reconstruction Including Occupant Protection Analysis for Heavy Equipment, Truck, Automobile, Motorcycle, Bicycle & Pedestrian Accidents. Mechanical Failure Analysis of the Engine, Transmission, Suspension, Steering, Brakes, Hydraulics, Electrical, Air Bag & Other Vehicle Mechanical & Electromechanical Systems & Components. (Orig. September 1987)

Lacaze Engineering, Consulting Engineering Provided to Teledyne-Sprague Engineering, COMARCO, Inc., TRW-Technar, Automobile Association of America, and Many Others Continuing to the Present - Accident Reconstruction Including Occupant Protection Analysis for Automobile, Truck, Heavy Equipment, Motorcycle, Bicycle & Pedestrian Accidents. Mechanical Failure Analysis of Engines, Transmissions, Suspensions, Steering, Braking, Hydraulic, Electrical, Air Bag, Seat Belt and Other Vehicle Mechanical & Electromechanical Systems. (Orig. July 1983)

Stanford Applied Engineering – Manager - Product Engineering Design Department, including Engineering Records Group, & Engineering Test Laboratory. Responsible for entire electromechanical component product line design, development, testing, production interfacing, field problem analysis & resolution. (Orig. November 1982)

ITT Cannon Electric – Engineering Manager – Responsible for all electromechanical product line component design, development, testing, production interfacing, & field problem analysis & resolution. (Orig. August 1976)

Ralph M. Parsons Company – Lead Engineer for various design groups, responsible for instrumentation and feedback control systems for refineries, chemical plants, and the mining industry as well as designs for large wind tunnels and hydraulic systems which included mechanical structures for special military applications. (Orig. May 1974)

Ford Motor Company – Lead Engineer responsible for design and development of the Ford Air Bag Crash Sensor and Firing Circuit. Established crash sensor firing times & conditions. Planned & organized barrier crash testing of vehicles equipped with prototype airbag systems. Analyzed crash tests for occupant motion and the forces applied to the occupant. Provided actual crash site investigation, accident reconstruction analysis involving vehicles equipped with air bags.. Analyzed seat belt and seat belt systems for the U.S. Department of Transportation “Safety Car” project. Designed various electromechanical components including headlamp actuators and automatic head lamp control systems. (Orig. October 1969)

Westinghouse Air Brake – Investigated and analyzed field failures of large production earthmoving equipment including scrapers, off highway trucks, and motor graders to improve performance and correct deficiencies in special operating conditions. Designs included engines, transmissions, as well as final drive, cooling, hydraulic, suspension, and Electrical Systems Using from 24 to 440 volt electrical power. (Orig. November 1966)

Mason & Hanger Company – Design Engineer: manufacturing process assembly and disassembly equipment for devices containing high explosives. Also: provided facilities and plant modifications design. (Orig. June 1965)

U.S. Navy – Jet Engine Mechanic. (Orig. August 1956)

PROFESSIONAL CERTIFICATIONS AND AFFILIATIONS:

Society of Automotive Engineers - Member

Society of Automotive Engineers, Safety Publications Committee - Member 1971-1975

American Society of Mechanical Engineers – Member

Private Pilot - Instrument Rated– Airplane, Complex, High Performance, Glider Ratings and Endorsements

PUBLICATIONS:

“**Mechanism of Contact Resistance**” ITT Cannon Electric Conference - 1982

“**Low Insertion Force (Electrical Connectors) for New Avionics**” (Co-author) Eleventh Annual Connector Symposium Proceedings - October 1978

“**Development of the Crash Sensor to Vehicle Interface**” (Contributor) Society of Automotive Engineers - May 1972