

Robson Forensic

Engineers, Architects, Scientists & Fire Investigators

ERIN M. SHIPP, P.E. Truck, Bus and Vehicle Engineer

Provide technical investigations, analysis, reports, and testimony toward the resolution of commercial and personal injury litigation involving heavy trucks, buses, and other vehicles. Areas of specializations: heavy trucks, buses, and vehicle structures, product defect and vehicle impact.

Heavy Truck, Bus, and Vehicle Design and Engineering: Commercial chassis, vehicle requirements definition, cab and sleeper design, chassis design, frame rails, bumpers, roll over analysis, seat installations, drive line analysis, steering analysis, cab and chassis access requirements and step design, driver ergonomics, body design, pneumatic systems, hydraulic systems, compartment design, latching system design, validation and certification testing, brake systems, passive airbag and active seat belt restraints, cooling, and crash energy management.

Product Development: New product development process, failure modes and effects analysis (FMEA), product life cycle management, product quality, component structural performance.

Engineering Process: Engineering management, design checking process, bill of material configuration, modular design, resource planning, personnel management, and change order control.

Engineering and Design: Dynamic and static systems, sheet and plate metal, castings, moldings, stampings, welded structures, bonding, composites, plastics, bonded components, fastening, rotating equipment, machinery safeguarding, safety interlocks, drive guards, pinch point guards, failsafe modes, structures, electrical and electronic components, finite element analysis (FEA), Computer Aided Design (2D, 3D and solid modeling).

PROFESSIONAL EXPERIENCE

2009 to present **Robson Forensic, Inc.**
Associate

Provide technical investigations, analysis, reports, and testimony toward the resolution of commercial and personal injury litigation involving trucks, buses and automobiles, and failure analysis. Areas of work include crash reconstruction, vehicle and component design, maintenance and performance.

1998 to 2008 **Chrysler LLC/ Daimler Chrysler**
Customer Satisfaction Team Engineer

Worked with a team to reduce warranty costs and number of claims on body assembly, closures, and glass for all Chrysler vehicles. This included reviewing data, identifying issues, identifying root causes and implementing the solutions by coordinating release groups.

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Lead Engineer 2006-2008
Led a team to develop required body components and modifications to allow for the hybrid drive system, battery packaging and access, aerodynamic and weight improvement for Minivan and Dodge Journey Hybrids. This included coordinating many related sub system groups to ensure the final design was efficiently integrated to the body and met all cost, weight, investment, and performance targets. This also included evaluating the entire vehicle for structural performance, impact, noise, vibration, harshness, and electronic interference.

Release Engineer 2004-2006
Participated in the product design process to improve cost, warranty, quality, and manufacturing issues of the RS minivan wiper/washer system, mirror systems, and door trim. This included working with vendors, assembly plants, and our quality groups.

Resident Engineer 2002-2004
Ensured assembly plant issues for the minivan and 2004 Pacifica launch were solved quickly and efficiently.

Structures Engineer 1999-2002
Ensured the 2001 Minivan and 2003 Pacifica body was structurally integrated and all structural targets were met. Participated in efforts to ensure 5-star vehicle crash performance. Earned patent 6938948 B1, for the front impact structure.

Structures Engineer (contract) 1998-1999
Member of the team that brought the 2001 minivan to production and develop a new vehicle for future production. Participated in the welding certification for prototype build. Developed weld models using Catia V4. Led the effort for weld destruct of bodies and sub assemblies to confirm weld quality for the prototype build. Coordinated design engineers to ensure structural integrity of the vehicle. One area of major participation was the design and testing of a new seat mounting system to ensure compliance with all federal seat and restraint standards. Participated in review of vehicle impact testing and related designs.

1997 to **U. S. Bus Corporation of Texas**

1998 *Chief Engineer*

Responsible for all engineering functions of the company. Developed design process and documented current product, and a system of assembly fixtures to improve quality and reduce labor. Developed a new, innovative design to replace the current models.

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1996 to **Thomas Built Buses**

1997 *Project Engineer*

Led the body structure team. Designed a new, reduced weight body for their small bus and developed product improvements including a new rear window, seat mounting system, and wheel chair lift door. Involved in new product design and development. Introduced the use of aluminum bonded components. Performed impact and fuel integrity testing on small buses.

1995 to **Spartan Motors Inc.**

1996 *Chief Chassis Engineer*

Responsible for motor home and bus custom chassis design and development group which ensured integrity of chassis components and compliance with all safety requirements. Worked with customers, manufacturing, quality, purchasing and marketing to ensure the customer needs were met and all systems fully integrated with the products delivered.

