

Robson Forensic

Engineers, Architects, Scientists & Fire Investigators

GARY A. DERIAN, P.E.
Mechanical Engineer

Tire Engineering:

Designed high performance passenger and light truck tires for on and off road use. Tread design for water drainage and stability, carcass construction and wheel interaction to optimize performance. Wet and dry traction performance. Developed constructions with fail safe characteristics to maintain vehicle control. Developed passenger tires for use in endurance racing. Experience in all phases of tire manufacture. Mold and bladder designs to improve material flow during curing process and improve tire quality.

Vehicle Crash Reconstruction:

Analysis of vehicle crashes to determine speeds and positions of vehicles before and during impact. Effectiveness of safety systems. Vehicle dynamics. Traction capability of road surfaces. Failure analysis of vehicle systems.

Vehicle Engineering:

Design Experience. Includes engine, suspension, fuel systems (both carburetor and fuel injection), vehicle dynamics, tires, wheels, brakes, steering, electrical systems, air conditioning and heating systems. Development includes compliance with safety standards, body strength, glass bonding, and wiper systems. Considerable development of vehicle dynamics and safe handling characteristics. Occupant protection includes both seat belts and air bags. Control systems include electronic fuel injection, anti-skid brakes, air bags and body electronics.

Manufacturing and Industry:

Designed electric, hydraulic and pneumatic power systems for industrial manufacturing applications. Designed and specified power units and their control systems and includes man-machine interface. Hydraulic and pneumatic design including flow and pressure control, metering systems, adhesive spray systems, seals and packings. Special consideration and design experience for abrasive materials and VOCs. Systems included process capability and statistical process control and integrated into complete automation cells. Wrote instruction manuals and warnings for both end users and service personnel. Designed for safety standards to include pinch point guards, fences and cages for robotic equipment, ladders and scaffolds, travel limits for machinery. Developed to meet ISO and QS standards for design and function. System design to meet and exceed OSHA and CE standards for operator safety.

Driving:

Developed training programs and instructed police and fire personnel in proper driving techniques for safe handling of vehicles under severe driving conditions. Participate in track and off-road racing events.

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PROFESSIONAL EXPERIENCE

- 1990 to present **Robson Forensic, Inc.**
Associate
Provide technical investigations, analysis, reports, and testimony for failure analysis and towards the resolution of commercial and personal injury litigation involving crashes, defects, product failure, automotive and industrial safety; vehicular crash reconstruction, vehicle engineering and crash-worthiness; tire design and failure analysis.
- 1990 to present **Dunlop Tire Co.** Tire Fitment Guide
Consultant
Create the tire fitment guide for all passenger cars and light trucks sold in the US.
- 1989 to 2000 **Nordson Corp.** Product Design and Development
Project Engineer; Consultant
Design and produce dispensing systems for the application of sealants and adhesives using spray and extrude methods. Disciplines include hydraulic, pneumatic and electric power, flow control, seals and packings, computer controls, robotic applications, industrial safety, OSHA, CE, QS and ISO standards. Wrote manuals, warnings and performed training sessions for customers.
- 1987 to 1989 **Avanti Automotive Co.** Automobile Engineering
Chief Engineer
Responsible for engineering and manufacturing the Avanti automobile. Performed major design work in the body, chassis, interior, suspension, electrical components and hardware to meet performance, manufacturability, and FMVSS regulations.
- 1986 to 1988 **National Academy for Professional Driving** Human Factors in Driving
Director of Engineering; Consultant
Created technical department to develop scientifically based drivers training programs for police, fire and ambulance drivers. Performed engineering consulting in the areas of tire testing, accident reconstruction, high performance engine systems and high performance suspension tuning. Wrote articles for industry personnel and auto enthusiast magazines.
- 1974 to 1986 **The BFGoodrich Co.** Tire Engineering
Product Engineer/Tire Engineer/Product Manager
Designed and developed the first US built passenger tire capable of 170+ mph. Developed new testing techniques for this new generation high performance tire which included vehicle dynamics studies and the interaction of tire properties with vehicle handling. Directed worldwide racing support programs where passenger tires were used in racing. Delivered technical and marketing presentations to consumer and trade organizations. Designed aircraft escape slides and inflation systems for them using high-pressure nitrogen and carbon monoxide.

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EDUCATION

B.S. Mechanical Engineering, Case Western Reserve University, 1974

SAE Congress, Crash Safety and Reconstruction, 1999, 2000
SAE Crash Reconstruction Course, 1999

PROFESSIONAL REGISTRATION

Professional Engineer, State of Ohio, #47211, 1982

PROFESSIONAL AFFILIATION

Society of Automotive Engineers, Member Grade

PATENTS

2 patents for tire designs
3 patents for hydraulic systems, flow detection, and dispensing
1 patent for hydraulic seal design

EXPERT NOT RETAINED