1992 to **Blue Bird Body Company**

1995 *Senior Project Engineer*

Led a team of designers, drafters and engineers in the development of commercial bus and recreational vehicle bodies, chassis and interiors. Developed revised structural design for commercial buses which resulted in improved durability. Developed solutions to vehicle visibility issues and vehicle egress requirements. Introduced several new applications for structural adhesives. Reviewed calculations and testing for Economic Commission for Europe rollover of bus.

1992 **Able Body Corporation**

Project Engineer

Designed sleeper compartments and accessories for the heavy-duty truck industry. Worked with sales to develop a sleeper box for a major Mexican truck manufacturer.

1990 to **Marmon Motor Company**

1991 *Senior Project Engineer*

Designed heavy-duty trucks and their components. Developed the complete design of their unitized sleeper-cab, the design of a new cooling system and related frame and steering components, design of a new clutch control, redesign of the cab for improved aerodynamics, major door revisions, design of a system of fuel tank fairings, and Seat Belt system and retention. Used accelerated life testing to confirm new body and chassis.

1978 to **Freightliner Corporation**

1990 *Design Engineering Supervisor*

Worked in several positions from design engineer to supervisor. Designs included shift control, clutch controls, battery containers, cab structures, door components, cooling

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systems, and drive trains. Performed structural verification of systems using bench testing, shaker testing, and accelerated life testing. Used finite element analysis and other analytical tools in design. Performed driver ergonomics evaluations for clutch and shifter controls. Performed testing to ensure cab and chassis access requirements met for all models. Revised battery compartment steps to meet requirements for anti-slip, self cleaning tread.

1977 to **American Motors Corporation**

1978 *Engine and Emissions Development Engineer*

Ensured all corporate V8 engine equipped vehicles met regulations and requirements for emissions, fuel economy, drivability, and performance. Developed electronic engine control logic and emission control systems.

1973 to **Ford Motor Company**

1977 *Engine and Emissions Development Engineer*

Ensured small V8 engines met all regulatory and performance requirements for the F100 pick up. These vehicles received recognition for the best fuel economy in their class for three consecutive years.

1971 to **Standard Electronics**

1972 *Delivery Driver*

Delivered electronic components throughout northwestern New York State.

PROFESSIONAL CREDENTIALS

Professional Engineer: NCEES, Oregon (1979), Pennsylvania, California, North Carolina, South Carolina
Shainin Red X Apprentice, 2006
Greenbelt certification, 2008

EDUCATION

B.S., Mechanical Engineering, South Dakota School of Mines and Technology, 1971

Continuing Education

Accessing and Interpreting Heavy Vehicle Event Data Recorders SAE, May 2011
Traffic Crash Reconstruction 1, Northwestern University Center for Public Safety, 2010
Catia V5 Fundamentals, Chrysler, 2008
Body In White Design for Corrosion Prevention, Chrysler 2008
Managing Engineering cost impacts, Chrysler 2007

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Process Capability, Chrysler 2007
Design for Repair Efficiency, Chrysler 2006
Hybrid Vehicle Electrical Awareness, Chrysler 2006
Greenbelt Certification, Chrysler, 2005
Statistical Process Control, Chrysler, 2005
DFMEA, Chrysler, 2005
DVP&R – Effective Test Planning, Chrysler, 2005
Design for Assembly, Chrysler, 2005
Error/Mistake Proofing, Chrysler, 2004
Failure Prevention Analysis, Chrysler, 2003
Manufacturing cell lockout procedures, Chrysler, 2002
Fastener and Joint Design, Chrysler, 2002
Product Liability, Chrysler, 1999
Finite Element Analysis, McNeil Schwindler, 1988
Advanced Rock Climbing, 1984 The Mazama's Mountaineering Club
Intermediate Climbing, 1983 The Mazama's Mountaineering Club
Basic Mountaineering, 1982 The Mazama's Mountaineering Club

PROFESSIONAL MEMBERSHIPS

SAE (Society of Automotive Engineers)

PRESENTATIONS

“Cardboard Analogs and Origami Boxes, the Foundation of Vehicle Engineering,”
Association of Plaintiff Interstate Trucking Lawyers of America, November 11,
2011
“Trucking Crash Reconstruction, Preparation and Homework by the Attorney to Bring
Out the Truth to the Jury,” West Virginia AAJ Conference, June 2, 2011
“Trucking Crash Reconstruction, Preparation and Homework by the Attorney to Bring
Out the Truth to the Jury,” Torts Made Perfect Conference, April 14, 2011

AWARDS

Outstanding Young Oregonian 1984, awarded by the Oregon Jaycees

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GOVERNMENT SERVICE

Gresham, Oregon Mayor, 1987-1989
Gresham, Oregon City Council, 1983-1987
Gresham, Oregon Planning Commission, 1980-82

PATENTS

6938948 B1; Energy Absorbing Front Frame Structure for a Vehicle

EXPERT NOT RETAINED